CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

COMMON ENVIRONMENTAL HEALTH RISKS AND DISEASES

Making progress possible. Together.

Contents

Anthrax

What is Anthrax?

Anthrax is an acute infectious disease caused by the spore forming bacterium Bacillus anthracis. Anthrax most commonly occurs in wild and domestic animals such as cattle, sheep, goats, antelope and other herbivores, but can also occur in humans when they are exposed to infected animals or their tissues. Anthrax is most common in agricultural regions. When Anthrax affects humans, it is usually due to an occupational exposure to infected animals or their tissues. Direct person-to-person transmission is extremely unlikely to occur. To be effective, treatment by a doctor should be initiated early, if left untreated, the disease can be fatal.

How does a person get Anthrax?

There are three routes of infection:

Cutaneous - Most Anthrax infections occur when the bacterium enters a cut or abrasion on the skin, such as when handling contaminated wool, hides or animals. Symptoms include ulceration of skin at abrasion site and swollen lymph glands in adjacent area.

Inhalation - Initial symptoms may resemble a common cold, but after several days the symptoms may progress to severe breathing problems and shock. Inhalation Anthrax is often fatal.

Intestinal - This route is usually from the ingestion of infected or contaminated meat. Symptoms include acute inflammation of the intestinal tract, nausea, loss of appetite, vomiting of blood, abdominal pain and severe diarrhea. Intestinal Anthrax has a fatality rate of 25% - 60%.

Prevention

- Vaccination of people who are in contact with animals on a regular basis.
- Vaccination of animal herds.
- Avoid contact with suspect livestock if possible.
- Avoid eating meat that has not been properly slaughtered and inspected at a recognised abattoir.
- Avoid eating meat that has not been properly cooked.

Ascariasis - roundworm infection

What is Ascariasis?
An infection of the small intestine by the helminth Ascaris lumbricoides. Generally associated with few or no symptoms. Live worms, passed in stools or occasionally from the mouth or nose, are often the first recognised sign of infection. Heavy infestation may aggravate nutritional deficiency. Other symptoms include bowel obstruction or obstruction of the bile duct, pancreatic duct or appendix.

How does a person get Ascariasis?

By ingestion of infective eggs from soil contaminated with human faeces or uncooked produce contaminated with soil containing infective eggs, but not directly from person to person. Eggs reach the soil in the faeces and then undergo development; at summer temperatures they become infective after 2 weeks. The ingested eggs hatch in the intestine, with the larvae reaching the lungs via the bloodstream. The larvae will mature and grow in the lungs, and after 9-10 days after infection they pass into the alveoli of the lungs, ascend the trachea, and are swallowed to reach the small intestine, where they grow to full maturity.

Prevention

- Provide adequate facilities for the proper disposal of faeces and prevent soil contamination in and around areas adjacent to dwellings and especially children's play areas
- Always wash your hands after using the toilet, before eating and handling food.
- Health education with particular emphasis on personal hygiene and toilet habits.

Botulism

What is Botulism?

Botulism is the most severe of the food borne illnesses, but also the most uncommon. Botulism has a case fatality rate of between 15% and 20%. Usually, it occurs where food products are prepared or preserved by methods which do not destroy the spores, and which permit toxin formation. Botulism is usually associated with incorrect handling of post production canned foods and inadequate heat processing. Botulism is characterised by blurred or double vision, dry mouth, sore throat and vomiting and diarrhea, with eventual paralysis of the throat muscles and respiratory system. Unless adequately treated, about one third of patients may die within 3 to 7 days after onset of symptoms.

How does a person get Botulism?

The mode of transmission occurs from the ingestion of toxin, produced by the bacteria called Clostridium botulinum, preformed in contaminated food. Occurs predominantly after inadequate heating during the canning process.

Prevention

- Effective control of processing and preparation of commercially canned and preserved foods.
- Avoid rusted, blown, damaged or unlabelled canned foods.
- Always inspect canned foods carefully.
- If one is uncertain of quality of canned foods, boil the contents thoroughly.
- Avoid eating raw and fermented fish.

Brucellosis

What is Brucellosis?

A systemic bacterial disease with sudden onset. Characterised by continued, intermittent or irregular fever, headache, weakness, profuse sweating, chills, depression, weight loss and generalised aching. The disease may last a few days, months or occasionally for a year.

How does a person get Brucellosis?

Brucellosis is an occupational disease and is usually associated with people who have contact with infected animals or their tissues, such as abattoir workers, vets and farm workers. However, cases have occurred among consumers of unpasteurised (raw) milk or milk products (especially cheese) from cows, sheep and goats that are infected with brucellosis. The infectious bacteria are called Brucella abortus.

Prevention

- Avoid all milk and milk products from cows, sheep or goats that has not been pasteurised.
- Avoid consuming milk or milk products in the raw state.
- If pasteurisation is not possible, boiling the milk is essential.

Cholera

What is Cholera?

Cholera is an acute diarrheal illness caused by infection of the intestine with the bacterium Vibrio cholerae. The infection is often mild or without symptoms, but may be severe. Symptoms include watery diarrhea, vomiting, and rapid dehydration. Without treatment a person may die within hours. Often confined to impoverished areas that have poor sanitation, and areas with inadequate treatment of sewerage and drinking water.

How does a person get Cholera?

A person may contract cholera by drinking water or eating food contaminated with the cholera bacterium, via faeces soiled hands or flies. Raw seafoods and shellfish may also be contaminated if from polluted waters. The infection is not likely to spread directly from one person to another.

Prevention

- Drink only water that is treated with chlorine or that you have boiled.
- Eat only foods that have been thoroughly cooked and are still hot, or fruit that you have peeled yourself.
- Avoid raw or uncooked seafood.
- Avoid seafood that has come from sewerage contaminated seawater.
- A simple rule of thumb "Boil it, cook it, peel it or forget it".
- Avoid using night soil as fertiliser.
- Active immunisation.

Food poisoning - Bacillus cereus

What is Bacillus cereus food poisoning?

A gastrointestinal disorder characterised in some cases by sudden onset of nausea and vomiting and in others by colic and diarrhea. Symptoms tend to occur after 1 - 6 hours after infection. The infectious agent is the Bacillus cereus bacteria, an aerobic spore former. The poisoning generally persists for no longer than 24 hours and is rarely fatal.

How does a person get Bacillus cereus food poisoning?

By the ingestion of food that has been kept at room temperatures after cooking, allowing multiplication of the bacteria. Fried rice, vegatables and meat dishes mishandled after cooking are often resonsible for the poisoning. Commonly found in raw, dried and processed foods.

Prevention

- Avoid cooked foodstuffs that have been standing at room temperature for some time.
- Serve food dishes as soon as they are cooked, or cool them rapidly until serving time.
- Promptly refrigerate left over foods.
- Avoid inadequately cooked foods.
- Thorough reheating should be performed rapidly to avoid multiplication of bacteria.

Food poisoning - Clostridium perfringens

What is Clostridium perfringens food poisoning?

An intestinal disorder characterised by the sudden onset of colic, diarrhea and nausea, but seldom vomiting or fever. Generally a mild disease of short duration. Caused by the toxins elaborated by Clostridium perfringens or Clostridium welchii bacteria.

How does a person get Clostridium perfringens food poisoning?

Ingestion of food contaminated by soil or faeces that contain Clostridium perfringens. Almost all cases are associated with inadequately heated or reheated meats - usually stews, pies or gravies made of beef or chicken. The spores survive normal cooking temperatures, germinate and multiply during slow cooling, storage at ambient temperatures, or inadequate reheating.

It is often traced back to food catering firms, restaurants and school tuck shops, which have inadequate cooking and refrigeration facilities for large-scale service, especially if foods are cooked several hours before serving.

Prevention

- Serve meat dishes as soon as they are cooked, or cool them rapidly until serving time.
- Reheating, if necessary, should be thorough (with an internal temperature of no less than 75 degrees C) and rapid, otherwise avoid reheating leftover foods.
- Large cuts of meat should be thoroughly cooked.
- Avoid cooked foodstuffs that have been standing at room temperature for some time.
- A simple rule of thumb "Boil it, cook it, peel it or forget it".

Food poisoning – E.coli

What is E.coli food poisoning?

The organism can be found on a small number of cattle farms and can live in the intestines of healthy cattle. Meat can become contaminated during slaughter, and organisms can be thoroughly mixed into beef when it is ground. Bacteria present on the cow's udders or on equipment may get into raw milk. Although the bacteria, Escherichia coli is a normal inhabitant of the intestinal flora of man and animals, many strains are enteropathogenic and give rise to acute diarrhea in infants.

E.coli is considered to be responsible for a proportion of incidents described as "traveller's diarrhea". Eating meat, especially ground beef, that has not been cooked sufficiently to kill E. coli, can cause infection. Contaminated meat looks and smells normal. Although the number of organisms required to cause disease is not known, it is suspected to be very small.

How does a person get E-coli food poisoning?

E. coli bacteria and its toxins have been found in the following:

- Undercooked or raw beef hamburgers.
- Salami.
- Lettuce (unwashed).
- Unpasteurised milk, apple juice, and apple cider.
- Contaminated well water.
- Unsuspecting swimmers have been infected by accidentally swallowing swimming pool water that has not been chlorinated and contaminated by human faeces.
- People also can get infected by swimming in sewerage- contaminated water.

Bacteria in diarrheal stools of infected persons can be passed from one person to another if hygiene or hand washing habits are inadequate. This is particularly likely among toddlers who are not yet adequately toilet trained. Family members and playmates of these children are at high risk of becoming infected.

Prevention

- Cook beef meat patties thoroughly.
- Keep raw meat separate from cooked meat.
- Avoid unpasteurised juices.
- Drink only pasteurised milk and milk products.
- Wash fresh fruits and vegetables thoroughly with clean, fresh treated water before eating raw or cooking.
- Eat only thoroughly cooked meat and meat products.
- Wash hands thoroughly, especially after using the toilet.

Food poisoning - Salmonellosis

What is Salmonellosis?

Salmonellosis is a bacterial disease commonly manifested by sudden onset of headache, fever, abdominal pain, diarrhea, nausea, vomiting and dehydration. Dehydration in infants is often severe.

How does a person get Salmonellosis?

By ingestion of the Salmonella bacteria in food derived from infected food animals or contaminated by faeces of an infected animal or person. This includes raw (especially cracked) eggs and egg products, raw milk and milk products, meat and meat products and poultry and poultry products.

Infection may also be spread by animal feeds and fertilisers prepared from contaminated meat scraps, fish meal and bones. The faecal oral route of transmission from person-to-person is an important mode of transmission when diarrhea is present (infants pose a greater risk).

Usually a great number of Salmonella bacteria need to be ingested before illness develops. Epidemics of Salmonella infection can usually be traced back to foods such as commercially processed meat products, inadequately cooked poultry products, raw sausage, lightly cooked foods containing eggs or egg products, unpateurised milk, or foods contaminated by an infected person. The infection often starts with contaminated food and continues by person-to-person transmission via the hands of food handlers.

Prevention

- Avoid all cooked foods that have been prepared several hours before serving.
- Avoid cooked food that has been stored at room temperature for extended periods of time.
- Avoid inadequately cooked foods, especially poultry products.
- Strict personal hygiene.
- Washing of the hands, especially after using the toilet.
- Always cook poultry products thoroughly.
- Avoid reheating poultry product leftovers.
- Avoid unpasteurised milk and milk products.

Food poisoning - Staphylococcal

What is Staphylococcal food poisoning?

Staphylococcal food poisoning is an intoxication (not an infection) of abrupt and sometimes violent onset, with severe nausea, cramps, vomiting and diarrhea.

The illness does not last longer than a day or two. Onset of symptoms is usually soon after eating contaminated food, between 30 minutes and 4 hours. Infection is caused by the enterotoxins of Staphylococcus aureus.

How does a person get Staphylococcus food poisoning?

By ingestion of a food product containing Staphylococcus enterotoxin. Foods involved are usually those, which are in contact with food handler's hands either without subsequent cooking or with inadequate heating or refrigeration, such as pastries, custards, salad dressings, sandwiches and cold meats. When these foodstuffs remain at room temperature for several hours before being eaten, toxin producingStaphylococci multiply and elaborate the toxin. The bacteria may be from an infected cut on the hand of a food handler or from their nose or eyes.

Prevention

- Strict food handling and hygiene.
- Strict cleanliness of kitchens.
- Strict personal hygiene of food handlers.
- A simple rule of thumb "Boil it, cook it, peel it or forget it".

Gastroenteritis - diarrhoea

What is Gastroenteritis?

Gastroenteritis is an acute illness characterized by three or more watery or loose stools, cramps, nausea, urgency, bloating, fever, and malaise usually lasting 3 to 7 days, sometimes longer. Diarrhea is seldom life threatening. Outbreaks are common in areas with poor sanitation.

Most of the time diarrhea is self-limiting and requires replacement of fluids and electrolytes (body salts) lost in loose stools. Sufferers should begin treatment by oral re-hydration by drinking large amounts of bottled or fruit juices, caffeine- free soft drinks, and Sports drinks. Avoid drinking iced or non-carbonated bottled fluids made from water of uncertain quality and dairy products. When in doubt of water purity use boiled or bottled water. Foods easily digested such as rice, bananas, gelatine, dry toast, and salty crackers can also be consumed to aid in re-hydration.

Sufferers should always consult a doctor rather than attempt self-medication if the diarrhea is severe or does not improve within several days; if there is blood and/or mucus in the stool; if fever occurs with shaking chills; or if there is dehydration with persistent diarrhea.

How does a person get Gastroenteritis?

Gastroenteritis is usually contracted through ingestion of food or water contaminated by Bacillus cereus bacteria, or the faecal oral route.

Prevention

- Sanitary disposal of human faeces.
- Good personal hygiene.
- Maintenance of fly control.
- Regular hand washing.

- Only drink from safe water supplies that are regularly chlorinated, or alternatively, boiled.
- A simple rule of thumb "Boil it, cook it, peel it or forget it".
- By not eating cooked foods that have been stored at room temperature for several hours.
- Prophylaxis.

Hepatitis A

What is Hepatitis A?

Hepatitis A is a highly contagious viral disease that attacks the liver. Although hepatitis A is found throughout the world, its incidence is highest in developing countries, such as South Africa. Within 3 to 5 weeks after infection, an onset of symptoms that range from mild to severe fever, vomiting, abdominal pain, fatigue, jaundice, and lack of appetite, may occur. All people who have not had hepatitis A infection or vaccination for hepatitis A are at risk of developing the infection.

Outbreaks commonly occur in institutions, day care centres, sub economic housing projects and rural areas, where environmental sanitation is poor or lacking. Infection is common and may occur at an early age.

How does a person get Hepatitis A?

Hepatitis A is most commonly spread from person to person and through food and water contaminated with the Hepatitis A virus, or by the faecal oral route.

Prevention

- Good personal hygiene.
- Good sanitation hygiene.
- Regular and careful hand washing, especially after going to the toilet.
- Prophylactics.
- Do not allow infected persons to prepare or handle food.
- Avoid inadequately cooked foods.
- Avoid eating shellfish from sewerage contaminated seawater.
- A simple rule of thumb "Boil it, cook it, peel it or forget it".

Hepatitis E

What is Hepatitis E?

Hepatitis E, is very similar to Hepatitis A, and is clinically indistinguishable from Hepatitis A. HEV is a viral transmitted disease that can be distinguished from other forms of acute viral hepatitis only by using specific serological testing. This disease is most often seen in young to middle age adults, and pregnant women appear to be exceptionally susceptible to severe symptoms and mortality. Symptoms include malaise, anorexia, abdominal pain and fever.

How does a person get Hepatitis E?

HEV is usually associated with faecal contaminated drinking water. The potential for HEV transmission from contaminated food is still under investigation, and there is no evidence of transmission by sexual exposures. There is no vaccine to prevent HEV.

Prevention

- Good sanitation practices.
- Good personal hygiene practices.
- The best prevention of infection is to avoid potentially contaminated water (and food), as

with hepatitis A and other enteric infections.

Listeriosis

What is Listeriosis?

Listeriosis is a serious infection caused by eating food contaminated with the bacterium Listeria monocytogenes. The disease affects primarily pregnant women, newborns, and adults with weakened immune systems. Listeria infection is not usually dangerous for healthy adults and children. Pregnant women are 20 times more likely than other healthy adults to get Listeriosis.

In pregnancy, the listeria bacteria can cross the placenta and cause serious illness for the fetus or newborn and may lead to miscarriage, premature birth or stillbirth. In newborns, listeriosis can cause breathing problems, chest infections or meningitis, an inflammation of the lining of the brain.

Listeriosis can be easily missed as it often presents with vague symptoms such as headache, nausea, vomiting, sudden fever, muscle and joint aches and pains or loss of balance. Severity of the symptoms varies. These symptoms usually appear within 2 to 30 days but can take up to 90 days after eating contaminated food. Symptoms vary from person to person, and the diagnosis is confirmed by a blood test. Listeria can be safely treated during pregnancy with antibiotics.

Such treatment prevents infection of the fetus or newborn. Infected newborns are also treated with antibiotics.

How does a person get Listeriosis?

Listeria monocytogenes is found naturally in soil, dust, ground water and animal feces (including those from pets), and may also be on unwashed raw produce, raw meats, processed foods, prepared meats (i.e. hot dogs, deli meats, etc.)

Prevention

- Use pasteurized milk and dairy products only.
- Cook raw foods from animal sources thoroughly (i.e. beef, pork, poultry).
- Be sure to wash all produce thoroughly under running water before eating.
- Wash hands, knives and cutting boards with hot soapy water after handling uncooked foods.
- Store raw meats separate from cooked and ready-to-eat foods.
- Make sure your refrigerator always stays at 5°C or below (Listeria can grow at refrigeration temperatures).
- Use all perishable foods that are precooked or ready-to-eat as soon as you can.
- Be sure to clean refrigerators on a regular basis.
- Try to eat freshly cooked or freshly prepared foods only.
- A simple rule of thumb "Boil it, cook it, peel it or forget it".

Malaria

What is Malaria?

Although malaria is not prevalent in the Cape Town area, some cases have been reported by people who have returned from endemic regions. Malaria is prevalent mostly in the northern regions of South Africa. Malaria is a preventable infection that can be fatal if left untreated. The most serious of the malaria's is the falciparum malaria, caused by a protozoa called Plasmodium falciparum. Symptoms include fever, chills, sweats, increased temperature, headache, and may include shock, renal and liver failure, and eventually coma if not treated in time. Once a person has had malaria, relapses may occur from time to time.

How does a person get Malaria?

By the bite of an infective female Anopheles mosquito. Most mosquitos feed at dusk and during early night hours. When a female Anopheles mosquito ingests blood from an infected person, that contains the sexual stages of the Plasmodium Falciparum (PF), the male and female PF unite in the mosquito's stomach to form a cyst in which thousands of spores develop. These spores migrate to the salivary glands of the mosquito and are in turn injected into the next victim as the insect feeds. Roughly 12 days after the infectious bite, the symptoms begin.

Prevention

- Avoid endemic malaria areas.
- Regular use of "anti-malarial" chloroquine based, or other suitable medication if visiting endemic areas (ask your GP).
- Destroy mosquito breeding grounds by reducing the amount of stagnant water, by filling in and draining areas of impounded water.
- Apply mosquito repellent to exposed skin and spray residual insecticide on the internal wall surfaces of dwellings.
- Mosquito screens on doors and windows and mosquito nets over sleeping areas.

Measles

What is Measles?

Measles is one of the most readily transmitted communicable diseases. Patients with measles present with a fever and a rash. The rash is painless and looks like small, red, flat spots all over the body.

Other symptoms include coughing, conjunctivitis (red eyes) and a running nose. In severe cases of Measles, symptoms and complications may include diarrhoea, dehydration, brain infection (encephalitis), blindness and death.

Complications are more serious in young infants (under 2 years of age) and in children who are malnourished.

How does a person get Measles?

By droplet spread or direct contact with the nasal or throat secretions of an infected person.

Prevention

Vaccination of all young children.

Poliomyelitis

What is Poliomyelitis?

In the pre vaccine era, infection with poliovirus was common. Poliomyelitis is an acute viral infection, caused by the Poliovirus 1, 2 and 3. Symptoms include fever, malaise, headache, nausea and vomiting, excruciating muscle pain and spasms, and stiffness of the neck and back, paralysis and occasionally death. The risk of acquiring polio is far greater in many countries of the developing world where poor sanitation is a problem. Polio is transmitted by contaminated food and water.

How does a person get Polio?

Direct contact with an infected person or through infected milk, foodstuffs and faecal contaminated materials. Faecal oral is the most common route of transmission where sanitation is poor or lacking.

Prevention

- Polio vaccine.
- Good personal hygiene.
- Good sanitation hygiene.

Rabies

What is Rabies?

Rabies is an acute viral disease, characterised by headache, fever, and malaise. The disease progresses to paralysis, delirium and convulsions. Death may occur, due to respiratory failure.

How does a person get Rabies?

From the bite of a wild or domestic animal infected with the rhabdovirus. Dogs are most often involved, although other animals may be affected, such as jackals, mongooses and even cats, although rarely. Virus laden saliva of a rabid animal is introduced by a bite. Transmission from person to person is very rare.

Prevention

- Vaccination of all dogs and cats.
- Be careful when dealing with domestic or wild animals that are behaving strangely.
- Destroy infected animals immediately.
- Immunisation of all people who deal with animals of this nature on aregular basis.
- If you suspect that you have been bitten by a rabid animal, thoroughly cleanse and flush the bite wound with soap or detergent, and visit the hospital or your GP as a matter of urgency.

Scabies

What is Scabies?

Scabies is an infectious disease of the skin caused by a mite, Sarcoptes scabiei, whose penetration is visible as vesicles containing the mites and their eggs.

Lesions are prominent around finger webs, anterior surfaces of wrists and elbows, belt line, thighs and external genitalia in men; nipples, abdomen and lower portion of the buttocks in women. In infants, the head, neck, palms and soles may be involved. Itching is intense, especially at night. Scabies is endemic in many developing countries.

The incubation period is 2 - 6 weeks before onset of itching in persons without previous exposure, and 1 - 4 days in persons who have been previously infected, after re exposure. Scabies is infectious as long as the mites and eggs are still alive and active.

How does a person get Scabies?

By direct skin to skin contact, transfer from under clothes occur only if these items have been contaminated by infected persons immediately beforehand, and can also be acquired during sexual contact. The mites can burrow beneath the skin surface in 2.5 minutes.

Prevention

- Health education of the general public as to the modes of transmission.
- Disinfect contaminated bedding and clothing.
- Exclude infected individuals from school or work until clear of all mites and eggs.

Schistosomiasis - bilharzia

What is Bilharzia?

Bilharzia is a disease caused by a parasitic worm (trematode). Infection with Schistosoma mansoni and S.haematobium causes illness in humans. Within days after becoming infected, a person may develop a rash or itchy skin. Fever, chills, cough, and muscle aches can begin within 1-2 months of infection. Most people have no symptoms at this early phase of infection.

Infection occurs when a person's skin comes in contact with contaminated fresh water, in which certain types of snails that carry schistosomes are living.

Eggs travel to the liver or pass into the intestine or bladder. Rarely, eggs are found in the brain or spinal cord and can cause seizures, paralysis, or spinal cord inflammation. For people who are repeatedly infected for many years, the parasite can damage the liver, intestines, lungs, and bladder.

Symptoms of Bilharzia are caused by the body's reaction to the eggs produced by worms, and not by the worms themselves.

How does a person get Bilharzia?

Fresh water becomes contaminated by Schistosoma eggs when infected people urinate or defecate in the water. The eggs hatch, and if certain types of snails are present in the water, the parasites grow and develop inside the snails. The parasite leaves the snail and enters the water where it can survive for about 48 hours. Schistosoma parasites can penetrate the skin of persons who are wading, swimming, bathing, or washing in contaminated water. Within several weeks, worms grow inside the blood vessels of the body and produce eggs. Some of these eggs travel to the bladder or intestines and are passed into the urine or stool. This disease is not transferred from person to person.

Prevention

- Dispose of faeces in a hygienic manner.
- Avoid swimming or wading in fresh water which you suspect might be infected by bilharzia.
- Swimming in the ocean and in chlorinated swimming pools is generally thought to be safe.
- Drink safe water. Because there is no way to make sure that water coming directly from canals, lakes, rivers, streams or springs is safe, you should either boil water for at least one minute or filter water before drinking it. Cape Town has a safe water supply from the tap.
- Boiling water for at least one minute will kill any harmful parasites, bacteria, or viruses present. Adding bleach to the water will not guarantee that water is safe and free of all parasites.
- Bath and shower water held in a storage tanks for at least 48 hours should be safe for showering.
- Vigorous towel drying after an accidental, very brief water exposure may help to prevent theSchistosoma parasite from penetrating the skin.

Shigellosis - dysentery

What is Shigellosis?

Shigellosis, also known as Bacillary dysentery, is an acute bacterial disease caused by the Shigellabacteria and involves the large and small intestine. Symptoms of the disease include diarrhea accompanied by fever, nausea and sometimes vomiting and cramps. In typical cases the faeces contain blood, mucous and pus (dysentery). The severity of the illness depends on the age and state of nutrition of the patient.

How does a person get Shigellosis?

By direct or indirect faecal-oral transmission from a patient or carrier. Infection may occur after an individual who fails to clean their hands thoroughly after using the toilet, transmits the infection by direct contact or indirectly by contaminating food. Water, milk, cockroach and fly transmission may occur as a result of direct faecal contamination.

Prevention

- Sanitary disposal of human faeces.
- Regular hand washing, especially after using the toilet.
- Avoid inadequately cooked or reheated foods.
- Only drink from safe water supplies that are regularly chlorinated, or boiled.
- Wash fruit and vegetables in clean chlorinated water or water that has been boiled.

Taeniasis - beef tapeworm

What is Taeniasis?

Taeniasis (beef) is an intestinal infection with the adult stage of the large beef tapeworm, called Taenia saginata. Infected persons pass the eggs to the soil through their faeces and cattle become infected after ingesting the eggs together with their food, resulting in an adult tapeworm developing in the intestine of the cattle and infecting their meat.

Symptoms include nervousness, insomnia, anorexia, loss of weight, abdominal pain and digestive disturbances, but often the infection has no symptoms, except for worm segments emerging out of the anus. Taeniasis (beef) is usually a non-fatal infection. Taenia saginata is not directly transmitted from person to person.

How does a person get Taeniasis?

Occurs frequently where beef is eaten raw or insufficiently cooked, and the cysts (larval stage) in the meat are ingested, with subsequent development of an adult tapeworm in the intestine.

Prevention

- Cook beef thoroughly before eating.
- Prevent contamination of the soil, water and food with human faeces.
- Avoid eating foods that have been irrigated by sewerage effluents.
- Adequate inspection of beef carcasses.

Taeniasis - pork tapeworm

What is Taeniasis?

Taeniasis (Pork) is an intestinal infection with the adult stage of the large pork tapeworm, called Taenia solium. Symptoms include nervousness, insomnia, anorexia, loss of weight, abdominal pain and digestive disturbances, but often the infection has no symptoms, except for worm segments emerging out of the anus. Taeniasis (Pork) is usually a non-fatal infection, but the larval infection called cysticercosis may be serious.

Cysticercosis occurs when eggs of the pork tapeworm are swallowed and hatch in the intestines and the larvae then migrate to other organs and parts of the body to form cysts. The consequences may be serious if these cysts lodge themselves in the eye, central nervous system or the heart.

How does a person get Taeniasis?

Occurs frequently where pork is eaten raw or insufficiently cooked, and the tapeworm or a part thereof is ingested, with subsequent development of an adult tapeworm in the intestine. Cysticercosis may occur by direct transfer of the Taenia solium eggs from the faeces of a person harbouring an adult worm to his own or another's mouth, or indirectly by ingestion of food or water contaminated with eggs.

Prevention

- Cook pork thoroughly before eating.
- Prevent contamination of the soil, water and food with human faeces.
- Avoid eating foods that have been irrigated by sewerage effluents.
- Adequate inspection of pork carcasses.

Toxoplasmosis

What is Toxoplasmosis?

Toxoplasmosis is a systemic protozoal disease, caused by the protozoan Toxoplasma gondii.Toxoplasmosis occurs worldwide in mammals, birds and man. Infection in man is common, although not directly transmitted from person to person, except in utero. Primary infection is frequently asymptomatic, acute disease may occur with fever, lymphadenopathy and lymphocytosis persisting for days or weeks.

How does a person get Toxoplasmosis?

By eating raw or under cooked infected meat (pork or mutton, more rarely beef) containing cysts or by the ingestion of infective oocysts in food, water or dust contaminated with feline (cat) faeces. Cats acquire the infection as a faeces- borne infection from other cats, or from eating infected mammals, especially rodents or birds. Cats carry the parasite in their intestinal tract, with the oocysts being excreted in their faeces 10 - 20 days later, where the cysts can remain infective in water or moist soil for months or years. Transplacental infection in humans may occur if the pregnant woman has a primary infection. Children are often at risk from ingesting infective oocysts in play sand boxes in which cats has defaecated. Cysts in the flesh of an infected animal remain infective as long as the meat is edible and uncooked.

Prevention

- Cook meat thoroughly.
- Feed cats dry, canned or boiled food and discourage them from hunting or scavenging.
- Dispose of cat faeces and litter daily. Faeces can be flushed down the toilet, and dried litter should be disposed of without shaking, to avoid dispersal of oocysts in the air.
- Pregnant woman should avoid cleaning litter trays or contact with cats of unknown feeding

history, unless the woman is known to have antibodies to Toxoplasma gondii.

- Wear gloves while gardening and thoroughly wash hands afterwards.
- Children's play sand boxes should be covered when not in use.
- Wash hands thoroughly after handling raw meat or contact with soil possibly contaminated with cat faeces.

Trichinellosis

What is Trichinellosis?

A disease is caused by an intestinal roundworm (nematode) Trichinella spiralis, whose larvae migrate to and become encapsulated in the muscles. Sudden appearance of muscle soreness and pain, and edema of upper eyelids is a common early and characteristic sign of infection.

Other symptoms include thirst, profuse sweating, chills, weakness, prostration and high fever.

Gastrointestinal symptoms, such as diarrhea, due to the intraintestinal activity of the adult worms, may occur.

How does a person get Trichinellosis?

By eating raw or insufficiently cooked meat of animals containing viable encysted larvae, especially pork and pork products, and "beef products" such as hamburger patti's mixed either intentionally or inadvertently with raw pork.

Once in the small intestine, the larvae develop into adult worms, with the female worms producing further larvae, which penetrate the lymphatic system and are then spread through the body via the bloodstream, eventually becoming encapsulated in the skeletal muscle of the body.

Prevention

- Cook all fresh pork and pork products at sufficiently high temperatures for long time duration.
- Avoid feeding pigs with garbage or offal.
- Pork should always be handled separately from other meats and foodstuffs, to avoid cross contamination.

Typhoid Fever

What is Typhoid Fever?

Typhoid Fever is a severe systemic bacterial infection characterised by the onset of a fever, headache, abdominal pain or cramps, nausea and vomiting, constipation or diarrhea, a skin rash (rose spots) on the chest, abdomen and back, and a non- productive cough. The infectious bacteria are called *Salmonella Typhi*.

How does a person get Typhoid Fever?

By food or water contaminated by faeces or urine of an infected person or carrier during the food preparation process. Shellfish taken from sewerage contaminated beds and raw fruits, vegetables, milk and milk products contaminated by the hands of infected persons or carriers.

Prevention

- Sanitary disposal of human faeces.
- Regular hand washing.
- Only drink from safe water supplies that are regularly chlorinated, or alternatively, boiled.

- Wash fruit and vegetables in clean chlorinated water or water that has been boiled.
- If uncertain of sanitary practices when buying food, then select food that is cooked and hot.
- Fly control.
- Typhoid vaccine is currently available.
- It is important to follow food and water precautions.
- Immunization is recommended for all persons living in areas where sanitation is inadequate or under developed.
- A simple rule of thumb "Boil it, cook it, peel it or forget it".

Yellow fever

What is Yellow fever?

An acute infectious disease of short duration and varying severity. Symptoms include sudden onset of fever, headache, backache, nausea and vomiting. As the disease progresses, the pulse slows and weakens. Jaundice (yellow) occurs relatively early in the disease and intensifies later. Endemic in Angola, Kenya, Tanzania, Uganda, Zambia, Zaire, Ethiopia and Sudan.

How does a person get Yellow fever?

In urban areas and some rural areas, by the bite of the infective Aedes Aegypti mosquitoes.

Prevention

- Eradication and control of Aedes aegypti mosquitoes.
- Active immunisation.