

Mosquito Borne Diseases

what?	where and how often?	symptoms	treatment and prevention
<p>Dengue Fever -caused by 4 distinct, closely related viruses -mosquitoes become infected by feeding on an infected person</p>	<p>-endemic in over 100 countries in Africa, the Americas, the Eastern Mediterranean, South-east Asia and the Western Pacific -approx 50 million cases each year -approx 5% fatal</p>	<p>-abrupt onset and high fever, severe headache, pain behind the eyes, muscle and joint pains, and rash -Dengue Haemorrhagic Fever (DHF) is a potentially fatal complication -DHF is characterised by very high fever, bleeding, enlarged liver and circulatory failure</p>	<p>-no specific treatment -vaccine under development</p>
<p>Japanese Encephalitis -a viral disease -mosquitoes become infected by feeding on infected domestic pigs and wild birds</p>	<p>-found only in rural areas -outbreaks are usually small and contained, dying out after a 2-3 months -may occur in India, South East Asia, China, Japan -approx 30-50,000 cases each year -approx 30% fatal -approx 30% serious neuro consequences</p>	<p>-mild infections may have no apparent symptoms other than fever with headache -more severe infection has quick onset, headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, occasional convulsions and paralysis</p>	<p>-no specific treatment -vaccine available for those at high risk such as those staying in an endemic rural area for over 30 days</p>
<p>Malaria -caused by a small parasite -4 different species of malaria parasite cause varying seriousness of disease -mosquitoes become infected by feeding on an infected person -parasite may lie dormant for days, weeks or months after infection</p>	<p>-approx 150 million people infected each year -approx 1-2 million fatalities each year -found throughout Asia, Africa and Latin America</p>	<p>-flu-like symptoms of fever, chills, sweating, malaise, body aches, nausea -severe cases where the brain is affected may also cause drowsiness or unconsciousness, breathing problems, weakness or seizures</p>	<p>-anti-malarial drugs are available for treatment -blood transfusions, fluid therapy and other treatment may be needed -vaccine under development -prophylactic drugs are available for visitors to endemic areas – seek medical advice before travel</p>
<p>Yellow Fever -a viral disease -mosquitoes become infected by feeding on infected monkeys or humans -mosquito can also pass on virus to its offspring through its eggs</p>	<p>-approx 200,000 cases per year -approx 30,000 fatalities per year -found in Africa and the Americas</p>	<p>-mild disease may have no symptoms -first "acute" phase usually has fever, muscle pain (with prominent backache), headache, shivers, loss of appetite, nausea and/or vomiting -15% go on to second "toxic" phase with fever, jaundice, abdominal pain and vomiting, bleeding and kidney failure -50% of toxic patients die in 10-14 days</p>	<p>-no specific treatment -vaccine available for visitors to endemic areas</p>
<p>West Nile Disease -a viral disease -mosquitoes become infected by feeding on infected birds, horses, and some other mammals</p>	<p>- found in Africa, Australia, Europe, the Middle East, West Asia and the USA -occurs in sporadic cases and major outbreaks with fatalities -in the USA an outbreak in 2004 caused 9175 human cases and 230 deaths</p>	<p>-most infections have no symptoms -about 20% of infections have associate flu-like symptoms with fever, body aches, headache, anorexia, and in half of cases a blotchy rash -eye pain, sore throat, vomiting, diarrhoea and abdominal pain may occur -in less than 1% of cases, neurological symptoms occur, with meningitis and/or encephalitis leading to paralysis, coma and death -10% of cases with neurological symptoms are fatal</p>	<p>-no specific treatment -supportive care may be required -vaccine under development</p>

Preventing Mosquito Borne Diseases

prevent being bitten by disease bearing mosquitoes

- use insect repellents containing DEET (N, N-diethyl-meta-toluamide)
 - highly recommended, but use with care as can irritate the eyes and mouth
 - clothing can be sprayed with repellents containing DEET since mosquitoes may bite through thin clothing
 - most preparations for the skin are washed off by rain or sweat, and so should be reapplied frequently
- use permethrin impregnated bed nets
 - community-wide trials in several African settings have shown that permethrin impregnated bed net use reduces all-cause mortality by about 20%
- permethrin can also be used on clothing to give a long lasting repellent effect
- wear light coloured clothes with long sleeves and trousers
- avoid going out at dawn, early evening and dusk, which are peak mosquito biting times
- avoid areas with standing, stagnant water where mosquitoes breed and lay eggs

Malaria Prophylaxis

- the prophylactic drug that is suitable for an individual depends on:
 - the area to be visited and its drug-resistance status
 - pregnancy, medical conditions, drug allergies and/or other medications taken by the individual
- **Atovaquone/proguanil (brand name Malarone™)**
 - one tablet (250 mg atovaquone/100 mg proguanil) once a day, at the same time each day
 - start 1-2 days before travel, take daily while in the risk area, and for 7 days after leaving the risk area
 - generally well tolerated
- **Doxycycline (many brand names and generics)**
 - 100 mg once a day, at the same time each day
 - start 1-2 days before travel, take daily while in the risk area, and daily for 4 weeks after leaving the risk area
 - has various unwanted effects such as increased likelihood of sunburn and yeast infections
- **Mefloquine (brand name Lariam™ and one generic)**
 - 250 mg (one tablet) once a week on the same day each week
 - start one week before travel, take once a week while in the risk area, and once a week for 4 weeks after leaving the risk area
 - common unwanted effects include headache, nausea, dizziness, difficulty sleeping, anxiety, vivid dreams, and visual disturbances
- **Chloroquine (brand name Aralen™ and generics)**
 - 500 mg chloroquine phosphate once a week on the same day each week
 - start one week before travel, take once a week while in the risk area, and once a week for 4 weeks after leaving the risk area
 - most common unwanted effects are nausea and vomiting, headache, dizziness, blurred vision, and itching

Tick Borne Diseases

what?	where and how often?	symptoms	treatment and prevention
<p>Babesiosis</p> <ul style="list-style-type: none"> -caused by several different related species of parasite -transmitted by the deer tick -tick becomes infected by feeding on an infected rodent -human to human transmission may occur through infected blood transfusions 	<ul style="list-style-type: none"> -found worldwide -in Europe most cases occur in patients who have abnormal immune systems -in the US all people are susceptible -likelihood of fatality varies with the species of Babesia and is greater in the elderly and those who have abnormal immune systems 	<ul style="list-style-type: none"> -there may be no symptoms -or causes fever, chills, sweating, muscle pain, fatigue, enlarged spleen and liver, and anaemia -symptoms typically occur after an incubation period of 1 to 4 weeks, and can last several weeks 	<ul style="list-style-type: none"> -anti-parasitic drugs are available -blood transfusion, fluid therapy and other supportive care may also be required
<p>Ehrlichiosis</p> <ul style="list-style-type: none"> -caused by four different species of bacterium -ticks become infected by feeding on a wide range of infected animals from dogs and wolves to cattle, deer, goats, llamas or rodents 	<ul style="list-style-type: none"> -found worldwide, generally in temperate regions -approximately 100 cases per year in the USA alone -2-3% of cases are fatal -higher fatality rates occur in people who have problems with their immune systems 	<ul style="list-style-type: none"> -illness may be very mild or have no symptoms -initial symptoms generally include fever, headache, malaise, and muscle aches -other symptoms may include nausea, vomiting, diarrhoea, cough, joint pains, confusion, and occasionally a rash -illness may be severe, especially if untreated -severe manifestations include fever, kidney failure, blood clotting problems, breathing problems, coma and /or convulsions 	<ul style="list-style-type: none"> -antibiotics are available -extensive supportive care may be required
<p>Lyme Disease</p> <ul style="list-style-type: none"> -caused by a bacterium -ticks become infected by feeding on infected mice, squirrels and other small animals 	<ul style="list-style-type: none"> -found worldwide, generally in temperate regions -approximately 15,000 cases per year in the USA alone -rarely, if ever, fatal 	<ul style="list-style-type: none"> -symptoms include fever, headache, fatigue, and a characteristic skin rash (erythema migrans) -left untreated, infection can spread to joints causing chronic arthritis, and the brain causing mild to moderate confusion 	<ul style="list-style-type: none"> -antibiotics are available -Lyme disease vaccine available in the USA for those at high risk
<p>Tick Typhus (African Tick Bite Fever)</p> <ul style="list-style-type: none"> -caused by a bacterium -ticks become infected from another tick during the mating process, through transmission through the egg, or by feeding on an infected mammal 	<ul style="list-style-type: none"> -USA, Mexico and Central and South America, sub-Saharan Africa -closely related bacteria cause very similar spotted fevers worldwide -approx 1000 cases per year in the USA alone 	<ul style="list-style-type: none"> -initial symptoms may include fever, nausea, vomiting, muscle pain, lack of appetite and severe headache -later signs include a characteristic red spotty rash, abdominal pain, joint pain and diarrhoea -this tends to be a severe disease and patients are often hospitalised -severe manifestations involve respiratory, renal, central nervous or gastrointestinal systems and may have long term effects 	<ul style="list-style-type: none"> -antibiotics are available -extensive supportive care may be required

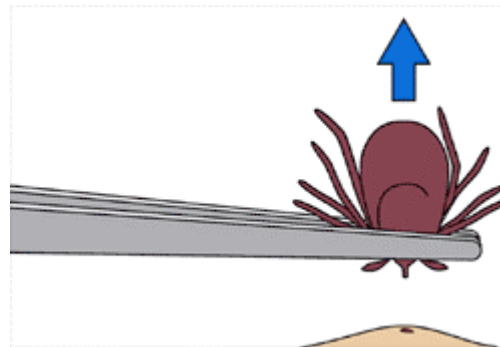
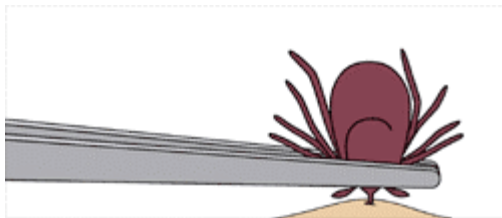
Preventing Tick Borne Diseases

prevent being bitten by ticks

- avoid areas likely to have lots of ticks
 - wooded and bushy areas
 - high grass
 - leaf litter
- use insect repellents
 - use 20-30% DEET on skin and clothing
 - use permethrin on clothing
- wear appropriate clothing
 - wear long trousers, long sleeves, and long socks
 - light coloured clothing enables ticks to be seen more easily
 - tuck trouser legs into socks or boots or tape trousers to socks to keep ticks outside clothing
- remove ticks from your clothes before going indoors
 - wash clothes with hot water and dry using high heat for at least one hour to kill any ticks still on clothing

find and remove ticks that have bitten

- check yourself for ticks daily if you've been in a tick area
 - inspect all parts of your body carefully including your armpits, scalp, and groin
- remove ticks that you find by grasping the tick firmly very close to the skin and pulling gently upwards
 - avoid crushing the tick's body
 - after removing the tick wash the skin with soap and water



Images courtesy of Center for Disease Control
Division of Viral and Rickettsial Diseases

- if the tick is attached for less than 24 hours, disease transmission is very unlikely, but monitor health closely for any unusual signs or symptoms

Food Borne Diseases

what?	where and how often?	symptoms	treatment and prevention
<p>Botulism</p> <ul style="list-style-type: none"> -caused by toxins produced by a bacterium -there are four types that cause disease in humans -bacterial spores are found in soils and fish -spores are heat resistant and develop into bacteria in anaerobic conditions -the bacteria then produce the toxin which is eaten in improperly prepared food 	<ul style="list-style-type: none"> -incidence is low -5-10% of cases are fatal -most cases recover with prompt diagnosis and treatment 	<ul style="list-style-type: none"> -early symptoms are marked fatigue, weakness, and vertigo, usually followed by blurred vision, dry mouth, and difficulty in swallowing and speaking -vomiting, diarrhoea, constipation and abdominal swelling may occur -disease can progress to weakness in the neck and arms, followed by the respiratory muscles and muscles of the lower body being affected -the paralysis may make breathing difficult -there is no fever and no loss of consciousness 	<ul style="list-style-type: none"> -antitoxin -intensive respiratory care which may be required for weeks or months -cooking inactivates the toxin
<p>Campylobacter</p> <ul style="list-style-type: none"> -a bacterium -very commonly occurring in almost all domestic or wild animals -usually transmitted to humans through undercooked or poorly prepared meat, contaminated milk or contaminated water or ice 	<ul style="list-style-type: none"> -the most common cause of diarrhoea worldwide -fatal cases are rare except in the very young or very old, or in those with a compromised immune system 	<ul style="list-style-type: none"> -diarrhoea (frequently with blood in the faeces), abdominal pain, fever, headache, nausea, and/or vomiting -the symptoms typically last three to six days -complications such as infections of the blood, liver and pancreas, and abortion may occur -complications after infection may include painful inflammation of the joints which can last for several months and neurological disorders 	<ul style="list-style-type: none"> -treatment not generally required apart from oral fluid replacement -antibiotics may be required in severe cases
<p>Cholera</p> <ul style="list-style-type: none"> -caused by a toxin released by a bacterium -spread by food and water contaminated with human faeces 	<ul style="list-style-type: none"> -endemic in Africa, South America and much of Asia -can be fatal in 50% of cases if no treatment available 	<ul style="list-style-type: none"> -copious, painless, watery diarrhoea that can quickly lead to severe dehydration and death if treatment is not given promptly -vomiting also occurs in most patients 	<ul style="list-style-type: none"> -treatment not generally required apart from oral fluid replacement -antibiotics may be required in severe cases
<p>vCJD</p> <ul style="list-style-type: none"> -a rare fatal neurological disease -caused by a prion protein or maybe a virus -vCJD is a new form of CJD -vCJD infection occurs by eating uncooked or undercooked brain or spinal cord tissue of cattle infected with BSE 	<ul style="list-style-type: none"> -140 confirmed cases of vCJD in last 10 years -1 in 1 million people develop CJD 	<ul style="list-style-type: none"> -depression or a schizophrenia-like psychosis -unusual sensory symptoms such as "stickiness" of the skin -neurological signs including unsteadiness, difficulty walking and involuntary movements develop as the illness progresses -by the time of death patients become completely immobile and mute 	<ul style="list-style-type: none"> -no available treatment -avoid consuming meat contaminated with brain and spinal cord tissue such as T-bone steak
<p>EHEC (Enterohaemorrhagic E Coli)</p> <ul style="list-style-type: none"> -caused by a toxin released by a bacterium -infection is by consumption of contaminated food, usually undercooked meat or raw milk -infection can also be passed on between people through faecal contamination 	<ul style="list-style-type: none"> -occurs worldwide, sporadically or in outbreaks -5% of cases are fatal 	<ul style="list-style-type: none"> -abdominal cramps and diarrhoea may progress to bloody diarrhoea, fever and vomiting -serious kidney disease, which may be fatal, develops in 10% of cases 	<ul style="list-style-type: none"> -oral fluid replacement and symptomatic and supportive care usually sufficient -antibiotics may also be required in severe cases

Giardiasis -a small parasite -infection occurs through consuming contaminated food or water -infection can also be passed on between people through faecal contamination	-found worldwide -20% of the world's population is infected, mostly without symptoms	-symptoms very widely or may be absent -there may be mild to moderate abdominal discomfort, abdominal distension due to increased intestinal gas, sulphurous or "rotten egg" burps, highly offensive flatulence, and mild to moderate diarrhoea -stools are soft but not liquid, bulky, and foul smelling -nausea, weakness, and loss of appetite may occur	-may resolve without treatment -antibiotics may be required
Salmonella -a bacterium -infection occurs through consuming contaminated eggs, poultry, other meats, raw milk and chocolate	-found worldwide -2-4 million cases annually in the USA alone	-fever, headache, nausea, vomiting, abdominal pain and diarrhoea	-antibiotics usually required
Typhoid Fever -caused by a bacterial infection -spread by food and water contaminated with human faeces -closely associated with poor food hygiene and inadequate sanitation	-found in several Asian regions of the former USSR, in parts of South-East Asia, Africa and South America -16 million cases each year -including 600,000 deaths -overall 4% fatality rate	-many infections have no associated symptoms -symptoms are fatigue, headache, abdominal pain and fever, constipation (older children and adults) or diarrhoea (younger children) -severe forms cause cerebral dysfunction, delirium and shock, and occasionally intestinal perforation -1-4% of cases harbour infection for months or years	-antibiotics are effective although resistance is becoming an increasing problem -vaccines are available

Preventing Food Borne Diseases

prevent faeco-oral spread

- drink bottled water
 - break the seals yourself
 - carbonated water is harder to fake than plain water
 - sterilize non-bottled water before drinking
 - boil for five minutes
 - or add 5 drops 2% iodine per litre of pre-filtered water – leave for 30 minutes before drinking
 - avoid ice in drinks
 - wash fruit and vegetables in clean (boiled or treated) water
 - do not allow people with diarrhoea or vomiting to prepare food
 - maintain impeccable standards of hygiene
 - hand washing
 - kitchen cleanliness
 - prevent flies landing on food or food preparing surfaces
- be careful of your choice of food:
 - good
 - freshly cooked food which is hot
 - fruit that can be peeled
 - canned or packet food (cans/packets in good condition)
 - locally produced dishes cooked well (rather than poorly produced western style food)
 - bad
 - salads and buffets
 - seafood
 - unwashed fruit and vegetables
 - unpasteurised dairy produce
 - sauces
 - dirty cutlery or plates

Diseases Spread by Direct Contact

what?	where and how often?	symptoms	treatment and prevention
<p>Diphtheria -a bacterium -infection acquired from an infected person through respiratory droplets</p>	<p>-found in Armenia, Estonia, Lithuania, Uzbekistan, Russia and Tajikistan -5-10% of patients die, even with proper treatment</p>	<p>-symptoms range from a moderately sore throat to toxic life-threatening diphtheria of the larynx or of the lower and upper respiratory tracts -often complicated by diphtheric myocarditis (toxic damage to heart muscles) and neuritis (toxic damage to peripheral nerves)</p>	<p>-diphtheria antitoxin -antibiotics</p>
<p>Ebola -a virus -infection acquired from direct contact with the blood, secretions, organs or other bodily fluids of infected persons</p>	<p>-Democratic Republic of the Congo , Sudan and Cote d'Ivoire -fatal in 50-90% of all clinically ill cases -occurs in outbreaks, with 100 to 400 cases each year</p>	<p>-sudden onset of fever, intense weakness, muscle pain, headache and sore throat -this is often followed by vomiting, diarrhoea, rash, impaired kidney and liver function, and in some cases, both internal and external bleeding</p>	<p>-intensive supportive care and fluid therapy</p>
<p>Hepatitis B -a virus -infection transferred from mother to baby at birth, from child to child, through unsafe injections and transfusions or by sexual contact -transmitted in the same way as HIV, but 100 times more infectious</p>	<p>-worldwide, especially sub-Saharan Africa, most of Asia, and the Pacific -2 billion people infected -1 million people die of the infection each year</p>	<p>-jaundice, dark urine, extreme fatigue, nausea, vomiting and abdominal pain -patients with chronic infection develop cirrhosis of the liver or liver cancer many years later</p>	<p>-immune moderating drugs may be of some help -liver transplantation -vaccination is preventative</p>
<p>HIV / AIDS -viral infection (HIV) causing a syndrome (AIDS) -HIV1 is the most common type, found worldwide -HIV2 is found mostly in West Africa -virus infects cells of the immune system making the individual susceptible to infection and cancer -infection is acquired through sexual intercourse with an infected person, blood to blood contact, blood transfusion, contaminated needles or skin piercing equipment, pregnancy and breast feeding (mother to child)</p>	<p>-38 million adults and 2.8 million children HIV positive worldwide -3.1 million deaths from AIDS in 2005 -over 7750 new cases diagnosed in the UK in 2005 -52% of new cases were contracted through heterosexual sex; two thirds of these are thought to have been contracted in West Africa</p>	<p>-often a long silent period lasting for up to 10 years or more before the infection progresses to AIDS -in children this period is much shorter, usually 2 years -HIV-infected people ultimately develop HIV-related disease and AIDS -this progression depends on the type and strain of the virus and certain host characteristics -HIV infects the nervous system causing a variety of neurological and psychiatric conditions -as infection progresses and immunity declines the patient becomes susceptible to opportunistic infections such as TB, other STDs, septicaemia, fungal infections, pneumonia and meningitis</p>	<p>-antiretroviral drugs may prevent development of AIDS for many years but are not a cure -antiretroviral drugs are very expensive, and not affordable by the vast majority of HIV positive patients -symptomatic treatment of opportunistic infections -safe sex, barriers if likely to come into contact with blood, use only new sterile needles, screened blood transfusions</p>
<p>Influenza -a viral disease with many subtypes and ability to evolve new subtypes -spread from person to person through respiratory droplets -avian influenza can be transmitted from birds to humans, but not yet from human to human</p>	<p>-3-5 million cases and 250,000 to 500,000 deaths worldwide each year -emergent new subtypes are responsible for periodic worldwide pandemics -"Spanish flu" pandemic of 1918-1919 killed at least 40 million</p>	<p>-high fever, muscle aches, headache and severe malaise, non-productive cough, sore throat and nose -in patients with preexisting medical conditions such as lung diseases, diabetes, cancer, kidney or heart problems, influenza can cause severe complication of these diseases with pneumonia and death</p>	<p>-most patients recover in 1 to 2 weeks without requiring treatment -vaccination is the main measure for preventing influenza and reducing the impact of epidemics -vaccines are specific to each subtype and must be adjusted annually according to which subtypes are circulating</p>

<p>Leptospirosis -a bacterial disease of humans and animals -infection is acquired through direct contact with the urine of infected animals or by contact with a urine-contaminated environment such as surface water, soil and plants</p>	<p>-occurs worldwide, most commonly in tropical and subtropical areas with high rainfall -incidence ranges from approx 0.1–100 per 100,000 or higher during outbreaks and in high-exposure risk groups -0.5-30% cases are fatal</p>	<p>-the disease presents in four broad clinical categories (i) a mild, influenza-like illness (ii) Weil's syndrome characterized by jaundice, renal failure, haemorrhage and myocarditis with arrhythmias (iii) meningitis / meningoencephalitis (iv) pulmonary haemorrhage with respiratory failure</p>	<p>-antibiotics and supportive treatment -vaccines available in some countries offering limited protection</p>
<p>Meningococcal Meningitis -a bacterial infection of the membranes that surround the brain and spinal cord -transmitted from person to person through respiratory droplets</p>	<p>-outbreaks occur in small clusters throughout the world -particularly frequent in sub-saharan Africa -approx 35,000 cases a year -10% of cases are fatal</p>	<p>-stiff neck, high fever, sensitivity to light, confusion, headaches and vomiting -even when the disease is diagnosed early and adequate therapy instituted, 5% to 10% of patients die, typically within 24-48 hours -bacterial meningitis may result in brain damage, hearing loss or learning disability</p>	<p>-prompt aggressive treatment with antibiotics -vaccination is preventative and advised for high risk groups</p>
<p>Poliomyelitis -a viral infection of the nervous system -infection is acquired through the mouth and multiplies in the intestine -spread is through the faeco-oral route</p>	<p>-Africa and South Asia -approx 2000 cases per year</p>	<p>-fever, fatigue, headache, vomiting, stiffness in the neck and pain in the limbs -1 in 200 infections leads to irreversible paralysis (usually in the legs) -among those paralysed, 5%-10% die when their breathing muscles become immobilized</p>	<p>-no treatment available -vaccine is preventative -transmission prevented by good personal hygiene and food safety</p>
<p>Rabies -a viral infection of the brain -infection is acquired through the bite of an infected mammal, especially dogs</p>	<p>-worldwide, particularly Africa, Asia, and Latin America -tens of thousands die each year from rabies</p>	<p>-fever, headache, and general malaise -insomnia, anxiety, confusion, slight or partial paralysis, excitation, hallucinations, agitation, hypersalivation, difficulty swallowing, and hydrophobia (fear of water) -death usually within a few days of onset of symptoms</p>	<p>-no treatment available -pre and/or post exposure vaccination may be preventative -avoid being bitten by stray or wild animals</p>
<p>Tetanus -caused by a toxin released by a bacterium -infection is acquired through dirty scratches, cuts or wounds</p>	<p>-fatal in approx 11% of cases -without specific therapy, more than 95% of infants die of neonatal tetanus infection -even with specific therapy, and depending on the intensity of supportive care, lethality rates are still between 25% of 90%</p>	<p>-muscle stiffness, twitches and spasms near the wound site -lockjaw, stiffness in the neck and abdomen, and difficulty swallowing, fever, elevated blood pressure, and severe muscle spasms -coma and death</p>	<p>-antitoxin and supportive care -vaccination is preventative -ensure vaccination status is checked and vaccine given if required in all people with dirty wounds</p>
<p>Tuberculosis -a bacillus -infection is acquired through respiratory droplets</p>	<p>-worldwide -1/3 of the world's population is currently infected with TB -1.75 million deaths a year</p>	<p>-there may be no symptoms -chronic cough (worse in the morning), bloody sputum, night sweats, weight loss, general malaise, chest pain and breathing difficulties -concurrent HIV infection worsens symptoms</p>	<p>-anti-TB drugs are available -drug resistance is a worldwide problem</p>

Diseases Spread by Other Vectors

what?	where and how often?	symptoms	treatment and prevention
<p>Leishmaniasis -a parasite -infection is acquired through the bite of an infected sandfly -sandflies become infected by biting infected animals or humans -disease has three forms: cutaneous (skin), mucocutaneous (mucous membranes) and visceral (internal organs)</p>	<p>-present in large parts of Central and South America, Africa, Asia and the Mediterranean -approx 12 million people infected worldwide -1.5 million new cases of cutaneous leishmaniasis each year -500,000 new cases of visceral leishmaniasis each year -untreated visceral leishmaniasis can carry a fatality rate in developing countries of 100% within 2 years -HIV co-infection particularly serious</p>	<p>-cutaneous: multiple skin ulcers (sometimes up to 200) on exposed parts of body such as face, arms and legs causing serious disability and permanent scarring -mucocutaneous: partial or total destruction of the mucous membranes of the nose, mouth and throat cavities and surrounding tissues causing permanent and severe facial disfigurement -visceral: irregular bouts of fever, substantial weight loss, swelling of the spleen and liver, and anaemia (occasionally serious)</p>	<p>-treatment is available but expensive -once disfigurement has occurred this is not reversible -prevention through insecticides and impregnated bed nets very effective</p>
<p>Onchocerciasis (River Blindness) -a parasitic disease -infection is acquired through the bite of a blackfly -flies breed in fast flowing streams</p>	<p>-Africa, Latin America and Yemen -the world's second leading infectious cause of blindness -18 million people are infected -270,000 people are blind because of the disease</p>	<p>-skin rashes, skin lesions, intense itching and depigmentation of the skin -lymphadenitis, which results in hanging groins and elephantiasis of the genitals -general debilitation and serious visual impairment, including blindness</p>	<p>-antiparasitic drugs are available -effects are irreversible once damage to skin and eyes has been done -insecticide use will reduce bites -avoid fast flowing streams</p>
<p>Plague -a bacterial infection -infection is acquired through the bite of an infected flea, inhalation of infective droplets or direct contact -fleas are infected through feeding on infected mammals (usually rodents)</p>	<p>-endemic in many countries in Africa, the former Soviet Union, the Americas and Asia -1000-3000 cases each year worldwide -mortality varies from 14% with treatment to 60% without treatment</p>	<p>-typical symptoms are fever, chills, head and body-aches and weakness, vomiting and nausea -infection has three forms depending on infection route: -bubonic (from flea bite): swollen and painful lymph node local to bite may develop into an open sore ("bubo") -septicaemic (from flea bite or direct contact): no bubo, patient advances directly to severe illness -pneumonic (inhaled): very serious lung infection with breathing difficulties, bloody sputum and high fatality</p>	<p>-rapid treatment with antibiotics and supportive care required -almost all cases can be cured if diagnosed promptly -avoid poor housing and sanitation in plague endemic areas</p>
<p>Schistosomiasis (Bilharzia) -a parasitic disease -infection is acquired through contact with infested water</p>	<p>-present in Africa, the Eastern Mediterranean, the Caribbean, South America, South East Asia and the Western Pacific -over 200 million people infected -20 million of these suffer severe consequences</p>	<p>-itching of the skin with a rash, fever, chills, lymph node, liver and spleen enlargement -frequent and painful urination with blood -abdominal pain and diarrhoea -bladder cancer is a long term complication</p>	<p>-effective anti-parasitic drugs are available -seek screening if exposed</p>
<p>African Trypanosomiasis (Sleeping Sickness) -a parasitic disease -infection is acquired through the bite of an infected tsetse fly -tsetse flies are infected by biting an infected human or animal (usually antelope, hyena, lion, sheep or cow)</p>	<p>-found in 36 countries of sub-Saharan Africa -estimated 300,000-500,000 cases each year -estimated 66,000 deaths each year -in some areas in Angola, Democratic Republic of Congo and southern Sudan Sleeping Sickness has overtaken HIV/AIDS as the major cause of death</p>	<p>-irregular fevers, malaise, enlarged lymph nodes and spleen followed by headache, anaemia, joint pain, and swollen tissues -advanced symptoms include neurological and hormonal disorders, mental deterioration, coma and death -symptoms can progress over a period of days or years depending on the infective trypanosome species</p>	<p>-anti-parasitic drugs effective if initiated early enough -once disease is advanced treatment is ineffective -insecticide use will reduce bites</p>

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