

SWEETWATER-NOLAN COUNTY HEALTH DEPARTMENT

Issues On Preparedness

February 2017

The Importance of Disease Reporting: By Shelia Ellison, L.V.N.

Public health agencies are charged with preventing disease and injury in humans. One of the keystones of disease prevention is the reporting of certain diseases by physicians, veterinarians, and other health professionals such as hospitals, laboratories, schools, day care centers, etc. These conditions can be sexually transmitted diseases, food borne illnesses, or vaccine preventable disease. Parasitic diseases were added to the list of notifiable conditions this year as well.

Several Texas laws found in the Health & Safety Code, Chapters 81, 84, and 87 require specific information regarding notifiable conditions be provided to the Texas Department of State Health Services (DSHS). All diseases shall be reported by name, age, sex, race/ethnicity, DOB, address, telephone number, disease, date of onset, method of diagnosis, and name, address, and telephone number of physician.

Most notifiable conditions, or other illnesses that may be of public health significance, should be reported directly to the local health department or health services regions. Reports can also be made by telephone to the statewide reporting number, 1-800-705-8868. It is designed to route a caller to the appropriate local or regional health entity. Paper reporting forms can be obtained by calling your local or health service region.

Texas Law requires health care providers to report the following five sexually transmitted diseases; HIV and AIDS, Syphilis, Chlamydia, Gonorrhea, and Chancroid.

When reporting HIV and AIDS cases among adults or adolescents ages 13 and older, submit a completed Adult HIV/AIDS Confidential Case Report Form to your local reporting authority within seven calendar days.

The information that should be included in the report should be the patient's demographics, residence of diagnosis, facility at diagnosis, personal history, lab tests, clinical status, medical treatment, and testing and treatment history.

On the following page, you will find a list of the parasitic diseases that were added to the notifiable conditions list for 2017, information on each condition and when to report it.

Call Sweetwater-Nolan County Health Department Immediately 24/7

Business Hours 325-235-5463/After Hours 325-933-0428.

Ascariasis, or roundworm infection of the intestines, is common throughout the world in both temperate and tropical areas where sanitation and hygiene are poor. In those areas, everyone may be harboring the parasite that causes the infection.

Ascariasis is one of the most common human parasitic infections. According to the World Health Organization, it infects more than 1 billion people worldwide. Ascariasis is most common in children between 3 and 8 years old.

Ascaris infection is caused by a parasitic roundworm called *Ascaris lumbricoides*. This worm resembles the common earthworm. Ranging in length from 6 to 13 inches, the female worm may grow to be as thick as a pencil. Up to 100 worms could potentially infect the human body.

Almost more than any other parasitic disease, inadequate personal hygiene leads to ascariasis. Human feces found in fields, streets, and yards are major source of infective eggs in heavily populated areas. The eggs do not infect humans when first excreted by the roundworm. They usually are transmitted by hand to mouth. The use of human feces as fertilizer also may permit transmission of infective eggs through food that is grown in the soil and eaten without being thoroughly washed. The eggs are resistant to extremes of temperature and humidity.

Symptoms include severe abdominal pain, vomiting, restlessness, and disturbed sleep. The heavier or greater the worm infection, the more severe your symptoms are likely to be. Your pancreas might become inflamed. Serious infections, especially those causing blockages, can be fatal. **Ascariasis is reportable in one week.**

Echinococcosis is a zoonotic disease (a disease that is transmitted to humans through animals) that is caused by parasites, namely tapeworms of the genus *Echinococcus*.

A number of herbivorous and omnivorous animals act as intermediate hosts of *Echinococcus*. This means they get infected by ingesting the parasite eggs in the contaminated ground and develop parasitic larval stages in their viscera. Carnivores are definitive hosts for the parasite, and are infected through the consumption of viscera of intermediate hosts that harbor the parasite and also through scavenging infected carcasses.

Humans are so-called accidental intermediate hosts, acquiring the infection in the same way described above for the intermediate hosts, but are not able to transmit the disease.

Cystic echinococcosis is principally maintained in a dog-sheep-dog cycle, yet several other domestic animals may be involved, including goats, swine, horses, cattle, camels and yaks.

Symptoms include abdominal pain, nausea and vomiting if hydatids occur in the liver. If the lung is affected, clinical signs include chronic cough, chest pain and shortness of breath. **Echinococcosis is reportable in one week**

Fascioliasis is caused by two species of parasitic flatworms or trematodes that mainly affect the liver. It belongs to the group of foodborne trematode infections and is a zoonosis, meaning an animal infection that may be transmitted to humans.

The two species of trematodes that cause fascioliasis (*Fasciola hepatica* and *F. gigantica*) are leaf-shaped worms, large enough to be visible to the naked eye. Adult *F. hepatica* measure 20-30 mm X 13 mm; adult *F. gigantica* measure 25-75 mm X 12 mm.) The disease they both cause is similar.

WHO (World Health Organization) estimates that at least 2.4 million people are infected in more than 70 countries worldwide, with several million at risk. No continent is free from fascioliasis, and it is likely that where animal cases are reported, human cases also exist.

The life-cycle of fascioliasis is complex. It involves a final host (where the adult worm lives), an intermediate host (where the larval stages of the worm develop) and a carrier (entailing suitable aquatic plants).

The process starts when infected animals (cattle, sheep, buffaloes, donkeys and pigs but also horses, goats, dromedaries, camels, llamas and other herbivores) defecate in fresh-water sources. Since the worm lives in the bile ducts of such animals, its eggs are evacuated in feces and hatch into larvae that lodge in a particular type of water snail (the intermediate host).

Once in the snail, the larvae reproduce and eventually release more larvae into the water. These larvae swim to nearby aquatic or semi-aquatic plants, where they attach to the leaves and stems and form small cysts (metacercariae). When the plants with the small cysts attached are ingested, they act as carriers of the infection. Watercress and water-mint are good plants for transmitting fascioliasis, but encysted larvae may also be found on many other salad and vegetables. Ingestion of free metacercariae floating on water (possibly detached from carrier plants) may also be possible mode of transmission.

Signs and symptoms occur after the larvae are ingested with contaminated food or water, a symptomless incubation period starts, lasting for a few days to a few months. This is followed by an acute and a chronic clinical phase. **Fascioliasis is reportable in one week.**

Hookworm (ancylostomiasis) is one of the most common parasitic roundworm infections of the intestines. This disease is widespread in tropical and subtropical countries where people may defecate on the ground and where the soil moisture is most favorable for hookworm eggs to develop into larvae (immature worms).

The World Health Organization (WHO) estimates hookworm disease affects 740 million people worldwide. Once a big problem in the southeastern United States, hookworm disease is now largely controlled in this country.

The parasitic roundworm, known as hookworm, causes hookworm disease. *Necator americanus* is the most common type of hookworm that causes infection in the United States.

- Hookworm eggs are passed in human feces onto the ground where they develop into infective larvae (immature worms)
- When the soil is cool, the larvae crawl to the nearest moist area and extend their bodies into the air.
- The larvae stay in the soil-waving their bodies to and fro-until they come into contact with human skin, usually when stepped on by a bare foot, or until they are driven back into the ground by the heat.

You can get hookworm by walking barefoot over contaminated soil. In penetrating your skin, the hookworm larvae (immature worms) may cause an allergic reaction. It is from the itchy patch at the place where the larvae entered your body that the early infection came to be known as “ground itch.”

Once larvae have broken through your skin, they enter your bloodstream and are carried to your lungs. Unlike ascarids, another form of parasitic roundworm, hookworms do not usually cause pneumonia. The larvae migrate from your lungs to your windpipe and are then swallowed and carried back down to your small intestine.

Symptoms include diarrhea, abdominal pain, intestinal cramps, colic, and nausea. Scientist have learned that people in good health and on a diet containing adequate amounts of iron can tolerate the presence of these worms in small or moderate numbers without any symptoms.

A laboratory worker will examine your stool specimens to look for and count the number of eggs that may be there.

If the number of hookworm eggs in your intestines is large enough-more than 2,000 eggs per gram of stool-your healthcare provider will assume that the infection may cause anemia and start treating you.

Once you have been diagnosed with hookworm disease, your healthcare provider may prescribe medicine, such as mebendazole or albendazole. You might also be given an iron supplement with this treatment.

Hookworm is reportable in one week.

Paragonimiasis or lung fluke disease, is caused by infection with a number of species of trematodes belonging to the genus *Paragonimus*. *Paragonimus* is a common parasite of crustacean-eating mammals such as tigers, leopards, domestic cats, dogs, mongooses, opossums and monkeys. The adult flukes live in the lungs and lay eggs that are coughed up through the airways and either expectorated in the sputum or swallowed and defecated. When they reach fresh water, the eggs develop into miracidia that penetrate various species of aquatic snails, where they further develop and reproduce asexually, giving rise to cercariae (larvae).

Humans may substitute reservoir hosts in the transmission cycle when they eat raw, salted, pickled, smoke, marinated, dried, partially cooked or poorly processed crustaceans, thus ingesting the metacercariae. In humans, the earliest stages of paragonimiasis may present an elusive clinical picture, and be asymptomatic or scarcely symptomatic. Conversely, when worms reach the lungs, symptoms may be significant and typically include chronic cough with bloodstained sputum; chest pain with dyspnea and fever, pleural effusion and pneumothorax are possible complications.

Symptoms mimic that of tuberculosis, and paragonimiasis should always be suspected in patients with tuberculosis who are non responsive to treatment.

Diagnosis of paragonimiasis is suspected on the basis of the clinical picture, on the anamnestic recall of consuming raw crustaceans, on the detection of eosinophilia, and on typical findings of ultrasound, X-ray, computed tomography or magnetic resonance imaging scans. Tests to rule out tuberculosis should always be conducted. Confirmation of diagnosis relies on different types of diagnostic techniques. **Paragonimiasis is reportable in one week.**

Trichuriasis is caused by various species of Trichuris, nematode parasites in the family Trichuridae. These parasites are also known as whipworms. Both larval and adult whipworms are normally found only in the intestines. They do not undergo tissue migration. Most human cases are caused by *Trichuris trichiura*, a parasite of humans and some non-human primates. Zoonotic trichuriasis is caused by the animal parasites *Trichuris vulpis* and *Trichuris suis*. *T. trichiura*, *T. vulpis* and *T. suis* are found worldwide, but are most prevalent in warm, humid climates. They are rare or nonexistent in arid, very hot, or very cold regions.

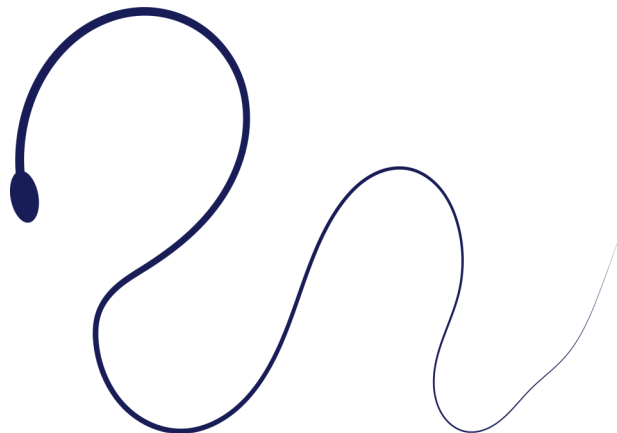
Trichuriasis is often asymptomatic in humans but heavy infections can cause chronic diarrhea, which may be bloody. Other symptoms may include abdominal pain and distention, nausea, vomiting, flatulence, headache, weight loss, malnutrition and anemia. Nonspecific signs such as nervousness, anorexia and urticarial have been reported in some individuals.

To reduce human exposure, infected dogs, should be dewormed. Canine feces should be removed from areas where children play before the eggs become embryonated. There is no practical way to remove parasitic eggs from the soil once contamination has occurred; however, *Trichuris* eggs are less likely to survive and develop in drier, sunnier locations. Lawns where dogs defecate should be kept short, to reduce shade on the soil, and should not be overwatered. Contamination can be decreased in public areas by restrictions on uncontrolled dogs, collection of feces by dog owners, and prevention of animal access to areas such as children's playgrounds.

Good hygiene can help prevent infections or severe disease. Hands and raw food should be washed before eating. Unsafe drinking water should be boiled or filtered. Children should be taught not to eat soil, and to wash their hands after playing with pets or outdoor activities. Children should not be allowed to play where animal feces are found.

Trichuriasis is diagnosed by detecting *Trichuris* eggs in the feces, usually by fecal flotation.

Trichuriasis can be treated with anthelmintics, including fenbendazole, febantel, mebendazole, dichlorvos and butamisolol. **Trichuriasis is reportable within one week.**

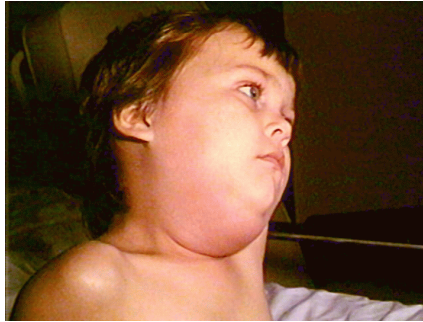


Notifiable Conditions in the Headlines: MUMPS

Mumps is caused by a virus and is spread from person to person via droplets of saliva or mucus from the mouth, nose, or throat of an infected person, usually when the person coughs, sneezes, or talks. The virus may also be spread indirectly when someone with mumps touches items or surfaces without washing their hands and then someone else touches the same surface and rubs their mouth or nose. Mumps is less contagious than measles or chickenpox.

The incubation period of mumps is usually 16-18 days, but can range from 12-25 days.

Individuals with mumps usually experience symptoms like headache, loss of appetite, and low-grade fever. The most well-known sign of mumps is parotitis, the swelling of the salivary glands, or parotid glands, below the ear. Parotitis occurs only in 31% of individuals infected with mumps. From 15% to 27% of people with mumps have no signs or symptoms of illness; others may have respiratory symptoms or only non-specific symptoms such as headache, loss of appetite, and low grade



fever. The most common complication is otitis, the swelling of the salivary gland behind the ear. Parotitis occurs only in 31% of mumps. From 15% to 27% of people with mumps have no symptoms of illness; others may have specific symptoms such as headache, fever.

In children, mumps is usually a mild disease. Adults may have more serious disease and more complications.

Possible complications from mumps include: Orchitis (testicular inflammation) this involves pain, swelling, nausea, vomiting, and fever, with tenderness of the area possibly lasting for weeks. Approximately half of patients with orchitis have some degree of testicular atrophy, but sterility is rare. Inflammation of the ovaries (oophoritis) and/or breasts (mastitis) can occur in females who have reached puberty. An increase in miscarriage has been found among women who developed mumps during the first trimester of pregnancy in some studies but not in others; however, there is no evidence that mumps causes birth defects. Deafness, in one or both ears, can occur in approximately one per 20,000 reported cases of mumps.

There is no cure for mumps, only supportive treatment (bed rest, fluids, and fever reduction).

Mumps is diagnosed by a combination of symptoms and physical signs and laboratory confirmation of the virus, as not all cases develop characteristic parotitis and not all cases of parotitis are caused by mumps.

People with mumps are usually considered most infectious from a few days before until 5 days after the onset of parotitis. Therefore, CDC recommends isolating mumps patients for 5 days after their glands begin to swell.

If a person feels they have been exposed to mumps, and they have not been vaccinated with MMR (measles mumps rubella) vaccine, receiving the vaccine after exposure to the virus will not help prevent disease if the person has already been infected. However, if they did not become infected after this particular exposure, the vaccine may help protect him or her against future infection with mumps virus. People who have had mumps are usually protected for life against another mumps infection. However, second occurrences of mumps do rarely occur.

Reminder to individuals or organizations who sell food to public

By Linda Kite

The Sweetwater Jaycees Rattlesnake Round Up is approaching fast, bringing many food vendors to town. Local residents see it as an opportunity to make extra money or for groups to do a fundraiser.

Individuals and organizations cannot sell food to the public without a county health permit as required by State and County law. If you plan to sell food, you must first contact the Sweetwater-Nolan County Health Department (SNCHD), located at E. 12th to request an application and pay an annual fee. Also, a food handler's certificate is required before a permit can be issued. Following the application process, the temporary food vendor establishment must pass an inspection.

All temporary food vendors must have a copy of their most recent inspection form, visible to customers as proof they are permitted.

If you have any questions, contact Linda Kite at 325-235-5463, come by the health department or visit our website at www.nolancountyhealth.com, under the **Environmental Health section**.

