

# **INFECTIOUS DISEASES**

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### **INFLUENZA**

Influenza is caused by a virus which attacks the respiratory tract, usually with sudden onset. The most common symptoms are: fever, chills, cough, headache, sore throat, muscle aches, runny nose and weakness.

An annual “flu” shot is recommended for persons 65 years of age or older. Severe influenza illness and influenza related deaths occur most commonly in the elderly population. Younger individuals with special conditions such as heart disease, diabetes, lung disease and certain other chronic health conditions should also get a flu shot each year (see your doctor if you are in doubt).

Studies show that influenza vaccines are 75% to 80% effective, but even if you should contract the flu, it will be a much milder case. The best time to receive a flu shot is in October or November. Protection gained from a shot in one year usually does not provide protection the following year. Therefore it is necessary to receive a flu shot every year in order to be adequately protected.

### **PNEUMOCOCCAL PNEUMONIA**

Persons 65 years of age or over and others with certain chronic illnesses should receive the pneumococcal (pneumonia) vaccine. Pneumococcal pneumonia accounts for a large amount of all pneumonia in adults. It occurs in all age groups, but anybody over 65 is at least twice as likely to get it. Particularly among older persons, there is the danger of serious complications, even death, from this disease. The disease usually begins suddenly (although in the elderly it may start slowly) with a high fever, shaking chills, chest pain and a cough. It is important to see a doctor as soon as these symptoms appear. Tests show that the pneumococcal vaccine protects for five years or more. Currently only one shot is recommended, so persons who have already had one shot of pneumococcal vaccine should not receive another.

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### **MUMPS**

Mumps, like measles, is a disease that is getting less and less common in the U.S. Complications from mumps disease can be more serious for adults than for children. Some of the complications are meningitis and spontaneous abortions, when the disease contracted during the first trimester of pregnancy. Sometimes, deafness can occur. And, on very rare occasions, sterility in adolescent and adult males is a possibility. Being protected against mumps disease is, therefore, especially important for adolescent and adult males. The most common symptoms of mumps are fever and swelling of one or more of the salivary glands. Mumps vaccine is often given combination with measles and rubella vaccines.

### **MEASLES**

Measles is a disease that, while nearly eliminated, is still occurring. However, it is very important that everybody be immune so we can prevent its return and further spread. People born before 1957 usually have had the disease and are therefore considered immune. They do not need the vaccine. Anybody born in 1957, or later, who has not been immunized or who was immunized before their first birthday should receive the vaccine now. Measles is accompanied by a rash that is red in color and raised on the skin, a fever of 101F or more, cough, runny nose, and watery eyes. When adults contract measles, they often suffer more serious complications than children. The risk of encephalitis (swelling of the brain), for example, is greatest in adults. Also, measles during pregnancy can increase the risk of spontaneous abortion, premature labor and low birthweight infants. Measles vaccine is often given in combination with mumps and rubella vaccines.

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### **TETANUS**

All adults, regardless of age, should be protected against tetanus or “(lockjaw). Tetanus is a dangerous disease which has a 50% survival rate. Not only deep wounds, but also small scratches and burns can lead to the disease. The disease can set in when soil contaminated with the tetanus bacteria gets into a wound. Signs of tetanus disease are: stiffness in the face, neck jaw (lockjaw), stomach and back. Tetanus is very easy to prevent with a series of three primary shots. Since the vaccine does not produce lifetime protection, it is necessary to receive a booster dose every 10 years. Younger adults have had their primary shots as infants or in school, but many of us don't get a booster every 10 years. Studies show that 11% of 18-39 year-olds and more than half of the people over 60 are not getting booster shots every ten years. In Ohio 85% of the reported cases of tetanus are in adults over 50 years of age. A tetanus shot is usually given in combination with a diphtheria shot. In the event of serious wounds contaminated with dirt, feces, soil, and/or saliva, puncture wounds, and those with devitalized tissue, also avulsions and wounds resulting from missiles, crushing, burns and frostbite, a dose of tetanus toxoid needs to be given as soon as possible. Clear, minor wounds do not require the toxoid if your shots are up to date.

### **DIPHTHERIA**

Diphtheria has almost been eliminated in the U.S. However, a few cases each year still occur, and almost all in inadequately immunized people. Once contracted, it is a very serious and sometimes deadly disease. More than half of the cases occur in adults 20 years of age and older. We also know that most adults are not protected against diphtheria. These people are exposing themselves to a disease that may start out with a sore throat, but eventually can affect the whole nose, throat and windpipe area. In the most severe cases, death can occur through suffocation when a gray coating covers the throat and windpipe. Heart failure as a result of poisons produced by the bacteria is another possibility.

Do protect yourself against this disease. All it takes is one shot every ten years (the diphtheria shot is usually combined with the tetanus shot).

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### **RUBELLA**

Rubella (which used to be called “German measles” or three-day measles”) is not just a disease of childhood. It also occurs in adults and is usually a mild disease. It is extremely harmful to unborn children. Babies can be born with serious birth defects or even die when a pregnant woman contracts rubella during the first three months of pregnancy. To prevent this from happening, it is very important to immunize all susceptible individuals and it is especially important for women of childbearing age. The vaccine, however, should not be given to anybody who is pregnant or who is planning to become pregnant within three months. Rubella rash looks like small, pink, pinpointed spots. However, in as many as half of the cases, there may not be a rash at all. Some symptoms that adults can experience from rubella are: low-grade fever, headache, runny nose, watery eyes and an overall tired feeling. It only takes one vaccination to become immune for life against rubella. Rubella vaccine is often given in combination with measles and mumps vaccines.

### **POLIOMYELITIS**

The risk of contracting poliomyelitis (polio) is very small in this country. To keep this risk small, we need to continue immunizing susceptible persons. Adults over 18 years of age don’t normally need to be immunized unless they are at higher risk for the disease due to their occupation (usually health care related) or when they are traveling to certain foreign countries. Symptoms of polio disease are: fever, extreme tiredness, headache, extreme muscle pain and spasms, stiffness of neck and back and paralysis. There are two types of polio vaccines available: oral and injectable.

Oral vaccine is normally the vaccine of choice; however, which vaccine is needed depends on age, doses received previously, and special circumstances.

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### **HEPATITIS-B**

Hepatitis B, formerly called serum hepatitis, is a disease of the liver. The hepatitis B virus enters the body through contaminated blood and other body fluids. The onset of the disease is usually not very clear cut. Starting with loss of appetite, vague stomach discomfort, nausea, vomiting, muscle aches and yellow skin and eyes. Anybody with frequent, direct exposure to blood should receive hepatitis B protection. Those people include: surgeons, blood bank personnel, dental workers, laboratory workers, clients and staff of institutions for the mentally retarded, hemodialysis patients, homosexually active men, intravenous drug users and certain close contacts of hepatitis B carriers. The vaccine that is available is very effective (80-95%) in preventing the disease. Current recommendations are that a booster may be needed after 3-5 years.

### **HEPATITIS-A**

Hepatitis A is also a disease of the liver, caused by Hepatitis A virus. The virus is found in the stool of infected persons or contaminated food. It enters the body through your mouth. The onset of the disease is acute with the same symptoms listed for hepatitis B. There is no vaccine to prevent the disease yet, but gamma globulin needs to be given after exposure within 14 days as prophylaxis. Remember, it is important to report any exposure in the event the patient does have a disease.

### **HEPATITIS-C**

This is another viral liver infection. It used to be called Non A-Non B hepatitis. This disease is transmitted the same way as hepatitis B, but there is no vaccine, or prophylactic treatment for it. The best you can do is practice body substance isolation. Use extreme care with sharps and report exposure. Baseline and follow up blood tests would be performed.

### **TUBERCULOSIS (TB) (SKIN TEST)**

Tuberculosis is a respiratory, airborne disease. It is passed by an infected person coughing, singing, and your breathing in contaminated air. After exposure, you may turn positive on your skin test (PPD or Mantoux)

Evaluation should be performed to determine if you have active disease or just exposure. In any event, you may be placed on medicines to prevent disease or be actually treated for TB. There is no vaccine to prevent TB. The best defense is to minimize exposure by masking patients who have or may have TB and by your getting skin tests every year.

All services will be provided the TB testing at their station one (1) time per year.

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### **VANCOMYCIN RESISTANT ENTEROCOCCUS (VRE)**

Enterococci are gram positive bacteria routinely found in the lower GI tract and the female vaginal tract. Sometimes the Enterococci become resistant to Vancomycin because of pressure exerted on them from antibiotics. This is now called VRE. This germ is often resistant to many other antibiotic as well.

#### **WHO'S AT RISK FOR DEVELOPING VRE?**

- a. Patients who have weakened immune systems, (Cancer, AIDS, etc.)

#### **WHERE IS VRE FOUND?**

- a. VRE is usually found in the stool, but also can be present in urine, blood, infected wounds, or other bodily fluids.
- b. VRE is a very hardy bacteria and can survive on hard surfaces for 5 to 7 days. VRE is easily killed with proper disinfectant use- soap and water first, then disinfection. Allow the proper contact time of the disinfectant.

#### **HOW IS VRE SPREAD?**

- a. Direct contact with stool or body fluids that have VRE in it.
- b. Indirect contact with object that have the germ on them, (cots, squad benches, dirty equipment, etc.)

#### **PROTECTION OF THE EMS WORKER**

Good hygiene practices. Wear gloves and gown when working with the patient.. Keep your hands away from your face and mouth. Wash your hands after removing your gloves. Bundle the patient up so they touch as few things as possible. Clean your squads, clean yourselves.

#### **C-Diff**

All poison protocols are being reviewed by Julia.