The Specialist Training in Family Medicine Curriculum

Malta College of Family Doctors

Revised by the Curriculum Board

2019-2021

Dedication

To all GP trainees and their GP trainers, and to all those who support them in their mission, making our common vision for the future of Family Medicine in Malta come to fruition.

In living and loving memory of an affable colleague, the late Dr Saviour Cilia, whose infective enthusiasm to see the STPFM take off, will be fondly remembered by all those who had the privilege of making his acquaintance.

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We are grateful for the assistance and encouragement we have always received from our RCGP IDA Dr Jeremy Stupple.

Last but not least, we remain indebted to the help given to us by the EGPRN and its members to carry out a peer review of this curriculum.

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Section A:

Introduction, Definition, and Implementation of the Curriculum

Chapter 1.

Core competencies

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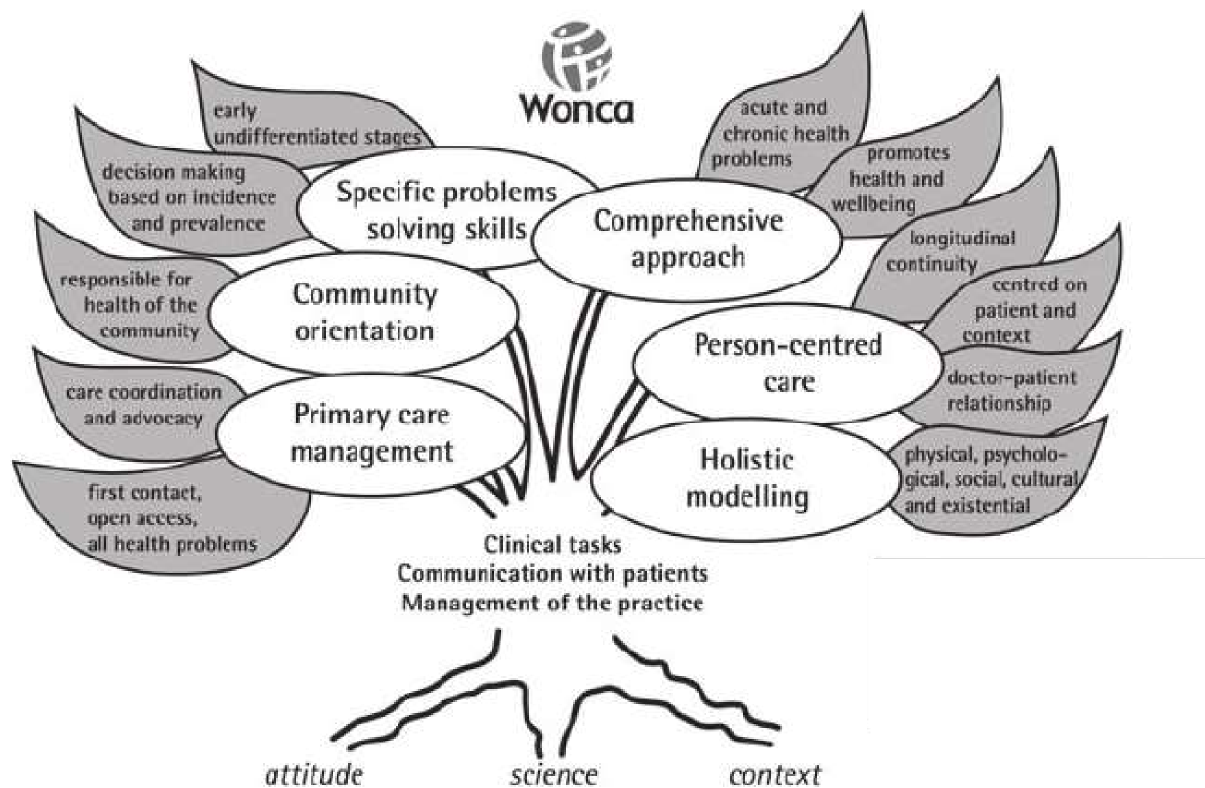
The author and editor extend their thanks for their voluntary contribution

The aim of this curriculum is to help improve and build skills of family doctors. Qualities should be evident to the doctor and their patients, the doctor's family and peers, as well as to society at large.

The WONCA Europe 2011 definition of general practice specifies the core competencies that are essential to the family doctor.



Core competencies

Primary care management

Includes the ability:

- To manage primary contact with patients, dealing with unselected problems
- To cover the full range of health conditions, including primary first aid
- To coordinate care with other professionals in primary care and with other specialists
- To master effective and appropriate care provision and health service utilisation

- To enable the free access of all patients to the appropiate services
- To act as advocate for the patient

Person-centred care

Includes the ability:

- To adopt a person-centred approach in dealing with patients; to listen actively in an empathic manner
- To use the general practice consultation to bring about an effective doctor–patient relationship, with respect for the patient's autonomy
- To communicate, set priorities and act in partnership with the patient
- To provide long-term continuity of care as determined by the needs of the patient, referring to continuing and coordinated care management

Specific problem-solving skills

Includes the ability:

- To relate specific decision-making processes to the prevalence and incidence of illness in the community
- To selectively gather and interpret information from history-taking, physical examination and investigations, and apply it to an appropriate management plan in collaboration with the patient
- To adopt appropriate working principles (e.g. incremental investigation, using time as a tool) and to tolerate uncertainty
- To intervene urgently when necessary
- To manage conditions that may present early and in an undifferentiated way
- To make effective and efficient use of diagnostic and therapeutic interventions

Comprehensive approach

Includes the ability:

- To manage simultaneously multiple complaints and pathologies, both acute and chronic health problems
- To promote health and wellbeing by applying health promotion and disease prevention strategies appropriately
- To manage and coordinate health promotion, prevention, cure, care, rehabilitation and palliation

Community orientation

Includes the ability:

- To reconcile the health needs of individual patients and the health needs of the community in which they live, balancing these with available resources

Holistic modelling

Includes the ability:

- To use bio-psycho-social models, taking into account cultural and existential dimensions

Implementation areas related to competencies

To practice the specialty, the competent practitioner should implement these competencies in three important areas.

Daily clinical tasks

- Manage the broad field of complaints, problems and diseases as they are presented
- Master long-term management and follow-up

Communication with patients

- Structure the consultation properly
- Provide information that is easily understood and to explain procedures and findings
- Deal adequately with different emotions

Management of the practice

- Provide appropriate accessibility and availability to the patients
- Organize, equip and financially manage the practice, and collaborate with the practice team
- Cooperate with the other primary care staff and with other specialists

Fundamental features related to competencies

As a person-centred scientific discipline, three background features should be considered as fundamental for the family doctor:

1. Contextual

- Use the context of the person, the family, the community, and their culture in diagnosis, decision-making and management planning

- Show personal interest in the patient and their environment and be aware of the possible consequences of disease for the family members and the wider environment (including working environment) of the patient

2. Attitudinal

- Based on the awareness of one's own capabilities and values
- Identifying ethical aspects of clinical practice (prevention/ diagnostics/ therapy/ factors influencing lifestyles)
- Clarifying personal ethics
- Being aware of the mutual interaction of work and private life and striving for a good balance between them

3. Scientific

- Being able to access, read and assess medical literature critically
- Being familiar with the general principles, methods, concepts of scientific research, and the fundamentals of statistics
- Having a thorough knowledge of the scientific backgrounds of pathology, symptoms and diagnosis, therapy and prognosis, epidemiology, decision theory, theories of the forming of hypotheses and problem-solving, preventive healthcare
- Adopting a critical and research-based approach to practice and maintaining this through continuing learning and quality improvement

Hospital-based training

The following general competencies are to be acquired during hospital attachments.

Clinical content

- Refinement of clinical skills of history-taking and examination, discrimination in the use of further investigations, familiarity with the use of various drugs and their side-effects
- Increasing responsibility for care through experience and confidence gained under supervision
- Knowledge of life-threatening diseases, their complications and consequences
- Opportunity for more detailed investigation and management
- Exposure to and experience of serious morbidity

During this period, the trainee is provided with:

- Training in the specialty's approach, examination, and treatment routines (also during out-of-hours exposure) as well as in guidelines for continued treatment and follow-up of discharged patients
- Precise knowledge of the illnesses that are common in that specialty and of the symptoms of diseases which, although less common, are nevertheless important

Educational strategies

Harden et al. identified six educational strategies related to the curriculum.

1. Trainee-centred approach

The traditional teaching model was heavily teacher-centred. It was the teacher who used to decide the content of the course, and the mode and pace of delivery, and was not amenable to feedback from students. On the other hand, in the student-centred model, the trainee can decide, under the trainer's guidance, what to learn, the mode of learning, the sequence and pace of learning, and the time of assessment. Every teaching episode is then subjected to self-evaluation by the trainee, with feedback used to improve the process with time.

Teaching needs to be adapted to the trainee's particular learning style. The Learning Styles Questionnaire is useful to both the trainee and trainer and can help to adapt teaching to the trainee.

2. Problem-solving approach

With problem-based learning, trainees learn through being challenged by real clinical problems. The purpose of this problem-based approach is to develop an integrated body of practical knowledge and problem-solving skills.

3. Integrated and multi-disciplinary teaching

In the integrated system, the teacher takes the responsibility of linking the subjects together. The integration could be horizontal, as when it is between parallel subjects like cardiovascular and respiratory disease. Vertical integration occurs between subjects at different phases of the curriculum, such as the integration between paediatrics, disease prevention and screening, legal minimum immunization, bioethics and practice management. The integration should ideally be both vertical and horizontal, in a system and problem-based approach.

This approach is essential in primary care. Teaching must be community-based and promote an education based on social developmental needs.

The advantages of the integrated approach are a reduction of the fragmentation of knowledge, increased student motivation, and promotion of staff collaboration.

4. Community-based /Hospital-based education

Unique advantages of community-based education are that it provides community orientation, a holistic approach and a comprehensive approach to clinical situations. There are also opportunities for the family doctor to practice community education. In return, the community can help with the doctor's training.

5. Electives programme

Elective programs in a curriculum give trainees some flexibility in choosing their subjects.

6. Systematic programme

In the systematic approach, a program is designed so that all the essential components of the course are clearly defined, including knowledge, skills, and attitudes. How and where this learning occurs is also pre-determined. The advantage of the systematic approach is that it utilizes resources to the maximum and avoids waste of time. However, it needs intensive planning and briefing of GP trainers and hospital-based teachers.

The Curriculum Board considers all the mentioned educational principles to be the cornerstone of good quality vocational training, so an attempt has been made to weave them into the fabric of this curriculum.

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Chapter 2.

Educational Tools

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The author and editor extend their thanks for their voluntary contribution

This curriculum engages a variety of teaching methods to complement the differences in teaching and learning styles as well as to expose the trainee to a mix of teaching methods. Methods used encourage the GP trainee to direct their own learning and to develop self-awareness and critical thought.

E-portfolio

A learning 'contract' specifying learning objectives will be agreed with their GP trainer or Hospital-based Supervisor at the beginning of each post.

GP trainers will ensure that the core content is covered taking into account the needs, background, abilities and experience of the GP trainee. The trainee will record significant events, and a list of competencies mastered. This will form the basis for personal review of progress made throughout the Specialist Training Programme in Family Medicine (STPFM).

The trainer will organise a tutorial per week during normal work hours over and above the time spent supervising or carrying out joint consultations. The GP trainer will also ensure that they are accessible to the GP trainee to discuss problems when required.

In the community, it is crucial that the trainee can witness family practice in various settings and circumstances. Ideally these include:

- Working both through regular and scheduled patient encounters as well as during out of hours and assisting in emergencies (at home, scenes of accident, and treatment areas in the practice)
- Assisting in the running of community clinics, e.g. diabetes clinic, well-woman and more

Observation and shadowing

The trainee will be assigned to a GP trainer who will mentor the trainee throughout the whole training programme. There will also be mentoring by a Hospital Supervisor during hospital rotations. The trainee is encouraged to observe management by the trainer and the hospital supervisor, as well as manage patients independently. This

can provide for significant learning not only with improving the knowledge and skills base, but also transmits strong value-laden messages which impact on personal attitudes and are crucial to establishing professional attitudes.

Experiential learning opportunities

Incremental responsibility delegated to the trainee, helps them feel increasingly competent and confident.

In the community setting this includes:

- Supervised consultations, procedures and skills
- Discussions and feedback on video consultations
- Discussions following joint consultations
- Accompanied home visits

In the hospital setting this includes:

- Ward-based learning
- Supervised consultations in out-patient clinics, day hospitals, community visits or other settings
- Theatre or investigation sessions

One-to-one teaching

This method of teaching can be used to address individual trainee learning needs in the most direct way and caters to the required breadth and depth. Such teaching can be centred on:

- Case presentation with selected notes, letters and summaries
- Discussing problem cases
- Video consultation analysis
- Directly observed procedures
- Significant-event analysis

Teaching on a one-to-one basis can also cater for teaching related to values such as professionalism and compassion. Provision of feedback and direction in a manner that inspires learners to self-evaluate is at the heart of formative evaluation.

Small group learning opportunities

Organised by trainees and facilitated by trainer or a supervisor, such opportunities encourage trainee participation in any form of self-initiated teaching presentations. Journal clubs have a special role in engaging groups of GP trainees, promoting exchange of ideas and knowledge perceived by them as highly relevant to their context and needs.

Half-day release course

This protected time is of critical importance for teaching and learning. It affords the opportunity to address learning needs identified both by trainers and trainees. It provides the trainees with the choice of topics, cases and skills to be discussed in greater depth as well as the freedom to choose style of delivery of teaching. It is an excellent opportunity to encourage learning from peers and to involve 'patients as the teacher'.

Peer-assisted learning and teaching

Teaching can be organised by the trainees themselves. Peer-assisted learning utilises the knowledge base and experience that reinforces the trainees' learning. It provides for an informal method of teaching and creates dynamics conducive to learning.

Teaching by patients and carers

This type of teaching places less focus on knowledge acquisition and greater emphasis on fostering self-awareness, interpersonal sensitivity and an attitude to

openness to learning from patients. Clinical competence is not possible to achieve without putting the patient at the centre of consultations and care.

External courses

This may include CME activities and other methods of formal training that the trainee may opt to undertake, e.g. courses to help improve communication skills. Trainees are encouraged to pursue any such courses both locally and abroad which help stimulate and further their personal and professional development.

Personal study

Sufficient time away from work is required to allow, amongst others, the opportunity to further self-directed learning. This can materialise in various ways including reading books, journals and online content. Reflective learning is greatly encouraged through personal reflection on video recordings of consultations and the keeping of a reflective diary.

Simulated clinical situations

Apart from learning about the topic central to the chosen event, simulated cases can be used to impart teaching about teamwork and the relevance and importance of good communication skills.

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Section B:

The Family Doctor

Chapter 3.

The Consultation

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The consultation is at the heart of general practice and is the central setting through which primary care is delivered. Effective communication with patients and their relatives or carers is an essential component of providing good quality medical care.

In general practice, the consultation should be person-centred, with the doctor exploring the patients' ideas and concerns, being non-judgmental and assessing patients using a holistic biopsychosocial approach. Family doctors should also become familiar with formulating a shared management plan with the patients, considering their unique values and preferences alongside the latest available evidence.

Doctors must be able to consult effectively in Maltese and English, and with people having different levels of education. The use of communication aids, such as online translation applications might prove useful in consultations with foreign patients who find it difficult to communicate in English, when an interpreter is not available.

Learning Outcomes

1. Demonstrate an understanding of attitudes, feelings and biases to meet the patient's context and limitations

- It is important to be aware of the potential impact of personal conscious and unconscious biases on shared decision-making
- Patients' views and perspectives may change during the course of their life and even during the course of an illness
- Health beliefs, preferences, ethnic and cultural differences have an impact on the way that patients deal with their illness

2. Demonstrate an understanding of the consultation process

- This requires going through the usual phases of the consultation in an appropriate sequence and pace. A working understanding of consultation models (e.g. Calgary-Cambridge) can help in this process

- Close observation and interest in the patient are essential
- Non-verbal support

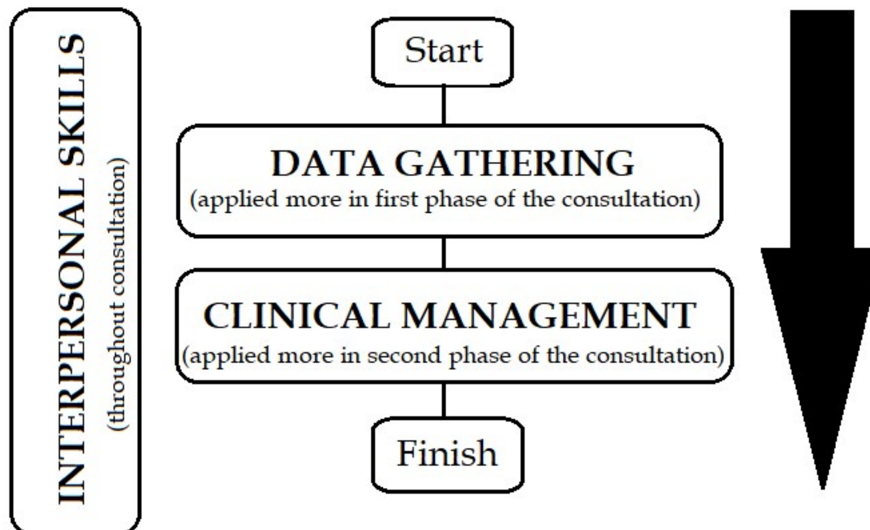
3. Demonstrate an understanding of the wider context of the consultation

- Consultations and episodes of illness rarely impact on the patient alone. It is important to understand the relationship between the interests of the patients and those of their relatives, carers and friends
- It is important to identify, acknowledge and support people undertaking a caring role
- Interactions with each patient provides a window to the local community and helps the family doctor understand the demography and diversity of the population, as well as unmet health needs and gaps in service provision

Knowledge and skills guide

The main knowledge and skills required for an effective consultation can be grouped into three broad areas:

- Interpersonal skills
- Data-gathering (including history-taking, clinical examination and investigations)
- Clinical management



Interpersonal skills

Knowledge and skills required in this area include:

- Recognising that personal emotions, lifestyle and ill-health can affect both consultation performance and the doctor-patient relationship
- Developing a shared understanding of a problem and its management with patients
- Meeting the needs of patients with different languages, cultures, beliefs and expectations
- Optimizing continuity of care and long-term relationships with patients and their families
- Managing consultation time efficiently, including ending a consultation when appropriate

Data gathering, technical and assessment skills

Knowledge and skills required in this area include:

- Focused history-taking, targeted questioning and examination to obtain sufficient relevant information to diagnose, manage and refer appropriately

- Accurate, legible and contemporaneous clinical record-keeping and effective use of patient records
- Recognition of ‘red flag’ elements in the patient’s story which may require urgent intervention to minimise risk
- Appropriate and timely physical examination and investigations

Clinical management skills

Knowledge and skills required in this area include:

- Techniques and approaches for:
    - Managing uncertainty
    - Exploring the probability of disease and form differential and working diagnoses
    - Reducing the possibility of harm
    - Using time safely and appropriately – ‘watch and wait’ approach when safe to do so; ‘safety netting’ to manage and reduce risk
- Skills for reaching shared management decisions and plans based on best available evidence and guidance, incorporating the patient’s goals, values and unique circumstances
- A comprehensive understanding of local services and patient pathways, to enable timely and appropriate referrals
- Knowledge of the self-management of acute and chronic disease, and appropriate information sources to which patients can be directed
- Active health promotion within the consultation and knowledge of lifestyle factors that affect health and evidence-based approaches to addressing these
- Skills to bring together different and sometimes conflicting professional roles within the consultation, e.g. clinician, patient advocate, leader, gatekeeper

Teaching and learning resources

Work-based learning – in primary care

- Analysis of video-recorded consultations and case-based discussions
- Sitting in with family doctor and other healthcare professionals in practice to observe different consulting styles
- Patients' feedback on consultations using validated questionnaires or tools, e.g. Patient Satisfaction Questionnaire
- Using Educational Portfolio to record learning points and reflections

Work-based learning – in secondary care

- Observation of consultations in the hospital setting
- Reflection on secondary care consultations using the Clinical Evaluation Exercise (mini-CEX)

Other learning opportunities

- Teaching using role-played consultations
- Peer group discussions and video analysis during vocational training scheme half-day release programmes

Formative Assessment

- Analysis of video-recorded consultations (especially of challenging consultations)
- Patient satisfaction questionnaire
- Multi-source feedback

Summative Assessment

Some examples of how this area of practice may be tested in MMCFD include:

Applied Knowledge Test (AKT)

- Understanding and use of decision aids
- Confidentiality and disclosure of medical records
- Advance care and decision-to-treat plans

Clinical Skills Assessment (CSA)

- An older woman with motor neurone disease asks about options for euthanasia when her condition worsens
- A young person with diabetes has repeated admissions to hospital with diabetic ketoacidosis after failing to follow instructions on insulin treatment
- Routine HRT check for a 68-year old lady with rheumatoid arthritis

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Patient Safety

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The author and editor extend their thanks for their voluntary contribution

Patient safety integrates into all areas of healthcare and is key to improving quality. The work of a family doctor continually involves working with uncertainty and balancing benefits against risks. Therefore, doctors need to be skilled in risk assessment and management.

A patient safety incident (PSI) is defined as any unintended or unexpected incident that could have or did lead to harm to one or more patients receiving care. Medical errors can occur either by commission or through omission. Potentially avoidable patient safety incidents can have devastating consequences on patients, their family and the healthcare staff involved.

There is approximately a 1 in 300 chance of a patient being significantly harmed by their healthcare, and 4 out of every 10 patients are harmed in primary and outpatient care. The most detrimental errors are related to diagnosis, prescription and the use of medicines. Errors may be the result of a number of factors, including individual, workplace, communication, technological, psychological and organizational. Common human causes of medical error include inexperience, knowledge deficiency, faulty judgment, hesitation, and tiredness. System flaws that increase the propensity for error include job overload, no time for breaks, hostile working environment, inefficient work practices (e.g. poor record-keeping), and difficulty maintaining concentration (e.g. telephone calls; noisy waiting room).

Personal attitudes that make for a safe family doctor

- Lifelong learning
- Good communication skills
- Good consulting and examination skills
- Patient-centred
- Willingness to seek help or new information when necessary
- Self-awareness
- Taking care of oneself (maintaining personal health and well-being)
- Cooperation with other professionals

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Describe how organisations and individuals can learn to be vigilant for PSIs
2. List the system factors and personal attributes of the family doctor that may help to minimize risk and error
3. Be aware of the increased risk inherent in emergency visits and telephone consultations
4. Appreciate how when dealing with some patient groups there may be a higher risk to safety in view of their particular characteristics, such as language, literacy, mental capacity, culture, and health beliefs
5. Take immediate action when risks to safety happen
6. Describe the criteria for when the primary care organisation should undertake a root cause analysis or significant event analysis
7. Contribute to regular significant event analysis (SEA) meetings.
8. Participate in and write up a personal SEA from a patient seen during the general practice period of training, recording it in the Educational Portfolio
9. Appreciate how high quality multidisciplinary teamwork contributes to enhance patient safety
10. Employ a process of safety netting in every consultation. The patient must know which potentially dangerous signs to look out for, what they should do if such signs arise and how to reach the doctor for help
11. Minimise and recognise bias as it arises. The trainee should not let personal or societal preconceptions cloud their judgement and management
12. Look out for and red flag signs and act urgently
13. Be able to carry out a safe, efficient and comprehensive patient handover at the end of shifts

Teaching and learning resources

Work-based learning – in primary care

- Observation of policies to protect patient safety, and the Complaints Procedure that allows patients to voice their concerns
- Observation and participation in practice meetings related to patient safety, or involving a SEA, taking note of the interaction within a multidisciplinary team (where available)
- Tutorials on principles of risk assessment and management
- Random case-analysis of consultations with a focus on patient safety
- Analysis of video-recorded consultations with a patient safety agenda or related to follow-up of a PSI
- Using Educational Portfolio to record a personal SEA, with reflections and learning points

Work-based learning – in secondary care

- Observation of SEA and Root-Cause Analysis meetings in secondary care, in a multidisciplinary setting
- Tutorials on principles of risk management in relation to secondary care (e.g. Accident and Emergency Department), where different criteria from family medicine are used
- Using Educational Portfolio to record learning points and reflections

Other learning opportunities

- Interactive half-day release programme sessions are an ideal group learning setting to explore concepts of patient safety, risk management, and management of patient complaints
- Private study of internet resources about patient safety and risk management e.g. WHO resources about patient safety available from: https://www.who.int/patientsafety/en/

- RCGP Patient Safety Toolkit
- Conferences and courses dealing with patient safety
- Learning opportunities with other healthcare professionals

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Internet resources

- RCGP Patient Safety Toolkit for General Practice: https://www.rcgp.org.uk/clinical-and-research/resources/toolkits/patient-safety.aspx
- WHO Patient Safety: https://www.who.int/patientsafety/en/

Chapter 5.

Medical Ethics

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The author and editor extend their thanks for their voluntary contribution

Medical ethics involves examining a specific problem, use values, facts and logic, and decide what the best course of action should be.

Ethical problems vary in their complexity. The ones which require more thought are when the need arises to decide between a number of values in conflict with each other, or deciding between two different value systems, such as the patient's value system versus the doctor's value system.

Many professional ethicists recommend using four basic values, or principles, to decide ethical issues:

1. Autonomy: Patients have the right to determine their own healthcare
2. Justice: Distributing the benefits and burdens of care across society
3. Beneficence: Doing good for the patient
4. Non-maleficence: Making sure you are not harming the patient

However, ethical values are not limited to just these four principles. There are other important values to consider, such as truth-telling, transparency, showing respect for patients and families, and showing respect for patients' own values.

Maltese healthcare priorities

Specialists in family medicine, in common with all health professionals, are expected to act in accordance with the principles set out in their professional code of conduct. The Healthcare Professions Act, Chapter 464 of the Laws of Malta, as well as jurisprudence and subsidiary legislation arising therefrom, which includes S.L.464.17, Ethics of the Medical Profession Regulations, regulates the practice of healthcare professions in Malta.

The scope of the Ethics of the Medical Profession Regulations is to inform the practitioners of the particulars of the professional and ethical standards adopted by the Medical Council and of certain forms of conduct which may be held by the Medical Council to constitute misconduct in a professional respect.

It is impossible for the law to specify all possible scenarios that may occur. Hence, doctors need to make and take decisions that require application and interpretation of this, and other guidelines issued by the Medical Council to the circumstances of

the particular cases or situations. To do this they must be able to recognise and identify the ethical issues arising during a consultation in medical practice, evaluate the potential and possible different courses of action available, dialogue with the patient and justify the decisions eventually taken.

The Medical Council

The mission statement of the Medical Council is to strive at safeguarding patients' rights and safety by protecting, promoting and maintaining the health of the general public by ensuring proper standards in the practice of Medicine as well as by safeguarding the values and integrity of the Medical and Dental professions. The Medical Council's statutory functions are defined in the Healthcare Professions Act of the Laws of Malta, which abides by the EU Directive 2005/36/EC.

Other subsidiary legislation arising from the Healthcare Professions Act include: S.L. 464.07 – Specialist Accreditation Committee (Fees) Regulations; S.L. 464.18 – Medical Council (Penalties) Regulations; S.L.464.19 – Medical Council (Standing Orders) Regulations and S.L. 458.08 Medical Council (Erasure of Names Procedure) Rules, amongst others.

Pertinent Legal Notices include: L.N. 105 of 2006 - Practice of Concurrent Professions Regulations, amended by L.N. 273 of 2010; L.N. 330 of 2006 - Medical Council (Fees) Regulations, as amended by S.L. 464.11, as amended by Article 170 of Act No XIII of 2015, 'Budget Measures Implementation Act; L.N. 38 of 2009 - Medical Council (Penalties) Regulations; and L.N. 84 of 2014 - Indemnity Insurance for Healthcare Professionals Regulations, amongst others.

Legal Notice 84 of 2014, 'Indemnity Insurance for Healthcare Professionals Regulations, 2014' states that it shall be the duty and responsibility of every healthcare professional providing healthcare to patients in Malta to ensure that he is covered by a professional indemnity insurance policy, or a guarantee or similar arrangement that is equivalent or essentially comparable as regards its purpose, which is appropriate to the nature and extent of the risk which he undertakes when providing healthcare services to patients.

Any person may submit a complaint about a medical or a dental practitioner to the Medical Council in writing, or by sending an email to the Registrar of the Council. Guidance on how to lodge a complaint with the Medical Council Malta can be found here.

The Bioethics Consultative Committee

The Bioethics Consultative Committee is part of a pan-national European Union network of bioethics committees, called national Ethics Committees, that work very closely with the European Commission's European Group on Ethics secretariat and the ethics sector. The European Group on Ethics provides advice to the President of the European Commission. The Bioethics Consultative Committee also co-ordinates work done by the Council of Europe in the subject especially within the Bioethics Convention and its protocols. It was first constituted in the early 1990s with the terms of reference being clearly to provide ethical advice to the Minister and Department of Health. It has provided numerous reports and given advice to many healthcare sectors. It has also provided support in court cases or police work in the sphere of bioethics. Many of its reports are to be found on the E-Health website while others are in print form.

The Health Ethics Committee

The function of the Health Ethics Committee gives an opinion before a clinical trial commences on any issue requested. In preparing its opinion, the Ethics Committee considers the various factors outlined in Regulation 7 of the Clinical Trials Regulations 2004 and including devices and interventions. It also evaluates proposals for research being conducted in the health sector, including ethical and data protection aspects. The Health Ethics Committee carries out this responsibility in close collaboration with the Research Ethics Committee within the Faculty of Medicine and Surgery in the University of Malta and in line with the provisions of the Data Protection Act.

The Research Ethics Committee within the Faculty of Medicine and Surgery in the University of Malta

The University of Malta Research Ethics Committee (UREC) is an over-arching committee that oversees the Ethics Review process of all University of Malta research. Every Faculty has a Faculty Research Ethics Committee (FREC), whose role is to manage the Ethics Review process for the respective Faculty. The University of Malta "Research Code of Practice" may be found on the webpage of the University Research Ethics Committee: https://www.um.edu.mt/urec. This Code of Practice provides guiding principles and standards of good practice in research across all subject disciplines and areas of study in the University.

The role of the family doctor

Practical implications and applications of medical ethics

Ethics can help resolve disputes, often emotionally charged, between family members, patients, doctors, or other parties, by providing another dimension to help make a more logical and fair decision.

All doctors want to be sure they have done the right thing. Ethics is often seen as telling the doctor what they cannot do. But in many cases, it can be very freeing as it can affirm that the doctor is doing the right thing. The doctor is relieved of nagging doubts, their conscience is clear and subsequently will be able to proceed more directly and more vigorously with the care plan. Being an ethical doctor is more important than making money or seeing as many patients as possible.

Poor decisions are sometimes made by doctors because they did not understand their role, had not bothered to identify an ethical challenge, or had not thought the situation through to its logical conclusion. Knowledge of medical ethics helps the doctor to look more informed.

The working relationship of doctor with patient is based on a bond of respect. Medical ethics helps maintain the respect of patients, while on the contrary ethical missteps can destroy the bond between doctor and patient. Patients often implicitly trust their doctors, but once that trust has been breached, it is difficult to repair.

Values in useful ethical conclusions

The trainee in family medicine must be prepared to understand how values can help achieve a useful ethical conclusion, which can also see widely accepted values conflicting with each other. Working through the ethical dilemma and thinking of the issue can help the doctor come to a decision that they can live with and be comfortable to share with colleagues.

Getting to a useful ethical conclusion about a specific problem means starting with solid values that most people can accept, basic values that are rarely in dispute, such as upholding patients' health, telling patients the truth, and giving people a choice about being in a medical experiment. Many other values are also widely accepted, such as patient autonomy, and being fair with your patients, meaning that all patients are essentially treated alike regarding critical healthcare decisions.

However, these widely accepted values often conflict with each other. For example, when patients refuse a treatment that could help them, the doctor faces a conflict between respecting patient autonomy and doing what's best for the patient.

Differences between medical ethics and healthcare law

The trainee in family medicine needs to understand the differences between legal and ethical issues in healthcare. The two concepts are part of the sets of rules, regulations, laws and ethical standards that govern healthcare, but they differ in nature and application.

Legal standards are set by governmental laws and are useful as they help people to understand what they are not allowed to do. However, ethical standards do not necessarily have a legal basis and are primarily based on human principles of right and wrong, even they lack the regulation of legal standards.

Differences between medical ethics and morality

Medical ethics is based on facts, values, reasoning and logic to come up with a flexible set of solutions and it uses persuasion to get its message across, whereas

morality involves adhering to a specific belief system or code of conduct, using authority grounded in faith or tradition (such as religion, politics or personal), rather than facts or arguments, to justify its message.

When forming and offering an ethical opinion to those who do not follow the same personal morality, the doctor has to set aside personal political opinions and religious faith. The patient's needs should come before the doctors' principles. Caregivers are expected to set their beliefs aside and focus on the best interests of the patient. If a doctor cannot bring self to treat a patient, they must find another doctor who will.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Understand that a doctor is personally accountable for own professional practice and must always be prepared to justify own decisions and actions
2. Explain and learn to respect the concepts of autonomy, beneficence, non-maleficence and justice
3. Recognise the ethical dimension of every healthcare encounter
4. Explain the nature of values and how they impact on healthcare.
5. Demonstrate moral reasoning skills in the process of choosing an appropriate course of action or resolving conflicting values. Balance conflicting duties to individual patients who are members of the same family
6. Demonstrate knowledge of the professional ethical guidelines relevant locally such as those issued by the Medical Council.
7. Appreciate that patients' views and perspectives usually change through the course of a chronic or terminal disease. Appreciate that co-morbidity or disease progression may affect the capacity to make and take decisions
8. Recognise own personal values/feelings/attitudes and how they influence how decisions are made. Clarify and justify personal ethics.
9. Behave ethically towards colleagues and other professionals.

10. Be aware of ethical issues that can be faced by senior and administrative doctors in the workplace while carrying out their job.
11. Explain the ethical principles that underpin the conduct of medical research.
12. Understand ethical issues relevant to the doctor's use of social media.
13. Be honest, trustworthy and objective when writing references, when appraising or assessing the performance of colleagues, locums or students, when writing reports, and when completing or signing forms, reports, certificates and other documents
14. Be aware of the conflicts of interest relevant to medical practice arising from financial and commercial arrangements

Relevant Guidelines

- The Ethics and Regulations of the Medical and Dental Professions: Medical Council Malta, April 2012

  http://fpmalta.com/uploads/2013/MCM%20ethicsandregulations2012.pdf
- Statute of the Medical Association of Malta: Appendix 4 – Ethics. http://www.mam.org.mt/pics/statute.pdf

Teaching and learning resources

Work-based learning – in primary care

- Observation of how values and ethics impact on general practice consultations and management. Practise in eliciting and analysing the values brought by all parties involved, and work to resolve any conflicts arising. Clarifying and justifying personal values
- Tutorials on principles of ethics
- Use of real examples to teach solving ethical dilemmas in general practice

Work-based learning – in secondary care

- Observation of how values and ethics impact on consultations and management in secondary care. Practise in eliciting and analysing the values brought by all parties involved, and work to resolve any conflicts arising. Clarifying and justifying personal values
- Tutorials on principles of ethics in relation to secondary care (e.g. Accident and Emergency Department; Paediatrics; Geriatrics)

Other learning opportunities

- Interactive half-day release programme sessions are an ideal setting to explore concepts of ethics through interactive lectures and group learning
- Private study of Medical Council guidelines, books, journals and internet resources

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Chapter 6.
Healthcare Law

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The author and editor extend their thanks for their voluntary contribution

Legal systems vary between countries, with their differences analysed in comparative law. In civil law jurisdictions, a legislature or other central body codifies and consolidates the law. In common law systems, judges make binding case law through precedent, although on occasion case law may be overturned by a higher court or the legislature.

Law's scope can be divided into two domains. Public law concerns government and society, including constitutional law, administrative law, and criminal law. Private law deals with legal disputes between individuals and organisations in areas such as contracts, property, torts/delicts and commercial law. This distinction is stronger in civil law countries, particularly those with a separate system of administrative courts; by contrast, the public-private law divide is less pronounced in common law jurisdictions.

The legal framework, or legal architecture, for health comprises a collection of binding rules that govern the rights and responsibilities of governments, health workers, companies, civil society and a country's population. These binding rules are meant to cover for all aspects of health. They take many forms including: statutory laws, regulatory and administrative laws, contracts, case law, and customary laws. One country differs from another in respect of who is involved in making these rules, and the form they take.

Health laws are used to formalize commitment to goals, such as the goal of universal health coverage, creating a drive for action. To enable cooperation and achieve health goals, people use law to create different organizations (such as hospitals) and relationships (such as contracts for providing health services). In turn, organizations (whether health ministries, the private sector or civil society) have mandates, policies and strategies based on legal rules that guide their work.

Laws create what is known as the health systems architecture, which includes establishing health organizations and networks as well as setting mandates, duties and accountabilities. Risks to personal health and to a country's health security are managed and responded to through laws, as exemplified in the COVID-19 pandemic scenario. Laws build strong foundations for good governance to enable meaningful participation by all types of individuals and health stakeholders, protect rights and define responsibilities, and establish predictable, appropriate and fair rules for facilitating the operation of health markets and setting norms for responsible health behaviour.

Maltese healthcare priorities

Overview of Maltese Healthcare law

Healthcare practice is often directly or indirectly underpinned in part by the general law in the Civil Code (Chapter 16 of the Laws of Malta), the Code of Organization and Civil Procedure (Chapter 12 of the Laws of Malta) and the Criminal Code (Chapter 9 of the Laws of Malta), as well as principles arising therefrom. The Laws of Malta are to be found on http://www.justiceservices.gov.mt/LOM.aspx?pageid=27&mode=chrono.

Then there are a number of other chapters of the laws of Malta that are explicitly pertinent to healthcare. The following are examples of such chapters, albeit that there are more.

- Healthcare Professions Act, Chapter 464 of the Laws of Malta
- Public Health Act, Chapter 465 of the Laws of Malta
- Mental Health Act, Chapter 525 of the Laws of Malta
- Health Act, Chapter 528 of the Laws of Malta
- Medicines Act, Chapter 458 of the Laws of Malta
- Gender Identity, Gender Expression, and Sex Characteristics Act, Chapter 540 of the Laws of Malta
- Affirmation of Sexual Orientation, Gender Identity and Gender Expression Act, Chapter 567 of the Laws of Malta
- Data Protection Act, Chapter 586 of the Laws of Malta

There is also a broad body of European healthcare law, arising either from the European Union (taking into account the different levels of competence) and the Council of Europe. They can be accessed on EUR-Lex Access to European Union law at https://eur-lex.europa.eu/homepage.html.

The Maltese list of Laws contains some old legislation, a number of which still apply to healthcare, such as:

- Prevention of Disease Ordinance, Chapter 36 of the Laws of Malta, which amends and consolidates the laws for preventing the introduction and spread

of infectious, contagious and epidemic diseases affecting either mankind or animals

- Dangerous Drugs Ordinance, Chapter 101 of the Laws of Malta
- Venereal Diseases (Treatment) Act, Chapter 124 of the Laws of Malta,
- Notification of Cancer Act, Chapter 154 of the Laws of Malta,

Additionally, to the list of Acts described briefly above, there are several other legislative Acts in Malta that relate to healthcare. These include for instance and among others:

- Clean Air Act, Chapter 200 of the Laws of Malta
- Tobacco (Smoking Control) Act, Chapter 315 of the Laws of Malta
- Equal Opportunities (Persons with Disability) Act, Chapter 413 of the Laws of Malta
- Occupational Health and Safety Authority Act, Chapter 424 of the Laws of Malta
- Food Safety Act, Chapter 449 of the Laws of Malta
- Gender-based Violence and Domestic Violence Act, Chapter 581 of the Laws of Malta

The role of the family doctor

It is of paramount importance that a family doctor and a trainee in family medicine is aware of national healthcare laws and refers to them for guidance whenever necessary. One cannot be working in a healthcare setting without an understanding of the legal implication for both self and the patient.

The trainee in family medicine needs to understand the differences between legal and ethical issues in healthcare. The two concepts are part of the sets of rules, regulations, laws and ethical standards that govern healthcare, but they differ in nature and application.

Before issuing a death certificate, the Specialist in Family Medicine needs to ascertain that there is no reason to suspect foul play either from the history and physical

examination. If foul play is suspected, it is crucial to involve the police and a 'levee du corp' report may be necessary. If the deceased had not consulted them recently, the doctor should be reluctant to issue a death certificate without requesting an autopsy to be carried out.

The Specialist in Family Medicine is at times called upon to examine victims of assault, describe traumatic lesions for medico-legal purposes and issue a medical report for the Police. A number of these circumstances eventually lead to the need to provide medical evidence in the Law Courts; hence some familiarity with the court protocol is welcome. A sensitive yet thorough and meticulous examination is required, followed by appropriate documentation, including an accurate and detailed report to be presented, taking of photographs, and personal records to be kept. Distinguishing between what constitutes slight or grievous bodily harm is necessary and has consequences.

The Specialist in Family Medicine is asked to be on the alert to identify cases of psychological, sexual and physical abuse. The reporting of suspected child abuse or neglect to Aġenzija Appoġġ and to the Police is of paramount importance. Victims of rape should be promptly referred to secondary care for detailed investigation. Cases of domestic violence can be complex and may require input from amongst other social workers, psychologists, police officers and legal experts, possibly through the use of the helpline 179 and involving the Commission on Domestic Violence. The family doctor should always intervene to protect vulnerable individuals within the community and be able to manage an emotionally charged situation wisely.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Be aware of law and legal institutions that govern the rules and regulations affecting the practice that need to be observed
2. Appreciate the rights and obligations of patients, as well as doctors
3. Understand the legal implication of working in a healthcare setting for self and patient

4. Grasp the main legal issues in the healthcare system that relate to medical negligence, informed consent and confidentiality
5. Maintain professional secrecy at all times except when the patient consents or when obliged by law to disclose confidential information
6. Immediately involve the police in all suspected cases of violence
7. Be alert to cues of psychological, physical, verbal or sexual abuse. Notify Aġenzija Appoġġ and Police when indicated
8. Draw detailed medical reports for the police
9. Be aware of the role of the specialist in family medicine as a court expert, witness, or defendant
10. Keep an index of suspicion when asked to issue a death certificate; know who and how to contact if foul play is suspected. Know when and how to initiate process that leads to an autopsy

Teaching and learning resources

Work-based learning – in primary care

- Observation of how healthcare law impacts on general practice consultations and management. Practise in eliciting and analysing the obligations brought about by law on all parties involved, and work to resolve any conflicts arising. Clarifying and justifying the rationale behind the legal direction
- Observation and participation in the sensitive handling of victims of assault, examining lesions, drawing up a report for the Police, and preparing to be a witness in a court proceeding. Reporting physical, sexual or psychological abuse to the relevant authorities, such as the Police and Aġenzija Appoġġ. Directing victims to where they can seek help, including national authorities and Voluntary Organisations
- Tutorials on salient medico-legal issues
- Case-analysis of clinical EU and Maltese court cases with a focus on lawsuits and judgments

Work-based learning – in secondary care

- Tutorials on salient medico-legal issues in relation to secondary care (e.g. Accident and Emergency Department; Paediatrics; Geriatrics)

Other learning opportunities

- A series of educational lectures spread over the course of the training period with a view to introducing trainees on the specialist programme in family medicine to Maltese law that is or likely to be pertinent to their practice
- Private study of Maltese Law through books, journals and internet resources

Formative Assessment

- Analysis of video-recorded consultations dealing with a medico-legal issue
- Analysis of the Educational Portfolio for medico-legal issues
- Case-based discussion on consultations dealing with a medico-legal issue

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Chapter 7.

Evidence-based Medicine

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Maltese healthcare priorities

Evidence-based practice must include the use of evidence in the discussion between practitioner and patient as well as the use of evidence in informing clinical judgment.

One of the criticisms of evidence-based medicine in the primary care setting is that many of the data are from clinical trials based in secondary or tertiary care, carried out on highly selected patients according to strict exclusion criteria. Results from such trials may produce convincing evidence that is highly persuasive to both practitioners and patients making decisions about care. The impact of convincing results in controlled clinical trials may, however, be attenuated when the treatment or intervention is applied to a broader group of patients in a real primary care setting, where multiple pathology may be common and adherence to treatment regimens is less than in a controlled trial. An honest assessment of how well the intervention will work in the reality of primary care will be more relevant to the patient considering treatment.

The hierarchy of evidence currently used in evidence-based medicine may cause further problems. Randomised-controlled trials (RCTs) are seen as the gold standard for evidence in healthcare. Other research methods such as observational studies and qualitative research carry less weight when evidence is evaluated to inform individual practice or guidelines. RCTs trials are often inappropriate, however, for answering research questions in primary care. The complexity of disease presentation and management interventions in primary care means that it may not be feasible to conduct a high quality RCT for many conditions.

Presentation of headline results without interpretation, or provision of complex statistical information, can result in confusion or lack of understanding on the part of both practitioners and patients.

Evidence-based medicine should contribute to patient-centred care but not override it. If biomedical research evidence takes its place with other forms of evidence such as patient experience and clinical judgment, patient autonomy should be enhanced. In recent years, there's been a tendency to follow guideline-based medicine, instead of patient-oriented medicine. The doctor needs to keep the patient at centrestage at all times.

Over recent years, doctors in Malta have been building guidelines for the local community. These guidelines are included in each section of this curriculum to provide guidance for the trainee. GP trainees are encouraged to study these guidelines since they reflect the Maltese population's needs more closely. They are also urged to contribute to the study and creation of new recommendations for doctors.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Demonstrate base treatment and referral decisions on best available evidence
2. Demonstrate awareness that evidence-based practice is in its infancy and for many decisions there are more unknowns than certainties
3. Ask the 'right question': SMART (specific, measurable, relevant, achievable, time-limited)
4. Find the appropriate literature from the widest available sources, rather than from the most readily available
5. Apply rigor in appraising the literature to decide whether evidence is of good quality, is applicable to the primary care setting and appropriate to the individual. Demonstrate awareness that most evidence used in primary care is produced from studies that don't include quality of life measures
6. Communicate risks and benefits in a way that is meaningful to patients
7. Demonstrate an understanding that most of the evidence used comes from studies that exclude patients with significant co-morbidity (co-morbidity is a common reason for exclusion from RCTs and exclusion is not always justified)
8. Recognise that the majority of evidence-based guidelines do not include ethnicity or socioeconomic status as risk factors, whereas in reality they are
9. Design and initiate appropriate evaluation through research or audit

Knowledge Base

The architecture of health research (and its application to family practice

- What is research? How can it inform practice?
- Quantitative research: observational, controlled trials, cohort studies, case studies
- Qualitative research: case studies, phenomenology, grounded theory, ethnography, meta-ethnography, discourse analysis and narrative methodology
- Evaluation and action research: design and integration of multiple methodologies
- Research in the management of change: using evidence from within and outside healthcare

What makes a good piece of research?

- Revision of basic statistics (correlation, standard deviation, confidence interval, statistical significance, absolute risk, relative risk, number-needed-to-treat, sensitivity, specificity)
- Defining narrative review and meta-analysis
- Introduction to parametric and non-parametric statistics: a guide to why these are used. A look at diagnostic and screening statistics
- Relevance of research to practice: is the right question being answered? Is it relevant to the patient in front of you?
- Critical reading: developing a framework to assess and understand research papers efficiently

Finding the research

- How to ask the right questions (SMART)
- Using multiple databases
- Evaluation of reviews (journal and web-based)
- What makes a good review or summary article on a subject?

Putting research into practice

- Designing your own studies: understanding research ethics, application of appropriate statistics, appreciation of the importance of negative results
- Audits: using research to set standards and implement changes
- Evaluating your research: was it worth it and does it work?
- Understanding pharmaceutical marketing and the necessity for a critical review of the information presented by medical representatives
- Research ethics and the philosophy behind these (Research Ethics Committee)

Change management

- How can you integrate your findings so that they are most useful for the patient, their family and the team?
- Team dynamics and implementation: how to develop a change in practice and user-friendly guidelines, developing a team approach to implementation and policy
- How to implement changes outside the immediate organisation: looking at the wider NHS; good and less good examples; national strategies
- Budgeting for change management: time and financial considerations

Teaching and learning resources

Work-based learning – in primary care

- Observation and practice of the experiential learning cycle to develop good practice including formulation of SMART practice-based questions, research, critical appraisal of best available evidence, implementation of change, and audit
- Tutorials on principles of evidence-based medicine

Other learning opportunities

- Interactive half-day release programme sessions are an ideal group learning setting to explore concepts of evidence-based practice
- Active participation in journal clubs is encouraged
- Conferences and courses

Formative Assessment

- Critical appraisal of a scientific paper
- Analysis of the Educational Portfolio for evidence-based learning

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Internet Resources:

- Bandolier: http://www.bandolier.org.uk/
- BMJ Learning: https://new-learning.bmj.com/
- The Cochrane Collaboration: www.cochrane.org/
- GP Notebook: www.gpnotebook.co.uk/homepage.cfm
- National Institute for Health and Clinical Excellence: https://www.nice.org.uk/
- PubMed: https://www.ncbi.nlm.nih.gov/pubmed/
- Royal College of General Practitioners: www.rcgp.org.uk
- The Synapse: www.thesynapse.net/

Chapter 8.

Pharmacotherapeutics and Prescribing

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The author and editor extend their thanks for their voluntary contribution

Medications are one of the main forms of treatment given by family doctors and thus prescribing is a frequent activity in family medicine. Safe, effective prescribing and monitoring of medications is essential to ensure high-quality, safe care. Patients are vulnerable to mistakes being made in any one of the many steps involved in ordering, dispensing and administering medications and other healthcare products. Unsafe prescribing practices and errors are a leading cause of patient safety incidents worldwide.

In a study carried out in Malta in 2018, prescribing errors due to illegible handwriting and the use of abbreviations were rated as the two most common risks among medical practitioners and pharmacists, leading to potential dispensing errors. Interruption rates while consulting with a patient were also found to commonly result in prescribing errors.

When prescribing, it is essential to follow the law and to take account of licensing and local prescription guidelines, as well as other relevant regulations (including clinical guidelines, e.g. NICE; British National Formulary (BNF) and BNF for Children). In Malta, the prescriber must abide to the Medicines Act (Cap 458) Prescription and Dispensing Requirements Rules (2006). The prescriptions should be clearly legible and include date, patient's and prescriber's details, drug name, strength, dosage form, quantity and duration of treatment, instructions for use, and doctor's signature.

Effective communication, honesty, patient empowerment and an agreed management plan all contribute to increase patient concordance to prescribed medication. Safe and effective prescribing always involves consideration of the patient and their unique circumstances, for example:

- Prescribing in special conditions, e.g. patients who are pregnant/breastfeeding
- Considering poor adherence to treatment and the effect this might have
- Consideration of the impact of polypharmacy

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Recognise and work within limits of own competence

2. Issue a prescription only if it is indicated and useful to the patient's wellbeing
3. List the cognitive steps that a doctor must take before issuing a prescription
4. Identify previous adverse drug reactions in the patient before issuing any prescription by asking the patient and relatives and consulting medical records when these are available
5. Describe the contra-indications and cautions to prescribe of commonly used drugs
6. Describe the most common undesired effects of frequently used drugs
7. Describe the interactions between commonly used medicines, food (e.g. grapefruit), drink (e.g. alcohol) and herbal remedies (e.g. St John's Wort)
8. State the usual dosage schedule for commonly used drugs
9. Base pharmacotherapy on up-to-date evidence of good quality
10. Be prepared to justify the use of a drug for an unlicensed indication
11. Describe the possible routes of delivery of a drug and explain when to use which route
12. Properly give subcutaneous, intramuscular and intravenous injections. The trainee is also encouraged to learn how to insert subcutaneous implants
13. Describe the different drug formulations and explain when to use which
14. Show familiarity with the Government Pharmacy Formulary, the Schedule V Drugs list and the medicines requiring Drugs & Therapeutic Committee (DTC) Approval
15. Explain how to obtain blank prescriptions for free medicines and controlled drugs
16. Consult with medical records, peers, the pharmacist, reference books or websites when there is lack of knowledge
17. Respect the important role of the community pharmacist
18. Follow ethical guidelines in the professional relationship with pharmaceutical companies and their representatives. Be aware of own prescribing practice and the potential influence and expectations from peers, patients and commercial pressures

19. Exercise care in prescribing Narcotic and Psychotropic drugs only when strictly indicated, for the shortest time possible and following legal requirements. Always be on the alert to any drug misuse and report any suspicious behaviour to the Office of the Superintendent of Public Health
20. Explain the concept of rationing in healthcare, and how it is applicable to prescribing
21. Describe the role of the European Medicines Agency and the Maltese Medicines Authority. Notify adverse drug reactions. Keep up-to-date with the communications and directives issued by these agencies
22. Issue clear and legible prescriptions
23. Be familiar with the use of the Maltese POYC (Pharmacy of Your Choice) online prescription system
24. Ensure that any changes to medications (e.g. following hospital treatment) are reviewed and incorporated into the patient's medical record
25. Avoid prescribing for oneself or anyone with whom you have a close personal relationship wherever possible
26. Consider the benefits, impacts and risks of prescribing in the following circumstances:
    - Via telephone or online
    - Signing prescriptions generated by others
    - Generating repeat prescriptions
    - Prescribing unlicensed medication
    - Your own previous experience of medications
27. Illustrate how some patient groups may be vulnerable to treatment mishap by virtue of their particular characteristics, such as age, language, literacy, mental capacity, co-morbidity and polypharmacy. Adapt prescription and communication style to each and every patient
28. Recognize a hypersensitivity reaction to a drug, and manage it appropriately

Knowledge Base

Basic Pharmacological concepts

active ingredient	excipient	generic
systemic bioavailability	pharmacokinetics,	pharmacodynamics
competitive inhibition	half-life	class effect
placebo effect	synergistic effect	loading dose
steady state	idiosyncratic reaction	liver enzyme induction
minimum inhibitory concentration	pharmacogenetics	hypersensitivity reaction

Locally available drugs, presentations and doses

- Government Outpatients Formulary
- Schedule V Drugs list (and the chronic conditions for which they are indicated)
- Medicines requiring Drugs & Therapeutic Committee (DTC) Approval
- Private market and community pharmacies

Others

- Narcotics and Psychotropic Drugs requiring special prescription
- Contra-indications and cautions to prescribe for commonly used drugs
- Frequent undesired effects of commonly used drugs
- Important drug-drug interactions
- Important drug-alcohol and drug-food interactions

Teaching and learning resources

Work-based learning – in primary care

- Familiarisation visits to the community pharmacy and interaction with the pharmacist
- Tutorials on principles of pharmacotherapeutics, prescribing and the management of anaphylaxis

Work-based learning – in secondary care

- Observation of the prescribing habits of doctors in secondary care
- Observation of the role of the clinical pharmacist in the multidisciplinary team

Other learning opportunities

- Interactive half-day release programme sessions (possibly held by a clinical pharmacist) are an ideal setting to explore pharmacotherapeutics and legislation related to prescribing
- Reading journals

Formative Assessment

- Directly Observed Procedure of injecting (subcutaneous, intramuscular, intravenous)
- Feedback from the community pharmacist concerning the quality and content of prescriptions

Summative Assessment

Examples of how this area of practice may be tested in MMCFD

Applied Knowledge Test (AKT)

- Drug monitoring requirements
- Safe prescribing in multimorbidity

Clinical Skills Assessment (CSA)

- An elderly woman with INR which is often not within the therapeutic window attends for review
- A middle-aged man presents for the first time for repeat prescriptions of his ten different medications

Workplace-based Assessment (WPBA)

- Case discussion on the workflow of blood results for patients taking DMARDs to minimise the risk of harm

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Internet resources

- Journal of the Malta College of Pharmacy Practice c/o Department of Pharmacy, University of Malta, Msida. www.mcppnet.org/publications.htm
- Malta Medicines Authority: www.medicinesauthority.gov.mt/home

Chapter 9.

Social Problems, Services and Benefits

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The author and editor extend their thanks for their voluntary contribution

Socio-economic conditions such as income and education have been demonstrated to be strong determinants of health status. The locally available evidence on the social determinants of health confirm that the inverse relationship between life-expectancy and chronic health conditions and lifestyle behaviours and socioeconomic status demonstrated in other countries, also exists in Malta. Greater awareness amongst health professionals and further research on the social determinants of health are necessary as rising income inequality and multi-ethnicity are both becoming important phenomena in Malta's sociodemographic evolution.

The Role of the Family Doctor

Exposure to poverty negatively impacts a person's present and prospective life chances. Poverty jeopardises the educational attainment, health status and work prospects of the person concerned thus exposing them to a higher risk of being socially excluded. The family doctor should be an ally to the vulnerable patient and help the latter and family to negotiate through the bureaucratic process to access these support services. This necessitates familiarity of the Family Doctor with all the existent social services, and the knowledge of whom to refer where, when and how.

Trends in Social Policy

The share of the population at risk of poverty and social exclusion is declining. However, the decline was not uniform for all groups. Also, as work income is rising faster than other incomes, the population at risk of relative poverty is on an increasing trend. Single parents and large families in particular are still struggling. The risk of poverty for children whose parents are working is declining, possibly reflecting the increased participation of mothers in the labour market. The introduction of free childcare has contributed to this increased participation. However, children whose parents are low- or medium skilled face much higher poverty and social exclusion risks than previously. This is particularly important, as over three quarters of Maltese aged 25-64 possess low or medium skills. Moreover, it has negative consequences for their children's education outcomes.

The social security system has gaps in its provision. Casual workers are not covered by unemployment benefits or old-age/survivors' pensions. Seasonal workers do not have access to unemployment benefits and people working under an agreement to perform a job do not have formal access to old-age/survivors' pensions. Some groups among the self-employed and foreigners (despite contributing) are excluded from unemployment benefit schemes. While the adequacy of minimum income benefits in Malta exceeds the EU average, social support by the government does not fully mitigate the risk of poverty or social exclusion for people depending on social benefits.

The hike in house rents is affecting a growing number of low-income households. The share of people renting at market prices has increased, especially among low-income households. At the same time, market rents increased sharply, creating unprecedented difficulties for a growing number of households to access affordable housing. The increase in foreigners and the number of Maltese single households, together with the low replenishment of social housing and the liberalisation of market rents, have exacerbated the problem. The risk of poverty among tenants has increased in recent years. A reform in rent laws and new social housing units are meant to address some of these issues.

Increased investment in inclusive education and training, starting with early childhood education, is important to improve Malta's long-term growth. Employment rates for people with disabilities, women and older workers are low due to insufficient skills attainment. It is important to improve education outcomes for disadvantaged groups starting from early childhood, to improve alignment with labour market needs and to increase participation in adult learning. Improving access to employment for inactive people, integrated measures in housing and social services for non-EU migrants, modernising social protection and enhancing infrastructure for equal and timely access to quality and affordable health and long-term care services also require further investment.

Trends in Healthcare and long-term care system

Demographic and non-demographic factors are expected to increase health expenditure. Due to population ageing and the recent increase in population, healthcare expenditure is projected to increase, significantly above the projected EU

growth. Life expectancy is increasing, reflecting investments in care availability and quality. The Maltese population enjoys one of the highest life expectancies in the EU and continues to rise.

Healthcare services are widely accessible. The great majority of the population report met needs for medical care, with negligible variations based on socio-economic status. A high level of voluntary use of care services provided by private sector physicians explains the relatively high share of out-of-pocket spending in Malta but it does not appear to pose a significant barrier for access to care in Malta.

Waiting times have improved but remain a long-standing challenge for some specialties.

Investments in primary care infrastructure are progressing. The decentralisation of services from hospitals to the primary care level continues, with a new concept for primary care centres and investments to gradually expand the use of eHealth being made. Rehabilitative and geriatric care capacity will increase by means of a public-private partnership between the government and a private hospital operator, which envisages the refurbishment, development and management of three public hospitals in Malta and Gozo.

Public spending on long-term care is below the EU average; it is primarily spent on institutional care. Support for informal carers includes a combination of cash benefits, care leave and respite services provided through community services. However, respite services are limited and difficult to secure for those who care for elderly people, which restricts labour market participation of informal carers. In addition, support is limited for people with mental impairments.

Social Security Benefits and Services

Social benefits can be of the contributory and the non-contributory types and cover the entire population which is in some way recipient of such benefits. The aim is to provide financial support to those sections of the community which are mostly in need, namely those with a low- income, the sick, the elderly and the unemployed.

Social Security benefits are administered by the Department of Social Security in accordance with the Social Security Act (Cap. 318.).

In general, Social Security benefits can be categorized as:

- Contributory Pensions, such as the Retirement Pension; Incentives for persons keeping their employment beyond their pension age; Pension for widow/er; Invalidity Pension and Injury on Duty Grant/Pension
- Family Benefits, such as Adoption Benefit; Adoption Leave Benefit; Child in Care Benefit – Foster Care Service; Child in Care Benefit – Residential Service; Children's Allowance for household income less and above threshold; Children's Allowance for additional child; Care and Custody of Minor children; Disabled Child Allowance; Energy Benefit including for humanitarian cases; Marriage Grant; Maternity Benefit; Maternity Leave Benefit; Orphan's Allowance; Student's Allowance; Supplementary Allowance for both head and not head of household
- Grants, Bonuses and Schemes, such as the payment of statutory bonuses to beneficiaries; payment of statutory bonuses to pensioners employed part=time; retirement grant for non-pensioners; senior citizen grant and state funded food distribution scheme
- Medical Assistance, such as the free medical aid (Pink Form – Schedule II); the Injury Benefit, the Injury Grant, the Leprosy Assistance, the Milk Grant; the Sickness Assistance; the Sickness Benefit and the Tuberculosis Assistance
- Non-contributory benefits, such as the Age Pension, the Carers Allowance; the Disability Assistance; the Drug Addict Assistance; the Increased Carers Allowance, the Increased Severe Disability Assistance; the Severe Disability Assistance; the Severe Intellectual Disability Assistance; the Single Unmarried Parent Allowance; the Social Assistance; and the Visual Impaired Assistance
- Work, Incentives and Unemployment Benefits, such as the in-work benefit; the special unemployment benefit; the Subsidiary Unemployment Assistance; the tapering of Benefits for an employed person; the Tapering of Benefits for a head of household whose spouse/partner started employment; the Tapering of Benefits for married/civil union/cohabiting; the Tapering of Benefits for a self-occupied person; the Tapering of Benefits for a Single Parent; the Unemployment Assistance; the Unemployment Benefit and the Unemployment Benefit for EU Nationals

Malta has Social Security Reciprocal Agreements with Australia, Canada and New Zealand that help co-ordinate the social security systems of the respective contracting countries so that people can move from one country to another, obtain benefits due and also, in some cases, regulate the payment of social security contributions.

There are additional services, including the possibility of the appointment of an Administrator or Agent of an Administrator for Pensions and Benefits, and the Power of Attorney for Pensions and Benefits.

Social Welfare Services

Social welfare services aim at bringing change that will enable people to enhance their potential through the support, care and understanding they receive from the social welfare professionals. Community-based services are increasingly becoming the more acceptable and preferred form of social intervention and support, as such an approach seems to address a wide range of actual and complex needs within a person's immediate and intimate social milieu. Moreover, experience shows that these projects help to promote gender mainstreaming and lead to greater individual empowerment and participation.

National Services

The Foundation for Social Welfare Services was established to provide social welfare services, in particular in relation to alcohol and substance abuse and in relation to other social welfare problems prevalent in the country, especially those related to family welfare. The Foundation for Social Welfare Services (FSWS) is divided into three main agencies.

- Aġenzija Appoġġ as the National Agency for children, families and the community, safeguards and promotes the well-being of these persons through the development and provision of psycho-social welfare services. The Agency comprises over 30 services, all focusing on children, families and adults in vulnerable situations and at risk of social exclusion, and communities.

- Aġenzija Sedqa aims to increase public awareness of the harm caused by addictive behaviours and imparts skills to prevent or delay the development of such patterns. It also supports persons who have developed an addiction and their significant others to modify their lifestyles to lead a healthier and more satisfying life whilst becoming productive citizens within society. Aġenzija Sedqa provides both Prevention and Care Services
- Aġenzija Sapport aims to provide services and assistance to individuals with disabilities. Social Work Services work with individuals having disability and their families/carers to deal with their social problems in an effective way.
- LEAP! centres in various villages across Malta and Gozo aim to combat social exclusion and poverty through employment, capacity building, social integration and social mobility.
- ChildWEBalert is an online reporting system which provides a secure and confidential environment where the public can report websites which host online child abuse.
- Support line 179 is the national helpline offering support, information about local social welfare services and other agencies, and a referral service to callers who requires support. It is also a national service to people who are in times of difficulty or crisis. It receives calls on situations of child abuse, domestic violence, drug/alcohol/gambling problems, amongst others. Moreover, all calls received on the EU Emotional Support Helpline 116 123 and EU Child Helpline 116 111, are also dealt with by the Supportline 179 team. The EU Emotional Support Helpline 116 123 offers emotional support to callers suffering from loneliness, those who find themselves in a state of psychological crises, and those who require emotional support due to various life situations they might be encountering. The EU Child Helpline 116 111 offers help and support for children and young people. The services enables children and young people to find solutions to their problems and links them to others services and resources
- Aġenzija Żgħażagħ aims to manage and implement the National Youth Policy and promote and safeguard the interests of young people. It is creating new spaces and facilities at local community level to support the development of

young people through their active involvement and participation in non-formal learning opportunities

The AĊĊESS Community & Resource Centres in Cottonera, Qawra and Valletta aim to provide a number of social services within the community in which they operate. These Centres are based on the concept of having a platform of services, accessible within the respective Centre, to provide a holistic approach to the needs of the community.

The **Commission for the Rights of Persons with Disability (CRPD)** aims to enable persons with disability reach their full potential in all aspects of life and enjoy a high quality of life thanks to equal opportunities. It provides persons with disability and their families with the necessary assistance and support.

The **Active Ageing and Community Care (AACC)** aims to promote active ageing, to enable independence and dignity with advancing age. It provides Community Care and Services in the community that assist older persons in ageing-in-place.

- Community Care includes the Community Geriatrician Services, the Community Psychogeriatric Consultation Service, the Dementia Activity Centre, the Dementia Intervention Team, the Domiciliary Caring, the Domiciliary Nursing, the Free Medical Tests for Conditions of the Ears, Nose and Throat and Hearing Tests, the Occupational Therapy Service, the Physiotherapy Service, the Podiatry Service, the Residential Respite, the Respite at Home and the Social Work
- Community Services include the Active Ageing Centres, the Carer at Home Scheme, the Continence Service, the Home Help Service, the Handyman Service, the Meals on Wheels, the Night Shelter, the Phlebotomy service, the Silver-T Service, Telecare+, the Telephone Rent Rebate and the Valletta Scooter Service

Voluntary Organisations

Voluntary organisations have a long and valued tradition in Malta. A significant number of organisations are active in areas of interest to the Family Doctor and their patients who might benefit from referral and active involvement. The list is available

at https://education.gov.mt/en/vo_home/Pages/vo_list.aspx. Some are active within the Malta Council for the Voluntary Sector https://maltacvs.org/ , which aims to support and network Voluntary Organisations. The trainee is encouraged to actively meet and be aware of what is available in the community where they practice; getting actively involved adds value to the learning experience.

Other entities

The following are only an example of other entities that are involved in improving the wellbeing of people and the Trainee is encouraged to actively meet and be aware of what is available in the community where they practice.

CARITAS has a long history of excellent and comprehensive support services for the help of victims of substance abuse, usury and gambling and their families. It also provides help to the elderly (HelpAge), counselling for relationship problems, and counselling pre-testing for HIV (Xefaq service).

The **LIONS Club International** aims to create and foster a spirit of understanding among the peoples of the world, to promote the principles of good government and good citizenship and to take an active interest in the civic, cultural, social and moral welfare of the community. It runs a number of fund-raising activities for its international projects, such as diabetes, visual impairment, hunger and childhood cancer.

The **Rotary Club International** is a network of service clubs which enable members to provide assistance to the local communities as well as to those far away. Rotary members believe that they have a shared responsibility to take action on the world's most persistent issues. The over 35,000 clubs work together to promote peace, fight disease; provide clean water, sanitation, and hygiene; save mothers and children; support education; and grow local economies. Rotary Club Malta has been involved in numerous projects over this time, both in Malta and overseas.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Recognise that social factors often have a profound effect on the biological, psychological and social health of the individual
2. Recognise that social problems frequently present as abnormal behaviour in children, or with psychosomatic symptoms, anxiety and depression at all ages
3. Recognise that certain social categories are intrinsically vulnerable to poverty and exclusion
4. Be aware that family composition varies
5. Work with the patient and family to empower them to take charge of their social condition and make sensible efforts to improve it
6. Demonstrate basic counselling skills when dealing with relationship problems
7. Demonstrate comprehensive knowledge of the wide range of social services (both governmental and non-) and benefits available locally. Be aware of EU-wide services
8. Readily refer the patient to social workers and services (both governmental and non-) whenever this is thought to be beneficial for the patient and the family
9. Explain the role of the social worker in the support of vulnerable people
10. Explain the role of the local Social Security Office as a portal to various social services and benefits. Explain how the e-government website facilitates access to social services and benefits. Explain how doctors may obtain blank sickness certificates and other application forms
11. Demonstrate the responsibility in facilitating proper use and preventing misuse of social services and benefits.

Teaching and learning resources

Work-based learning – in primary care

- Observation and practice in the identification and management of social needs in general practice consultations. Proper certification of patients eligible

to social services and benefits; filling in application forms. Learning basic counselling skills. Using the therapeutic relationship to offer support and follow-up to vulnerable patients. Referral to appropriate agencies when indicated. Advocate for the patient if necessary

- Tutorials on social problems, services and benefits

Other learning opportunities

- Interactive half-day release programme sessions are an ideal setting to discuss social problems, services and benefits and their proper use. Counselling skills may be taught using role play

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Chapter 10.

Chronic Disease Management

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The author and editor extend their thanks for their voluntary contribution

Although details of management vary according to the specific illness (and appear in the clinical modules of this curriculum), there are common elements that feature in the management of all chronic disease. The rationale for this module is to explore these common themes. For this reason, the sections on Knowledge and Relevant Guidelines have been omitted from this module.

Chronic Disease in the Maltese population

The most prevalent chronic disease conditions among the Maltese population are:

- Ischaemic heart disease
- Musculoskeletal disorders (including lower back and neck pain)
- Diabetes

Rising chronic diseases include:

- Alzheimer's disease and other dementias – a 50% increase since 2000, attributed to increased longevity, and more accurate diagnosis but few effective treatments
- Diabetes – reflecting higher obesity rates among the population

The 2014 European Health Interview Survey (EHIS) revealed that those with the lowest level of education were more likely to suffer from chronic disease. For example, one in three people with the lowest level of education suffer from hypertension, compared with only a tenth of people with the highest level of education.

Management of Chronic Disease in Malta

Although most Maltese family doctors do have their areas of particular interest, there are no formal family doctors with special interest posts in these islands. The Malta College of Family Doctors supports this concept.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Use the therapeutic relationship to support the patient to adapt to the realities of the illness and its treatment, feel empowered to take care of themselves, make the best use of healthcare, adopt a healthy lifestyle, and continue to function at the highest level possible at each stage
2. Be able to manage patients with multimorbidities and be able to prioritise management according to most likely benefits and risks, while keeping the patient's priorities at the forefront
3. Recognise that chronic disease may have profound physical, psychological and social effects on the patient. Take a holistic approach to the patient by assessing the psychological and social dimensions of disease
4. Encourage the patient to access further information and patient support groups
5. Describe the complimentary roles of other health professionals in the management of chronic illness. Readily involve other healthcare workers when their help may be useful. Coordinate interdisciplinary care in chronic illness
6. Describe the natural history of chronic disease and give appropriate health advice, and certification for absence from school or work. Be sensitive to patients' financial difficulties. Offer cost-effective treatment
7. Describe how the use of validated patient-reported outcome measures and patient diaries can aid diagnosis, and the assessment of chronic disease severity and response to treatment
8. Coordinate with other health organisations such as facilities for people with disabilities, home care services and schools
9. Recognise when management must move from an active approach to a palliative one

Teaching and learning resources

Work-based learning – in primary care

- Observation and practice in the management of chronic disease, assessing severity, choosing best modality to treat, always involving the patient in the decision process. Educating and empowering the patient to take charge of their health. Identifying patient preferences regarding shared decision-making. Clarifying the agenda for the patient with multiple complaints
- Analyse the treatment plan of patients with chronic conditions, suggest a treatment review, and discuss the new plan with the GP trainer. This is ideal before a programmed visit with a challenging patient and followed up by a discussion on patient goals, priorities, drug interactions, and treatment adherence
- Involving other healthcare professionals when indicated. Referring to support groups and social services when indicated
- Tutorials on principles of chronic disease management
- Analysis of video-recorded consultations dealing with the management of chronic illness
- Random case-analysis of consultations dealing with the management of chronic illness

Work-based learning – in secondary care

- Using Educational Portfolio to record learning points and reflections

Other learning opportunities

- Private study of current local and international guidelines/protocols on the management of chronic disease, journals and internet resources

- Interactive half-day release programme sessions on chronic disease management

Formative Assessment

- Mini-clinical examination e.g. taking BP; interpreting HbA_{1c} result; performing and interpreting spirometry; interpreting echocardiography result
- Case-based discussion on consultations dealing with the management of chronic disease
- Analysis of Educational Portfolio for cases dealing with the management of chronic disease

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Chapter 11.

Disease Prevention and Screening

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Update by: Dr Ian Psaila

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The author and editor extend their thanks for their voluntary contribution

Family doctors, together with the other members of the primary healthcare team, play a vital role in promoting health and preventing disease for people of all ages and backgrounds. They provide the link between the public health agenda and individual patient care.

Maltese healthcare priorities

Local Statistics

The Malta Childhood National Body Mass Index study carried out in 2019 found that approximately 40% of children between 5 and 17 years are overweight or obese. Of these, more children were obese than overweight.

As of 2016, the World Health Organisation estimates that the mean BMI of the Maltese population is 27.7kg/m^2, with men having a mean BMI of 28.1kg/m^2 and women 27.2kg/m^2.

The leading cause of death in Malta is cardiovascular diseases, with rates being higher than the EU average. However, an increase of the Maltese population's life expectancy is due to a decrease in deaths from cardiovascular causes.

The WHO estimates that 20% of Maltese adults smoke tobacco. Smoking rates among children under age have fallen significantly and are the lowest in the EU, with 17.6% of girls and and 11.6% of boys who smoke.

It is estimated that only 36% of adults perform sufficient exercise activity. Rates for children and elderly are even worse at 25% and 28% respectively.

The above worrying statistics demonstrate that there is ample scope for health promotion and disease prevention. The family doctor needs to be well acquainted with the locally available services related to health promotion, disease prevention and screening, and know-how to help patients access them.

The Department of Health Promotion and Disease Prevention undertakes various national campaigns to promote smoking cessation, healthy eating, use of sunscreen, and more. National preventative programmes include the national free immunization schedule for all citizens of Malta. Screening programmes for scoliosis, child

development, hyperlipidaemia, diabetes and glaucoma are in place. There is also nationwide screening for breast, cervical and colon cancer.

It's crucial that family doctors move away from treating established disease and shift towards prevention of conditions to bring down mortality and morbidity rates. In addition, a dedicated patient recall system for screening should be in place. Other resources, such as patient information leaflets, contact numbers and websites for self-help groups should be available in the clinic. An interdisciplinary approach, with all members of the primary care team working in harmony towards a common goal, is indispensable.

A Changing Community

Malta has seen rapid influx of people moving in from other areas in the world, including EU countries, citizens from traditionally Western cultures and third-country nationals. Some have high-earning jobs, while others can be noted to live in large groups in small apartments on low wages. This presents a challenge to the family doctor who needs to understand the challenges involved in such groups.

Foreign patients are often not cognizant of available services and may end up either following an inefficient and expensive route to arrive at the required management, or not seek help at all. Sometimes, there is a language barrier.

Such patients may also have different risks to conditions than what is seen among the classic Maltese population. This is owed to the person's racial and cultural background. The family doctor has to be aware and be on the alert for such conditions.

Moreover, people belonging to the migrant population may hold similar or different values and beliefs to the traditional Maltese population. Such values might include an appreciation for exercise and healthy eating, a hard-working mindset and a sense of communal experience.

For a holistic approach among patients of all cultures in the practice, the family doctor needs to be aware of all these aspects. This ensures that all patients have equal, time-efficient and appropriate access to healthcare.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Explain the concepts of health, function and quality of life as well as models of disease. These include health promotion and preventative activities, risk management and issues of cost-efficiency and rationing
2. Describe the characteristics of the community including socio-economic, education, housing, ethnicity and health features. Recognise the impact of inequalities and discrimination on health
3. Appreciate that the patient's health beliefs are strongly influenced by family members, culture, socio-economic factors and the workplace
4. Demonstrate that there is an understanding of the different and complimentary roles of family doctors with other professionals and NGOs
5. Demonstrate familiarity with the epidemiology of established disease as it presents in primary care, and the major causes of morbidity and mortality in the local community
6. Explain the principles of prevention and preventative strategies
7. Assess an individual patient's risk factors by using basic statistical techniques
8. Take a holistic approach and sensitively solicit the patient's beliefs, concerns, values and expectations related to health and disease at every step in a patient-centred consultation.
9. Explain the concepts inherent in the cognitive behavioural model of stages of change, and be ready to accept the patient's position wherever that might stand without placing the therapeutic relationship in jeopardy
10. Be aware that the Department of Health Promotion and Disease Prevention provides one-to-one counseling related to smoking cessation, women's health, nutrition, physical activity, sexual health and HIV counselling. Be aware that the department also holds various group sessions including those for smoking cessation and weight reduction. Be familiar with the wealth of publications for health promotion (e.g. patient information leaflets) freely available from the Department

of Health Promotion and Disease Prevention, and use them in day-to-day work with patients

11. Apply the principles of immunisation and vaccination, and have thorough knowledge of the compulsory free national immunisation schedule and other optional immunizations available on the private market
12. Provide sound advice, appropriate immunizations, and effective prophylaxis (to patients who intend to travel to countries where there is risk of infection
13. Appreciate the importance of disease surveillance and comply with the legal obligation of notifying infectious disease, cancer and congenital anomalies in accordance with the Public Health Act
14. Explain the meaning of the statistical terms such as 'sensitivity' and 'specificity' as applied to a screening test. Understand the benefits and risks of screening programmes, Wilson's Criteria for screening, and the responsibility of the family doctor not to medicalize normality

Teaching and learning resources

Work-based learning – in primary care

- Observation and practice of skills such as measuring abdominal circumference and BMI, measuring blood pressure, giving immunization, taking cervical smears, examining breast, performing a digital rectal examination, interpreting laboratory results, interpreting bone mineral density readings, carrying out routine examinations
- Tutorials on principles of disease prevention and screening, national programmes, skills of disease risk assessment, infectious disease notification
- Analysis of video-recorded consultations with a preventative or screening agenda (whether initiated by patient or doctor) e.g. immunization, smoking cessation, weight loss.

Work-based learning – in secondary care

- Observation and practice of skills such as taking cervical smear, examining breast, performing a digital rectal examination, interpreting laboratory results, etc.
- Using Educational Portfolio to record learning points and reflections

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Chapter 12.

Information Management and Technology

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General practice involves the handling of large amounts of information including patient medical records, prescriptions and referral letters. There are also items of information related to the practice, such as rosters, financial spreadsheets and reports, wages and more. Meticulous data input, secure storage, and efficient retrieval are essential for high quality information management.

Good medical records are of fundamental importance to good patient care. The electronic patient medical record (EMR) can be used to keep note of the patient's symptoms, clinical signs, diagnostic and therapeutic interventions, diagnoses, investigations and their results, treatment given and referrals.

The EMR can be used to generate frequency reports (for any parameter), disease registers and practice activity reports. In addition, it greatly facilitates searches for clinical audit.

Maltese healthcare priorities

Many government services can be readily accessed through the internet by doctors and the general public via the site myhealth.gov.mt. Examples include application and notification forms, diet sheets, requests for information, outpatient appointment bookings and periodic health reports.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Identify different types, and users, of health care data
2. Explain the principles and practices of health record management for various types of health records
3. Understand that the use of IM&T in the collection of information has an impact on prevention planning and the improvement of the health literacy of patient populations.

4. Choose the most appropriate method and to store, process and retrieve information
5. Examine risk management principles for privacy, confidentiality and security of health information
6. Have ICT skills at European Computer Driving Licence (ECDL) standard including knowledge of basic concepts
7. Use the computer in the consultation whilst maintaining rapport with the patient. Ensure that the use of IM&T does not conflict with the holistic and patient-centred approach to patient care
8. Use the practice clinical system effectively and routinely for tasks such as entering clinical data, prescribing, processing pathology results and referrals
9. Demonstrate the use of disease registers
10. Recognise and respect the patient's right to confidentiality. Describe the legal requirements for data protection
11. Explain how clinical record systems can be used for personal/practice audit and data analysis
12. Demonstrate how to use the EMR to gain an understanding of the health needs of the community through the epidemiological characteristics of its population
13. Demonstrate how to use NHS electronic booking systems to tailor healthcare provision to the needs of the individual patient
14. Access latest information from online sources to aid diagnosis, evidence-based management and referral

Teaching and learning resources

Work-based learning – in primary care

- Observation and practice in the use of IT in day-to-day activities such as: using patient medical records, entering investigation results, accessing investigation results online, online booking of hospital appointments, epidemiological

analysis, drawing up disease registers, clinical audit, the organization of rosters and accounts spreadsheets

- Tutorials on principles of IT and the use of the EMR

Other learning opportunities

- Learning opportunities with other professionals such as IT experts, practice manager, secretary
- Interactive (IT-based) learning
- Using IT for a literature search

Formative Assessment

- Analysis of the Educational Portfolio for learning points related to IT
- Demonstration of the use of the EMR, basic computer literacy, teaching presentations
- Carrying out a self-assessment

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Chapter 13.

Teamwork, Leadership and Referral

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Doctors need personal and professional skills that help them fill leadership roles in the rapidly changing complex environment which surrounds healthcare delivery. Skills required include resilience, stress management, time management, assertiveness, negotiation and conflict management.

A high quality service can only be realistically achieved through teamwork complemented by the services of other healthcare professionals. Working in a team requires an honest and trusting relationship with colleagues and encourages exchange of ideas, sharing and learning of new skills, providing feedback and social interaction.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Demonstrate an understanding of why leadership and teamworking are important in their role as a clinician
2. Demonstrate an understanding of a range of leadership principles, approaches and techniques
3. Think critically about decision making, reflecting on decision-making processes and explaining those decisions to others in an honest and transparent way
4. Supervise, challenge, influence, motivate, appraise and mentor colleagues and peers to enhance performance and support development
5. Challenge and critically appraise performance of colleagues, peers and systems
6. Identify ethical aspects relating to leadership in primary healthcare, and should include knowledge and application of principles such as beneficence, non-maleficence, justice and autonomy to everyday leadership decisions. There should be a working knowledge of the following topics:
    a. Equality and diversity, including disability rights and access, discrimination law
    b. Probity, e.g. gifts, conflicts of interest
    c. Complaints procedure and principles, litigation and medical negligence, raising and acting on concerns about patient safety

    d. Welfare of practitioners such as health, conduct issues

7. Understand and appreciate the roles of all members of the multidisciplinary team

8. Promote a learning culture

Teaching and learning resources

Work-based learning – in primary care

- Observation of how the primary care team functions in day-to-day activities including the various roles of the members of the practice team, communication channel, hierarchies, practice meetings, work ethos, accountability, appraisal of staff, setting rules, disciplinary measures, and more
- Organise and chair a practice meeting to practise leadership and observe team dynamics (possibly video-recorded)

Work-based learning – in secondary care

- Observation of an interdisciplinary approach to patient care including the various roles of the members of the hospital team, Attending a staff meeting to observe team dynamics

Other learning opportunities

- Taking part in quality improvement projects, which should be led by trainees supported by their trainer, and include working with other team members to create a sustainable change in practice
- Leading and participation in community projects to encourage team building and improve leadership skills

Summative Assessment

Applied Knowledge Test (AKT)

- Statutory legislation such as information governance and confidentiality
- Completing insurance claim forms from medical records

Clinical Skills Assessment (CSA)

- A patient who works at the practice requests sick leave because she is being bullied by her manager
- A man who has been diagnosed with essential hypertension asks why the drug he has been prescribed is not recommended as the first line choice in the current guidelines

Workplace-based Assessment (WPBA)

- A Quality Improvement Project on looking at the number of salbutamol inhalers prescribed to adults and reviewing patients who might need additional treatment
- Attending a course on leadership skills for the future family doctor

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Internet resources

- Faculty of Medical Leadership and Management: 'Developing medical leadership: A toolkit for doctors in postgraduate training'. Available at: https://www.fmlm.ac.uk/sites/default/files/content/resources/attachments/Developing%20medical%20leadership%20toolkit.pdf

Chapter 14.

Practice Management

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The author and editor extend their thanks for their voluntary contribution

On one level all family doctors are part of a primary care structure, wherever and however they work. On another level they may also be involved in the organisation, management and leadership of an entity (public or private). Within the primary care structure, the family doctor is expected to understand the scheme and system of how it is organised, including the appropriate use of administration systems, the importance of effective record-keeping and the use of information technology, for the benefit of patient care.

The tender for an electronic patient record system for primary healthcare launched in 2018 states in its technical details that it is anticipated that the solution will be used by approximately 450 doctors which include the 250 private family doctors. This implies that primary healthcare is mixed, with most family doctors working exclusively either private or public and a minority working in both.

New technologies are a tool to access and deliver better care, which the family doctor needs to embrace and eventually master. Family doctors involved in management need to develop relevant business and financial management skills to improve structured care and planning, to provide a better service and experience to the patient. The family doctor is responsible for their own acquisition of medical equipment and consumables, required forms and IT access for online services.

To better learn about practice management, it is recommended that all trainees be attached with a private family doctor during their vocational training and be involved in the day-to-day services and running of a Health Centre to which they are attached, ideally in equal periods to reflect the above reality of a mixed national primary healthcare system. Additionally, they should be exposed to an overview of how the national primary healthcare system works and its organisational scheme.

Maltese healthcare priorities

The national primary healthcare system consists of public and private entities. A number of digital initiatives have started recently to converge all entities into personalised patient-centred care.

Healthcare services are widely accessible. Only 0.4% of the population reported unmet needs for medical care in 2017, with negligible variations based on socio-

economic status. A high level of voluntary use of care services provided by private sector physicians explains the relatively high share of out-of-pocket spending in Malta.

The Primary Healthcare System

The Public Primary Healthcare System

The public primary healthcare system is run by the Primary Healthcare Department (PHCD) and consists of a Head Office, 9 Health Centres (another one is planned in the North region of Malta), 60 local clinics and 5 additional specialty clinic and units. The Health Centres are the hub of the primary healthcare services provided by the Government.

The family doctor is expected to work with the available nursing and various specialised health services. These include immunisation, speech therapy, Antenatal and Postnatal clinics, and more.

The Private Primary Healthcare System

The private primary healthcare system is made up of solo family doctors, family doctors working in groups as well as medical doctors and family doctors employed by private clinics and hospitals.

Solo family doctors still make up the majority of family doctors in private family medicine. The advantages of solo practice are greater independence and minimal expenses. However, it often puts great strain on the doctor, and their family. Moreover, an overworked family doctor may have little time or energy to dedicate to lifelong learning. A group practice setup has a number of advantages, such as easier provision of a continuous health service, including out-of-hours services.

Whether working solo or in a group, private general practice is a business, albeit with a social dimension, and the family doctor needs to develop basic financial, business and managerial skills

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Recognise and describe leadership and management core responsibilities of every doctor
2. Recognise the importance of distributed leadership within health organisations and of leadership skills in solo practice
3. Recognise responsibilities as a leader when safeguarding children, young people and vulnerable adults
4. Contribute experience to the evaluation, redesign and (where relevant) commissioning of care pathways, to achieve a more integrated, effective and sustainable health system
5. Develop the financial and business skills required for different roles in primary care
6. Successfully achieve holistic care by understanding the person within society
7. Appreciate the structure of the national healthcare system with its strengths and limitations and how resources are allocated.
8. Understand their organisational structure of different set-ups in primary care and be able to list and discuss the advantages and disadvantages of each

Teaching and learning resources

Work-based learning – in primary care

- Observation of how the different forms of primary care practices are managed in day-to-day activities
- Tutorials on principles of practice management
- Attend a practice meeting of different forms of primary care practices to observe the information gathering, discussion and decision-making involved in the running of the service

Other learning opportunities

- Attend study visits to practices and exchanges organised by the Vasco da Gama Movement, WONCA's branch for young and future family doctors https://vdgm.woncaeurope.org/content/exchanges

Formative Assessment

- Discussion of how to manage a business enterprise
- Discussion of how a public service functions and delivers
- Evaluate a practice project implemented by the trainee

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Chapter 15.

Personal and Professional Development

Author: Dr Alessandra Falzon Camilleri

Update by: Dr Natalie Psaila

Maltese healthcare priorities

The MCFD sees CPD as the way forward for practising family doctors. It encourages continued medical education. College accreditation for status of Specialist in Family Medicine is only granted if a family doctor accrues 27 units of credit per year by participating in both passive and active educational activities. The MCFD offers a wide range of accredited educational opportunities to fulfill this responsibility.

Personal Development

Self-awareness

This refers to the ability to conduct oneself as a reflective and accountable practitioner:

- Seeking out sources of informed criticism and feedback. Reflecting and responding to feedback appropriately
- Ability to question own competence and know own limits

Self-Directed Learning

This is the ability to manage own learning as demonstrated by:

- Searching out and selecting appropriate learning resources of all types
- Employing appropriate and effective study skills
- Identifying areas needing further development and study
- Setting realistic and appropriate personal learning goals

Self-Care

Being a family doctor is very demanding and taxing both physically and mentally. Looking after oneself is fundamental and GP training covers:

- Recognition of the pressures of a demanding professional life on health, well-being and relationships with others and the need to maintain a balance between personal, professional and social goals and activities
- Attention to lifestyle, diet, exercise and relaxation
- Taking care of close relationships
- Making use of available help and advice in stressful circumstances

Avoiding Burnout

Burnout is a state of physical, emotional and mental exhaustion caused by long-term involvement in situations that are emotionally demanding. Being able to say no to unacceptable requests, injecting variety into work routines, taking frequent small breaks and having fun can help greatly.

Assertiveness

Assertiveness involves individuals treating themselves and others as equals and emphasizes the importance of individuals taking care of personal rights, needs and responsibilities. The aim of assertive behaviour is to ensure that the rights and needs of the self are protected and satisfied while still equally considering those of others.

Confidence

Confidence, a quality associated with successful individuals, may best be described as an assurance arising from a belief in yourself and your abilities. The following can help boost confidence:

- Getting feedback from trusted sources
- Embarking on a good mentoring relationship
- Identifying areas for improvement

A Holistic Approach

The development of a doctor's personal qualities is complementary to development in the professional sphere. Holistic personal development engages the different attributes in cognitive, emotional and spiritual dimensions.

Professional Development

Planning and Recording CPD

Keeping up to date through Continuing Professional Development (CPD) is a professional responsibility for all doctors. CPD assists doctors to maintain and improve their standards across all areas of their practice.

Personal Development Plan goals

These should fit with the SMART objectives. Tasks should be:

- **S**pecific - specified learning activities, not general statements
- **M**easurable - possible to assess whether they have been achieved
- **A**ttainable - possible to achieve
- **R**ealistic - within the doctor's capability
- **T**imed - agreed time for achieving and reviewing

Educational Portfolio

The Educational Portfolio contains information about the doctor's current practice, educational activities and any available feedback on performance. This is then used to prioritize and direct the next PDP, and to provide evidence that the PDP is being addressed.

The Educational Portfolio may contain:

- Current posts, roles and responsibilities; both in the practice and outside
- Personal developmental goals (medical and non-medical), each with a stated time period
- Evidence of personal self-analysis:
    - Learning styles assessment
    - Myers Briggs and Belbin personality assessment
    - Copy of minutes of annual appraisal
    - Reflective Diary
    - Documentary evidence of methods used to demonstrate a learning need: with summaries of meetings or notes from personal study to demonstrate how the need was met
    - Significant event analysis
    - Random case-analysis, or clinical diary of interesting cases
    - Personal and practice audits
    - Video Consultation analysis
    - PACT analysis - review of prescribing habits
- A list of educational meetings attended in the last 3 years
- A retrospective evaluation of last years PDP: good and bad points; lessons learnt; which ways of addressing learning needs worked and which failed, and why

Other CPD Initiatives

A range of initiatives support CPD for GP trainees. These include:

- Action Learning Sets. Participation in action learning sets where a small group of doctors work together on real problems and issues within a stipulated time frame.

- Essential Knowledge Updates (EKU): A series of six-monthly online learning modules which include new and changing knowledge relevant to general practice
- E-Learning: many colleges have a customised Online Learning Environment and a range of eLearning programmes.

Emerging issues

The Maltese community's priorities keep changing and the family doctor must keep up with these realities. One such topic is the availability of abortion in Malta.

Abortion is currently illegal under Maltese law. Anyone found to have had an abortion can be sentenced to a three-year jail term. The law continues to say that any practitioner found to have performed a procedure to cause a termination of pregnancy, can be sentenced to four years in prison. Several NGOs are asking for the decriminalisation of abortion, as well as easy access to abortion care in Malta. Other NGOs are pressuring for a status quo of the current law.

Any woman wanting an abortion must fly to another country and get the care there. Not all women can go abroad and might turn to their family doctor for help. Some foreign NGOs are sending abortion pills by post to women in Malta. One must keep in mind that women caught taking these pills while in Malta can be prosecuted. This state of affairs is having direct impact on women in Malta.

The family doctor must have the necessary knowledge about procedures of abortion and current practices to be able to help any patients who seek their advice. This might mean getting asked to help patients who have disclosed they have had a termination of pregnancy. The family doctor will need to offer any help they can while respecting their own beliefs.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Be able to draw up a learning needs assessment and practice development plans
2. Choose appropriate learning activities to address the identified needs
3. Demonstrate that identified learning needs have been addressed
4. Demonstrate that personal learning from CPD is implemented in practice
5. Demonstrate they are up-to-date with developments in clinical practice and fit to practice
6. Participate fully in the life of the professional community and make use of professional and other networks of all types
7. Recognise the importance of health and safety at work and be compliant with related safety issues
8. Recognise personal and professional limits, and be willing to ask for help when necessary
9. Recognise signs of personal stress and burnout, and deal with the causes effectively
10. Recognise that a lot of a doctor's work is subject to uncertainty and that effective functioning and performance as a doctor requires the ability to tolerate uncertainty and cope well in these circumstances
11. Keep up with emerging topics that are relevant to the community they are working in. This includes having knowledge about the two main methods of abortion and how they're carried out: medical and surgical. They must also be able to name the possible complications arising from abortion. The trainee is expected to understand the legal implications for a woman caught having had an abortion in Malta and resulting psycho-social impact. They are also expected to understand the impact of the current abortion law in Malta on women, doctors and society

Teaching and Learning resources

Work-based learning – in primary care

- Observation and practice of consultations in a community setup; this may include
    - problem-solving
    - feedback through investigation results
    - observation and reflection on difficult cases
    - discussion of critical incidents
    - education by patients
    - tutorials and discussions on identified learning needs
    - random case-analysis of consultations
- Analysis of video consultations to discuss issues relating to doctor-patient interactions and boundaries, confidence and assertiveness
- Using the Educational portfolio to record learning points, reflections and evaluation of change in practice brought about by CPD

Work-based learning – in secondary care

- Observation of multidisciplinary interactions and teamwork, highlighting skills of respectful behaviour amongst team players and towards patients
- Using the Educational portfolio to record learning points, reflections and evaluation of change in practice brought about by CPD

Other learning opportunities

- Private study of articles and books and internet resources relating to personal and professional development

- Attending CME meetings as organized by the MCFD
- Attending conferences and courses locally as well as abroad, on themes related to identified learning needs
- Interacting with colleagues and other team members and patients in various setups
- Using action learning sets to work on real problems and issues within a set time frame, find solutions and make desired changes
- Following postgraduate courses of choice to further studies and develop special interests e.g. Diploma in Family Medicine, Master's Degree in Family Medicine
- Finding protected time to enable follow up of identified learning needs
- Developing oneself outside the medical arena, such as social activities, sports or the arts
- Participation in journal clubs sharing narrative based experiences as well as appreciation of different types of art
- Embarking on a mentoring relationship with a colleague
- Setting up and participating in a Balint group

Summative Assessment

Examples of how this area of practice may be tested in MMCFD

Applied Knowledge Test (AKT)

- 25-year old lady discloses that she has taken some abortifacient pills she received from a disreputable site over the internet and has bleeding PV ++

Clinical Skills Assessment (CSA)

- 60-year old gentleman asking to be prescribed a drug for hypertension that has been recently been released on the market

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Chapter 16.

Research, Theory and Practice

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The author and editor extend their thanks for their voluntary contribution

Maltese context

Malta has a good track record of participation in international research organisations such as the European General Practice Research Network and the World Organisation of Family Medicine (Wonca). The Malta College of Family Doctors has traditionally been affiliated with such organisations since its inception, has delivered local research courses for its members, and hosted various international research meetings in Malta. Research evidence is an important element of the College's continued professional development programme, for which member attendance is obligatory. Research training is incorporated into the Specialist Training Programme for Family Medicine through the Half-Day Release Course modules, and this has now been upgraded with the inclusion of a requirement for a research project to be performed by all specialist trainees in the 3rd version of the Specialist Training Programme for Family Medicine (Zammit, Sammut and Abela, 2017).

Learning aims and objectives

The educational aims of the Specialist Training Programme for Family Medicine in Malta, with reference to research theory and practice are:

- To train and support Family Medicine trainees in the area of research in Family Medicine
- To empower trainees with the skills, knowledge and attitudes to perform research projects during Family Medicine specialty training
- To empower trainers with the skills, knowledge and attitudes to support trainees in performing research during Family Medicine specialty training
- To empower trainees with skills which allow them to search for and critically appraise research evidence and apply this to their daily practice

The learning objectives of the Specialist Training Programme for Family Medicine in Malta, with reference to research theory and practice are:

- To have acquired the skills, knowledge and attitudes to perform basic research in their practice

- To have effectively performed and written up at least one research project or written one research protocol
- To be confident in searching for and appraising research evidence relevant for their practice

Specific contexts for competencies in the research domain are listed below with respect to the core competencies defined in the European definition of Family Medicine (EURACT, 2011):

1. Primary care management

- Knowledge of the epidemiology of family medicine
- Knowledge of a broad range of common conditions
- Understanding the roles of primary and secondary care
- Understanding the interface between community and hospital care
- Knowledge of care co-ordination and advocacy

2. Person-centred care

- Understanding the concept of longitudinal continuity
- Knowledge of the episode of care concept
- Knowledge of the importance of the patient's perspective
- Understanding the reason for encounter
- Understanding the interpretation of common symptoms
- Understanding the importance of the patient's agenda
- Understanding the elements of the doctor-patient relationship

3. Specific problem-solving skills

- Knowledge of the presentation of disease in an undifferentiated form
- Differentiating between functional symptomatology and early presentations of disease

- Awareness of the role of the symptom diagnosis when a disease label is inappropriate for a health problem
- Knowledge of common diagnostic associations in primary care
- Understanding how a population prevalence and incidence data can be applied to individual patient care depending on how a test result or the presence of a symptom or sign can change the probability of disease
- Knowledge of appropriate evidence resources appropriate for primary care
- Knowledge of how to formulate an appropriate clinical question
- Knowledge of how to define the elements of a query on the outcome of an intervention in a defined population
- Knowledge on how to search for evidence to answer such a query
- Knowledge of how to critically appraise such evidence
- Understanding of how to apply evidence in practice with individual patients

4. A comprehensive approach

- Understanding the epidemiology of family medicine
- Knowledge of a broad range of common conditions
- Understanding common acute and chronic conditions
- Understanding comorbidity and multimorbidity
- Understanding appropriate primary care health interventions
- Knowledge of health promotion and disease prevention
- Awareness of the evidence of benefit and harm, and cost and effectiveness, of preventive interventions

5. Community orientation

- Knowledge of local community context, including special characteristics, beliefs, resources and problems
- Understanding the role of community participation in healthcare
- Knowledge of public health programmes and resources
- Understanding the evidence of benefit and harm, and cost and effectiveness, of preventive interventions

6. Holistic modelling

- Understanding the psycho-social dimensions of health
- Knowledge of the role of the biological, psychological and social axes of disease
- Knowledge of cultural and spiritual issues and their effect on health and healthcare
- Maintaining an ethical approach to research and practice

Learning outcomes

Knowledge of the following research methods and research skills constitute specific learning outcomes:

1. Research methods

- Quantitative research
- Randomised-controlled trials
- Observational studies
- Qualitative research
- Interviews, focus groups and questionnaires
- Systematic reviews
- Meta-analysis
- Case reports
- Epidemiology
- Electronic patient records

2. Research skills

- Problem framing
- Accessing evidence
- Critical appraisal

- Applying evidence to clinical care
- Basic statistics
- Audit
- Implementing change in clinical practice
- Writing a research protocol and abstract
- Dissemination

Teaching and learning resources

Work-based learning – in primary care

- Tutorials on research methodologies and evidence-based medicine
- Observation of family doctors applying evidence in clinical practice
- Leading of or participation in research projects, individually or in teams
- Using the Educational Portfolio to record learning points and reflection

Work-based learning – in secondary care

- Tutorials on research methodologies and evidence-based medicine
- Observation of different disciplines engaging in evidence-based medicine
- Observation of different disciplines engaging in research projects
- Participation in research projects individually or in teams
- Using the Educational Portfolio to record learning points and reflection

Research course

A series of lectures delivered over two half-day release course sessions for trainers and trainees. Trainees and trainers shall also be given access to, and expected to successfully complete, the European General Practice online Research Methods Course. This course comprises a full-day seminar allowing trainees and trainers to work on their research idea, either in pairs or larger groups, and formulate a research

question and design a research protocol for the research project designed to answer that question.

Other learning opportunities

- Evidence-based guidelines
- Research journals and internet resources
- Volunteering to participate in research projects
- Informal discussions with trainers, peers, and professionals engaging in research activity
- Attending clinical and academic conferences

Formative Assessment

- Participating actively in the research course, preparing and presenting the research protocol for the planned research project
- Performing the research project as part of the research course included in the programme, for assessment by the course lead

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Further reading

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- North American Primary Care Research Group – Getting started in Research: https://www.napcrg.org/resources/getting-started-in-primary-care-research/

Internet resources

- European General Practice Research Network: http://egprn.org
- The Society for Academic Primary care: http://www.sapc.ac.uk
- The Cochrane Collaboration: http://www.cochrane.org
- National Guideline Clearinghouse: http://www.guideline.gov
- North American Primary Care Research Group: https://www.napcrg.org/

Chapter 17.

Teaching, Mentoring and Supervision

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The author and editor extend their thanks for their voluntary contribution

The family doctor needs to be an effective teacher – to patients, colleagues, doctors in training and society at large. This chapter explores which skills is the trainee expected to learn to help them fulfil this role.

Learning outcomes

By the end of the specialist training, the trainee is expected to:

1. Show an understanding of how adults learn
2. Demonstrate a familiarity with concepts of different learning styles
3. Demonstrate a learner-centred approach to teaching and engage those you are teaching in a dialogue about their values and goals. Perform an educational needs analysis
4. Facilitate the learning of a small group. Demonstrate approaches to effectively teach and mentor within a team
5. Deliver a presentation clearly and effectively, identifying the needs of and targeting presentation to meet these audience needs, and encouraging participation of the audience
6. Give effective feedback to a colleague
7. Understand the nature and purpose of mentoring, clinical and educational supervision. Understand the difference between clinical and educational supervision and the different competences required in the two roles
8. Distinguish the different forms that mentoring and clinical supervision (formal and informal) can take, and show understanding of the benefits and limitations of these
9. Be prepared to act as an educator and learner within the local community
10. Use online resources as a process of educating patients

Knowledge Base

- Principles of adult learning theories
- Individual learning styles and preferences
- The principles of a learner-centred approach to teaching
- The steps in an educational needs analysis
- The nature and purpose of mentoring and clinical supervision, and the different forms of these (formal and informal)
- The relationship between teaching and reflective practice
- Models of teaching (didactic, Socratic, and others)

Teaching and Learning Resources

Work-based learning – in primary and secondary care

- Observation of teaching methods used by teachers and trainers of adults, clinical supervision, mentoring and giving feedback
- Teaching to fellow colleagues, junior doctors, medical students, in both hospital and community: individually, in small groups and large groups
- Use of e-learning resources

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Internet resources

- The Honey and Mumford learning styles questionnaire: https://www.leadershipeastmidlands.nhs.uk/sites/default/files/Honey%20%26%20Mumford%20-%20Learning%20Styles%20Quiz.pdf
- The Myers-Briggs Personality Indicator : https://www.myersbriggs.org/my-mbti-personality-type/
- A selection of vocational training websites of interest:
    - www.bradfordvts.co.uk/
    - www.gp-training.net/

Chapter 18.

Nutrition

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The joint Food Agriculture Organisation and World Health Organisation (FAO/WHO) World Declaration on Nutrition (FAO/WHO, 1992) states that '… access to nutritionally adequate and safe food is a basic individual right'. It also emphasises that healthy nutrition and food safety are vital in the prevention of a wide range of diseases and disorders and are prerequisites for improving health. The right to healthy food is safeguarded in several treaties relating to human rights. Nutritional status was defined as a 'corner stone' to the development of civilisation in the United Nations Millennium Development Goals (United Nations, 2013).

Nutrition is the science that interprets the nutrients and other substances in food in relation to maintenance, growth, reproduction, health and disease of an organism. It includes food intake, absorption, assimilation, biosynthesis, catabolism and excretion.

In humans, an unhealthy diet can cause deficiency-related diseases such as blindness, anaemia, scurvy, and hypothyroidism or can cause nutrient excess health-threatening conditions such as obesity; common chronic systemic diseases such as cardiovascular disease, diabetes, gout, and osteoporosis; and cancers such as colorectal cancer. Undernutrition can lead to generalised wasting and poor post-operative healing of wounds. Malnutrition can lead to stunted growth in children.

Nutrition affects health and, conversely, disease often affects nutrition (e.g. vomiting; swallowing problems; intestinal malabsorption). Nutritive needs vary according to an individual's age, sex, degree of physical activity and state of health.

Some patients have very specific dietary needs. These include:

- Pregnancy and lactation
- Vegetarians and vegans
- Food intolerance (e.g. G6PD deficiency; lactose intolerance)
- Food hypersensitivity (e.g. coeliac disease; allergy to nuts)
- Malabsorption syndromes (idiopathic; infective; post-surgical)
- Renal failure
- Alcoholism and liver failure
- Severe debility
- Total parenteral nutrition

Maltese healthcare priorities

Breastfeeding in Malta

The World Health Organisation recognises breast feeding as the best feeding practice to nourish the infant. Breast milk provides the right nutrients in the right amount and according to the baby's needs. Exclusive breastfeeding is recommended for the baby's first six months of life and then continued with complimentary feeding till the age of two or beyond where possible.

Malta has a low breastfeeding rate when compared to other EU countries both at the time of discharge from hospital and within the first months of life. Rates of breastfeeding (exclusive and mixed) have increased since 1995 from 45% up to 71% in 2012; however exclusive breastfeeding was at a level of around 55% at discharge from hospital after delivery.

Consumption of Fruits and Vegetables

The consumption of fruit and vegetables is used to monitor progress towards a healthy diet. In 2014, around 35% of the Maltese population aged 15 years or over did not eat any fruits and vegetables on a daily basis, around 50% took between 1-4 portions of fruits and vegetables on a daily basis, and around 15% took 5 portions or more.

The EU school fruit and vegetables scheme and the milk scheme includes the distribution of fruit, vegetables and milk products, as well as dedicated educational programmes to teach pupils about the importance of good nutrition and to explain how food is produced. In 2017, 24 Member States took part in the fruit and vegetable scheme and 28 in the milk scheme, meaning that around 20 million children benefited from the milk scheme and around 11.7 million children from the fruit and vegetables scheme.

Consumption of Soft Drinks and Carbohydrates

The results of Malta's first Food Consumption Survey, based on the five-day eating diary kept by 1,000 people between the ages of 19 and 65 years, published in 2011, show that biscuits, chocolates or sweets are the preferred breakfast choice for the Maltese followed by processed meats and cereal. Some people even eat pasta and rice for breakfast while pasta is the most popular food at both lunch and dinner time followed by chicken and beef, respectively.

Alcohol Consumption in Malta

In the latest General Population Survey (2014) conducted in Malta and Gozo, 75.9% of the respondents indicated that they have consumed alcohol at least once in their lifetime, 70.6% indicated that they have consumed alcohol in the last 12 months, and 58.8% reported to have drunk alcohol in the last 30 days indicating slight increase from the 2001 estimates. Results show that of the current alcohol consumers, 59% are males and 41% are females. Whereas most countries in the South of Europe have seen a reduction in per capita consumption over the years, Malta's consumption has remained the same.

The Prevalence of Obesity in Malta

The rise in obesity and overweight levels has increasingly become more pertinent across the globe over the past few decades. Obesity rates in 2014 were almost double those in 1980. An estimated 50% of the European population are overweight. Malta has one of the highest European obesity rates in Europe. Interestingly, different countries exhibit divergent gender predominance. In Malta, men exhibited a higher obesity proportion than the women.

Over a 35-year period, spanning three epidemiological studies - WHO 1981, MONICA 1984, and EHES 2010 – and the cross-sectional study SAHHTEK 2016, all of which measured BMI by means of height and weight examinations, an overall decrease in the normal and overweight BMI categories occurred with an increase in the prevalence of obesity. An exception was observed in the women, where the

prevalence of normal BMI increased over this time period. Also, it appears that while the total population obesity prevalence increased (for 2016), a percentage of the women have shifted from an obese to an overweight status.

Public health policies and strategies for prevention and management of obesity are in place, but still more work need to be done in different aspects of life, be it on a personal, family, community, national and international level. Maltese diet relies to a big extent on imported foods and energy-dense foods. High-risk groups need to be targeted.

The role of the Family Doctor

Diet is one of the major modifiable risk factors for chronic diseases. In the WHO European Region, it is estimated that seven risk factors; tobacco, alcohol, low fruit and vegetable intake, physical inactivity, high blood pressure, high cholesterol, overweight and obesity account for 60% of the disease burden in Europe.

Family doctors should educate their patients about healthier diets, encourage them to institute dietary changes, and be ready to motivate and support them throughout their lifetime. Advice needs to be tailored to the individual's needs and preferences. Advice needs to be adjusted at times to the medical condition of the patient. Exercise as a prescription is a tool for the family doctor.

The Department of Health Promotion and Disease Prevention helps by periodically holding national campaigns to promote healthy eating and it also provides patient information leaflets on various subjects related to nutrition. The family doctor should remain abreast of these campaigns and use them as appropriate. Examples include:

- The 'Healthy Plate', a pictorial food guide intended to help Maltese adults choose a variety of nutritious foods
- 'My BBQ book – the Healthy Way', an informative booklet that addresses a popular activity of the Maltese by giving advice on how to cook safely and in healthy proportions and quantities for the enjoyment of all whilst adhering to a healthy lifestyle

Other areas of remit of the family doctor are to address nutritional problems such as cases of vitamin and mineral deficiencies or excess, and to address supplementary

nutrition such as dietary, PEG and parenteral feeding. An emerging issue is the role of the family doctor in the complications and management of stomas.

The Family Doctor is valued by society as a role model, and hence should lead by example in health eating habits and physical activity. Activism in community life by family doctors through voluntary organisations and national entities can produce tangible results in educational campaigns and policy actions. The family doctor is encouraged to undertake research on useful and academic topics to increase knowledge and direct interventions.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Explain the importance of nutrition in health and disease
2. Demonstrate knowledge of the epidemiology of unhealthy nutrition and related disease in the local community
3. Base dietary advice on sound up-to-date medical evidence, and be able to assess the validity of such evidence
4. Provide essential information about health benefits of vitamins and minerals
5. Explain how nutritional requirements vary according to age, gender and state of health. Advise dietary changes to best complement individual needs
6. If the patient is willing to change, negotiate realistic goals with them. Adopt a shared management plan, empowering the patient to look after their health, and provide psychological support throughout the, often difficult, process of change. Provide follow-up, continued reinforcement and support over time
7. Refer patients to individual counselling about nutrition and eating disorders (helpline) and group sessions for weight reduction by the Department for Health Promotion and Disease Prevention. Use the department's various publications on nutrition and food preparation (e.g. patient information leaflets; posters) in consultations
8. Realise that patients are often misled into buying useless (or even harmful) food products, supplements and slimming treatments. Be prepared to act as an advocate for the patient and family

Knowledge base

Common and important conditions involving nutrition

- Pregnancy
- Obesity
- Strict vegetarian diet
- Food intolerance (e.g. G6PD deficiency; lactose intolerance)
- Food hypersensitivity (e.g. coeliac disease; allergy to nuts)
- Malabsorption syndromes (idiopathic; infective; post-surgical)
- Gout
- Hypertension
- Hyperlipidaemia
- Diabetes mellitus
- Alcoholism and liver failure
- Renal failure
- Severe debility
- Eating disorders
- Mineral deficiencies (e.g. iron, iodine, magnesium)
- Vitamin deficiencies (e.g. pernicious anaemia)

The trainee is expected to conduct appropriate investigations and administer appropriate treatment as necessary.

Emergency care

Understand indications for emergency referral of:

- Infants who fail to thrive
- Malnourished children
- People with dehydration or electrolyte disturbance
- Severe anaemia
- Wernicke-Korsakoff syndrome
- Severe anorexia

Prevention

- Encouraging breast-feeding
- Appropriate weaning schedule
- Adequate water intake
- Healthy Mediterranean diet
- Hygiene in food preparation, storage and consumption
- Prophylactic supplements before conception, during pregnancy, in alcoholics and other groups at risk

Relevant Guidelines

Local Guidelines

- Dietary Guidelines for Maltese Adults
- A Breastfeeding Policy for Malta
- Food safety

NICE

- Obesity in Adults and Children
- Eating disorders
- Maternal and child nutrition

Teaching and learning resources

Work-based learning – in primary care

- Observation and practice of skills such as taking a careful nutritional history, measuring abdominal circumference and BMI, ordering and interpreting

laboratory results, giving evidence-based advice on nutrition appropriate to life stage, and more

- Tutorials on principles of nutrition in health and disease

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Chapter 19.

Occupational Health

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Update by: Dr Jason J. Bonnici

Peer reviewer

The following expert critically reviewed this document:

Prof Francesco Carelli, University of Milano, Italy

The author and editor extend their thanks for their voluntary contribution

Occupational health is the area of family medicine dedicated to the prevention and management of occupational injury, illness and disability. It also promotes the health and productivity of workers, their families, and communities.

The importance of occupational medicine training for the family medicine trainees becomes evident when one considers the incidence of workplace-induced illnesses and injuries as well as fatalities. The number of workplace fatalities varies significantly from year to year but is on a downward trend in the past 15 years, despite an increase of those working in potentially risky jobs.

Maltese healthcare priorities

The Occupational Health and Safety Agency

The OHSA works with others to ensure healthier and safer workplaces in Malta. It aims to develop a culture which goes beyond the workplace, which adopts a holistic view of health and that values risk prevention.

Its functions are to monitor compliance with relevant occupational health and safety legislation. It also promotes the dissemination of information regarding occupational health and safety, and the methods required to prevent occupational injury

In 2018, the OHSA registered 1,400 injuries for every 100,000 workers across all sectors. 2018's injury rate represents the lowest number since the OHSA started recording data in 2002. The transportation and storage sector has the highest injury rate since 2015, but the rate of injury in this area of economic activity has been falling steadily since reaching its peak in 2015. The construction industry is, in terms of a standardised rate, not the occupation in which most accidents occur, but the injury rate for the construction industry has remained basically steady, with only minor fluctuations in either direction.

Compensation and insurance bodies

Malta has a social security system as part of its social welfare national scheme. An individual who suffers a personal injury caused by accident or developed illness,

arising out of or in the course of employment as a result of their work environment, may be entitled to compensation through the Maltese Social Security Division entitled *Injury Benefit/Industrial Disease*.

Several organisations in Malta take industrial accident insurance, which is in the hands of private insurers.

Sickness Benefit

Personal health can affect a person's employability, their performance or the health and safety of others.

Family Doctors are often asked to certify illness by their patients. A study by Soler and Okkes found that 11.3% of patient encounters with private Maltese family doctors involve the issuing of a sickness certificate. The frequency of sick leave certification in Malta is comparable with that in other European countries, but the average duration of episodes is shorter.

The role of the family doctor

The major role of family doctors in occupational medicine is to ensure effective prevention and appropriate management of work-related injury and illness, both acute and progressive. When prevention is not successful, family doctors must be aware of the special circumstances and considerable variability of individual workers and the demands of their jobs. Additionally, family doctors can aid in improving the recognition of occupational diseases and contribute to the protection of other workers similarly exposed.

The goals of the family doctor should be to provide expert and comprehensive care to the injured or sick worker and to address rehabilitation and return to employment.

A good number of family doctors are directly engaged by enterprises to verify sickness in their employees. During these consultations, the doctor should be careful to observe the following ethical principles:

- All patients of occupational health services are entitled to good standards of practice from their doctors. Essential elements include professional competence and good relationships with patients, colleagues and patients' managers
- Although the consultation is initiated and financed by the employer, the employee's autonomy and confidentiality should be respected. Informed consent (ideally written) should be obtained from the employee regarding the content of any sensitive personal information conveyed about them to employers or third parties
- The practitioner seeing the case officially shall scrupulously avoid interference with, or remarks upon, the treatment or diagnosis that has been adopted by the employee's personal family doctor
- A family doctor should refuse to be the company doctor of one of their own patients
- Some human resources managers may seek an opinion from the occupational health physician as to whether an employee is malingering. This request undermines the doctor-employee relationship and the International Labour Office has advised against this practice

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Recognise the impact of occupation on the social, psychological and physical health of the individual
2. Appreciate the impact of personal health on employability and performance
3. Be aware of how to perform occupational assessments; perform any necessary further investigations; and develop preventive, acute, and long-term treatment plans based on the patient's current and potential long-term rehabilitation symptoms
4. List medical conditions that may be caused or exacerbated by occupation
5. Describe how to perform a medical check-up for the purposes of health surveillance and assessing fitness for employment
6. Describe how to fill in an application for injury benefit

7. Describe how to issue a sickness absence certificate, and what procedure should be followed by the patient in order to obtain sickness benefit
8. Understand the procedure by which an employee can apply for invalidity pension
9. Refuse to issue a certificate unless personal verification shows that the case is genuine. Always demonstrate professional integrity and be courteous to the patient
10. Describe and respect the code of ethics that regulates the professional behaviour of the occupational health physician with regard to the employee, the family doctor, the employer, and other parties (e.g. trade union)
11. Follow the Occupational Health and Safety Act by notifying the listed occupation-related conditions

Knowledge base

- Ethics and the role of the doctor as a company representative, a workers' health advocate and a specialist in family medicine
- Pre-employment medical testing and examinations both general and specific to the job
- Periodic health assessments, as necessary, including spirometry, serum lead levels, other blood and urine tests, audiometry, chest X-ray and other secondary-care investigations
- Disability determination and appropriate guidelines
- Legal issues in occupational medicine such as the Occupational Health and Safety Act and the OHSA, workers' compensation laws and the Social Security Act and Sociali Security Department
- Effects of over-the-counter and prescribed medication on job performance

Relevant Guidelines

- The Ethics and Regulations of the Medical and Dental Professions. The Medical Council of Malta

https://deputyprimeminister.gov.mt/en/regcounc/medicalcouncil/Documents/ethicsandregulations2012.pdf

- Good medical practice: guidelines for occupational physicians. Faculty of Occupational Medicine, Royal College of Physicians

  https://www.researchgate.net/publication/11095890_Good_medical_practice_guidance_for_occupational_physicians

- Occupational Medicine in Europe: Scope and Competencies

  https://www.who.int/occupational_health/regions/en/oeheuroccmedicine.pdf

Teaching and learning resources

Work-based learning – in primary care

- Observation and practice of skills such as taking a detailed occupational history; performing a medical assessment for illness, health surveillance or fitness for employment; formulating a differential diagnosis; ordering and interpreting laboratory, spirometry or radiology results; negotiating a management plan with the patient; issuing sickness absence certificates; liaising with family doctors, other medical specialists, non-medical health workers, employers and trade union officials; respecting the employee's autonomy and confidentiality; promoting health and safety at the workplace; giving immunizations; protecting other employees

Work-based learning – in secondary care

- Observation of the investigation and management of occupation-related disease in secondary care; specialized investigation and treatment; observation of multidisciplinary approach and teamwork

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Internet Resources

- Faculty of Occupational Medicine of the Royal College of Physicians. https://www.fom.ac.uk/

Chapter 20.

Transcultural Medicine

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The author and editor extend their thanks for their voluntary contribution

Societies around the world, including ours, are becoming multiethnic and a mix of cultures. The reality of medical care is that we treat people of diverse backgrounds with varying customs and beliefs. Inequalities of care among minorities and the culturally different are being increasingly documented. Applied cultural knowledge is emerging as a major goal of clinical and public health practice.

Cultural competence aims to assure that healthcare providers are prepared to provide quality care to diverse populations. It does so by bridging the 'cultural distance' between ourselves as providers and our patients. Cultural competence is an important building block of clinical care, a patient-centred approach and a skill central to the delivery of professional and quality care for all patients.

Although knowledge about different cultures is an asset, learning about the many different individual cultures and characteristics may not be feasible. Focusing on issues commonly arising from cultural differences and how these may impact on the doctor-patient interaction, will provide doctors with the necessary tools and skills enabling delivery of quality care in any circumstances.

Cultural differences may be expressed in:

- Concepts of daily living with regards to diet, exercise, housing
- Values on societal living, entertainment, family life, work ethos
- Concepts of illness and illness behaviours
- Assessment, interviews, and symptom presentation
- Hospitalisation, medication, family involvement, consent issues

Maltese healthcare priorities

Malta is slowly becoming a melting pot for many different types of cultures. Apart from the rapid turnover of foreigners visiting Malta on holiday, increased mobility has encouraged people from other countries and with different cultures to take up residence in Malta.

A significant number of migrants from the African continent have sought refugee status in Malta, with their numbers constantly on the increase. The need for cultural

sensitivity and competence is brought to the fore when attending to the medical needs of refugees at detention centres and shelter homes.

There are also many nationals from EU countries, non-EU English-speaking countries like the UK and US, as well as people from Eastern Europe. We also get a number of citizens from countries such as the Philippines, Nepal and Brazil. These people traditionally work in the finance sectors, gaming companies, construction industry and catering businesses.

Sometimes, there is a significant language barrier which prevents effective communication, directly impacting the patient's health. Non-Maltese people may also have a real problem with finding and accessing health services. They may end not getting the help they need or they may receive the required management in a tortuous manner. The family doctor should see and understand these challenges to help patients navigate the Maltese healthcare system effectively.

The family doctor needs to be able to switch easily between cultures to provide the best management possible to the patient.

Learning outcomes

By the end of the specialist training, the trainee is expected to:

1. Demonstrate respectful patient-centred consultation with use of good communication skills conducive to trust; especially when there is a need for a translator
2. Elicit the patient's ideas, concerns and expectations and respond to them appropriately
3. Reduce the risk of misunderstanding by asking questions to appreciate the patients understanding of health and disease
4. Demonstrate awareness and sensitivity to cultural differences which can impact the outcome of consultation; e.g. compliance to treatment during Ramadan
5. Discuss culturally sensitive subjects (e.g. death, drugs and alcohol, STDs) in an acceptable manner

6. Discuss highly charged medical areas (e.g. pain management, transfusions) in an acceptable manner
7. Be confident in recognising symptoms which assume different meanings according to culture and context
8. Negotiate a management plan with the patient, making appropriate use of assistance agents such as patient advocates, family members or care workers
9. Negotiate compromises between herbal medicine, traditional healing and established medicine
10. Identify and address those factors that contribute to disparities in health (e.g. poverty, the environment, unequal access to care) into the diagnostic and treatment strategy
11. Describe cultural differences for hospitalization, medication, family involvement and consent issues
12. Seek advice from and develop a working relationship with community agencies that understand and advocate for patients e.g. Dar L-Emigrant, Jesuit Refugee Centre
13. Link patients to existing communities in Malta e.g. German communities or Brazilian communities
14. Make use of the multicultural team which includes translators and cultural facilitators to ease communication with patients who have a language or cultural barrier

Knowledge Base

The GP trainee should be knowledgeable about:

- Cultural medical differences
- Disease prevalence in ethnic communities
- Attitudes to appointments and queues
- Problems of travel
- Body language

- Attitudes towards death
- Effect of religion on medicine

Teaching and Learning Resources

Work-based learning – in primary care

- Observation of consultations in general practice involving a cross-section of the population and including foreigners, and people of different socioeconomic standing
- Tutorials dealing with transcultural issues e.g. implications of illness and attitudes towards medication in different cultures
- Random case-analysis of consultations seeking communication skills and patient-centred approaches conducive to cultural competence

Other Learning Opportunities

- Dedicating Half-day release programme to discussing transcultural issues and competence, ideally with the participation of people from different cultures

Formative Assessment

- Analysis of video consultations involving patients from different culture
- Patient Satisfaction Questionnaire including feedback from foreigners and refugees

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Chapter 21.

Complementary and Alternative Medicine

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Update by: Dr Natalie Psaila

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The author and editor extend their thanks for their voluntary contribution

Complementary and alternative medicine (CAM) comprises a large and heterogeneous array of techniques, with both therapeutic and diagnostic approaches, including acupuncture, aromatherapy, chiropractice, herbalism, massage, reflexology and spiritual healing. At present, much of complementary and alternative medicine remains opinion-based due to a lack of scientific and empirical evidence on the effectiveness of these therapies for various health issues.

The terms “holistic medicine” or “integrative medicine” are being increasingly substituted for CAM.

The Kemper model of holistic care recognizes 4 main components of therapy:

- Biochemical components include medications, dietary supplements, vitamins, minerals, and herbal remedies
- Lifestyle and nutritional interventions include recommendations for exercise and rest
- Environmental therapies including heat, ice, music, vibration and light
- Mind-body treatments such as behaviour management, meditation, hypnosis, biofeedback, and counseling

Biomechanical components include massage and bodywork, chiropractic and osteopathic adjustment, and surgery. Bioenergetic therapies may include acupuncture, radiation therapy, magnets, Reiki, healing touch, qi gong, therapeutic touch, prayer, and homeopathy.

Many contradicting opinions and existing evidence dominate complementary and alternative medicine, highlighting the necessity of bringing opinion in line with evidence. Paradoxically, alternative medicine can be as effective as a placebo and still do a world of good to the wellbeing of our patients. We need to find a balance for those who overtly promote or stubbornly reject complementary medicine without acceptable evidence. Patients and healthcare providers need to have hard evidence about which forms are safe and effective. The best way to achieve this is through rigorous research and the broad dissemination of its findings.

Maltese healthcare priorities

Although no local statistical figures are available to show the prevalence for use of complementary and alternative medicine by Maltese patients, as gauged from family doctor consultations, this is on the increase. A Master's course in Chinese medicine is also being offered by the University of Malta.

It is estimated that up to 50% of the European population uses alternative medicine, as stated by EUROCAM. This European foundation represents around 250 organisations of physicians, veterinarians and practitioners practicing CAM.

It is good to remember that homeopathy and other CAM medicinal products are regulated by EU, as well as Maltese law. Many herbal remedies are used for relief of menopausal symptoms, osteoarthritis, to boost immunity and many other ailments.

Amongst the Maltese population, and sometimes especially so in the older generation, many will try local herbal remedies prior to or together with conventional medicine prescribed by doctors. One can still find the occasional patient who self-medicates with traditional herbal remedies e.g. *xpakkapietra* (red sand-wort) to dissolve kidney stones, *Ġulepp tal-Ħarrub* (carob syrup) or honey for cough, Kampucia Tea to combat all ailments, and other variations of homemade herbal concoctions used as 'tonics', to detoxify the body or simply as a cure for a fright.

Acupuncture is offered both in the public and private health sector, and many seek help from these clinics in attempt to cure ailments ranging from pain relief, vertigo, smoking cessation and weight loss. Family doctors find that acupuncture can cater for the needs of some of their patients and that some patients report benefit from using this treatment modality. Visits to chiropractors and masseurs are also popular but can be quite expensive.

An increase in frequency of use of these therapies is noted in palliative care and other conditions featuring chronic pain. The Malta Hospice Movement offers reflexology and massage as an adjunct to other supportive and treatment modalities.

The local community, with its strong roots in religion, has followings in faith-healing. Ardent followers claim that this provides a source of comfort and emotional healing when experiencing physical or mental distress.

Complementary and alternative medicine is largely practised privately. Unfortunately, not all these therapies are delivered by appropriately trained individuals. It is crucial that appropriate training and registration is enforced for all those interested to practice in the field of CAM. There are a few local organisations like the Malta Association of Homeopaths that look to uphold certain standards. All CAM practitioners must be registered with the Council for the Professions Complementary to Medicine.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Describe the different types of CAM available locally
2. Appreciate cultural differences that may lead patients to seek such treatments
3. Demonstrate a basic knowledge about contraindications for use and potential harmful side effects of CAM treatment modalities
4. Elicit a comprehensive medical history inclusive of past use of CAM and the patient's personal experience of the treatment and resultant outcome
5. Discuss with patients the range of available CAM treatment options and their relationship with mainstream medicine, and respecting their indicated preferences
6. Be aware of the possibilities that patients may be using herbal remedies concomitantly with conventional medicine and that this may have adverse effects on treatment outcomes; avoid unwanted pharmacological interactions and compromises in treatment efficacy, with a special caution for patients on warfarin and those with a history of convulsions
7. Communicate effectively asking about different therapies the patient is using; recognizing and respecting the family's perspectives, values, and cultural beliefs; working together with the patients as a partner
8. Provide clear, non-biased information about CAM, honestly indicating the lack of objective evidence and need for more research to clarify effectiveness of such treatments

9. Describe evidence regarding the safety and efficacy of alternative modalities used to treat osteoarthritis, to provide patients with accurate and up-to-date information
10. Monitor response to treatment with use of measurable outcomes, such as specific goals for symptom relief and remembering to "first do no harm"
11. Discuss medico-legal, ethical, and research implications for use of CAM

Teaching and Learning Resources

Work-based learning – in secondary care

- Observation and conduction of consultations in hospital settings:
    - provide a holistic approach and patient-centred approach, responding appropriately to the patient's different needs and expectations. Of particular interest would be observations at the Palliative Care Dept at Boffa Hospital and at the Acupuncture Clinic
    - pick up on communication strategies that hospital registrars and consultants use, highlighting those strategies that may be helpful when discussing CAM with patients and families
    - establish a good doctor-patient relationship

Other learning opportunities

- Interactive Half-Day Release sessions dealing with CAM
- Informal discussions with trainer, peers, CAM users and service providers

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Chapter 22.

Palliative Care

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Update by: Dr Jurgen Abela

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The author and editor extend their thanks for their voluntary contribution

Goals

GP trainees need to develop appropriate attitudes, knowledge and skills to allow them to practice proper principles of palliative care in their daily work. Consequently, the goals of the training programme are:

- To show that medical treatment is far beyond diagnostic investigations and healing, the patient is meant to be considered, cared for and treated holistically
- To show how to relieve symptoms (pain and others) by pharmacological and non-pharmacological means
- To show that palliative care of patients and their relatives is a process that does not only include crisis intervention but also includes anticipatory treatment and attention
- To show that care and treatment have to be adopted to meet the individual needs, wishes and values of individual patients and their relatives
- To show that the quality of end-of-life care for patients will only succeed if the attending physicians are able to reflect upon their own attitude towards disease, dying, death and mourning
- To show that the quality of medical treatment cannot only be improved by enlarging knowledge but also by the competence of team-working, communicating and the willingness to discuss ethical issues

Educational strategies

- Experiential learning (including contact with inpatient units, hospital consultative service or community settings, including patient and family encounters) should be taken into account. Debriefing should be considered a priority
- Active rather than passive techniques should be applied (problem-based learning, discussion, role play), including the half-day release programme dedicated to palliative care
- Multi-professional learning should be encouraged to foster cooperation

- Repeated occasions for self-reflection and group discussions of difficult situations, including family issues, team problems and grief, should be arranged
- Ethical and psychosocial considerations should be integrated into all aspects of teaching

Learning Outcomes

With reference to palliative care and patients who are in the end-of-life, by the end of the specialist training, the trainee is expected to:

1. Be able to assess patients in a holistic manner
2. Have the necessary skills and approach to communicate sensitively with patients and families
3. Understand the diversity of needs across age, disease, gender, sexuality culture and spirituality
4. Practice anticipatory care, where reversible conditions and deterioration are identified. There needs to be a proactive plan for anticipated changes in capacity (both mental and physical)
5. Be cognizant of the differing disease trajectories and inherent challenges and uncertainty involved with prognostication. Use of prognostic indicators is expected
6. Manage the general medical care of the patients, including symptom control and emergencies. The trainee should be comfortable using and prescribing various medications used in symptom control, according to evidence-based guidance including the WHO analgesic ladder
7. Be able to manage the terminal phase of patients, including knowledge of the syringe driver
8. Deliver care with compassion, so that the person can die with dignity and least distress
9. Understand the role of care after death, that is bereavement support

10. Be capable of understanding the different psychological issues which might arise, ranging from appropriate sadness to depression and demoralization
11. Understand the importance of the (informal & formal) caregiver in managing the patient
12. Being knowledgeable of the community services, including services by Hospice Malta, to help out patients
13. Offer home care to palliative patients as necessary
14. Use telemedicine and telecare where appropriate to maintain continuity of care and timely management
15. Understand the importance of a multi-disciplinary approach to managing patients in palliative care
16. Being aware – through a variety of methods – of the impact certain situations can have on one's own professional performance and being able to take the necessary corrective measure. This will certainly involve that the trainee is comfortable doing reflective practice
17. Manage primary care contact with palliative care patient, adopting a patient-centred approach
18. Being cognizant of the importance of ethical dilemmas and non-treatment decisions and being able to discuss these with the relevant stakeholders

Teaching and learning resources

Work-based learning – in primary care

- Observation and practice of skills such as attending to physical, psychological and social needs of the patient and family
- Breaking bad news
- Liaising with other caring professionals, social services and voluntary agencies as required; providing continuity of care and keeping good medical records
- Attachment with Hospice Malta, allowing for interaction with a diverse number of professionals, members of the multi-disciplinary team

Other learning opportunities

- Participation in the European Certificate in Essential Palliative Care-Malta. This course is a two-month long distance learning course, accredited by the University of Malta. At the time of publication, it is run on a yearly by Hospice Malta, September-November of each year

Summative Assessment

Examples of how this area of practice may be tested in the MMCFD.

Applied Knowledge Test (AKT)

- Commonly encountered scenarios of symptom control
- Prescribing in Palliative Care
- Emergencies in Palliative Care

Clinical Skills Assessment (CSA)

- Patient being reviewed as a follow-up for palliative care, with a variety of issues
- Symptom control in a patient with Palliative Care needs
- Breaking bad news and managing the initial phase of a palliative patient
- Challenging ethical issues e.g. euthanasia, DNR

Workplace-based Assessment (WPBA)

- Reflective practice
- Attendance to the required attachments
- COTs and CBDs appropriate to this section

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Useful Resources

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Chapter 23.

End-of-Life Care: Ethical, Legal, Social issues and Communication

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The author and editor extend their thanks for their voluntary contribution

Maltese Healthcare Priorities

Malta certainly is no exception to various approaches to end-of-life care, with caution, for example, being given more than is due to suppression of respiration with pain relief. This is especially true when caring for patients dying at home. The aim of the module is to help trainees explore the issue underpinning end-of-life. Certainly, some issues are at national level and will have to be tackled more broadly.

Legal issues at the end-of-life are often the concern of healthcare professionals. Family doctors should have a clear understanding of the law.

The ethical issues at the end-of-life are closely tied to the practice of medicine and part of the decision-making process.

We often find that the delivery of high-quality care depends on several issues. These include:

- Good pain relief
- Understanding on what the patient considers as extraordinary measure
- Agreement about futile treatment
- A good palliative care plan
- Having a 'good death'. This is usually considered as dying in one's sleep, pain-free, surrounded by family and hopefully in familiar surroundings

It is important to recognise the imminence of death – when the patient may die within the year, or even within the next few days. It is important to start having discussions (advanced-care planning) with relatives and patients to understand the goals and plan ahead. Health professionals need to know in good time the patient's preferences towards extraordinary treatment. The patient also needs to understand issues relating to extraordinary care, futile treatment, CPR, and more. These issues become especially important if the patient wishes to die at home, where less technical assistance may be available.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Be versant in local laws and regulations about end-of-life

2. To be able to help families with end-of-life decisions
3. Knowledge of mortality statistics and the importance of a continued study of places and causes of death
4. Understanding the importance of respecting end-of-life treatment preferences
5. Ability to discuss place of death
6. Have the ability to deal with death at home
7. Be able to recognise when death is imminent
8. Be able to introduce advanced care planning to the patient and family
9. Know the resources available for end-of-life care
10. Be knowledgeable and able to explain in simple terms the moral issues of extraordinary and futile treatment
11. Be able to explain the ethical and legal issues of refusal of life-prolonging treatment through the advanced care plan as part of patients' rights
12. Know about end-of-life positions of religious and social communities
13. Show ability to document decisions taken by family and patients in a manner to be able to communicate with other professionals
14. Ability to identify and manage preparatory grief and depression at the end-of-life
15. Show a 'reflective practice' attitude towards end-of-life

Teaching and learning resources

Work-based learning in primary care

- Home visits
- Clinical management
- Close work with Hospice doctors/nurses
- Tutorials on end-of-life management at home
- Workshops on end-of-life discussing random cases on legal issues, dealing with specialists about the patient, ethical issues, spiritual choices of patients, and introducing an Advanced Care Plan
- Clear knowledge of documentation on management
- Educational portfolio for reflection and listing of cases

- Tutorials with primary care physicians and their experience
- Palliative Care Ward, SAMOC, Mater Dei Hospital
- Critical Observation on medical wards

Work-based learning in secondary care

- Observation on oncology and palliative care wards
- Critical observation on medical wards

Other learning resources

- Gold Standards Framework for end-of-life (NHS, UK)
- Voluntary participation with hospice workers
- Informal discussions with trainer and colleagues about dying at home

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Internet resources

- National Palliative Care Research Centre. Measurement and evaluation tools: http://www.npcrc.org/content/25/Measurement-and-Evaluation-Tools.aspx
- Evaluation and quality assessment of end-of-life care: https://www.caresearch.com.au/caresearch/ClinicalPractice/Physical/EndofLifeCare/EvaluationandQualityAssessment/tabid/742/Default.aspx
- Futile Treatment at the end-of-life: legal, policy, sociological and economic perspectives: https://www.qut.edu.au/research-all/research-projects/futile-treatment-at-the-end-of-life
- The courts, futility and the ends of medicine: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3530837/
- Ethical Aspects in End-of-life, Irish College of General Practitioners: https://www.icgp.ie/assets/4/080C4527-CDAE-E342-D365991EEFC98B2B_document/Medico-legal.pdf
- Mapping out the patient's journey: experiences of developing pathways of care: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2893088/

Chapter 24.

Smoking, Alcohol and Substance Misuse

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The author and editor extend their thanks for their voluntary contribution

There is an evolution in the substances that are misused or abused in the consumption patterns. It is noted that while adolescents are not more at risk than adults to start substance misuse, specific approaches to advice against misuse are required. This is due to the fact that adolescence is the period of entry in substance consumption behaviours with resultant specific psycho-developmental risks.

Criteria for Substance Use Disorders

These are the 11 criteria listed in the DSM-5:

1. Taking the substance in larger amounts or for longer than meant to
2. Wanting to cut down or stop using the substance but not managing to
3. Spending a lot of time getting, using, or recovering from use of the substance
4. Cravings and urges to use the substance
5. Not managing to do what you should at work, home, or school because of substance use
6. Continuing to use, even when it causes problems in relationships
7. Giving up important social, occupational, or recreational activities because of substance use
8. Using substances again and again, even when it puts you in danger
9. Continuing to use, even when one knows they have a physical or psychological problem that could have been caused or made worse by the substance
10. Needing more of the substance to get the wanted effect (tolerance)
11. Development of withdrawal symptoms, which can be relieved by taking more of the substance

Emerging issues

- E-cigarettes are increasingly used to aid smoking cessation. Ongoing research on into their safety and use for smoking cessation is underway. Trainees should be aware of the latest evidence and guidance and use clinical judgement on an individual patient basis

- Dependence on over the counter and prescribed medication is a growing problem (particularly anabolic steroids, opioids, gabapentinoids, benzodiazepines, stimulants, z-drugs)
- Misused 'prescription-only' drugs are increasingly being obtained through internet purchase as well as illegal street sales
- Doctors are facing increasing complexity in managing long-term alcohol and substance misuse in the context of ageing patients with multiple co-morbidities

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Recognise the high prevalence of alcohol and substance misuse in the Maltese community and understand the relationship to disease and premature death
2. Understand the relationship between craving and tolerance as detailed in the DSM 5
3. Understand that harmful use of alcohol and other substances is often unrecognized and can take a ranges of forms, including excessive use and binge drinking
4. Be knowledgeable of the Cycle of Change by Prochaska and DiClemente
5. Identify and manage primary care contact with any patient who presents with smoking, alcohol or substance misuse problems, through the use of effective advice and treatment. Ensure that personal opinion does not prejudice clinical management
6. Coordinate care with other organizations and healthcare professionals
7. Appreciate the importance of the negative impact of smoking, alcohol and substance misuse on physical health. Recognise and manage these medical consequences
8. Appreciate the importance of the negative social impact of alcohol and substance misuse on the patient and their social circle. Describe the extent and implications of stigma and social exclusion

9. Appreciate the difference between substance use disorder and substance-induced mental disorders. The major role of the family doctor is to reduce the risk of appearance of comorbidities
10. Assess the impact of alcohol or substance misuse on the patient's quality of life and fitness to work, making appropriate recommendations
11. Show wide knowledge on the pharmacological treatment options for alcohol and substance misuse. Know the indications, contra-indications, cautions, interactions, dosage regimens and common adverse effects of frequently used drugs
12. Follow legal requirements when prescribing psychotropic or narcotic drugs. Prescribe these drugs responsibly: only when indicated and for the shortest duration possible. Appreciate the potential for addiction and misuse of these medications

Knowledge base

Smoking

Within the context of primary care, consider the theoretical and practical aspects of the following:

- Types of tobacco (e.g. cigarettes, chewing tobacco etc.)
- Health effects of tobacco, including
    - Its effects on the body
    - As a risk or causative factor for a range of diseases (e.g. cardiovascular, respiratory, metabolic)
    - Its impact on the mental health of individuals and their wider social network
    - In specific groups (e.g. pregnant women, adolescents)
    - Risks of passive smoking
- Nicotine addiction and withdrawal

- Relationship between tobacco use and socio-economic status
- Benefits of cessation
- Treatment of tobacco dependence, including:
    - Pathways to successful quitting and their effectiveness
    - Theory and practice of evidence-based primary care strategies for smoking cessation (e.g. brief interventions)
    - Pharmacotherapy for smoking cessation (including nicotine-replacement therapy, varenicline, bupropion)
    - The role of e-cigarettes in smoking cessation
    - The role of behavioural support in smoking cessation

Symptoms and signs

- Accidents and injuries occurring whilst under the influence of drugs or alcohol
- Behavioural changes such as neglecting other activities, poor hygiene, secrecy, self-neglect and social withdrawal
- Drug-seeking behaviour (including criminal activity, diversion of prescribed medication, neglecting children, risk-taking behaviour)
- Intoxication and overdose
- Malnourishment
- Mental health problems related to substance misuse including mood disorders, post-traumatic stress disorder and psychosis
- Social consequences of substance misuse, e.g. contact with the criminal justice system, domestic violence, homelessness, poor attendance or functioning at school or work, relationship issues, unemployment
- Signs and symptoms of conditions occurring in relation to alcohol misuse: ascites, confusion, fits, haematemesis, jaundice, melaena, delirium tremens, features of Wernicke-Korsakoff syndrome, foetal alcohol syndrome

- Signs and symptoms of conditions related to substance misuse including cachexia, weight loss, chest pain, cough, fever, injection site problems, jaundice, respiratory depression, agitation, panic disorder
- Symptoms of withdrawal

Common and important conditions

- Common effects of the main problem drugs
- Complications of alcohol and substance misuse in pregnancy
- Crises occurring in relation to substance and alcohol and misuse, including intoxication, mental health emergencies, overdose, Wernicke's encephalopathy and withdrawal
- Polyabuse of drugs and combined misuse of drugs and alcohol
- Tolerance, dependence and withdrawal

Examinations and procedures

- Exploring both physical and psychological symptoms, family, social and cultural factors in an integrated manner. Performing a mental state assessment
- Assessment of alcohol problem drinking to assess the nature and severity of misuse
- Assessment of social circumstances and functioning of alcohol and substance misusers
- Substance misuse assessment including identifying substances used, quantity, frequency and pattern of use, routes of administration, source of drugs and evidence of dependence
- Injection site assessment
- Basic counselling techniques

Investigations

- Evidence-based screening tools to identify alcohol misuse such as AUDIT-C
- Have an understanding of the nature and role of urine, and other tests in the management of drug treatment

Teaching and Learning Resources

Work-based learning – in primary care

- Observation and practice of skills such as intervening promptly in an emergency; prescribing for smoking, alcohol or substance misuse; familiarisation with specialised treatment (e.g. methadone prescribing); being aware of services and resources which are available locally; organising follow-up
- Tutorials on principles of smoking, alcohol and substance misuse epidemiology; prevention; clinical presentation; differential diagnosis; investigation; and management

Work-based learning – in secondary care

- A taster week in a specialist substance or alcohol service (e.g. Substance Misuse Unit) would provide a valuable experience, especially in becoming more familiar with the treatment system, services available, as well as the health and psycho-social issues that often coexist in the context of alcohol and substance misuse
- Learn from community mental health teams about how referrals are assessed, which patients are cared for by both primary and specialist care, and understanding their physical health needs

Other learning opportunities

- Training sessions in the provision of effective smoking cessation interventions organised by the Health Promotion and Disease Prevention Department
- Interactive half-day release programme sessions about smoking, alcohol or substance misuse, and services available in the community (e.g. Richmond Foundation; Sedqa; Caritas). May include role play for the practice of brief counselling interventions
- Educational visits to centres for detoxification, rehabilitation and residential services

Relevant Guidelines

NICE Guidelines

- Alcohol-use disorders: diagnosis, assessment and management of harmful drinking (high-risk drinking) and alcohol dependence
- Brief interventions and referral for smoking cessation in primary care and other settings
- Drug misuse: psychosocial interventions and opioid detoxification

RCGP Guidelines

- Guidance for the Use of Buprenorphine for the Treatment of Opioid Dependence in Primary Care
- Guidance for Working with Cocaine & Crack Users in Primary Care Guidance for Hepatitis A & B Vaccination of Drug Users in Primary Care & Criteria for Audit
- Guidance for the Use of Methadone for the Treatment of Opioid Dependence in Primary Care
- Guidance on Prescribing Benzodiazepines to Drug Users in Primary Care
- Guide to the Management of Substance Misuse in Primary Care

Summative Assessment

Examples of how this area of practice may be tested in MMCFD

Applied Knowledge Test (AKT)

- Drug substitutes for drug and alcohol misuse
- Cardiac risks of cocaine

Clinical Skills Assessment (CSA)

- Bus driver asks for help to break their habit of heavy drinking
- 16-year old student complains of irritability and low mood, which is likely to be associated with regular marijuana use

Workplace-based Assessment (WPBA)

- Case discussion about a woman concerned about her husband's alcohol intake and subsequent violent behaviour
- Log entry about your understanding of the local drug and alcohol service following a patient's referral
- Consultation Observation Tool (COT) about a young woman who wishes to stop smoking

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Internet resources

- Alcoholics Anonymous: https://www.alcoholics-anonymous.org.uk/
- Caritas Malta: www.caritasmalta.org
- National Institute for Health and Clinical Excellence: www.nice.org.uk
- RCGP Online courses: https://elearning.rcgp.org.uk
- Richmond Foundation: www.richmond.org.mt/
- Seqda: https://fsws.gov.mt/en/sedqa/Pages/welcome-sedqa.aspx
- TalkToFrank : www.talktofrank.com [mostly aimed at patients, but has useful information about different drugs, their appearance, street names etc]
- RCGP Mental Health Toolkit: https://www.rcgp.org.uk/clinical-and-research/resources/toolkits/mental-health-toolkit.aspx

Chapter 25.

Environmental Health

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Environmental Health is defined as the science that evaluates and limits exposures to environmental sources and hazardous physical, chemical, and biological agents in air, water, soil, food, and other environmental media or settings that may adversely affect human health.

Two major environmental health issues that attract the attention of EU citizens are air quality and climate change.

Poor air quality can have a dramatic effect on our health and well-being, as well as on our environment. Many air pollutants also contribute to climate change, while climate change itself is going to affect air quality in the future.

Air Quality

Exposure to air pollution is a health concern of enormous consequences. The World Health Organization (WHO) reports that globally, air pollution is the second leading cause of non-communicable diseases, and the leading cause of pneumonia in children, responsible for 7 million deaths annually.

The deaths are the result of the combined effects of ambient (outdoor) and household air pollution, largely because of increased mortality from stroke, heart disease, chronic obstructive pulmonary disease, lung cancer and acute respiratory infections.

Ambient (Outdoor) Air Pollution

The major outdoor pollution sources include vehicles, power generation, building heating systems, agriculture/waste incineration and industry. Policies and investments supporting cleaner transport, energy-efficient housing, power generation, industry and better municipal waste management can effectively reduce key sources of ambient air pollution.

Air quality is closely linked to earth's climate and ecosystems globally. Many of the drivers of air pollution (i.e. combustion of fossil fuels) are also sources of high CO_2 emissions. Policies to reduce air pollution, therefore, offer a "win–win" strategy for both

climate and health, lowering the burden of disease attributable to air pollution, as well as contributing to the near- and long-term mitigation of climate change.

Air quality data in Malta is monitored by:

- The Passive Diffusion Tube network consisting of 100 stations spread over all localities in Malta and Gozo
- The Air Quality Monitoring Stations which are in four localities in Malta and one background station in Għarb, Gozo

Data is also made available in real time to the general public on the website of the Environment and Resource Authority https://era.org.mt/en/Pages/Data-from-Air-Monitoring-Stations.aspx.

Household Air Pollution

Exposure to indoor air pollutants can lead to a wide range of adverse health outcomes in both children and adults, from respiratory illnesses to cancer to eye problems. Members of households that rely on polluting fuels and devices also suffer a higher risk of burns, poisonings, musculoskeletal injuries and accidents.

The link between respiratory diseases and air pollution in classrooms and homes was studied through the Respira Study, funded by the Cross-border Program Italy-Malta 2007-2013. Pupils within classrooms were exposed to more fine particulate matter at the start and end of school hours, when they were being transported to and from school, and especially in classrooms which were not ventilated. Additionally, 10-15 years old children living in Malta are at higher risk for developing allergic respiratory diseases than those living in Gela, the petrochemical area in Southern Sicily.

Tobacco consumption is regulated by S.L. 315.10, which transposes the Tobacco Products Directive (2014/40/EU) into Maltese legislation in 2016. The restrictions of smoking by virtue of the Tobacco (Smoking Control) Act (Cap. 315) have been in force since 1987. The introduction of Smoking Control in Private Vehicles Regulations 2016 (S.L. 315.11), which makes it illegal to consume tobacco in a private vehicle in the presence of a minor, is expected to expose the public, particularly younger children, to cleaner air.

Climate Change

Data from the Malta Meteorological Office, reported by the latest State of the Environment Report, show that the annual mean maximum air temperature exhibits a low rate of increase, whilst a stronger warming trend of +0.38°C per decade is observed for the annual mean minimum temperature, indicating that warmer nights are becoming increasingly common. Such a temperature regime coupled with a total annual precipitation of 553.1 mm and 2,954 hours of bright sunshine corresponds to a hot and dry archipelago.

Meanwhile, surface temperatures of the Mediterranean Sea surface are increasing at +0.35°C per decade. Increased water temperatures can lead to a reduction of dissolved oxygen and changes in water circulation. The presence of alien marine species has also been mainly attributed to the general warming trend of Mediterranean waters.

Over the period 1981-2015, the total yearly precipitation showed a negative trend with a rate of decline of -6.3 mm per decade. However, this trend was not found to be statistically significant and could be attributed to the analysis of a relatively short time-series of observations.

Greenhouse gases (GHG) emissions between 2007 and 2014 showed a general trend presenting a net decrease of GHG equivalent to 136.47 kt of Carbon Dioxide equivalent (CO_2-eq) however in 2017 the CO_2 equivalent emissions increased by 12.8%. Of the different Kyoto Protocol greenhouse gases, CO_2 by far accounts for the biggest share of national emissions of greenhouse gases.

Drinking water

We need at least 8 glasses of water, or a minimal of 2 litres a day . Water intended for human consumption is regulated by S.L. 449.57, which sets the microbiological and chemical parameters for the distribution of wholesome water, regulating the Water Services Corporation (WSC) the entity responsible for piped water distribution and private water suppliers (via tankers or bowsers) alike.

Chemical Safety

Chemical Safety is achieved by undertaking all activities involving chemicals in such a way as to ensure the safety of human health and the environment. It covers all chemicals, natural and manufactured, and the full range of exposure situations from the natural presence of chemicals in the environment to their extraction or synthesis, industrial production, transport use and disposal.

Through the International Programme on Chemical Safety (IPCS), WHO works to establish the scientific basis for the sound management of chemicals, and to strengthen national capabilities and capacities for chemical safety. WHO summarized scientific evidence and provides risk management recommendations for the 10 chemicals or groups of chemicals of major public health concern: air pollution, arsenic, asbestos, benzene, cadmium, dioxin and dioxin-like substances, inadequate or excess fluoride, lead, mercury and highly hazardous pesticides.

Human exposure to benzene has been associated with a range of acute and long-term adverse health effects and diseases, including cancer and haematological effects. Benzene arises from the incomplete combustion of fuel in road transport and the handling and distribution of petrol. Active and passive exposure to tobacco smoke is also a significant source of exposure. The nationwide annual average concentration of benzene in air has remained below the EU limit value of 5 μg/m³ over the reporting period of the State of the Environment Report (SOER) 2009-2015. The decline from the high levels in the earlier years of the last decade is most likely due to lower benzene content in imported petrol.

All types of asbestos cause lung cancer, mesothelioma, cancer of the larynx and ovary, and asbestosis (fibrosis of the lungs). Exposure to asbestos occurs through inhalation of fibres.

Lead is a cumulative toxicant that affects multiple body systems, including the neurologic, hematologic, gastrointestinal, cardiovascular, and renal systems. Children are particularly vulnerable to the neurotoxic effects of lead, and even relatively low levels of exposure can cause serious and, in some cases, irreversible neurological damage.

Mercury is toxic to human health, posing a particular threat to the development of the foetus and early in life. Mercury releases in the environment result mainly from

human activity, particularly from coal-fired power stations, residential heating systems, waste incinerators and as a result of mining for mercury, gold and other metals. Once in the environment, elemental mercury is naturally transformed into methylmercury that bioaccumulates in fish and shellfish. Human exposure occurs mainly through inhalation of elemental mercury vapors during industrial processes and through consumption of contaminated fish and shellfish.

Dioxins and dioxin-like substances, including Polychlorinated Biphenyls (PCBs), are persistent organic pollutants (POPs) covered by the Stockholm Convention. They can travel long distances from the source of emission, and bioaccumulate in food chains. Human exposure to dioxins and dioxin-like substances has been associated with a range of toxic effects, including chloracne; reproductive, developmental and neurodevelopmental effects; immunotoxicity; and effects on thyroid hormones, liver and tooth development. They are also carcinogenic.

Highly hazardous pesticides may have acute and chronic toxic effects, posing particular risk to children, and are recognized as an issue of global concern. The greatest exposure to highly hazardous pesticides is for agricultural and public health workers during handling, dilution, mixing and application. The general population may be exposed through consumption of residues of pesticides in food and, possibly, drinking water. Annual statistics produced by the Malta Competition and Consumer Affairs Authority shows an increase in pesticide Maximum Residue Level exceedances in the samples analyzed. Malta is to date the only EU member state not to have a Poison Centre to direct the public on general queries and medical help in cases of poisoning. A small but increasing number of people are opting to buy and consume organic (pesticide-free) produce.

Radiation

Ionizing Radiation

The inter-ministerial Radiation Protection Board (RPB) set up by S.L. 365.15 are responsible for occupational radiation; medical radiation exposure control; radiological emergency preparedness; protection and monitoring of the environment

and fulfilling Maltese obligations under the nuclear related treaties of the International Atomic Energy Agency.

Electromagnetic Field

The Electromagnetic field (EMF) of all frequencies represents one of the most common and fastest growing environmental influences, about which anxiety and speculation are spreading. All populations are now exposed to varying degrees of EMF, and the levels will continue to increase as technology advances.

The Malta Communications Authority (MCA) is responsible to ensure that the EMF does not exceed the guidelines for public maximum exposure set by the International Commission on Non-Ionizing Radiation Protection. MCA performs regular audits with the results available on the MCA's website.

Noise Pollution

Noise pollution is being considered an equity issue in relation to socioeconomic status (income and education), age and place of residence. This indicates that the poor, the old and those living in dense places in Malta are exposed to heavy traffic and are the most affected, making further action in this field highly significant.

Physical Activity

The Health Behaviour in School-aged Children (HBSC) survey for 2013/2014 shows that children aged between 11 and 15 years in Malta do not perform physical activity at the recommended level of 60 minutes daily (11 years: girls 21 %, boys 28 %; 13 years: girls 11 %, boys 20 %; 15 years: girls 9 %, boys 16 %), and these rates have consistently decreased since the start of the HBSC survey in 2002.

Accessible and safe environments that may be directly and indirectly conducive to exercise, for example walking routes to school, local green areas and village centres

without traffic congestion are issues frequently raised by the general public and echoed in the family doctor's clinic.

Biological Hazards

The most frequent cause of biological hazards in Malta originate from consumption of contaminated food products. During recent years there has been an increase in food-borne illnesses due to consumption of contaminated food. Public health hazards do not only occur through the macro environment but also within the micro environment such as food preparation facilities. This gives rise to a diverse surveillance.

The Role of the Family Doctor

The primary role of the family doctor is to diagnose and treat pathologies in primary care, in this case linked directly and indirectly to health issues from environmental exposures. As in other aspects of care this warrants knowledge about the environmental threats

The family doctor is in a prime position to detect sentinel cases, such as cases of food poisoning from a food preparation facility, and appropriate notification is expected. The family doctor is encouraged to do and publish research and subsequently to inspire community-based interventions.

The primary care consultation is an opportunity to educate patients and families on the link between exposure to environmental agents and health

Family doctors have rightly acquired and nurtured a reputation for being able to advocate on behalf of their patients, pushing for action at local, national and international levels.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Recognise children as particularly susceptible with respect to environmental exposures, because of their different, unique and often increased exposures to chemical, biological and physical environmental hazards; their dynamic developmental physiology; their longer life expectancy; and their political powerlessness
2. Understand how poor water quality affects health
3. Have an understanding of the basics of air pollution to properly advise patients on their health
4. Be aware of the health effects associated with air pollution as a legitimate concern for health professionals today, to identify susceptible populations, and illustrate mechanisms by which air pollutants exert their effects
5. Advise patients on actions to reduce the adverse impacts of outdoor air pollution on their health as well as the broader societal health impacts of air pollution
6. Use the information from the Air Monitoring Stations and eventually the Air Quality Index (AQI) and the Air Quality Health Index (AQHI) to advise patients on actions to reduce the adverse impacts of outdoor air pollution on their health
7. Motivate patients to quit cigarette smoking, as this is a major component of indoor air pollution, with known health impacts to adults and children
8. Participate in the diagnosis, treatment, social and medical rehabilitation of asbestos-related diseases
9. Understand the utility of monitoring of food items, human milk and air, and counsel patients accordingly
10. Understand exposures in workers likely to be exposed to higher levels of dioxins and dioxin-like chemicals and counsel accordingly

11. Diagnose, treat and manage cases of ill-health related to consumption of contaminated food and other biological contamination. This includes the appropriate notification to Public Health of the relevant cases
12. Show motivational skills in relation to healthy diet and exercise as part of the patient's lifestyle
13. Know the health impacts of noise on health, such as hearing loss, disturbed sleep, emotional stress

Teaching and learning resources

Work-based learning – in primary care

- Half-day release programme on the health impacts of environmental exposures and the appropriate management

Work-based learning – in secondary care

- Observation and practice in the identification and management of environmental exposures in secondary care. Proper notification of patients exposed to food contamination and other biological contamination

Other learning opportunities

- Activism in a Voluntary Organization, such as:
    - WONCA Working Party on the Environment https://www.globalfamilydoctor.com/News/WONCAEnvironmentWorkingParty-booklaunch.aspx;
    - the International Society of Doctors for the Environment http://www.isde.org/;
    - Healthcare Without Harm https://noharm.org/;

- Climate Action Network International

  http://www.climatenetwork.org/about/about-can

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Section C:

Clinical Medicine

Chapter 26.

Applied Genetics

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Update by: Dr Natalie Psaila

According to data from 2018, 25,000-30,000 people in Malta have a rare disease. 80% of all rare diseases have a genetic component. It is also estimated that one in every 33 babies are born with one or more major birth defects, which amounts to roughly one affected infant born in three days.

Genetic conditions may take the form of single-gene disorder (e.g. thalassaemia, breast cancer, Huntington's disease), chromosomal abnormality (e.g. Down's syndrome) or polygenic inheritance (e.g. asthma, hypertension).

Genetic testing is performed for three main reasons:

- To help diagnose and treat an affected individual
- To predict the later development of disease in an individual
- To detect a carrier state
- To prevent transmission to progeny

Doctors need to be conversant in genetics and the surrounding social, ethical, and legal issues. Family doctors are strategically placed to give genetic counselling. Besides the medical facts, this counselling includes talking to people about the ethical, legal, and social implications of tests. Pre-test and post-test counselling empowers people to make informed choices. Patients need to know what treatments or options are available.

Maltese healthcare priorities

Familial Mediterranean Fever (FMF) has a high prevalence amongst Armenians, non-Ashkenazi Jews, Levantine Arabs and Turks. A preliminary analysis of the carrier rate of gene mutations associated with FMF in the Maltese population gave an estimated frequency of 1 in 17, which would mean it's probably the most common single gene disorder on the islands.

Beta-thalassaemia is another single-gene disorder with a high local carrier rate of 1.8%. A national screening program was initiated by the Health Department in 1991 with the goal of identifying couples at risk and providing the necessary medical management and counselling. Prenatal diagnosis has been successful in identifying the majority of Maltese families at risk of beta-thalassaemia and the thalassaemia birth

incidence has decreased considerably. However, education programs for the affected families and the general public are much needed. Family doctors should take the initiative to screen couples before marriage by checking their haemoglobin level and then referring to the Thalassaemia Clinic where indicated.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Communicate information about genetics in a comprehensible way, helping patients to make informed decisions and choices about their care. Demonstrate how to offer non-directive and non-judgemental counselling
2. Describe the epidemiology of genetic disease in the local community. Appreciate that different races have a predisposition to different genetic diseases.
3. Solicit a detailed family history. Explain the Mendelian laws of inheritance. Draw up a genogram for a family
4. Appreciate that genetic disease may have profound detrimental physical, psychological and social effects on the patient and their family. Take a holistic approach to the patient by assessing the psychological, ethical, legal and social dimensions of genetic disease and intervene to help, possibly referring to support groups, counsellors or psychologists
5. Diagnose and manage patients with genetic disease, referring to secondary care as necessary
6. Describe the concept of pharmacogenetics
7. Describe the different uses of genetic tests (diagnostic, predictive, carrier testing) and their limitations
8. Describe the genetic aspects of antenatal and newborn screening programmes and their indications, uses and limitations
9. Protect the confidentiality of the patient at all times, asking for consent to divulge information to insurance companies and employers

10. Strive to keep up-to-date with advances in this rapidly evolving field and their ethical implications

Knowledge base

Symptoms

Patients with genetic conditions may present with a wide variety of symptoms and signs and these can vary in severity and number between affected patients, even within families (e.g. variability of expression in neurofibromatosis). Anxiety about a family history of a disease, for example breast cancer, is also a common presentation.

Common and important conditions

Examples of common chromosome anomalies

- Down's syndrome
- Turner's syndrome
- Klinefelter's syndrome
- Translocations

Examples of single gene disorders

- Autosomal dominant disorders
    - Adult polycystic kidney disease
    - Neurofibromatosis
    - Huntington's disease
- Recessive disorders
    - Familial Mediterranean Fever
    - Haemoglobinopathies (sickle-cell disease, thalassaemias)
    - Haemochromatosis

    - Cystic fibrosis
- X-linked disorders
    - Duchenne and Becker muscular dystrophies.
    - Haemophilia A
    - Fragile X

Examples of multifactorial diseases

- Familial forms of common diseases (e.g. breast and bowel cancer)
- Disorders with a genetic component (e.g. cerebrovascular disease, cardiovascular disease, Alzheimer's dementia, asthma)

Examples of familial cancers

- Breast
- Colon

Investigations

- How to draw and interpret a genogram
- How to recognise basic patterns of inheritance
- Knowledge of specific genetic tests (e.g. paternity testing)

Management and prevention

- Management options vary depending on the individual disease but include, for example, regular surveillance for hereditary cancer
- Prevention takes the form of screening and family planning options

Basic knowledge of genetics

- DNA as genetic material and how mutations and variants contribute to human disease
- Patterns of inheritance: single gene, chromosomal, multifactorial

Relevant Guidelines

NICE Guidelines

- Familial breast cancer: classification, care and managing breast cancer and related risks in people with a family history of breast cancer (2019)
- Ovarian cancer: recognition and initial management (2011)
- Colorectal cancer (2020)
- Multimorbidity: clinical assessment and management (2016)
- Cystic fibrosis: diagnosis and management (2017)
- Faltering growth: recognition and management of faltering growth in children (2017)
- Motor neuron disease: assessment and management (2019)
- Multiple sclerosis in adults: management (2019)

Other

- SPIKES protocol for breaking bad news (2000)
- Guidelines for the Practice of Genetic Counselling. WHO (1999)

Teaching and learning resources

Work-based learning – in secondary care

- Observation and practice in the diagnosis and management of genetic disease; taking a careful history; drawing up a genogram; counselling about options and their consequences with the patient and family; reflecting on ethical tensions; always respecting patient autonomy and confidentiality; involving other healthcare professionals when indicated
- Tutorials on principles of genetic disease screening, diagnosis and management

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Chapter 27.

Paediatric and Adolescent Health

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The author and editor extend their thanks for their voluntary contribution

Maltese healthcare priorities

Neonates are examined at birth by a paediatrician in hospital. However, the subsequent health and developmental check-ups at 8 weeks, 8 months, 18 months and preschool should be the responsibility of the family doctor who would be aware of any familial risk factors for health (such as a depressed mother). Intervention can thus be carried out holistically.

The advent of routine childhood immunisation has had a huge impact on the incidence of serious childhood infections, practically eradicating smallpox, poliomyelitis, diphtheria, tetanus, and *Haemophilus influenzae B* disease, while greatly diminishing the incidence of pertussis, measles, mumps, rubella, tuberculosis and human papilloma virus. These vaccines are included in the National Immunisation Schedule and are administered for free to all Maltese children and adolescents at the Government Health Centres. Since June 2020, new vaccines have been introduced in the National Immunisation Schedule, namely the pneumococcal, and the meningococcal vaccines, that were previously available exclusively in the private sector (*National Immunisation Schedule*, n.d.). The Family Doctor should be well-versed in the immunisation schedule and know about which vaccines are available only in the private market (e.g. rotavirus; heptavalent pneumococcal; varicella-zoster virus; human papilloma virus).

Research has found that the young Maltese population is at a higher risk of developing respiratory disease of an allergic nature, compared to their counterparts in Sicily (Drago et al., 2014). Presentation of respiratory disease in children may vary with seasonality and the scholastic year (Grech et al., 2004). Family doctors must be aware of the local prevalence and incidence of respiratory disease in the young, be able to recognise symptomatology, and set up short-term and long-term plans, with sustained communication and collaboration with specialist colleagues as required

Most childhood conditions are however self-limiting and improve naturally with simple symptomatic measures. In these instances, the family doctor should use an evidence-based approach to treatment, and prescribe antimicrobials, systemic corticosteroids, bronchodilators and cough syrups judiciously

The family doctor needs to develop special skills to deal with children with special needs. These skills include understanding the child's normal health status and how

they interact with the physical and social environment. Since these patients frequently have multiple associated health problems that may present atypically, and many are unable to verbalise their symptoms, the family doctor must use additional skills related to examination and diagnosis and assume an active role in screening of associated medical conditions. Recognition of the possible strain on family members, and a holistic approach in management, is required to ensure the best outcome for the child and family. Knowledge of and referral to specialised clinics and support agencies is of prime importance.

Adolescence is a time of turbulent physical, emotional and social changes. Teenagers are prone to emotional disturbances (depression and anxiety), distorted body image (anorexia nervosa and bulimia) and gender issues. A medically 'trivial' condition such as acne can have a profound psychological impact on the self-esteem of the individual. The family doctor should be on the alert for these problems and intervene in a sensitive manner to help these young patients with appropriate referral to services and specialist advise, care and follow-up.

Adolescents who have chronic conditions (e.g. insulin-dependent diabetes; asthma) tend to pass through a stage of rebellion characterized by noncompliance with treatment, conflict with parents and aversion to doctors. Family doctors should encourage the cooperation of these youngsters by using appropriate methods of communication and empowering them to take care of themselves as much as possible.

The Maltese educational system is notoriously competitive. The family doctor should appreciate that a change of school, bullying, schoolwork, private tuition, and exams can give rise to psychological stress on the youngster and parents. These problems might present to the family doctor as psychosomatic symptoms such as abdominal pains or headaches.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Manage primary care contact with children and their families and in the case of adolescents, on their own

2. Describe the importance of treating children and young people equitably, and with respect for their beliefs, preferences, dignity and rights
3. Demonstrate adequate age-appropriate consulting skills to obtain a good history from the young patient and communicate effectively with guardians
4. Use the HEADSS assessment tool when taking a paediatric history to cover all issues
5. Appreciate the importance of the social (including educational) and psychological impact of disease on the child and family
6. Appreciate the important contributions of the parents and other caregivers in the upbringing of the child
7. Recognize that stress in children frequently presents with psychosomatic symptoms such as abdominal pain and headache. Understand that a health problem in a child may be caused by dysfunctional family dynamics
8. Perform a thorough examination of the neonate, infant and older child
9. Describe the normal childhood developmental milestones and the physiological stages of puberty
10. Demonstrate knowledge of the relative prevalence and incidence of childhood disease in the local community to assist diagnosis
11. Identify particular groups of patients at higher risk of health problems (e.g. low social class; mental or physical disability)
12. Apply evidence-based criteria to assess severity of childhood illnesses, to decide when to refer a patient to secondary care and whether the referral should be as an emergency, urgent or routine appointment
13. Demonstrate an evidence-based approach towards investigation and management of childhood and adolescent disease. Appreciate that most childhood conditions are self-limiting and improve naturally with simple symptomatic measures
14. Weigh risks against benefits when treating youngsters. Be familiar with the common drugs used to treat children, describe age-appropriate modes of drug delivery (e.g. baby haler) and show how to adjust doses to weight

15. Negotiate a realistic and comprehensive management plan in partnership with parents whose children are ill, particularly with chronic disease. Involve older children and adolescents in decision-making and empower them to self-manage their conditions as much as possible
16. Recognize that the autonomy of children increases with age and mental development, and respect it
17. Appreciate that adolescents have health and social needs that are distinct from those of children. Respect the confidentiality of adolescents, whilst balancing it with the need for the parents to be informed
18. Promote a healthy lifestyle by educating the child or adolescent and family about the need for education, personal hygiene, regular exercise, healthy nutrition, and sexual health and the prevention of obesity, tobacco smoking, alcohol use, drug misuse and accidents
19. Describe the National Immunisation Schedule and the possible adverse effects and contra-indications of vaccines, encourage uptake of these immunizations, and administer them, as necessary. Keep up-to-date with the availabilities of vaccinations in the public and private sector
20. Recognize that disabled children often have multiple associated health problems and that their families need support. Explain the role of the Child Development Assessment Unit and how multidisciplinary organizations (e.g. Agenzija Appogg and Sapport; Equal Partners Foundation; Eden Foundation; Down Syndrome Association; ADHD support group) may provide such support
21. Describe the signs of child abuse. Intervene urgently when child abuse or neglect is suspected, liaising with the police and Agenzija Appogg
22. Appreciate the importance of education, and issue school absence certificates only when medically indicated. Liaise with school authorities in cases of infectious disease, suspected bullying or other abuse. Appreciate that a change of school, bullying, schoolwork, private tuition, and exams can give rise to psychological stress on the youngster and parents
23. Coordinate care with other healthcare professionals, such as paediatricians, midwives, practice nurses, community nurses, physiotherapists, psychologists, speech and language pathologists and pharmacists to enable management

of disabilities or chronic disease. Act as an advocate for the child or family when necessary

Knowledge base

For each problem or disease, the trainee should be able to consider these areas within the context of primary care:

- The natural history of the condition, whether acute or chronic
- The incidence and prevalence across ages and changes over time
- The presentation, whether typical or atypical
- The variations throughout life
- The biopsychosocial risk factors
- The diagnostic features and differential diagnosis
- The 'red flag' features of conditions
- The appropriate and relevant investigations and their interpretation
- The management of the condition be it self-care, initial stages, emergency and follow-up, particularly relevant in chronic conditions
- The sustained patient information and education
- The prognosis

The normal child

The GP trainee should be able to recognise the range of normality in the physical, psychological and behavioural development of children and adolescents, namely:

- The developmental milestones
- Normal growth
- Plotting and interpretation of growth charts
- Normal physical development and its normal variations

- Normal emotional and psychological maturity
- Normal variations in childhood behaviour
- Puberty and the associated emotional and social changes
- The neonatal period and the local screening

Common and important conditions

- Recognition of the seriously ill child and intervention where appropriate
- Paediatric emergencies
    - Convulsions including febrile
    - Asthma
    - Meningitis and septicaemia
    - Surgical emergencies
- Neonatal problems including congenital abnormalities
- Infections in childhood, including measles, chickenpox, coxsackie and parvovirus
- Childhood malignancies
- Genetic disorders
- Psychological problems
    - Enuresis and encopresis
    - Bullying, school refusal
    - Behaviour problems including tantrums
- Gastrointestinal conditions, including constipation, gastroenteritis and eating disorders
- Failure to thrive and its underlying causes and risk factors
- Respiratory conditions
- ENT conditions, including otitis media

- Neurological conditions, such as epilepsy and febrile convulsions
- Sleep physiology and sleep disturbances
- Endocrine disorders and anomalies of growth
- Poisoning – accidental, iatrogenic, harm by carers or self-harm
- Renal conditions
    - Urinary tract infection
    - Structural anomalies
    - Nephrotic syndrome
    - Glomerulonephritis
- Learning disabilities
    - ADHD
    - Autism spectrum disorder
    - Dyslexia and dyspraxia
    - Cerebral palsy
    - Developmental delay
- Mental health conditions
- Sex and gender identity

Treatment

- Commonly used drugs: indications, contra-indications, side effects, formulation, dosage according to weight, over the counter medications, acute and repeat prescriptions, and review of long-term prescriptions

Prevention

- Prenatal diagnosis

- Breastfeeding and associated benefits
- Infant feeding and weaning
- Cot death prevention
- Healthy nutrition and exercise for children and young people
- Immunisation
- Avoiding smoking, avoiding the use of volatile substances and other drugs, and minimising alcohol intake
- Reducing teenage pregnancy and risky sexual behaviours
- Self-care education and information
- Active follow-up for adherence to treatment
- Children's rights and wishes

Psychomotor skills

- Examination of the neonate, infant and older child
- Assessment of competence
- Measurement taking:
    - OFC, length, weight
    - Peak flow
    - Blood pressure
- Administration of vaccines
- Suturing a wound in a child
- Advanced life support of infants, children and young people as offered by the Malta Resuscitation Council

Relevant Guidelines

Local Guidelines

- National Breastfeeding Policy, 2015-2020
- The Official Guide to Immunisation and NIS Schedule
- LEAP: Anti-Poverty and Social Exclusion
- Transgender Healthcare

NICE Guidelines

- Infants and neonates
- Children and young people

The Royal College of Emergency Medicine

- Management of Pain in Children

Queensland Clinical Guidelines

- Routine Newborn Assessment

Teaching and learning resources

Work-based learning – in primary care

- Using Educational Portfolio to record learning points and reflections.

Other learning opportunities

- Private study of GP textbooks, current guidelines, BNF, journals and internet resources

- Voluntary participation in community projects involving children and youth, possibly also serving underprivileged members of the community (e.g. The Mother Theresa Community in Cospicua, Creches run by Ursuline Sisters in G'Mangia and Sliema) or in refugee shelters and camps

Formative Assessment

- Analysis of video-recorded consultations involving children and adolescents
- Mini-clinical examination e.g. examination of the neonate and infant
- Directly observed procedures e.g. measuring head circumference, administering nebulised treatment or vaccination to a child

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Chapter 28.

Men's Health

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The author and editor extend their thanks for their voluntary contribution

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Approach the male patient with a non-judgemental, caring and professional consulting style which empowers and enables the patient seek medical assistance with regard to health concerns of a sensitive nature, minimizing patient embarrassment
2. Understand the role of the chaperone in intimate examinations
3. Have a low threshold for suspicion of significant disease, especially since men consult a doctor less frequently and have poorer outcomes for many health conditions
4. Use epidemiological data to guide diagnosis, including differences in prevalence, incidence and risk between men and women
5. Appreciate that erectile dysfunction often heralds a number of conditions such as vascular disease, diabetes, depression, lower urinary tract infections
6. Describe the impact of exposure to workplace hazards on men's health, including physical and chemical exposures, shift work syndrome
7. Understand how different physical and pharmacological therapies affect men, including hormone therapies, over-the-counter supplements, herbal medicines, traditional Chinese medicine and other alternative therapies
8. Understand the impact of sports and exercise on men's health
9. Understand that medications that lead to side effects such as changes in libido are more likely to be discontinued by men
10. To understand the impact of sports and exercise on men's health
11. Be able to discuss relevant screening programmes
12. Educate the patient with regard to testicular self-examination
13. Use appropriate approach to investigate alcoholism and other substance abuse
14. Evaluate and manage male patients with lower urinary tract symptoms and sexually transmitted infections

15. Understand how benign and malignant prostatic disease affects men and the advantages/disadvantages of PSA screening
16. Offer quick intervention in suspected urological malignancy
17. Offer urgent intervention in testicular or penile emergencies: testicular torsion, paraphimosis, trauma, priapism
18. Be aware of conditions in which there is a low index of suspicion, including breast cancer and osteoporosis in men
19. Understand changing gender roles that men are expected to conform with. The trainee also needs to appreciate the health needs of gay, transgender, bisexual, queer and asexual or non-heteronormative men, beyond the context of sexual health, as well as the needs of their significant others
20. Use appropriate health promotion and disease prevention strategies and be able to discuss relevant screening programmes
21. Educate the patient with regard to testicular self-examination
22. Understand the role of 'Well-Man Clinics' in Primary Care
23. Understand that male circumcision is an important feature in certain religious practices which can have an effect on men's health
24. Encourage male patients to be responsible for their own contraception and reproductive health

Knowledge Base

Common Conditions

- Scrotal and testicular conditions including varicocoele, epididymities and hernias
- Penile conditions
- Male-specific cancers including testicular and prostate cancer
- Benign Prostatic Hypertrophy and Prostatitis
- Sexual dysfunction
- Male Contraception

- Circumcision
- Mental health Issues including depression and substance misuse
- Male Infertility
- Hypogonadism and andropause
- Sexually transmitted Infections
- Urinary tract infections in men

Treatment

- Understanding the principles of treatment for common conditions managed mostly in primary care – benign prostatic hypertrophy, prostatitis, sexual dysfunction, infertility, etc
- Injection of anti-androgens for testicular cancer
- Testosterone injection or implant for hypogonadism

Emergencies

- Testicular torsion
- Paraphimosis
- Priapism
- Acute urinary retention
- Acute management of renal/ureteric colic

Engaging in Preventive Care

- Health education concerning lifestyle and risk-taking behaviour, sexual and mental health

Psychomotor Skills

- Testicular examination
- Digital rectal examination

- Urethral Catheterisation
- Injection of anti-androgens for testicular cancer
- Testosterone injection or subcutaneous implant

Relevant Guidelines

NICE Guidelines

- Prostate Cancer: Diagnosis and Management (2019)
- Bladder Cancer: Diagnosis and Management (2015)
- Acute Prostatitis: Antimicrobial Prescribing (2018)
- Lower Urinary Tract Symptoms in Men (2010)

British Society for Sexual Medicine

- **A Practical Guide** – On the Assessment and Management of Testosterone Deficiency in Adult Men (2018)
- **A Practical Guide** – On Managing Erectile Dysfunction (2018)
- Treatment Algorithm for Premature Ejaculation (2013)
- Management of sexual problems in men: the role of Androgens (2010)

Teaching and learning resources

Work-based learning – in primary care

- Tutorials on common conditions specifically affecting men
- Participating in Health Promotion activities concerning men's health
- Participating in research projects or auditing aspects of men's health across various social, economic, cultural, ethnic groups

Work-based learning – in secondary care

- During hospital placements, the Trainee may attend Urology Outpatient Clinics and gain exposure to the work of the Urology Outreach Team. The trainee may also attend the hospital Genito-Urinary Clinic
- Managing men's health emergencies in the Accident and Emergency setting
- The Trainee must remain aware that men's health issues will feature across all specialties during hospital placements

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8. The RCGP Curriculum Topic Guides, 2019.
9. Men's Health. Recommended Curriculum Guidelines for Family Medicine Residents. American Academy of Family Physicians. AAFP Reprint No. 257. Revised 07/18 by St. Luke's Family Medicine Residency/Sacred Heart Campus, Allentown, PA.

Internet Resources

- Men's health and well-being in the WHO European Region http://www.euro.who.int/en/health-topics/health-determinants/gender/mens-health
- World Health Organization, Regional Office for Europe. Men's Health. Geneva: WHO; 2014. http://www.euro.who.int/en/health-topics/health-determinants/gender/activities/mens-health
- The Malta Health Profile https://www.worldlifeexpectancy.com/malta-life-expectancy
- British Society for Sexual Medicine (BSSM) www.bssm.org.uk
- College of Sexual and Relationship Therapy www.cosrt.org.uk
- The European Men's Health Forum www.emhf.org
- Global Action on Men's Health www.gamh.org
- International Men's Health Week www.menshealthmonth.org/week/index.html
- The Men's Health Forum www.menshealthforum.org.uk
- Trends in Urology and Men's Health www.trendsinurology.com

Chapter 29.

Gynaecology and Breast Disease

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Update by: Dr Simone Deguara, Dr Maria Deguara

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The authors and editor extend their thanks for their voluntary contribution

Maltese healthcare priorities

Breast cancer remains the most common type of malignancy in females but can also affect males. The fact that second and third generation Maltese migrants to Australia show the same incidence points to a genetic predisposition. A National Screening Programme for breast cancer for females over 50 years is in place. Breast cancer survival rates have improved considerably standing at 87% in Malta compared to 28.83 in the EU and this although screening remains disappointingly low at 32% less than half the EU average.

Increased sexual relationships have led to an increase in STIs and also a higher cervical cancer incidence. HIV remains an important public health challenge. Diagnosed cases have increased by more than 50% since 2008 in contrast to a general downward trend observed across the EU. A random National Cervical screening programme aims to diagnose cases of cervical cancer at an early stage.

Malta remains one of the few countries where abortion is illegal. Women having abortions in Malta and any person found to be assisting them can be sentenced to prison. This means that women who want an abortion must either use illegal medical abortion pills or fly to another country to get a medical or surgical abortion.

It is common knowledge that the fertility rate diminishes after the age of 35 years while the risk of complications and the risk of miscarriages increases. 2019 saw the introduction of IVF legislation which includes legislation controlling gamete donation.

Contraception use is still lacking to a certain degree with resultant high rates of unplanned and teenage pregnancies and higher incidences of sexually transmitted diseases. Sexual health education has been now introduced in the primary education curriculum.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Demonstrate knowledge of women's health in general particularly women's gynecological and breast conditions and diseases and their management

2. Acknowledge the fact that different cultures may influence the woman's choice, opting and preferring a female doctor
3. Raise awareness about the high incidence of breast cancer in the local population but highlight the fact that Malta has the highest post treatment survival rate in Europe; hence the importance of regular breast check-up in **both** sexes as men may also experience breast pathology
4. Inform women about national mammography screening programme and support shared decision making about accepting or refusing this offer. Promote mammography in those with suspected breast pathology or considerably elevated risk of breast cancer
5. Be constantly on the lookout for the psychological and physical consequences that treatment of breast cancer incurs including immediate and late effects of treatment. The trainee must keep in mind that local and distant metastases may present years after the original treatment
6. Genetic mutations related to breast and gynaecological malignancies including BRACA are indications for referral for genetic counseling
7. Recognise that ovarian cancer remains a less common cancer with a relatively poor detection rate, often presenting late.
8. Be proficient in managing primary and secondary causes of menopause. In particular, identifying and managing premature ovarian insufficiency and avoiding over treatment of women dealing with a normal menopause, whilst being sensitive to the distress that many women experience
9. Offer appropriate counselling to women who want to discuss termination of pregnancy. This might apply to those considering termination, women who have complications arising from abortion and others who've had abortions in the past
10. Manage sexually transmitted infections appropriately and deal sensitively with 'partner notification'
11. Liaise with other local support services, networks and groups for women (e.g. family planning, breast clinic, domestic violence resources)

12. Communicate sensitively with women about sexuality and other intimate issues such as genital mutilation
13. Manage chronic conditions, such as endometriosis and polycystic ovarian syndrome (PCOS), effectively and liaise with other professionals as necessary
14. Describe the importance of confidentiality and informed consent in relation to the care of women and the issues relating to the use of chaperones
15. Elicit a history, carry out an examination, make a diagnosis based on incremental investigations if and as appropriate, in a manner that is comfortable for both the patient and the family doctor
16. Recognise the prevalence of domestic violence, be vigilant about latent signs of this problem and demonstrate the ability to question patient sensitively when this issue is suspected
17. Confidently identify those cases with any gynaecological emergency (ectopic pregnancy, acute pelvic pain and heavy vaginal bleeding) and refer accordingly for urgent investigation
18. Explain the importance of risk factors in the diagnosis and management of women's problems
19. Outline relevant prevention strategies (e.g. safer sex, pre-pregnancy counselling, immunisation, preventing osteoporosis)
20. Appraise the role of well-woman clinics in primary care
21. Be aware of legislation that discusses gamete donation, IVF and the criteria for free eligibility
22. Outline legislation relevant to women's health e.g. age of consent (16 years), contraception for minors, morning-after pill and handling cases of alleged rape
23. Describe the different methods of contraception, indications and contraindications to their use, side effects, drug interactions, side effects and prescribing information
24. Describe the local guidelines that impact on healthcare provision for women's problems with particular reference to screening programmes: breast and cervical cancer, osteoporosis.

Knowledge base

Symptoms and Signs

- Breast
    - Breast development and abnormalities of development
    - Breast lumps (men and women)
    - Gynaecomastia
    - Nipple discharge
- Menstrual bleeding problems such as amenorrhoea, oligomenorrhoea, polymenorrhoea, heavy menstrual bleeding
- Non-menstrual vaginal bleeding including intermenstrual and post-coital bleeding
- Postmenopausal bleeding
- Continence problems (urinary and faecal)
- Pelvic and abdominal masses
- Vaginal discharge and vaginal dryness
- Vaginal swellings and prolapse symptoms
- Vulval pain, lump, irritation, ulceration, pigmentation, leucoplakia and other vulval skin lesions.
- Menopause and peri-menopause, physical and psychological symptoms including disturbances, hot flushes, night sweats, urogenital symptoms

Common and important conditions

Breast

- Breastfeeding, including common problems
- Malignant breast conditions including ductal and lobular carcinomas, Paget's disease of the nipple, including awareness of treatment (surgery, radiotherapy, hormonal) and its complications

- Surgery for breast reconstruction, breast enlargement and breast reduction

Pelvic

- Benign ovarian swellings including ovarian cysts, dermoid
- Ovarian cancer
- Polycystic ovary syndrome
- Uterine
    - Endometrial polyps, hyperplasia and cancer
    - Endometriosis and adenomyosis
    - Fibroids
    - Prolapse including cystocele and rectocele
- Cervical
    - Cancer, cervical intraepithelial neoplasia (CIN), dysplasia, ectropion and polyps
- Vulvo-vaginal
    - Female genital mutilation (FGM) (including legal aspects) and cosmetic genital surgery
    - Malignancy including vulval intraepithelial neoplasia (VIN), melanoma
    - Skin disorders such as lichen sclerosus, psoriasis, intertrigo, genital warts
    - Vaginal discharge including infectious causes
    - Vulval pain with causes such as atrophic changes, Bartholin gland problems, dysesthesia, vulvodynia

Fertility

- Infertility and subfertility – causes and investigations
- Male factors including impaired sperm production and delivery (e.g. drug induced, cystic fibrosis)

- Female factors including ovulatory disorders, tubal disorders, uterine disorders and genetic causes
- Principles of assisted conception with knowledge of associated investigations
- Recurrent miscarriage

Hormonal

- Premenstrual disorders including premenstrual syndrome
- Menopause:
    - Normal and abnormal menopause and peri-menopause including premature ovarian insufficiency
    - Treatment options including hormone replacement therapy (HRT) – systemic and local methods
    - Wider health issues associated with menopause including increased cardiovascular risk and osteoporosis

Investigations

- Pregnancy testing
- Urine dipstick, MSU and laboratory urinalysis
- Blood tests (CA125, full blood count, hormone profile including renal function and hormone profile)
- Cervical smears, vaginal and high vaginal swabs for bacteriological and virology tests and vaginal pH testing.
- The family doctor should have knowledge of common procedures in secondary care e.g. transvaginal ultrasound, colposcopy, laparoscopy and sub-fertility investigations
- Breast examination
- In secondary care: breast imaging including mammography, MRI and ultrasound.

Emergencies

- Ectopic pregnancy
- Domestic violence
- Rape and trauma

Prevention

Trainees should be confident in the delivery of the following:

- Education regarding healthy lifestyle, sexual and mental health
- Pre-pregnancy issues: discontinuing contraception, folic acid, family and genetic history, lifestyle modification
- Rubella testing
- Immunisation against HPV, Hepatitis B, Varicella-zoster
- Screening: breast, cervical and ovarian cancer
- Osteoporosis: risk assessment, screening and management options

Psychomotor Skills

Demonstrating professional conduct, having gained informed patient consent, and ensuring patient comfort at all times, the trainee shall be able to:

- Perform a thorough pelvic examination, including manual vaginal examination and speculum examination
    - assess the size, position and mobility of the uterus
    - recognize through bimanual palpation any abnormality of the pelvic organs
    - remove foreign bodies from vagina
    - take high vaginal swabs
    - allow removal of IUDs

    - periodically ensure that the IUD is still in place
- Competently perform a cervical (PAP)
- Perform a competent breast
- Getting consent for examination and the use of a chaperon
- Catheterisation

Relevant Guidelines

NICE Guidelines

- Long-acting reversible contraception (CG30) (2019)
- Contraceptive services for under 25s (2014)
- Sexually transmitted infections and under-18 conceptions: prevention (2007)
- Endometriosis: diagnosis and management (NG73) (2017)
- Suspected cancer: recognition and referral (NG12) (2021)
- Guidance on the use of liquid-based cytology for cervical screening (TA69) (2003)
- Endometriosis: diagnosis and management (NG73) (2017)
- Heavy menstrual bleeding: assessment and management (NG88) (2020)
- Menopause: diagnosis and management (NG23) (2019)
- Ovarian cancer: recognition and initial management (CG122) (2011)
- Urinary incontinence and pelvic organ prolapse in women: management (NG123) (2019)

Teaching and Learning resources

Work-based learning – in primary care

- Performing general examinations in women to include those presenting with breast lumps and urinary problems

- Well women clinics; carry out full pelvic examinations, take smear tests and high vaginal swabs, checking on and removing IUD's, removal of vaginal foreign bodies, carry out breast examination
- Attachment with community midwife carrying out postnatal checks on new mothers and their babies

Work-based learning – in secondary care

- Observation and practice of consultations during the gynaecology attachments involving:
    - Gynaecology A & E with presentation of undifferentiated gynaecology problems
    - Gynaecology outpatients with patients referred by family doctors for specialist care
    - Gynaecology wards observing management of pre- and post-op care to women
- Attending ultrasound sessions to differentiate between normal and diseased appearances of organs

Other learning opportunities

- Involvement in support groups for women, e.g. breast care support group

Formative Assessment

- Directly observed procedures e.g. catheterization, carrying out Pap smear and high vaginal swabs
- Case-based discussions on consultations for women

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1. National Statistics Office 2019
2. WHO, Country Health Profile 2019
3. The Embryo Protection Law, Laws of Malta, Chapter 524
4. Equal Rights and Opportunities Law
5. Falzon Camilleri A. Breastfeeding: A formula for overcoming anxiety in mothers
6. The RCGP Curriculum Topic Guides, 2019 – Gynaecology and Breast.

Internet resources

- NICE (2007). Faecal incontinence: the management of faecal incontinence in adults
- NICE (October 2006). Urinary incontinence - The management of urinary incontinence in women
- www.sign.ac.uk for guidance on investigation of postmenopausal bleeding, post natal depression, breast cancer and osteoporosis
- www.rcog.org.uk
- www.nice.org.uk for guidelines on contraception, fertility, antenatal care, post-natal care, heavy menstrual bleeding and incontinence

Chapter 30.

Obstetrics

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Peer reviewers

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The authors and editor extend their thanks for their voluntary contribution

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Recognise, manage and refer as appropriate in cases of perinatal mental illness (PMI), including adjustment disorders
2. Offer pre-conception care and advice
3. Look out for cases where there's pregnancy with social complications such as domestic violence, drug and alcohol misuse, STIs, homelessness, safeguarding concerns, teenage pregnancy
4. Prescribe in the pre- and perinatal periods
5. Be confident with the principles and guidelines for routine antenatal care and perform routine antenatal examinations
6. Refer to secondary care for antenatal screening as appropriate for fetal and maternal conditions including ultrasound for dating, growth and fetal well-being
7. Be knowledgeable about indications for aspirin prophylaxis
8. Be on the alert for antenatal complications, such as bleeding and pelvic/abdominal pain in pregnancy, congenital abnormalities
9. Support the woman during early pregnancy loss and be knowledgeable about the most common causes: miscarriage, ectopic and molar pregnancy
10. Support the woman during cases of intrauterine death and stillbirth
11. Carry out normal postnatal care including routine 'neonatal examination' and 'maternal six-week check'
12. Advise about infant feeding, including breastfeeding
13. Recognise postnatal problems including breastfeeding problems, bladder and bowel problems, mental health problems, retained products, uterine infection, wound problems
14. Providing contraception advice postnatally and after pregnancy loss
15. Be aware of gender issues, power and the patient–doctor relationship, and know how to prevent these issues adversely impacting on women's healthcare

16. Describe the importance of confidentiality, informed consent and the use of chaperones

Knowledge base

Symptoms and signs

- Normal pregnancy symptoms and signs
- Abnormal pregnancy signs and symptoms including abnormal abdominal palpation (foetal size and lie), bleeding. hyperemesis, preeclampsia symptoms and signs, pre-term labour, reduced foetal movements, symptoms of venous thrombo-embolic disease, symptoms suggestive of exacerbation of co-existing medical conditions
- Perinatal mental health symptoms
- Postnatal symptoms including abnormal bleeding and symptoms of breast feeding problems

Common and important conditions

- Miscarriage
- Ectopic pregnancy
- Multiple pregnancy
- Anaemia
- Abnormal lie
- Gestational Diabetes
- Deep vein thrombosis, pulmonary embolism
- Hypertension, pre-eclampsia and eclampsia
- Premature labour and role of anti-D antibody
- Breastfeeding problems
- Bleeding in pregnancy

Psychomotor Skills

Demonstrating professional conduct, having gained informed patient consent, and always ensuring patient comfort, the trainee shall be able to:

- Perform a gentle abdominal examination to assess the uterine size and foetal position to assess the progress of the pregnancy
- Perform pelvic examination only if indicated e.g. infection
- Take high vaginal swabs
- Competently perform a cervical smear
- Perform a competent and sensitive breast examination

Relevant Guidelines

NICE Guidelines

- Fertility problems: assessment and treatment (CG156) (2017)
- Intrapartum care for healthy women and babies (CG190) (2017)
- Caesarean section (2019)
- Antenatal and postnatal mental health: clinical management and service guidance (CG192) (2020)
- Postnatal care up to 8 weeks after birth (CG37) (2015)
- Maternal and child nutrition (PH11) (2014)
- Weight management before, during and after pregnancy (PH27) (2010)
- Smoking: stopping in pregnancy and after childbirth (PH26) (2010)
- Diabetes in pregnancy: management from preconception to the postnatal period (NG3) (2020)
- Antenatal and postnatal mental health: clinical management and service guidance (CG192) (2020)
- Abortion care (NG140) (2019)
- Hypertension in pregnancy: diagnosis and management (NG133) (2019)
- Ectopic pregnancy and miscarriage: diagnosis and initial management (NG126) (2019)
- Antenatal care for uncomplicated pregnancies (CG62) (2019)

Teaching and Learning resources

Work-based learning – in primary care

- Antenatal clinics attendance in both primary and secondary care settings to gain extensive experience in the management of the pregnant patient
- Attachment with community midwife carrying out postnatal checks on new mothers and their babies

Work-based learning – in secondary care

- Observation of multidisciplinary approach and teamwork e.g. at the Breastfeeding Unit
- Tutorials relating to women's health, antenatal and postnatal, pelvic and back exercises

References

1. Health of the Nation Report, 2019
2. Laws of Malta, Chapter 524, Protection of the Embryo
3. Falzon Camilleri A. *Breastfeeding: A formula for overcoming anxiety in mothers.*
4. The RCGP Curriculum Topic Guides, 2019 – Maternity and Reproductive Health.

Internet resources

- www.rcog.org.uk – Relevant guidelines issued by the Royal College of Obstetricains and Gynaecologists
- www.nice.org.uk – Clinical guidelines issued by NICE on contraception, fertility, antenatal care, post-natal care, heavy menstrual bleeding and incontinence

Chapter 31.

Care of Older Adults

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The author and editor extend their thanks for their voluntary contribution

Life expectancy at birth in Malta has increased markedly over the past decade, surpassing the average increase across all EU countries. It reached 81.9 years in 2015, the sixth highest among EU countries, with women living on average 4.3 years longer than men. Life expectancy at the age of 65 has also increased by one fifth since 2000 to 20.3 years, higher than the EU average (by 19.7 years). Not only do Maltese men and women live longer, they also enjoy close to 90% of their lifespan in good health. Life expectancy gains are mainly the result of a reduction of premature deaths from cardiovascular diseases, though these remain the leading cause of death for both men and women. (OECD, 2017)

Maltese healthcare priorities

Older people have high healthcare needs. They often suffer from chronic degenerative disease, and multiple complaints and co-morbidity are the norm. Most cancers increase in incidence with advancing age. The elderly consult their family doctor frequently, and they often need to be seen at home because of mobility problems.

Factors that complicate the delivery of healthcare to the elderly may include illiteracy, difficulties in communicating, polypharmacy, increasing dependency, and psychiatric or social problems. Family doctors have an important role to play in the care of elderly people within the community where they feel safe and comfortable.

Geriatric rehabilitation services have now been available on the island since 1991 at Zammit Clapp Hospital, and are now delivered from Karen Grech Hospital. The latter provides excellent inpatient multidisciplinary care to encourage gradual convalescence and rehabilitation of the elderly person and to help reintegration into society. They also provide short-stay respite care. Home visits by physiotherapists, occupational therapists and community nurses allow assessment of the home environment. In addition, day hospital facilities are available for multidisciplinary assessment and rehabilitation of the outpatient (e.g. the memory clinic). Respite care is provided at St Vincent de Paul Long Term Care Facility, Casa Leone and other privately run facilities. The family doctor should be familiar with these services to be able to refer patients who might benefit.

Long-term care is provided both by government and by the private sector. Family doctors provide the medical care needed at most of these homes. In the case of the largest long-term care facility in Malta, St Vincent de Paul, care is delivered by a team of family doctors and geriatricians.

Nowadays, the older adults have many opportunities to remain active in the community. The government provides more than 30 types of service aimed at improving their quality of life while keeping them in their own homes, community and environment. These include day centres in various localities, domiciliary nursing, handyman service, home care help, incontinence service, meals on wheels, telecare, and more.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Describe the effects of normal ageing on the physical and psychological health of the individual
2. Recognise the importance of social factors in geriatric health. Harness the support of family, carers, and friends in the care of older adults
3. Recognise that some elderly patients may have problems of communication or literacy, and compensate accordingly
4. Understand the physical, psychological and social changes that may occur with age and relate them to the adaptations that an older person makes, and to the breakdown of these adaptations, e.g. when hearing, vision or cognitive function continue to worsen
5. Realise that elderly patients make more requests for home visits because of mobility problems
6. Perform a complete examination of the elderly patient, including mental state
7. Realise that multimorbidity is frequent in the aged. Develop skills to manage the concurrent health problems experienced by an older patient through identification, exploration, negotiation, acceptance and prioritization

8. Apply sound evidence-based criteria to assess severity of illness in the elderly, to decide when to refer a patient to secondary care and whether the referral should be as an emergency, urgent or routine appointment
9. Describe the complications that can arise when the elderly are transferred from one environment to another and how these can be prevented and managed
10. Intervene urgently when older patients present with an emergency
11. Demonstrate an evidence-based approach towards investigation and management of health problems in the aged
12. Negotiate a realistic and comprehensive management plan in partnership with patients who suffer from disease (and their carers), particularly of chronic nature. Empower patients to self-manage their conditions as far as practicable
13. Demonstrate a consistent, evidence-based approach to drug prescribing for the elderly. Appreciate that polypharmacy is frequent, and that the potential for drug adverse events and drug-drug interactions is increased. Explain why certain drugs may be contra-indicated in the older adult, and how some drugs may need modification of dosage regimens.
14. Use tools like STOPP/START criteria to aid prescribing
15. Coordinate care with other healthcare professionals
16. List the services provided by the government and voluntary organisations for the care and support of the elderly, and explain how to access them
17. Appreciate that many elderly people are dependent and vulnerable. Be vigilant to identify elder abuse, and report it to the appropriate authorities. Be prepared to act as an advocate for the patient
18. Understand the legal issues that may arise, e.g. confidentiality, Mental Health Act, power of attorney, court of protection, guardianship, living wills and death certification
19. Give examples of moral, ethical and emotional issues at the end of life as well as after death
20. Know that many cancers are more prevalent in the elderly population and may be insidious

21. Understand the management of the conditions and problems commonly associated with old age, such as Parkinson's disease, falls, gait disorders, stroke, confusion, dementia and cancer
22. Know the different forms of day-care and residential accommodation available and be able to advise patients about them

Relevant Guidelines

NICE Guidelines

- Guideline 97 - Dementia: assessment, management and support for people living with dementia and their carers
- Guideline 50- Mental wellbeing of older people in care homes (2013)
- Guideline 86 - Falls in older people (2015)
- Guideline 123 - Home care for older people (2016)
- Guideline 132 - Social care for older people with multiple long-term conditions (2016)

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2. OECD (2017) State of Health in the EU – Malta – Country Health Profile 2017 https://ec.europa.eu/malta/sites/malta/files/malta_country_health_profile_2018.pdf [last accessed 11th August 2019]
3. Royal College of Family Doctors. (2019) The GP Curriculum
4. Fahrni ML, Azmy MT, Usir E, Aziz NA, Hassan Y. Inappropriate prescribing defined by STOPP and START criteria and its association with adverse drug events among hospitalized older patients: A multicentre, prospective study. PLoS One. 2019;14(7):e0219898. Published 2019 Jul 26. doi:10.1371/journal.pone.0219898

Internet Resources

- Age Concern: www.ace.org.uk/
- Alzheimer's Disease Society: www.alzheimers.org.uk
- British Geriatrics Society: www.bgs.org.uk
- Caritas Malta: www.caritasmalta.org/
- NHS Scotland: Adding Life to Years
- Recommendations from the Report of the Expert Group on Healthcare of Older People. www.sehd.scot.nhs.uk/publications/alty/alty-00.htm
- Royal College of General Practitioners - The e-GP course on Care of Older Adults. www.e-GP.org
- Dementia

  www.rcgp.org.uk/clinical-and-research/clinical- resources/dementia.aspx

Chapter 32.

Cardiovascular Health

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The author and editor extend their thanks for their voluntary contribution

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Accurately diagnose and manage symptoms that may potentially be caused by cardiovascular conditions
2. Recognize particular groups of patients at higher risk of cardiovascular disease e.g. those with non-modifiable and modifiable risk factors
3. Describe the key research findings that influence management of cardiovascular risk and disease, and communicate the patient's risk of cardiovascular problems clearly and effectively in a non-biased manner
4. Advise patients appropriately and engage them in making healthy lifestyle choices and limiting unhealthy behaviour, also depending on their cardiovascular risk and level of disability
5. Intervene urgently when patients present with a cardiovascular emergency e.g. acute coronary syndrome, serious arrhythmia, cardiac arrest, etc.
6. Acquire periodic BLS and ALS training and re-certification
7. Be aware of and assess the impact of disease on the patient's quality of life and fitness to work, as well as driving legal obligations, making appropriate recommendations. Recognize the cultural significance attached to heart disease
8. Monitor and manage care of patients with long-term cardiovascular conditions (e.g. hypertension, chronic heart failure, atrial fibrillation).
9. Coordinate care with other healthcare professionals
10. Advise on cardiovascular screening
11. Addressing depression as a risk factor for and associated condition of heart disease and stroke
12. Manage blood vessel disorders, such as varicose veins, chronic venous insufficiency and peripheral arterial disease

Knowledge base

For each problem or disease, consider the following areas within the general context of primary care:

- The natural history of the untreated condition including whether acute or chronic
- The prevalence and incidence across all ages and any changes over time
- Typical and atypical presentations
- Recognition of normal variations throughout life
- Risk factors, including lifestyle, socioeconomic and cultural factors
- Recognition of ‘alarm’ or ‘red flag’ features
- Appropriate and relevant investigations. Interpretation of test results
- Management including self-care, initial, referral to emergency and outpatient care, chronic disease monitoring
- Patient information and education including self-care

Symptoms and signs

- Murmurs; chest pain; dyspnoea; palpitations; oedema
- Circulatory symptoms of ischaemia, thrombosis, chronic arterial and venous insufficiency
- Signs and symptoms of cerebrovascular disease (stroke/TIA)
- Syncope, dizziness and collapse, including non-cardiovascular causes

Common and important conditions

- Acute cardiovascular problems including cardiac arrest
- Arrhythmias including conduction defects
- Cardiomyopathies

- Cardiovascular conditions which may require anticoagulation such as atrial fibrillation. Anticoagulation includes heparin, thrombolysis indications and oral anticoagulation
- Cerebrovascular disease (stroke, TIA, vascular dementia)
- Circulation disorders including:
  - Arterial problems such as peripheral vascular disease, vasculitis, aneurysms (cerebral, aortic and peripheral)
  - Venous problems such as venous thromboembolism, pulmonary embolism, varicose veins, venous and arterial ulcers
- Complications and malfunction of pacemakers
- Congenital heart disease
- Coronary heart disease including complications
- Heart failure: acute and chronic, including left ventricular dysfunction, right heart failure and cor pulmonale
- Hypertension: essential (and its classification into stages), secondary, malignant
- Infections
- Pulmonary hypertension: primary and secondary to underlying causes such as fibrotic lung disease and recurrent pulmonary emboli
- Risk factors for coronary heart disease and other thromboembolic disorders such as lipid disorders, diabetes, hypertension
- Valvular problems such as mitral, tricuspid, pulmonary and aortic stenosis and regurgitation

Examinations and procedures

- Cardiovascular system examination
- Blood pressure monitoring
- Pulse oximetry
- Performing an ECG and basic interpretation

- Use of emergency equipment including defibrillator and oxygen delivery
- Emergency cardio-pulmonary resuscitation (BLS and ALS for children and adults)
- Calculation of BMI and cardiovascular risk

Investigations

- Knowledge of secondary care investigations and interventions including coronary angiography and stents and perfusion scanning
    - Knowledge and application of current risk assessment tools, e.g. CHADSVASC/HAS-BLED for atrial fibrillation, QRISK®/Heart Score® for coronary heart disease
- Relevant blood investigations, such as cardiac enzymes, natriuretic peptides or D-dimer
- Specific cardiac investigations including home and ambulatory blood pressure monitoring, electrocardiogram (12-lead ECG), exercise ECG, 24-hour and event-monitoring ECGs, echocardiography, venous dopplers and ankle brachial pressure index (ABPI) measurement

Teaching and learning resources

Work-based learning – in primary care

- Attend Specialist community clinics which are a good opportunity to learn about risk factor management and cardiovascular chronic disease management (including angina, heart failure, hypertension, post-MI, peripheral vascular disease and stroke)
- Discuss cases with trainer. Such critical and professional discussions will help in developing problem-solving skills. Supervised practice will also give trainees confidence

Work-based learning – in secondary care

- Learn about the management of cardiovascular emergencies including acute coronary syndrome, stroke and aortic aneurysms. This could be in a variety of secondary care placements including cardiology, emergency medicine or general medicine

Relevant Guidelines

Local Guidelines

- Guideline for the treatment of Atrial fibrillation in A&E (A&E Department, Mater Dei Hospital, Malta, 2012)
- Guideline for the management of syncope in A&E (A&E Department, Mater Dei Hospital, Malta, 2014)
- Management of Acute Myocardial Infarction (ESC; Department of Medicine, Mater Dei Hospital, Malta)
- DVT Management Guideline (Mater Dei Hospital, Clinical Practice Guidelines, 2007)

NICE Guidelines

- Acute and chronic heart failure
- Acute coronary syndrome
- Aortic aneurysms
- Atrial fibrillation
- Brief interventions and referral for smoking cessation in primary care and other settings
- Cardiac arrhythmias in coronary heart disease

- Diagnosis and initial management of acute stroke and transient ischaemic attack
- Diagnosis and management of acute pulmonary embolism
- Diagnosis and management of peripheral arterial disease
- Dyslipidaemias
- Guidance on the prevention, identification, assessment and management of obesity and overweight in adults and children
- Increasing physical activity
- Management of hypertension in adults in primary care
- Management of stable angina
- Management of valvular heart disease
- MI: secondary prevention
- Varicose veins in the legs

Summative Assessment

Applied Knowledge Test (AKT)

- Interpreting ECG tracings
- Adverse drug effects of anti-hypertensives
- Genetics of familial hypercholesterolaemia

Clinical Skills Assessment (CSA)

- Man concerned that he may have heart disease after experiencing chest pain while exercising at the gym
- Woman with well-controlled heart failure presents with increasing exertional dyspnoea over the past fortnight

- Father is concerned about the sudden death of young athletes and requests a routine ECG for his 12-year old son who has joined a running club

Workplace-based Assessment (WPBA)

- Consultation Observation Tool (COT) about advice for a man requesting a calcium score after a private medical examination, when you are unsure about the evidence of this

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Internet resources

- British Cardiovascular Society: www.bcs.com/
- British Heart Foundation: https://www.bhf.org.uk/
- British Hypertension Society: https://bihsoc.org/
- European Society of Cardiology: www.escardio.org
- Long Term Conditions resources from RCGP
    - https://www.rcgp.org.uk/policy/rcgp-policy-areas/long-term-conditions.aspx
- National Institute for Health and Care Excellence (NICE): www.nice.org.uk
- NHS Evidence Health Information Resources: https://www.evidence.nhs.uk/
- Personal experiences of illness and health: www.healthtalk.org
- Primary Care Cardiovascular Society: www.pccsuk.org/
- QRISK® assessment tool: www.qrisk.org
- The Stroke Association: https://www.stroke.org.uk/

Chapter 33.

Respiratory Health

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Update by: Dr Jacob Vella

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Respiratory complaints are among the most common reasons for encounter in primary care. Chronic conditions such asthma are alarmingly high – over 26, 500 patients are entitled for asthma medication in Malta and more than 300 individuals die due to asthma annually. The European Environmental Agency estimated 330 premature deaths due to air pollution alone in Malta in 2016 – it also shows that Malta has the fourth highest levels of particulate matters in the air among Member States.

Smoking prevalence is high in Malta with 1 in 5 people smoking daily according to the last local European Health Interview Survey. Smoking, air pollution, second-hand smoking and exposure to children can be preventable and make respiratory health a social issue in family medicine. Therefore, knowledge of tobacco legislation, patient advocacy and activism all play a role in holistic care.

Another important phenomenon is the re-emergence of tuberculosis locally. Also the impact of respiratory malignancy is on the increase as it is the neoplasm with the second most common cause of death in males while an upward trend of lung cancer in females as cause of death is observed.

The COVID-19 pandemic has inevitably put rigorous infection control routine for the prevention of droplet-transmissible respiratory viruses which group includes both novel SARS-2-CoV and the annual influenza virus. Donning, doffing and choosing appropriate personal protective equipment is now part of the experience of both trainees and specialists alike.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Ask and document the smoking status of all patients and manage according to the stage of change the patient is into
2. Perform a complete examination of the respiratory system including for extrapulmonary manifestations such as those in sarcoidosis and systemic lupus erythematosus
3. Demonstrate knowledge of the epidemiology of respiratory problems in the local community to assist diagnosis

4. Recognize particular groups of patients at higher risk of acquiring a respiratory infection such as infants and elderly, those with multiple comorbidities, environmental hazard exposure and immunocompromised individuals
5. Effectively utilise peak flow measurement, reversibility testing and spirometry in the diagnosis of obstructive and restrictive respiratory conditions
6. Effectively assess and recognise severity of respiratory illness as objective guide to either safely mange patient in primary care of else refer to secondary care
7. Recognise and intervene timely in respiratory emergencies such as status asthmaticus and inhaled foreign body
8. Include extrapulmonary diagnoses manifested with breathlessness such as cardiovascular, metabolic and psychiatric aetiologies
9. Assess the likelihood of occupational exposure as a cause of respiratory disease (e.g. asthma or COPD) and make appropriate recommendations
10. Recognize that lung cancer is a leading cause of death in both men and women
11. Recognise that suboptimal care and poor adherence to medication still contribute to unnecessary deaths from asthma even in the younger patients
12. Demonstrate how to give emergency inhaled treatment with both pressured meter dosed inhaler with spacer and nebulised treatment when indicated
13. Illustrate how to use an inhaler device, oxygen cylinder, oxygen mask, nebuliser machine and nebuliser mask
14. Manage pandemic infectious respiratory diseases appropriately using adequate protective equipment, triaging, videoconferencing, isolation rooms and preventive measures of infection control in clinical environments
15. Demonstrate knowledge of the indication of vaccines such as pneumococcal and influenza depending on the chronic respiratory and morbid status of the patient
16. Appreciate the role of air pollution as main cause of morbidity and mortality in Malta and access the European Environmental Agency Air Quality Index website to educate the patient on such hazard
17. Manage breathlessness, haemoptysis, cough and respiratory secretions in the palliative setting (e.g. heart failure, COPD, ALS, neoplasm) with the use of oxygen and other medications

18. The use of CRB-65 and adult/paediatric SIRS criteria in the case of suspected lower respiratory tract infection
19. The importance of screening for Obstructive Sleep Apnoea in patients with high BMI and suggested symptomatology and its recognition as a cardiovascular risk

Knowledge base

Symptoms

These include:

- general symptoms like fever
- alarm symptoms like dyspnoea, stridor and haemoptysis
- specific symptoms like cough, wheeze, and sputum production

Common and important conditions

- Upper and lower respiratory tract infections
- Acute respiratory problems: anaphylaxis, hypersensitivity pneumonitis, pulmonary embolus, pneumothorax, aspiration of a foreign body
- Chronic lower respiratory problems: chronic cough, asthma, COPD, cystic fibrosis, chronic interstitial lung diseases, allergies
- Lung neoplasm

Emergency care

- Acute management of shortness of breath
- Management of anaphylaxis
- Management of exacerbations of asthma and COPD
- Indications for emergency referral of people with asthma, COPD, anaphylaxis
- Paediatric emergencies such as foreign body asphyxiation, bronchiolitis, epiglottitis, acute laryngotracheobronchitis

Prevention

- Smoking cessation, advice and management
- Vaccination against influenza, SARS-COV, *Streptococcus pneumoniae*, *Haemophilus influenza B*
- Health education advice and patient self-management plans for people with chronic respiratory disease
- Referral to online resources such as https://ginasthma.org/, www.patient.info and www.asthmacontroltest.com
- Understand avoidance of triggers and use of prophylaxis for allergic conditions

Essential online resources

- GINA guidelines – ginaasthma.org
- GOLD guidelines – goldcopd.org
- British Thoracic Society guidelines - https://www.brit-thoracic.org.uk/
- European Enrivonmental Agency Air Quality Index https://www.eea.europa.eu/themes/air/air-quality-index/index
- SIGN (Scottish) Guidelines on the use of Personal Protective Equipment - https://hpspubsrepo.blob.core.windows.net/hps-website/nss/2930/documents/1_covid-19-guidance-for-primary-care.pdf
- UK Primary Care Respiratory Society - https://www.pcrs-uk.org/
- Royal College of General Practitioners Respiratory Resources -
- https://www.rcgp.org.uk/clinical-and-research/resources/a-to-z-clinical-resources/respiratory-care.aspx

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Chapter 34.

Gastrointestinal Health

Author: Dr Daniel Sammut

Update by: Dr Anne-Marie Scerri

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Be aware of the national colorectal screening programme
2. Be mindful of the fact that several digestive symptoms may present in the same individual, their presentation may sometimes be vague, and symptoms may relate to emotional/psychological factors
3. Be able to provide an environment where abdominal and rectal examination are easy to perform with dignity and with the availability of a chaperone
4. Be on the look out for symptoms and risk factors that may be associated with cancer of the GI tract and refer to secondary care services
5. Approach abdominal pain in a structured, logical manner
6. Recognise dietary factors associated with specific ailments affecting the GI tract
7. Be able to manage primary contact with patients presenting with complaints arising from problems of the GI tract
8. Be able to recognise the symptoms and signs of an 'acute abdomen', refer appropriately and urgently
9. Be cognizant of the epidemiology of digestive problems presenting to primary care services and their aetiologies
10. Be able to manage common symptoms presenting to primary care services: abdominal pain, anorexia, constipation, diarrhoea, dyspepsia, epigastric pain, heartburn, regurgitation, nausea, bloating, dysphagia, haematemesis, jaundice, melaena, nausea, rectal bleeding, vomiting, weight loss
11. Be able to investigate common GI symptoms in a systematic manner, whilst considering epidemiological factors relating to the presentation of GI symptoms in primary care
12. Be aware of the more serious GI conditions which may present to primary care including gastrointestinal cancers, hepatitis, oesophageal varices, peptic ulceration, post-operative complications

13. Be aware of new developments is management of GI disorders including newer pharmacological strategies in the management of conditions such as Hepatitis C
14. Be cognizant of the Family Doctor's role in testing for Helicobacter pylori
15. Be aware that a number of infections affecting the GI tract are notifiable to Public Health Authorities, including Campylobacteriosis, *E. coli* (Enterohaemorrhagic), food-borne illness, Hepatitis A, Hepatitis B, Hepatitis C, , Salmonellosis and Shigellosis
16. Be aware of the GI side effects arising from the administration of commonly prescribed drugs
17. Be aware of endoscopic services for upper and lower GI conditionsBe aware of local referral criteria according to the degree of urgency
18. Have knowledge about presentations and management of individuals affected by hepatitis viruses
19. Be aware of how psychological stress affects conditions of the GI tract, including its role in functional disorders such as: irritable bowel syndrome (IBS), non-ulcer dyspepsia, paediatric abdominal pain
20. Be aware of how cultural/social variations and health beliefs affect nutrition, diet, GI function
21. Be aware of services available to patients in the community, such as the role of specialist/dedicated nursing teams (including stoma care nurses)

Knowledge base

Symptoms

Nausea, vomiting, dyspepsia (epigastric pain, heartburn, regurgitation, nausea, bloating, flatulence), diarrhoea, constipation, anorexia, weight loss, abdominal pain, haematemesis, melaena, rectal bleeding, tenesmus, jaundice, dysphagia.

Common and important conditions

- Gastroenteritis (viral; bacterial; parasitic)
- Constipation
- Gastro-oesophageal Reflux Disease
- Gallstone disease and its complications
- Inflammatory bowel disease (Crohn's Disease and Ulcerative Colitis)
- Irritable bowel syndrome
- Coeliac disease
- Food intolerances (including lactose intolerance)
- GI cancers (oesophageal, gastric, hepatic, pancreatic, colonic)
- Diverticular disease
- The acute abdomen
- Alcoholic hepatitis, infective hepatitis; NASH (fatty liver)
- Hepatic failure
- Perianal disease including haemorrhoids, perianal haematoma, pilonidal sinus
- Fistulae
- GI cancers and syndromes/conditions conferring increased risk of cancerous disease of the GI tract

Investigations

- Serum: Liver function tests; amylase; antibody testing for lactose intolerance and autoantibody testing for coeliac disease
- *H. pylori* testing – serology, breath test, stool antigen testing
- Stool tests: microscopy; culture and sensitivity; immunochemical testing for faecal occult blood
- Knowledge of secondary care investigations

Prevention

- Be aware of the effect smoking on GI health and be in a position to educate patients appropriately
- Educate patients about healthy eating habits.
- Educate patients about food preparation and storage
- Provide appropriate information about Travel health
- Emphasise proper hand washing
- Encourage immunisation against rotavirus, hepatitis A and B viruses

Relevant Guidelines

National Institute for Clinical Excellence

- Gallstone Disease: Diagnosis and Management (Clinical Guideline 188, 2014)
- Coeliac Disease: Recognition, assessment and management (NICE Guideline 20, 2015)
- Colorectal Cancer (NICE Guideline 151, 2020)
- Constipation in Children and Young People (Clinical Guideline 99, Updated 2017)
- Diarrhoea and Vomiting Caused by Gastroenteritis in Under 5s: Diagnosis and Management (Clinical Guideline 84, 2009)
- Diverticular Disease: Diagnosis and Management (NICE Guideline 147, 2019)
- Faecal Incontinence in Adults: Management (Clinical Guideline 49, 2007)
- Gastro-Oesophageal Reflux Disease and Dyspepsia in Adults: Investigation and Management (Clinical Guideline 184, 2014)
- Gastro-Oesophageal Reflux Disease and Dyspepsia in Children and Young People: Investigation and Management (NICE Guideline 1, 2019)
- Irritable Bowel Syndrome in Adults: Diagnosis and Management (Clinical Guideline 61, Updated 2017)
- Crohn's Disease (NICE Guideline 129, 2019)
- Ulcerative Colitis (NICE Guideline 130, 2019)

- Oesophagi-gastric Cancer: Assessment and Management in Adults (NICE Guideline 83, 2018)
- Pancreatic Cancer in Adults: Diagnosis and Management (NICE Guideline 85, 2018)
- Pancreatitis (NICE Guideline 104, 2018)
- Acute Upper Gastrointestinal Bleeding in Under 16s: Management (Clinical Guideline 141, Updated 2016)

Other Guidelines

- World Health Organization Guidelines for the care and treatment of persons diagnosed with chronic hepatitis C virus infection (2018)

Teaching and learning resources

Work-based learning – in primary care

- Observing and practicing essential skills including: Public Health Notification of specified infectious diseases and cancer (legal requirement); being able to interpret laboratory investigation results; educating patients about their condition, its diagnosis and management, risk factors, lifestyle modification
- Using the Consultation Observation Tool for analysis of video-recorded consultations concerning the prevention, diagnosis and management of specific conditions affecting the GI tract

Work-based learning – in secondary care

- Shadowing practitioners in their roles during hospital ward rounds, outpatient clinics, multidisciplinary team meetings, endoscopy units, operating theatres, radiology suites and other facilities where investigations of GI diseases are carried out

Formative Assessment

- Directly observed procedures including digital rectal examination
- Case-based discussions on consultations concerning the prevention, diagnosis, management of conditions of the GI tract

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Internet Resources

- The Coeliac Association Malta https://coeliacassociationmalta.org/
- The National Coeliac Scheme https://deputyprimeminister.gov.mt/en/poyc/Pages/The-National-Coeliac-Scheme.aspx
- Alcohol and Drug Services in Malta
    - https://fsws.gov.mt/en/sedqa/Pages/Care-Services/Residential-Services.aspx
    - https://fsws.gov.mt/en/sedqa/Pages/Care-Services/Community-Services-.aspx
    - https://www.caritasmalta.org/services/
    - http://aamalta.org.mt/

Chapter 35.

Neurology

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The author and editor extend their thanks for their voluntary contribution

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Identify and define neurological conditions
2. Recognise that neuro-disability tends to be stigmatised
3. Support patients and their families through the processes of consultation, neurological evaluation, treatment, rehabilitation, long-term care
4. Identify the role of the secondary care neurological services whilst applying principles of shared care as necessary
5. Perform a full neurologic examination, including mental status examination, Glasgow coma scale, paediatric neurodevelopmental examination, visual fields assessment, visual acuity assessment, fundoscopy, examination of the cranial nerves and peripheral nervous system
6. Understand the indications, process, risks/benefits, interpretation of Cerebrospinal fluid investigations and lumbar puncture
7. Screen for depression in patients with chronic neurological conditions
8. Be able to assess capacity
9. Discuss prognosis, as well as any uncertainties, truthfully and sensitively
10. Understand the relevance, indication and effective use of special investigations including EEG, CT scan, MRI/MRA/MRV, cerebral angiography, nerve conduction studies, lumbar puncture
11. Manage primary contact with patients presenting with neurological problems, including dizziness, headache, tremor, numbness, tingling, weakness, abnormal movements, blackouts, loss of consciousness, coma
12. Address common conditions that are managed largely in primary care including epilepsy, headaches, vertigo, neuropathic pain, mononeuropathies, essential tremor, Parkinson's disease
13. Manage the acute presentation of meningitis, meningococcal septicaemia, collapse, loss of consciousness, coma
14. Offer counselling concerning the investigation of persons with a family history of genetic disease affecting the nervous system
15. Counsel patients with epilepsy regarding medication including the importance of compliance, drug interactions, adverse drug reactions/side-effects, contraception and pregnancy advice

16. Be able to determine fitness to drive in neurological conditions
17. Know which community resources are available to provide help and support to persons with neuro-disability and their families

Knowledge Base

Symptoms

- Altered mental status/drowsiness/Loss of consciousness/coma
- Auditory changes – tinnitus, hearing loss
- Dizziness
- Focal neurologic deficit
- Headache
- Memory loss
- Seizures
- Visual changes
- Abnormal movements/ chorea/ dyskinesia/ rigidity/ tremors

Common and Important Conditions

- Stroke, including haemorrhagic, thrombotic and embolic
- Intracranial Bleeds
- Headache, including tension headaches, cluster headaches, migraines temporal arteritis
- Dementias, including Alzheimer's, dementia associated with Parkinsonism, and vascular dementia, among others
- Delirium
- Nerve palsies
- Peripheral neuropathy

- Parkinson’s disease
- Motor neurone disorders
- Neuralgias, eg. Trigeminal neuralgia
- Multiple Sclerosis
- Tumours
- Epilepsy
- Infections, including meningitis
- Congenital conditions, such as cerebral palsy and spina bifida
- Genetic conditions, including Huntington’s disease

Emergency Care

- Stroke
- Meningitis, meningococcal septicaemia, encephalitis, brain abscess
- Status epilepticus
- CNS trauma - spinal cord injury, epidural/subdural hematoma
- Raised intracranial pressure
- Temporal arteritis
- Intracranial haemorrhage
- Acute visual loss
- Rapidly progressive neurological deficit
- Altered mental status, collapse, loss of consciousness, coma

Psychomotor Skills

- Neurological examination including fundoscopy
- Lumbar puncture may be learned if there is the opportunity
- Botox injection if there is the opportunity

Teaching and Learning Resources

Work-based learning – in Secondary Care

- Placements in Neurology, general medicine, geriatrics in inpatient and outpatient settings

Relevant Guidelines

- Stroke guidelines: Clinical Effectiveness and Evaluation Unit of the Royal College of Physicians (RCP), in collaboration with the Intercollegiate Stroke Working Party. www.rcplondon.ac.uk/resources/stroke-guidelines
- Epilepsy Guidelines: National Institute for Clinical Excellence clinical guidance. The epilepsies: the diagnosis and management of the epilepsies in adults and children in primary and secondary care. www.nice.org.uk/guidance/CG137
- Scottish Intercollegiate Guidelines Network. Diagnosis and management of epilepsy in adults. https://www.sign.ac.uk/sign-143-diagnosis-and-management-of-epilepsy-in-adults.html
- American Academy of Neurology Guidelines
    - Guidelines for the management of spontaneous intracerebral haemorrhage: a guideline for healthcare professionals from the American Heart Association/American Stroke Association May 2015
    - Guidelines for the Early Management of Patients with Acute Ischemic Stroke: A Guideline for Healthcare Professionals from the American Heart Association/American Stroke Association January 2013
    - Oral Antithrombotic Agents for the Prevention of Stroke in Nonvalvular Atrial Fibrillation August 2012

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Internet resources

- https://www.caritasmalta.org/epilepsy/
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- https://inspire.org.mt/malta-services
- https://www.epilepsysociety.org.uk
- https://www.mstrust.org.uk
- https://www.mndassociation.org
- https://www.parkinsons.org.uk

Chapter 36.

Diabetes, Endocrinology and Metabolism

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Local Scenario

Metabolic Syndrome

Metabolic abnormalities cluster together in the same individual and confer substantial increased cardiovascular risk over and above the sum of the risk associated with each abnormality.

The International Diabetes Federation defines the metabolic syndrome as central obesity plus two of the following:

- Increased triglycerides
- Reduced HDL
- Increased blood pressure
- Elevated fasting blood glucose

Obesity

Obesity is a risk factor for several medical conditions including diabetes, hyperlipidaemia, ischaemic heart disease, and various cancers including breast and prostate cancer.

The obesity rate in Malta is of major public health concern with Malta having the highest obesity rates in the EU for both adults and children. Rising obesity rates are partly due change in dietary patterns in which the with traditional Mediterranean diet is being replaced by the consumption of foods high in sugar, salt, saturated fats. In 2014, 25% of adults were reportedly obese (the EU average being 16%), showing an increase from 23% in 2008.

'Dar Kenn Għal Saħħtek', is a residential and semi-residential facility which provides holistic treatment for patients with eating disorders and obesity. The length of stay at this residential home varies, depending on individual needs.

Diabetes

It is forecast that by the year 2045, 45.2% of Maltese adults will have developed diabetes mellitus. In 2017, there were 42,300 adult cases of diabetes in Malta and, according to the International Diabetes Federation 170 of Maltese children and adolescents had type 1 diabetes in 2017.

The recent 'Saħħtek' study established that one in eight Maltese adults between the ages of 25 and 64 years suffer from diabetes mellitus. 10,000 of these are not aware of having the condition.

Patients with diabetes have around twice the risk of developing a range of cardiovascular diseases, compared with non-diabetics, (Sarwar et al., 2010). Local data shows that persons with Diabetes have a higher all-cause mortality rate after myocardial infarction, than non-diabetics (Gruppetta, Calleja, & Fava, 2010).

Several local public health strategies are concerned with reducing the prevalence of risk factors for diabetes. The National Strategy for Prevention and Control of Non-communicable Diseases also focuses on secondary prevention to reduce weight and promote lifestyle modification, education and self-management in persons with diabetes. It highlights the role of primary care practitioners in primary and secondary prevention (Health Promotion and Disease Prevention Directorate, 2010).

Annual retinopathy screening is performed by means of fundus cameras in health centres and at Mater Dei Hospital. While a nurse-led Chronic Kidney Disease Prevention Clinic has been set up under the auspices of the Renal Department at Mater Dei Hospital, to provide services at local primary care health centres.

Patients with diabetes are offered appointments in their local health centres for podiatric foot assessment with risk stratification and follow up intervals based on that risk assessment.

Children with new-onset type 1 diabetes mellitus and their families require intensive diabetes education in a multidisciplinary team context which includes their family doctor, to provide them with necessary skills and knowledge to manage this condition.

Hyperuricaemia and thyroid abnormalities

Hyperuricaemia is also commonly encountered in general practice in the context of painful urolithiasis and gout. Patient education is a core therapeutic measure in the management of gout. Weight must be optimised, diet modified, alcohol intake reduced, cardiovascular risk addressed, diuretic therapy modified.

Thyroid disorders and hyperuricaemia are important conditions that impact on quality of life. They are relatively common in the local community and can be easily be missed. Hence, it is essential that the family physician is competent in dealing with these conditions, related problems, as well as the management of diabetic, thyroid and adrenal emergencies.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Have an understanding of the presentation of common endocrine and metabolic disorders including diabetes mellitus, thyroid disorders and reproductive disorders
2. Be aware of other less common disorders including Addison's disease, Cushing's Syndrome and other adrenal disorders
3. Recognise that patients with metabolic conditions are often asymptomatic or have non-specific symptoms
4. Understand and be able to implement key guidelines that influence healthcare provision for cardiovascular problems associated with metabolic problems such as diabetes, hypertension
5. Appreciate the consequences of obesity including malnutrition, increased morbidity, decreased life expectancy, and be aware of the social, psychological environmental factors associated with obesity
6. Understand how good diabetes management is key to the prevention and delay of related morbidity and mortality. It's good to note that hyperglycaemia significantly increases the risk for fatal cardiovascular events, through insulin resistance

7. Be aware that non-concordance is common in patients with chronic metabolic conditions such as diabetes mellitus
8. Understand the need for the early recognition and monitoring of complications patients with diabetes mellitus, such as carrying out fundoscopy, feeling for peripheral pulses and checking for peripheral neuropathy
9. Intervene urgently when patients present with metabolic emergencies including hypoglycaemic and hyperglycaemic states
10. Understand the role of particular drug therapies in the management of diabetes, including anti-platelet drugs, ACE inhibitors, angiotension-2 receptor blockers, lipid-lowering therapies, GLP-1 agonists
11. Understand the appropriate use and limitations of tests commonly used at primary care level to investigate and monitor metabolic or endocrine conditions, such as fasting blood glucose, HbA1c, urinalysis for glucose and protein, urine albumin: creatinine ratio, point of care capillary glucose testing, lipid profile, thyroid function tests, uric acid levels
12. The family doctor must be able to advise patients appropriately on lifestyle interventions for obesity, diabetes mellitus, hyperlipidaemia, hyperuricaemia
13. Recognise the psychosocial impact of diabetes mellitus and other long-term metabolic problems, including the risk of depression, sexual dysfunction, restrictions on employment and driving in the case of diabetic patients
14. Empower patients in the self-management of their condition

Knowledge base

Symptoms

Patients with metabolic problems are frequently asymptomatic or have nonspecific symptoms, such as tiredness, malaise, weight loss/gain.

Clinical suspicion of metabolic problems when following symptoms present:

- Diabetes mellitus – tiredness, polydipsia, polyuria, weight loss, infections
- Hypothyroidism – tiredness, weight gain, constipation, hoarse voice, dry skin and hair, menorrhagia, cold intolerance

- Hyperthyroidism – weight loss, tremor, palpitations, hyperactivity, exophthalmos, double vision, heat intolerance
- Hyperlipidaemia – xanthelasma, corneal arcus, tendon xanthomata
- Hyperuricaemia – gout, urolithiasis
- Typical symptom complexes associated with specific individual endocrine conditions

Common and important conditions

- Diabetes mellitus – types 1 and 2
- Obesity
- Hyperuricaemia
- Hyperlipidaemia
- Thyroid disorders
- Other endocrine problems, including pituitary disease, adrenal disease, and parathyroid disease

Investigations

- Body mass index calculation
- Waist measurement
- Diagnostic criteria for diabetes mellitus, including in special categories such as pregnant women, children, and the elderly
- Near patient capillary glucose measurement (including patient self-monitoring)
- Interpretation of HbA1c, albumin: creatinine ratio, thyroid function tests and more

Treatment

This centres around chronic disease management that includes specific disease management, shared care, liaising to deliver structured care in a multidisciplinary teamwork for people with established metabolic problems, fast-tracking in more urgent cases

Emergencies

- Acute management of diabetic emergencies
    - Hypoglycaemia
    - Hyperglycaemia
    - Diabetic Ketoacidosis
    - Hyperglycaemic hyperosmolar nonketotic states
- Acute management of thyroid emergencies
    - Autoimmune thyroiditis
- Recognition and primary care management of Addisonian crisis

Prevention

- Health promotion includes actions on dietary modification and increasing physical activity
- Determine in which scenarios, the prevention of hyperuricaemia is appropriate, including patients on treatment for myeloproliferative disorders
- Opportunistic intervention during consultations for unrelated complaints, to educate and apply prevention strategies to risk factors

Psychomotor skills

- Calculating the body mass index

- Measurement of abdominal circumference
- Demonstrate lower-limb examination for complications of diabetes mellitus including pulses, doppler ankle-brachial pressure index and neuropathy screening
- Demonstrate capillary glucose measurement by means of a point of care test
- Demonstrate clinical examination of the neck and focused physical examination as relevant to the identification of thyroid and other endocrine disorders
- Demonstrate ophthalmoscopic assessment for diabetic and hypertensive retinopathy

Teaching and learning resources

Work-based learning – in primary care

- Interpreting laboratory results
- Prescribing for diabetic patients
  - Understanding of how to initiate insulin regimes and titrate the dose of insulin as well as other hypoglycaemic agents
  - Individualised therapeutic regimes
- Determining acceptability of a care plan to the patient concerned
- Analysis of food diaries, education about diet, discussion of common diet regimen problems
- Health education and disease/ complication prevention strategies
- Screening for metabolic disorders
- Applying 'motivational interviewing' techniques to help people address and change health behaviours
- Attending Diabetes Clinics at Health Centres and learning from the members of the Primary Care Multidisciplinary Team

Work-based learning – in secondary care

- Observation of educational interventions including those involving insulin administration to enable the GP trainee to clearly educate a diabetic patient on correct procedure for self-administration of insulin, recognizing different types of insulins, administration devices and knowledge of how to use a blood glucose meter
- Observing the multidisciplinary approach and teamwork involved in the care of diabetic patients at the diabetes clinic and in the various medical and surgical departments
- Tutorials on clinical presentation, differential diagnosis, investigation, management of various metabolic diseases especially type 1 & 2 diabetes, thyroid problems, hyperuricaemia with particular reference to cases based on in/outpatient encounters
- Observing management of patients with eating disorders in a multidisciplinary context at 'Dar Kenn Għal Saħħtek'

Other learning opportunities

- Online learning including: e-learning for healthcare https://www.e-lfh.org.uk/programmes/

Formative Assessment

- Analysis of video consultations with patients presenting with endocrine and metabolic problems
- Directly Observed Procedures
  - Measuring BMI
  - Educating patients on how to self-administer insulin therapy
  - Educating patients on preventive strategies to minimize complications of diabetes

- Case-based discussions on consultations with patients presenting with endocrine and metabolic problems, their complications or related concerns
- Patient satisfaction questionnaire
- Multisource feedback

Relevant Guidelines

Lipid Management Guidelines

- Scottish Intercollegiate Guidelines Network. SIGN 149: Risk Estimation and the Prevention of Cardiovascular Disease
- National Institute for Clinical Excellence Guidelines on Lipid Modification
    - NICE Clinical Guideline 181: Cardiovascular disease: risk assessment and reduction, including lipid modification
    - NICE Clinical Guideline 172: Myocardial infarction: cardiac rehabilitation and prevention of further cardiovascular disease
    - NICE Clinical Guideline 71: Familial hypercholesterolaemia: identification and management

Guidance on the Management of Diabetes Mellitus

- NICE Clinical Guideline 17: Type 1 diabetes in adults: diagnosis and management
- NICE Clinical Guideline 19: Diabetic foot problems: prevention and management
- NICE Public Health Guideline 38: Type 2 diabetes: prevention in people at high risk
- NICE Clinical Guideline 3: Diabetes in pregnancy: management from preconception to the postnatal period
- NICE Clinical Guideline 28: Type 2 diabetes in adults: management
- NICE Clinical Guideline 28: Diabetes (type 1 and type 2) in children and young people: diagnosis and management

- NICE Public Health Guideline 35: Type 2 diabetes prevention: population and community-level interventions

Thyroid Disease Guidelines

- National Institute for Clinical Excellence. NICE Clinical Guideline 145: Thyroid disease: assessment and management

Guidelines Concerning Other Endocrine and Metabolic Disorders

- NICE Clinical Guideline 49: Non-alcoholic fatty liver disease (NAFLD): assessment and management
- NICE Clinical Guideline 100: Alcohol-use disorders: diagnosis and management of physical complications
- NICE Guideline 132: Hyperparathyroidism (primary): diagnosis, assessment and initial management
- NICE Clinical Guideline 146: Osteoporosis: assessing the risk of fragility fracture

Guidelines on the Management of Gout

- The British Society for Rheumatology Guideline for the Management of Gout - *Rheumatology*, Volume 56, Issue 7, July 2017, Pages e1–e20
- 2012 American College of Rheumatology Guidelines for Management of Gout. Part 1: Systematic Nonpharmacologic and Pharmacologic Therapeutic Approaches to Hyperuricemia - *Arthritis Care & Research* Vol. 64, No. 10, October 2012, pp 1431–1446

Guidelines on Obesity

- NICE Clinical Guideline 189: Obesity: identification, assessment and management
- NICE Clinical Guideline 69: Eating disorders: recognition and treatment

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Internet Resources

- Diabetes UK. https://www.diabetes.org.uk/
- Association for the Study of Obesity (ASO) www.aso.org.uk
- Diabetes in Scotland www.diabetesinscotland.org.uk/
- The Malta Diabetes Association. https://www.diabetesmalta.org/about
- The UK Driver and Vehicle Licensing Agency (DVLA). https://www.gov.uk/diabetes-driving
- International Diabetes Federation. www.idf.org
- Malnutrition Task Force. www.malnutritiontaskforce.org.uk

- National Service Framework for Diabetes: Standards https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/198836/National_Service_Framework_for_Diabetes.pdf
- National Obesity Forum. www.nationalobesityforum.org.uk
- Primary Care Diabetes Society. www.pcdsociety.org
- World Obesity Federation. www.worldobesity.org/scope

Chapter 37.

Rheumatology

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Rheumatological conditions are relatively common in primary and secondary healthcare. These conditions can have a variety of symptoms and can mimic other disorders. This means the family doctor needs to be vigilant for presentations of a new rheumatological condition in their patients. When there is little response to standard management or an unusually prolonged course of disease, the family doctor must include a connective tissue disorder as part of their differential diagnosis.

Different rheumatological conditions have typical epidemiological features which might help the family doctor make a quicker diagnosis. For example, systemic lupus erythematosus (SLE) is more common in thirty-year-old women, while ankylosing spondylitis is essentially found in young men.

Other conditions follow specific patterns and are associated with other disease. A typical example is psoriatic arthritis that very often develops in patients who are known to have psoriasis. In a few cases, the arthritis appears before the psoriasis itself, but it is not a common presentation.

Maltese healthcare priorities

The family doctor is often involved in the initial stages of presentation of a rheumatological condition. This means that the family doctor needs good access to blood and radiological investigations. It's always best to refer patients with suspected connective tissue disorders but at least, most relevant workups are ready at the point when the patient is referred.

After diagnosis, the role of the family doctor is still very important and ranges from managing flare-ups, reviewing patients in between specialist visits, and advocating for the patient with different professionals as necessary.

Paracetamol and NSAIDs are the mainstay of treatment for controlling pain in rheumatological conditions. However, steroids may also need to be used. The family doctor needs to be familiar on dosing regimens of steroids.

Several immunological agents are used in these patients. It is not the remit of the family doctor to start these medicines, however there needs to be knowledge of side effects, contraindications and dosing. Where necessary, the family doctor needs to consult

with the specialist for seamless management between community and secondary care.

Some patients require infiltrations which can also be done by the family doctor, unless they require more specialized equipment such as those done under ultrasound guidance.

The family doctor must be able to coordinate between different professionals to obtain the best possible care for the patient. These include rheumatologists, rheumatology nurses, surgeons, physiotherapist and occupational therapists. Occasionally, there is severe impact on the patient's quality of life that makes finding work difficult. Therefore, there might also be a need for the involvement of social workers and psychologists.

Fibromyalgia clinics are held regularly at health centres. These are wholly family doctor-led appointment clinics with support from a consultant only a phone call away. Patients have looked very favourably at these clinics and appreciate the continuity of care being offered here.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Stay alert for possible new presentations of rheumatological and connective tissue conditions. Include these conditions in differential diagnosis
2. Be knowledgeable about disease progression, assess risk and look for red flags. The trainee will then need to act according to the urgency of the case
3. Be familiar with the epidemiology of different rheumatological conditions and assess likelihood according to the patient's demographics
4. Perform investigations in a targeted manner according to a working diagnosis. This includes blood investigations, X-rays and ultrasounds
5. Manage pain effectively and safely. Use painkillers and anti-inflammatories responsibly
6. Use steroids as necessary but safely. The trainee also needs to be knowledgeable about side effects from steroids and find ways to decrease the risk of developing adverse effects

7. Have good knowledge of disease-modifying anti-rheumatic drugs (DMARDs). However, these agents should usually be started by a specialist. The trainee should discuss with the rheumatologist if there is a need to change doses or regimens
8. Discuss lifestyle modifications and the role of exercise as management
9. Refer to a specialist in a timely manner. All referrals must be done in a comprehensive manner. Some investigations might have been booked already and some treatment started. This will aid the person seeing the patient after referral to make a quicker diagnosis
10. Involve other professionals, including but not limited, physiotherapists, occupational therapists and psychologists, according to need
11. Understand the impact that a rheumatological condition has on the patient's quality of life. The patient should be managed in a holistic manner by following the bio-psycho-social model
12. Be aware of the services offered at outpatients' clinics in Mater Dei Hospital and those offered in the community, including the Fibromyalgia Clinic
13. Be knowledgeable about the different techniques used for infiltrations and carry out such procedures confidently
14. Counsel the patient about the condition's genetic component and the probability of passing it on to offspring
15. Have knowledge about a particular condition's disease progression and discuss it in a suitable manner with the patient

Knowledge base

Symptoms

- Inflammation – pain, swelling, erythema, warmth
- Lack of function – weakness, restricted movement, deformity and disability
- Systemic manifestations – rashes, tiredness, weight loss, altered sleep patterns, lack of appetite

Common and important conditions

- Bone disease - osteomalacia, osteoporosis, osteomyelitis, Paget's disease, tumours (primary and secondary), rare diseases e.g. osteogenesis imperfecta
- Osteoarthritis
- Gout and pseudogout
- Inflammatory arthropathies - rheumatoid arthritis, ankylosing spondylitis, psoriatic arthropathy, reactive arthritis
- Connective-tissue disease - systemic lupus erythematosus, systemic sclerosis, dermatomyositis/polymyositis, antiphospholipid syndrome, Behçet's syndrome, Familial Mediterranean Fever
- Vasculitides - polymyalgia rheumatica and giant cell arteritis, Raynaud's syndrome, polyarteritis nodosa
- Fibromyalgia
- Chronic fatigue syndrome
- Chronic disability

Investigation

- Indications and interpretations of blood investigations
- Knowledge of antibodies in rheumatological conditions
- Implications of significantly abnormal blood results, for example, a high ESR in a patient with temporal arteritis symptoms needs urgent review by a rheumatologist
- Indications for plain radiography, ultrasound, CT and MRI scan
- General rules of X-ray interpretation

Treatment

- Understand the principles of treatment for common conditions managed largely in primary care including the use and monitoring of NSAIDs and disease-modifying drugs
- Knowledge of when joint injections and aspirations are appropriate in general practice e.g. shoulder and knee joints and injections for tennis and golfer's elbow
- Chronic disease management including systems of care, multidisciplinary teamwork and shared-care arrangements

Emergency care

- Analgesia
- Management of acute presentation of rheumatological conditions, like vasculitis
- Management of life-threatening effects such as shortness of breath in patients with scleroderma

Prevention

- Maintaining good levels of exercise and sleep hygiene
- Counselling about genetic component of condition for couples trying to conceive

Psychomotor Skills

- Bandaging and splinting
- Joint aspiration
- Joint injection

Relevant Guidelines

NICE Guidelines

- Rheumatoid arthritis in adults: management (2018)
- Rheumatoid arthritis in over 16s (2020)
- Chronic fatigue syndrome/ myalgic encephalomyelitis (or encephalopathy): diagnosis and management (2007)
- Spondyloarthritis in over 16s: diagnosis and management (2017)
- Osteoarthritis: care and management (2014)
- Spondyloarthritis (2018)
- Bisphosphonates for treating osteoporosis (2019)
- Osteoporosis: assessing the risk of fragility fracture (2017)
- Osteoporosis (2017)

EULAR

- EULAR recommendations for the management of psoriatic arthritis with pharmacological therapies: 2019 update
- 2019 update of EULAR recommendations for Vaccination in Adult Patients with Autoimmune Inflammatory Rheumatics
- 2018 Update of the EULAR recommendations for the management of large vessel vasculitis
- 2018 updated European League Against Rheumatism evidence-based recommendations for the diagnosis of gout
- EULAR recommendations for the management of antiphospholipid syndrome in adults (2019)
- 2019 update of the EULAR recommendations for the management of systemic lupus erythematosus
- EULAR recommendations for women's health and the management of family planning, assisted reproduction, pregnancy and menopause in patients with systemic lupus erythematosus and antiphospholipid syndrome (2017)
- EULAR revised recommendations for the management of fibromyalgia (2016)

- EULAR recommendations for the management of familial Mediterranean fever (2017)
- 2015 Recommendations for the management of polymyalgia rheumatica
- EULAR evidence-based and consensus-based recommendations on the management of medium to high-dose glucocorticoid therapy in rheumatic diseases (2013)

Teaching and learning resources

Work-based learning – in primary care

- Tutorials on principles of rheumatological disease epidemiology; clinical presentation; differential diagnosis; investigation; and management

Work-based learning – in secondary care

- Observation and practice of skills such as taking a good history, examination of the musculoskeletal system; formulating a differential diagnosis; ordering and interpreting plain X-rays and blood tests; negotiating a management plan with the patient; prescribing for rheumatological disease; joint aspiration and injection technique; observing hospital care and aftercare; management of complex cases in secondary care

Formative Assessment

- Analysis of video-recorded consultations for a rheumatological condition
- Mini-clinical examination e.g. examination of the back, the hand, the knee
- Directly observed procedures e.g. joint injection

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Chapter 38.

Orthopaedics and Sports Medicine

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Maltese healthcare priorities

There is a huge burden of chronic musculoskeletal disease in the community, and this is bound to increase further in our ageing population. Osteoarthritis of the knee and hip causes a great impairment of quality of life by causing pain and hindering mobility. The family doctor must have the necessary knowledge and skills to diagnose and manage these conditions using evidence-based interventions, referring to other health professionals and secondary care when necessary.

Joint replacement (complete or partial) is able to donate new life to years in patients with chronic degenerative joint disease. This invasive procedure can offer patients great relief in pain and an improved quality of life. To extend the benefits as much as possible, other factors need to be managed such as controlling body weight and an appropriate level of exercise. Family doctors have an important role to play in education, while tailoring advice to the needs of the individual patient through an agreed management plan.

Athletes and those who perform sports regularly are more at risk of developing certain musculoskeletal conditions, including but not limited to dislocations, ligament tears, sprains and strains, and cartilage problems. It's crucial to control the condition while keeping in mind the patient's active lifestyle. Some may resist resting and staying off strenuous exercise for a while, yet others would be reluctant to return to regular exercise at all. It's the family doctor's job to help the patient strike the correct balance between care and exercise. Referral to Sports Medicine Specialists must be carried out as necessary. Sports Medicine clinics are now also being held regularly at health centres.

When prescribing for athletes, the family doctor must keep in mind that some medicines may cause their patient to fail doping tests. Discussing management with the patient will be very important here. There will also be the need for more emphasis on lifestyle interventions, such as rest, heat packs, elevation and more, in this group of patients.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Appreciate the importance of the social and psychological impact of musculoskeletal problems on the patient, the family, friends, dependents and employers
2. Be able to perform a complete examination of the musculoskeletal system when necessary
3. Explain the aetiology and natural history of common and important musculoskeletal conditions
4. Assess the mechanism of injury when considering diagnosis
5. Intervene urgently when patients present with an emergency, such as fractures and dislocations
6. Describe the ‘red flag’ symptoms and signs that point to malignancy
7. Demonstrate an evidence-based approach towards investigation and management of musculoskeletal problems
8. Explain the role of radiological and blood investigations in the diagnosis of musculoskeletal disease. Interpret results properly in the clinical context
9. Negotiate a realistic and comprehensive management plan in partnership with patients who suffer from musculoskeletal disease, particularly of chronic nature. Empower patients to self-manage their conditions as far as practicable and help them function at the highest level possible
10. Consider biomechanical factors that may be impairing healing and address them
11. Assess the likelihood of an occupational cause for musculoskeletal problems (e.g. back pain; repetitive strain injury) and make appropriate recommendations
12. Show wide knowledge on the pharmacological treatment options for musculoskeletal disease. List the indications, usual dosage regimens and common adverse effects of each drug class
13. Explain and illustrate how to aspirate and inject a joint
14. Harness the help of the patient’s social support network and voluntary organizations in the management of chronic musculoskeletal disease

15. Assess the possibility that musculoskeletal symptoms can be due to psychological causes (somatisation)

Knowledge base

Symptoms

- Inflammation – pain, swelling, erythema, warmth
- Lack of function – weakness, restricted movement, deformity and disability
- Injuries – cuts, bruises, wounds

Common and important conditions

- Acute back and neck pain
- Chronic back and neck pain – mechanical, nerve root, other
- Shoulder – rotator cuff problems, bursitis, arthritis, adhesive capsulitis
- Elbow – epicondylitis, tendonitis, ulnar nerve entrapment
- Wrist – sprain, tenosynovitis, arthritis, ganglion, carpal tunnel syndrome
- Hand – tenosynovitis, contractures, trigger finger, mallet finger,
- Hip – congenital dislocation, bursitis, arthritis and degenerative arthrosis, fascia lata syndrome, groin pain in athletes, avascular necrosis, sacroiliitis, enthesitis, slipped upper femoral epiphysis
- Knee – arthritis, patellofemoral disorders, patellar subluxation/dislocation, tendonitis, ligament strain/tear, meniscal tears, loose bodies, Baker's cyst, Osgood-Schlatter's disease,
- Ankle – sprains/strains, tendonitis, bursitis, arthritis
- Foot – tendonitis, plantar fasciitis, pes planus, pes cavus, metatarsalgia, hammer toe, hallux valgus, Morton's neuroma
- Somatisation

- Over-training syndrome
- Idiopathic costochondritis
- Chronic disability

Investigation

- Indications for plain radiography, ultrasound, CT and MRI scan including the use of tools such as the 'Ottawa Rules'
- General rules of X-ray interpretation. Implications of 'misses' on X-rays, common errors
- Indications for additional investigations, for example blood tests

Emergency care

- The initial management of sprains, acute joint swelling, dislocations and fractures
- Analgesia

Psychomotor Skills

- Bandaging and splinting
- Joint aspiration
- Joint injection

Relevant Guidelines

NICE Guidelines

- Fractures (non-complex): assessment and management (2016)
- Fractures (complex): assessment and management (2017)
- Osteoarthritis: care and management (2014)
- The successful implementation of a therapeutic class for treatment of Osteoarthritis (2020)
- Osteoporosis: assessing the risk of fragility fracture (2017)
- Bisphosphonates for treating osteoporosis (2019)
- Joint replacement (primary): hip, knee and shoulder (2020)
- Total hip replacement and resurfacing arthroplasty for end-stage arthritis of the hip (2014)
- Low back pain and sciatica in over 16s: assessment and management (2016)
- Spinal injury: assessment and initial management (2016)

Teaching and learning resources

Work-based learning – in primary care

- Attend the Sports Medicine Clinic at health centres
- Shadow the consultant at the orthopaedics clinic at the health centres
- Random case-analysis of consultations for a musculoskeletal condition
- Analysis of video-recorded consultations for a musculoskeletal condition

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Chapter 39.

Renal Medicine and Urology

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Peer reviewer

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The author and editor extend their thanks for their voluntary contribution

The Local Scenario

Renal and urological conditions are often encountered in family medicine consultations. Common presentations include hypertension, proteinuria, renal calculi, chronic kidney disease. Early recognition and intervention are key to delaying the progression of chronic kidney disease (CKD), minimizing complications, identifying candidates for renal transplantation or dialysis. Early referral of CKD patients to hospital nephrology departments leads to improved management and reduced morbidity, decreasing the need for renal replacement therapy which takes over the role of the kidneys in the regulation of water and electrolyte balance, removal of metabolic waste, as well as removal of drugs/other bioactive agents. Primary care providers are often the first CKD in patients.

Other indications for referral include haematuria and uncontrolled complications of CKD (hypertension requiring four or more drugs, anaemia, electrolyte abnormalities). family doctors should consider referral if their CKD patients come from demographic groups associated with more rapid disease progression such as young adults and racial/ethnic minority groups.

Chronic kidney disease (CKD), a kidney abnormality which persists for over 3 months, is a common public health concern bearing significant morbidity and mortality. Associated outcomes include progression to end-stage renal failure, cardiovascular disease, early death.

Diabetic nephropathy and hypertension are the commonest and controllable causes of CKD in developed countries, with microalbuminuria being the earliest indicator of diabetic kidney disease.

Ureterolithiasis and nephrolithiasis are especially common during the hot Maltese Summer since patients may have inadequate fluid intake. Hence, they present with painful renal colic necessitating effective (parenteral) analgesia and increased fluid intake. It is important to consider whether the calculus may pass spontaneously or there is a risk of obstructive uropathy. Today, unenhanced spiral computed tomography is the key investigation employed due to its safety, rapidity, high sensitivity and specificity.

Urinary tract infections (UTIs) are major driving forces in antibiotic prescribing by family doctors. Inappropriate antibiotic prescribing for UTIs is an important cause of antibiotic

resistance which leads to longer median duration of symptoms, higher frequency of subsequent antibiotic prescribing and higher re-consultation rates for treatment failure.

Cancer of the kidney and ureter was seventh most diagnosed cancer in Maltese males in 2012 with an age standardised incidence of 15.0/100,000. Between September 2000 and March 2012, 319 nephrectomies were carried out at the Urology Unit, of these 288 were carried out for malignancy, 218 of which were clear cell renal cell carcinoma (RCC). According to data from the Maltese National Cancer Registry, during the year 2016, 48 men and 13 women were newly diagnosed with cancer of the urinary bladder, while there were 16 male deaths and 8 female deaths in patients with cancer of the urinary bladder.

The Renal Unit at Mater Dei Hospital provides dialysis services for patients suffering from end-stage kidney failure including Haemodialysis, Peritoneal Dialysis and Transplant co-ordination services. Staff at the Renal Unit seek to provide care, support, encouragement to patients their significant others, education, support to kidney donors their families, psychological and nutritionist services for patients with end stage renal disease.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Demonstrate knowledge of the relative prevalence of renal and urological problems in the local community to guide diagnosis
2. Be able to check for red flags in urology and renal medicine
3. Be able to perform a complete examination of the urinary system
4. Interpret dipstick urinalysis
5. Explain the procedure of collecting a 'clean-catch' mid-stream urine specimen and explain why rapid delivery to the laboratory/refrigeration is important

6. Explain the indications for urine bacterial culture, interpret and explain investigation results, as well as the advantages, limitations and pitfalls of testing
7. Understand that UTIs are very common in women, and uncomplicated cystitis in the non-pregnant women can be treated on the basis of urine dipstick analysis only
8. Understand the importance of detecting asymptomatic bacteriuria in pregnant women and treating this at the earliest opportunity
9. Understand that asymptomatic bacteriuria in elderly patients, diabetic women or catheterized patients does not necessitate treatment
10. Understand that certain conditions such as UTIs in children may have an atypical presentation
11. Sensitively evaluate and manage patients with lower urinary tract symptoms and sexually transmitted infections
12. Recognise and offer timely management in cases of suspected urological and testicular malignancy
13. Describe the impact of exposure to workplace hazards on renal/urological health, including chemical exposure, and their association with renal/urological conditions such as urinary bladder cancer
14. Be knowledgeable about benign and malignant prostatic disease affects men and the advantages and disadvantages of PSA screening
15. Understand the role of the prostate-specific antigen test in the diagnosis and management of prostate cancer
16. Be knowledgeable about the causes of haematuria and that this may be the only presenting symptom of urological malignancy
17. Intervene urgently in male testicular and penile emergencies: testicular torsion, paraphimosis, trauma, priapism
18. Intervene urgently when patients present with renal/ urological emergencies including renal colic, urinary retention and acute renal failure

19. Know which pharmacological therapies are available for the management of renal and urological conditions and apply a consistent, evidence-based approach to therapeutic drug prescribing
20. Manage nephrological and urological conditions presenting in the primary care context
21. Understand that by multisystem disorders including atherosclerosis, vasculitis, connective tissue disorders, multiple myeloma and amyloidosis may cause renal damage
22. Practice preventative medicine as appropriate. Understand the significance of microalbuminuria and methods of monitoring it. Understand that diabetes mellitus and hypertension are the most common and controllable causes of CKD
23. Know which commonly used drugs may be nephrotoxic and which drugs require dose adjustment in patients with CKD
24. Explain the indications for urethral catheterization and perform adult urethral catheterization under aseptic technique
25. Understand the role of services provided by the Mater Dei Hospital Renal Unit and the Chronic Kidney Disease Prevention Clinics operating in Health Centres

Knowledge base

Symptoms

Dysuria, urinary frequency, incontinence, urinary retention, haematuria, fever, loin pain, renal colic, pruritus, nausea, vomiting, oedema, anaemia, oliguria, uraemia, abdominal masses.

Common and Important conditions

- UTI: cystitis, pyelonephritis
- Urolithiasis

- Acute and chronic renal failure: pre-renal, renal, post-renal
- Nephrotic syndrome, nephritic syndrome and the glomerulonephritides
- Diabetic nephropathy
- Chronic kidney disease
- Hypertensive nephropathy
- Polycystic kidney disease
- Congenital malformations: double ureter, urethral valves, horseshoe kidney
- Vesico-ureteric reflux
- Urinary incontinence: stress incontinence, urge incontinence, overflow incontinence
- Renal and urological cancer

Investigations

- Dipstick urinalysis
- Urine microscopy, culture and antibiotic sensitivity testing
- Serum creatinine, creatinine clearance, eGFR, urea, blood cell count

Treatment

- Appreciate that many drugs can be nephrotoxic

Emergency care

- Acute management renal colic, urinary retention
- Understand the circumstances necessitating emergency referral of patients with nephrotic syndrome, nephritic syndrome, pyelonephritis, perinephric abscess, acute renal failure

Relevant Guidelines

NICE Guidelines

- Urinary Incontinence and Pelvic Organ Prolapse in Women: Management (2019)
- Referral Guidelines for Suspected Cancer (2005)
- Urinary Tract Infection in Under 16s: Diagnosis and Management (2018)
- Urinary Tract Infection (lower): Antimicrobial Prescribing (2018)
- Chronic Kidney Disease in Adults: Assessment and Management (2015)
- Acute Kidney Injury: Prevention, Detection and Management (2019)
- Chronic Kidney Disease (Stage 4 or 5): Management of Hyperphosphataemia (2013)
- Chronic Kidney Disease: Managing Anaemia (2015)
- Renal Replacement Therapy and Conservative Management (2018)
- Renal and Ureteric Stones: Assessment and Management (2019)

European Association of Urology

- Management of Non-neurogenic Male LUTS
- Male Sexual Dysfunction
- Male Hypogonadism
- Male Infertility
- Paediatric Urology
- Renal Transplantation

Teaching and learning resources

Work-based learning – in primary care

- Case-based discussions on renal/urological conditions

- Using the Consultation Observation Tool for analysis of video-recorded consultations for a renal or urological condition
- Using the Educational Portfolio to record learning points and reflections

Work-based learning – in secondary care

- Observing and practicing essential skills including:
    - eliciting a thorough yet focused history
    - carrying out a relevant, focused clinical examination
    - performing and interpreting simple tests such as
        - finger-prick glucose
        - dipstick urinalysis
    - prescribing appropriately in patients with renal/urological disease with consideration of patient factors (such as renal function) and drug factors (such as drug-drug interactions, drug pharmacokinetics and pharmacodynamics)
    - observing the management of complex cases
    - liaising with other members of the multidisciplinary team
- Shadowing clinical practitioners at the Renal Unit

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- Continence Foundation UK http://www.continence-foundation.org.uk/
- Continence Foundation Australia https://www.continence.org.au/
- The National Kidney Foundation (US) https://www.kidney.org/professionals/physicians/pcp
- https://www.uptodate.com/contents/table-of-contents/primary-care-adult/primary-care-nephrology-urology
- The Renal Association https://renal.org/
- https://deputyprimeminister.gov.mt/en/dhir/Documents/Cancer/Cancer%20Docs%20June%202018/Urinary%20bladder_2016.pdf
- Urinary Tract Infections: A Primary Care Puzzle https://elearning.rcgp.org.uk/course/info.php?id=117
- www.clinicalguidelines.org/
- National Kidney Foundation Commentaries and Guidelines (US) https://www.kidney.org/professionals/guidelines/guidelines_commentaries
- European Renal Best Practice http://www.european-renal-best-practice.org/content/erbp-documents-topic
- The Renal Association https://renal.org/guidelines/

Chapter 40.

Infectious Disease

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The author and editor extend their thanks for their voluntary contribution

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Recognize that social, environmental, geographic, and telecommunication factors influence the ability of the health system to control the epidemics of infectious disease in affected countries
2. Remember that most infections seen in primary care are of viral aetiology and often affect the respiratory and digestive systems. One must avoid prescribing antibiotics for these infections.
3. Be able to describe the National Immunisation Schedule as well as optional immunizations available on the private market
4. Describe how to investigate infectious disease via the use of specimens for microscopy, microbiological culture, serological and immunological tests
5. Be familiar with commonly used anti-bacterial, anti-viral, anti-fungal, anti-protozoal, anti-helminthic and anti-arthropod drugs used in Maltese general practice; their indications, contra-indications, interactions, possible adverse reactions and side effects
6. Intervene urgently in cases of septicaemia, septic shock or other serious infection
7. Describe situations when combining antibiotics is advantageous and which antibiotic classes act synergistically
8. Describe possible reasons for apparent antimicrobial failure, and how to proceed thereafter
9. Be familiar with the list of notifiable infections and carry out notification as necessary
10. Be aware of multidisciplinary team members who can be accessed to provide out-of-hours assistance for persons presenting with needle-stick injuries and the correct procedure involved in assessing risk and providing appropriate, supportive management

11. Aware of the role of the Infectious Disease Surveillance Unit in monitoring infectious disease, particularly those which are legally notifiable, and issuing regular reports and statistics
12. Be aware of the role of the Chest Unit at Qormi Health Centre. This provides:
    - BCG vaccinations for newborns whose parents were born in countries with high risk of tuberculosis
    - Screening of migrants seeking asylum status in Malta
    - Mantoux testing
    - Tuberculosis screening of contacts of infectious tuberculosis cases who have been exposed to a confirmed case of tuberculosis
    - Screening healthcare professionals for tuberculosis
    - Screening for tuberculosis in third country nationals
13. Be aware of appropriate protective materials, isolation/ containment procedures and other infection control precautions employed when dealing with specific infectious cases
14. Keep up to date with regard to Public Health and WHO notifications regarding emerging outbreaks of serious infections, epidemics, pandemics
15. Be aware of current local and international antibiotic recommendations and guidelines
16. Educate patients and the general public regarding health promotion, disease prevention procedures pertaining to prevention, control and treatment of infectious illness
17. Be aware of the epidemiology of infectious disease – especially locally
18. Be cognizant of resources and issues important in to travel medicine, risk avoidance or minimization, health maintenance, variations in healthcare services for non-citizens that are peculiar to international travel
19. Know the natural history of infectious disease and be able to provide appropriate health advice and certify absence from school/ work
20. Explain the principles of disinfection and sterilization, and demonstrate a sterile technique whilst performing minor surgery or taking blood cultures

21. Describe measures to prevent acquisition or transmission of infection including being fully immunised, taking precautions to avoid needle-stick injury, hand-hygiene, use of gloves, and more

Knowledge base

Common and important conditions

Respiratory tract infection

Viral sore throats and colds, influenza, pertussis, tuberculosis, diphtheria, pneumocystis carinii, SARS, Q-fever.

Digestive tract infection

Viral enteritis, salmonellosis, dysentery (amoebic and bacillary), campylobacteriosis, food poisoning, giardiasis, cholera, yersinosis, hepatitis A, hepatitis B, hepatitis C, tuberculosis, threadworm, tapeworm.

Skin infection

MRSA, tetanus, leprosy, shingles, herpes simplex, molluscum contagiosum, candidiasis, leishmaniasis, head-lice, scabies.

Systemic infection

Varicella, infectious mononucleosis, measles, mumps, rubella, HIV, viral haemorrhagic fever, yellow fever, meningococcaemia, typhoid, typhus, brucellosis, leptospirosis, visceral leishmaniasis, malaria, borreliosis, COVID-19

Investigations

- Swabs: skin, nose, throat, urethra, vagina, rectum
- Specimens for microscopy culture and sensitivity from: of sputum, urine, blood, stool
- Specimens for other investigations such as serology and special tests including nucleotide amplification tests, immunological testing
- Laboratory result interpretation

Treatment

- Principles applied in the treatment of common infections managed largely in primary care
- Commonly used antibiotics, antivirals, antifungals and antihelminthics; their indications, formulations (topical, oral, intravenous), recommended dose, dosing frequency, duration of treatment
- Incision and drainage of abscesses

Emergency care

- Management of emergencies including: septic shock, meningitis, or other serious infection
- Establish the indications for referral to Hospital Accident and Emergency Department

Prevention

- Hand hygiene
- Food hygiene
- Safe sex

- Travel precautions and vaccines
- Vaccinations

Relevant Guidelines

Local Guidelines

- Guideline to Effective Immunisation – (Health Promotion Dept; Dept. of Pharmacy, University of Malta 2006)
- Influenza Immunisation Policy (Dept. of Health Promotion and Disease Prevention)
- Antimicrobial Prescribing Guidelines (Antibiotic Team, Government Health Services 2004)

NICE Guidelines

- Tuberculosis (Updated 2019) https://www.nice.org.uk/guidance/ng33
- Sexually Transmitted Infections: Condom Distribution Schemes (2017) https://www.nice.org.uk/guidance/ng68
- Healthcare-associated Infections: Prevention and Control (2011) https://www.nice.org.uk/guidance/ph36
- Sexually Transmitted Infections and Under-18 Conceptions: Prevention (2007) https://www.nice.org.uk/guidance/ph3
- Prophylaxis against Infective Endocarditis: Antimicrobial Prophylaxis Against Infective Endocarditis in Adults and Children Undergoing Interventional Procedure (NICE 2016)
- Management of Bacterial Meningitis and Meningococcal Septicaemia in Children and Young People Younger Than 16 year in Primary and Secondary Care (NICE 2010, Updated 2015)
- Pneumonia (Community-acquired): Antimicrobial Prescribing (NICE 2019)
- Pneumonia (Hospital-acquired): Antimicrobial Prescribing (NICE 2019)
- Flu Vaccination: Increasing Uptake (NICE 2020)

- Cough(acute): Antimicrobial Prescribing (NICE 2019)
- Bronchiectasis (non-cystic fibrosis), Acute Exacerbation: Antimicrobial Prescribing (NICE 2018)

Teaching and learning resources

Work-based learning – in primary care

- Learning about the containment of infection to
    - minimise its spread to others including other patients, relatives, healthcare personnel and other persons
    - limit the spread of infection in the same infected individual
    - educate patients and their significant others accordingly
- Public Health Notification of specified infectious diseases (legal requirement)
- Administering vaccination
- Taking correct specimens using the right procedure and sending specimens for investigation as clinically indicated

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Internet Resources

- European Centre for Disease Prevention and Control https://www.ecdc.europa.eu/en/publications-data
- Government of Western Australia Department of Health https://ww2.health.wa.gov.au/Articles/F_I/Infectious-disease-data
- Colorado Department of Public Health and Environment https://www.colorado.gov/pacific/cdphe/infectious-disease-guidelines
- Association of Medical Microbiology and Infectious Disease Canada https://www.ammi.ca/?ID=122
- European Society for Clinical Microbiology and Infectious Disease https://www.escmid.org/
- Australasian Society for Infectious Diseases https://www.asid.net.au/resources/clinical-guidelines
- TravelHealthPro (National Travel Health Network and Centre) https://travelhealthpro.org.uk/
- British Association for Sexual Health and HIV https://www.bashh.org/guidelines
- Meningitis Research Foundation https://www.meningitis.org/
- Maltese National Immunization Schedule https://deputyprimeminister.gov.mt/en/health-promotion/idpcu/Documents/The%20Maltese%20National%20Immunisation%20Schedule.pdf
- Malta Association of Public Health Medicine https://maphm.org/2019/09/12/a-national-vaccination-strategy-for-malta/
- Prodigy Clinical Guidance https://clarity.co.uk/prodigy/

Chapter 41.

Haematology and Immunology

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The author and editor extend their thanks for their voluntary contribution

Maltese healthcare priorities

Beta-thalassaemia is a common single gene disorder in the Maltese population with a carrier rate of 1.8%. A national screening program was initiated by the Health Department in 1991 with the goal of identifying couples at risk and providing the necessary medical management and counseling. Prenatal diagnosis has been successful in identifying the majority of Maltese families at risk of beta-thalassaemia and the thalassaemia birth incidence has decreased considerably. However, education programs for the affected families and the general public are much needed. Family doctors should take the initiative to screen couples before marriage by checking their haemoglobin level and then referring to the Thalassaemia Clinic where indicated.

The family doctor must be aware of conditions more prevalent in certain races and look out for them. For example sickle-cell anaemia and traits are high in people of African-American origin.

The oncology hospital is now managing haematological malignancies together with other cancers. This has caused a one-stop shop for patients. It is also on Malta's general hospital grounds, facilitating review by other specialists as necessary.

Splenectomy and hyposplenism produce an acquired immunodeficiency. Patients who are affected have a high risk for invasive sepsis by capsulated organisms. It is estimated that the risk of death due to septicaemia is 200 times higher in patients with a splenectomy than in patients with a spleen. These individuals should be given the 23-valent pneumococcal vaccine every six years.

Allergies in Malta are on the rise, and yet, we still do not have an official resident immunologist in Malta. However, many doctors in different specialties, such as respiratory, dermatology and paediatric gastroenterology, are managing allergies as they affect their patient cohort.

Many patients in Malta are on anticoagulants for various reasons, with the most common being for atrial fibrillation and deep vein thrombosis. Most patients are on the government-provided warfarin. They need to attend anticoagulation clinics for venous blood sampling regularly at Mater Dei Hospital or at bleeding rooms in Health Centres. In recent years, there has been introduction of the point-of-care (POC) or pinprick testing for INR at specific POC clinics in health centres. There is a waiting list

for patients to be seen at these clinics. They are also low-risk patients who have had a relatively stable INR over the past few months.

The use of Novel Acting Oral Anticoagulants (NOACs) has been on the rise in recent years. They have a safer side effect profile, however, the patient needs to buy them privately. Although prices have decreased over the years, they're still quite steep for the average patient. Fortunately, the government has started approval for NOACs in a small group of patients.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Manage primary care consultations with any patient presenting with symptoms and signs of haematological or immunological disease
2. Describe the modes of inheritance of the thalassaemias, the haemophilias and G6PD deficiency. Recognise the increased risk for sickle-cell disease and malaria among people of African origin. Screen Maltese couples for thalassaemia before conception, and counsel and refer appropriately
3. Diagnose and manage patients with haematological or immunological disease, referring to secondary care as necessary
4. List the common causes of anaemia and describe how to investigate it. Explain how to interpret the result of a full blood count and a blood picture
5. Be knowledgeable about the different causes of high platelet counts and risks for thrombosis
6. Understand the significance and causes of a deranged white cell count
7. Intervene urgently in cases of haemorrhage (external and internal), anaphylaxis or septic shock
8. Describe the signs and symptoms of haematological malignancy
9. List the drugs that may have an immunosuppressant effect
10. List the drugs that may produce haemolysis in G6PD deficiency

11. Explain how blood donors are screened. Describe the types of blood products, the indications for their use and possible adverse effects
12. Coordinate care with haematologists, other specialists in secondary care, specialised nurses, laboratory staff, and pharmacists for the optimal management of haematological and immunological disease
13. Appreciate that blood has a special significance in certain religions, and believers may refuse blood transfusion at all costs. Objectively discuss the inherent risks of this approach, always respecting the adult patient's decision. Be aware that in the case of minors, the Maltese Courts can be asked to intervene urgently to overrule the guardians' decision
14. Use anticoagulants confidently, adjusting doses as necessary, be aware of their potential side effects and managing arising complications accordingly

Knowledge base

Common and important conditions

- Anaemia (all causes)
- Haemoglobinopathies (thalassaemia; sickle-cell anaemia)
- G6PD deficiency
- Drug and food hypersensitivity
- Rhesus foetal haemolytic disease
- Thrombocytopaenic purpura (idiopathic and thrombotic)
- Aplastic anaemia
- Acute and chronic leukemia
- Non-Hodgkin's lymphoma
- Hodgkin's disease
- Multiple myeloma
- Myeloproliferative disorders

- Myelodysplastic syndromes
- Allergies
- Coagulopathies
- Vasculitis
- Venous thromboembolic diseases

Investigation

- Interpretation of blood test results (cell blood count; blood picture; ferritin; folate; vitamin B12)
- Understand the logical steps in the investigation of anaemia, often including a search for a source of haemorrhage
- Understand the role of specialised blood tests, radiology, bone marrow aspiration and lymph node biopsy in further investigation in secondary care

Treatment

- The principles of treatment for anaemia
- The principles of screening prior to blood donation
- The indications and potential adverse effects of blood transfusion
- Drugs that may have an immunosuppressant effect
- Drugs that may produce haemolysis in G6PD deficiency
- The principles of treatment for allergies
- Manage anticoagulants and their uses

Emergency care

- Acute management of haemorrhage, anaphylaxis or septic shock

- Understand indications for emergency referral of people with above conditions

Prevention

- Preventative care for those with a propensity to develop venous thromboembolic disease – includes advice, use of stockings and anticoagulants
- Vaccination of patients with impaired or absent splenic function against influenza, *Streptococcus pneumoniae* and *Haemophilus influenza b*
- Screening of blood donors for infections
- Pre-conception screening of couples for haemoglobinopathies
- Genetic counselling for carriers of genes for haemophilia and haemoglobinopathy
- The use of anti-D immunoglobulin for rhesus prophylaxis
- The use of inhaled and nasal steroids as prevention for allergies

Relevant Guidelines

NICE Guidance

- Drug allergy: diagnosis and management (2014)
- Anaphylaxis: assessment and referral after emergency treatment (2020)
- Food allergy in under 19s: assessment and diagnosis (2011)
- Myeloma: diagnosis and management (2018)
- Suspected cancer: recognition and referral (2017)
- Non-Hodgkin's lymphoma: diagnosis and management (2016)
- Haematological cancers: improving outcomes (2016)
- Chronic kidney disease: managing anaemia (2015)
- Neutropenic sepsis: prevention and management in people with cancer (2012)
- Sickle cell disease: managing acute painful episodes in hospital (2012)
- Coeliac disease: recognition, assessment and management (2015)

- Venous thromboembolic diseases: diagnosis, management and thrombophilia testing (2020)
- Venous thromboembolism in adults: diagnosis and management (2016)
- Improving patients time in range on warfarin (2020)
- Anticoagulants, including direct-acting oral anticoagulants (DOACs) (2019)
- Blood transfusion (2015)
- Haematological cancers: improving outcomes (2016)

Local guidelines

- National Standards for Blood Transfusion (2012) Blood Transfusion Working Group https://deputyprimeminister.gov.mt/en/hcs/Documents/National_Standard_Blood_Transfusion_V0.1.pdf

Teaching and learning resources

Work-based learning – in secondary care

- Observation and practice in the diagnosis and management of haematological and immunological disease, assessing severity, choosing best modality to treat, always involving the patient in the decision process. Opportunity to observe severe cases being investigated and managed in secondary care. Involving other healthcare professionals when indicated. Observe interdisciplinary approach to management. Taking and interpreting blood investigations. Use of anti-D immunoglobulin. Genetic counselling

Other learning opportunities

- Educational visit to the National Blood Bank

Formative Assessment

- Analysis of recorded consultations dealing with the prevention, diagnosis and management of haematological and immunological disease
- Mini-clinical examination e.g. examination of spleen and lymph nodes
- Case-based discussion on consultations dealing with the prevention, diagnosis and management of haematological and immunological disease
- Analysis of Educational Portfolio for cases dealing with the prevention, diagnosis and management of haematological and immunological disease

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11. The RCGP Curriculum Topic Guides, 2019 – Haematology.

Chapter 42.

Emergencies

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Update by: Dr Christopher Deguara

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Be able to correctly assess and manage primary care contact with any patient presenting with an emergency. Recognise a true emergency and intervene promptly and appropriately. Reassure patients who do not have an urgent problem
2. Co-ordinate care with other services and professionals (e.g. ambulance service, community nurses and secondary care) and follow agreed protocols where appropriate, ensuring appropriate referral or follow-up where necessary
3. Demonstrate good skills of communication, history-taking, observation, physical and mental examination to perform preliminary assessment of an emergency situation within minutes and formulate an appropriate differential diagnosis and intervene accordingly
4. Describe how the acute illness itself and the anxiety caused by it can impair communication between doctor and patient
5. Adopt a person-centred approach, respecting patients' autonomy whilst recognising that acutely ill patients and others with diminished or impaired capabilities often have a diminished capacity for autonomy
6. Consider the appropriateness of interventions according to the patient's wishes, the severity of the illness, any co-morbid diseases and best evidence, while managing any differences of opinion with and between relatives and careers
7. Recognise that an acute illness may be an exacerbation of a chronic disease
8. Adopt an evidence-based approach to the diagnosis and management of emergencies
9. Suitably prioritise problems and response
10. Ensure one's own and others' safety in an emergency situation
11. Call for help early when necessary, including calling an ambulance or a more experienced colleague

12. List the equipment needed to deal with an emergency in the clinic or other places. Carry basic equipment (e.g. airway; intravenous cannulas; intravenous drugs, disposable gloves) in the family doctor bag
13. Know where vital equipment such as a defibrillator is located in the vicinity and feel confident he can use it efficiently in an emergency (CPR)
14. Demonstrate calm and clear leadership and teamwork in an emergency
15. Acquire periodic ALS training and re-certification
16. Recognise death
17. Demonstrate an awareness of the important technical and spiritual support that a family doctor needs to provide to patients and careers at times of crisis or bereavement including certification of illness or death
18. Recognise patients who are likely to need acute care and offer them tailored safety-netting
19. Deal with situational crises and manipulative patients, avoiding the inappropriate use of healthcare resources
20. Involve where and when considered appropriate the police in situations of overt violence, or the social services where cases of child abuse, domestic violence or self-harm are suspected
21. Demonstrate an awareness of legal frameworks (Mental Health Act) affecting acute healthcare provision especially regarding compulsory admission and treatment
22. Identify patients for whom resuscitation or intensive care might be inappropriate and take advice from careers and colleagues. Discuss the ethical implications that surround such a decision, and understand that the attitudes of the patient may conflict with those of relatives and of staff
23. Demonstrate an understanding of the local arrangements for the provision of out-of-hours care

Knowledge base

Signs and Symptoms:

- Acute illness in adults including patients with intellectual disabilities, dementia, communication problems
- The acutely ill child
- Acute illnesses that may indicate an acute exacerbation of a chronic disease
- Treatments that can influence the incidence and presentation of acute illnesses
- Important symptoms and signs that may indicate severe illness but which may be produced by other, less severe illnesses
- Factors that may alter the presentation of symptoms and signs of severe illness, particularly when there are limitations to immune competency
- Features of mental health emergencies including delusional states and self-neglect
- Factors suggestive of a high risk of harm to self or others

Common and important conditions

- Hypoglycaemia or hyperglycaemic coma
- Asthma, croup, laryngospasm, epiglottitis, choking
- Pneumothorax and haemothorax
- Shock (cardiogenic, haemorrhagic, anaphylactic, septic)
- Acute coronary syndromes
- Heart failure
- Cardiac arrhythmias
- Haemorrhage (revealed or concealed)
- Foreign body in body cavity, eye or skin
- Drug overdose
- Poisoning
- Status epilepticus
- Fractures, dislocations, sprains, haematomas

- Burns and scalds
- Hypothermia and hyperthermia
- Electrolyte disturbances
- Para suicide and suicide attempts.

'Dangerous diagnoses' are conditions that demand urgent action when the merest suspicion of them crosses a doctor's mind:

- Myocardial infarction
- Pulmonary embolus
- Subarachnoid haemorrhage
- Appendicitis
- Limb ischaemia
- Intestinal obstruction or perforation
- Meningitis
- Aneurysms
- Ectopic pregnancy
- Acute psychosis/mania
- Visual problems that could lead to blindness including retinal detachment, haemorrhage, temporal arteritis.
- Stroke/ CVA
- Mental health including crisis
- Malignancy (hypercalcaemia, spinal cord compression, superior vena cava obstruction, neutropenic sepsis)
- Torsion of testes

Common problems that may be expected with certain practice activities:

- Anaphylaxis after immunization or drug treatment,
- Local anaesthetic toxicity
- Vaso-vagal attacks with, for example, minor surgery
- Haemorrhage

Examination

- General physical examination including level of consciousness, temperature, pulse, dehydration and clues from odour, clothing, trauma, and more
- Mental state assessment
- Physical Examination of cardiovascular, respiratory, digestive, renal and neurological systems

Investigation

- Blood tests (glucose, haemoglobin, CRP, d-dimer, electrolytes)
- Dipstick urine analysis
- ECG interpretation
- Phlebotomy and interpreting blood test results in context
- Taking arterial blood and interpreting blood gases result
- Interpreting plain X-rays
- Peak flow measurement and interpretation
- Pregnancy testing
- Vital signs measurements (respiratory rate, blood pressure and oxygen saturation)
- Body temperature

Emergency care

- The 'ABC' principles in initial management
- Appreciate the response time required in order to optimise the outcome
- Understand the importance of maintaining personal and others' safety
- Pre-hospital management of all the above-mentioned emergencies:
    - cardio-pulmonary resuscitation of children and adults including use of an automated external defibrillator
    - inserting an intravenous cannula and setting up an infusion

- giving emergency intramuscular, subcutaneous and intravenous drugs (adrenalin, GTN, injections)
    - controlling a haemorrhage and suturing a wound
    - passing a urinary catheter
    - using a nebuliser and giving oxygen treatment
    - bandaging and splinting
    - treating burns and scalds
    - neck immobilization
    - performing intubation and cricothyrotomy
    - removal of foreign bodies from the eye
- Analgesia:
    - evaluation of the patient in pain, making patient comfort a priority
    - prescribing opioid and non-opioid analgesic drugs safely
    - safely use anti-emetic drugs to prevent or treat nausea and vomiting
    - awareness of the risk of addiction to pain-relieving medication
    - considering the effect of hepatic and renal dysfunction on analgesic pharmacology

Teaching and learning resources

Work-based learning – in primary care

- Out-of-hours work
- Tutorials on principles of emergency care

Work-based learning – in secondary care

- Observation and practice of skills in emergency situations (in clinic or patient's home) such as calm situation management; mental state assessment; intervening rapidly with pre-hospital care when necessary; calling an ambulance and consulting with an experienced colleague when indicated; performing and interpreting ECGs
- Accompanying ambulance trips
- Tutorials on principles of emergency care (preferably interdisciplinary)

Other learning opportunities

- Periodic hands-on BLS and ALS training and recertification (preferably interdisciplinary)

Formative Assessment

- Analysis of video-recorded consultations for an emergency
- Mini-clinical examination e.g. pulse, level of consciousness
- Directly observed procedures e.g. taking and interpreting ECG; administering nebulised treatment; setting up IVI; cardio-pulmonary resuscitation
- Analysis of Educational Portfolio
- Case-based discussion on consultations for an emergency condition

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Internet resources

- International Guidelines updated regularly at www.clinicalguidelines.org/
- NHS Clinical Knowledge Summaries (formerly PRODIGY) are a reliable source of evidence-based information at http://cks.library.nhs.uk/home

Chapter 43.

Sexual Health

Author: Dr Daniel Sammut

Update by: Dr Simone Deguara, Dr Maria Deguara

Maltese healthcare priorities

The GU clinic in Boffa hospital was launched in 2000, with the aim of providing free treatment, confidentiality and open access to patients. In 2012 it was moved to Mater Dei Hospital, the main general hospital on the island. Data from the GU clinic (which gives only part of the picture) shows a progressively increasing incidence of STIs such as gonorrhea, syphilis, chlamydia, HPV and HIV infections. Several STIs frequently co-exist in the same patient, although they may be completely asymptomatic. For example, chlamydia infection is an insidious STI that may cause infertility and increase the risk for ectopic pregnancy.

In 2017, Malta reported the 3rd highest notification rate per capita of new HIV cases in the EU.

The rate of newly diagnosed cases overall has increased by more than 50% since 2008. Despite this dramatic rise in STIs, 75% of sexually active persons still do not use any form of protection. This applies also to persons with tertiary education.

In 2018 the GU clinic treated 344 cases of chlamydia, 122 cases of gonorrhea, 60 new cases of latent syphilis and new 67 cases of HIV.

Family doctors also have an important role in the prevention of sexual health problems by:

- Giving immunizations against hepatitis B and human papilloma virus
- Educating about safer sexual practices
- Providing updated, appropriate and correct information about contraception that may be acceptable to the patient

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Demonstrate a sensitive and non-judgmental approach towards these patients while showing adequate consulting skills to solicit a good sexual history
2. Appreciate the importance of the social and psychological impact of sexual health problems on the patient and their partner

3. Appreciate the important contributions of social pressures (e.g. family values; peer pressure; religion; the communication media) on sexual beliefs and behaviour
4. Perform a complete examination of the genitalia
5. Describe the functional anatomy of the male and female genital systems and the female reproductive physiology to aid diagnosis
6. Demonstrate knowledge of the epidemiology of sexual health problems in the local community to assist diagnosis
7. Demonstrate an evidence-based approach towards investigation and management of STIs. Describe the services offered by the GU clinic
8. Appreciate that most STIs are asymptomatic. Strive to trace and treat sexual contacts of the index patient
9. Counsel patients with sexual problems including psychosexual issues related to contraception, STIs, HIV testing and for patients who have an unplanned pregnancy. Be aware that Caritas provides a service for counselling related to HIV testing (Servizz Xefaq)
10. Describe the best-practice guidance on the provision of advice and treatment to young people under 16 years
11. Coordinate care with other healthcare professionals
12. Recognize and respect the autonomy of patients
13. Respect patients' right to confidentiality unless public health is jeopardised
14. Promote safer sexual practices and giving correct and informed advice about safe contraception
15. Encourage the uptake of vaccines against hepatitis B and human papilloma viruses
16. Describe those factors associated with risky sexual behaviour including mental health problems, drug and alcohol misuse and a history of sexual abuse
17. Be aware of those for whom consideration of sexual health may be inappropriately omitted by health professionals (e.g. the disabled or the elderly)

18. Describe common presentations of sexual dysfunction and of sexual violence and abuse, including covert presentations such as somatisation
19. Liaise with other specialists and the police in cases of sexual abuse or assault
20. Understand the different cultural expectations regarding sexual behaviour and orientation
21. Clarify personal values and attitudes relating to sexuality. Be careful not to allow personal views to influence the quality of clinical management
22. Notify the following conditions to the Infectious Disease Prevention and Control Unit: AIDS, antimicrobial resistance, chlamydia infection, gonococcal infection, hepatitis B, HIV-infection, syphilis

Knowledge base

Symptoms

Genital or systemic rashes, reactive arthritis, warts, ulcers, lichen sclerosis, ano-genital lumps, abnormal genital smell, abnormal genital discharge, dysuria, pelvic and or lower abdominal pain, testicular pain and swelling, dyspareunia, intermenstrual bleeding, post-coital bleeding, erectile dysfunction, premature ejaculation, gender dysphoria, vulvar pain and irritation.

Common and important conditions in men and women

- Bacterial vaginosis
- Candidiasis
- Group B haemolytic streptococcus
- Chlamydial infections
- Gonorrhoea
- *Trichomonas vaginalis*

- Ano-genital ulcers – herpes simplex, syphilis, tropical infections, primary HIV infection
- Ano-genital warts
- Pubic lice
- Syphilis
- Conjunctivitis (neonatal and adult)
- Reactive arthritis
- HIV/AIDS and the presentations/complications including pneumocystis pneumonia, candidiasis, cryptococcus, Kaposi's sarcoma, toxoplasmosis, lymphoma, hepatitis, tuberculosis
- Sexual dysfunction.
- Pelvic inflammatory disease (PID)
- Human papilloma virus
- Hepatitis B and Hepatitis C

Investigations

- Urinalysis: dipstick and laboratory
- Microbiology and virology swabs – which to use, which samples to take, limitations of tests and interpretation of results
- Blood tests for HIV, syphilis, hepatitis B and their interpretation
- Secondary care investigations, e.g. colposcopy

Treatment

- Principles of evidence-based treatment for common conditions diagnosed and managed in primary care
- Emergency contraception

- Principles of antiretroviral combination therapy for HIV/AIDS, potential side effects and the role of the family doctor in their management in primary care
- Counselling in cases of unplanned pregnancies

Emergency care

- The role of post-exposure prophylaxis in HIV prevention
- Responding to early presentation of sexual assault

Prevention

- Health education and prevention advice – safe sex and risk reduction
- National screening programmes – cervical screening; antenatal HIV, hepatitis B and testing for STIs
- Hepatitis B and human papilloma virus immunization

Psychomotor skills

- Perform a genital examination including digital and speculum examination
- Take microbiology and virology swabs from ano-genital areas
- Intramuscular injection
- Treatment of ano-genital warts
- Teach patients about contraception use
- Counselling for sexual dysfunction or difficulties due to sexual orientation

Relevant Guidelines

Local Guidelines

- National Sexual Health Strategy (2011)
- HIV Malta https://www.hivmalta.com

NICE Guidelines

- Long-acting reversible contraception (2019)
- Sexually transmitted infections: condom distribution schemes (2017)
- HIV testing: increasing uptake among people who may have undiagnosed HIV (2016)
- Harmful sexual behaviour among children and young people (2016)
- Contraceptive services for under 25s (2014)
- Sexually transmitted infections and under-18 conceptions: prevention (2017)

WHO Guidelines

- Sexual health and its linkages to reproductive health: an operational approach (2017)
- Sexual health, human rights and the law (2015)
- Measuring sexual health: conceptual and practical considerations and related indicators (2010)

Teaching and learning resources

Work-based learning – in primary care

- Random case-analysis of consultations involving sexual health problems
- Analysis of video-recorded consultations involving sexual health problems

Work-based learning – in secondary care

- Tutorials on sexual health problems: epidemiology; clinical presentation; differential diagnosis; investigation; and management
- Using Educational Portfolio to record learning points and reflections

Formative Assessment

- Analysis of video-recorded consultations involving sexual health problems
- Mini-clinical examination e.g. examination of the genitalia
- Directly observed procedures e.g. treatment of ano-genital warts
- Analysis of Educational Portfolio
- Case-based discussion on consultations involving sexual health problems

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3. The RCGP Curriculum Topic Guides, 2019 – Sexual Health.

Chapter 44.

Mental Health

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The author and editor extend their thanks for their voluntary contribution

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Manage primary care contact with any patient who presents with symptoms and signs of mental illness using history, examination (including mental state examination), support, management and referral where appropriate
2. Take into account potential complexities in presentation and range of mental health needs. Recognize that mental illness often presents with somatic features. Take a holistic bio-psycho-social approach to the diagnosis and management of mental health problems
3. Demonstrate effective communication skills to solicit a history from the patient and relatives and show empathy and compassion through a sensitive approach towards patients and carers
4. Assess risk to make the patient's and doctor's safety, as well as the safety of others, a priority. Describe inherent patient factors that increase risk
5. Coordinate care with other organizations and healthcare professionals
6. Be familiar with the Mental Health Act and the legal requirements for compulsory admission to the psychiatric hospital
7. Demonstrate an understanding that mental illness is culturally determined and depends on assumptions that may not be universal. Demonstrate cultural sensitivity
8. Offer advice and support patients, relatives and carers regarding prevention, prescribing, monitoring and self-management of both mental and physical comorbidities

Emerging issues

- New patient care pathways that better join up primary, secondary and community care are being developed. Understanding how to access these services and knowing how they function is important for the care of patients with mental health conditions

- In older people, symptoms of anxiety and depression are increasingly recognised as an indication of early dementia which only becomes apparent with longitudinal support and management
- There is a significant burden of mental health illnesses such as post-traumatic stress disorder, anxiety and depression in vulnerable populations, including migrants and refugees
- Patients are increasingly using self-referral pathways for self-help and counselling

Knowledge base

For each problem or disease, consider the following areas within the general context of primary care:

- The natural history of the untreated condition including whether acute or chronic
- The prevalence and incidence across all ages and any changes over time
- Typical and atypical presentations
- Recognition of normal variations throughout life
- Risk factors, including lifestyle, socioeconomic and cultural factors
- Diagnostic features and differential diagnosis
- Recognition of 'red flag' features
- Appropriate and relevant investigations
- Interpretation of test results
- Management including self-care, initial, emergency and continuing care, chronic disease monitoring
- Patient information and education including self-care
- Prognosis

Common and important conditions

- Abuse including child, sexual, elderly, domestic violence, emotional including non-accidental injury
- Acute mental health problems including acute psychoses, acute organic reactions, the suicidal patient, psychological crises and the application of the Mental Health Act
- Addictive and dependent behavior such as alcohol and substance misuse. This often coexists with mental health problems and is often unrecognised
- Affective disorders, including depression and mania, detection of masked depression
- Anxiety including generalized anxiety and panic disorders, phobias, obsessive compulsive disorder, situational anxiety and adjustment reactions
- Behaviour problems such as attention deficit/hyperactivity disorder, enuresis, school refusal
- Bereavement reactions
- Self-harm and suicidal thought disorders
- Eating disorders, including morbid obesity, anorexia and bulimia nervosa, body dysmorphia and Other Specified Feeding and Eating Disorders (OSFED)
- Learning difficulties – the range of mental health problems that people with learning difficulties may experience
- Mental health disorders associated with physical health disorders e.g. psychosis associated with steroid therapy, depression associated with Parkinson's disease
- Organic reactions – acute and chronic, such as delirium with underlying causes such as infection, adverse reaction to drugs
- Personality disorders including borderline, antisocial and narcissistic
- Pregnancy-associated disorders such as antenatal, perinatal and postnatal depression, puerperal psychosis

- Psychological problems including psycho-social problems and those associated with particular life stages such as childhood, adolescence and older people
- Severe behavioural disturbance including psychotic disorders such as schizophrenia, acute paranoia and acute mania
- Sleep disorders including insomnia, sleep walking
- Trauma including rape trauma syndrome, post-traumatic stress disorder, dissociative identity disorder
- Trichotillomania

Examinations and procedures

- Relevant physical examinations including cardiovascular and abdominal
- Mental state examination
- Exploring both physical and psychological symptoms, family, social and cultural factors in an integrated manner. Performing a mental state assessment.
- Assessing and managing suicidal ideation and risk. Co-creating and implementing an immediate safety plan with a suicidal patient.
- The role of the family doctor in sectioning patients; awareness of the Mental Health Act
- Basic counselling techniques

Investigations

- Screening for metabolic and cardiovascular risk factors, in people with severe mental illness
- Assessment tools for mental health conditions, e.g. depression, anxiety, postnatal depression screening scales, dementia screening, suicide risk assessment and risk of self-harm
- Monitoring of treatments such as anxiolytics and antipsychotic medication

- Relevant physical examinations such as blood tests, ECG and relevant neurological investigations.

Treatment

- Pharmacology of commonly used drugs (indications, contra-indications, cautions, interactions, dosage regimens and common adverse effects of frequently used drugs)
- Self-help and psychological therapies, including brief intervention for excess alcohol use, cognitive behavioural therapy (CBT) and counselling

Emergency care

Threatened or attempted suicide; psychosis; panic, aggressive or violent patients; fits

Relevant Guidelines

NICE Guidelines

- Anxiety: management in adults
- Bipolar disorder
- Dementia: supporting people with dementia and their carers in health and social care
- Depression in children and young people
- Depression: management in primary and secondary care
- Obsessive-compulsive disorder
- Post-traumatic stress disorder
- Schizophrenia
- Self-harm: the short-term physical and psychological management and secondary prevention of self-harm

Teaching and learning resources

Work-based learning – in primary care

- Tutorials on principles of mental disease; prevention; clinical presentation; differential diagnosis; investigation; and management

Work-based learning – in secondary care

- Learn from community mental health teams about how referrals are assessed, which patients are cared for by both primary and specialist care, and understanding their physical health needs
- Observation of multidisciplinary approach and teamwork

Summative Assessment

Examples of how this area of practice may be tested in MMCFD

Applied Knowledge Test (AKT)

- Symptoms of depression
- Increased health risks of atypical antipsychotic drugs
- Cognitive behavioural therapy in the management of anxiety

Clinical Skills Assessment (CSA)

- Woman with ongoing abdominal pain presenting with a letter from the gastroenterologist stating that no organic cause can be found for the pain

- Young mother is worried by thoughts that TV and radio presenters are talking about her, despite acknowledging that this cannot logically be the case
- Young adult asks for help with compulsive cleaning which takes hours at a time and is interfering with studies and social life.

Workplace-based Assessment (WPBA)

- Log entry reflecting on the issues faced when dealing with a complex case of a patient with mental illness having associated medical and social problems
- History taking with a patient requesting more sleeping tablets.

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   https://deputyprimeminister.gov.mt/en/CommMentalHealth/Pages/Mental-Health-Act.aspx

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8. The RCGP Curriculum Topic Guides, 2019 – Mental Health

Internet resources

- Mental Health Services Malta https://deputyprimeminister.gov.mt/en/phc/Pages/Services/Mental-Health-Services/Mental-Health-Services.aspx
- Malta Dementia Society www.maltadementiasociety.org.mt
- Richmond Foundation www.richmond.org.mt/

- RCGP Mental Health Toolkit: https://www.rcgp.org.uk/clinical-and-research/resources/toolkits/mental-health-toolkit.aspx

Chapter 45.

Ear, Nose and Throat

Author: Dr Daniel Sammut

Update by: Dr Ian Psaila

Peer reviewer

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The author and editor extend their thanks for their voluntary contribution

Maltese healthcare priorities

Acute otitis media in the Maltese islands is commonly managed by immediate prescription of broad-spectrum antibiotics. However, this condition has been shown to resolve spontaneously in 80% of cases even without the use of antibiotics. Many studies in the literature, together with Cochrane reviews, suggest that a 'wait–and-see' approach can be used safely in most uncomplicated cases. In many cases, a delayed prescription for antibiotics with instructions when to start the course should work well. Naturally, analgesia will be required immediately.

Maltese Community Guidelines recommend that acute otitis media should be treated immediately with antibiotics in the following cases:

- children under two years of age
- fever ≥39˚C
- evidence of systemic toxicity
- otorrhoea

Excessive ear cerumen can cause uncomfortable symptoms including hearing problems, earache, and even dizziness and tinnitus. A Cochrane systematic review of cerumenolytics concluded that there is no evidence to prefer one particular product to any other, and that physiological saline is as effective as any proprietary agent. In fact, many patients present with impaction of a dislodged wax plug after swimming in early summer. Family doctors also have a role in educating their patients not to introduce cotton-buds or other objects into the ear canal.

Another condition associated with summer is otitis externa. It is commonly acquired after bathing in the sea or swimming pool. Often, a large amount of debris accumulates in the ear canal, and careful aural toilet is a prerequisite for healing to occur. Great care needs to be taken in diabetics because of the risk of malignant otitis externa due to *Pseudomonas aeruginosa*.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Manage primary care contact with any patient who presents with an ENT problem. Manage simultaneously both acute and chronic problems in the patient
2. Describe strategies for communicating effectively with patients with hearing impairment and deafness, e.g. remembering to face the patient and speaking clearly so that they can lip-read
3. Perform a complete examination of the ears, nose, sinuses, mouth, throat, head and neck, including otoscopy and basic tests for hearing and balance
4. Identify symptoms that are within the range of normal and require no treatment, e.g. cyclical blocking of nose, senile rhinorrhoea, small neck lymph nodes in well children
5. Demonstrate knowledge of the epidemiology of ENT problems in the local community to assist diagnosis
6. Demonstrate awareness that certain ENT symptoms can indicate psychological distress, e.g. globus – sensation of not swallowing in a patient who can swallow, the 'dizzy' patient who can walk without difficulty
7. Describe how the mouth and the ears may be involved in systemic disease
8. Recognize that diabetics are at a high risk for malignant otitis externa
9. Apply sound evidence-based criteria to assess severity of ENT disease, to decide when to refer a patient to secondary care and whether the referral should be as an emergency, urgent or routine appointment
10. Discourage the introduction of cotton-buds or other objects into the ear canal. Encourage wearing of ear protection to prevent occupational deafness
11. Recognize that many diseases cause facial pain, and demonstrate ability to properly diagnose and manage these
12. Empower patients to adopt self-treatment and coping strategies where possible, e.g. hay fever, nosebleeds, dizziness, tinnitus

13. Demonstrate a consistent, evidence-based approach to drug prescribing for ENT disease, including the use of topical and systemic analgesics, antibiotics, decongestants, glucocorticoids and antihistamines
14. Be aware that most cases of upper respiratory tract infection and acute otitis media are of viral aetiology, and immediate prescription of antibiotics may cause more harm than good
15. Exercise caution to exclude tympanic membrane perforation before prescribing ototoxic ear drops or perfoming ear syringing
16. Describe the alarm symptoms for head and neck cancer, e.g. hoarseness persisting for more than six weeks, ulceration of oral mucosa persisting for more than three weeks
17. Facilitate patients' access to sources of social benefits and services for the deaf
18. Recognise that patients with hearing impairment often have difficulty communicating and accessing healthcare services and implement measures to overcome these obstacles to effective healthcare
19. Assess the likelihood of occupational exposure as a cause of ENT disease (e.g. industrial deafness)

Knowledge base

Symptoms

Plugged ear, otalgia, discharging ear, hearing loss vertigo, tinnitus, rhinitis, nasal congestion, epistaxis, mouth ulcers, glossitis, gingivitis, sore throat, cough, hoarseness, dysphagia, neck swellings, speech delay, foreign bodies, facial pain, facial weakness.

Common and important conditions

- Otitis media, otitis externa, perforated tympanic membrane, cholesteatoma
- Labyrinthitis, benign paroxysmal positional vertigo, Ménière's disease

- Bell's palsy, temporo-mandibular joint pain, trigeminal neuralgia
- Pharyngitis, tonsillitis, laryngitis, glandular fever, oral candida, herpes simplex, gingivitis, gastro-oesophageal reflux disease
- Salivary gland stones, mumps, tumours
- Infective and allergic rhinitis; sinusitis (acute and chronic); nasal polyps
- Nasal septum deviation/perforation
- Snoring and sleep apnoea
- Otosclerosis
- Oral cancer, nasopharyngeal carcinoma, acoustic neuroma

Investigations

- Examination of the mouth, nose, face, neck, ear (including otoscopy)
- Tuning fork tests: Weber and Rinne's tests
- Awareness of: pure-tone threshold audiogram; speech audiometry, impedance tympanometry, auditory brain-stem responses and otoacoustic emissions

Emergency care

Ability to recognise and institute primary management of ENT emergencies and refer appropriately:

- Septal haematoma
- Epistaxis
- Tonsillitis with quinsy
- Foreign body
- Auricular haematoma or perichondritis

Prevention

- Screening for hearing impairment in adults and children
- Genetics: otosclerosis
- Smoking cessation
- Educating about avoiding insertion of cotton-buds or other objects into ear canal
- Wearing ear protection to avoid occupational deafness
- Awareness of iatrogenic causes of ototoxicity

Community Orientation

- Know about the Malta Transport Authority driving regulations for hearing problems
- Know about sources of social support for the deaf child:
    - the 'statementing' process for children with special educational needs
    - schooling requirements and role of peripatetic teachers
    - teaching of sign language
    - career guidance for deaf children
- Know about sources of social support for visually impaired adults:
    - social services and benefits
    - services provided by the National Commission for Disability
    - services provided by local voluntary organizations (e.g. Deaf People association)
    - hearing aids

Psychomotor skills

- Examination of the mouth, nose and face
- Examination of the ear including otoscopy
- Demonstrate Dix-Hallpike manoeuvre and Epley's manoeuvre
- Demonstrate tuning fork tests (Weber and Rinne's tests)
- Ear syringing
- Removal of foreign bodies from mouth, throat, nose and ear
- Taking throat and nose swabs.

Relevant Guidelines

Local Guidelines

- Local Community Antibiotic guidelines https://deputyprimeminister.gov.mt/en/nac/Pages/Information-for-Healthcare-Professionals.aspx

NICE Guidelines

- Tinnitus: assessment and management (2020)
- Otitis media (acute): antimicrobial prescribing (2018)
- Sore throat (acute): antimicrobial prescribing (2018)
- Sinusitis (acute): antimicrobial prescribing (2017)
- Otitis media with effusion in under 12s: surgery (2008)
- Respiratory tract infections (self-limiting): prescribing antibiotics (2008)
- Suspected cancer: recognition and referral (2017)

Other

- Clinical Practice Guideline: Allergic Rhinitis (2015) Seidman MD, Gurgel RK, Lin SY, Schwartz SR, et al. Otolaryngology – Head and Neck Surgery https://doi.org/10.1177/0194599814561600

Teaching and learning resources

Work-based learning – in primary care

- Observation and practice of skills such as complete examination of the mouth, nose, ears, head and neck; formulating a differential diagnosis; negotiating a management plan with the patient/carer; removing foreign bodies; performing ear syringing; prescribing for ENT disease; illustrating how to use ear drops and nasal sprays; referring to secondary care when indicated
- Tutorials on principles of ENT disease epidemiology; clinical presentation; differential diagnosis; investigation; and management

Work-based learning – in secondary care

- Observe procedures such as tonsillectomy and aftercare
- Observation of multidisciplinary approach and teamwork

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Chapter 46.

Ophthalmology

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Update by: Dr Ian Psaila

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The author and editor extend their thanks for their voluntary contribution

Maltese healthcare priorities

Globally, the prevalence of allergies has increased over the last few decades. Seasonal allergic conjunctivitis accounts for 20% of all allergic conjunctivitis.

According to the International Diabetes Federation (IDF), diabetes mellitus affects 12.2% of the Maltese people in 2020. Diabetic retinopathy is the leading cause of blindness in the developed world. Blindness greatly impairs the patient's independence, mobility and quality of life.

Treatment modalities can prevent or delay the onset of diabetic retinopathy, as well as prevent loss of vision, in a large proportion of patients with diabetes. Blood pressure and blood sugar control can prevent and delay the progression of diabetic retinopathy. Timely laser photocoagulation therapy can also prevent loss of vision. Because a significant number of patients with vision-threatening disease may not have symptoms, ongoing evaluation for retinopathy is a valuable and required strategy. Family doctors play a vital role in the diagnosis of diabetes, the strict control of blood glucose and blood pressure, and periodic referral to an ophthalmologist for monitoring of eye complications. The family doctor should also be competent and confident in ophthalmoscopy.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Describe the normal appearance, neurological and motor responses in patients from newborns to the elderly
2. Perform a complete examination of the eyes and their function, including ophthalmoscopy and visual acuity
3. Demonstrate knowledge of the relative prevalence of eye problems in the local community to assist diagnosis
4. Describe how the eyes may be involved in neurological or systemic disease
5. Recognize that diabetics are at a high risk for retinopathy, glaucoma and blindness. Describe who and when to refer for screening

6. Remove a subtarsal foreign body or a superficial corneal foreign body using local anaesthetic eye drops
7. Recognize that many diseases cause a red eye, and demonstrate ability to make a correct diagnosis and administer appropriate management
8. Detect changes in visual acuity early in children to prevent avoidable learning difficulties
9. Demonstrate a consistent, evidence-based approach to drug prescribing for eye disease, including the use of topical lubricants, antibiotics, glucocorticoids, antihistamines and mast cell stabilizers
10. Exercise caution to exclude herpetic keratitis and glaucoma before prescribing topical glucocorticoids, and educate the patient on their proper use
11. Be aware that many drugs are contra-indicated in patients who suffer from glaucoma
12. Describe the ADT driving regulations for people with visual problems. Be able to balance the autonomy of patients with visual problems and public safety
13. Facilitate patients' access to sources of social support for the visually impaired
14. Recognise that patients with visual impairment may have difficulty receiving written information and accessing healthcare services and implement measures to overcome these obstacles to effective healthcare

Knowledge base

Symptoms

Red eye, lacrimation, eye pain, eye discharge, photophobia, visual disturbance, reduced visual acuity, congenital cataracts.

Common and important conditions

Disorders of the lids and lacrimal drainage apparatus

Blepharitis, stye, chalazion, entropion and ectropion, basal-cell carcinoma, naso-lacrimal obstruction and dacryocystitis

External eye disease: sclera, cornea and anterior uvea:

Conjunctivitis (infective and allergic), dry eye syndrome, episcleritis and scleritis, corneal ulcers, keratitis, iritis and uveitis.

Disorders of refraction

Cataract, myopia, hypermetropia, astigmatism, principles of refractive surgery, problems associated with contact lenses.

Disorders of aqueous drainage

Acute angle closure glaucoma, primary open angle glaucoma, secondary glaucoma.

Vitreo-retinal disorders

Flashes and floaters, diabetic retinopathy, vitreous detachment, vitreous haemorrhage, retinal detachment.

Disorders of the optic disc and visual pathways

Swollen or atrophic optic disc (recognition and differential diagnosis), pathological cupping of the optic disc, migraine, transient ischaemic attacks.

Eye movement disorders and problems of amblyopic binocularity

Diplopia, non-paralytic and paralytic strabismus.

Investigations

- Examination of the eye assessing both structure and function
- Understand the appropriate investigations to exclude systemic disease, e.g. erythrocyte sedimentation rate (ESR) test for temporal arteritis, chest X-ray for sarcoidosis
- Know the secondary care investigations and treatment including slit lamp, eye pressure measurement, visual field mapping

Treatment

- Understand and be able to explain to the patient about the use of medications including mydriatics, topical anaesthetics, corticosteroids, antibiotics, glaucoma agents
- Removal of superficial foreign bodies from the eye
- Know about optical prostheses, surgical and laser treatments used in secondary care

Emergency care

Ability to recognise and institute primary management of ophthalmic emergencies and refer appropriately:

- Superficial ocular trauma, including assessment of foreign bodies, abrasions and minor lid lacerations
- Severe injuries, including hyphaema
- Severe orbital bone injury, including blow-out fracture
- Sudden painless loss of vision
- Severe intra-ocular infection
- Acute angle-closure glaucoma

Prevention

This will involve the following risk factors:

- Genetics – family history e.g. glaucoma, diabetes mellitus, retinoblastoma
- Co-morbidities especially diabetes and hypertension

Community Orientation

- Know about the ADT driving regulations for visual problems
- Know about sources of social support for the visually impaired child:
    - statementing process for children with special educational needs
    - schooling requirements and role of peripatetic teachers
    - career guidance for visually impaired children
- Know about sources of social support for visually impaired adults:
    - RNIB, talking-book services
    - Social Services and benefits
    - services provided by local voluntary organizations (e.g. Malta Society of the Blind)
    - low vision aids

Psychomotor skills

Demonstrate complete examination of the eye, assessing both structure and function, including:

- Measurement of visual acuity
- External examination of the eye
- Eversion of eyelid
- Examination of the pupil and assessment of the red reflex
- Assessment of ocular movements and cover testing
- Visual field testing
- Direct ophthalmoscopy
- Colour-vision testing
- Fluorescein staining of the cornea
- Removal of subtarsal and corneal foreign bodies

Relevant Guidelines

NICE Guidelines

- Age-related macular degeneration (2018)
- Glaucoma: diagnosis and management (2017)
- Cataracts in adults: management (2017)

Teaching and learning resources

Work-based learning – in primary care

- Tutorials on principles of eye disease epidemiology; clinical presentation; differential diagnosis; investigation; and management

Work-based learning – in secondary care

- Observation and practice of skills such as complete examination of the eyes (including slit-lamp and intra-ocular pressure); removal of foreign bodies; formulating a differential diagnosis; prescribing for eye disease; illustrating how to use eye drops
- Observe procedures such as cataract surgery and laser treatment for retinopathy
- Attend ophthalmic clinics in the government health centres

Formative Assessment

- Analysis of video-recorded consultations for an eye condition
- Mini-clinical examination e.g. examination of the eyes
- Directly observed procedures e.g. removing a sub-tarsal foreign body
- Analysis of Educational Portfolio
- Case-based discussion on consultations for an ophthalmic condition

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Chapter 47.

Dermatology

Author: Dr Daniel Sammut

Update by: Dr Natalie Psaila

Maltese healthcare priorities

Aquilina *et al*. (2005) conducted an interesting survey of the outpatient service provided by a consultant dermatologist at the national dermatology department at Sir Paul Boffa Hospital. Overall, the commonest conditions seen were chronic leg ulcers, psoriasis, skin infections and seborrhoeic keratoses. In another study in 2011, family doctors accounted for 67% of referrals to the dermatology out patients', while hospital doctors accounted for the remaining 31%. This shows the number of patients with dermatological complaints seen in primary care.

Proper care of wounds, ulcers, burns and scalds requires a good knowledge of the normal healing process, and the ability to recognize abnormal signs. In this way, the best conditions can be provided to promote healing (e.g. debridement, suturing, special dressings, bandaging). The help of a practice nurse or community nurse is invaluable in these situations.

In the Maltese islands, the average incidence of malignant melanoma is 33 cases per year, with a five year survival of 82.7%. Non-melanocytic skin cancer is more common. Family doctors need to be alert to 'red flag' characteristics in order to differentiate these serious conditions from benign lesions in order to refer these cases urgently for investigation and treatment in secondary care.

In Malta, intensive educational campaigns are held every spring/summer using the mass media, billboards, posters, leaflets and stickers, and sun exposure education sessions in schools. These campaigns have been held since the early 1990s. This is locally coordinated through the collaboration of the public Dermatology Department, and the Department of Health Promotion and Disease Prevention. The family doctor's role to continually reinforce the message of sun protection is important and should not be underestimated or ignored.

Topical treatment is the main mode of drug delivery for skin disease. The family doctor needs to be very familiar with the different forms of topical treatment, the dosage, and duration of treatment for the clinical condition. Moreover, the family doctor should clearly explain to the patient how to apply the treatment to achieve the best results.

Systemic disease frequently manifests itself in the skin. Therefore, it is imperative that the doctor takes a full history and carries out a general physical examination. Failing

to do this may lead to missing important systemic illnesses such as autoimmune conditions, systemic infection or neoplasia.

Chronic skin disease requires an interdisciplinary approach to achieve the best outcome for the patient. For this reason, the family doctor should liaise closely with the dermatologist, practice nurse, community nurse, and pharmacist.

Learning Outcomes

By the end of the specialist training, the trainee is expected to:

1. Educate people about skin protection from sunlight, about skin care and personal hygiene. Identify the patient's health beliefs regarding skin problems and either reinforce, modify or challenge these beliefs as appropriate
2. Appreciate the importance of the social and psychological impact of skin problems
3. Demonstrate knowledge of the relative prevalence of skin problems in the local community to assist diagnosis
4. Recognize particular groups of patients at higher risk of acquiring skin infections e.g. school age children, diabetics
5. Perform a complete examination of the skin, hair and nails
6. Recognize that systemic disease frequently manifests itself in the skin
7. Describe how medicines can cause dermatological adverse events
8. Apply sound evidence-based criteria to assess severity of skin disease, to decide when to refer a patient to secondary care and whether the referral should be as an urgent or routine appointment
9. Explain the role of blood investigations, Wood's light, skin scrapings, nail specimens, skin biopsy and excision biopsy in the diagnosis of skin disease
10. Intervene urgently to assess and manage wounds, burns and scalds
11. Describe the different types of suturing materials and needles, and state when to use which. Demonstrate disinfection, aseptic technique, local anaesthesia,

and suturing in different situations. Explain to the patient how to care for the wound, and when to return for removal of sutures

12. Administer tetanus immunization correctly when indicated
13. Explain indications and demonstrate technique how to perform curettage, cryosurgery and cauterization. Show care in trying to achieve a good cosmetic result. Describe what follow up may be necessary
14. Explain indications and demonstrate technique how to perform minor surgery for skin lesions and surgery for ingrown toenail. Show care in trying to achieve a good cosmetic result. Describe what follow up may be necessary
15. Recognize that malignant melanoma is an important cause of preventable morbidity and mortality. Diagnose 'red-flag' changes and refer promptly and urgently
16. Show wide knowledge of the pharmacological treatment options for skin disease. Demonstrate a consistent, evidence-based approach to drug prescribing for skin conditions, including the use of antibiotics
17. Explain and illustrate to the patient how to use and apply topical treatment e.g. shampoo, cream, occlusive dressing
18. Take measures to prevent spread of skin infections or infestations and communicate with school staff or employer when necessary
19. Assess the likelihood of occupational exposure as a cause of skin disease (e.g. contact eczema) and make appropriate recommendations
20. Notify the dermatological conditions as necessary to the Infectious Disease Prevention and Control Unit

Knowledge base

Common and important skin conditions

- Eczema (atopic, seborrheic, contact)
- Psoriasis

- Urticaria and vasculitis
- Acne and rosacea
- Infections (bacterial, viral and fungal)
- Pityriasis rosea
- Infestations including scabies and head lice
- Leg ulcers
- Skin tumours (benign and malignant)
- Disorders of hair and nails
- Drug eruptions
- Boils and scalds
- Other less common conditions such as the bullous disorders, lichen planus, vitiligo, photosensitivity, pemphigus, pemphigoid, discoid lupus, granuloma annulare and lichen sclerosus

Investigations

- Use of Wood's light
- Ability to take specimens for mycology from skin, hair and nail
- Role of skin biopsy
- Basic interpretation of histology reports

Treatment

- Topical medications usually used in primary practice
- An awareness of specialised treatments, such as retinoids, ciclosporin, phototherapy and methotrexate

- The indications for, and the skills to perform, curettage, cautery and cryosurgery
- Minor surgery for skin lesions and ingrown toenail

Prevention

This will involve the following risk factors:

- Sun exposure
- Fixed factors: family history and genetics
- General and hand hygiene
- Occupation and care of the hands

Relevant Guidelines

Local guidelines

- Local Community Antibiotic guidelines https://deputyprimeminister.gov.mt/en/nac/Pages/Information-for-Healthcare-Professionals.aspx

NICE Guidelines

- Diabetic foot problems: prevention and management (2019)
- Atopic eczema in under 12s: diagnosis and management (2007)
- Frequency of application of topical corticosteroids for atopic eczema (2004)
- Leg ulcer infection: antimicrobial prescribing (2020)
- Pressure ulcers: prevention and management (2014)
- Psoriasis: assessment and management (2017)
- Suspected cancer: recognition and referral (2017)
- Skin cancer prevention (2016)
- Sunlight exposure: risks and benefits (2016)

- Melanoma: assessment and management (2015)
- Impetigo: antimicrobial prescribing (2020)
- Cellulitis and erysipelas: antimicrobial prescribing (2019)

Teaching and learning resources

Work-based learning – in primary care

- Observation and practice of skills such as examination of the skin, nails and hair; taking skin scrapings; formulating a differential diagnosis; interpreting laboratory and histology results; negotiating a management plan; prescribing for skin disease; illustrating how to apply topical treatment; incision and drainage of abscess; wound and burn care; curettage; cauterization; cryosurgery; minor surgery
- Tutorials on principles of disease epidemiology; clinical presentation; differential diagnosis; investigation; and management

Formative Assessment

- Analysis of video-recorded consultations for a skin condition
- Mini-clinical examination e.g. skin, nail and hair examination
- Directly observed procedures e.g. taking skin scrapings; wound and burn care; curettage; cauterization; cryosurgery; minor surgery
- Analysis of Educational Portfolio
- Case-based discussion on consultations for a skin condition

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Appendix 1: List of Acronyms

A&E	Accident and Emergency Department
ABPI	Ankle Brachial Pressure Index
ACEI	Angiotensin-converting Enzyme Inhibitor
ACS	American Cancer Society
ADHD	Attention Deficit Hyperactive Disorder
ADT	Awtorità Dwar it-Transport
AF	Atrial Fibrillation
AHA	American Heart Association
AIDS	Acquired immune Deficiency Syndrome
ALS	Advanced Life Support
AMA	Aerospace Medical Association
ARB	Angiotensin Receptor Blocker
ASA	American Stroke Association
ASD	Atrial Septal defect
ATS	American Thoracic Society
BASHH	British Association for Sexual Health and HIV
BCSH	British Committee for Standards in Haematology
BIS	British Infection Society
BLS	Basic Life Support
BMA	British Medical Association
BMI	Body Mass Index
BNF	British National Formulary
BP	Blood pressure
BPPV	Benign Paroxysmal Positional Vertigo

BSG	British Society of Gastroenterology
BSR	British Society for Rheumatology
BTA	British Thyroid Association
BTF	British Thyroid Foundation
BTS	British Thoracic Society
CAM	Complementary and Alternative Medicine
CBD	Case-based discussion
CBT	Cognitive Behavioural Therapy
CCST	Certificate of Completion of Specialist Training
CDC	Centre for Disease Control and Prevention (US)
CHF	Congestive Heart Failure
CI	Confidence Interval
CKD	Chronic Kidney Disease
CMA	Canadian Medical Association
CME	Continued Medical Education
COLD	Chronic Obstructive Lung Disease
COT	Consultation Observation Tool
COX-2	Cyclo-oxygenase-2
CPD	Continued Professional Development
CRP	C-reactive protein
CSR	Clinical Supervisor Report
CT	Computerised Tomography
DCCT	Diabetes Control and Complications Trial
DEN	Doctor Educational Need
DHSSP	Department of Health, Social Services and Public Safety (Ireland)
DMM	Department of Medicine (Malta)
DOH	Department of Health (UK)

DOPS	Directly Observed Procedure
DRSP	Drug-resistant *Strep. pneumoniae*
DTC	Drugs and Therapeutics Committee
EACS	European AIDS Clinical Society
EAU	European Association of Urology
EBM	Evidence-based Medicine
EBP	Evidence-based Practice
ECCO	European Crohn's and Colitis Organisation
ECDL	European Computer Driving Licence
ECG	Electrocardiogram
EKC	Essential Knowledge Update
EMEA	European Medicines Agency
EMR	Electronic Patient Medical Record
ENT	Ear, Nose, Throat
ESC	European Society of Cardiology
ESCEO	European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis
ESR	Erythrocyte Sedimentation Rate
EKU	Essential Knowledge Update
EU	European Union
EURACT	European Academy of Teachers in General Practice
FEV1	Forced Expiratory Volume in one second
FMF	Familial Mediterranean Fever
FVC	Forced Vital Capacity
G6PD	Glucose-6-phosphate Dehydrogenase
GFR	Glomerular Filtration Rate
GINA	Global Initiative for Asthma

GOLD	Global Initiative for Chronic Obstructive Lung Disease
GORD	Gastro-oesophageal Reflux Disease
GP	General Practitioner
GPwSI	General Practitioner with Special Interest
GU	Genitourinary
HDL	High-density Lipoprotein
HDRC	Half-day Release Course
HEADSS	Home, School, Activities, Drugs, Sucidality and depression, Sexuality
HGT	Haemoglucotest
HIV	Human Immunodeficiency Virus
HPA	Health Protection Agency (UK)
HT	Hypertension
IAS	International AIDS Society
ICGP	Irish College of General Practitioners
ICPC-2	International Classification for Primary Care ver.2
ICT	Information and Communication Technology
IDA	International Development Advisor
IDF	International Diabetes Federation
IDSA	Infectious Disease Society of America
IHD	Ischaemic Heart Disease
IM&T	Information Management and Technology
ISAAC	International Study for Asthma and Allergies in Childhood
LDL	Low-density Lipoprotein
LE	Life Expectancy
LVH	Left Ventricular Hypertrophy
MAM	Malta Medical Association
MCFD	Malta College of Family Doctors

MCPP	Malta College of Pharmacy Practice
MI	Myocardial Infarction
Mini-CEX	Mini Clinical Evaluation Exercise
MMCFD	Member of the Malta College of Family Doctors
MRA	Magnetic Resonance Angiography
MRCGP (Int)	Member of the Royal College of General Practitioners (International)
MRI	Magnetic Resonance Imaging
MRSA	Methicillin-resistant Staphylococcus aureus
MSF	Multi-source Feedback
NCCCC	National Collaborating Centre for Chronic Conditions (UK)
NCCPC	National Collaborating Centre for Primary Care (UK)
NCEP	National Cholesterol Education Program
NGO	Non-governmental Organisation
NHS	National Health Service
NICE	National Institute for Health and Clinical Excellence
NNT	Number Needed to Treat/Test
NSAID	Non-steroidal Anti-inflammatory Drug
NYHA	New York Heart Association
OHP	Occupational Health Physician
OTC	Over the counter
OT	Occupational Therapist
PAD	Peripheral Arterial Disease
PDD	Pervasive Developmental Disorder
PDR	Proliferative Diabetic Retinopathy
PEFR	Peak Expiratory Flow Rate
PHC	Primary Healthcare

PSI	Patient Safety Incident
PSQ	Patient Satisfaction Questionnaire
PTC	Postgraduate Training Coordinator
PUN	Patient Unmet Need
RA	Rheumatoid arthritis
RCGP	Royal College of General Practitioners
RCOG	Royal College of Obstetricians and Gynaecologists
RCP	Royal College of Physicians
RCPsych	Royal College of Psychiatrists
RCT	Randomised-controlled Trial
SAC	Specialist Accreditation Committee
SEA	Significant Event Analysis
SIGN	Scottish Intercollegiate Guideline Network
SLH	St Luke's Hospital (Malta)
SMART	Specific, Measurable, Relevant, Achievable, Time-limited
SMIPU	Substance Misuse In-Patients Unit
SPTFM	Specialist Training Programme in Family Medicine
STI	Sexually-transmitted Infection
TB	Tuberculosis
TG	Triglycerides
TIA	Transient Ischaemic Attack
TLC	Therapeutic Lifestyle Changes
TNF-a	Tumour necrosis factor alpha
UKPDS	UK Prospective Diabetes Study
UKRA	UK Renal Association
UM	University of Malta
USPSTF	US Preventative Services Task Force

UTI	Urinary Tract Infection
WHO	World Health Organisation
WONCA	World Organization of Family Doctors