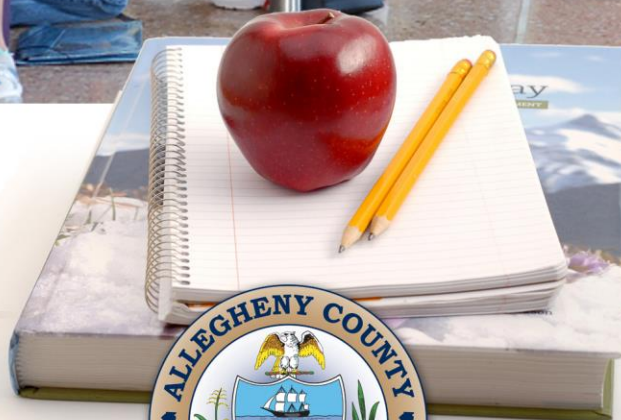


A Guide To The Control Of  
**Infectious Diseases**  
In **Schools**



[www.achd.net](http://www.achd.net)



# A Guide to the Control of Infectious Diseases In **Schools**

This booklet is a guide to infectious diseases which affect children and staff in schools. The guide provides information on incubation period and symptoms, method of spread and minimum control measures for selected diseases and conditions which are of public health importance.

The staff at the Infectious Diseases Program of the Allegheny County Health Department is available for consultation at (412) 578-8062. Information is also available on the Department's web site at [www.achd.net](http://www.achd.net).

A complete list of diseases and conditions reportable to the Allegheny County Health Department is shown in Appendix A. **All outbreaks must be reported to ACHD at 412-687-2243.**

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# CAMPYLOBACTERIOSIS

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** *Campylobacter* bacteria; most common is *C. jejuni*

**Incubation:** Usually 2-5 days, with a range of 1-10 days

**Symptoms:** Diarrhea (frequently with bloody stools), abdominal pain, fever, malaise, nausea, and sometimes vomiting

## TRANSMISSION

**Method of Spread:** By ingestion of the organism in undercooked meat, contaminated food and water or raw milk; from contact with infected pets (especially puppies and kittens) or farm animals. Person-to-person transmission has been reported in day care centers when children are in diapers (i.e., incontinent of stool).

**Period of Communicability:** Throughout the course of infection, usually from several days to several weeks. Individuals not treated with antibiotics excrete the organism for as long as 2-7 weeks.

## CONTROL

**Exclusion:** Children or staff may not attend school if they are symptomatic.

**Disinfection:** To minimize the risk of transmission, emphasize thorough hand washing by children and staff before eating and after toilet use. Persons handling and preparing food should give particular attention to hand washing.

## OTHER INFORMATION

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet <http://www.cdc.gov/nczved/divisions/dfbmd/diseases/campylobacter/>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

# CHICKENPOX (Varicella)

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Varicella-Zoster Virus (herpesvirus 3)

**Incubation:** Usually 14-16 days, may be 10-21 days; may be prolonged for as long as 28 days after use of Varicella-Zoster Immune Globulin (VZIG) in those who are immunodeficient.

**Symptoms:** Slight fever, tiredness, loss of appetite, and headache, followed 1-2 days later by an itchy skin rash consisting of small blisters which leave scabs. Eruptions occur in crops. Pimples, blisters and scabs may all be present at the same time. Persons with leukemia; or otherwise immunocompromised, are at increased risk for complications.

## TRANSMISSION

**Method of Spread:** Droplet/airborne spread of respiratory secretions from an infected person or direct contact with or breathing in aerosolized virus from lesions.

**Period of Communicability:** Usually 1-2 days before onset rash/blisters and until all vesicles have dried and crusted (usually 5 days from the last crop of vesicles).

## CONTROL

**Exclusion:** Exclude from school until vesicles become dry usually after 5 days in unimmunized children and 1-4 days with breakthrough chickenpox in immunized children. If outbreak occurs (5 or more cases), exclude unvaccinated children from day 8 to day 21 after exposure or readmit when vaccinated. Use of VariZIG is only indicated in special circumstances.

**Disinfection:** Disinfect articles soiled by discharge from the nose and throat, and from lesions.

**Vaccine Preventable Disease:** Vaccine can protect against infection or severe disease if given within 72 hours of exposure and possibly up to 5 days after exposure. It is recommended for exposed susceptible persons. Children should be routinely immunized against varicella at 12-15 months and 4-6 years.

## OTHER INFORMATION

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet <http://www.cdc.gov/vaccines/vpd-vac/varicella/fs-parents.html>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

# CHLAMYDIA

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** *Chlamydia trachomatis*

**Incubation:** poorly defined, from one week up to several weeks

**Symptoms:** Most infections are asymptomatic. Males may have burning on urination and a watery discharge or, less commonly, pain, tenderness, or swelling in one or both testicles. Females usually have no recognized symptoms; however, any abnormal vaginal discharge may indicate a chlamydial infection. Abdominal or pelvic pain in females can indicate pelvic inflammatory disease (PID), a serious complication.

## TRANSMISSION

**Method of Spread:** Vaginal, oral, or anal sexual contact.

**Period of Communicability:** Communicable until treated; may extend for long periods if asymptomatic and undetected. No longer communicable after completion of 7-day therapy or 7 days after single dose treatment.

## CONTROL

**Exclusion:** No reason to restrict attendance.

## OTHER INFORMATION

Cases should be reported to the Allegheny County Health Department at 412-687-2243.

Chlamydia infection is the most common bacterial STD among sexually active teenagers. Because symptoms are often absent, sexually active female students should be screened routinely for chlamydia. All pregnant females should be screened at first prenatal visit and again in the 3<sup>rd</sup> trimester if <25 years of age to prevent spread to newborns. Sex partners should be referred for evaluation and treatment.

Correct and consistent use of latex condoms can reduce risk for infection.

CDC Fact Sheet <http://www.cdc.gov/std/chlamydia/STDFact-Chlamydia.htm>



## COMMON COLD

### AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Over 200 viruses; most common is rhinovirus

**Incubation:** 12 hours - 5 days, usually 48 hours

**Symptoms:** sneezing, watery discharge from nose and eyes, sore throat, chills, mild headache, and mild body aches.

### TRANSMISSION

**Method of Spread:** Direct contact with an infected person, or indirectly by contact with articles freshly soiled by discharge from nose and throat of the infected person.

**Period of Communicability:** Usually 24 hours before onset of symptoms and until 5 days after onset.

### CONTROL

**Exclusion:** No exclusion necessary unless the infected person has a fever or is unable to perform daily activities.

### OTHER INFORMATION

CDC Fact Sheet <http://www.cdc.gov/getsmart/antibiotic-use/URI/colds.html>

## CONJUNCTIVITIS (Pink Eye)

### AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** viruses, bacteria, allergens

**Incubation:** Usually 24-72 hours.

**Symptoms:** Eyes are red, watery, itchy and sensitive to light; eyelids are frequently crusted and swollen.

### TRANSMISSION

**Method of Spread:** Direct contact with eye discharge or upper respiratory tract discharge of infected persons, or indirectly by contact with contaminated articles of person infected, including eye makeup applicators and multiple dose eye medication droppers.

**Period of Communicability:** Duration of active infection.

### CONTROL

**Exclusion:** Exclude until therapy is initiated (if indicated). If can't avoid close contact with other students, exclude until all discharge is gone and eyes are dry.

**Disinfection:** Disinfect any objects and surfaces that come in contact with secretions from the eyes, mouth, and nose, using an EPA-registered disinfectant. Frequent handwashing with soap and warm water is recommended.

### OTHER INFORMATION

CDC Fact Sheet <http://www.cdc.gov/conjunctivitis/about/index.html>



# CROUP

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Various viruses and bacteria; most often caused by human parainfluenza virus.

**Incubation:** Variable, depending upon causative agent.

**Symptoms:** Harsh barking cough, severe respiratory distress, high pitched breathing sounds.

## TRANSMISSION

**Method of Spread:** Direct contact with nose and mouth secretions of an infected person, or indirectly by contact with surfaces freshly soiled by discharge from nose and throat of an infected person; also through the air by coughing or sneezing.

**Period of Communicability:** Duration of active disease; most contagious during the early stage.

## CONTROL

**Exclusion:** Exclude from preschool/center until symptoms are gone

**Disinfection:** Frequent handwashing

## OTHER INFORMATION

CDC Fact Sheet <http://www.cdc.gov/parainfluenza/about/symptoms.html>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

## **E. COLI** **(Shiga toxin-producing E. Coli)**

### **AGENT, INCUBATION, AND SYMPTOMS**

**Infectious Agent:** *E. coli* 0157:H7 is the most common serotype found.

**Incubation:** 1-10 day range, with 3-4 days typical

**Symptoms:** Diarrhea, which may be severe and contain blood and mucous; abdominal cramps, vomiting.

### **TRANSMISSION**

**Method of Spread:** Mainly by ingestion of contaminated food, particularly undercooked beef, raw milk, fruits and vegetables grown with contaminated ruminant fertilizer. Waterborne transmission has been documented associated with drinking or swimming in contaminated water.

Direct person to person transmission may occur in families and child care centers.

**Period of Communicability:** In adults, as long as pathogen is excreted, commonly 1 week or less. About 1/3 of infected children carry the pathogen for 3 weeks.

### **CONTROL**

**Exclusion:** Children or staff may not attend school if they are symptomatic.

**Disinfection:** To minimize the risk of transmission, emphasize thorough hand washing by children and staff before eating and after toilet use. Persons handling and preparing food should give particular attention to hand washing.

### **OTHER INFORMATION**

Confirmed cases of Enterohemorrhagic *E. Coli* (Shiga-toxin producing *E. Coli* or STEC) should be reported by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet [http://www.cdc.gov/ecoli/general/index.html?s\\_cid=cs\\_002](http://www.cdc.gov/ecoli/general/index.html?s_cid=cs_002)

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

## **FIFTH DISEASE (Erythema Infectiosum)**

### **AGENT, INCUBATION, AND SYMPTOMS**

**Infectious Agent:** Parvovirus B19

**Incubation:** Variable; usually 4-20 days until development of rash

**Symptoms:** Begins as a fever, runny nose, and headache. Characteristic is a striking erythema of the cheeks (slapped-face appearance), frequently associated with a rash on trunk and extremities which fades but may reappear. Differentiation from rubella and scarlet fever is often necessary.

### **TRANSMISSION**

**Method of Spread:** Contact with infected respiratory secretions.

**Period of Communicability:** Greatest before onset of rash, when symptoms are fever, runny nose, and headache, probably not communicable after onset of rash.

### **CONTROL**

**Exclusion:** Children with Fifth Disease do not need to be excluded from school since they are not generally contagious once the rash occurs. Exclude while fever is present.

**Disinfection:** Routine hand washing and proper disposal of tissues used while sneezing, coughing and nose blowing are indicated to reduce the spread of Fifth Disease.

### **OTHER INFORMATION**

High risk groups should be contacted including those with hemolytic anemia, immunodeficiencies, and pregnant women. Exposed pregnant women should be referred for Parvovirus B19 antibody testing to determine susceptibility and to assist with counseling regarding risks to their fetuses.

CDC Fact Sheet <http://www.cdc.gov/parvovirusB19/fifth-disease.html>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

# GIARDIASIS

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** *Giardia lamblia*

**Incubation:** 3-25 days or longer; usually 1 to 3 weeks

**Symptoms:** May include chronic diarrhea, abdominal cramps, gas or flatulence, nausea, bloating, greasy stools that tend to float, fatigue and weight loss.

## TRANSMISSION

**Method of Spread:** Person-to person transmission via the fecal/oral route. May also be spread by ingestion of water or food contaminated with feces.

**Period of Communicability:** Entire period of infection.

## CONTROL

**Exclusion:** Children or staff may not attend school if they are symptomatic.

**Disinfection:** To minimize the risk of transmission, emphasize thorough hand washing by children and staff before eating and after toilet use. Persons handling and preparing food should give particular attention to hand washing.

## OTHER INFORMATION

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet <http://www.cdc.gov/parasites/giardia/>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

# GONORRHEA

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** *Neisseria gonorrhoeae*

**Incubation:** 1-14 days

**Symptoms:** Many infections are asymptomatic. Males may experience white, yellow, or greenish discharge and painful urination, or less commonly, testicular or scrotal pain. Females may have slight discharge or urinary pain, but are often asymptomatic. Abdominal or pelvic pain in females may indicate pelvic inflammatory disease (PID), a serious complication. Rectal symptoms include discharge, itching, soreness, bleeding, and painful bowel movements.

## TRANSMISSION

**Method of Spread:** Vaginal, oral or anal sexual contact. Also spread perinatally from mother to baby during childbirth.

**Period of Communicability:** Communicable until treated; may extend for long periods if asymptomatic and undetected. No longer communicable 7 days after appropriate treatment.

## CONTROL

**Exclusion:** None.

## OTHER INFORMATION

Cases should be reported to the Allegheny County Health Department at 412-687-2243.

Sexually active teens are at risk for gonorrhea and should be referred for STD screening and counseled about STD risk reduction behaviors. Young children determined to have gonorrhea should be evaluated for suspected sexual abuse. Sex partners should be referred for evaluation and treatment. Pregnant females should be screened at first prenatal visit and, if at high risk, again in the 3<sup>rd</sup> trimester to prevent spread to newborns.

Correct and consistent use of latex condoms can reduce risk for infection.

CDC Fact Sheet <http://www.cdc.gov/std/gonorrhea/STDFact-gonorrhea.htm>

# HAND, FOOT, AND MOUTH DISEASE

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Coxsackieviruses, echoviruses, enteroviruses, polioviruses. The most common cause is coxsackie A16; enterovirus 71 also associated with the disease

**Incubation:** Usually 3-5 days

**Symptoms:** Generally, mild fever, malaise, sore throat, mouth ulcers and a rash, sometimes with blisters, located on the palms, soles and buttocks

## TRANSMISSION

**Method of Spread:** Direct person-to-person contact with nose and throat secretions, blister fluid, or feces of infected people.

**Period of Communicability:** At the time of acute illness phase; most contagious during the first week of illness. The viruses may persist in feces for several weeks.

## CONTROL

**Exclusion:** Exclude from school until fever is gone and there is no excessive drooling.

**Disinfection:** Enteric precautions should be observed and good personal hygiene, including thorough hand washing practiced. Disinfect frequently touched or soiled items/surfaces and wash soiled clothing.

## OTHER INFORMATION

CDC Fact Sheet <http://www.cdc.gov/hand-foot-mouth/about/index.html>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

## **HEAD LICE** **(Pediculosis capitis)**

### **AGENT, INCUBATION, AND SYMPTOMS**

**Infectious Agent:** Pediculosis capitis

**Incubation:** The eggs of lice may hatch in 6-10 days. The egg to egg cycle averages 2-3 weeks.

**Symptoms:** Irritation and itching of scalp or neck; sores on the head from scratching; presence of small light grey insects and/or their eggs (nits), which are attached to the base of the hairs.

### **TRANSMISSION**

**Method of Spread:** Direct contact with an infected person and indirect contact with their personal belongings, especially clothing, bedding and headgear.

**Period of Communicability:** While lice or nits remain alive on the infected person or on clothing.

### **CONTROL**

**Exclusion:** Treat at end of day and readmit once first treatment completed. The American Academy of Pediatrics does not recommend sending children home early if lice are discovered.

**Disinfection:** When a student is found with head lice, all family members should be inspected and treated. All students in infested classrooms should be inspected and those infested should be treated. Machine wash and dry clothing, bed linens, and other items that the infected person wore or used during the 2 days before treatment using hot water (>130°F) OR place items in a sealed bag and store for 2 weeks. Vacuum the furniture and floor, particularly where the infested person sat or lay. Treatment requires over-the-counter or prescription pediculicide (lice medicine).

### **OTHER INFORMATION**

CDC Fact Sheet <http://www.cdc.gov/parasites/lice/head/disease.html>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

CDC Treatment Recommendations <http://www.cdc.gov/parasites/lice/head/treatment.html>



## HEPATITIS A (HAV)

### AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Hepatitis A virus

**Incubation:** 15-50 days, average 28-30 days.

**Symptoms:** Loss of appetite, nausea and vomiting, fever, abdominal pain, and fatigue. Jaundice may follow in a few days. Children with infections may have no symptoms or mild illness.

### TRANSMISSION

**Method of Spread:** Person to person contact by fecal/oral route; ingestion of feces-contaminated water and food.

**Period of Communicability:** Most highly communicable 2 weeks before and 1 week after the onset of jaundice, or if not jaundiced, from 1 week before to 2 weeks after first symptom onset. Most cases are probably noninfectious after the first week of jaundice, although prolonged viral excretion (up to 6 months) has been documented in infants and children.

### CONTROL

**Exclusion:** Exclude children and staff from school until 7 days after onset of jaundice or 2 weeks following onset of clinical symptoms or positive IgM test if no jaundice. Foodhandlers cannot work until a physician clears the person for work.

**Disinfection:** Emphasize thorough hand washing for children and staff before eating and after toilet use.

**Vaccine Preventable Disease:** 2 doses are recommended, starting at 1 year of age

### OTHER INFORMATION

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

Consult the Allegheny County Health Department for assistance and guidance in controlling the disease within the school.

CDC Fact Sheet <http://www.cdc.gov/vaccines/vpd-vac/hepa/fs-parents.html>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

## HEPATITIS B (HBV)

### AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Hepatitis B virus

**Incubation:** 45-180 days, average 60-90 days.

**Symptoms:** Onset is gradual, with loss of appetite, vague abdominal discomfort, nausea, vomiting, joint aches and rash. May progress to jaundice. Fever may be mild or absent. Some infected persons may be asymptomatic.

### TRANSMISSION

**Method of Spread:** The virus is found in almost all body secretions; however, only blood and blood products, saliva, semen, and vaginal and other body fluids containing blood have been shown to be infectious. Transmission occurs through contaminated needles (i.e. IV, IM, subcutaneous or intradermal use, including accidental needle sticks), sexual exposure and occasionally by sharing razors or toothbrushes with an infected person.

**Period of Communicability:** Highly communicable weeks before the onset of first symptoms and infectious throughout the acute clinical course of the disease. Some persons never clear the virus and are considered chronically infected. They are potentially infectious for life.

### CONTROL

**Exclusion:** Person with HBV infection does not need to be excluded.

**Disinfection:** The virus can remain contagious on surfaces for up to 7 days. Any blood spills, including dried blood, should be cleaned using a 1:10 dilution of household bleach and water. Gloves should be used when disinfecting. Educate staff about transmission methods. Infected persons should be under a physician's care. Staff should be routinely educated about standard precautions to prevent disease spread.

**Vaccine Preventable Disease:** Vaccination is required for entry into kindergarten and is recommended at birth, 1-2 months, and 6-18 months of age.

### OTHER INFORMATION

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet <http://www.cdc.gov/vaccines/vpd-vac/hepb/fs-parents.html>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

# HERPES

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Herpes simplex type 1 or type 2

**Incubation:** 2 to 12 days, usually 4 days

**Symptoms:** Most persons with herpes are asymptomatic or have very mild, undiagnosed symptoms. Some develop one or more vesicles on or around the genitals, rectum, or mouth. The vesicles break and leave painful ulcers that may take 2 to 4 weeks to heal. First time exposure is associated with a longer duration of herpetic lesions, increased viral shedding, fever, body aches, swollen lymph nodes, and headache. Recurrent outbreaks are typically shorter in duration and less severe than the first outbreak.

## TRANSMISSION

**Method of Spread:** Vaginal, oral, or anal sexual contact.

**Period of Communicability:** Contagious during outbreaks. Asymptomatic shedding may transmit the virus throughout life.

## CONTROL

**Exclusion:** No reason to restrict attendance. Current and future sex partners should be informed before having sex.

## OTHER INFORMATION

Correct and consistent use of latex condoms can reduce risk for infection, but lesions may occur in areas not covered by condoms.

CDC Fact Sheet <http://www.cdc.gov/std/herpes/STDFact-Herpes.htm>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

## **HIV INFECTION** **(Human Immunodeficiency Virus)**

### **AGENT, INCUBATION, AND SYMPTOMS**

**Infectious Agent:** Human Immunodeficiency Virus

**Incubation:** 2-4 weeks for flu-like symptoms; generally antibodies can be detected within 1 month of exposure.

**Symptoms:** Flu-like symptoms lasting 1-2 weeks. Infection can be present for years without symptoms.

### **TRANSMISSION**

**Method of Spread:** HIV can be spread to baby in utero or at the time of birth. Virus is also spread through all types of sexual contact or by sharing contaminated needles for drug or any other use. HIV is **not** spread through casual contact such as kissing, hugging or sitting next to someone in the classroom. HIV is **not** spread by sharing cups, eating utensils or food.

**Period of Communicability:** Risk of transmission higher during first few months of infection and when immunosuppression is present.

### **CONTROL**

**Exclusion:** Infection with HIV does not warrant exclusion from the school setting.

**Disinfection:** Universal precautions should be used at all times when in contact with moist body substances, especially blood. Antiviral medications used to treat HIV lower the amount of virus in the body and reduce the risk for transmission.

### **OTHER INFORMATION**

For information on reporting HIV, call the Allegheny County Health Department HIV program at 412-578-8081.

Staff and children do not have a need to know a child's or staff person's HIV status. HIV infection is regulated by PA Act 148, which governs confidentiality of HIV related information. Anyone with HIV infection must give written consent before information concerning HIV status can be released. In the case of a minor with HIV infection, a parent or guardian must give written consent.

“**HIV infection**” is often incorrectly referred to as “**AIDS**”. More accurately, AIDS (Acquired Immune Deficiency Syndrome) refers to one or more conditions diagnosed by a physician in an individual infected with HIV.

CDC Fact Sheet <http://www.cdc.gov/hiv/basics/whatishiv.html>

# HUMAN PAPILLOMAVIRUS (HPV)

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Human papillomavirus

**Incubation:** Weeks to decades.

**Symptoms:** Most people do not develop noticeable symptoms. Can cause genital warts in males and females. Can lead to the development of genital cancers over time, most commonly cervical cancer. The mouth and throat can be infected, which sometimes leads to oropharyngeal cancer.

## TRANSMISSION

**Method of Spread:** Vaginal, anal, or oral sex.

**Period of Communicability:** Entire period of infection. In 90% of cases, the body's immune system clears the virus within two years.

## CONTROL

**Exclusion:** No reason to restrict attendance.

**Vaccine Preventable Disease:** 3-dose series recommended for girls and boys at age 11-12 years.

## OTHER INFORMATION

CDC Fact Sheet <http://www.cdc.gov/std/HPV/STDFact-HPV.htm>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

# IMPETIGO

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** *Staphylococcus aureus*; Group A *Streptococcus*

**Incubation:** For *Staphylococcus aureus*, commonly 4-10 days, but can be variable and indefinite. For *Streptococcus*, 1-3 days

**Symptoms:** Blister-like or pimple-like lesions which later develop into pustules of irregular shape.

## TRANSMISSION

**Method of Spread:** Direct contact with draining sores or soiled bandages.

**Period of Communicability:** From onset of symptoms until sores are healed.

## CONTROL

**Exclusion:** Exclude from school until on antibiotics for 24 hours and sores are no longer draining; keep lesions covered.

**Disinfection:** Early detection and adequate treatment are important in preventing spread. Infected individuals should use separate towels and wash cloths; sores should be bandaged and dressings should be disposed of as any infectious material. Stress good personal hygiene, emphasizing thorough hand washing.

## OTHER INFORMATION

CDC Fact Sheet <http://www.cdc.gov/groupAstrep/about/faqs.html>

PA Department of Health Fact Sheet - see Group A Strep  
[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

## INFLUENZA (Flu)

### AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Influenza virus types A, B and C

**Incubation:** Short, usually 1-4 days

**Symptoms:** Abrupt onset of fever, chills, headache, sore muscles, cough, runny nose, sore throat. Nausea, vomiting or diarrhea may occur, particularly in children.

### TRANSMISSION

**Method of Spread:** Direct contact with nose or throat secretions of an infected person or via airborne droplets of nose and throat secretions; easily transmitted among crowded populations in enclosed spaces.

**Period of Communicability:** 1 day before onset of symptoms to 5-7 days after the onset of symptoms.

### CONTROL

**Exclusion:** People with influenza-like illness should remain at home until at least 24 hours after they are free of fever (100° F [37.8°C]) or signs of a fever without the use of fever-reducing medications.

**Vaccine Preventable Disease:** Annual vaccination recommended for persons > 6 months of age

### OTHER INFORMATION

Lab confirmed cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet <http://www.cdc.gov/vaccines/vpd-vac/flu/fs-parents.html>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)



## MEASLES (Rubeola)

### AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Measles virus

**Incubation:** 7-21 days: usually 10 days to onset of fever; usually 14 days until rash appears

**Symptoms:** Acute, highly communicable disease beginning with fever, malaise, cough, conjunctivitis, runny eyes and nose; 3-5 days after symptoms begin, a dark red elevated rash occurs in patches on face first, then generalized on arms, torso and legs.

### TRANSMISSION

**Method of Spread:** Direct contact with secretions of nose and throat of infected persons; indirectly via air and by articles freshly soiled with secretions of nose and throat. The virus remains in the air or on surfaces for up to 2 hours after an infected person leaves the area.

**Period of Communicability:** Four days before the onset of rash to 4 days after rash appears.

### CONTROL

**Exclusion:** Exclude from school until at least 4 days after the rash appears. Non-immunized children should be excluded for 21 days following the onset of rash in the last case of measles.

**Vaccine Preventable Disease:** Routine vaccination includes 2 doses of the MMR vaccine, the first dose at 12-15 months and second at 4-6 years

### OTHER INFORMATION

Suspected cases should be reported immediately by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet <http://www.cdc.gov/vaccines/vpd-vac/measles/fs-parents.html>

PA Department of Health Fact Sheet  
[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

## MENINGITIS (Bacterial)

### AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** The most common agents are *Neisseria meningitidis* (meningococcus), *Haemophilus influenzae b* (Hib) and *Streptococcus pneumoniae*.

**Incubation:** Meningococcal, commonly 3-4 days; Hib, commonly 2-4 days; Pneumococcal, commonly 1-4 days.

**Symptoms:** For *Neisseria meningitidis*, acute disease with sudden onset of fever, intense headache, nausea, forceful vomiting, stiff neck, and frequently a petechial rash. Behavioral changes may occur, including irritability or sluggishness, and delirium and coma often appear. For *Hib*, most common in children aged 2 months-5 years. Sudden onset includes fever and lethargy, bulging fontanella in infants, and stiff neck and back in older children. For *Streptococcus pneumoniae*, headache, lethargy, vomiting, irritability, fever, nuchal rigidity, cranial nerve signs, seizures, and coma.

### TRANSMISSION

**Method of Spread:** Direct contact with secretions of nose and throat of infected persons.

**Period of Communicability:** Varies with causative agent. Noncommunicable after 24 hours of effective antibiotics.

### CONTROL

**Exclusion:** Exclude from school until physician certifies able to return, at least 24 hours after treatment with effective antibiotics. Close contacts of persons with meningococcal disease or Hib meningitis may need preventive antibiotics. Antibiotics are not recommended for close contacts of patients with *S. pneumoniae*.

**Vaccine Preventable Disease:** The pneumococcal vaccine is recommended at 2, 4, 6 months and 12-15 months. The Hib vaccine is recommended at 2, 4 and possibly 6 months (depending on vaccine) with a booster at 12-15 months. A meningococcal vaccine is recommended at 11-12 years.

### OTHER INFORMATION

Suspected cases should be reported by phone to ACHD at 412-687-2243.

CDC Fact Sheets <http://www.cdc.gov/meningitis/bacterial.html#transmission>  
<http://www.cdc.gov/vaccines/vpd-vac/hib/fs-parents.html>  
<http://www.cdc.gov/pneumococcal/clinicians/clinical-features.html>

PA Department of Health Fact Sheet  
[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

## **MENINGITIS (Viral)**

### **AGENT, INCUBATION, AND SYMPTOMS**

**Infectious Agent:** Wide variety of infectious viruses

**Incubation:** Varies with causative agent.

**Symptoms:** Fever, irritability, poor eating, sleepiness, lethargy, headache, nausea, vomiting, stiff neck, photophobia, altered mental status.

### **TRANSMISSION**

**Method of Spread:** Varies with causative agent. Often either via the fecal-oral route or via contact with respiratory secretions. Even if the agent is transmitted, it is unlikely to cause meningitis in newly infected persons.

**Period of Communicability:** Varies with causative agent.

### **CONTROL**

**Exclusion:** Exclude from school until physician certifies able to return.

### **OTHER INFORMATION**

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

Viral meningitis is generally a less serious disease than bacterial meningitis.

CDC Fact Sheet <http://www.cdc.gov/meningitis/viral.html#diagnosis>

# MONONUCLEOSIS ("Mono")

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Epstein-Barr virus

**Incubation:** 4-6 weeks

**Symptoms:** Fatigue, fever, sore throat, body aches, swollen lymph glands, enlarged spleen, swollen liver, and rash.

## TRANSMISSION

**Method of Spread:** Direct contact with saliva of an infected person. Sharing food and drinks, kissing.

**Period of Communicability:** Variable; occasionally excretion of virus persists for a year or more after infection.

## CONTROL

**Exclusion:** May return to school when well enough to resume normal activities.

## OTHER INFORMATION

CDC Fact Sheet <http://www.cdc.gov/epstein-barr/about-ebv.html>

## **MRSA** **(Methicillin Resistant *Staphylococcus aureus*)**

### **AGENT, INCUBATION, AND SYMPTOMS**

**Infectious Agent:** Methicillin Resistant *Staphylococcus aureus* bacteria

**Incubation:** Variable.

**Symptoms:** Varies depending on the part of body that is infected. Skin infections typically result in local redness and warmth of the infected area, with or without pus. Localized infections include boils, impetigo and wound infections. Rarely, the bacteria get into the bloodstream and other body sites, causing more severe illness.

### **TRANSMISSION**

**Method of Spread:** Contact with the hands, wound drainage or nasal secretions of a person who is infected or colonized. Persons who have draining wounds are shedding more bacteria and are more infectious than persons who are colonized only.

**Period of Communicability:** As long as lesions are wet and draining.

### **CONTROL**

**Exclusion:** Exclude if skin lesions are draining and cannot be covered by a water-tight dressing.

**Disinfection:** Skin cuts, wounds or abrasions should be covered with clean, dry bandages. Hand washing is the most effective method of preventing the spread of staphylococcal bacterial infections. Wash hands thoroughly with soap and warm running water after having contact with secretions from the nose, throat or drainage from skin openings. Clean potentially contaminated surfaces with a disinfectant or bleach-water solution (1:10 dilution of sodium hypochlorite, i.e., household bleach).

### **OTHER INFORMATION**

Confirmed cases of Methicillin-Resistant *Staphylococcus Aureus*, invasive disease should be reported by phone to the Allegheny County Health Department at 412-687-2243. Skin infections are not reportable unless 2 or more persons are affected.

CDC Fact Sheets <http://www.cdc.gov/mrsa/community/index.html#q4>  
<http://www.cdc.gov/mrsa/community/schools/index.html>

PA Department of Health Fact Sheet  
[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

# MUMPS

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Mumps virus

**Incubation:** 16-18 days. (range 12-25 days)

**Symptoms:** Fever followed by painful swelling of salivary glands (under the ears along jawbone on one or both sides)

## TRANSMISSION

**Method of Spread:** By droplet spread and by direct contact with saliva of infected person.

**Period of Communicability:** Usually 2 days before onset of swelling until 5 days after swelling occurs.

## CONTROL

**Exclusion:** Exclude from school for 5 days from onset of swelling.

**Vaccine Preventable Disease:** Children should receive an MMR vaccine at age 12-15 months and a second dose at 4-6 years

## OTHER INFORMATION

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet <http://www.cdc.gov/vaccines/vpd-vac/mumps/fs-parents.html>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

# NOROVIRUS

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Norovirus

**Incubation:** Usually 12-48 hours.

**Symptoms:** Diarrhea, vomiting, nausea, and abdominal pain. May include fever, headache, and body aches. Can lead to dehydration, especially in young children, older adults, and people with other illnesses.

## TRANSMISSION

**Method of Spread:** Ingestion of contaminated food or water; touching contaminated surfaces or objects then touching the nose or mouth.

**Period of Communicability:** Throughout the course of the infection; the virus can stay in infected person's stool for up to 2 weeks after symptoms disappear.

## CONTROL

**Exclusion:** Children or staff may not attend school if they are symptomatic and for 24 hours after symptoms resolve. To minimize the risk of transmission, emphasize thorough hand washing by children and staff before eating and after toilet use. Persons handling and preparing food should give particular attention to hand washing.

**Disinfection:** Clean potentially contaminated surfaces with a disinfectant or bleach-water solution (1:10 dilution of sodium hypochlorite, i.e., household bleach).

## OTHER INFORMATION

Notify ACHD if multiple cases are occurring in a particular setting (412-687-2243).

CDC Fact Sheet <http://www.cdc.gov/norovirus/about/overview.html>

PA Department of Health Fact Sheet  
[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

EPA's list of products effective against Norovirus [http://www.epa.gov/oppad001/list\\_g\\_norovirus.pdf](http://www.epa.gov/oppad001/list_g_norovirus.pdf)



## **PINWORM INFECTION (Enterobiasis)**

### **AGENT, INCUBATION, AND SYMPTOMS**

**Infectious Agent:** Enterobius vermicularis (a roundworm)

**Incubation:** 1 to 2 months

**Symptoms:** Often asymptomatic; however, symptoms may include perianal itching, especially at night to the point of disturbed sleep, irritability, local irritation due to scratching. Occasionally secondary bacterial infection at scratching site occurs.

### **TRANSMISSION**

**Method of Spread:** Through direct transfer of infective eggs by the fecal-oral route (poor hand washing); also indirectly through contact with clothing or bedding or by ingestion of food contaminated with parasite eggs. Eggs can survive for 2-3 weeks on clothing, bedding or other objects.

**Period of Communicability:** As long as eggs are produced and present.

### **CONTROL**

**Exclusion:** Exclude from school until one dose of medication taken. Treat household contacts at the same time as the case if more than one person in the household is affected or if repeat infections are occurring. Good hand hygiene practices are important for preventing spread. Staff should be alerted to symptoms.

### **OTHER INFORMATION**

CDC Fact Sheet [http://www.cdc.gov/parasites/pinworm/gen\\_info/faqs.html](http://www.cdc.gov/parasites/pinworm/gen_info/faqs.html)

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

## RINGWORM (Tinea)

### AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** 40 species of Trichophyton, Microsporum and Epidermophyton fungi

**Incubation:** Scalp and beard 10-14 days; body 4-10 days; nails and feet unknown.

**Symptoms on scalp:** scaly patches of temporary baldness. Infected hairs are brittle and break easily. **On skin:** flat, inflamed ring-like sores may be dry and scaly or moist and crusted. **On feet:** scaling or cracking of the skin especially between the toes. Severe cases may appear as blisters containing a thin watery fluid. **On groin:** scaly, itchy red spots

### TRANSMISSION

**Method of Spread:** Directly by contact with lesions of infected persons or animals or indirectly by contact with articles and surfaces contaminated by infected persons or animals.

**Period of Communicability:** Until lesions are crusted.

### CONTROL

**Exclusion:** Infected person should be excluded from school until immediately after the first treatment. **Body** lesions that are not dried must be covered.

**Disinfection:** All household contacts, pets, and farm animals should be examined and treated if infected. Preventive measures are largely hygienic. Athletes in contact sports should shower immediately after practice or games. Avoid walking barefoot in locker room areas.

### OTHER INFORMATION

CDC Fact Sheet <http://www.cdc.gov/fungal/diseases/dermatophytes/index.html>

## **RUBELLA** **(German Measles)**

### **AGENT, INCUBATION, AND SYMPTOMS**

**Infectious Agent:** Rubella virus

**Incubation:** 14-17 days, with a range of 14-21 days.

**Symptoms:** Skin rash starting on face and mild fever <101 F of duration 2-3 days. Sometimes swollen glands and cold symptoms precede rash. Up to half the infections occur without evident rash.

### **TRANSMISSION**

**Method of Spread:** Infection is transmitted by droplet spread, contact with nose and throat secretions, or direct contact with infected person.

**Period of Communicability:** Highly communicable for about one week before to 4 days after the onset of rash.

### **CONTROL**

**Exclusion:** Exclude from school for 7 days after the onset of rash.

**Vaccine Preventable Disease:** All children should receive on MMR at 12-15 months and a second MMR at 4-6 years.

### **OTHER INFORMATION**

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

**While mild in children, the disease when contracted by a pregnant woman may cause serious consequences to the unborn child.**

CDC Fact Sheet <http://www.cdc.gov/vaccines/vpd-vac/rubella/fs-parents.html>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

# SALMONELLOSIS

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Many *Salmonella* species. *S. enteritidis* and *S. typhimurium* are the most common.

**Incubation:** 6-72 hours, usually 12-36 hours.

**Symptoms:** Sudden onset of diarrhea, fever, abdominal cramps and sometimes nausea and sometimes vomiting. Duration of symptoms is 4-7 days. Dehydration, especially among infants, may be severe. Fever is almost always present.

## TRANSMISSION

**Method of Spread:** Ingestion of food or water contaminated by feces of infected animals including household pets; also from ingestion of raw or undercooked food or improperly stored foods. Also, via contact with reptiles or amphibians (including turtles, iguanas, frogs, toads, salamanders), chicks, hamsters and other mammals. Likelihood of transmission from person to person is greatest when diarrhea is present.

**Period of Communicability:** Throughout the course of infection; extremely variable, usually several days to several weeks. Temporary carrier state occasionally continues for months, especially in infants.

## CONTROL

**Exclusion:** Children or staff may not attend school if they are symptomatic.

**Disinfection:** To minimize the risk of transmission, emphasize thorough hand washing by children and staff before eating and after toilet use. Persons handling and preparing food should give particular attention to hand washing. Cook poultry, ground beef and eggs thoroughly.

## OTHER INFORMATION

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet <http://www.cdc.gov/nczved/divisions/dfbmd/diseases/salmonellosis/>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

# SCABIES

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** *Sarcoptes scabiei*, a mite

**Incubation:** Symptoms occur 2-6 weeks after first infestation; symptoms associated with reinfestation may occur in 1-4 days.

**Symptoms:** Skin rash with small pimple-like raised areas containing fluid, or tiny burrows under the skin (line-like), that appear frequently on finger webs, in the folds of wrists, elbows, armpits, thighs and belt line. In infants, the head, neck, palms and soles may be involved. Itching is intense, especially at night.

## TRANSMISSION

**Method of Spread:** Direct skin to skin contact, and to a limited extent, from undergarments or bedding **freshly** contaminated by infected persons.

**Period of Communicability:** Until mites and eggs are destroyed by treatment (usually one course of treatment, occasionally two, a week apart.)

## CONTROL

**Exclusion:** Exclude child or staff member from school until the day after treatment. Single infestation in a family is uncommon.

**Disinfection:** Prescription scabicide cream should be applied from the neck down to the feet and toes. For infants and young children, head and neck should also be treated because scabies can affect face, scalp, and neck as well as the rest of body. Follow physician's instruction for use. Clean clothing should be worn after treatment. Treatment also is recommended for household members particularly those who have had prolonged direct skin-to-skin contact with the infested person. Bedding, clothing, and towels used by infested persons and their household and close contacts any time in the 3 days prior to treatment should be washed in hot water and dried in a hot dryer or sealed in a bag for at least 72 hours.

## OTHER INFORMATION

CDC Fact Sheet [http://www.cdc.gov/parasites/scabies/gen\\_info/fags.html](http://www.cdc.gov/parasites/scabies/gen_info/fags.html)

PA Department of Health Fact Sheet  
[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

CDC Treatment Recommendations <http://www.cdc.gov/parasites/scabies/treatment.html>

## SCARLET FEVER and STREP THROAT (Streptococcal Infection)

### AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Group A *Streptococci*

**Incubation:** Short, usually 1-3 days, rarely longer.

**Symptoms of Strep Throat:** Fever and sore throat; sometimes white patches on swollen tonsils; swollen glands of the neck. There may be a minimum of symptoms.

**Symptoms of Scarlet Fever:** All symptoms that occur with strep throat as well as whitish or red and bumpy (“strawberry”) tongue. Skin rash often starts on neck, underarm, or groin and spreads to rest of body, blotchy at first then with fine bumps like sandpaper. Fades in 7 days and may peel.

### TRANSMISSION

**Method of Spread:** Direct contact with large respiratory droplets of infected persons or carrier, rarely by indirect contact through objects. Casual contact rarely leads to infection. Occasionally outbreaks of strep throat may follow ingestion of contaminated food.

**Period of Communicability:** With adequate penicillin treatment, communicability is usually eliminated within 24 hours.

### CONTROL

**Exclusion:** Exclude from school until 24 hours after antimicrobial treatment is started.

**Disinfection:** Frequent handwashing; avoid sharing eating utensils

### OTHER INFORMATION

Early diagnosis and medical treatment are essential for the prevention of serious complications.

CDC Fact Sheet <http://www.cdc.gov/Features/ScarletFever/>

# SHIGELLOSIS

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** *Shigella* bacteria

**Incubation:** Usually 1-3 days but may range from 12-96 hours; up to one week for *S. dysenteriae 1*.

**Symptoms:** Characterized by diarrhea (often bloody), fever and nausea, and sometimes vomiting, abdominal cramps and bloating.

## TRANSMISSION

**Method of Spread:** Person-to-person contact either by direct or indirect transmission. Individuals most responsible for the spread of disease are those who fail to thoroughly wash hands, especially under fingernails, after bathroom use. Infection may then be spread to others directly by physical contact or indirectly by contaminated food. Flies can transfer the organism onto non-refrigerated or improperly covered food items.

**Period of Communicability:** Entire period of infection. Individuals without symptoms may transmit the disease.

## CONTROL

**Exclusion:** Children or staff may not attend school if they are symptomatic.

**Disinfection:** To minimize the risk of transmission, emphasize thorough hand washing by children and staff before eating and after toilet use. Persons handling and preparing food should give particular attention to hand washing.

## OTHER INFORMATION

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet <http://www.cdc.gov/nczved/divisions/dfbmd/diseases/shigellosis/>

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)



# SHINGLES

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Varicella zoster virus (VZV), the same virus that causes chickenpox disease.

**Incubation:** Highly variable.

**Symptoms:** Rash on one side of the face or body. The rash starts as blisters that scab after 7 to 10 days. The rash usually clears within 2 to 4 weeks. Before the rash develops, there is often pain, itching, or tingling in the area where the rash will develop. Fever, headache, chills, and upset stomach may also occur.

## TRANSMISSION

**Method of Spread:** The virus that causes shingles, VZV, can be spread from a person with active shingles to a person who has never had chickenpox through direct contact with the rash. The person exposed would develop chickenpox, not shingles.

**Period of Communicability:** A person with shingles can spread the disease when the rash is in the blister phase. Once the rash has developed crusts, the person is no longer contagious.

## CONTROL

**Exclusion:** Routine exclusion from school of children with shingles is not indicated. However, if lesions cannot be covered, children should be excluded until lesions are dried and crusted. Avoid contact with pregnant women susceptible to varicella, premature or low-birth weight infants, and immunocompromised persons.

**Disinfection:** Draining or blister-phase lesions should be covered.

## OTHER INFORMATION

CDC Fact Sheet <http://www.cdc.gov/shingles/about/overview.html>

PA Department of Health Fact Sheet  
[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

# SYPHILIS

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** *Treponema pallidum*

**Incubation:** 10-90 days; average of 21 days

**Symptoms:** Symptoms of syphilis develop in stages. In the primary stage, a firm, round, and painless sore (chancre) will appear where syphilis entered the body. It will heal 3 to 6 weeks later with or without treatment. The secondary stage is characterized by skin rashes or sores in the mouth, vagina, or anus. The rash most often appears on the palms of hands or soles of feet and does not itch. Other symptoms include fever, swollen lymph glands, sore throat, patchy hair loss, headaches, weight loss, muscle aches, and fatigue. This stage will go away with or without treatment. The latent and late stage can occur 10-20 years post infection if not treated and includes difficulty with muscle movements, paralysis, numbness, blindness, and dementia.

## TRANSMISSION

**Method of Spread:** Vaginal, oral, or anal sex. Pregnant women with syphilis can infect their babies resulting in serious complications or fetal death.

**Period of Communicability:** Infectious when lesions are present. Lesions uncommon >1 year after infection so transmission then is unlikely. Syphilis is no longer communicable after effective treatment is given and sores have healed.

## CONTROL

**Exclusion:** Attendance does not have to be restricted.

## OTHER INFORMATION

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

Follow up exam and blood tests are required to confirm treatment success.

Sex partners within the previous year should be referred for evaluation and treatment.

Pregnant females should be screened at first prenatal visit and again in the 3<sup>rd</sup> trimester if at high risk to prevent congenital syphilis in the infant.

CDC Fact Sheet <http://www.cdc.gov/std/syphilis/STDFact-Syphilis.htm>

# TUBERCULOSIS (Pulmonary)

## AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** Mycobacterium tuberculosis

**Incubation:** Usually about 2-10 weeks from infection to demonstrable lesion on chest x-ray or positive tuberculin skin test.

**Symptoms:** Productive cough or non-productive cough lasting more than 3 weeks, unplanned or unexplained weight loss, loss of appetite, sweating at night, fever, fatigue, chest pain, and bloody sputum.

## TRANSMISSION

**Method of Spread:** Exposure to bacilli in airborne droplets produced by those who have untreated pulmonary or laryngeal tuberculosis and who cough, sneeze, or sing the organism into the air for a prolonged period in an inadequately ventilated environment.

**Period of Communicability:** Effective antimicrobial therapy usually eliminates communicability in 2 to 3 few weeks. **NOTE:** A positive tuberculin skin test reaction does not in itself indicate infectious disease.

## CONTROL

**Exclusion:** For a diagnosed case of tuberculosis, exclude from school for a minimum of 2 weeks of adequate chemotherapy. Additionally, a note from attending physician that person is noncommunicable must be submitted prior to readmission.

**Disinfection:** All close contacts should be evaluated by tuberculin skin testing. If the tuberculin test is positive, additional evaluation (including chest x-ray) and treatment may be required.

## OTHER INFORMATION

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet <http://www.cdc.gov/tb/publications/factsheets/general/tb.htm>

## TYPHOID FEVER and PARATYPHOID FEVER

### AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** *Salmonella enterica* serovar Typhi (typhoid fever) and serovar Paratyphi A,B,C (paratyphoid fever).

**Incubation:** for typhoid fever, 3-60 days, depending on size of infecting dose, usual range is 8-14 days.

**Symptoms:** sustained fever (up to 103-104°F), severe headache, weakness, stomach pains, anorexia, sometimes constipation or rash. Symptoms of paratyphoid fever are the same but usually milder.

### TRANSMISSION

**Method of Spread:** Ingestion of food or water contaminated by feces and/or urine of patients or carriers. In some areas, ingestion of raw shellfish taken from contaminated waters and uncooked fruits and vegetables grown with contaminated water.

**Period of Communicability:** As long as bacilli appear in excreta-usually through convalescence, but variable. About 10% of untreated typhoid fever cases will harbor bacillus for 3 months; 2% -5 % become permanent carriers. Communicability for paratyphoid fever is commonly 1-2 weeks.

### CONTROL

**Exclusion:** Children or staff may not attend school if they are symptomatic.

**Asymptomatic** household contacts will be excluded from high risk situations (foodhandling, child care, patient care) until 2 consecutive stool specimens 24 hours apart are negative.

A **symptomatic** household contact is considered a case unless proven otherwise with 3 negative stools at no less than 24-hour intervals at least one month after onset of symptoms

A “**chronic carrier**” should be excluded from foodhandling and childcare until producing 3 consecutive stool specimens at least 24 hours apart, no sooner than 48 hours after completion of microbial therapy, and no earlier than 1 month after onset of symptoms.

**Vaccine Preventable Disease:** Typhoid vaccination is recommended for travelers to endemic areas (50%-80% effective). No vaccine is available for paratyphoid fever.

### OTHER INFORMATION

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet [http://www.cdc.gov/nczved/divisions/dfbmd/diseases/typhoid\\_fever/](http://www.cdc.gov/nczved/divisions/dfbmd/diseases/typhoid_fever/)

PA Department of Health Fact Sheet

[http://www.portal.state.pa.us/portal/server.pt/community/diseases\\_and\\_conditions/11595](http://www.portal.state.pa.us/portal/server.pt/community/diseases_and_conditions/11595)

## WHOOPING COUGH (Pertussis)

### AGENT, INCUBATION, AND SYMPTOMS

**Infectious Agent:** *Bordetella pertussis*

**Incubation:** Average 9-10 days (range 6-20 days)

**Symptoms:** Begins with a mild catarrhal cold and irritating cough which is worse at night. Symptoms may be very mild at first. Characteristic “whooping” develops in 1-2 weeks, and paroxysmal spells of coughing often end with vomiting. Vaccinated children, adolescents, adults and infants under 6 months of age often do not have the typical “whoop”. Coughing fits can last for up to 10 weeks or more and reoccur with the next respiratory illness.

### TRANSMISSION

**Method of Spread:** Primarily by direct contact with airborne droplets of respiratory secretions of an infected person. Indirect spread through the air or contaminated objects occurs rarely.

**Period of Communicability:** If untreated, for 21 days from start of catarrhal symptoms or 2 weeks from start of cough. If treated, until 5 days after start of appropriate antimicrobial treatment.

### CONTROL

**Exclusion:** Exclude from school until 5 days from start of appropriate antimicrobial therapy, or for 3 weeks from onset of symptoms.

**Vaccine Preventable Disease:** Children should routinely receive DTaP vaccine at 2,4,6, and 15 months and another dose at 4-6 years. They should receive the Tdap vaccine at 11-12 years. Pregnant women should receive a Tdap vaccine during the third trimester of each pregnancy.

### OTHER INFORMATION

Cases should be reported by phone to the Allegheny County Health Department at 412-687-2243.

CDC Fact Sheet <http://www.cdc.gov/vaccines/vpd-vac/pertussis/fs-parents.html>

## **ANIMAL BITES**

- The community should be made aware of the potential dangers of animal bites.
- Preventive rabies vaccination of dogs, cats and ferrets is required by Pennsylvania law.
- Control of all stray dogs and cats should be encouraged.
- All attacks by wildlife should be considered as potential exposures to rabies.
- **All animal bites must be reported to the Allegheny County Health Department so that an investigation of the case can be made.**

### **RECOMMENDATIONS TO SCHOOLS**

#### **IF ANIMAL BITE OCCURS:**

- Confine biting animal if possible.
- Try to obtain as complete a description as possible if the animal escapes.
- Give first-aid immediately by copious flushing of wound with water and soap or detergent.
- Refer for medical treatment.
- Report all animal bites to the Allegheny County Health Department.
- Obtain name, address, and telephone number of animal owner.
- Work with animal control officials to keep dogs and cats off school grounds as much as possible.

#### **HEALTH EDUCATION CLASSES**

- 1) Teach the proper conduct toward animals to avoid being bitten.
- 2) Emphasize the dangers in handling stray dogs, cats, and wild animals, or unfamiliar domestic animals (dogs, cats, other pets) without permission of the owner.
- 3) Stress the necessity of reporting bites of all animals, especially bats, raccoons, and skunks.
- 4) Encourage immunization of pets.

## REFERENCES

American Academy of Pediatrics. Redbook: 2012 Report of the Committee on Infectious Diseases. Illinois: American Academy of Pediatrics, 2012.

Centers for Disease Control and Prevention. A to Z Index, 2014. Retrieved from <http://www.cdc.gov/az/>

Centers for Disease Control and Prevention. General Recommendations on Immunization. MMWR 2006; 55.

Heymann, David L. MD, ED. Control of Communicable Diseases Manual. Washington D.C.: American Public Health Association, 2008.

Pennsylvania Department of Health. Commonwealth of Pennsylvania Health Regulations Title 28 PA Code Chapter 27: Communicable and Noncommunicable Diseases. Pennsylvania: Department of Health, 2002.

## APPENDIX A: REPORTABLE DISEASES

### REPORTABLE DISEASES/CONDITIONS IN ALLEGHENY COUNTY

Report the Following Diseases/Conditions via PA-NEDSS\* at <https://www.nedss.state.pa.us>  
Report HIV to (412) 578-8358 and Sexually Transmitted Infections to (412) 578-8081

**Any unusual diseases/infections/conditions including SARS or MERS-CoV are to be reported IMMEDIATELY as soon as clinically suspected. Reporting is not to await laboratory confirmation.**

**Outbreaks of any kind are to be reported IMMEDIATELY**

**ON NIGHTS, WEEKENDS, AND HOLIDAYS REPORT ALL TO (412) 687-ACHD (2243)**

**Healthcare practitioners and healthcare facilities MUST report the following WITHIN 24 HOURS\*\***

- |   |  |
|---|--|
| 1) Animal bites ( <a href="#">separate form on ACHD website</a> )   | 10) <i>Haemophilus Influenzae</i> invasive disease |
| 2) Anthrax  | 11) Hantavirus pulmonary syndrome                  |
| 3) Arboviruses (includes chikungunya, dengue, Eastern equine encephalitis, Japanese encephalitis, Powassan, St. Louis encephalitis, West Nile virus infection, Yellow fever, et. al.) | 12) Hemorrhagic fever (includes Ebola)             |
| 4) Botulism (all forms)   | 13) Lead Poisoning                                 |
| 5) Carbon Monoxide Poisoning  | 14) Legionellosis                                  |
| 6) Cholera  | 15) Measles  |
| 7) Diphtheria   | 16) Meningococcal invasive disease                 |
| 8) Enterohemorrhagic <i>E. coli</i> (shiga toxin-producing <i>E. coli</i> or STEC)  | 17) Plague   |
| 9) Food poisoning   | 18) Poliomyelitis                                  |
|   | 19) Rabies   |
|   | 20) Smallpox                                       |
|   | 21) Typhoid fever                                  |

**Healthcare practitioners and healthcare facilities MUST report the following within FIVE WORKING DAYS\*\***

- |  |   |
|--|---|
| 22) Acquired Immunodeficiency Syndrome (AIDS)  | 52) Meningitis (all types—not limited to invasive <i>Haemophilus influenzae</i> or <i>Neisseria meningitidis</i> )      |
| 23) Anaplasmosis   | 53) Mumps   |
| 24) Amebiasis  | 54) Perinatal exposure of a newborn to Hepatitis B  |
| 25) Babesiosis   | 55) Perinatal exposure of a newborn to HIV  |
| 26) Brucellosis  | 56) Pertussis   |
| 27) Campylobacteriosis   | 57) Psittacosis (Ornithosis)  |
| 28) Cancer ( <a href="#">report to the Pennsylvania Cancer Registry</a> )  | 58) Respiratory Syncytial Virus   |
| 29) CD4 T-Lymphocyte test result <200 or a percentage <14% of total  | 59) Rickettsial Diseases  |
| 30) Chancroid  | 60) Rubella and Congenital Rubella Syndrome   |
| 31) Chickenpox (Varicella)   | 61) Salmonellosis   |
| 32) <i>Chlamydia trachomatis</i> (Chlamydia) Infections  | 62) Shigellosis   |
| 33) Creutzfeldt-Jakob Disease  | 63) Staphylococcus aureus, Vancomycin-resistant (VRSA) or Intermediate (VISA) invasive disease                          |
| 34) Cryptosporidiosis  | 64) Streptococcal invasive disease (group A)  |
| 35) Ehrlichiosis   | 65) Streptococcus pneumoniae, invasive disease  |
| 36) Encephalitis (all types)   | 66) Syphilis - all stages   |
| 37) Giardiasis   | 67) Tetanus   |
| 38) <i>Neisseria gonorrhoeae</i> (Gonorrhea) Infections  | 68) Toxic Shock Syndrome  |
| 39) Granuloma Inguinale  | 69) Toxoplasmosis   |
| 40) Guillain-Barre Syndrome  | 70) Trichinosis   |
| 41) Hepatitis, Viral — Acute and Chronic (A, B, C, D, E)   | 71) Tuberculosis  |
| 42) Histoplasmosis   | 72) Tularemia   |
| 43) Human Immunodeficiency Virus (HIV)   |   |
| 44) Influenza (Lab-confirmed only)   | <b><u>Reportable only in children &lt;5 years of age to the Pennsylvania Department of Health at (877) 724-3258</u></b> |
| 45) Leprosy  | 73) Congenital Adrenal Hyperplasia (CAH)  |
| 46) Leptospirosis  | 74) Congenital Hypothyroidism   |
| 47) Listeriosis  | 75) Galactosemia  |
| 48) Lyme Disease   | 76) Maple Syrup Urine Disease   |
| 49) Lymphogranuloma Venereum   | 77) Phenylketonuria   |
| 50) Malaria  | 78) Sickle Cell Disease   |
| 51) Methicillin-Resistant Staphylococcus Aureus (MRSA), invasive disease ( <a href="#">separate form on ACHD website</a> ) |   |

\*PA-NEDSS is Pennsylvania's version of the National Electronic Disease Surveillance System.

New Users: To register for PA-NEDSS access please send an e-mail to [NEDSS@pa.gov](mailto:NEDSS@pa.gov).

\*\*Clinical laboratories — all diseases are reportable by next workday

Updated 07.02.2014



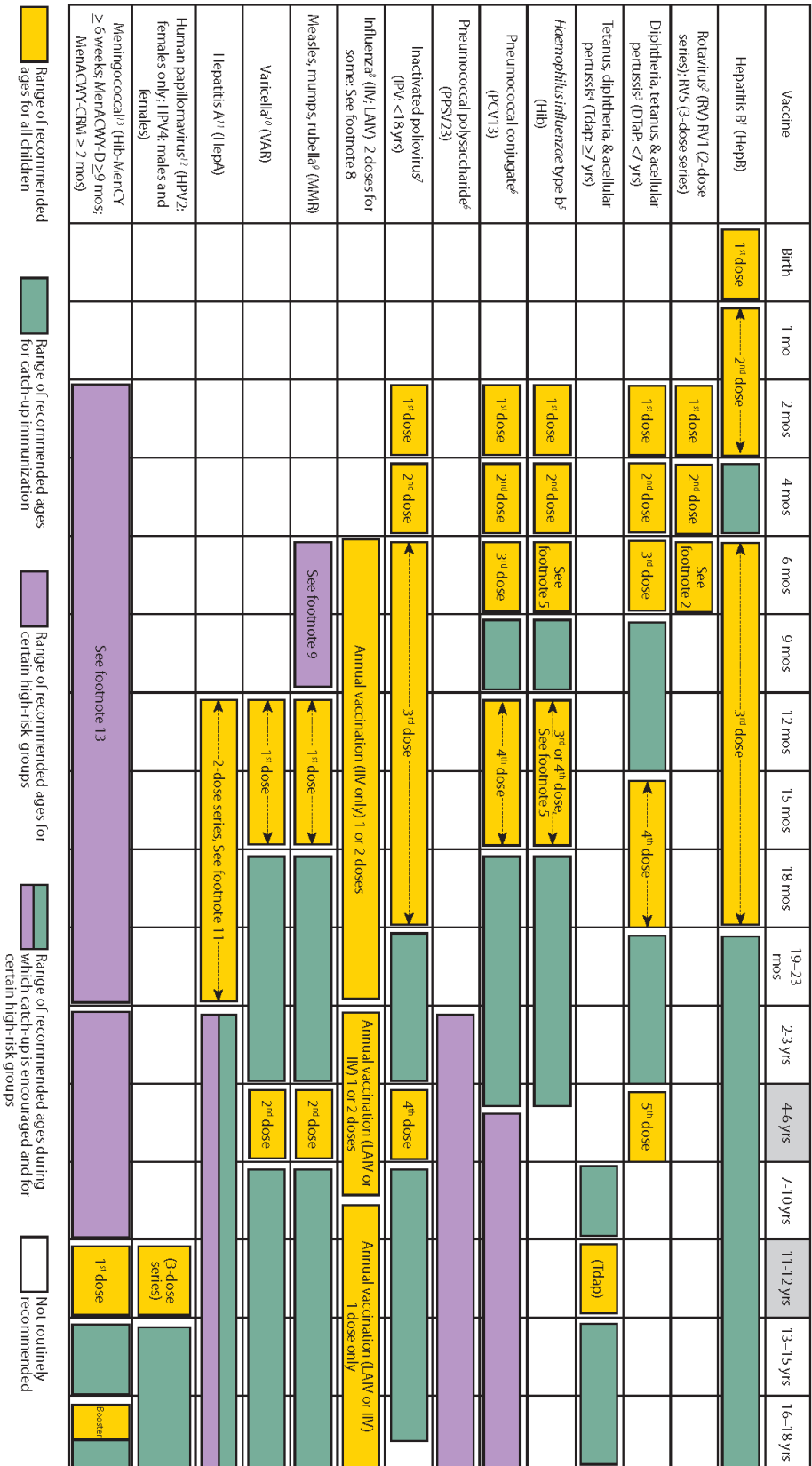
## APPENDIX B: GENERAL EXCLUSION GUIDELINES

SYMPTOMS	MANAGEMENT
Illness preventing participation in activities as determined by child care staff	Exclusion until illness resolves and able to participate in activities
Illness that requires a need for care that is greater than staff can provide without compromising health and safety of others	Exclusion or placement in care environment where appropriate care can be provided, without compromising care of others.
Severe illness suggested by fever with behavior changes, lethargy, irritability, persistent crying, difficulty breathing, progressive rash with above symptoms	Medical evaluation and exclusion until symptoms have resolved
Rash with fever or behavioral change	Medical evaluation and exclusion until illness is determined not to be communicable
Persistent abdominal pain (2 hours or more) or intermittent abdominal pain associated with fever, dehydration, or other systematic signs and symptoms	Medical evaluation and exclusion until symptoms have resolved
Vomiting 2 or more times in preceding 24 hours	Exclusion until symptoms have resolved, unless vomiting is determined to be caused by a non-communicable condition and child is able to remain hydrated and participate in activities
Diarrhea if stool not contained in diaper or if stool frequency exceeds 2 or more stools above normal for that child or stools contain blood or mucus	Medical evaluation for stools with blood or mucus; exclusion until stools are contained in the diaper or when toilet-trained children no longer have accidents using the toilet and when stool frequency becomes less than 2 stools above that child's normal frequency
Oral lesions	Exclusion if unable to contain drool or if unable to participate because of other symptoms or until child or staff member is considered to be noninfectious (lesions smaller or resolved)
Skin lesions	Keep lesions on exposed skin surfaces covered with a waterproof dressing

Excerpted from "American Academy of Pediatrics. Redbook: 2012, Report of the Committee on Infectious Diseases, Illinois: American Academy of Pediatrics, 2012."

## APPENDIX C: RECOMMENDED VACCINATIONS

**Figure 1. Recommended immunization schedule for persons aged 0 through 18 years – United States, 2015.**  
**(FOR THOSE WHO FALL BEHIND OR START LATE, SEE THE CATCH-UP SCHEDULE (FIGURE 2)).**  
 These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Figure 1. To determine minimum intervals between doses, see the catch-up schedule (Figure 2). School entry and adolescent vaccine age groups are shaded.



This schedule includes recommended ages in effect as of January 1, 2015. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Vaccination providers should consult the relevant Advisory Committee on Immunization Practices (ACIP) statement for detailed recommendations, available online at <http://www.cdc.gov/vaccines/hcp/acip-recs/index.html>. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS) online (<http://www.vaers.hhs.gov>) or by telephone (800-822-7967). Suspected cases of vaccine-preventable diseases should be reported to the state or local health department. Additional information, including precautions and contraindications for vaccination, is available from CDC online (<http://www.cdc.gov/vaccines/recs/vac-admin/contraindications.htm>) or by telephone (800-CDC-INFO [800-232-4656]).

This schedule is approved by the Advisory Committee on Immunization Practices (<http://www.cdc.gov/vaccines/acip/>), the American Academy of Pediatrics (<http://www.aap.org/>), the American Academy of Family Physicians (<http://www.aafp.org/>), and the American College of Obstetricians and Gynecologists (<http://www.acog.org/>).

**NOTE: The above recommendations must be read along with the footnotes of this schedule.**

## APPENDIX D: HAND WASHING RESOURCES

American Academy of Pediatrics Hand Hygiene Guidelines

<http://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Children-and-Disasters/Documents/MIDCCS2hygiene.pdf>

CDC Fact Sheets on Handwashing: <http://www.cdc.gov/handwashing/fact-sheets.html>

*“Handwashing: Clean Hands Save Lives”* by the Centers for Disease Control and Prevention

<http://www.cdc.gov/handwashing/>