

IDCU

INFECTIOUS DISEASE PREVENTION AND CONTROL UNIT HEALTH PROMOTION AND DISEASE PREVENTION DIRECTORATE

INFORMATION ON MEASLES, RUBELLA, IGAS, VTEC, VECTOR BORNE DISEASES, POLIO & DIPHTHERIA, TUBERCULOSIS

MEASLES

Measles is an acute, highly contagious viral disease capable of causing epidemics. It is spread via respiratory droplets produced when an infected individual coughs or sneezes or through inhaling infected air. The virus remains active and contagious in the air or on infected surfaces for up to two hours.

Infected people are considered contagious from about four days before the onset of rash to four days afterwards. Measles is maximally contagious during the prodromal phase which lasts for 2–4 days and is characterised by intense coughing.

The incubation period averages 10-12 days from exposure to prodrome and 14 days (which ranges between 7-21 days) from exposure to rash onset

Infectivity is close to 100% in susceptible individuals who are not vaccinated. Measles remains one of the leading causes of death among children globally.

CLINICAL FEATURES

- The prodrome is characterised by fever, conjunctivitis, coryza, cough and bronchiolitis. Other symptoms include small white spots on the buccal mucosa (also known as Koplik's spots) which appear on the buccal mucosa 1–2 days before the onset of rash.
- The measles rash, an erythematous maculopapular exanthema, develops 2–4 days after the onset of fever and spreads from the head to the rest of the body over the next 3–4 days.

- The rash, which blanches on pressure early in the course, fades in the order of appearance during the next 3–4 days and assumes a nonblanching appearance.
- Mortality from measles is predominantly caused by complicating bacterial infections.
- The most common complications of measles are: otitis media, pneumonia, diarrhoea, post-infectious encephalitis and subacute sclerosing panencephalitis (SSPE).

Laboratory confirmation is required for diagnosis. There are currently two standard tests for laboratory confirmation of a suspect measles case:

- Measles igG Antibodies
- Measles igM Antibodies

These tests should be taken in a yellow blood bottle.



KOPLIK SPOTS

TYPICAL MEASLES RASH



EPIDEMIOLOGICAL UPDATE

Measles cases are reported in most EU/EEA countries, USA, Western Pacific Region, Latin America and Africa.

PREVENTION AND CONTROL

The best way to prevent measles is to get vaccinated. This is routinely administered at 13 months and a second dose is given at 3-4 years.

ACTION TO TAKE

It is of utmost importance that any suspected cases of measles are notified immediately to IDCU (while the patient is still in front of you). A good history needs to be taken, including a vaccination history and travel history. Ensure that clinically the rash is typical for measles. Make sure that you have recorded all of the patient's updated contact details so they can be successfully traced. All suspected cases of measles need to be tested. Therefore, contact IDCU to ensure that testing is done.

Isolate the patient at home unless hospitalization is required. Before sending patient to hospital inform A&E doctor to isolate case upon arrival and also inform IDCU.

RUBELLA

Rubella (German measles) is a worldwide, mild, exanthematous and highly infectious viral disease of children in unvaccinated populations

Rubella is transmitted from person to person via droplets (the virus is present in throat secretions). Rubella incubation period of rubella is 14 days, with a range of 12 to 23 days.

The elimination of measles and rubella as well as the prevention of congenital rubella syndrome forms part of a global elimination goal.

CLINICAL FEATURES

Rubella is typically a mild disease affecting mainly, but not only, children and when pregnant women are infected, it may result in malformation of the foetus. Humans are the only reservoir of infection.

The typical presentation of rubella is a transient, erythematous maculo-papular rash that starts in the face, becomes generalised over 24 hours and lasts for about three days. Enlarged post-auricular and sub-occipital lymph nodes, which precede the rash, are characteristic of rubella and last for 5-8 days.

Other symptoms include headache, malaise, and upper respiratory tract symptoms. Fever is not always present.

Adult and adolescent females often manifest arthralgia and inflammatory arthritis.

Rare complications include skin bleedings, encephalitis, neuritis, and orchitis.

The most serious consequences of rubella infection occur when it is acquired during the first 3 months of pregnancy. In this situation the virus can affect all the organs of the developing foetus, causing foetal death, miscarriage, or congenital malformation. An infant infected with rubella during pregnancy can continue to shed the virus for about one year, sometimes longer.

Clinically, rubella is indistinguishable from febrile rash illnesses caused by measles, parvovirus B19, human herpes virus 6 (HHV6), Coxsackie virus, ECHO virus, adenovirus and dengue virus, and laboratory confirmation is required for diagnosis unless there is an epidemiological link to a confirmed case. There are currently two standard tests for laboratory confirmation of a suspect rubella case:

1. Rubella igM
2. Rubella igG

These tests should be taken in a yellow blood bottle

A specific IgM antibody response indicates a probable acute infection.

N.B. IF PATIENTS ARE FULLY VACCINATED WITH MMR, IT IS UNLIKELY THAT PATIENTS ARE POSITIVE FOR MEASLES OR RUBELLA AND THEREFORE IN SUCH CASES IT IS IMPORTANT TO RETHINK THE DIAGNOSIS.

WHEN IMMUNITY IS IN DOUBT, ONE CAN TEST FOR IMMUNITY VIA IgG TEST.



TYPICAL RUBELLA RASH

TREATMENT

There is no specific treatment for rubella.

PREVENTION AND CONTROL

The rubella vaccine is a live attenuated vaccine. All countries in Europe immunise against rubella with measles-mumps-rubella (MMR) vaccine, a combination vaccine with three live attenuated vaccines against measles, mumps and rubella respectively.

All seronegative women of child-bearing age and healthcare workers need to be protected against rubella and need to take the MMR vaccine.

EPIDEMIOLOGICAL UPDATE – RUBELLA

Cases were reported in the following countries: Finland, Germany, Italy, Lithuania, Poland and Romania.

INVASIVE GROUP A STREPTOCOCCUS

Group A Streptococcus (GAS) represents the most common cause of bacterial pharyngitis in school aged children. The incidence of GAS pharyngitis usually peaks during winter months and early spring in Europe. Outbreaks in kindergartens and schools are frequently reported.

This disease is spread from person-to-person through direct contact with nose, throat, wound secretions or respiratory droplets. Some people carry the bacteria in the throat or on the skin with no symptoms or have mild illness. In rare cases, it becomes “invasive”, or iGAS, when bacteria enter the blood or deep tissue. This can result in severe life-threatening illness.

Cases of iGAS may be preceded by superficial non-invasive GAS infections, such as GAS pharyngitis (incubation period is usually 1 to 3 days) or GAS impetigo (estimated incubation period is 7 to 10 days).

CLINICAL FEATURES

GAS infections usually cause mild illness including a sore throat, headache, and fever, along with a fine, red rash (scarlet fever).

In rare cases GAS bacteria can also cause a severe, life-threatening infection known as invasive group A Streptococcus (iGAS), which may manifest as bacteraemia, pneumonia, or skin and bone infection (cellulitis, osteomyelitis, necrotising fasciitis).

Children with viral infections such as varicella (chickenpox) or influenza are at higher risk of developing iGAS infection.

TREATMENT

Group A streptococcus bacteria can be treated with common antibiotics. Penicillin is the drug of choice for both mild and severe disease. For penicillin-allergic patients with mild illness, erythromycin can be used, although occasional resistance has been seen. Clindamycin may be used to treat penicillin-allergic patients with more severe illness and can be added to the treatment in cases of necrotizing fasciitis or STSS.

In addition to antibiotics, supportive care in an intensive care unit and sometimes surgery are necessary with these diseases.

PREVENTION AND CONTROL

Prevention of viral illnesses can play a part in reducing the risk of invasive disease, therefore vaccination against seasonal influenza should be promoted. Parents should also make sure their children are up to date with their routine vaccinations, including chickenpox and influenza. This will help prevent viral infections that can increase the risk of strep A and invasive group A streptococcal.

Adequate hand and respiratory hygiene, as well as good indoor ventilation, should continue to be emphasized as important protective measures during the winter season. Schools and other educational facilities where GAS infections are reported should follow cleaning and disinfection guidance for toys and frequently touched surfaces.

If the parent or their child have scarlet fever, the infected person should stay home from pre-school, school or work for at least 24 hours after starting antibiotic treatment.

Early detection and rapid treatment remain key to controlling transmission.

EPIDEMIOLOGICAL UPDATE

Since 2022, there has been an increase in iGAS in Europe. The countries which have reported cases include France, Ireland, the Netherlands, Denmark, UK, and Sweden. The most affected age groups in all countries reporting increases have been children less than 10 years old and adults more than 65 years of age.

VTEC

Shigatoxigenic Escherichia coli (STEC) are strains of the bacterium Escherichia coli that can produce Shiga toxins. The main reservoir of STEC is grass-feeding animals, cattle in particular. STEC infection is regularly linked to the consumption of under-cooked beef, contaminated due to poor processing methods during slaughter, and to other contaminated foods, such as unpasteurised milk and dairy products, vegetables and water. Direct contact with infected animals (e.g. in petting farms/zoos) is considered to pose a considerable risk of STEC infection, especially in young children. The incubation period usually for VTEC infection ranges from 1 to 8 days but is typically between 2 and 4 days. The relatively long incubation period of VTEC has significant implications for investigation.

CLINICAL FEATURES

STEC infection often causes gastroenteritis, enterocolitis, and bloody diarrhoea and sometimes a severe complication called haemolytic-uremic syndrome (HUS), particularly in children.

TREATMENT

There is no specific treatment for STEC infection.

The illness is usually self-limiting, and will clear itself within a week. It is important to prevent dehydration by drinking plenty of fluids.

Antibiotics are not recommended, and are likely to increase the risk of getting complications such as HUS.

PREVENTION AND CONTROL

Good hygiene practices in food processing and good handling practices at premises dealing with animals, as well as guidance on hand hygiene for visitors to petting farms/zoos can decrease the risk of infections and further outbreaks. Adequate cooking of food at home, particularly beef, and the use of pasteurised milk may reduce the risk of foodborne STEC infections.

EPIDEMIOLOGICAL UPDATE

The highest numbers of confirmed cases were observed in Germany, Denmark, Malta and Norway in the past 2 years.

ACTIONS TO TAKE

Ensure cases and contacts are given appropriate information about VTEC and on good hygiene practice. The control of the source of infection will depend on what source is suspected.

Stool specimens must be sent to the local laboratory.

Patients with a confirmed diagnosis should be notified to the IDCU by email diseasesurveillance.health@gov.mt. Doctors at hospital or a local health centre can report on [Notification Forms | HDPD \(gov.mt\)](#)

Private GPs can notify on nedss.digitalhealth.gov.mt using their personal e-ID account.

DENGUE, CHIKUNGUNYA, WEST NILE & MALARIA

Malta has the vector for Dengue, Chikungunya and West Nile but not for Malaria. Climate change, travel, trade is influencing the spread of mosquitoes and mosquito-borne diseases. The Dengue, Chikungunya, West Nile Fever and Malaria are vector borne diseases, caused by viruses that are transmitted by the bite of an infected mosquito.

Although locally acquired cases have never been reported in Malta, competent mosquito vectors are known to be established in Malta. Health care professionals should be aware of the signs and symptoms to ensure that cases are promptly detected, reported to IDCU and managed properly.

DENGUE

Dengue is an *Aedes*-borne disease. The virus is predominantly transmitted by the *Ae. Aegypti* and *Ae. Albopictus* mosquitoes. *Aedes albopictus* is established in a large part of Europe. *Aedes aegypti* is established notably in Cyprus, around the Black sea and in the outermost region of Madeira.

Dengue is not endemic in mainland EU/EEA and the vast majority of the cases are travellers infected outside of mainland EU/EEA.

The typical incubation period is 3 – 7 days and typically lasts for 4 – 7 days.

CLINICAL FEATURES

The vast majority of those infected have mild or no symptoms. Symptoms of dengue include high fever and any of the following: headache, myalgia, bone or joint pain, nausea or vomiting, pain behind the eyes, rash or swollen glands.

Severe dengue fever may cause shock, respiratory distress, hemorrhagic complications and organ failure.

DENGUE- EPIDEMIOLOGICAL UPDATE

In 2023 over 4.5 million cases and over 4 000 dengue-related deaths have been reported from 80 countries/territories globally.

In 2023, over 100 autochthonous/non-travel associated dengue cases have been reported in Europe from Italy, France and Spain.

The current likelihood of local transmission events of dengue viruses occurring in areas where the vector is present in mainland EU/EEA is moderate, as the environmental conditions are becoming less favourable for vector activity and virus replication in vectors.

CHIKUNGUNYA

Chikungunya is a viral disease transmitted by *Aedes* mosquitoes to humans, primarily *Aedes aegypti* and also *Aedes albopictus*, two species which can also transmit other mosquito-borne viruses, including dengue virus.

The incubation period is typically 3-7 days (ranges between 1-12 days). Recovery is the usual outcome but chronic arthritis is not rare. Diagnostic tests are available but there is no antiviral treatment or licensed vaccine. The disease is notifiable at EU level.

The *Aedes* mosquitoes are active during the day. Both species are found biting outdoors, but *Aedes aegypti* will also readily feed indoors.

The risk of the chikungunya virus spreading in EU is high due to importation through infected travellers, presence of competent vectors in many countries (particularly

around the Mediterranean coast) and population susceptibility.

CLINICAL FEATURES

- The disease is characterized by a sudden onset of fever, chills, headache, myalgia, nausea, photophobia, incapacitating joint pain and petechial or maculopapular rash.
- The acute phase lasts for about 10 days. The typical clinical sign of the diseases is arthralgia, usually symmetric, but neurological, haemorrhagic and ocular manifestations have also been described.
- The chronic phase of the disease, characterized by recurrent joint pain, affects a variable proportion (mainly 30-40%) of those infected. It can last for years in some cases.

CHIKUNGUNYA- EPIDEMIOLOGICAL UPDATE

Chikungunya virus disease and dengue affect people in most countries of the tropics and sub-tropics.

The majority of countries reporting high CHIKVD burden are from the Americas, in South and Central America. Countries reporting the highest number of cases are Brazil, Paraguay, Argentina, and Bolivia.

CHIKVD cases in West African countries continued to increase during the recent weeks.

WEST NILE

West Nile virus (WNV) infection is a mosquito-borne zoonosis affecting countries in Southern, Eastern and Western Europe. The virus is transmitted among birds and horses via the bite of infected mosquitoes but also humans and other mammals may become infected. The typical incubation period is 2 - 14 days and lasts for 7 days (debilitating illness can last months).

CLINICAL FEATURES

About 80% of those infected have none or mild symptoms.

Symptoms include: headache, weakness, arthralgia and myalgia, skin rash (which can be described as macular or papular and erythematous), and swollen lymph nodes.

The elderly and immunocompromised persons are at higher risk of developing West Nile neuroinvasive disease (WNND).

WEST NILE – EPIDEMIOLOGICAL UPDATE

In 2023, European Union (EU) and European Economic Area (EEA) countries reporting human cases of West Nile virus (WNV) infection included: Croatia, Cyprus France, Germany, Greece, Spain, Romania, Hungary, Italy, Serbia and North Macedonia.

Vector Borne Disease	Chikungunya	Dengue	West Nile Virus (WNV)
Incubation Period	3-7 days (ranges between 1-12 days)	3-7 days (typically lasts for 4-7 days)	2-14 days (lasts for 7 days)
Clinical Features	<p>Acute phase (last for approx. 10 days): sudden onset of fever, chills, headache, myalgia, nausea, photophobia, incapacitating joint pain, petechial/maculopapular rash.</p> <p>(Neurological, haemorrhagic and ocular manifestations also reported).</p> <p>Chronic phase: Recurrent joint pain. Lasts for years. Occurs in 30-40% of infected patients</p>	<p>Vast majority have mild or no symptoms.</p> <p>Symptoms include high fever and any of the following: headache, myalgia, bone/joint pain, nausea and vomiting, pain behind eyes, rash or swollen glands.</p> <p>Severe dengue fever may cause shock, respiratory distress, haemorrhagic complications and organ failure</p>	<p>About 80% of those infected have none or mild symptoms.</p> <p>Symptoms include: headache, weakness, arthralgia, myalgia, skin rash (macular or papular and erythematous), swollen lymph nodes.</p> <p>Elderly and immunocompromised persons are at higher risk of developing West Nile Neuroinvasive disease (WNND).</p> <p>Debilitating illness can last months.</p>
Epidemiological Update	<p>Affects people in most countries of tropics and sub-tropics.</p> <p>Majority reporting from South and Central America - highest in Argentina, Bolivia, Brazil and Paraguay.</p> <p>Incidence also increasing in West African countries during recent weeks</p>	<p>In 2023 over 4.5 million cases and over 4000 deaths have been reported from 80 countries/territories globally.</p> <p>In 2023, over 100 autochthonous/non-travel associated dengue cases have been reported in Europe from Italy, France and Spain.</p> <p>The current likelihood of local transmission events of dengue viruses occurring in areas where the vector is present in mainland EU/EEA is moderate, as the environmental conditions are becoming less favourable for vector activity and virus replication in vectors</p>	<p>In 2023, EU/EEA countries reporting human cases of WNV included: Croatia, Cyprus, France, Germany, Greece, Spain, Romania, Hungary, Italy, Serbia, North Macedonia</p>

MALARIA

The causative agent for Malaria is the protozoan parasites of the genus *Plasmodium* (*P.*). Species include: *Plasmodium falciparum*, *P. vivax*, *P. ovale*, or *P. malariae*.

The incubation period varies for different Plasmodium species:

<i>P. falciparum</i>	9-14 days
<i>P. vivax</i> or <i>P. ovale</i>	12-18 days
<i>P. malariae</i>	18-40 days

Malaria is primarily transmitted through the bite of an infected female *Anopheles* mosquito which is active especially during the night, dusk or early morning.

CLINICAL PRESENTATION

Malaria is characterized by fever and influenza-like symptoms (including chills, headache, myalgias, and malaise) which may occur at intervals.

Uncomplicated disease may be associated with anaemia and jaundice. In severe disease, seizures, mental confusion, kidney failure, acute respiratory distress syndrome, coma, and death may occur.

Drug	Duration (Adults)
Atovaquone/Proguanil (Malarone)	Begin 1-2 days before travel, daily during travel, and for 7 days after leaving.
Chloroquine	Begin 1-2 weeks before travel, once a week during travel, and for 4 weeks after leaving.
Doxycycline	Begin 1-2 days before travel, daily during travel, and for 4 weeks after leaving.
Mefloquine	Begin 1-2 weeks before travel, once a week during travel, and for 4 weeks after leaving.
Primaquine	Begin 1-2 days before travel, daily during travel, and for 7 days after leaving.

Symptoms can develop as early as 7 days (usually ≥ 14 days) after initial exposure in a malaria-endemic area and as late as several months or more after departure.

Suspected or confirmed malaria, especially *P. falciparum*, is a medical emergency, requiring urgent intervention as clinical deterioration can occur rapidly and unpredictably. Relapses of malaria can occur from previous *P. vivax* or *P. ovale* infection even after years.

ENDEMIC AREAS FOR MALARIA

- African continent
- South-East Asia
- Western Pacific
- Greece

MALARIA – EPIDEMIOLOGICAL UPDATE

So far in Europe all malaria cases are imported but Greece has reported a few autochthonous / non travel cases every year for the past 20 years.

TREATMENT

No specific vaccine or treatment exists, and general intensive care is often needed for the severe neurological presentations of these conditions.

PREVENTION AND CONTROL

Travelers visiting endemic areas should avoid mosquito bites by taking the necessary measures:

- Using mosquito repellents which has DEET, even indoors, and especially during the hours of highest mosquito activity (mid-morning and late afternoon).
- Wearing long-sleeved shirts and long pants
- Making sure windows have insect screens
- When indoors, use air conditioning if available.
- If sleeping areas are not screened or air conditioned, use mosquito nets.
- Prophylactic treatment for travellers to endemic countries where there is Malaria. Antimalarial drugs include the following:

POLIO

Poliomyelitis is a vaccine-preventable systemic viral infection that affects the motor neurons of the central nervous system (CNS). The incubation period is between 7-10 days but ranges between 4-35 days.

Humans are the only known reservoir for polio virus. It is mainly transmitted via person-to-person through droplets or aerosols and faecal contamination of utensils, hands, food and water.

There are three distinct serotypes of wild polio virus (WPV): Type 1, 2, 3.

- **Type 1** endemic in Pakistan and Afghanistan
- **Type 2 and 3** eradicated worldwide
- **Circulating-Vaccine Derived Polioviruses (cVDPV)** – rare form of polio occurring in areas of low-vaccination coverage

All unvaccinated individuals and children under 15 years are considered to be risk groups.

CLINICAL FEATURES

- Range of clinical presentations from sub-clinical to paralysis and death
- Majority asymptomatic, one-fourth experience mild symptoms (fever, headache, pharyngitis)
- Paralytic poliomyelitis <1% of infections
- Spinal poliomyelitis: meningitis, severe myalgia and localised sensory and motor symptoms, followed by weakness and paralysis in 1-2 days
- Weakness classically asymmetrical, flaccid paralysis that peaks 48hr after onset – termed acute flaccid paralysis (AFP)
- Paralysis may progress for up to 1 week

TREATMENT

- No specific treatment available for acute poliomyelitis
- Symptomatic and supportive management

PREVENTION AND CONTROL

- Vaccination – which is mandatory in Malta

- AFP (acute flaccid paralysis) surveillance
- Environmental surveillance

If suspected case identified:

- Isolate patient
- Avoid contact without PPEs
- Notify IDCU immediately
- Collect stool samples for confirmation of diagnosis

Consider poliomyelitis as a differential diagnosis of AFP particularly for children <15 years.

Early detection and rapid treatment remain key to controlling transmission.

POLIO – EPIDEMIOLOGICAL UPDATE

cVDPV has now been detected in US, UK and Israel – while WPV re-appeared in Southeast Africa.

In 2023, cases have been reported in the Democratic Republic of Congo, Madagascar and Mozambique, Central African Republic, Chad, Indonesia, Benin, Israel, Nigeria and Somalia.

RISK FACTORS FOR cVDPV EMERGENCE

As long as there are non-vaccinated population groups in European countries and poliomyelitis is not eradicated globally, the risk of the virus being introduced in Europe remains. Poland, Romania, and Ukraine remain at high risk of having sustained Polio outbreaks.

UNVACCINATED PATIENTS & ACTIONS TO TAKE

As per the Prevention of Disease Ordinance, Chapter 36, Title III, Article 57, all children aged 3 months and above should be immunised against diphtheria, tetanus and poliomyelitis.

Should you encounter patients who have not been immunised as required by law you are kindly requested to inform the National Immunisation Service on immunisation@gov.mt and the IDCU on idcu@gov.mt. Please provide the details of the unvaccinated patient and the details, including contact details, of the parents/guardians so that they can be contacted by the relevant authorities.

Even a single case of poliomyelitis is considered an outbreak and requires *immediate* action. If an unexplained case of Acute Flaccid Paralysis is identified, particularly in children <15 years, please *contact Public Health immediately on 79004731/79847219*.

DIPHTHERIA

Diphtheria is an acute disease caused mainly by toxin-producing strains of *Corynebacterium diphtheriae*. Diphtheria is transmitted mainly by direct projection (droplet spread).

This bacteria is also known to colonise mucous membranes and can cause respiratory symptoms but can also affect other parts of the body, including the skin. Following infection, after a usually short incubation period (2–5 days), the release of the cytotoxin may produce characteristic lesions on the affected mucous membranes (tonsils, pharynx, larynx, nose) or wounds. Obstruction of the airway may follow. The toxin, once absorbed, reaches other organs and can cause myocarditis, paralytic symptoms and nephritis. In non-vaccinated individuals, and especially if proper treatment is delayed, death can occur in up to 10% of clinical cases despite antibiotics and the use of anti-sera.

CLINICAL FEATURES

The majority have a respiratory tract infection, with a sore throat and low grade fever in the first few days of the illness. Mild cases of the illness will not develop further symptoms. More severe cases can develop a swollen “bull’s neck” appearance. In tropical regions, diphtheria can cause cutaneous symptoms affecting the skin.



“BULL’S NECK” APPEARANCE

PREVENTION AND CONTROL

An effective vaccine is available against diphtheria and is mandatory in Malta.

EPIDEMIOLOGICAL UPDATE

Since the beginning of 2023, cases have been reported in Germany, the Netherlands, Belgium, Czechia, Latvia, Slovenia, Norway, Luxembourg, Slovakia, Spain, and Sweden.

TUBERCULOSIS

Tuberculosis (TB) is a severe infectious disease caused by various strains of mycobacteria, most commonly *Mycobacterium tuberculosis*. TB affects the lungs (pulmonary tuberculosis), but can also manifest outside the lungs (extrapulmonary tuberculosis). People are infected with TB by inhaling airborne droplets produced by infectious TB carriers - for example when coughing or sneezing. Latent tuberculosis infection (LTBI) carriers are asymptomatic and not infectious. About 10% of those with LTBI develop active TB.

CLINICAL FEATURES

Typical symptoms of TB include:

- a persistent cough that lasts more than three weeks and usually brings up phlegm, which may be bloody
- weight loss
- night sweats
- high temperature (fever)
- tiredness and fatigue
- loss of appetite
- new swellings that haven't gone away after a few weeks

TREATMENT

Standard treatment of TB consists of a six-month regimen of four first-line drugs (isoniazid, rifampicin, ethambutol and pyrazinamide). Multidrug-resistant (MDR) and extensively drug-resistant (XDR) TB require longer treatment.

PREVENTION AND CONTROL

The BCG (Bacillus Calmette–Guérin) vaccine provides partial protection against TB.

IT IS IMPORTANT TO HAVE A LOWER THRESHOLD FOR SUSPICION IN ANY PATIENT WHO HAD A HISTORY OF TB IN THE PAST. IN SUCH CASES,

IT IS IMPORTANT TO INVESTIGATE WITH A CHEST X-RAY AND IMMEDIATELY CONTACT PUBLIC HEALTH CONSULTANTS WORKING AT IDCU TO INFORM THEM ABOUT ANY POTENTIAL ACTIVE INFECTIOUS CASES.

EPIDEMIOLOGICAL UPDATE

Three countries (Poland, Romania and the United Kingdom) account for roughly 40% of all reported cases, with Romania alone accounting for approximately 20%.

Estonia, Latvia and Lithuania have the highest rate of multidrug-resistant (MDR) TB. More than 10% of the TB cases reported are diagnosed with MDR TB in these countries.

ACTIONS TO TAKE

It is important to immediately contact Public Health consultants working at IDCU to inform them about any potential active infectious case.

Patients with a confirmed diagnosis should be notified to the IDCU by email diseasesurveillance.health@gov.mt. Doctors at hospital or a local health centre can report on [Notification Forms | HDPD \(gov.mt\)](#).

Private GPs can notify on nedss.digitalhealth.gov.mt using their personal e-ID account.

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You can notify the IDCU about an infectious disease
using the online Infectious Disease Notification Form

[Notification Forms | HDPD \(gov.mt\)](#)

IDCU home page

[Infectious Disease Prevention and Control Unit |
HDPD \(gov.mt\)](#)