Communicable Disease Reference Guide for Schools: 2013 Edition

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Indiana State
Department of Health
Epidemiology Resource Center

Communicable Disease Reference Guide for Schools: 2013 Edition

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Comments, questions and suggestions regarding this manual are welcome.

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July 21, 2013

Dear School Nurses and Administrators,

In 2009, the Indiana State Department of Health (ISDH) partnered with the Indiana Department of Education (IDOE) to develop a comprehensive infectious disease school health reference guide. Over the years many valuable and helpful changes and additions have been made to the manual. The 2013 edition represents the most current information related to infectious diseases likely to be found in school settings as well as guidance for communicating disease information to students, parents, and staff. In particular, the manual identifies situations and helpful information for those occurrences when infected or exposed students or staff should be excluded from school-based activities.

The *Communicable Disease Reference Guide for Schools: 2013 Edition* is available online on both the ISDH and IDOE websites. The Reference Guide is organized into different sections to provide easier access to relevant information, including a large section of the Guide devoted to those diseases and conditions most frequently encountered in a school setting. Each disease and condition, and the other helpful resources and information contained in the Guide, can be printed as an entire document or separately. The 2013 edition has been reformatted and contains new information and recommendations, including the addition of molluscum contagiosum to the list of infectious diseases and conditions; links to pictures of various diseases and rashes; and new information and recommendations to support and inform schools in their preparation for and management of an outbreak situation that may occur in a school setting.

For additional information regarding a communicable disease or condition or other health issue encountered in the school setting, please contact the IDOE Program Coordinator for Health Services at (317) 232-0541 or the ISDH School Health Liaison at (317) 234-2804. Additional assistance with school-based health issues may also be found by contacting your local county health department.

We hope that school nurses, other staff, and administrators alike will find this reference guide to be a valuable resource, providing information and guidance towards effective infection control, disease prevention, and management practices.

Sincerely,

Pam Pontones, MA

State Epidemiologist

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Reference Guide Overview

PURPOSE:

The health of Indiana's children is the foundation for success in education. Controlling the spread of communicable disease in the community is the legal responsibility of the Indiana State Department of Health (ISDH) and local health departments (LHD); however, public health officials rely upon the cooperation and contribution of schools, health care providers, and parents to prevent the spread of disease.

The purpose of the *Communicable Disease Reference Guide for Schools: 2013 Edition* is to provide the best medical information available to assist those providing health care in the schools in their efforts to prevent the introduction of communicable disease and reduce its spread in the school environment. The reference guide was written using the most current information from reliable public health and medical sources, but it is not intended to serve as a policy and procedure manual and should not be used as a substitute for the timely evaluation of suspected infections by a health care provider. Children and staff who may be ill should always be referred for medical evaluation.

This document is intended to guide the development of specific local policy and procedures regarding management of communicable diseases in schools. These policies and procedures should be implemented in collaboration and in consultation with local health departments and school health services programs. The procedures and recommendations described in the guide should be followed to the extent that they are not in conflict with Indiana law or rule.

ORGANIZATION AND USE OF THE MANUAL:

The manual is divided into four sections:

I DISEASES AND CONDITIONS:

This section contains information on specific disease conditions that the school nurse may encounter. Each disease or condition includes information pertaining to its clinical description; the incubation period, mode of transmission and period of communicability; exclusion and reporting requirements or recommendations; recommendations for prevention and/or care of the disease or condition; and information and recommendations of steps to be taken should an outbreak occur in a school setting. Links to reliable resources from the ISDH and other outside agencies and organizations are also found on each disease and condition page.

Those diseases that are required by Indiana law (Communicable Disease Reporting Rule for Physicians, Hospitals, and Laboratories, 410 IAC 1-2.3) to be reported to public health officials are denoted by a red stop sign ( ) on the corresponding disease or condition page. This delineation is also noted in the "Communicable Disease Summary Table." Physicians, hospitals and laboratories notified of a "reportable" condition through the provision of services to a patient are required to report those results to the LHD and the ISDH. Although schools are not legally required to report cases of these identified diseases or conditions, it is recommended that if school officials

become aware of a case of a reportable disease or condition, that information should be reported to the LHD as soon as possible. Occasionally a report by a school to the LHD will be the first notification of a reportable illness.

II COMMUNICABLE DISEASE SUMMARY TABLE:

The "Communicable Disease Summary Table" concisely describes, in a table format, the information that is contained in the individual disease or condition pages. Where the summary chart indicates it is not necessary to inform the LHD about a disease or condition occurring in a student, this does not prohibit you from contacting the LHD for consultation and recommendations.

III RASH ILLNESSES: DESCRIPTION AND INFORMATION TABLE:

The "Rash Illnesses: Description and Information Table" provides, in table format, a summary description of common illnesses that are accompanied by rashes. The first column of each illness contains a hyperlink to pictures of the rash to assist in better identification and management of that illness. Additional information for each illness, including a description of the rash; other symptoms that will accompany the illness; the causative agent and period of communicability; and information related to school attendance and exclusion is also found in the table.

IV APPENDICES:

Appendix A: Managing an Infectious Disease Outbreak In a School Setting

Appendix B: Indiana Communicable Disease Reporting Rule for Physicians, Hospitals and Laboratories (410 IAC 1-2.3)

Appendix C: Resources

Appendix D: Reporting of Excessive Absenteeism (20% Absenteeism Law)

Bloodborne Pathogens

Hepatitis B Infection

(Acute and Chronic)*

Clinical Description:

Hepatitis B is a serious disease of the liver that results from infection with the hepatitis B virus. Symptoms can include malaise, anorexia, fever, nausea, right upper quadrant abdominal pain, myalgia, jaundice and light-colored stools. Children usually have mild symptoms, such as anorexia or nausea and may be asymptomatic. Most people infected with hepatitis B virus will recover without any complications. However, some may develop chronic (long-term) hepatitis B infection that can lead to cirrhosis, liver cancer, liver failure, and death.

Incubation Period:

The incubation period is usually 45 - 180 days with an average of 60 - 90 days.

Mode of Transmission:

Hepatitis B is transmitted when blood or other body fluids, such as semen and vaginal secretions from an infected person, come in direct contact with a susceptible person's mucous membranes, broken skin, or through contact with a contaminated sharp object. Infection also has been acquired through human bites.

Period of Communicability:

A person can spread hepatitis B 1-2 months before and after the onset of symptoms. Persons with chronic hepatitis B infections are carriers of the virus. An indication of communicability is the presence of hepatitis B surface antigen (HBsAg) in a person's blood.

Exclusion/Reporting:

Infected children should be receiving care from a provider during both the chronic and acute stages of the disease. According to Indiana law (IC 16-41-9-3), children may not be excluded from school activities based solely on their hepatitis B status. However, based on the severity of the symptoms which may exist, for the comfort and success of the student, it may be prudent to exclude them from school and school related activities. For other information on laws and rules regarding hepatitis B infection see Rule 410 IAC 1-2.3 Sec. 73: at http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

- There is a safe and effective vaccine that can prevent hepatitis B infection. When the immunization series is administered with success, studies indicate that immunologic memory remains intact for more than 25 years and confers protection against clinical illness and chronic HBV infection.
- School immunization requirements for hepatitis B can be found at in the "Document Center" of the Indiana State Department of Health CHIRP web site
- Equipment contaminated with blood or other potentially infectious body fluids (or both) shall be appropriately disinfected or sterilized prior to reuse (see Rule 410 IAC 1-2.3-73(3)). Universal precautions to prevent exposure to blood and body fluids should be practiced.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of hepatitis B if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/Hepatitis/ChooseB.htm

Hepatitis B Foundation:

http://www.hepb.org

Indiana State Department of Health Quick Fact (found on disease/condition page):

http://bit.ly/12lJLfD

* Acute infections are required to be investigated under the Communicable Disease Reporting Rule; it is strongly recommended that chronic infections be reported and investigated as well.

Hepatitis C Infection

(Acute and Chronic)*

Clinical Description:

Hepatitis C is a serious disease of the liver that results from infection with the hepatitis C virus. Clinical symptoms include vomiting, nausea, unexpected weight loss, dark urine, pale stool, fatigue, abdominal pain, and jaundice. Initial infection may be without symptoms (in more than 80% of cases) or mild; a high percentage (50-80%) of infected persons will develop chronic infection. Chronic infection can last a lifetime with no visible symptoms. About 50% of chronically infected persons develop cirrhosis or cancer of the liver.

Incubation Period:

The incubation period ranges from 2 weeks - 6 months, most commonly being about 6 - 9 weeks. Hepatitis C infection may resolve without treatment in a small percentage of cases, usually within 6 months time. Persistent infection results in chronic hepatitis C infections, chronic infections may persist asymptomatically for up to 20 years before onset of cirrhosis or cancer of the liver.

Mode of Transmission:

Hepatitis C is usually transmitted when blood from an infected person, comes in direct contact with a susceptible person's mucous membranes, broken skin, or through contact with a contaminated sharp object. It may also be transmitted through sexual contact, and through the sharing of razors, toothbrushes, and contaminated needles.

Period of Communicability:

A person infected with hepatitis C is contagious one or more weeks before the onset of symptoms and remains infectious for life unless the virus clears.

Exclusion/Reporting:

There are no specific exclusion provisions in Indiana communicable disease laws or rules for hepatitis C. For other information on laws and rules regarding hepatitis C see Rule 410 IAC 1-2.3 Sec. 74 at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

- Recommend hepatitis A and B vaccines for all hepatitis C infected persons.
- Don't share injection needles or lancets, toothbrushes or other items contaminated with blood. Avoid getting tattoos from non-licensed facilities.
- Universal precautions to prevent exposure to blood and body fluids should be practiced. Equipment contaminated with blood or other potentially infectious body fluids (or both) should be appropriately disinfected or sterilized prior to reuse (see Rule 410 IAC 1-2.3-73(3)).

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of

hepatitis C if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Indiana State Department of Health Quick Fact (found on disease/condition page):

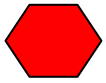
http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/Hepatitis/ChooseC.htm

*Acute infections are required to be investigated under the Communicable Disease Rule; it is strongly recommended that chronic infections be reported and investigated as well.

HIV/AIDS



Clinical Description:

Infection occurs when an individual acquires the human immunodeficiency virus (HIV). Within a few weeks of the initial infection, persons may experience a few days of clinical symptoms suggestive of a viral illness. Symptoms may include fever, rash, myalgia, neuralgia, headaches, and gastrointestinal disturbances. After this initial response, persons usually become asymptomatic, although suppression of the immune system is occurring. Opportunistic infections occur when immune suppression becomes severe. The final stage of HIV infection is known as acquired immunodeficiency syndrome (AIDS), and is characterized by development of certain infections or conditions associated with immune suppression.

Incubation Period:

The incubation period is variable, from 1 week - 10 years or longer. HIV antibodies may not be detectable for 3 - 6 months after exposure, depending on the sensitivity of the antibody test. However, in most persons they are detectable in 2 - 8 weeks. In most instances, the virus itself begins to replicate upon entering the host and can be detected with an RNA test within 9 - 11 days after exposure. The antibody test is the routine test for HIV. http://www.cdc.gov/hiv/topics/testing/resources/qa/be_tested.htm#wait

Mode of Transmission:

In a non-medical setting, HIV is transmitted from an infected person to another by four body fluids: blood, semen, vaginal secretions and breast milk. HIV may be passed from one person to another when infected fluids come in contact with an uninfected person's broken skin or mucous membranes in enough quantity to allow for the replication of the virus. There are three major ways of contracting HIV: (1) unprotected sexual encounters; (2) sharing needles with persons who are infected with HIV; (3) mother to child transmission during pregnancy, labor and delivery, or breast feeding.

Period of Communicability:

A person can spread HIV to others before it is detectable with commonly used antibody tests, and anyone infected remains a life-long carrier of the virus. HIV-infected mothers should consult a health care provider. Prenatal treatment of pregnant women and post partum treatment of their infants reduces transmission of HIV from mother to the baby.

Exclusion/Reporting:

According to IC 16-41-9-3, children must **not** be excluded from school activities based on their HIV status. http://www.in.gov/legislative/ic/code/title16/ar41/ch9.html

HIV is **not** reportable by school systems or to school systems. All confidentiality requirements found in IC 16-41-8 must be followed: http://www.in.gov/legislative/ic/code/title16/ar41/ch8.html

Prevention/Care:

- Provide comprehensive, fact-based education to prevent HIV infection in children.

- Equipment contaminated with blood or other potentially infectious body fluids (or both) must be appropriately disinfected or sterilized prior to reuse (see Rule 410 IAC 1-2.3-73(3)). Universal precautions to prevent exposure to blood and body fluids should be practiced.
- Dispense medications to infected students in a discreet manner in accordance with the exact directions regarding time of day to be taken, dosage, and other specifications as indicated (i.e. the need to be given on empty stomach or with food).
- Children infected with HIV are more likely to have complications from the diseases prevented by routine vaccination. HIV infection is not a contraindication to vaccination unless the child has developed AIDS. Live viral vaccines such as MMR or varicella may be contraindicated in children with AIDS. Make sure students infected with HIV receive all recommended vaccinations. If you are uncertain about whether a child with HIV should receive a vaccine, please contact the child's infectious disease doctor.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of HIV/AIDS if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Indiana State Department of Health Quick Fact (found on disease/condition page):

http://bit.ly/12IJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/hiv/

Conditions of the Skin

Conjunctivitis

(Pink Eye)

Clinical Description:

Conjunctivitis, or pink eye, is an acute condition characterized by redness of the eye(s). Other symptoms can include tearing, irritation, and photophobia, which may be followed by swelling of the lids and/or a purulent discharge. Viral and bacterial infections, foreign bodies or allergies may cause the condition.

Incubation Period:

For bacterial conjunctivitis, the incubation period ranges from 24 - 72 hours, and for viral conjunctivitis, the incubation period is usually 12 hours - 3 days.

Mode of Transmission:

Contact with discharge from conjunctivae or upper respiratory tracts of infected persons; also contaminated fingers, clothing, and other articles, especially those coming in close contact with the eyes (i.e. make-up applicators, multiple dose eye medication applicators).

Period of Communicability:

A person can spread conjunctivitis during the course of active infection. Depending upon the cause of the infection, communicability may be up to 14 days after onset.

Exclusion/Reporting:

The American Academy of Pediatrics advises that children with purulent conjunctivitis (defined as pink or red conjunctiva with white or yellow discharge, often with matted eyelids after sleep and eye pain or redness of the eyelids or skin surrounding the eyes) be excluded until examined by a health care provider and approved for readmission. With bacterial conjunctivitis, health care providers usually recommend exclusion until 24 hours after starting topical antibiotic therapy.

Prevention/Care:

- Use of hot or cold moist packs may relieve discomfort
- Encourage frequent hand-washing and prompt disposal of used tissues
- Refer for medical evaluation

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of conjunctivitis if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, “Managing an Infectious Disease Outbreak In a School Setting.”

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Mayo Clinic:

http://www.mayoclinic.com/health/pink-eye/DS00258

Fifth Disease

(Erythema Infectiosum)

Clinical Description:

Fifth disease is usually a mild illness caused by the human parvovirus (B19). The disease is characterized by a facial rash with a "slapped cheek" appearance and a lace-like rash on the trunk and extremities that is often itchy. Reddening of the skin may recur due to nonspecific stimuli such as temperature or sunlight. Symptoms can include low-grade fever and mild cold symptoms. Parvovirus can also cause other conditions. In people with certain red blood cell abnormalities, such as sickle cell disease, this infection can cause an aplastic crisis. Infection with the virus can also cause chronic anemia in immunosuppressed people or arthralgia or arthritis in susceptible adults. Parvovirus infection during early pregnancy may cause intrauterine growth retardation, fetal hydrops and/or death in the fetus, although this is very rare. Infection is most common in school-aged children. Clusters of cases can occur in schools, usually in late winter and spring.

Incubation Period:

The incubation period is normally from 4 -14 days, but can be as long as 20 days.

Mode of Transmission:

Transmission occurs through contact with infectious respiratory secretions, exposure to blood or blood products and from an infected mother to her fetus; however, droplet contact and close person-to-person contact are the most common modes of transmission.

Period of Communicability:

An infected person can spread fifth disease during the week prior to the appearance of the rash. When the rash appears, a person can no longer spread the virus to others.

Exclusion/Reporting:

Children with fifth disease are most communicable before onset of illness; once the rash appears, they are usually no longer contagious.

Prevention/Care:

- Inform high risk people within the school when a case of fifth disease has been identified: persons with chronic hemolytic anemia, congenital or acquired immunodeficiencies, and pregnant women. Pregnant women should consult with their health care provider if exposed to a case of fifth disease. Serologic testing for parvovirus B19 can determine a pregnant woman's susceptibility to the virus.
- Encourage frequent hand washing and prompt disposal of used tissues.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of Fifth

Disease if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC) Link:

http://www.cdc.gov/parvovirusB19/index.html

http://www.cdc.gov/parvovirusB19/pregnancy.html

Photographs of Disease/Condition:

http://www.cdc.gov/parvovirusB19/photos.html

Hand, Foot and Mouth Disease (HFMD)

(Vesicular Stomatitis with Exanthem)

Clinical Description:

HFMD is a mild illness occurring most often in children between the ages of 5 - 15 years of age caused by enteroviruses (most commonly Coxsackievirus A16 and Enterovirus 71). Cases may also occur in older adolescents and adults. HFMD is characterized by symptoms that can include sudden onset of fever, malaise, poor appetite, and sore throat followed by lesions in the mouth 1 - 2 days later. The lesions begin as small red spots that blister and may become ulcers. They are usually located on the tongue, gums, and inside of the cheeks and can be very painful. A skin rash then develops, which is usually located on the palms of the hands and soles of the feet. The sores may also appear on the buttocks. Serious conditions can result from infection with enteroviruses, including viral meningitis and encephalitis.

Incubation Period:

The incubation period is usually 3 - 5 days.

Mode of Transmission:

Transmission is through direct contact with discharges from the nose and throat, and through the fecal-oral route. Infections are most common in the summer and early fall.

Period of Communicability:

A person can spread HFMD during the acute stage of illness and may be able to spread the virus for several weeks after symptoms resolve.

Exclusion/Reporting:

There are no specific recommendations on the exclusion of children with HFMD from school. Children are often excluded from group settings during the first few days of illness, while they are most contagious. Exclusion during the first few days of illness may reduce spread, but will not completely interrupt it. Exclusion of ill persons does not prevent additional cases since the virus can be excreted for weeks after the symptoms disappear. Also, some persons excreting the virus, including most adults, may have no symptoms. Some benefit may be gained by excluding children who have blisters in their mouths and drool or who have weeping lesions on their hands.

Prevention/Care:

- There is no specific treatment or vaccine for HFMD.
- Wash and sanitize or discard articles soiled by discharge.
- Encourage frequent hand washing, especially after handling discharges and after using the restroom.
- Certain foods and beverages can cause burning or stinging of the blisters. The following ideas may make eating and drinking more tolerable for the student:
    - Suck on popsicles or ice chips; eat ice cream or sherbet
    - Drink cold beverages, such as milk or ice water
    - Avoid acidic foods, citrus drinks and soda
    - Avoid salty or spicy foods and choose foods that are soft

- Rinse mouth with warm water after meals

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of HFMD if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/hand-foot-mouth/index.html

Photographs of Disease/Condition:

http://www.mayoclinic.com/health/medical/IM00929

http://www.mayoclinic.com/health/medical/IM01479

Impetigo

Clinical Description:

Impetigo is a skin eruption caused by either streptococcal or staphylococcal bacteria that may proceed through vesicular, pustular, and encrusted stages. Impetigo is characterized by red bumps, usually on the face (particularly around the nose and mouth) or extremities. The red bumps fill with pus, break open and form a honey-colored crust. The lesions are usually itchy, but not painful. The rash typically lasts 2 to 3 weeks.

Incubation Period:

Symptoms usually begin 1 - 3 days after exposure for *Streptococcus*; usually 4 -10 days for *Staphylococcus*.

Mode of Transmission:

Infection is spread by direct contact with secretions from lesions.

Period of Communicability:

A person who is untreated can spread the bacteria for as long as drainage occurs from lesions. Infected individuals can no longer transmit the infection within 24 hours after the initiation of antibiotic therapy.

Exclusion/Reporting:

Parents should be advised to keep contagious children home until 24 hours after starting topical or oral antibiotic therapy. Contacts of cases do not need to be excluded.

Prevention/Care:

- Encourage frequent hand-washing.
- Educate students to avoid scratching and touching the infected area and then touching another area of the body.
- Wear disposable gloves while applying any treatments to infected skin.
- Draining lesions should be covered at all times with a dressing.
- Call caregiver of child.
- Watch for additional cases.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of Impetigo if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, “Managing an Infectious Disease Outbreak In a School Setting.”

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/ncidod/dbmd/diseaseinfo/groupastreptococcal_g.htm

Mayo Clinic:

http://www.mayoclinic.com/health/impetigo/DS00464

Photographs of Disease/Condition:

http://www.mayoclinic.com/health/medical/IM00400

Methicillin-resistant *Staphylococcus aureus*
(MRSA)

Clinical Description:

Staphylococcus aureus (staph) bacteria commonly reside on the skin or in the nose of healthy individuals and do not cause infection. When these bacteria enter the body through a break in the skin, they can cause mild skin infections, such as pimples, abscesses, rashes, or boils. Staph can also cause serious infections, such as bloodstream and bone infections or pneumonia. Methicillin-resistant *Staphylococcus aureus* (MRSA) is a type of staph bacteria that is resistant to the antibiotic methicillin and other antibiotics related to penicillin.

Incubation Period:

The incubation period is variable and indefinite.

Mode of Transmission:

MRSA is spread by direct physical contact with an infected person, either by direct skin contact or indirect contact with inanimate object (such as towels, clothes, bandages, or sports equipment) that is soiled with wound drainage. The bacteria are not carried through the air, and they are not found in dirt or mud.

Period of Communicability:

A person is able to spread MRSA if an open wound is not properly covered.

Exclusion/Reporting:

There are no specific exclusion provisions found in Indiana communicable disease laws or rules for MRSA. Students should not be excluded from attending school unless directed by a health care provider, or if wound drainage cannot be covered and contained with a dry bandage, or if good personal hygiene cannot be demonstrated. For information on laws and rules regarding *Staphylococcus aureus* see Rule 410 IAC 1-2.3 Sec. 98: at http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

MRSA can be prevented by encouraging students and educators alike to follow these simple precaution methods at all times:

- Encourage frequent hand-washing.
- Keep infected areas covered with a clean, dry bandage.
- Avoid direct contact with another person's wound, drainage, or bandages.
- Avoid contact with surfaces contaminated with wound drainage.
- Do not share personal hygiene items, such as washcloths, towels, razors, toothbrushes, soap, deodorant, nail clippers, clothing, or uniforms.
- Clean shared athletic equipment and surfaces before use.
- See a health care provider if a wound shows signs of infection, such as redness, swelling, pain, or drainage.

Prompt referral to a health care provider for evaluation and treatment will prevent the infection from becoming worse.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of MRSA if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/mrsa/prevent/schools.html

Indiana State Department of Health MRSA Resource Manual:

http://www.in.gov/isdh/24808.htm

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Molluscum Contagiosum

Clinical Description:

Molluscum contagiosum is a benign superficial skin disease caused by a poxvirus. It is characterized by small pearly papules with a central depression whose core may be expressed, producing a white cheesy material. The lesions average 2 to 5 mm in size and are usually painless, but may become inflamed, red, and swollen. Molluscum contagiosum is a self-limited infection; the papules usually disappear spontaneously within 6 to 12 months but may take as long as 4 years to resolve.

Incubation Period:

The incubation period is estimated to be between 2 weeks and 6 months.

Mode of Transmission:

Spread has been documented through the sharing of towels and bathing sponges, wrestling, and from a surgeon to several of his patients. This implies that direct human-to-human contact and contact with infected fomites are the most likely routes of transmission. Secondary spread of lesions may occur by autoinoculation (excoriation of primary lesions and spread to areas of normal skin) as well as by shaving and electrolysis.

Swimming pool equipment such as kick boards can transfer molluscum contagiosum infection rather than the actual water itself. Furthermore, the wet, warm climate in a swimming pool environment is believed to facilitate the spread of the virus by fomites. Steam baths, saunas, and communal spray baths have also been suspected as culprits in transmission.

Period of Communicability:

The virus can also be spread from person to person. This can happen if the growths on one person are touched by another person. It can also happen if the virus gets on an object that is touched by other people. Examples of such objects are towels, clothing, and toys. Molluscum can also be spread from one person to another by sexual contact

Exclusion/Reporting:

Molluscum is not a reportable condition in Indiana. If the occurrence of molluscum exceeds the normal baseline in your school then the local health department should be notified. Exclusion from school is not practical since these lesions may exist for extended periods of time.

Prevention/Care:

- **Wash Your Hands**

  Keeping your hands clean is the best way to avoid molluscum infection, as well as many other infections. Hand washing removes germs that may have been picked up from other people or from surfaces that have germs on them.

- **Don't Scratch or Pick Molluscum Bumps**

  It is important not to touch, pick, or scratch skin that has bumps or blisters...that includes not only your own skin but anyone else's. Picking and scratching can spread the virus to other parts of the body and makes it easier to spread the disease to other people too.

- **Keep Molluscum Bumps Covered**

  It is important to keep the area with molluscum growths clean and covered with clothing or a bandage so that others do not touch the bumps and become infected with molluscum. Do remember to keep the affected skin clean and dry. However, when there is no risk of others coming into contact with your skin, such as at night when you sleep, uncover the bumps to help keep your skin healthy.

- **Sports and Activities to Avoid When You Have Molluscum**

  To prevent spread of the infection to other people, people with molluscum should not take part in **contact sports** unless all growths can be covered by clothing or bandages. Wrestling, basketball, and football are examples of contact sports.

  Activities that use **shared gear** should also be avoided unless all bumps can be covered. Helmets, baseball gloves, and balls are examples of shared gear.

  Swimming should also be avoided unless all growths can be covered by watertight bandages. Personal items (such as towels, goggles, and swim suits) should not be shared. Other items and equipment (such as kick boards and water toys) should be used only when all bumps are covered by clothing or watertight bandages.

Other Ways to Avoid Transmitting Infection

- Other personal items that may spread the virus should not be shared by people with molluscum. Some examples of personal items are unwashed clothes, hair brushes, wrist watches, and bar soap.
- People with molluscum should not shave or have electrolysis performed on body areas that have growths.
- People who have bumps in the genital area (on or near the penis, vulva, vagina, or anus) should avoid sexual contact until they have seen a health care provider.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of molluscum contagiosum if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Resources:

Centers for Disease Control and Prevention (CDC) Website:

http://www.cdc.gov/ncidod/dvrd/molluscum/

CDC website for Daycare Providers:

http://www.cdc.gov/ncidod/dvrd/molluscum/faq/daycare.htm

Photographs of Disease/Condition:

http://www.cdc.gov/ncidod/dvrd/molluscum/image_typical_molluscum_bumps_sperling_lg.htm

Pediculosis Capitis

(Head Lice)

Clinical Description:

Pediculosis capitis is an infestation of adult lice or nits (eggs) in the hair on the head. The head louse lives close to the scalp and is most visible behind the ears or at the base of the neckline. Lice depend upon human blood to live and can only survive up to two days away from the scalp. The main symptom of head lice infestation is itching.

Incubation Period:

Optimally, eggs hatch in a week, and the resultant lice are capable of multiplying in 8 to10 days. The typical adult louse lives 20 - 30 days and lays 4 to 5 eggs a day; however, the eggs will only hatch if they are less than 1 week old and are near the scalp.

Mode of Transmission:

Transmission occurs by direct head to head contact with a person with a live infestation, or less frequently, direct contact with their personal belongings that are harboring lice, such as combs, hairbrushes, hats, towels, and pillowcases.

Period of Communicability:

A person can spread lice as long as live lice remain on an infested person in the hair and are within ¼" from the scalp. Head lice are most common among children attending child care or elementary school.

Exclusion/Reporting:

School nurses should work with their administration and local health department to implement a policy regarding head lice and attendance. The American Association of Pediatrics and the National Association of School Nurses advocate that "no-nit" policies should be discontinued. The CDC states that nits may be misdiagnosed, and if present, are cemented to the hair shaft and not likely to be transferred. They further state that the adverse effect of lost school days on students and families far outweighs any health risk. Head lice infestation is not listed as a reportable communicable disease under Rule 410 IAC 1-2.3 at http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

- Instruct parents/guardians to use the pediculicides (lice medicine) as directed in the package insert. Infested persons should not use a combination shampoo/conditioner, or conditioner before using lice medicine and should not re-wash their hair for 1-2 days after the lice medicine is removed.
- Detection of live lice more than 24 hours after treatment suggests treatment failure. Parents should be advised to call their health care provider before retreating as a different pediculicide may be necessary.
- To avoid potential toxic reactions in people, repetitive use of over-the-counter (OTC) head lice control products is not recommended.

- Once an effective treatment has been applied, retreatment with the same pediculicide according to package directions (usually 7 to10 days after the first treatment) may be necessary to kill recently hatched lice and rid the child of infestation.
- Household contacts should be evaluated for lice or nits, and if infested, should be treated at the same time as the child. Parents are encouraged to comb out and completely remove all nits.
- Parents should be instructed in home control measures, including laundering items in hot soapy water. Brushes and combs should be thoroughly cleaned or boiled.
- Insecticide treatment of the home and/or vehicles is not indicated.
- Presence of lice is not indicative of poor hygiene or unhygienic environment.
- Head lice rarely cause direct harm; they are not known to transmit infectious agents from person-to-person.
- There is a lack of scientific evidence as to whether suffocation of lice with occlusive agents, such as petroleum jelly or olive oil, is effective in treatment.

Other Resources:

American Academy of Pediatrics publication on Head Lice:
http://pediatrics.aappublications.org/content/110/3/638.full.pdf

Centers for Disease Control and Prevention (CDC):
http://www.cdc.gov/lice/

Centers for Disease Control and Prevention (CDC) Link for Schools:
http://www.cdc.gov/parasites/lice/head/schools.html

Indiana State Department of Health Quick Facts Page (found on disease/condition page):
http://bit.ly/12lJLfD

National Association of School Nurses, "Pediculosis Management in the School Setting":
http://www.nasn.org/Portals/0/positions/2011pspediculosis.pdf

Ringworm
(Tinea)

Clinical Description:

Ringworm is an infection caused by a fungus which can affect the skin on the body (*Tinea corporis*), scalp (*Tinea capitis*), groin area (*Tinea cruris* "jock itch"), or feet (*Tinea pedis "*athlete's foot"). Ringworm usually begins as a small red bump or papule that spreads outward, so that each affected area takes on the appearance of a red, scaly outer ring with a clear central area. The lesions are frequently itchy and can become infected if scratched.

Incubation Period:

The incubation period varies depending on the type of ringworm. The incubation period for *Tinea capitis* is 10 to 14 days, *Tinea corporis* and *Tinea cruris* is 4 - 10 days, and the incubation period for *Tinea pedis* is unknown.

Mode of Transmission:

Transmission is usually by direct contact with a human or animal source. *Tinea capitis* can also be transmitted by inanimate infected objects such as the back of seats, combs, brushes, or hats. *Tinea cruris*, *corporis* and *pedis* can be contracted from places such as shower stalls, benches, contaminated floors, and articles used by an infected person.

Period of Communicability:

A person can spread ringworm as long as lesions are present and viable fungus persists on contaminated materials and surfaces.

Exclusion/Reporting:

According to the 2009 American Academy of Pediatrics *Red Book,* students with a fungal infection of the skin should be referred to a medical provider for treatment; however, students who fail to receive treatment do not need to be excluded unless the nature of their contact with other students could potentiate spread.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of Ringworm if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Prevention/Care:

- Students infected with *tinea pedis* should be excluded from swimming pools, and from walking barefoot on locker room and shower floors until treatment has been initiated.
- Students with *tinea capitis* should be instructed not to share combs, hats, hair accessories, or hair brushes
- Clean and drain school shower areas frequently.

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):
http://bit.ly/12lJLfD

National Institutes of Health:
http://www.nlm.nih.gov/medlineplus/ency/article/001439.htm

Scabies

Clinical Description:

Scabies is a skin infection caused by the burrowing itch mite, *Sarcoptes scabiei,* which can only be seen with a microscope. It is characterized by itching, particularly at night, and blister-like sores in the burrows of the skin, which may become infected. These sores are especially prevalent in the webs between the fingers, the heels of the palms, the wrists, armpits, buttocks, genitalia, and elbows. Nipples may also be affected in older females.

Incubation Period:

The incubation period for scabies ranges from 2 - 6 weeks for the first infection; for subsequent infections the incubation may be as short as a few days.

Mode of Transmission:

Scabies is transmitted by close (including sexual) contact with an affected individual. Contact with bedding, towels, or clothing (including undergarments) of an infected person can be a means of spreading scabies.

Period of Communicability:

A person can spread scabies from the time of infection until the mites and eggs are destroyed by treatment.

Exclusion/Reporting:

Infested persons should be excluded from school until the day after treatment. Scabies is not listed as a reportable communicable disease under Rule 410 IAC 1-2.3 at http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

- Students or staff may return to school a day after treatment is started or as directed by the healthcare provider.
- Presence of scabies does not necessarily indicate poor hygiene or unhygienic environment.
- Clothing and bedclothes of the infected person and of all the people in their household should be well-laundered.
- Bed mattresses and upholstered furniture should be vacuumed thoroughly.
- Insecticide treatment of the home or any school facility is not recommended.
- Caregivers who have prolonged skin to skin contact with a student infested with scabies may benefit from prophylactic treatment.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of Scabies if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the

preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):
http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):
http://www.cdc.gov/parasites/scabies/

Shingles

(Herpes Zoster)

Clinical Description:

Herpes zoster (shingles) is the latent manifestation of the primary varicella infection (chickenpox) caused by the varicella zoster virus. Shingles is characterized as a rash on one side or both sides of the face or body, usually in patches along nerve pathways, or dermatomes, in crops similar to varicella lesions. The symptoms of shingles include pain, itching, or tingling in the area where the rash develops prior to blistering, and possible severe pain in the rash location even after the rash resolves. The rash usually clears within 2 - 4 weeks. Although uncommon, shingles can occur in school age children and vaccinated persons with a history of varicella disease.

Incubation Period:

Shingles is reactivation of latent varicella zoster virus, so there is no applicable incubation period. Anyone who has recovered from varicella may develop shingles.

Mode of Transmission:

Transmission of varicella zoster virus can occur through direct contact with the rash or fluid from a shingles lesion. An exposed, susceptible individual may contract chickenpox (varicella) from a shingles lesion, however, shingles itself cannot be contracted from another individual since it is reactivation of latent varicella zoster virus.

Period of Communicability:

A person can no longer spread the herpes zoster virus once the rash lesions crust.

Exclusion/Reporting:

If the site of the infection can be covered, individuals with shingles are not considered to be highly contagious and should not be excluded from school.

Prevention/Care:

- People with shingles should keep the rash covered and not touch or scratch the rash.
- Wash hands properly and often.
- No shingles vaccine is available for children; however, administration of varicella vaccine will prevent infection if contact with a shingles case occurs.
- Zoster vaccine is recommended for use in persons ages 60 years and older.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of Shingles if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the

preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Since shingles is not transmissible from person to person, there are no outbreak control recommendations. However, if a case of shingles transmits chickenpox to a susceptible person, please refer to the varicella chapter for details on outbreak control if there is subsequent transmission of chickenpox.

Other Resources:

Centers for Disease Control and Prevention (CDC) information about shingles:
http://www.in.gov/isdh/healthinfo/shingles.htm

Indiana State Department of Health Quick Facts Page (found on disease/condition page):
http://bit.ly/12lJLfD

Streptococcal Sore Throat and Scarlet Fever

Clinical Description:

Streptococcal sore throat is an acute syndrome with fever, exudative tonsillitis or pharyngitis, and tender cervical lymph nodes; however, it can occur with very few symptoms. Many sore throats resembling "strep throat" are not due to strep and may be caused by a viral infection. Scarlet fever is a combination of a streptococcal sore throat and a skin rash caused by a toxin produced by Group A *Streptococcus* bacteria (*Streptococcus pyogenes)*. The disease is characterized by a fine, red rash that feels almost like sand-paper. It appears first on the upper body, then spreads to cover almost all of the body. In full-blown cases, this may occur over a period of several hours to several days. The rash fades on pressure and leads to flaking of the skin. With few exceptions, it is usually no more severe or dangerous than a strep throat without the rash. The main reason for concern with a streptococcal infection is the risk of developing rheumatic fever, which is markedly reduced by prompt treatment with appropriate antibiotics.

Incubation Period:

The incubation period ranges from 1 - 3 days, rarely longer.

Mode of Transmission:

The primary mode of transmission is by large respiratory droplets or direct contact with individuals who have strep throat or with carriers of the bacteria. Strep throat and scarlet fever are rarely transmitted through direct contact with objects. Individuals with acute respiratory tract (especially nasal) infections are particularly likely to transmit infection.

Period of Communicability:

A person who is untreated can spread the disease as long as he or she is symptomatic, usually 10 to 21 days. Infected individuals can no longer transmit the infection within 24 to 48 hours after the initiation of antibiotic therapy.

Exclusion/Reporting:

Children should not return to school until at least 24 hours after beginning antibiotic treatment when ill with noninvasive Group A *Streptococcus* infections. Asymptomatic children should not be excluded from school.

Prevention/Care:

- Children with a sore throat and fever, and children with an unexplained fever over 101 degrees Fahrenheit should be referred for medical evaluation.
- Encourage good personal hygiene.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of

streptococcal sore throat and scarlet fever if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

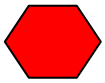
Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):
http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):
http://www.cdc.gov/ncidod/dbmd/diseaseinfo/groupastreptococcal_g.htm

Mayo Clinic:
http://www.mayoclinic.com/health/strep-throat/DS00260
http://www.mayoclinic.com/health/scarlet-fever/DS00917

Tick Borne Infections



Clinical Description:

Ehrlichiosis is an infection caused by one of several bacteria transmitted by ticks. In Indiana the most common bacterium associated with disease is *Ehrlichia chaffeensis,* which is transmitted by *Amblyomma americanum,* the "lone-star tick." Other disease causing *Ehrlichias* may be transmitted by *Ixodes scapularis*, the "black-legged tick." Symptoms vary from mild or in-apparent infection to severe forms that may be fatal. Patients typically present with fever, headache, myalgia, depression and anorexia. Symptoms usually develop within 1 - 2 weeks of tick exposure.

Lyme disease is an infection caused by the bacterium *Borrelia burgdorferi* transmitted by the bite of a tiny tick, *Ixodes scapularis,* commonly known as the "black-legged tick." Lyme disease usually begins with a characteristic rash, a red papule that expands to a larger (> 5cm) reddened area, typically with partial central clearing (erythema migrans or "bulls-eye" rash). The rash may appear 2 to 31 days after the tick bite. If not treated promptly, additional symptoms may develop, such as fever, headache, pain in the joints or muscles, mild neck stiffness, or swollen lymph nodes. If left untreated, Lyme disease can lead to serious health problems.

Rocky Mountain Spotted Fever (RMSF) is an infection caused by the bacterium *Rickettsia rickettsii* that is transmitted to humans by the bite of an infected tick, *Dermacentor variabilis*, or the "American dog tick". Symptoms include a sudden onset of moderate to high fever, 2 - 14 days after tick attachment that ordinarily persists for 2 - 3 weeks. Significant malaise, deep muscle pain, severe headaches, chills, and conjunctival infections are typical in cases. A rash may appear 2 - 5 days after the fever begins, although some people may not experience the rash at all. The rash is not itchy and appears on the wrists, forearms, and ankles and then spreads to include the trunk; the palms and soles may also be affected. RMSF is a serious illness that can be fatal in the first eight days if not treated correctly and promptly.

Incubation Period:

The incubation period for ehrlichiosis is 7 - 14 days. For Lyme disease, the incubation period ranges from 2 - 31 days, typically 7 - 10 days. For RMSF, the incubation period ranges from 2 - 14 days.

Mode of Transmission:

These tick-borne infections are only transmitted through bites from infected ticks. A tick must be attached for several hours before it can transmit disease. Prompt removal of attached ticks can prevent transmission.

Period of Communicability:

Tick borne diseases are not transmitted person-to-person.

Exclusion/Reporting:

For information on laws and rules regarding tick borne diseases see Rule 410 IAC 1-2.3 Sec. 64, 80 and 94 at http://www.in.gov/isdh/files/comm_dis_rule(1).pdf. There are no specific control measures for schools found in Indiana communicable disease laws or rules for tick-borne diseases. All cases of ehrlichiosis, Lyme disease, and RMSF should be reported to the local health department where student resides and the ISDH.

Prevention/Care:

- If a tick is found on a student, remove it immediately. To remove a tick, use tweezers to firmly grasp the body close to the skin and pull it straight out. If tweezers are not available, the fingers may be used as long as they are covered with a tissue, foil, or wax paper to prevent direct contact with fluids from the tick. Do not twist or jerk the tick because the head may become embedded in the skin. Wash the area and your hands after the tick has been removed.
- Contact caregivers of the child about the tick bite. They should be instructed to seek medical evaluation if the student develops a febrile illness or rash over the next 3 to 4 weeks.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of tic born infections if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting." All cases of Ehrlichiosis, Lyme disease, and Rocky Mountain Spotted Fever should be reported to the local health department where the student resides.

Other Resources:

Centers for Disease Control and Prevention (CDC):

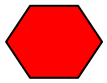
http://www.cdc.gov/ehrlichiosis
http://www.cdc.gov/lyme
http://www.cdc.gov/rmsf

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Gastrointestinal Illness

Campylobacteriosis



Clinical Description:

Campylobacteriosis is a diarrheal disease caused by the bacteria of the genus *Campylobacter*. The species that most commonly infects humans is *Campylobacter jejuni*. Symptoms can include diarrhea, which is sometimes bloody, stomach cramps, fever, nausea, and vomiting. *Campylobacter* symptoms usually last no longer than one week and medical treatment is not required.

Incubation Period:

Symptoms usually appear 2 - 5 days after exposure, with a range of 1 - 10 days.

Mode of Transmission:

Campylobacter is transmitted by food, most often from undercooked poultry, unpasteurized milk, or non-chlorinated water or the fecal-oral route.

Period of Communicability:

A person can spread *Campylobacter* while experiencing symptoms.

Exclusion/Reporting:

Symptomatic persons diagnosed with *Campylobacter* or symptomatic persons linked by person, place, or time to a case are excluded from attending school until:

- Asymptomatic for at least 24 hours
- Disease prevention education provided by the local health department

For more information on laws and rules regarding campylobacteriosis see the Communicable Disease Reporting Rule 410 IAC 1-2.3-57 at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

Encourage frequent hand washing, particularly after using the restroom, assisting someone with diarrhea and/or vomiting, after contact with animals, after swimming, and before and after food preparation. Please refer to the ISDH Handwashing Campaign at http://www.in.gov/isdh/24036.htm. Treatment with antibiotics may shorten the duration of illness.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. A Campylobacteriosis outbreak is two or more cases of a similar illness shown by an investigation to have resulted from a common exposure, such as ingestion of a common food. If an outbreak is suspected and/or documented, contact your local health department. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, “Managing an Infectious Disease Outbreak In a School Setting.”

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):
http://bit.ly/12IJLfD

Centers for Disease Control and Prevention (CDC):
http://www.cdc.gov/nczved/divisions/dfbmd/diseases/campylobacter/

Clostridium difficile Infections

(CDI)

Clinical Description:
Older adults who take antibiotics and also receive medical care are most at risk for acquiring CDI. Infection with *Clostridium difficile (C. difficile)* can result in symptoms ranging from asymptomatic carriage, watery diarrhea, pseudomembranous colitis, sepsis and death.

Incubation Period:
The incubation period is unknown.

Mode of Transmission:
C. difficile is acquired from the environment or from stool of another colonized or infected individual by the fecal-oral route.

Period of Communicability:
The ability of *C. difficile* to form spores allows the bacteria to survive in the environment for weeks or months.

Exclusion/Reporting:
Children are at a lower risk for CDI. Infected children should receive care from a provider. Children with *C. difficile* diarrhea should be excluded for the duration of diarrhea. Infection control measures should be enforced.

Prevention/Care:
Meticulous hand hygiene, especially after using the restroom and before eating, is the most important factor for decreasing transmission of CDI. Washing hands with soap and water is more effective in removing *C. difficile* spores. Regular, scheduled cleaning of surfaces in restrooms with bleach or another EPA-approved, spore-killing disinfectant is advised. A designated restroom should be considered for an infected child thus assuring appropriate hand hygiene and immediate surface cleaning upon use of the restroom.

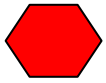
Outbreaks:
According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of CDI if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources

Centers for Disease Control and Prevention (CDC):
http://www.cdc.gov/HAI/organisms/cdiff/Cdiff_infect.html

Indiana State Department of Health Quick Facts Page (found on disease/condition page):
http://bit.ly/12IJLfD

Cryptosporidiosis



Clinical Description:

Cryptosporidiosis is a diarrheal disease caused by microscopic parasites of the genus *Cryptosporidium*. The most common species that infect humans are *Cryptosporidium parvum* and *Cryptosporidium hominis*. Symptoms can include watery diarrhea, stomach cramps, fever, nausea, weight loss, and vomiting. Symptoms usually last two weeks or less; however, symptoms can subside and then return for up to 30 days.

Incubation Period:

Symptoms usually begin 7 days, range of 1 - 12 days, after a person becomes infected.

Mode of Transmission:

Cryptosporidium is transmitted by the fecal-oral route.

Period of Communicability:

Some people with cryptosporidiosis may not have any symptoms, but they can still pass the disease to others. After infection, people can shed *Cryptosporidium* in their stool for months. People with weakened immune systems may not be able to clear the infection. This may lead to prolonged disease and even death.

Exclusion/Reporting:

Symptomatic persons diagnosed with *Cryptosporidium* or symptomatic persons linked by person, place, or time to a case are excluded from attending school until:

- Asymptomatic for at least 24 hours
- Disease prevention education provided by the local health department
- Completion of antiparasitic therapy

For more information on laws and rules regarding cryptosporidiosis see the Communicable Disease Reporting Rule 410 IAC 1-2.3-61 at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

Encourage frequent hand washing, particularly after using the restroom, assisting someone with diarrhea and/or vomiting, after contact with animals, after swimming, and before and after food preparation. Please refer to the ISDH Handwashing Campaign at http://www.in.gov/isdh/24036.htm. Enforce exclusion of ill students and staff members.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. A Cryptosporidiosis outbreak is two or more cases of a similar illness shown by an investigation to have resulted from a common exposure, such as water at a common source. If an outbreak is suspected and/or documented, contact your local health department. For additional information and recommendations regarding

the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):
http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):
http://www.cdc.gov/parasites/crypto/

E. coli Infection (Shiga-toxin producing and HUS)

Clinical Description:

Escherichia coli (*E. coli*) infection is a bacterial disease, with the most severe infection caused by *E. coli* strains that produce a potent toxin. These strains are known as Shiga-toxin producing *E. coli* (STEC). Symptoms can include bloody or non-bloody diarrhea, stomach cramps, low-grade fever, nausea, weight loss, and vomiting. Approximately 8% of people infected with STEC can develop the condition hemolytic uremic syndrome (HUS). This condition can lead to kidney failure and death.

Incubation Period:

Symptoms usually begin 3 - 4 days, range of 2 - 10 days, after exposure and last for approximately 5 - 10 days.

Mode of Transmission:

E. coli is transmitted by contaminated food or beverages or person-to-person by the fecal-oral route.

Period of Communicability:

A person can spread *E. coli* during acute illness and can shed *E. coli* in stool for up to three weeks after symptoms resolve.

Exclusion/Reporting:

Symptomatic persons diagnosed with STEC, HUS, or symptomatic persons linked by person, place, or time to a case are excluded from attending school until:

- Asymptomatic for at least 24 hours
- Disease prevention education is provided by the local health department

For more information on laws and rules regarding STEC or HUS see the Communicable Disease Reporting Rule (410 IAC 1-2.3-66) at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

Encourage frequent hand washing, particularly after using the restroom, assisting someone with diarrhea and/or vomiting, after contact with animals, after swimming, and before and after food preparation. Please refer to the ISDH Handwashing Campaign at http://www.in.gov/isdh/24036.htm. Enforce exclusion of ill students and staff members.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. A STEC outbreak is two or more cases of a similar illness shown by an investigation to have resulted from a common exposure, such as ingestion of a common food. If an outbreak is suspected and/or documented, contact your local health department. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, “Managing an Infectious Disease Outbreak In a School Setting.”

Other Resources:

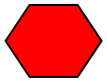
Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/ecoli/

Giardiasis



Clinical Description:

Giardiasis is a diarrheal disease caused by the microscopic parasite *Giardia intestinalis*. Symptoms can include diarrhea, gas, greasy stools that tend to float, bloating, stomach cramps, fever, nausea, and constipation. Symptoms usually last about 2 - 6 weeks.

Incubation Period:

Symptoms usually begin within 7 - 10 days, range of 3 - 25 days, after exposure.

Mode of Transmission:

Giardia is transmitted by contaminated food or water or person-to-person by the fecal-oral route.

Period of Communicability:

A person can spread *Giardia* while symptomatic. Infected people can also carry *Giardia* for weeks or months. They may or may not have symptoms and can unknowingly infect others.

Exclusion/Reporting:

Symptomatic persons diagnosed with *Giardia* or symptomatic persons linked by person, place, or time to a case are excluded from attending school until:

- Asymptomatic for at least 24 hours
- Disease prevention education provided by the local health department
- Completion of antiparasitic therapy

For more information on laws and rules regarding giardiasis see the Communicable Disease Reporting Rule (410 IAC 1-2.3-66.5) at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

Encourage frequent hand washing, particularly after using the restroom, assisting someone with diarrhea and/or vomiting, after contact with animals, after swimming, and before and after food preparation. Please refer to the ISDH Handwashing Campaign at http://www.in.gov/isdh/24036.htm. Enforce exclusion of ill students and staff members.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. A Giardiasis outbreak is two or more cases of a similar illness shown by an investigation to have resulted from a common exposure, such as water at a common source. If an outbreak is suspected and/or documented, contact your local health department. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, “Managing an Infectious Disease Outbreak In a School Setting.”

Other Resources:

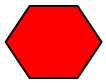
Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/parasites/giardia/

Hepatitis A Infection



Clinical Description:

Hepatitis A is a disease of the liver resulting from infection with the hepatitis A virus. Symptoms can include diarrhea, nausea, vomiting, fatigue, stomach cramps, fever, dark urine, pale or clay-colored stool, loss of appetite, and jaundice. There is no long-term carrier state with hepatitis A infection. Individuals may be asymptomatic but still infectious.

Incubation Period:

Symptoms usually occur suddenly and begin 28 - 30 days, range of 15 - 50 days, after exposure. Symptoms typically last less than two months.

Mode of Transmission:

Hepatitis A is transmitted by the fecal-oral route.

Period of Communicability:

A person can spread hepatitis A 14 days before and 7 days after the onset of jaundice, or if jaundice does not occur, 7 days before and 14 days after the onset of symptoms.

Exclusion/Reporting:

Symptomatic persons diagnosed with hepatitis A or symptomatic persons linked by person, place, or time to a case are excluded from attending school:

- 14 days before or 7 days after onset of jaundice
- 7 days before and 14 days after symptom onset (if no jaundice)
- Disease prevention education is provided by the local health department

For more information on laws and rules regarding Hepatitis A see the Communicable Disease Reporting Rule 410 IAC 1-2.3- 72 at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

Post-exposure prophylaxis is recommended for household and sexual contacts and contacts exposed to food prepared by the case within two weeks of exposure. When the vaccination schedule is properly followed, the hepatitis A vaccine is nearly 100% effective. Encourage frequent hand washing, particularly after using the restroom, assisting someone with diarrhea and/or vomiting, after contact with animals, after swimming, and before and after food preparation. Please refer to the ISDH Handwashing Campaign at http://www.in.gov/isdh/24036.htm.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. A hepatitis A outbreak is two or more cases of a similar illness shown by an investigation to have resulted from a common exposure, such as ingestion of a common food. If an outbreak is suspected and/or documented, contact your local health department. For additional information and recommendations regarding

the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/Hepatitis/ChooseA.htm

Norovirus Infection

Clinical Description:

Noroviruses, the most common causes of viral gastroenteritis, are very contagious, with symptoms including watery diarrhea, stomach cramps, nausea, vomiting, headache, muscle aches, and fatigue. Most cases have no fever or a slight fever. Illness is self-limiting, and symptoms generally last 24 - 48 hours. Although often termed "stomach flu," norovirus infection should not be confused with influenza, which is a respiratory illness.

Incubation Period:

Symptoms usually begin 24 - 48 hours (range of 12 - 72 hours) after exposure.

Mode of Transmission:

Norovirus is transmitted by the fecal-oral route.

Period of Communicability:

A person can spread norovirus when experiencing symptoms and up to 72 hours after recovery. Some studies indicate that those infected can shed virus up to two weeks after recovery. Only a very small dose of virus is needed to cause infection.

Exclusion/Reporting:

It is recommended that persons with diarrhea and/or vomiting be excluded from attending school until asymptomatic for at least 24 hours.

Prevention/Care:

Encourage frequent hand washing, particularly after using the restroom, assisting someone with diarrhea and/or vomiting, after swimming, and before and after food preparation. Please refer to the ISDH Handwashing Campaign at http://www.in.gov/isdh/24036.htm. Enforce exclusion of ill students or staff members. Inform caregivers of children experiencing signs of dehydration to seek medical attention. Regular, scheduled cleaning of surfaces in restrooms with bleach or another EPA-approved, spore-killing disinfectant is advised.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. A norovirus outbreak is two or more cases of a similar illness shown by an investigation to have resulted from a common exposure, such as ingestion of a common food. If an outbreak is suspected and/or documented, contact your local health department. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

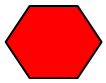
Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/norovirus/index.html

Salmonellosis



Clinical Description:

Salmonellosis is a diarrheal disease caused by bacteria from the genus *Salmonella*. Symptoms can include diarrhea, nausea, vomiting, stomach cramps, and fever. Most people recover within 4 to 7 days without medical treatment.

Incubation Period:

Symptoms usually begin 12 - 36 hours, range of 6 - 72 hours, after exposure.

Mode of Transmission:

Salmonella is transmitted by undercooked or contaminated food or beverages, person-to-person by the fecal-oral route, and contact with infected or carrier animals including amphibians, reptiles and poultry.

Period of Communicability:

A person can spread *Salmonella* at anytime while symptomatic. Infected people may carry *Salmonella* in their bodies for weeks or months without symptoms and unknowingly infect others.

Exclusion/Reporting:

Persons diagnosed with *Salmonella* or symptomatic persons linked by person, place, or time to a confirmed case are excluded from attending school until:

- Asymptomatic for at least 24 hours
- Disease prevention education is provided by the local health department

For more information, please see the Communicable Disease Reporting Rule 410 IAC 1-2.3 -96 at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

Encourage frequent hand washing, particularly after using the restroom, assisting someone with diarrhea and/or vomiting, after contact with animals, after swimming, and before and after food preparation. Please refer to the ISDH Handwashing Campaign at http://www.in.gov/isdh/24036.htm. Enforce exclusion of ill students and staff members.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. A salmonellosis outbreak is two or more cases of a similar illness shown by an investigation to have resulted from a common exposure, such as ingestion of a common food. If an outbreak is suspected and/or documented, contact your local health department. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, “Managing an Infectious Disease Outbreak In a School Setting.”

Other Resources:

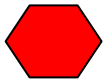
Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/nczved/divisions/dfbmd/diseases/salmonellosis/

Shigellosis



Clinical Description:

Shigellosis is an infectious disease caused by bacteria from the genus *Shigella*. Symptoms can include diarrhea, blood, pus, or mucus in the stool, sudden stomach cramps, nausea, vomiting, and fever. Illness typically lasts 4 - 7 days and cases should be treated with appropriate antimicrobial therapy to reduce shedding. Antibiotic resistance is common, so antibiotic sensitivities are strongly recommended.

Incubation Period:

Symptoms usually begin 24 - 72 hours, range of 12 hours - 5 days, after exposure.

Mode of Transmission:

Shigella is transmitted by the fecal-oral route.

Period of Communicability:

A person can spread *Shigella* while symptomatic and continue to shed *Shigella* in their stool for several weeks after symptoms resolve if not treated with appropriate antibiotics. Some people may have no symptoms and can still spread the infection to others.

Exclusion/Reporting:

Persons diagnosed with *Shigella* or symptomatic persons linked by person, place, or time to a confirmed case are excluded from attending school until:

- Asymptomatic for at least 24 hours
- Disease prevention education is provided by the local health department
- Antimicrobial therapy is completed for at least 48 hours with antimicrobial susceptibility testing, or
- 48 hours after completion of antimicrobial therapy, two stool samples collected more than 24 hours apart test negative.

For more information, please see the Communicable Disease Reporting Rule (410 IAC 1-2.3 – 97) at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

Encourage frequent hand washing, particularly after using the restroom, assisting someone with diarrhea and/or vomiting, after swimming, and before and after food preparation. Please refer to the ISDH Handwashing Campaign at http://www.in.gov/isdh/24036.htm. Enforce exclusion of ill students and staff members.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. A shigellosis outbreak is two or more cases of a similar illness shown by an investigation to have resulted from a common exposure, such as ingestion of a common food. If an outbreak is suspected and/or documented, contact your local health department. For additional information and recommendations regarding

the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/nczved/divisions/dfbmd/diseases/shigellosis/

Other Conditions

Aseptic (Viral) Meningitis

Clinical Description:

Viral meningitis is a disease marked by acute inflammation of the lining of the brain and spinal cord accompanied by symptoms that can include stiff neck, fever, headache, photophobia, vomiting, and fatigue. Most cases of viral meningitis are caused by members of a group of viruses known as enteroviruses. Often cases of viral meningitis are linked to less severe cases of upper respiratory illness and/or rash. Viral meningitis is not particularly contagious, although small clusters of cases can occur in the school setting, usually in the late summer/early fall.

Incubation Period:

The incubation period varies depending on the virus involved. Enteroviral meningitis has an incubation period of 3 - 6 days.

Mode of Transmission:

Transmission, when it does occur, is usually person-to-person by airborne droplets and direct contact with nose and throat discharges. Enteroviral meningitis can also be spread by the fecal-oral route for several weeks after the child has recovered.

Period of Communicability:

The period of communicability varies depending on the virus.

Exclusion/Reporting:

Almost all cases of viral meningitis are hospitalized during the acute stage of illness. It may be prudent to exclude from school attendance until a complete recovery is made.

Prevention/Care:

- Educate caregiver concerning urgency of receiving medical evaluation.
- Encourage frequent hand-washing and prompt disposal of used tissues.
- Ensure students practice good personal hygiene, especially among groups such as athletic teams where water bottle sharing and other close contact situations are likely.
- Consider sending informational letters to caregivers (sample available from local health or state health departments).

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of aseptic meningitis if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, “Managing an Infectious Disease Outbreak In a School Setting.”

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/meningitis/viral.html

Bed Bugs

Clinical Description:

Bed bugs are reddish brown, flat insects that are about ¼ inch long when fully grown. Unlike lice and scabies mites, they **do not** live on the human body. They hide in cracks and crevices near sleeping areas, especially mattresses, box springs and headboards. Bed bugs usually feed on the blood of humans during the night-time hours then return to their hiding places. Some people may experience itching, pain and/or swelling of the skin where a bed bug bite occurs (such as the arms, face or back) within a day or two after a bite. Although the bites can cause considerable discomfort and loss of sleep, bed bugs **do not** transmit disease after feeding on multiple hosts.

Incubation Period:

Bed bugs go through five immature or nymphal stages before becoming adults. A blood meal is required for a nymph to molt and progress to the next stage. Under ideal circumstances, development from egg to adult takes around one month. In a school environment, there are not suitable feeding hosts present at night, so development of an infestation in a school is unlikely.

Mode of Transmission:

Bed bugs are renowned hitch-hikers. Bed bugs are spread through the acquisition of infested second-hand furniture or by hiding on items used during travel, such as suitcases, outerwear and other belongings. They can occasionally be brought into schools via a student's book bag, clothing or other personal items from an existing infestation in a home. Though the risk is low, bed bugs could be transferred to another student's belongings if they are stored in close proximity.

Period of Communicability:

Transmission of bed bugs could occur at any time if present.

Exclusion/Reporting:

It is not generally suggested that a student be excluded from school if a bed bug is found on their person or belongings. Parents or guardians should be notified to alert them of a potential infestation. Educational materials should also be provided. Bed bugs are not listed as a reportable communicable disease under Rule 410 IAC 1-2.3 at http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

If it is determined that a student has brought a bed bug into school, several steps may be taken to avoid spreading the infestation to others. If a home infestation is identified, the student's belongings should be stored separately until the home situation is remedied. Upon arrival at school, the student could be sensitively and discreetly examined each day by the school nurse for the presence of bed bugs on their belongings. In the home environment, items routinely transported from home to school could be stored in plastic bins at both locations to avoid picking up bugs. Routine pest control programs for roaches, ants, and other common household pests do not protect against bed bugs. Widespread treatment of a school specifically for bed bugs is generally not advised or effective. Consult a reputable pest control company if there is a concern.

Outbreaks:

An infestation of bed bugs in a school is unlikely, but inspection by a reputable pest control company can be performed if desired.

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/parasites/bedbugs/

Michigan Department of Community Health Document on Bed Bugs in Schools

http://www.michigan.gov/documents/emergingdiseases/Bed_bugs_schools_293498_7.pdf

University of Kentucky Dept. of Entomology Bed Bug Page

http://www.ca.uky.edu/entomology/entfacts/entfactpdf/ef636.pdf

Purdue University Bed Bug Page

http://extension.entm.purdue.edu/publichealth/insects/bedbug.html

University of Florida "Bed Bugs and Book Bags" Educator Training

http://duval.ifas.ufl.edu/Bed_Bugs.shtml

Mononucleosis
Epstein-Barr Virus

Clinical Description:

Mononucleosis is a disease caused by the Epstein-Barr virus (EBV). Symptoms can include fever, exudative pharyngitis, swollen glands, extreme fatigue and atypical lymphocytes in the blood. The spectrum of disease is extremely variable. Infections may go unrecognized in young children, whereas, in older children and young adults, clinical illness with the typical signs and symptoms are more common. An enlarged spleen is also typical in cases among adolescents and young adults. Occasionally, infection may be accompanied by a rash, which is more likely to occur in people treated with ampicillin. Complications may include aseptic meningitis, encephalitis, or Guillian-Barre syndrome. Fatigue lasting a few weeks may follow the infection. EBV also establishes a lifelong dormant infection in some cells of the body's immune system. The virus is a member of the herpesvirus group.

Incubation Period:

From 4 - 6 weeks following exposure.

Mode of Transmission:

Mononucleosis is spread by direct contact with the saliva of an infected person. Most individuals exposed to people with infectious mononucleosis have previously been infected with EBV and are not at risk for infectious mononucleosis.

Period of Communicability:

The period of communicability is indeterminate. A person may spread the virus through the exchange of saliva for many months after infection. In fact, many healthy people can carry and spread the virus intermittently for life. These people are usually the primary reservoir for person-to-person transmission. For this reason, transmission of the virus is difficult to prevent.

Exclusion/Reporting:

EBV and mononucleosis are not reportable to the ISDH. Persons with infectious mononucleosis may be able to spread the infection to others for a period of weeks. However, no special precautions or isolation procedures are recommended, since the virus is also found frequently in the saliva of healthy people. Corporation policies regarding exclusion for fever, etc. should be followed for those infected with EBV and mononucleosis.

Prevention/Care:

- Encourage good personal hygiene and avoid exposure to saliva.
- There is no specific treatment for mononucleosis.
- Some interventions to assist in relief of symptoms include:
  - Student should get plenty of bed rest.
  - Drink lots of water and fruit juices to relieve fever and prevent dehydration.
  - Gargle with salt water to relieve sore throat.
  - Consider over-the-counter pain relievers. Do not give aspirin to children under the age of 16 years.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of mononucleosis if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/ncidod/diseases/ebv.htm

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Pinworms

Clinical Description:

Pinworm infection is caused by *Enterobius vermicularis,* a thin white roundworm that lives in the colon and rectum of humans. Pinworm infection is the most common worm infection in the United States. Symptoms of a pinworm infection include perianal itching and disturbed sleep; some individuals may be asymptomatic. Diagnosis is made by applying transparent adhesive tape to the perianal area and examining the tape microscopically for eggs.

Incubation Period:

The incubation period from ingestion of an egg until an adult gravid female migrates to the perianal region is 1 - 2 months or longer.

Mode of Transmission:

Pinworms are transmitted directly by the fecal-oral route and indirectly through clothing, bedding, food, or other articles (including toilet seats) contaminated with pinworm eggs.

Period of Communicability:

As long as gravid females discharge eggs on perianal skin. Eggs remain infective in an indoor environment for about two weeks.

Exclusion/Attendance:

There are no specific recommendations on the exclusion of children with pinworm infection from school.

Prevention/Care:

- Encourage frequent hand washing, particularly after using the restroom and before and after food preparation; discourage nail biting and scratching of the anal area (please refer to the ISDH Hand washing quick fact) http://www.in.gov/isdh/25483.htm
- Change bed linens and underwear of infected person daily for several days after treatment, avoiding aerial dispersal of eggs. Wash and dry discarded linen on the hot cycle to kill eggs. Clean and vacuum sleeping and living areas daily for several days after treatment.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of pinworms if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, “Managing an Infectious Disease Outbreak In a School Setting.”

Other Resources:

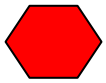
Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/healthywater/hygiene/disease/pinworms.html

Tuberculosis



Clinical Description:

Tuberculosis (TB) is a disease caused by the bacterium *Mycobacterium tuberculosis*. Although TB usually infects the lungs (pulmonary), the disease can also affect other body parts (extrapulmonary). Without proper treatment, TB can be fatal.

The symptoms of active pulmonary TB include:

- a bad cough that lasts three weeks or longer
- coughing up blood (hemoptysis)
- night sweats
- fever
- pain in the chest
- weight loss or failure to gain weight
- weakness or fatigue
- chills

People with latent TB infection (LTBI) have TB bacteria in their bodies; however, because the bacteria are not active, these individuals are not sick. People with LTBI have no symptoms of active TB disease, have a positive tuberculin skin test (TST) or interferon gamma release assay (IGRA) and a normal chest radiograph. They cannot spread the bacteria to others. However, they may develop active TB disease in the future.

Incubation Period:

Two to 10 weeks from infection to develop primary lesion or significant TST reaction or positive IGRA. Progression to active disease is greatest in the first two years after infection.

Mode of Transmission:

People with active pulmonary TB can release TB bacteria into the air when they cough, sneeze, speak, or sing. These bacteria can stay in the air for several hours. Persons who breathe in the air that contains TB bacteria can become infected if the bacteria reach their lungs. Transmission from children younger than 10 years is unusual.

Period of Communicability:

A person is able to spread TB from an assigned date of three months prior to symptom onset or a positive lab report. An individual is considered no longer infectious after effective treatment has been demonstrated for ≥2 weeks causing a significant reduction in symptoms, particularly resolution of cough. An adult or child who can produce sputum is no longer considered infectious when three (3) consecutive negative sputum smears have been obtained. For further information regarding infectivity, contact your local health department.

Exclusion/Reporting:

Active pulmonary tuberculosis cases and suspects who are sputum-smear negative, are not coughing, are clinically improving, and are known to be on adequate TB chemotherapy are defined as noninfectious. All other pulmonary TB cases and suspects must be isolated until no longer infectious. Infectious persons are excluded from school. For information on laws and rules regarding tuberculosis, please see the Communicable Disease Reporting Rule 410 IAC 1-2.3 Sec.106 (2) at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf or contact your state or local health department.

Prevention/Care:

- Avoid close contact or spending prolonged time with known active TB patients while infectious.
- Treatment of LTBI reduces the risk that TB infection will progress to active TB disease. Immunocompromised persons and children <5 years old are at high risk for developing active TB disease once infected. Every effort should be made to begin appropriate and complete appropriate treatment for LTBI.
- All active cases of TB disease require direct observed therapy (DOT).

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of tuberculosis if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/tb/default.htm

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

"Tuberculosis Handbook for School Nurses", order form link:

www.umdnj.edu/globaltb

World Health Organization (WHO):

http://www.who.int/tb/en/

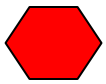
American Lung Association:

http://www.lung.org/lung-disease/tuberculosis/

Curry International Tuberculosis Center:

http://www.currytbcenter.ucsf.edu

West Nile Virus



Clinical Description:

Most West Nile Virus (WNV) infections are asymptomatic. Approximately 20% of infected people will develop a systemic febrile illness called West Nile fever (WNF), and less than 1% will develop neuroinvasive disease, such as aseptic meningitis, encephalitis, or flaccid paralysis. People with WNF typically have an abrupt onset of fever, headache, myalgia, weakness, and often abdominal pain, nausea or vomiting; a rash may also develop on the chest, stomach, and/or back. The acute phase usually resolves within several days, but fatigue and weakness can linger for weeks.

Incubation Period:

The incubation period is usually 3 - 15 days.

Mode of Transmission:

WNV is primarily transmitted to humans through the bite of infected mosquitoes. WNV may also be transmitted through blood transfusion, organ transplant, breastfeeding, and mother to unborn child. WNV is not spread through casual contact from person-to-person.

Exclusion/Attendance:

For information on laws and rules regarding arbo-viral disease see Rule 410 IAC 1-2.3 Sec. 65: at http://www.in.gov/isdh/files/comm_dis_rule(1).pdf. There are no specific recommendations on the exclusion of children from school with WNV or other arbo-viral infection. Any suspect case of arbo-viral disease (WNV, Eastern Equine Encephalitis, Saint Louis encephalitis, or La Crosse Encephalitis) must be immediately reported to the local health department where the student resides and the ISDH.

Prevention/Care:

- Avoid exposure to mosquitoes during hours of biting or use mosquito repellants.
- Destroy larvae, kill mosquitoes, and eliminate areas for mosquito breeding.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of WNV or other arbo-viral infection if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting." Any suspect case of arbo-viral infection (WNV, Eastern Equine Encephalitis, Saint Louis Encephalitis, or La Crosse Encephalitis) must be immediately reported to the local health department and the ISDH.

Other Resources:

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

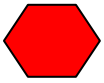
http://www.in.gov/isdh/files/2012QuickFact_Arboviral.pdf

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/ncidod/dvbid/westnile/wnv_factsheet.htm

Vaccine Preventable Diseases

Diphtheria



Clinical Description:

Diphtheria is an acute bacterial disease of the oral cavity, nose, or skin caused by *Corynebacterium diphtheriae*. Symptoms of respiratory diphtheria may begin slowly and include headache and general discomfort, fever, sore throat, and a yellow-white or gray membrane-like covering in the back of the throat. Other symptoms can include swollen lymph nodes in the neck and clear or bloody nasal discharge. Respiratory diphtheria is a serious infection and 5-10% of cases die from the disease. Cutaneous diphtheria is not a reportable condition.

Incubation Period:

The incubation period is usually 2 - 7 days, occasionally longer.

Mode of Transmission:

Respiratory diphtheria is spread by contact with the nose or throat secretions. Fully immunized people may be asymptomatic carriers or have mild sore throat.

Period of Communicability:

An untreated case can spread diphtheria for 2-6 weeks; rarely, carriers may shed organisms for up to 6 months. Effective antibiotic therapy promptly terminates shedding.

Exclusion/Reporting:

Whenever diphtheria is strongly suspected or proven, the local health department should be notified immediately. Individuals infected with diphtheria will be considered contagious until two cultures taken 24 hours apart are negative and they have completed a recommended course of antibiotics. Close contacts should be observed for seven days for signs and symptoms of disease, cultured for *C. diphtheriae,* and treated with oral antibiotics for prophylaxis. Contacts of diphtheria cases who are food handlers, daycare workers, or health care workers are excluded from work until laboratory testing indicates they are not carriers. For information on laws and rules regarding diphtheria, see the Communicable Disease Reporting Rule 410 IAC 1-2.3 Sec. 63 at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

Safe and effective vaccines are available to prevent diphtheria. Children and staff should receive the recommended doses of DTaP, DT, or Tdap vaccines in order to build and boost immunity against diphtheria infections. School immunization requirements for diphtheria can be found here.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. For Diphtheria, one case would constitute an outbreak. Any case or suspected case is to be immediately reported to the local health department and/or the ISDH. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, “Managing an Infectious Disease Outbreak In a School Setting.”

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/diphtheria/clinicians.html

http://www.cdc.gov/vaccines/pubs/pinkbook/dip.html

http://www.cdc.gov/vaccines/vpd-vac/diphtheria/default.htm

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Human Papillomavirus

(HPV)

Clinical Description:

Most human papillomavirus (HPV) infections are asymptomatic and result in no clinical disease. However, HPV can produce benign warts of the skin and mucus membranes and are associated with anogenital cancers. Nongenital warts include common skin warts, plantar warts, and flat warts. In addition, HPV is the most common sexually transmitted infection in the US. Although the incidence of infection is high, most infections resolve spontaneously. A small proportion of infection people become persistently infected. More than 100 types of HPV have been identified. Most HPV types infect the skin and cause common warts. However, HPV is found in 99% of cervical cancers. Two types of HPV account for about 70% of cervical cancer. In addition, HPV infection is also associated with cancer of the vulva, vagina, penis, and anus, as well as cancer of the oral cavity.

Incubation Period:

The incubation period is unknown but is estimated to range from three months to several years.

Mode of Transmission:

HPV is transmitted by direct contact, usually sexual, with an infected person. Transmission occurs most frequently with sexual intercourse but can occur following nonpenetrative sexual activity. Nongenital warts are acquired through contact with HPV and minor trauma to the skin.

Period of Communicability:

The period of communicability is unknown. The virus is most likely communicable during the acute infection and during persistent infection.

Exclusion/Reporting:

HPV is not a reportable condition. There are no specific recommendations on the exclusion of children with HPV from school. State law (IC 20-34-4-3) requires schools to provide information to parents of sixth grade girls about HPV. The letter that is sent home with the girls contains a survey which the parents should fill out and return to the school. The law requires that a summary of this information be submitted to ISDH on an annual basis. The letter to parents and the survey (in English and Spanish) can be found here. The reporting form can be found here. All documents can be found on the CHIRP Document Center.

Prevention/Care:

Safe and effective vaccines are available to prevent some of the most common types of HPV. While not a requirement for school entry, children should receive the recommended doses of the HPV vaccines. It is recommended that all girls and boys 11 - 12 years of age begin the three dose series. The vaccine is licensed for use in males and females aged 9-26 years.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is

normally expected. The local health department should be notified of suspected and/or documented cases of HPV if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/hpv/

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Influenza

Clinical Description:

Influenza is a respiratory disease caused by influenza viruses. Influenza viruses cause an infection of the upper airway and lungs. It can cause mild to severe illness, and at times can lead to death. Symptoms can include fever, cough, sore throat, muscle aches and headaches. Some people may have vomiting and diarrhea, though this is more common in children than adults

Incubation Period:

The incubation period is usually 1 - 3 days.

Mode of Transmission:

Influenza viruses are spread mainly by droplets when people with flu cough or sneeze. Influenza viruses are released into the air and can be inhaled by others. Sometimes people may become infected by touching something contaminated with influenza virus and then touching their mouth or nose.

Period of Communicability:

A person can spread the influenza one day before symptoms develop until seven days after symptoms appear.

Exclusion/Reporting:

Exclusion of the student should be based on the condition of the child and if there is a school policy that warrants exclusion for symptoms of influenza. There is no state law that mandates school exclusion. During an influenza pandemic the school superintendent and health officials may need to update the exclusion policy and reporting criteria. For information on laws and rules see Rule 410 IAC 1-2.3 Sec. 85: at http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

- The best protection is an annual flu vaccination before flu season starts. Each year the vaccine contains the types of flu virus predicted to cause illness in the coming year. Therefore, it is important to be vaccinated each year. The vaccine takes 14 days for the full protective effect to occur.
- Cover: Teach students and staff to cough or sneeze into one's elbow or upper sleeve or use a tissue when coughing or sneezing. Immediately discard the used tissue in the wastebasket.
- Clean: Encourage frequent hand washing, particularly after coughing or sneezing. An alcohol-based hand cleaner will also work if water is not available.
- Contain: Encourage ill students and staff members not to attend school.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37), an outbreak is defined as the number of cases of disease occurring in a community, region, or particular population that exceeds what is normally expected. A baseline absenteeism rate should be established by the school. If the absenteeism rate of those exhibiting influenza like symptoms is found to be in excess of what is normally expected, the outbreak shall be reported to the health department. Additionally, unusual occurrences of any disease are to be reported

immediately to the health department. An unusual occurrence of influenza could be an unusual presentation or the detection of influenza outside of normal influenza season. Typical influenza season occurs October through May. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting.".

Other Resources:

Centers for Disease Control and Prevention:

http://www.cdc.gov/flu/

http://www.cdc.gov/flu/keyfacts.htm

http://www.cdc.gov/flu/protect/habits.htm

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12IJLfD

Indiana State Department of Health Influenza Website:

http://www.in.gov/isdh/25462.htm

Measles

(Rubeola)

Clinical Description:

Measles is an extremely contagious viral respiratory illness. Prodromal (early) symptoms include cough, runny nose, conjunctivitis, fatigue and fever prior to the development of Koplik's spots, which resemble grains of salt, in the mouth. A maculopapular rash beginning at the hairline spreads downward over the entire body 3-7 days after infection. Measles may cause serious complications, including ear infection, pneumonia, and encephalitis. In some cases, measles may be fatal.

Incubation Period:

The incubation period is usually about 14 days, varying from 7 - 21 days.

Mode of Transmission:

Measles is transmitted by direct contact with infectious droplets or, less commonly, by airborne spread. These droplets can remain infective up to two hours in the air.

Period of Communicability:

A person can spread measles four days prior to the appearance of the rash up to four days following the appearance of the rash.

Exclusion/Reporting:

Whenever measles is strongly suspected or confirmed, contact the local health department should be notified immediately. Infected persons are excluded from school and contact with other people outside the household for four days after appearance of the rash (with day of rash onset counted as day 0). According to the Indiana Communicable Disease Reporting Rule (410 IAC 1-2.3), students who have not presented proof of immunity against measles are excluded until acceptable proof of immunity is presented, or in the case of medical or religious exemptions, until 14 days after the onset of the last reported measles case. Previously unvaccinated children who are vaccinated more than 72 hours of exposure are excluded until 14 days after vaccination. However, these recommendations are outdated and will be updated in the next revision of the Communicable Disease Rule (2013). The current CDC recommendations are that susceptible students AND STAFF are excluded until acceptable proof of immunity is presented, or in the case of medical or religious exemptions, until 21 days after the onset of the last reported measles case. Also, the recommendation for unvaccinated children who are vaccinated after exposure is outdated as well. The updated recommendations are in the Outbreak section below. For information on laws and rules regarding measles, see the Communicable Disease Reporting Rule 410 IAC 1-2.3 Sec. 83 at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

- Vaccinate with measles–mumps-rubella (MMR) vaccine at 12 - 15 months of age and again at 4 - 6 years of age. School immunization requirements can be found here.

- Check immunization records for all students and staff to assure they have received two doses of a measles containing vaccine. To prevent transmission identify non immune students (medical or religious exemptions) for possible exclusion.
- Inform high risk staff and students when a case of measles has been identified. Exposed pregnant women should be tested for measles immunity, if unknown, and should consult their healthcare provider.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37), an outbreak is defined as the number of cases of disease occurring in a community, region, or particular population that exceeds what is normally expected. If an outbreak is suspected, contact your local health department. For measles, one case constitutes an outbreak. Any case or suspected case is to be immediately reported to the local health department and/or the ISDH. In a school with a measles outbreak, all students and their siblings and all school personnel born in or after 1957 who cannot provide documentation that they have received two doses of measles-containing vaccine on or after their first birthday or cannot provide other evidence of measles immunity (such as serologic testing) should be vaccinated. Persons who cannot readily provide documentation of measles immunity should be vaccinated or excluded from the school or other institution. Persons receiving second doses, as well as previously unvaccinated persons receiving their first dose as part of the outbreak control program, may be immediately readmitted to school provided all persons without documentation of immunity have been excluded. Persons who are exempt from or who refuse measles vaccination should be excluded from the school, childcare, or other institution until 21 days after the onset of rash in the last case of measles. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/measles/index.html

http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/meas.pdf

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Meningococcal Disease
Meningococcal Meningitis or Meningococcemia

Clinical Description:

Meningococcal meningitis is an acute inflammation of the lining of the brain and spinal cord caused by *Neisseria meningitidis (meningococcus)* bacteria. Symptoms include stiff neck, high fever, headache, nausea, vomiting, and possibly a petechial rash. Meningococcemia is a life threatening bloodstream infection caused by *N. meningitidis*. Both meningococcal meningitis and meningococcemia are considered medical emergencies.

Incubation Period:

The incubation period (the time between exposure to disease and development of symptoms) is short, ranging from 2 - 10 days, most commonly 3 - 4 days.

Mode of Transmission:

Not everyone exposed to meningococcal bacteria will develop disease. Transmission, when it does occur, is usually person-to-person by respiratory droplets from the nose and throat of infected people. Saliva exchange is the most common method of transmission. Transmission is highest among household contacts. Up to 10% of the general population has asymptomatic carriage of meningococcal bacteria at any given time.

Period of Communicability:

A person who is infected with *N. meningitidis* or a carrier can transmit infection until bacteria are no longer present in discharges from the nose and mouth. The bacteria will disappear from the nose and throat within 24 hours after the initiation of appropriate antibiotic therapy.

Exclusion/Reporting:

There are no specific exclusion provisions in Indiana communicable disease laws or rules for meningococcal meningitis. Almost all cases of meningococcal diseases are hospitalized and treated with antibiotics. All cases and suspect cases must be immediately reported to the local health department. Close contacts of cases that are considered high-risk should be given prophylactic antibiotics to prevent possible infection. Asymptomatic contacts do not need to be excluded from school. For information on laws and rules regarding meningococcal disease, see the Communicable Disease Reporting Rule, 410 IAC 1-2.3 Sec. 85, at http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

- Immediately contact caregiver if student develops classic meningeal symptoms (fever, severe headache, stiff neck) and provide education concerning urgency of receiving medical evaluation.
- Prophylactic antibiotic treatment is needed for high risk close contacts and family members and should be started within 24 hours of identification of a confirmed diagnosis of meningococcal disease.
- Prophylactic antibiotic treatment is not recommended for school contacts in most circumstances – consult local or state health authorities for guidance regarding who should receive prophylaxis.
- Consider sending letter to parents as determined to be necessary. Sample letter available from the ISDH. (See Appendix A: Management of An Outbreak in a School Setting for more information)

- All children should be vaccinated with meningococcal (MCV4) at entry to 6th grade (11-12 years of age). The CDC recommends that all teens also receive a booster dose of MCV4 at age 16 years. For those who receive the first dose at age 13 through 15 years, a one-time booster dose should be administered, preferably at age 16 through 18 years, before the peak in increased risk. Adolescents who receive their first dose of MCV4 at or after age 16 years do not need a booster dose (http://www.cdc.gov/vaccines/vpd-vac/mening/default.htm).
- Schools are required to notify parents each year about meningococcal disease and the availability of meningococcal vaccine. See IC 20-30-5-18 at: http://www.in.gov/legislative/ic/code/title20/ar30/ch5.html

Outbreaks:

The CDC MMWR reference defines an outbreak as the occurrence of at least three confirmed or probable cases caused by the same serogroup in ≤3 months, with the resulting attack rate of ≥10 cases per 100,000 population. If an outbreak is suspected, notify your local health department. The *Pink Book* reports "in the United States, meningococcal outbreaks account for less than 5% of reported cases (95%–97% of cases are sporadic)." Any case or suspect case must be immediately reported to the local health department and the ISDH. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/meningitis/index.html

http://www.cdc.gov/mmwr/pdf/rr/rr6202.pdf

CDC Vaccine information:

http://www.cdc.gov/vaccines/vpd-vac/mening/default.htm

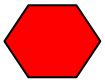
Epidemiology and Prevention of Vaccine-Preventable Diseases
The Pink Book: Course Textbook - 12th Edition Second Printing (May 2012)

http://www.cdc.gov/vaccines/pubs/pinkbook/mening.html#neisseria

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Mumps



Clinical Description:

Mumps is a highly contagious viral illness. The main manifestation of mumps infection is painful inflammation of the parotid or other salivary glands that lie just above the back angle of the jaw, and below the ear. Involvement can be unilateral or bilateral. Infected people often have fever, headache, and mild respiratory symptoms. Some post-pubertal males may have testicular pain. Symptoms usually resolve after 7-10 days. Approximately one-third of infected, unvaccinated people don't show clinical signs of salivary gland swelling, and illness may manifest primarily as a respiratory tract infection.

Incubation Period:

The incubation period ranges from 12 - 25 days, averaging 18 days.

Mode of Transmission:

Transmission is by droplet spread and by direct contact with saliva from an infected person. Droplet contact and close person-to-person contact are the modes of transmission.

Period of Communicability:

A person can spread mumps seven days prior to the onset of parotitis through nine days after the onset of symptoms; however, a person is most contagious two days prior to the onset of parotitis to five days after the onset.

Exclusion/Reporting:

Whenever mumps is strongly suspected or proven, the local health department should be notified promptly. According to the Indiana Communicable Disease Reporting Rule, infected persons are excluded from school and contact with persons outside the household for nine days after onset of swelling. However, that recommendation is outdated and will be updated in the next revision of the Communicable Disease Rule (2013). The current CDC-recommended exclusion period is exclusion from school and contact with persons outside the household for five days after onset of swelling. Exposed unvaccinated individuals are excluded from school or the workplace from the 12th - 25th day after exposure to prevent spread to other individuals. For information on laws and rules regarding mumps, see the Communicable Disease Reporting Rule, 410 IAC 1-2.3 Sec. 86, at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

- Vaccinate with mumps vaccine at 12 - 15 months of age and again at 4 - 6 years of age. School immunization requirements can be found here.
- Call caregiver of suspected case to ensure child has been evaluated by a health care provider.
- Check immunization records for all students and staff to assure they have received two doses of a mumps containing vaccine. To prevent transmission, identify non immune students (medical or religious exemptions) for possible exclusion.
- Mumps during the first trimester of pregnancy may be associated with an increased rate of spontaneous abortion. Exposed pregnant women should be tested for mumps immunity, if unknown, and should contact their healthcare provider.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37), an outbreak is defined as the number of cases of disease occurring in a community, region, or particular population that exceeds what is normally expected. If an outbreak is suspected, contact your local health department. For mumps, one case constitutes an outbreak. Any case or suspected case must be promptly reported to the local health department and/or the ISDH. To assist with control of mumps outbreaks in schools, students with zero doses of MMR vaccine and with no other evidence of mumps immunity should be excluded from schools that are affected by a mumps outbreak, or other schools that are unaffected but deemed by local public health authorities to be at risk for transmission of disease. Excluded students can be readmitted immediately after they are vaccinated. Students who have a history of one dose of MMR vaccination should receive their second vaccine dose and be allowed to remain in school. Students who have been exempted from mumps vaccination for medical, religious, or other reasons should be excluded until the 26th day after the onset of parotitis in the last person with mumps in the affected school. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/vaccines/pubs/pinkbook/mumps.html

http://www.cdc.gov/vaccines/vpd-vac/mumps/default.htm

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Pertussis
Whooping Cough

Clinical Description:

Pertussis is a respiratory infection caused by *Bordetella pertussis* bacteria. The disease typically begins with mild upper respiratory tract symptoms similar to the common cold. This stage lasts 1 - 2 weeks. In the next stage, the cough comes in multiple exhausting bursts (paroxysmal cough). Some people may experience vomiting following paroxysms. In young children, each cough may be followed by a "whooping" sound as the child inhales. "Whooping" does not occur in all children and adults. This stage lasts 2 - 4 weeks, followed by a recovery phase of gradually diminishing coughing for 2 - 3 weeks, but may last for several months.

Incubation Period:

The incubation period is from 4 - 21 days, but typically within 7 - 10 days.

Mode of Transmission:

Transmission occurs primarily through contact with infectious respiratory secretions. Droplet contact and close person-to-person contact are the modes of transmission.

Period of Communicability:

Pertussis is mostly communicable in the early stage of the illness. After three weeks, an individual is considered unable to spread the illness to others. When treated with an appropriate antibiotic, the period of communicability ends after five days of appropriate therapy; however, symptoms may remain even after the antibiotic regimen has been completed.

Exclusion/Reporting:

Whenever pertussis is strongly suspected or confirmed, notify the local health department immediately. Infected persons are excluded from school and contact with persons outside the household until they have completed at least five days of effective treatment (azithromycin, erythromycin, clarithromycin, or trimethoprim/sulfamethoxazole). Infected persons not receiving prophylaxis are excluded from schools, day care centers, and public gatherings for 21 days after cough onset. Inadequately immunized household contacts less than seven years of age are excluded from schools, day care centers, and public gatherings for 14 days after the last exposure or until they have received five days of appropriate antibiotic therapy. For information on laws and rules regarding pertussis, see the Communicable Disease Reporting Rule, 410 IAC 1-2.3 Sec. 88, at http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

- Safe and effective vaccines are available to prevent pertussis. Children and staff should receive the recommended doses of DTaP or Tdap vaccines in order to build and boost immunity against pertussis infections. School immunization requirements can be found here.
- Appropriate antibiotics can reduce the communicability of disease among individuals with pertussis and close contacts.
- Inform high risk students and staff within the school when a case of pertussis has been identified.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37), an outbreak is defined as the number of cases of disease occurring in a community, region, or particular population that exceeds what is normally expected. If an outbreak is suspected, contact your local health department. According to the CDC, a school outbreak is defined as two or more cases clustered in time in a school. However, no additional exclusions are recommended once the outbreak threshold is reached. Any case or suspected case must be immediately reported to the local health department and/or the ISDH. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/pertussis/

http://www.cdc.gov/pertussis/outbreaks/PEP.html (postexposure prophylaxis guidelines)

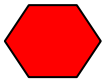
http://www.cdc.gov/vaccines/pubs/pinkbook/pert.html

http://www.cdc.gov/vaccines/vpd-vac/pertussis/default.htm

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12IJLfD

Pneumococcal Disease
Invasive Pneumococcal Disease



Clinical Description:

Pneumococcal infections are caused by *Streptococcus pneumoniae* bacteria. These infections can include pneumonia, meningitis, bacteremia, as well as sinus and ear infections. Symptoms can include chills, fever, headache, earache, pain in the chest, and cough. Only cases of invasive pneumococcal disease are reportable. Invasive means the bacteria was isolated from blood, spinal fluid, joint fluid, or other normally sterile sites.

Incubation Period:

The incubation period is normally 1 - 3 days.

Mode of Transmission:

Transmission occurs primarily through contact with nose or throat secretions from an infected person. It is not spread by casual contact or by simply breathing the air around an infected person.

Period of Communicability:

A person can spread the bacteria as long as the organism is in the respiratory tract or until 24 hours after the initiation of antibiotic therapy.

Exclusion/Reporting:

There are no specific exclusion provisions found in Indiana communicable disease laws or rules for pneumococcal disease. For information on laws and rules regarding pneumococcal disease, see Rule 410 IAC 1-2.3 Sec. 99: at http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

- Vaccinate all children with the 13-valent vaccine (PCV13) at 2, 4, and 6 months with a booster at 12 - 15 months according to the routine childhood vaccination schedule.
- Vaccinate high-risk children (sickle cell anemia, HIV infection, chronic lung or heart disease) over the age of 2 years with the childhood PCV13 (given through 71 months of age) or a 23-valent polysaccharide pneumococcal vaccine (PPSV23).
- Enforce hand washing and disposal of used tissues.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of pneumococcal disease if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, “Managing an Infectious Disease Outbreak In a School Setting.”

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/vaccines/vpd-vac/pneumo/default.htm

http://www.cdc.gov/vaccines/vpd-vac/pneumo/dis-faqs.htm

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12IJLfD

Rubella
(German Measles)

Clinical Description:

Rubella is a mild rash illness caused by the rubella virus. Rubella is characterized by a rash that often fades or turns red and is most evident after a hot shower. Symptoms can include fever, joint pain (in adolescents and adults), and enlarged and tender lymph nodes at the back of the neck. Rubella is also the cause of significant congenital defects in infants whose mothers are exposed during pregnancy.

Incubation Period:

The incubation period is normally from 12 - 23 days, usually from 16 - 18 days.

Mode of Transmission:

Transmission occurs through direct or droplet contact with infectious nasopharyngeal secretions.

Period of Communicability:

An infected person is contagious from seven days prior to the appearance of the rash through seven days after the rash appears.

Exclusion/Reporting:

Whenever rubella is strongly suspected or confirmed, notify the local health department immediately. Infected persons are excluded from school and contact with other individuals outside the household for seven days after the onset of rash. Students who have not presented proof of immunity against rubella are excluded until acceptable proof of immunity is presented, or in the case of medical or religious exemptions, until 23 days after the onset of the last reported rubella case. For information on laws and rules regarding rubella, see the Communicable Disease Reporting Rule 410 IAC 1-2.3 Sec. 95 at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

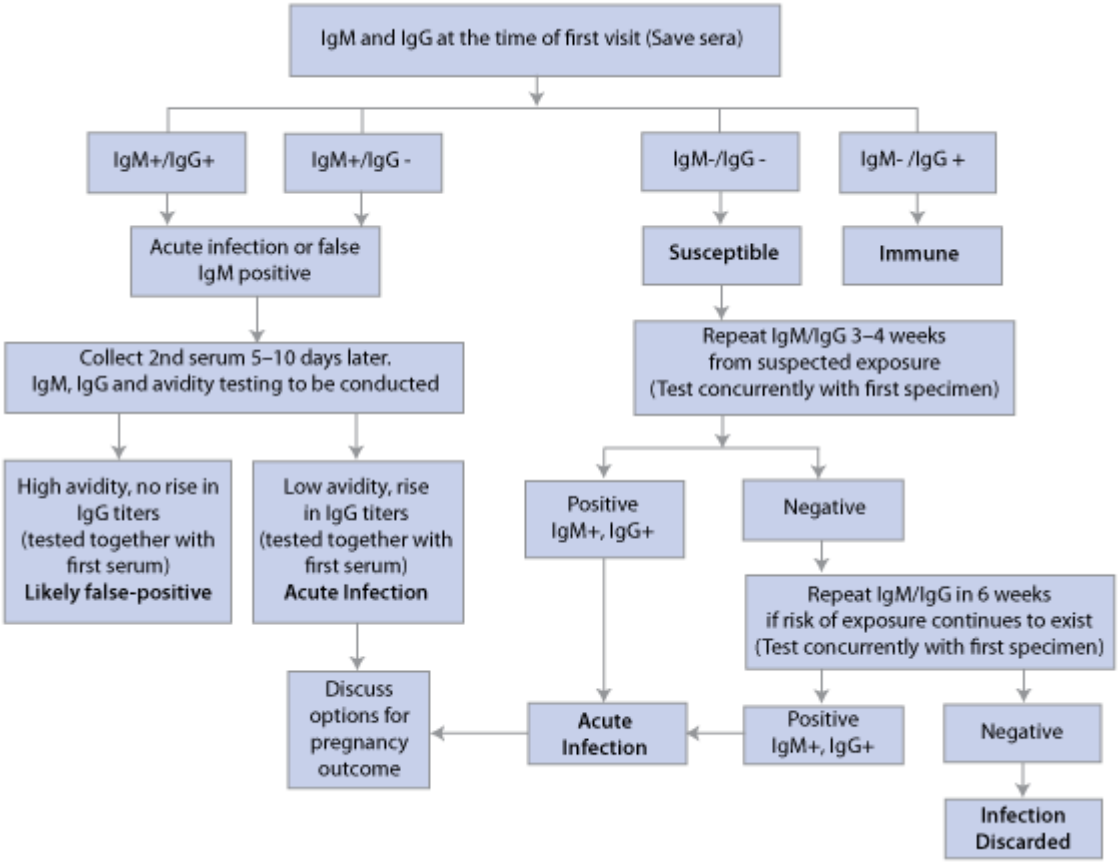
Prevention/Care:

- Vaccinate with rubella vaccine at 12 - 15 months of age and again at 4 - 6 years of age. School immunization requirements can be found here. If given as a single antigen vaccine, only one dose of rubella is required.
- Check immunization records for all students and staff to assure they have received one dose of a rubella containing vaccine. To prevent transmission, identify non immune students (medical or religious exemptions) for possible exclusion.
- Inform high risk people within the school when a case of rubella has been identified. Exposed pregnant women should be tested for rubella immunity, if unknown,and should consult their healthcare provider.
- School personnel planning a pregnancy should be vaccinated 28 days prior to pregnancy.
- Call caregiver of a suspect case to ensure child has been evaluated by a health care provider.

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37), an outbreak is defined as the number of cases of disease occurring in a community, region, or particular population that exceeds what is normally expected. If an outbreak is suspected, contact your local health department. For rubella, one case constitutes an outbreak. Any case or suspected case must be immediately reported to the local health department and/or the ISDH. All women of childbearing age who are contacts of a person with a suspected or confirmed case should have their pregnancy status determined. If a pregnant woman is infected with rubella, immediate medical consultation is necessary. If a pregnant woman lacks laboratory evidence of rubella immunity, precautions should be taken to prevent any type of exposure to persons infected with rubella. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Algorithm for serologic evaluation of pregnant women exposed to rubella:



Other Resources:

Centers for Disease Control and Prevention (CDC):

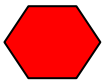
http://www.cdc.gov/vaccines/pubs/pinkbook/rubella.html

http://www.cdc.gov/vaccines/vpd-vac/rubella/default.htm

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12lJLfD

Varicella
(Chickenpox)



Clinical Description:

Varicella is a viral illness that is very contagious and is caused by the herpes zoster virus. Early symptoms can include fever and fatigue which begin about 10 - 21 days after exposure. These symptoms are followed by the appearance of flat, red spots which progress to an itchy rash with fluid-filled vesicles that are characteristic of the disease. Lesions appear in crops over several days and lesions will be present in several stages of development. As varicella vaccine coverage increases, most cases are now break-through cases, which are often less severe (less than 50 lesions and do not progress to the vesicular stage). Varicella can cause serious complications including pneumonia, encephalitis, secondary bacterial infections, and even death.

Incubation Period:

The incubation period normally ranges from 10 - 21 days, but most commonly 14 - 16 days.

Mode of Transmission:

Transmission occurs primarily through contact with infectious respiratory secretions and airborne droplets. Direct contact with open vesicles can also transmit infection.

Period of Communicability:

A person can spread the herpes zoster virus 1 - 2 days before the onset of the rash until all of the lesions have crusted over or faded, typically seven days.

Exclusion/Reporting:

Infected persons are excluded from schools and day care centers, public gatherings, and contact with susceptible persons until vesicles become dry or in cases of mild, "break-through" disease until the lesions have faded or disappeared. For more information, please see the Communicable Disease Reporting Rule 410 IAC 1-2.3 sec 110 at: http://www.in.gov/isdh/files/comm_dis_rule(1).pdf.

Prevention/Care:

- Vaccinate with a single dose of live, attenuated varicella vaccine at 12 - 15 months of age and revaccinate with a second dose at 4 - 6 years of age. School immunization requirements for varicella can be found here.
- Review immunization records to identify susceptible individuals or those who have received only one dose of varicella vaccine.
- Varicella vaccine can be administered within 3 - 5 days of an exposure to prevent or modify the severity of disease.
- School personnel planning a pregnancy should be immunized one month prior to pregnancy.

- Promptly report all suspected individual cases and outbreaks to the local health department. Laboratory testing is recommended during outbreak situations.
- Consider sending letter to parents as determined to be necessary. Sample letter available from the ISDH. (See Appendix A: Managing an Infectious Disease Outbreak In a School Setting for more information.)

Outbreaks:

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37), an outbreak is defined as the number of cases of disease occurring in a community, region, or particular population that exceeds what is normally expected. An outbreak of varicella is defined as five (5) or more cases epidemiologically linked in persons younger than 13 years of age; or three (3) or more epidemiologically linked cases in persons over 13 years of age. Any case or suspected case is to be immediately reported to the local health department and/or the ISDH. For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

Other Resources:

Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/vaccines/vpd-vac/varicella/dis-faqs-gen.htm

http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/varicella.pdf

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

http://bit.ly/12IJLfD

Photographs of Disease/Condition:

http://www.vaccineinformation.org/photos/varicdc006a.jpg

Communicable

Disease Summary Table

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Aseptic (Viral) Meningitis Refer to page 60	Fever, severe headache and stiff neck	Varies depending on virus or cause. For enteroviral meningitis, 3-6 days	Person-to person by airborne droplets and direct contact with nose and throat discharges	Varies depending on virus or other organism	Patients generally too sick to attend school and can return when recovered	Hand washing and avoid direct contact with nasal and throat discharges
Bed Bugs Refer to page 62	Presence of bed bug nymphs or adults on student, student belongings, or in the classroom.	Approximately one month to develop from egg to adult; School environment is not an ideal environment for this development due to lack of hosts at night.	Traveling on student belongings or occasionally clothing.	May be transferred at any time if present.	Exclusion of students is not generally recommended. Non-reportable condition.	Parent education, separation of student belongings from others, visual inspection of student and belongings upon arrival to school until home situation is remedied.
Campylobacteriosis Refer to page 42	Diarrhea (sometimes bloody), stomach cramps, fever, nausea, and vomiting	2-5 days	Fecal-oral or foodborne	While symptomatic	Exclude while symptomatic	Hand washing and food safety
CDI Refer to page 44	Watery diarrhea, fever, abdominal tenderness	Unknown	Fecal-oral	Spores survive in environment for weeks to months	Duration of *C. difficile* diarrhea	Meticulous hand hygiene and disinfection of surfaces

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Conjunctivitis Refer to page 17	Redness of eye involving tearing, irritation, swelling and discharge	Bacterial: 1 - 3 days Viral: 12 hours - 3 days	Contact with discharge from conjunctivae or upper respiratory tract of infected persons. Fingers and inanimate objects can also be sources of transmission	Possibly up to 14 days but depending on cause	Exclusion recommended until examination by physician and then approved for readmission	Use precautions in handling eye discharge and hand washing
Cryptosporidiosis Refer to page 45	Watery diarrhea, stomach cramps, fever, nausea, slight fever, weight loss, and vomiting	7 days (range of 1-12 days)	Fecal-oral	While shedding, up to several months	Exclude until completion of effective antiparasitic therapy	Hand washing and water precautions
Diphtheria Refer to page 73	Fever, sore throat, gray or yellow membrane on the throat	2-7 days	Contact with respiratory droplets	2 -6 months (without treatment)	***Index Case***: Excluded until 2 cultures 24 hrs apart are negative. ***Contacts*:** Observe, culture, and treat	Vaccinations up-to-date for DT, Td, DTaP, or Tdap.

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Erythema Infectiosum (Fifth Disease) Refer to page 19	Facial "slapped-cheek" rash with "lacy" rash on trunk and limbs	Normally 4-14 days, but up to 20 days	Contact with infectious upper respiratory secretions	The week prior to appearance of rash	Not recommended unless child has fever	Hand washing and proper disposal of used tissues
***E. coli* infection (shiga-toxin producing) and HUS** Refer to page 47	Bloody or non-bloody diarrhea, stomach cramps, low-grade fever, nausea, weight loss, and vomiting	3-4 days (range of 2-10 days)	Fecal-oral or foodborne	While shedding, up to 3 weeks	Exclude while symptomatic	Hand washing and food safety
Giardiasis Refer to page 49	Diarrhea, gas, greasy stools that tend to float, bloating, stomach cramps, fever, nausea, and constipation	7-10 days (range of 3-25 days)	Fecal-oral	While shedding, up to several months	Exclude until completion of effective antiparasitic therapy	Hand washing and water precautions

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Hand, Foot and Mouth Disease Refer to page 21	Fever, malaise, sore throat and red blister spots that turn into ulcers in the mouth	3-5 days	Fecal-oral or direct contact with infectious respiratory secretions.	During illness up to several weeks	Exclude during acute illness or while child who has blisters drools from the mouth or has weeping lesions on hands	Hand washing and avoid direct contact with nasal and throat discharges
Hepatitis A Refer to page 51	Diarrhea, nausea, vomiting, fatigue, stomach cramps, fever, dark urine, pale, clay-colored stool, loss of appetite, and jaundice	28-30 days (range of 15-50 days)	Fecal-oral	14 days before and 7 days after the onset of jaundice, or if jaundice does not occur, 7 days before and 14 days after the onset of symptoms	Exclude until after the defined infectious period	Hepatitis A vaccine and Hand washing
Hepatitis B Refer to page 10	Malaise, fever anorexia, nausea, jaundice	60-90 days	Direct contact with infected persons blood or body fluids	1 – 2 months before and after the onset of symptoms	None	Hepatitis B vaccination and Universal Precautions used when there is contact with blood and other body fluids containing blood, semen, or vaginal secretions

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Hepatitis C Refer to page 12	Nausea, vomiting, weight loss, fatigue, dark urine, pale stool, jaundice	2 weeks - 6 months	Direct contact with infected persons blood or bodily fluids	At least one week before onset of symptoms and for the rest of their lifetime	None	Universal Precautions used when there is contact with blood and other body fluids containing blood, semen, or vaginal secretions
HIV/AIDS Refer to page 14	Initially viral flu-like symptoms. Many years later (up to 10 years) swollen lymph nodes, fatigue, fever, night sweats, unexplained weight loss, other co-infections, chronic diarrhea	Variable, 1 week - 10 years or longer	Transmission of HIV infected blood, semen, vaginal secretions or breast milk to an uninfected person's broken skin or mucous membranes in enough quantity to allow for the replication of the virus	Shortly after acquisition of the virus and for the rest of their life.	School children with HIV must be allowed to attend school and may only be excluded if the provision is found in IC16-41-9-3 (i.e. a disease that is transmissible through normal school contacts or poses a substantial threat to health and safety of school community).	Education beginning in elementary school Supportive faculty Universal Precautions used when there is contact with blood and other body fluids containing blood, semen, or vaginal secretions

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Human Papillomavirus (HPV) Refer to page 75	Most infections are asymptomatic. May develop warts (genital and/or non-genital). Cancer may develop decades later	Unknown, but estimated to be 3 months to several years.	Direct contact, usually sexual, with infected person	Unknown, but thought to be communicable during acute and persistent infection.	None	Vaccination (2 vaccines are licensed. Gardasil is licensed for boys and girls 9-26 years. Cervarix is licensed only for girls 9-26 years.) Safe sex practices.
Impetigo Refer to page 23	Skin lesions (red bumps) usually around the nose, mouth or extremities. Bumps break open and form a honey-colored crust	1-3 days for streptococcal infection and 4-10 days for staphylococcal infection	Direct contact with secretions from lesions	In untreated cases as long as drainage from lesions occurs.	Recommended to keep child home until 24 hours after antibiotic therapy begun.	Cover draining lesions and wear disposable gloves when applying treatment to infected skin

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Influenza Refer to page 77	Fever greater than 100 degrees F, headache, tiredness, cough, sore throat, runny or stuffy nose, and muscle aches. Nausea, vomiting, and diarrhea also can occur in children	1-3 days	Person to person by direct contact with infected secretions or via large or small droplet aerosols	1 day prior to symptoms through 7 days from clinical onset	Exclusion of the student should be based on the condition of the child and if there is a school policy that warrants exclusion for symptoms of influenza.	Immunizations are available for most students and adults unless contraindicated Cover the mouth and nose in the nook of your elbow and discard tissues immediately
Measles Refer to page 79	Fever, runny nose, cough, rash by 3rd day	Usually about 14 days (range of 7-21 days)	Contact with respiratory droplets	4 days before rash onset to 4 days after rash onset	***Index Case*:** Excluded until 4 days after rash onset ***Contacts:*** Contacts who are not immunized excluded until 14 days after last case.	**Vaccine Available** 2 doses of measles containing vaccine (MMR)

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Meningococcal Disease Refer to page 81	Fever, severe headache and stiff neck	2-10 days: commonly 3-4 days	Direct contact with saliva or respiratory droplets	Until meningococcus is no longer present in nasal/mouth discharge	None	**Vaccine Available** ACIP recommends routine vaccination of persons with quadrivalent meningococcal conjugate vaccine at age 11 or 12 years, with a booster dose at age 16 years.
Mononucleosis Refer to page 64	Fever, exudative pharyngitis, swollen glands	4-6 weeks	Direct contact with saliva of infected person	Indeterminate, could be many months after infection	None	Good personal hygiene and avoiding saliva sharing activities
MRSA Refer to page 25	Abscesses, boils	Variable	Direct contact with infected person or inanimate object	Wound drainage very infectious	Yes, if recommended by HCP or if drainage cannot be covered or contained with a dry covering	Hand washing, open areas covered, avoid contact with others' drainage

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Mumps Refer to page 83	Swelling and pain of the parotid gland, fever, mild URI symptoms	18 days (range of 12-25 days)	Direct contact with saliva or respiratory droplets	2 days before through 9 days after the onset of parotitis	***Index case:*** Exclude for 5 days following the onset of symptoms ***Contacts***: Susceptible contacts shall be excluded from the 12th – the 25th day from exposure.	**Vaccine Available** 2 doses of mumps containing vaccine, (MMR)
***Norovirus* infection** Refer to page 3	Watery diarrhea, stomach cramps, nausea, vomiting, headache, muscle aches, and fatigue	24-48 hours (range of 12-72 hours)	Fecal-oral	While shedding, up to 72 hours after symptoms cease	Exclude while symptomatic.	Hand washing
Pediculosis (Lice) Refer to page 29	Main symptom is itching of scalp. Lice (or eggs) can be identified by close examination of scalp.	Eggs hatch in a week with resultant lice able to multiply within 8-10 days	Direct contact with person who has live infestation or sharing personal belongings that are harboring lice (i.e. hats, scarves)	As long as live lice are present or eggs in hair are within ¼ inch of scalp	No applicable state laws for exclusion. Follow school policy.	Inform parents of infestations and proper control measures for home elimination.

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Pertussis Refer to page 85	Initial cough, coryza, eye irritation, leading to a progressive cough that comes in bursts, may be followed by a 'whoop'	10 days (range of 4-21 days)	Direct contact with infectious respiratory secretions.	From onset of cough and cold-like illness through 5 days of appropriate antibiotic therapy. If not on antibiotics, 21 days from the onset of the cough.	***Symptomatic Index case:*** Exclude for 5 days while receiving appropriate antibiotic therapy. ***Symptomatic Contacts of a Confirmed Case***: Exclude for 5 days while receiving antibiotic therapy. ***Asymptomatic Direct Contacts:*** Do not exclude asymptomatic contacts. They should receive prophylaxis.	**Vaccine Available** Age appropriate vaccination: DTaP, Tdap Antibiotic prophylaxis for direct contacts

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Pinworms Refer to page 66	Perianal itching and disturbed sleep	1 - 2 months or longer	Fecal-oral route and indirectly through clothing, bedding, food, or other articles (including toilet seats) contaminated with parasite eggs.	As long as gravid females discharge eggs on perianal skin. Eggs remain infective in an indoor environment for about 2 weeks.	None applicable	Hand washing
Pneumococcal Disease Refer to page 87	Fever, chills, cough, pain in the chest, disorientation	Normally 1-3 days	Direct contact with the nose and throat secretions of an infected person	Until after 24 hours of antibiotic therapy	None Applicable	**Vaccine Available** Age appropriate Vaccination Proper hand washing and tissue disposal
Ringworm Refer to page 31	Small red bump or papule that spreads outward, taking on the appearance of a red scaly outer ring with a clear center	Depends on type: *Tinea capitis* -10 - 14 days *Tinea corporis* and *cruris* – 4-10 days *Tinea pedis* – unknown	Direct contact with human or animal source; also less commonly by inanimate objects	As long as lesions are present or viable fungus is present on contaminated objects and surfaces	Generally students can attend school with ringworm infections.	Varies depending on type; certain activities should be restricted. Clean and drain shower areas frequently.

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Rubella **(German Measles)** Refer to page 89	Mild rash illness, significant risk to the fetus	16-18 days (range of 12-23 days)	Direct or droplet contact with nose and throat secretions of an infected person	7 days from the appearance of the rash through 7 days afterward	***Index Case*:** Excluded for 7 days after the onset of the rash ***Susceptible Contacts*:** Students without proof of immunity shall be excluded until 23 days after last reported case	**Vaccine Available** 2 doses of a rubella containing vaccine (MMR)
Salmonellosis Refer to page 55	Diarrhea, nausea, vomiting, stomach cramps, and fever	12-36 hours (range of 6-72 hours)	Fecal-oral and foodborne	While symptomatic	Exclude while symptomatic	Hand washing and food safety
Scabies Refer to page 33	Itching and blister-like sores in the burrows of the skin	2 – 6 weeks	Direct contact with an infested person's skin, clothing or linens	From infection until eggs/mites are destroyed by treatment	Exclude until the day after treatment	Inform parents of infestations and proper control measures for home elimination. Prophylactic treatment of home contacts

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Shigellosis Refer to page 57	Diarrhea, blood, pus, or mucus in the stool, sudden stomach cramps, nausea, vomiting, and fever	24-72 hours (range of 12 hours - 5 days)	Fecal-oral	While shedding, up to several weeks	Exclude until: 1) After 48 hours of effective antimicrobial therapy 2) **Or** 2 negative stools, collected 24 hours apart and at least 48 hours after antimicrobial therapy	Hand washing
Shingles **(Herpes Zoster)** Refer to page 35	Rash that develops lesions appearing along nerve pathways	Not applicable	Transmission can occur through direct contact with the rash resulting in a case of varicella.	If lesions are not covered, transmission of varicella disease may occur from 10-21 days following contact	***Index Case:*** Exclude only if the site of infection cannot be covered ***Susceptible Contacts:*** Do not Exclude	2 doses of age appropriate varicella vaccine One dose of the Zostavax vaccine for adults 60 and over

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Streptococcal Sore Throat and Scarlet Fever Refer to page 37	Fever, exudative tonsillitis or pharyngitis and tender cervical nodes; in addition, a fine-red rash occurs with scarlet fever	Usually 1-3 days, rarely longer	Large respiratory droplets or direct contact with patient or carrier	Appropriate antibiotic treatment eliminates organism within 24 hours; untreated cases- as long as they are ill usually 10-21 days	Exclude until 24 hours after initiation of antibiotic therapy.	Encourage good personal hygiene.
Tick Borne Infections Refer to page 39	Varies by specific disease, but generally includes fever, rash, muscle aches, fatigue, headache	Lyme – 2-31 days, usually 7-10 days Rocky Mtn. Spotted Fever – 3-14 days Ehrlichiosis – varies but generally 7-14 days	Transmitted from ticks to humans	Not applicable	None	Appropriate removal of tick.
Tuberculosis Refer to page 68	Cough that lasts longer than 3 weeks, hemoptysis, night sweats, fever, pain in chest, weight loss or failure to gain weight, fatigue, chills, etc.	2 – 10 weeks for positive TST or IGRA. It can take decades for active disease to develop	Airborne	3 months prior to onset of symptoms until no longer infectious	Yes until no longer infectious (usually at least 2 weeks after the initiation of antibiotic therapy that produces a significant reduction in symptoms)	Avoid close contact with an infectious person. Treatment for LTBI.

Communicable Disease Summary Table

Disease/ Condition	Signs/ Symptoms	Incubation Period	Mode of Transmission	Period of Communicability	Exclusion/ Attendance	Prevention
Varicella Refer to page 91	Fever, fatigue, followed by rash illness that progresses into itchy, fluid-filled blisters. "Break-through" cases appear as macular and papular lesions (small flat or raised red bumps)	10-21 days	Contact with infectious respiratory secretions, airborne droplets or fluid from vesicles	1-2 days prior to the onset of the rash through the stage when the lesions have crusted over or have faded in mild, "break-through" disease, usually 7 days	***Index Case***: Exclude until the vesicles become dry or lesions have faded. ***Susceptible Contacts***: May consider exclusion during outbreak situations	**Vaccine Available** 2 doses of age appropriate varicella vaccine. The vaccine is effective in preventing disease within 5 days of exposure; a varicella-zoster immunoglobin may be given within 3 days of exposure to lessen the severity of disease in those who cannot safely receive the vaccine
West Nile virus Refer to page 70	Abrupt onset of fever, headache, myalgia, weakness, and often abdominal pain, nausea or vomiting. Most cases are asymptomatic.	Usually 3-15 days.	Primarily through the bite of infected mosquitoes. West Nile virus may be transmitted person to person through blood transfusion or organ transplant.	Humans are not infectious to other humans except through blood/organ donation.	None applicable.	Avoid exposure to mosquitoes during hours of biting (from dusk to dawn), or use repellants. Destroy larvae, kill mosquitoes, and eliminate areas of standing water available for mosquito breeding.

Rash Illnesses:

Description & Information Table

Rash Illnesses: Description & Information Table

Illness	Rash Description	Other Symptoms	Agent	Period of Communicability	Exclusion/ Attendance
Chickenpox (Varicella) (Link to picture of disease)	• Rash begins on face and trunk and progresses to extremities where it is most concentrated • Lesions progress from flat to raised and become a vesicle before crusting; several stages are present at the same time • Vesicles are very itchy • "Break-through" cases may have a mild flat and raised rash that may be itchy	Low-grade fever and malaise	Herpes Zoster virus	Up to 5 days prior to onset of rash until lesions have crusted over (usually 7 days) or in cases of "break-through" disease until the lesions have faded	Exclude from school and public gatherings until vesicles become dry or lesions have faded
Fifth Disease (erythema infectiosum) (Link to picture of disease)	• Rash begins as a slapped-cheek appearance with warmth to the cheeks that may disappear before progresses to the trunk, extremities and feet • Flat and raised red rash that appears "lace-like" • Rash may be itchy	Low-grade fever, malaise and mild cold symptoms	Human parvovirus (B-19)	7 days prior to onset of rash	Recommend exclusion if fever is present, individual is no longer contagious after appearance of rash Pregnant women with illness or exposure need to seek medical advice

Rash Illnesses: Description & Information Table

Illness	Rash Description	Other Symptoms	Agent	Period of Communicability	Exclusion/ Attendance
Hand/Foot and Mouth Disease (vesicular stomatitis with exanthema) (Link to picture of disease)	• Rash begins as small red spots that blister and become ulcers on the tongue, gums and inside of cheeks and progresses to a rash that is located on the palms of hands, soles of feet and appear on the buttocks and genitalia. • Flat and raised red spots that may form blisters • No itch – oral lesions can be very painful	Low-grade fever, sore throat and malaise prior to onset of rash	Enteroviruses	Acute stage of illness and possibly longer – virus is shed in the stool	Recommend exclusion during first 2-3 days of acute illness. May consider exclusion for those with oral blisters who drool or have lesions on hands that are weeping.
Measles (Link to picture of disease)	• Rash begins at hairline and ears progressing to trunk, arms and legs • Flat and raised, pinkish-red color changes to reddish-brown and becomes confluent on trunk • Slight itch (if any)	High fever, malaise, cough, coryza, conjunctivitis, runny nose, Koplik spots	Measles virus	4 days before onset of rash through 4 days after the rash appears	**Index Case:** Exclude from school and contact with individuals outside home for 4 days after appearance of rash **Contacts:** Contacts with no history of immunization excluded until 14 days after onset of last measles case.

Rash Illnesses: Description & Information Table

Illness	Rash Description	Other Symptoms	Agent	Period of Communicability	Exclusion/ Attendance
Pityriasis rosea (Link to picture of disease)	• Rash begins as an initial (herald) patch in ½ of cases that is salmon-pink, scaly and enlarges in size to about 0.5" that is on the trunk or upper extremities. Within 21 days secondary lesions spread over the trunk and extremities • Secondary lesions are red and scaly • Rash is usually itchy	None	Inflammatory skin disease	Not a communicable condition – treated with anti-pruritic therapy	Do not exclude
Rubella (Link to picture of disease)	• Rash begins on face and progresses to trunk within 24 hours • Flat and raised pink, discrete, rash that may be absent and often fades or turns red without desquamation. Most evident after hot shower • Slight to no itch	Low-grade fever, joint pain (adolescents and adults), enlarged and tender lymph nodes at the back of the neck	Rubella virus	7 days prior to the onset of rash through 4 days after the rash appears	**Index Case:** Exclude from school and contact with individuals outside the home for 7 days after the onset of rash **Contacts:** Students without proof of immunity are excluded until 23 days after the onset of last rubella case Pregnant women with illness or exposure need to seek medical advice

Rash Illnesses: Description & Information Table

Illness	Rash Description	Other Symptoms	Agent	Period of Communicability	Exclusion/ Attendance
Scabies (Link to picture of disease)	• Rash is manifested as crusts, vesicles, pustules, blisters or tiny papules that are usually very itchy Most common in webs of fingers, hands, wrists, armpits, groin and elbows	Scratching of rash can become infected with *Streptococcal* or *Staphylococcal* bacteria	*Sarcoptes scabiei*	From time of infection until 1 day after treatment	Exclude from school until 1 day after treatment.
Scarlet Fever (Link to picture of disease)	• Rash begins upper chest and progresses to trunk, neck and extremities within 24 hours • Pinkish-red pinhead spots that blanch under pressure and feel similar to sandpaper (can often be felt easier than seen)	High fever, sore throat and nausea. The tongue is covered with white "fur" before peeling and developing into strawberry tongue. Diagnosis is made with positive throat cultures for strep	Group A Strep	Onset of symptoms until 24-48 hours after treated with antibiotics	Exclude until at least 24 hours after beginning antibiotic therapy
Shingles (Link to picture of disease)	• Unilateral rash in a line distribution of a sensory nerve • Clusters of blisters on a red base that scab in 3-5 days • No itch – can be painful	Pain, itching or tingling in the area where the rash develops (prior to the appearance of rash), fever, headache, chills and nausea	Herpes Zoster virus	From the time blisters appear until lesions have crusted over Susceptible persons who come in direct contact with lesions would acquire chickenpox, not shingles	Do not exclude if site of infection can be covered as the individuals are not considered to be highly contagious Individuals who are immunosuppressed are at the greatest risk for getting shingles

Appendices

Appendix A: Managing an Infectious Disease Outbreak In a School Setting

INTRODUCTION:

A disease outbreak is defined by the World Health Organization as "the occurrence of cases of disease in excess of what would normally be expected in a defined community, geographical area or season." An outbreak of a disease may occur in a restricted area (e.g. a single school or household), or it may extend over a larger area such as multiple schools, a community, or even the entire nation. It may last for a few days or weeks, or for several years.

The surveillance of disease is the discipline of continuously gathering, analyzing, and interpreting information and data about diseases and conditions. School nurses play a vital public health role by providing ongoing surveillance of those diseases and conditions that are seen on a daily basis in the school setting; looking for any situation that is outside of the normally expected level of disease in their population. Discovering occurrences or increases in disease and reporting these findings to the local health department are the first important steps toward identifying an outbreak and controlling the further spread of that disease.

PREPARATION FOR AN OUTBREAK:

Poor hygiene practices and close contact of individuals put schools at a greater risk for an outbreak of an infectious disease at some point. As infections may occur and spread rapidly, it is important that school personnel be prepared to put processes and policies into place quickly to mitigate the spread of disease; to communicate with staff, parents and their communities in a timely manner; to continue to provide instruction and services to their student population; and above all to keep their students safe.

The following are suggested points to consider and steps to take at the beginning of each school year in preparation for a possible infectious disease outbreak.

Immunizations:

1. To avoid the possibility that they may be excluded during an outbreak, request that all school staff contact their healthcare provider to verify their immunization history or to request appropriate laboratory testing to determine immunity status. Explain the importance of knowing this information before an outbreak occurs.
    - Although there is always the potential for needing the immunization status information for several other vaccine preventable diseases, the most frequent diseases where immunity status would be necessary in a school setting are **measles** and **varicella**.
    - Procedures/policies should be developed to determine:

- Whether immunization records will be maintained at the school or if staff members will be responsible to maintain them.
- Where and how records will be stored in the school to comply with HIPAA and FERPA regulations. Staff immunization records can also be entered into CHIRP to facilitate access and long-term storage needs.

2. A sample staff letter and disease chart addressing the need to gather immunization information is located in the ISDH document "2013-2014 School Nurse Reference Packet" located on the ISDH CHIRP Document Center web site at http://bit.ly/1bO4yQ3 .

3. Review student immunization records and identify those students who are not in compliance with the immunization requirements for school entry for that school year.
   - Notify the parents of these identified students, informing them that should an outbreak of a vaccine preventable disease occur in the school, it is likely that their student will be excluded from school until it is determined, per the disease specific protocol, that it is safe for them to return to school. A sample letter "Parent Exclusion Notice" that you may use to explain this possibility of exclusion can be found at http://bit.ly/1bbTjD5.

4. Review student immunization records and identify those students who have a religious or medical exemption on file.
   - Notify the parents of these identified students, informing them that should an outbreak of a vaccine preventable disease occur in the school, it is likely that their student will be excluded from school until it is determined, per the disease specific protocol, that it is safe for them to return to school.

Education:

1. In an outbreak situation, it is likely that students and/or staff will be required to be excluded from attending school and school related activities (in some cases for an extended length of time), or a school may be required to close as a part of the efforts to control the spread of the disease. It is recommended that consideration be given to establishing guidelines and an outline for an alternate educational plan that can be used to provide continued educational services to those students who are impacted, whether a select number of students or the entire student body. This same consideration should be given for the situation where staff may be excluded as well. For information and assistance as it relates to developing an alternate educational plan, contact the Indiana Department of Education, Program Coordinator for Health Services at (317) 232-0541.

NEAR OUTBREAK STATUS:

If a situation is noted where the number of cases of an illness exceeds what is normally experienced in your school, and/or the individuals affected with the illness have a common connection (same class, sports team, same food etc.), or if you are notified that a student has been diagnosed with a reportable disease listed in the *Communicable Disease Reporting Rule for Physician, Hospitals, and Laboratories (410 IAC 1-2.3)* (addressed in Appendix B), notify the local health department immediately.

Each disease has an individual threshold number of cases that must occur to determine if an outbreak scenario exists. **It is the responsibility of the local health department, not the school nurse, to determine if the circumstances at hand represent an outbreak, or near outbreak situation. For either situation, guidance and instruction for next steps should come from the staff at the local health department.** The subject matter experts for each disease who work in the ISDH Surveillance and Investigation Division are also available for consultation at 317-233-7665 and can serve as a resource for information. **Close communication with the local health department is very important and will contribute to a successful and least disruptive resolution as possible to an infectious disease outbreak.**

If the local health department has determined the school is nearing outbreak status, follow these steps:

Immunizations:

1. If they have not been addressed, implement the immunization-related steps listed above in the "Preparation" section.
2. Determine the number of students that will be impacted by the outbreak (for a vaccine preventable disease outbreak it would be those whose immunization records are not complete and those who have religious or medical exemptions on file) and develop a tracking system to be used throughout the outbreak. More information regarding possible content of the tracking system located below. Communicate this information to the local health department.
3. Notify any teachers, students, and staff who may be pregnant or immunocompromised of the disease situation in the school, and refer them to their physician for guidance regarding immunizations and/or exclusion.

Communications:

1. Timely and accurate communication with staff, families, and the greater community is a critical component of the response and recovery phases of an infectious disease outbreak. During a crisis, communication with parents, staff, families, students, and the media is important and each group may require different, yet consistent, messages.
    - It is recommended that an evaluation of the school's or corporation's communication plan take place at this phase.
    - The U.S. Department of Education Emergency Response and Crisis Management Technical Assistance Center recommends that schools consider the following: (1) identifying the appropriate spokesperson to communicate with the media, assuring consistent and accurate messaging, (2) establishing media briefing schedules, (3) developing procedures for writing and approving news releases and (4) developing messages with consistent content for dissemination by the various agencies. ("Lessons Learned From School Crisis and Emergencies", U.S. Department of Education; Vol. 2, Issue 3, 2007; http://rems.ed.gov/docs/LL_Vol2Issue3.pdf)

OUTBREAK STATUS MET:

When the threshold of disease cases has been met for the infectious disease in question, the Local Health Officer or the ISDH will declare that there is an outbreak. Once an outbreak has been declared, close and frequent communication with the local health department is especially important!

After the outbreak threshold has been met, the Local Health Officer and local health department staff will likely contact the ISDH for consultation. Frequently, a conference call with the ISDH Surveillance and Investigation Division staff and other key individuals will be conducted to discuss the details of the situation and to determine next steps. Key individuals that should be a part of this conference call may include: (1) the school nurse; (2) building principal; (3) corporation superintendent; (4) corporation level communication staff; (5) local health department personnel and the Local Health Officer; (6) IDOE School Health Services representative. During this call, information regarding any required exclusions or other protocols for disease management will be discussed.

The details and protocols that need to be followed in an outbreak situation are disease specific, but for the school staff they may include assisting the local health department or ISDH in: (1) conducting surveys of student and/or staff behavior (e.g. what foods they ate, where they traveled, etc.); (2) arranging for and assisting in conducting immunization clinics in a school facility; (3) assisting in specimen collection; (4) assisting in and facilitating communication with students and their families, especially those involved directly in the outbreak.

When the local health department has determined that a school has reached outbreak status, the Local Health Officer and/or local health department or ISDH will provide instructions for next steps. Some of those steps may include:

Immunizations:

1. If the steps listed above in the Immunization section of “Preparation” have not been implemented, it is necessary to do so at this time.
2. Using the tracking system established earlier, document the students and staff involved in the outbreak and include the necessary information requested by the local health department. For vaccine preventable disease outbreaks this information will likely include: (1) student name and contact information; (2) date of birth; (3) dates of immunizations received related to the infectious disease of the outbreak; (4) relationship to the index case (e.g. family member, when and how was exposed to index case, etc.).
3. Encourage those students and staff who may be pregnant or immunocompromised to contact their health care provider for instructions regarding immunization or exclusion options. Depending upon the infectious disease involved, these individuals may be required to be excluded from school for the length of time specific to the outbreak protocol for the disease.
4. As appropriate for the disease of the outbreak, the local health department and/or ISDH staff will advise and instruct school staff regarding those students that must be excluded from school and for how long.
    - For vaccine preventable diseases, those students with religious or medical exemptions on file will be excluded from school for their protection for the prescribed length of time. Follow the direction of the local health department and ISDH staff in the exclusion of these students.
5. If recommended by local health department and/or ISDH staff, an immunization clinic may be needed to vaccinate students, staff, and possibly community members who are or will be impacted by the outbreak.

- The local health department staff, with the assistance of the ISDH Immunization Division, will provide all direction, instructions, staff and supplies required to conduct the clinic.
- School personnel play a vital role in the success of the clinic. Items and tasks that are frequently the responsibility of school staff include:
    - Assisting in the determination of the location for the clinic or clinics and securing the facility(ies), which may be a school building or other corporation-owned facility
    - As necessary, arranging for bus transportation of students and staff to attend the clinic if those impacted are a part of more than one location
    - Assisting in the security of the building and the flow of patient traffic through the facility during the clinic
    - Assisting in identifying and notifying the students and their parents about the clinic
    - Assisting in the distribution and collection of permission slips, immunization records, or other requested paperwork required by the local health department

Communications:

1. As stated earlier, timely and accurate communication with staff, families and the greater community is a critical part of the successful management of an infectious disease outbreak. Implementing the corporation's communication plan at this point will assure success.
2. **It is strongly encouraged that school personnel work closely with local health department and ISDH staff to determine what kind of communication with the students, staff and families is necessary.** The local health department has the expertise, as well as access to other resources, that allows them to provide the most current medical advice available regarding communicable diseases. They and the ISDH staff can provide assistance in drafting communications for parents and the greater community.
3. Frequently the question is raised by schools if communication with parents and the community (e.g. letter, email, mass telephone message) regarding the outbreak of an infectious disease in the school is necessary. Taking into account that every infectious disease has specific modes of transmission and degrees of communicability and that every school corporation and community has its own history and expectations, the following points should be considered in the decision making process:
    - Transmission of the disease (e.g. airborne, saliva, fecal/oral, etc.): This will contribute to the possible number of those impacted or potentially exposed.
    - Degree of communicability (i.e. how easily disease is spread): This will contribute to the possible number of those impacted or potentially exposed, e.g. measles which is very easily and quickly spread to those who are near the infected individual vs. meningitis which is spread only to close contacts and those who have shared saliva (i.e. drinking after one another, kissing, etc.).
    - Is it reasonable that between the local health department and the school that all those who are at risk can be targeted, contacted and directed towards care?
        - Example 1: A case of meningitis where five students have been identified as being the only individuals who are at risk and all five students have been contacted and directed towards the appropriate care. This is a scenario where those who are at risk have been identified, contacted, and directed toward care. No other students or staff were determined to be at risk of acquiring the disease; therefore, sending communication to the entire school would not be needed or recommended.

- Example 2: A case of measles in a student who was considered contagious just before and during a school holiday break. Those students and staff who were exposed to the student while they were in class have been identified and directed to receive the appropriate care. However, an unknown number of students, staff and members from other schools within the corporation or members of the community, because of vacation, extracurricular activity, or bus activity of the student, may be at risk for exposure. This is a scenario where those who are known to be at risk are identified, contacted, and directed toward care. However, because of the unknown number of individuals who might have been exposed, sending communication to the entire school and possibly corporation or community may be advised.

Education:

1. As appropriate, implement the alternate education plan that was previously developed.

Through strong, collaborative relationships, schools and local health departments can successfully manage an infectious disease outbreak, assuring that the health and safety of the students, staff and community is maintained with minimal disruption to the educational process.

RESOURCES:

- Indiana Local Health Department Contact Information:
  - Web site: http://www.in.gov/isdh/24822.htm
- ISDH Varicella Outbreak School Tool Kit:
  - Web site: http://www.in.gov/isdh/25498.htm
- ISDH *Neisseria meningitidis* Investigation and Reporting Resource Manual (contains letter templates)
  - Web site: http://bit.ly/1307sck

Appendix B: Communicable Disease Reporting Rule

The *Communicable Disease Reporting Rule for Physician, Hospitals, and Laboratories (410 IAC 1-2.3)* establishes reporting, monitoring, and preventive procedures for communicable diseases in Indiana. The Rule provides reporting instructions for physicians, hospital administrators (or their designee), and laboratories for diseases or laboratory results. It also incorporates by reference various documents that provide case definitions and guidance on measures to prevent further spread of the diseases.

Those diseases listed in this rule must meet one or more of the following six criteria: 1) a nationally reportable disease, 2) a vaccine-preventable disease, 3) an emerging infectious disease, 4) an organism with significant emerging drug resistance, 5) a disease with high bioterrorism potential, and/or 6) a disease that requires a public health response based on severity and ease of transmission.

The Rule requires physicians, hospitals and laboratories to report findings specific to each of the listed reportable diseases to the local health department in the county where the individual resides and to the ISDH.

SCHOOL OBLIGATION FOR REPORTING

The balance between following federal laws concerning the sharing of student information and the health and safety of students and staff can be a difficult and sometimes confusing issue. The *Family Educational Rights and Privacy Act (FERPA)* is a federal law that protects the privacy of student education records in schools, and gives parents certain rights with respect to their children's records until they reach the age of 18 or attend a school beyond the high school level. As a general rule, access to student information without parent permission is limited to a specific group of school officials and those with a "legitimate educational interest" in the student. Recent new guidance found in the *Guide for Developing High-Quality School Emergency Operations Plans* (2013), from the U.S. Departments of Education, Health and Human Services, Homeland Security, Department of Justice, the Federal Bureau of Investigation, and the Federal Emergency Management Agency provides schools with information pertaining to the development of school safety plans and the implications for schools regarding the sharing of student personal information in emergency situations.

According to the *Guide,* school officials have the obligation to balance both safety and student privacy interests. To assist in accomplishing that balance, *FERPA* contains exceptions to the general consent requirement, including the "health or safety emergency exception". The *Guide* goes on to share the following information about the "health or safety emergency exception" requirement:

> *"FERPA* generally requires written consent before disclosing personally identifiable information (PII) from a student's education records to individuals other than his or her parents. However, the *FERPA* regulations permit school officials to disclose PII from education records without consent to appropriate parties only when there is an **actual, impending,** or **imminent** emergency, such as an articulable and significant threat.

Information may be disclosed only to protect the health or safety of students or other individuals. In applying the health and safety exception, note that:

- Schools have discretion to determine what constitutes a health or safety emergency.
- "Appropriate parties" typically include law enforcement officials, first responders, public health officials, trained medical personnel, and parents. This *FERPA* exception is temporally limited to the period of the emergency and does not allow for a blanket release of PII. It does not allow disclosures to address emergencies that *might* occur, such as would be the case in emergency preparedness activities."

It is also stated in the *Guide* that "the U.S. Department of Education would not find a school in violation of *FERPA* for disclosing *FERPA*-protected information under the health or safety exception as long as the school had rational basis, based on the information available at the time, for making its determination that there was an articulable and significant threat to the health or safety of the student or other individuals."

The information noted above should be considered by school officials when determining when and how student information is shared with the LHD and/or ISDH.

Although schools are not legally required to report cases of the identified diseases or conditions listed in the Rule, because occasionally a report by a school to the LHD will be the first notification of a reportable illness, **it is strongly recommended that if school officials become aware of a case of a disease or condition, that information should be reported as soon as possible to the local health department. The sharing of aggregate data and information with the LHD and/or ISDH concerning disease information in a school is permitted without parent written permission, and as stated in the guidance above, following the declaration of an outbreak (i.e. a health emergency), written parent permission would no longer be necessary before the sharing of student information can take place. Additionally, as it is also noted above, schools have the discretion to determine what constitutes a health or safety emergency, and thus the steps necessary for the sharing of student information.**

Although many of the diseases and/or conditions that are frequently found in the school setting are not found on the list of reportable diseases, it is recommended that if the number of cases seen of those diseases in the school exceeds what is typically found, it is good public health practice to notify the local health department of this situation as well.

RESOURCES

- The *Indiana Communicable Disease Reporting Rule for Physicians, Hospitals and Laboratories (410 IAC 1-2.3)*, December 12, 2008
  - Web site: http://bit.ly/18IRICL.
- The *Guide for Developing High-Quality School Emergency Plans*
  - Web site: http://1.usa.gov/19Lzp0p

Appendix C: Resources

The *Communicable Disease Reference Guide for Schools: 2013 Edition* is based on the best scientific, public health, and medical information available, much of which came from the sources listed below. Additional resources and web sites that may prove to be useful are also provided below:

RESOURCES

- *Control of Communicable Diseases Manual.* 9th Edition. David Heymann, editor, American Public Health Association, Washington, D.C. 2008.
- *Epidemiology and Prevention of Vaccine-Preventable Diseases.* 12th Edition. Centers for Disease Control and Prevention, 2011.
- *Red Book.* 29th Edition. 2012 Report of the Committee on Infectious Diseases, American Academy of Pediatrics.

WEB SITES

- Advisory Committee on Immunization Practices (ACIP)
  - Web site: http://www.cdc.gov/vaccines/pubs/ACIP-list.htm
- American Academy of Pediatrics (AAP)
  - Web site: http://www.aap.org
- Bloodborne Pathogen Resources
  - Occupational Safety & Health Administration (OSHA): http://1.usa.gov/15j2xWL and http://1.usa.gov/155iUGF
  - CDC Resources: http://1.usa.gov/1brrRPe and http://1.usa.gov/1brrRPe
- Centers for Disease Control and Prevention (CDC)
  - Web site: www.cdc.gov
  - Index to specific disease information: http://www.cdc.gov/az
- Food and Drug Administration (FDA)
  - Web site: http://fda.gov
- Handwashing Resources
  - ISDH Quick Fact sheets and Campaign: http://bit.ly/1atLVTf and http://bit.ly/16udLqI
  - CDC Resources: http://www.cdc.gov/handwashing
  - Other Resources: http://bit.ly/16uejwO and http://mayocl.in/1dmAmt9
- Immunization Action Coalition (IAC)
  - Web site: http://www.immunize.org
- ISDH 2012-2013 School Nurse Immunization Reference Packet
  - Web site: http://bit.ly/172m2nS

- Medline
  - Web site: http://www.nlm.nih.gov/medlineplus
- National Association of School Nurses (NASN)
  - Web site: http://www.nasn.org
- Photographs of Diseases/Conditions
  - The CDC has several pictures of diseases and conditions located within each disease page, www.cdc.gov
  - Dermnet: http://www.dermnet.com
  - WebMD: http://www.webmd.com
- *The Epidemiology and Prevention of Vaccine-Preventable Diseases*, 12th Edition, (updated April 2011).
  - This book is available on line at: http://www.cdc.gov/vaccines/pubs/pinkbook/default.htm

LEGAL REQUIREMENTS

In addition to the Communicable Disease Reporting Rule for Physicians, Hospitals and Laboratories (410 IAC 1-2.3) described in the manual, there are other legal resources schools should consult when appropriate. They include:

- Indiana code (IC 20-34-3-9) describes the process for exclusion and readmission of ill children from school. It also provides a mechanism for reimbursement of medical care if the parents are financially unable to pay. The code may be accessed at http://www.in.gov/legislative/ic/code/title20/ar34/ch3.html.
- The following links provide information related to Indiana Immunization Requirements:
  - http://www.in.gov/legislative/ic/code/title20/ar34/ch4.html
  - http://www.in.gov/legislative/iac/iac_title?iact=410&iaca=1&submit=+Go
  - http://www.in.gov/isdh/17094.htm
- Meningitis Education Requirements (section 18):
  - http://www.in.gov/legislative/ic/code/title20/ar30/ch5.html

Appendix D:
Reporting of Excessive Absenteeism

In 2004 the "Counterterrorism Symptom and Health Syndrome Data Collection" (IC 16-19-10-8) law was enacted in an effort to better monitor and track symptoms and health syndromes from outbreaks or suspected outbreaks of diseases or other health conditions that may endanger public health. As a result of this law, the IDOE developed and enacted 512 IAC 1, "Threshold of Student Absences for Reporting Purposes to Local health Departments" (a.k.a. "20% Absenteeism Rule") as a means to give guidance to schools on their responsibilities for reporting excessive absenteeism to support this effort.

This rule (512 IAC 1) requires school corporations and accredited nonpublic schools to:

1. Develop, in consultation with the school nurse, a local attendance system for reporting symptoms and health syndromes from outbreaks or suspected outbreaks of diseases or other health conditions.
2. **Report to the local health department the percentage of student absences when the percentage of student absences from a school is equal to or greater than 20% of the enrolled students** (Exceptions: days immediately before or after school vacation days or scheduled instructional day that is canceled due to any weather-related emergency unless otherwise determined by the superintendent).
3. **Report to the IDOE State Attendance Officer the percentage of student absences when the percentage of student absences from a school is equal to or greater than 20% of the enrolled students.**

Note: The report should be made based on a 20% rate of absenteeism for a school rather than a school corporation.

The LHD and/or ISDH staff investigates each case of a reportable illness as designated by the Communicable Disease Reporting Rule referenced earlier in this document. The local health department staff can provide assistance to school personnel on non-reportable communicable diseases as well. They will assist school staff with implementing exclusion requirements and control measures as they become necessary. The input of school nurses towards the successful monitoring of disease activity in the community and school environment is a very valuable part of the public health process.

LOCAL HEALTH DEPARTMENT CONTACT INFORMATION

Contact information for all local health departments in the state of Indiana can be found on the ISDH web site at http://www.in.gov/isdh/24822.htm.

STATE ATTENDANCE OFFICER CONTACT INFORMATION

Contact information for the IDOE State Attendance Officer can be found on the IDOE Office of Student Services web site at http://www.doe.in.gov/student-services.