INFECTIOUS DISEASES
IN
CHILD CARE
AND
SCHOOL SETTINGS

GUIDELINES FOR:

CHILD CARE PROVIDERS
SCHOOL NURSES
AND
OTHER PERSONNEL

Colorado Department
of Public Health
and Environment

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Diseases in **bold** are reportable conditions in Colorado.
Diseases with an asterisk (*) are vaccine preventable diseases.

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Acknowledgments

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*****These guidelines are not a substitute for the School and Child Care Facility Health and Sanitation Regulations*****

Child Care Regulations:

http://www.colorado.gov/cs/Satellite/CDPHE-DEHS/CBON/1251583775888

School Regulations:

http://www.colorado.gov/cs/Satellite/CDPHE-DEHS/CBON/1251588331930

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INFECTIOUS DISEASE IN CHILD CARE AND SCHOOL SETTINGS

Infectious diseases are caused by organisms such as bacteria, viruses, and parasites. Some infectious diseases can be spread from one person to another. Illnesses caused by infectious diseases are a common occurrence in children in child care and school settings. Child care providers, school personnel, and school nurses should be aware of infectious diseases that affect children and be familiar with how to minimize their spread. These guidelines address infectious diseases often seen in children and provide ways to prevent, reduce, and control their spread. Most cases of illness are isolated to one child, but occasionally an outbreak of a particular disease can occur in a child care or school setting. **Suspected outbreaks of any disease must be reported to the state or local public health agency within 24 hours.**

These guidelines are based on current health information. Recommendations for handling infectious disease issues in child care and school settings may change as new information becomes available. The Communicable Disease Epidemiology Program at the Colorado Department of Public Health and Environment (CDPHE) is available to assist child care providers, school personnel, and school nurses when infectious disease issues arise, and can be reached at (303) 692-2700. Local public health agencies are available for consultation on infectious disease issues as well. Contact information for Colorado local public health agencies can be found at: http://www.colorado.gov/cs/Satellite/CDPHE-Main/CBON/1251588259796

PUBLIC HEALTH REPORTING REQUIREMENTS, CASE INVESTIGATION, AND OUTBREAK INVESTIGATION

By law, certain diseases and conditions are reportable to public health for surveillance purposes and so disease control measures can be implemented. Per Colorado regulation 6 CCR 1009-1 "Rules and Regulations Pertaining to Epidemic and Communicable Disease Control", **persons treating or having knowledge of a reportable disease, whether the disease is suspected or confirmed, must report the case to the state or local public health agency. This includes schools and child care providers.** A list of diseases and conditions reportable in Colorado is available on page 6 of this document, and also at the following website (this website also contains links to the Colorado statutes and regulations that address disease reporting): http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607755364

When a suspected or confirmed case is reported, public health agencies may conduct an investigation to confirm the diagnosis, assess treatment options (if applicable), determine the cause of the illness, and implement appropriate methods of disease control. **Group outbreaks resulting from any cause, including foodborne outbreaks, must be reported to the state or local public health agency within 24 hours.** For the purposes of public health reporting, an outbreak is defined as two or more persons ill with similar symptoms within a similar time frame. In an outbreak situation, the state or local public health agency will typically work with the child care facility or school to achieve the following:

- Control and prevent further spread of disease;
- Identify ill persons so they can receive proper treatment if indicated;
- Attempt to identify the source of the outbreak;
- Identify infection risk factors;
- Evaluate existing prevention strategies.

Child care facilities and schools can also contact the state and/or local public health agencies about infectious conditions that are not reportable, especially if the facility has questions about notifying parents, exclusion, and disease control measures.

Per the Colorado "Rules and Regulations Governing the Health and Sanitation of Child Care Facilities in the State of Colorado" (available at http://www.colorado.gov/cs/Satellite/CDPHE-DEHS/CBON/1251583775888), in addition to consulting with the state or local public health agency, child care facilities should also consult with their nurse consultant or child care health consultant about any type communicable disease issue, case, or outbreak. Child care facilities are inspected routinely by either the state or local public health agency to ensure compliance with the health and sanitation regulations. These inspections are typically conducted by Environmental Health Specialists employed at the state/local public health agency. It is acceptable for a child care facility to report cases of illness or outbreaks to the Environmental Health Specialist who conducts the health and sanitation inspections. Typically, the Environmental Health Specialist will then consult with the public health nurse or epidemiologist within his/her public health agency to determine the best course of action.

To report a suspected or confirmed disease case or outbreak, please contact your local public health agency (contact information can be found at: http://www.colorado.gov/cs/Satellite/CDPHE-Main/CBON/1251588259796**), or CDPHE at (303) 692-2700 or 1-800-866-2759 (after-hours (303) 370-9395). To the extent it is available, the following information should be reported for all suspected or confirmed cases:**

- **Diagnosis**
- **Patient's name**
- **Date of birth**
- **Gender**
- **Race and ethnicity**
- **Address**
- **Phone number**
- **Parent/Guardian name**
- **Name and address of the responsible health care provider**
- **Laboratory test results**
- **Case suspected or confirmed**

SCHOOLS, PUBLIC HEALTH REPORTING, AND FERPA

Regarding student confidentiality and privacy, the federal Family Educational Rights and Privacy Act (FERPA) prohibits sharing of health-related information **except** in certain well-defined circumstances, including, but not limited to: specified officials for audit or evaluation purposes, and appropriate officials in cases of health and safety emergencies. **Notifying the state or local public health agency of an urgent reportable disease in a student or an outbreak in a school does not breach FERPA confidentiality laws.** In these situations, schools may disclose personally identifiable information to public health officials without prior parent consent. See pages 7-9 for a memo from the Colorado Department of Education that addresses FERPA and public health reporting.

To Report a case please contact:
Colorado Department of Public Health & Environment
4300 Cherry Creek Drive South
Denver, CO 80246
Phone: 303-692-2700
Toll Free Phone: 1-800-866-2759
Confidential Fax: 303-782-0338
Toll Free Fax: 1-800-811-7263
Evening/weekend hours: 303-370-9395

Colorado Department of Public Health and Environment

Effective April 2010

COLORADO BOARD OF HEALTH
CONDITIONS REPORTABLE BY ALL PHYSICIANS AND HEALTH CARE PROVIDERS
IN COLORADO

(Infection in Colorado residents ascertained out-of-state should also be reported.)
The list below applies to physicians and health care providers. Laboratories have separate reporting requirements. A case must be reported to the state or local health department following diagnosis within the timeframe indicated.

The State Health Department recommends reporting all suspected cases, whether or not supporting laboratory data are available.

24-Hour Reportables

Animal Bites by dogs, cats, bats, skunks or other wild carnivores
Anthrax (Bacillus anthracis)
Botulism (Clostridium botulinum)
Cholera (Vibrio cholerae)
Diphtheria (Corynebacterium diphtheriae)
Group Outbreaks – known or suspected of all types including foodborne, waterborne or other illness
Haemophilus influenzae (invasive disease)
Hepatitis A (Anti-HAV IGM)
Human Rabies - suspected
Measles (Rubeola)
Neisseria meningitidis (invasive disease)
Pertussis (Bordetella pertussis)
Plague (Yersinia pestis)
Poliomyelitis
Rubella
SARS (Coronavirus)
Smallpox
Syphilis, early (1°, 2°, early latent) (Treponema pallidum)
Tuberculosis (active disease)
Typhoid Fever (Salmonella typhi)

7-Day Reportables

AIDS and HIV infection
Aseptic / viral meningitis
Brucellosis
Campylobacteriosis
Chancroid (Haemophilus ducreyi)
Chlamydia trachomatis
Cryptosporidiosis
Cyclospora
Escherichia coli 0157:H7 & shiga toxin-producing E.coli
Encephalitis
Giardiasis
Gonorrhea, any site
Hantavirus
Hemolytic uremic syndrome if $\leq$ 18 yrs
Hepatitis B
Hepatitis C
Hepatitis, other viral
Influenza – associated hospitalization
Influenza – associated death $\leq$ 18 yrs
Kawasaki Syndrome
Legionellosis
Leprosy (Hansen's Disease)
Listeriosis
Lyme Disease (Borelia burgdorferi)
Lymphogranuloma venereum
Malaria (Plasmodium species)
Mumps
Psittacosis (Chlamydia psittaci)
Q Fever (Coxiella burnetti)
Relapsing Fever (Borrelia sp.)
Rocky Mountain Spotted Fever
Rubella, congenital
Salmonellosis
Shigellosis
+TB skin test in workers exposed to active disease
Tetanus
Toxic Shock syndrome
Trichinosis
Transmissible spongiform encephalopathy
Tularemia (Francisella tularensis)
Varicella (Chicken pox)

Immediate reporting by phone is required of any illness suspected to be caused by Biological, Chemical, or Radiologic Terrorism

All reports should include:
1. Name of disease or condition
2. Patient's name
3. Patient's date of birth, sex, race and ethnicity
4. Patient's home address and phone
5. Physician's name, address and phone
6. Lab info – test name, collection date and specimen type

Disease Report Forms can be downloaded from:
http://10.1.0.60/dc/reportable.html
Please fax completed Disease Report Form to 303-782-0338

COLORADO DEPARTMENT OF EDUCATION

201 East Colfax Avenue • Denver, Colorado 80203-1799
303.866.6600 • www.cde.state.co.us

Dwight D. Jones
Commissioner of Education

Robert K. Hammond
Deputy Commissioner

Kenneth R. Turner
Deputy Commissioner

March 3, 2009

To: Superintendents
From: Ed Steinberg, Assistant Commissioner
Re: Communicable Diseases and Conditions Reportable by School Personnel under Colorado Law and Related Confidentiality Duties Under Federal Law

Background

The Colorado Department of Public Health and the Environment (CDPHE) has asked the Colorado Department of Education (CDE) to provide guidance to school districts regarding: (1) Schools providing timely reports to CDPHE about the occurrence of pertussis in public school settings; and (2) The CDPHE's duty and authority to conduct public health investigations in response to reports of pertussis and other 24 hour reportable conditions (as defined by the CDPHE) in public school settings.

Some school districts have declined to provide personally identifiable information to the CDPHE and some local county health departments regarding occurrences of pertussis without prior parent consent. In such cases, it is our understanding that concerns were expressed by school personnel that the disclosure of such information would violate the federal Family Educational Rights and Privacy Act (FERPA)[1] which protects the privacy of student education records.

The purpose of this memorandum is to provide guidance to Colorado school districts that: (1) describes the communicable disease reporting requirements for school districts, school nurses and other school personnel under Colorado law; and (2) explains FERPA's exception permitting the disclosure of personally identifiable information without prior parent consent to authorized officials under circumstances involving a health or safety emergency.

State Law Requirements

The State Board of Health is authorized to determine which diseases and conditions are dangerous to the public health. The State Board of Health also has the authority to require reports by persons with knowledge and without patient consent to the CDPHE and local health departments of the occurrences of such diseases and conditions.[2] The reports must contain "the name, address, sex, diagnosis, and such other information as

[1] 20 U.S.C. § 1232g; 34 C.F.R. Part 99
[2] *See*, Colo. Rev. Stat. §§ 25-1.5-102(1)(a)(II) and 25-1-122

the board determines is necessary to protect the public health."[3] The CDPHE is authorized "to investigate and control the causes of epidemic and communicable diseases affecting the public health.[4]

The State Board of Health has designated certain communicable diseases that must be reported to the CDPHE within 24 hours of confirmation or suspicion. The current list of 24-hour reportable communicable diseases and conditions, which includes "pertussis", is included as Attachment 1.[5] The communicable diseases and conditions identified in Attachment 1 are considered emergency public health events due to some combination of: the potential seriousness of the illness; degree of communicability (and therefore, potential to cause a disease outbreak); and existence of specific health intervention (e.g., post-exposure vaccination, post-exposure administration of antibiotics, isolation or quarantine) to interrupt transmission (and prevent /control outbreak). To be effective, these public health interventions are, typically, extremely time sensitive.

FERPA Requirements

FERPA applies to all schools that receive federal funding under an applicable program of the U.S. Department of Education. Generally, schools must obtain the parent's written consent before releasing information from his/her child's education records.

FERPA contains several exceptions to the general prohibition of disclosure of information from education records without prior parent consent. Applicable here are the following exceptions:

- Disclosure to appropriate officials in cases of health and safety emergencies[6]
- Disclosure of directory information such as a student's name, address, telephone number, date and place of birth and dates of attendance.[7] It should be noted that, in order to publish directory information, the school district must give the parent notice of the intended publication and an opportunity to opt out of the publication.

Regarding health or safety emergencies, the Family Policy Compliance Office of the U.S. Department of Education has provided this explanation:

> In summary, educational agencies and institutions subject to FERPA may disclose personally identifiable, non-directory information from education records under the "health or safety emergency" exception only if the agency or institution determines, on a case-by-case basis, that a specific situation presents an imminent danger or threat to students or other members of the community, or requires an immediate need for information in order to avert or diffuse serious threats to the safety or health of a student or other individuals. Any release must be narrowly tailored considering the immediacy and magnitude of the emergency and must be made only to parties who can address the specific emergency in

[3] Colo. Rev. Stat §25-1-122(1)
[4] Colo. Rev. Stat. §25-1.5-102(1)(a)(I).
[5] Current as of March 30, 2008. This list and the full set of State Board of Health regulations may be accessed at http://www.cdphe.state.co.us/regulations/diseasecontrol/index.htmo
[6] 34 C.F.R. §§99.31(a)(10) and 99.36
[7] 34 C.F.R. §99.37

question. This exception is temporarily limited to identifiable information from a student's education records to comply with the general requirements under State law. *Certainly an outbreak of diseases such as measles, rubella, mumps and polio not only pose (sic) threat of permanent disability or death for the individual, but have historically presented themselves as epidemic in nature. Thus, disclosure of personally identifiable information from students' education records to State health officials for such reasons would generally be permitted under FERPA's health or safety emergency provisions.*[8]

In disclosing the information to a State health agency, a school should advise the agency that personally identifiable information disclosed by the school may not be redisclosed or shared with any other party outside the appropriate officials at that agency, unless such disclosure is done with the prior written consent of parents or eligible students or is done on behalf of the school for the same purpose it was disclosed to the agency.[9]

Thus, it is the guidance of the State that those communicable diseases and conditions that are considered to be emergency public health events as outlined in Attachment 1 should generally be considered to fall within the "health or safety" exception to FERPA's "prior parent consent" rule.

It should be noted that FERPA applies only to information in education records; it does not apply to information known or obtained from sources other than education records, such as personal observations or verbal communication with parents. Thus, information that is not contained in education records, including direct observation of those communicable diseases and conditions that are considered emergency public health events, should not be considered as falling within FERPA's "prior parent consent" rule.

Finally, a school district may seek to obtain prior written parent consent for release by school officials of information required by Colorado law through a consent form presented to parents during the annual registration process. Prior parent consent obtained in this manner would apply to situations involving not only health emergencies but also to other diseases and conditions, such as varicella (chicken pox), authorized by the State Board of Health to be reported to the CDPHE and local health departments within 7 days of diagnosis. The 7-day reportable diseases and conditions are identified in Attachment 2.

Note: This is guidance issued by the Colorado Department of Education and does not constitute legal advice. If you need legal advice, please contact your legal counsel.

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[8] Italics added

[9] *Letter to Alabama Department of Education re: Disclosure of Immunization Records*, Family Policy Compliance Office (02/25/2004). This letter is accessible on-line at http://www.ed.gov/print/policy/gen/guic/fpco/library/alhippaa.html

Attachment 1:
List of Diseases Required by the State Board of Health to be Reported Within 24 Hours

Animal bites by dogs, cats, bats, skunks, or other wild carnivores	Pertussis
Anthrax	Poliomyelitis
Botulism	Plague
Cholera	Rabies in man (suspected)
Diphtheria	Rubella
Group outbreaks including food poisoning	Severe Acute Respiratory Syndrome (SARS)
Hepatitis A	Smallpox
Measles (rubeola)	Syphilis (1°, 2°, or early latent)
Meningitis or other invasive disease caused by Haemophilus influenzae	Active Tuberculosis disease
Meningitis or other invasive disease caused by Neisseria meningitidis	Typhoid Fever

Attachment 2:
List of Diseases Required by the State Board of Health to be Reported Within 7 Days

Bites by animals not included in List A	Leprosy
Brucellosis	Listeriosis
Campylobacteriosis	Lyme Disease
Chancroid	Lymphogranuloma venereum
Cryptosporidiosis	Malaria
Cyclospora	Meningitis, aseptic
Encephalitis	Mumps
Escherichia coli O157:H7** and shiga toxin-producing Escherichia coli	Psittacosis
Giardiasis	Q Fever
Gonorrhea, any site	Relapsing Fever
Hantavirus	Rocky Mountain Spotted Fever
Hepatitis B	Rubella, congenital
Hepatitis C, Acute	Salmonellosis
Hepatitis, other viral	Shigellosis
Hemolytic Uremic Syndrome if ≤ 18 yrs	Tetanus
Influenza-associated hospitalization	Toxic Shock Syndrome
Influenza-associated death if < 18 yrs	Transmissible spongiform encephalopathy
Kawasaki Syndrome	Trichinosis
Legionellosis	Tularemia
	Varicella

INFORMING PARENTS OF ILLNESS IN THE FACILITY

When a child care facility or school has a child or staff member ill with an infectious disease, the question often comes up as to whether the facility needs to send a letter home to parents/ guardians of other children, or post a notice at the facility informing parents/guardians of the illness. This is often dependent on the disease, the potential risk of spread to others, if other children/staff are displaying symptoms, and policies in place at the facility. Public health can assist a facility in determining if a letter or notice is necessary.

EXCLUSION GUIDELINES FOR CHILDREN AND STAFF

EXCLUDING CHILDREN:

Excluding (defined as keeping a child from attending the child care or school setting) a child who has an infectious disease from attending child care or school may decrease the spread of illness to others. The decision to exclude is typically based on the disease, and should be made in conjunction with the school nurse or the child care health consultant, the state or local public health agency, health care professionals, and/or parents/guardians. Exclusion recommendations are included for each disease or condition addressed in these guidelines.

In situations where a child does not have a diagnosed disease/condition but has signs or symptoms indicative of a potentially infectious disease, exclusion may also be warranted. Generally, if any of the following conditions apply, exclusion from child care or school should be considered:

- If the child does not feel well enough to participate comfortably in usual activities.
- If the child requires more care than the child care or school personnel are able to provide.
- If the child is ill with a potentially contagious illness and exclusion is recommended by a health care provider, the state or local public health agency, or these guidelines.
- If the child has signs or symptoms of a possible severe illness, such as trouble breathing.
- In cases where unvaccinated children are exposed to a vaccine preventable disease (such as measles, mumps, rubella, and pertussis), the state or local public health agency should be consulted in order to determine if exclusion of unvaccinated children is necessary.

The chart below lists common symptoms that could possibly be related to an infectious disease. The chart indicates if it is recommended to exclude a child exhibiting a particular symptom from child care or school. **If a child is excluded based on symptoms (and not a true diagnosed illness), the child should be allowed to return to child care or school once symptoms have subsided, or a health care provider clears the child or determines the illness is not communicable, provided that the child can participate in routine activities.**

SYMPTOM	EXCLUSION GUIDELINES
Cough	Exclusion is recommended if the child is experiencing severe, uncontrolled coughing or wheezing, having difficulty breathing, becomes red or blue in the face, makes high-pitched whooping sounds after coughing, or vomits after coughing.
Diarrhea (defined as stools that are more frequent and looser than usual)	Exclusion is recommended if any of the following conditions apply: the child has other symptoms along with the diarrhea (such as vomiting, fever, abdominal pain, jaundice, etc.), the diarrhea cannot be contained in a toilet, there is blood or mucous in the stool, or the child is in diapers.
Earache	No exclusion is necessary.
Fever (defined as a temperature over 101°F orally)	No exclusion is necessary, unless the child has symptoms in addition to the fever, such as a rash, sore throat, vomiting, diarrhea, behavior changes, stiff neck, difficulty breathing, etc.
Headache	No exclusion is necessary, unless the headache is severe and accompanied by additional symptoms like vision problems, stiff neck, or behavior change.
Jaundice or unusual color of the skin, eyes, stool, or urine	Exclusion is recommended until a medical exam indicates the child does not have hepatitis A.
Mouth sores	Exclusion is recommended if they child is drooling uncontrollably.
Rash	Exclusion is recommended if the child has symptoms in addition to the rash such as behavior change, fever, joint pain, or bruising not associated with injury, or if the rash is oozing or causes open wounds. See page 61 for additional information on rashes.
Stomach ache / Abdominal pain	Exclusion is recommended if the pain is severe, if the pain appears after an injury, or if the child had symptoms in addition to the stomach ache (such as vomiting, fever, diarrhea, jaundice, etc.)
Swollen glands	Exclusion is recommended if the child has symptoms in addition to the swollen glands such as difficulty breathing or swallowing, fever, etc.
Vomiting	Exclusion is recommended if the child has vomited more than two times in 24 hours, if the vomit appears bloody, if the child has a recent head injury, or if the child has symptoms in addition to the vomiting (such as fever, diarrhea, etc.).

WHAT TO DO WHEN A CHILD HAS SYMPTOMS WHILE AT THE SCHOOL OR CHILD CARE FACILITY:

- Inform the school nurse, child care health consultant, or designated staff of the symptoms.
- Separate the ill child from the other children.
- Inform the ill child's parents/guardians of the symptoms. If it is determined that the child needs to be excluded, keep the ill child separated from other children until the parent/guardian can pick up the child.
- Take the child's temperature.
- If a child is coughing or sneezing, remind her/him to cover her/his mouth and to wash her/his hands afterwards.
- After you touch an ill child, avoid touching other children until you have washed your hands.

EXCLUDING STAFF:

Occasionally child care and school personnel become ill with an infectious disease. When this occurs, the child care facility or school should consult with the state or local public health agency to determine if the ill staff member can work. If ill with diarrhea or vomiting, child care and school personnel should not work until at least 48 hours after the last episode of vomiting or diarrhea. This is especially important for staff that work in food service or handle food in any manner, and for staff that work with infants and toddlers (including staff that prepare and serve bottles to infants/toddlers).

CONSIDERATIONS FOR DEVELOPMENTALLY DISABLED OR IMMUNOCOMPROMISED CHILDREN

Disease control guidelines for developmentally disabled or immunocompromised children may be different than the guidelines presented in this document. In situations where a developmentally disabled or immunocompromised child has an infectious disease or is exposed to another child with an infectious disease, the child care health consultant or school nurse should be consulted. The state or the local public health agency is also available for consultation.

ILLNESS TRANSMISSION

Infectious diseases can be spread in a variety of ways, referred to as transmission routes.

DROPLET TRANSMISSION / INFECTIOUS DISCHARGES:

Diseases with respiratory tract symptoms (runny nose, cough, sore throat, sneezing) are often spread by droplets containing viruses or bacteria or by surfaces contaminated with nose/throat discharges from infected persons. Droplets are generated during coughing, sneezing, or talking. These "large" droplets generally travel less than three feet before falling to the ground and do not remain suspended in the air. Before falling to the ground, droplets may be deposited on the mucous membranes of the eye, nose, or mouth of another person within three feet, resulting in disease transmission. In addition, sick persons, especially children, will often contaminate their hands and other objects with infectious nose/throat discharges. When another person comes in contact these objects and then touches their eyes, mouth, or nose, he/she can become infected. This type of transmission route is common in child care and school settings. Some of the infections passed in this way are the common cold, chickenpox, croup, fifth disease, hand foot and mouth disease, influenza, meningitis (viral and bacterial), mumps, rubella, pertussis(whooping cough), pink eye (conjunctivitis), rubella, RSV, and strep throat.

AIRBORNE TRANSMISSION:

This mode of transmission is rare and only a few diseases are spread by this route (such as measles and tuberculosis). Airborne transmission occurs when an infected person coughs, sneezes, or talks and generates very small respiratory particles (droplet nuclei) containing viruses or bacteria. These small particles remain

suspended in the air for long periods and can be widely dispersed by air currents. When another person inhales these small particles, they can potentially become ill.

FECAL→ORAL TRANSMISSION:

Intestinal tract infections are often spread through oral ingestion of viruses, bacteria, or parasites found in the stool of an infected person or animal. This type of transmission happens when objects contaminated with microscopic amounts of human or animal feces are placed in the mouth. In child care and school settings, sites frequently contaminated with feces are hands, diaper changing tables, classroom floors, faucet handles, toilet flush handles, toys and tabletops. Fecal→oral transmission can also occur when food or water is contaminated with microscopic amounts of human or animal feces and are then ingested. Organisms spread by this transmission route include: *Campylobacter, Cryptosporidium,* Shiga toxin-producing *E. coli* (which includes *E. coli* O157:H7), *Giardia,* hepatitis A, *Salmonella, Shigella,* and a variety of intestinal viruses like norovirus. Other infections like hand, foot and mouth disease and viral meningitis can also be spread through this route.

SKIN CONTACT / DIRECT CONTACT:

Some infections can be spread directly by skin-to-skin contact or indirectly by contact with contaminated surfaces like clothing. Chickenpox (varicella), shingles (herpes zoster), herpes, head lice, impetigo, molluscum contagiousum, MRSA, ringworm, scabies, and tetanus are all spread this way.

BLOOD / BODY SECRETIONS CONTACT:

Some infections are transmitted when a cut or mucous membranes (linings of various body parts and internal organs) comes in contact with an infected person's blood or other body secretions like saliva, urine, and seminal and cervical fluids. This type of transmission is very rare in child care and school settings. Diseases such as hepatitis B, hepatitis C, and the human immunodeficiency virus (HIV) can be spread by contact with infected blood. Infected children can possibly transmit these infections through biting if there is visible blood mixed with their saliva (i.e. from bleeding gums). CMV (cytomegalovirus) can be spread by body secretions like urine and saliva, and mononucleosis and some forms of bacterial meningitis can be spread by saliva.

SEXUALLY TRANSMITTED DISEASES:

These diseases are most commonly transmitted by sexual contact, including genital-to-genital, oral-to-genital, or genital-to-anal contact. The STIs described in this section of the guidelines cover only those most common (i.e., situations with which school/child care nurses and personnel are more likely to be confronted). HIV and AIDS, chlamydia, genital herpes, genital warts, gonorrhea, hepatitis B, pubic lice (crabs), and syphilis can be spread in this way. The possibility of sexual abuse must be considered when infections occur in prepubescent children and must be reported to appropriate authorities.

APPROPRIATE ANTIBIOTIC USE

Antibiotics are important drugs that fight infections caused by bacteria. Over recent decades, bacteria have developed resistance to these drugs, partially due to antibiotic misuse and overuse. While antibiotics should be used to treat bacterial infections, they are not effective and should not be used with viral infections like the common cold, most sore throats, and influenza. Antibiotic-resistant infections may be more difficult to treat and may result in more serious illness if not initially treated with appropriate antibiotics. When someone is prescribed antibiotics by a health care provider for a particular illness, it is important to always follow the prescription and take all prescribed doses, even if the person is feeling better.

DISEASE PREVENTION: HANDWASHING

Handwashing is one of the best tools for controlling the spread of infections. All children and staff should perform effective handwashing, which will reduce the amount of illness in child care and school settings.

HANDWASHING TECHNIQUE:

- Use SOAP and warm RUNNING WATER.
- Rub hands vigorously as you wash them.
- Wash ALL surfaces including the backs of hands, wrists, between fingers and under fingernails.
- Wash for about 20 seconds if possible.
- Rinse hands well.
- Dry hands with a paper towel or air dryer.
- If using paper towels, turn off the water using a paper towel instead of bare hands.

State health regulations for schools require that soap and paper towels or air dryers be available for all bathroom facilities. Schools often have a problem keeping the restrooms stocked with soap and paper towels due to children playing with the items and clogging toilets or making messes. It is suggested that schools try to find solutions to these problems rather than removing soap and paper towels from the restrooms.

WHEN TO WASH HANDS:

- After using the toilet.
- After changing diapers (wash both the staff persons and child's hands).
- After coughing, sneezing, and wiping your nose or someone else's nose.
- Before eating or drinking.
- Before serving food to children.
- After cleaning.
- After petting/handling animals.
- After handling or cleaning an animal's cage or enclosure.
- Whenever hands are dirty.
- Food handlers should wash hands before preparing and handling food and when hands are soiled.
- Children who are unable to wash their own hands should have assistance from staff.

Sanitizing hand gels have increased in popularity. It is recommended that these products be used **in addition** to regular handwashing and not in place of handwashing unless facilities are not readily available. Sanitizing hand gels are not effective when hands are visibly dirty. Children should be supervised when using these products and should only be used on children of the appropriate age.

Disease Prevention: Immunizations

CHILDHOOD IMMUNIZATIONS:
Immunizations help prevent serious illnesses. State health regulations require children attending out-of-home child care and school settings to be up to date on all immunizations or have a valid exemption (either a medical, religious or personal exemption). Required immunizations for school-aged children include: diphtheria, tetanus, whooping cough (pertussis), polio, measles, mumps, rubella, hepatitis B, and chickenpox (varicella). Required immunizations for child care-aged children include those listed above for school-aged children plus *Haemophilus influenzae* type B (Hib), and pneumococcal disease. Hepatitis A, influenza, and meningococcal disease vaccines are recommended but not required for school attendance. School and child care facilities should have documentation of the immunization status of all children on file. Information on immunization requirements and forms can be found at the following website:
http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251609960682

ADULT IMMUNIZATIONS:
It is strongly recommended that child care and school personnel be vaccinated (or have proof of immunity) against pertussis, diphtheria, tetanus, mumps, measles, polio, chickenpox (varicella), and rubella (German measles). It is especially important for women of childbearing age to be immune to rubella as this infection can cause complications for the developing fetus. Pregnant child care and school personnel who work with young children should tell their physicians they work in these settings.

Disease Prevention: Covering Coughs

Influenza and other respiratory illnesses can be spread by coughing, sneezing, or unclean hands. To help prevent the spread of these illnesses, children and staff should try to use proper cough etiquette, including:

- Cover your mouth and nose with a tissue when you cough or sneeze;
- Put used tissues into the trash;
- If a tissue is not available, cough or sneeze into your upper sleeve or elbow, instead of the hands;
- Wash your hands often using proper technique.

Educational materials on cough etiquette for school and child care settings can be found on the CDC website:
http://www.cdc.gov/flu/protect/covercough.htm

Disease Prevention: Food Safety

Foodborne illness can often be prevented by adhering to the following safe food handling guidelines:

- Train all food handling staff on food safety.
- Children and staff handling food must wash their hands prior to handling food. A sink dedicated to handwashing must be used; sinks intended for food preparation must not be used for handwashing.
- Ready-to-eat foods like salads, sandwiches, and fruit (basically any food that is not going to be cooked prior to consumption) should not be prepared or handled with bare hands; gloves should be used.
- Ill children and staff must not handle food, especially if they are ill with gastrointestinal symptoms like vomiting or diarrhea.
- Children or staff with skin lesions on exposed areas like the face, hands, and fingers must not handle food.

- Store food at proper temperatures. Potentially hazardous cold foods like eggs, milk, dairy products, meat products, etc. must be stored at 41°F or below. Hot foods must be held at 135°F or above.
- Meat and poultry products must be cooked to the proper temperature. Ground beef must be cooked to an internal temperature of 155°F, and poultry must be cooked to 165°F.
- The facility must have a calibrated thermometer on hand to check food temperatures.
- Thaw foods in an appropriate manner, such as in the refrigerator, under continuously running cold water in a continuously draining sink, or in the microwave immediately before serving or cooking.
- Raw meat and poultry must be stored on the bottom shelf of the refrigerator to prevent contamination of other food items.
- Thoroughly wash fresh produce in a clean food preparation sink before preparation. This includes fruits with a peel, such as cantaloupe, watermelon, and avocado prior to cutting.
- Use an approved sanitizer on all food contact surfaces. Have a test kit on hand to check the sanitizer concentration to ensure it is at proper levels.
- Avoid cross-contamination by washing hands, cutting boards, utensils and dishes between different foods. Use separate cutting boards for produce and raw meats/poultry.
- All food products must be stored away from cleaning products and other chemicals.
- Do NOT serve unpasteurized milk, cheese, other dairy products, or juice in the facility.
- For regulations covering infant feeding (hygienic practices, food storage, handling bottles, and solid food), please reference chapter 8 in the Colorado "Rules and Regulations Governing the Health and Sanitation of Child Care Facilities in the State of Colorado" (available at: http://www.colorado.gov/cs/Satellite/CDPHE-DEHS/CBON/1251583775888

For additional information on food safety, please consult with the state or local public health agency.

Disease Prevention: The Facility Environment

KEEP AGE GROUPS SEPARATE:
Separating children by age groups, particularly in child care facilities, helps to prevent spread of infections to other groups of children and staff. Ill children who are being sent home should also be separated from other children.

MEAL TIMES:
Children should not share food, plates, or utensils. Tabletops should be cleaned and sanitized before meals and between different groups of children using the tables. For child care facilities, use a separate utensil for each baby.

NAP TIMES (for child care facilities):
Children should be provided with their own crib (for infants), or cot or mat (for older children). If this is not possible, they should be provided with their own set of mattress covers and linens (linens should be laundered weekly if possible).

CLEANING, SANITIZING, AND DISINFECTING:

Cleaning, sanitizing, and disinfecting surfaces in school and child care settings will help prevent transmission of infectious diseases. These terms all have different meanings and involve different types and concentrations of chemicals/solutions.

- **Cleaning** removes visible soil and debris, and is done before sanitizing or disinfecting. Cleaning solutions are typically detergent and water.
- **Sanitizing** kills 99.9% of microorganisms on a surface, so it is unlikely that persons having contact with a sanitized surface would be exposed to disease causing organisms. Unscented household chlorine bleach mixed with water is a common sanitizing solution, although other chemicals are available. Generally, a bleach solution made with 2 ½ teaspoons of bleach per one gallon of water (a 50 to 200 parts per million solution) is sufficient for sanitizing surfaces and is not toxic to humans. Bleach solutions may need to be made every couple of days because the concentration declines with time. If a school or child care center is using a sanitizer other than a bleach solution, they should check with their local public health agency to ensure the chemical meets regulatory requirements. Sanitizing solutions should be stored in a labeled container out of reach of children.
    - In classrooms with young children, toys should be cleaned and sanitized regularly, especially if the toys are soiled or placed in a child's mouth. Common areas, desks/tables, doorknobs and handles, faucet handles, toilet seats, and drinking fountains are examples of areas that should be kept clean and periodically sanitized.
- **Disinfecting** kills nearly 100% of microorganisms on a surface, so it is very unlikely that persons having contact with a disinfected surface would be exposed to disease causing organisms. Unscented household chlorine bleach mixed with water (at higher concentrations than used for sanitizing solutions) is also commonly used as a disinfectant, although other chemicals are available. Generally, a bleach solution made with 3 ½ tablespoons of bleach per one gallon of water (a 500 to 1000 parts per million [ppm] solution) is sufficient for disinfecting surfaces. **In an outbreak situation, public health may recommend using an even stronger bleach solution for disinfecting surfaces, depending on the organism causing the outbreak.** If a school or child care center is using a disinfectant other than a bleach solution, they should check with their local public health agency to ensure the chemical meets regulatory requirements. If a surface is contaminated with a bodily fluid or excretion like blood or vomit or feces (such as on a diaper changing table), a disinfectant must be used to ensure disease causing organisms are destroyed.

Soft furnishings and linens can be sanitized or disinfected by washing in hot water in a washing machine and using a laundry sanitizer or disinfectant. For additional information about cleaning, sanitizing, and disinfecting, please see the CDPHE guidelines on this topic at: http://www.colorado.gov/cs/Satellite/CDPHE-DEHS/CBON/1251583775888

DIAPER CHANGING:

Infections that are transmitted by the fecal→oral route can be spread by poor diaper changing procedures. To avoid this, always use the following method for changing diapers:

- Check to make sure the supplies you need are ready (i.e., disposable gloves, fresh diapers, clothes, and damp paper towels or pre-moistened towelette wipes).
- Ensure that the diapering table is covered with a dry, non-absorbent, easily cleanable material that has been cleaned and disinfected between diaper changes.
- Individuals changing diapers must wear a new pair of disposable gloves prior to beginning each child's diaper change.
- Hold the child away from your body when you pick him/her up. When you know a child has soiled his/her diaper with fecal material, only use your hands to carry the child.

- Lay the child on the diapering table.
- Remove soiled diaper and clothes soiled with urine/feces.
    - Put soiled cloth diapers in a plastic bag for parents/guardians to take home with the child at the end of the day. Soiled cloth diapers should not be rinsed at the facility.
    - Soiled disposable diapers should promptly be placed in a covered trash receptacle lined with a trash bag.
    - Clothing soiled with urine/feces should be placed in a plastic bag for the parents/guardians to take home with the child at the end of the day. Soiled clothing should not be rinsed at the facility.
- Clean the child's bottom and any other soiled body area with a damp paper towel or wipe and discard it in a covered trash receptacle lined with a trash bag.
- Place a clean diaper on the child (and clean clothes if the clothes the child was wearing became soiled with urine/feces) and dress the child.
- Wash the child's hands. The child may then be returned to a clean crib or play area.
- Clean and disinfect the diapering area, equipment or supplies touched during diapering, as well as any equipment (like cribs), surfaces, or toys that may have been soiled from the diaper. A disinfection solution of 1/4 cup bleach in a gallon of water made fresh daily is an appropriate solution to use in diaper changing areas.
- Wash your hands.

TOILET-TRAINING CHILDREN:
It is recommended that facilities place soiled clothes in a plastic bag for parents/guardians to take home at the end of the day. Parents should supply a clean change of clothes to the facility ahead of time in case of accidents. After helping children use the toilet, show them how to wash their hands. The use of potty chairs in child care facilities is not permitted.

CLEANING UP VOMITING OR FECAL ACCIDENTS:
If a child has a fecal or vomiting accident somewhere in the school or child care facility, the following procedure should be followed to clean the soiled area to try to prevent widespread contamination.

- Get a 2½ to 5 gallon bucket with a lid.
- The person cleaning up the area should use disposable gloves, mask, and gown or coverall to avoid direct contact with fecal material or vomit, and any potentially contaminated surface. Safety glasses can be worn as well.
- Mix a disinfectant solution of one cup household, non-scented bleach with nine cups of water in the bucket (or 1 ½ cups of bleach with one gallon of water). This will be a 5000 parts per million (ppm) bleach solution. A stronger bleach solution is recommended in order to inactivate norovirus and other viral gastroenteritis agents. This is a concentrated solution so handle with care and ensure the solution is kept out of reach of children. If the contaminated surface will be damaged by a bleach solution, an alternate disinfectant can be used. It is recommended that the disinfectant used be effective against norovirus, since norovirus is a common cause of sudden onset of vomiting and diarrhea. Quaternary ammonia solutions typically are NOT effective at destroying norovirus. A list of disinfectants effective against norovirus can be found at the following US Environmental Protection Agency (EPA) website: http://www.epa.gov/oppad001/list_g_norovirus.pdf
- Place the disinfectant solution into a spray bottle.
- Obtain disposable paper towels or disposable rags for the cleanup.
- Spray disinfectant solution directly onto the contaminants (vomit or feces), cover with the disposable towels/rags and allow the disinfectant to contact the materials for 10 minutes.
- Carefully pick up the contaminants with the towels/rags. Place all soiled towels/rags in a trash bag.

- Use the disinfectant solution again to spray the affected surface and wipe down with clean towels/rags. Place all soiled towels/rags in a trash bag.
- Apply disinfectant to the cleaned surface again and let stand for 10 more minutes while air drying.
- Carefully remove the disposable gloves, mask, and gown or coverall and place in the trash bag. If safety glasses are worn, they should be disposed as well, or sprayed with the 5000 ppm bleach solution and allowed to air dry.
- Place the trash bag containing the soiled towels/rags and gloves, mask, and gown within another trash bag. Make sure the bags go directly to the dumpster.
- Any commonly touched surfaces (like door knobs, hand rails, elevator buttons, faucet handles, etc.) in the vicinity (within a 25 foot radius) of where the vomit or fecal accident occurred should be wiped down with the 5000 ppm bleach solution or appropriate disinfectant.
- Be sure to wash hands after cleanup with soap and hot water, rubbing hand together for at least 20 seconds. An alcohol-based hand sanitizer can be applied after handwashing (but hand sanitizers should NOT take the place of proper handwashing with soap and hot water).
- Open the room to outside air at least until the odor of the disinfectant has gone away.
- Contaminated linens (sheets, blankets, towels, etc.) can be washed in hot water with detergent and bleach (if bleach will not damage the material) and dried in a hot dryer. Contaminated linens should be laundered separately to reduce the potential for spreading contamination.
- Steam cleaning carpets and upholstery after cleaning up the vomit or fecal material can be helpful.

Special considerations for **food contact surfaces** (tables, kitchen counters, food preparation areas, etc.) **and items that could potentially be placed in persons mouths** (kitchen utensils, toys or other surfaces in a child care setting, etc.):

- If the 5000 ppm bleach disinfectant solution or other strong disinfecting solution is used on these surfaces or items (or any item that could potentially end up in someone's mouth), it is important that the surface/item be rinsed off with clean water after disinfection after a one minute contact time.
- Any food items or single-service items (drinking straws, takeout containers, paper napkins, paper plates, etc.) that may have been in the vicinity of location where the vomit or fecal accident occurred should be immediately discarded.

ANIMALS / PETS AT CHILD CARE AND SCHOOL SETTINGS:

Animals in the classroom can be beneficial in the education process; however, some animals can present potential health and safety risks to humans, including infectious disease transmission, bites, and allergies. For example, many animals, especially reptiles, shed *Salmonella* bacteria in their feces without being sick themselves. People can contaminate their hands with feces when they handle the animal, feed the animal, or clean up after the animal (such as cleaning the cage or other enclosure), and disease can spread through the fecal→oral route. Some animals are not appropriate for the classroom, such as: poisonous animals (like poisonous/venomous spiders, snakes, and insects); wild, stray, or aggressive animals; or animals from an unknown source. To minimize the risk of children and staff acquiring an infectious disease from animal or from being bitten, simple precautions should be taken, as outlined below:

General Information:

- Children (especially those under the age of five years) should be supervised carefully when around animals and animal enclosures, especially if children are handling animals. Reptiles and amphibians are prohibited in classrooms with children under 5 years of age.
- Inform parents/guardians of animals that are kept onsite or that may be visiting the facility.

- Animal cages or enclosures should be kept clean and in good repair. Do not clean animal cages or enclosures in sinks or other areas used to prepare food and drink or used for handwashing. Children under the age of 5 years should not be cleaning enclosures.
- Children and staff should always wash their hands with soap and running water after any contact with animals, their cages or enclosures, or their food, and after visiting places with animals such as zoos or farms.
- Children should never "kiss" animals or have them in contact with their faces.
- Do not allow animals to roam free in the facility.
- Do not allow animals in areas where food and drinks are prepared or consumed.
- Staff should clean and disinfect all areas where animals have been present.
- Animals kept onsite should receive regular veterinary care, and should be up-to-date on all recommended animal vaccinations.

School Settings:

- If children assist in cleaning the cage or enclosure, they should be supervised and should wash their hands afterwards.

Child Care Settings:

- Reptiles and amphibians are **prohibited** in child care settings where children less than 5 years of age are present.
- The following animals are also prohibited in **all** child care facilities: psittacine birds, ferrets, primates, poisonous fish, poisonous reptiles, poisonous amphibians, snakes greater than 6 feet in length, aggressive animals and fish, wild caught animals or any other animal which may pose a hazard to the health of the children.
- Children in child care settings should **not** assist in cleaning cages or enclosures.
- Chicks, ducks, other baby birds, and farm animals are strongly discouraged in child care settings where children less than 5 years of age are present due to the potential risk for disease transmission.
- Mobile petting zoos are strongly discouraged from visiting child care settings where children less than 5 years of age are present due to the potential risk for disease transmission.

RESOURCES

The following resources may be helpful when dealing with infectious disease issues in school and child care settings:

American Academy of Pediatrics (AAP): http://www.aap.org/

Bloodborne Pathogens: contact CDPHE at (303) 692-2700

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

The Children's Hospital - Denver: http://www.childrenscolorado.org/
School Health Program: (303) 281-2790

Colorado Department of Education (CDE): http://www.cde.state.co.us/index_home.htm
School Nursing and Health Consultant: 303-866-6779

Colorado Department of Public Health and Environment (CDPHE):
http://www.colorado.gov/cs/Satellite/CDPHE-Main/CBON/1251583470000
Main Phone: (303) 692-2000 or 1-800-866-7689
Child and Adolescent Health:
http://www.colorado.gov/cs/Satellite/CDPHE-Main/CBON/1251595089423
School Health Nurse Consultant: (303) 692-2328
Communicable Disease Epidemiology Program:
http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607754708
Main Phone: 303-692-2700
Hepatitis Program:
http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607766246
Main Phone: 303-692-2700
Immunization Program:
http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607754774
Main Phone: 303-692-2700
Sexually Transmitted Diseases Program:
http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607766338
Main Phone: 303-692-2700
Tuberculosis Program*:*
http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607766357
Main Phone: 303-692-2700

Local health departments, public health nursing services, and/or environmental health services: http://www.colorado.gov/cs/Satellite/CDPHE-Main/CBON/1251588259796

Rocky Mountain Poison and Drug Center: http://www.rmpdc.org/ Phone: 1-800-222-1222

Publications: "The Red Book" – published by the American Academy of Pediatrics
"Control of Communicable Diseases Manual" – published by the American Public Health Association
"Managing Infectious Diseases in Child Care and Schools" – published by the American Academy of Pediatrics.

ANIMAL BITES/RABIES

WHAT IS AN ANIMAL BITE/RABIES?

Animal bites, especially dog and cat bites, occur frequently. Rabies is a fatal viral disease that affects the nervous system of humans and other mammals. The virus is shed in the saliva of infected mammals, and appears in saliva around the time of symptom onset. On average, one or two people die of rabies each year in the United States, usually from a bat bite. As of 2012, the last human case of rabies in Colorado was in 1931. The majority of animal rabies cases in the United States occur in four wild animals species: raccoons, skunks, bats, and foxes. Rabies in domestic animals (like cats and dogs) is infrequent. Rabies in rodents and lagomorphs (hamsters, guinea pigs, squirrels, and rabbits) is extremely rare. In Colorado, the primary reservoir animals for rabies are bats and skunks.

SIGNS & SYMPTOMS IN HUMANS:

The first symptoms of rabies may be very similar to those of the flu including general weakness or discomfort, fever, or headache. There may also be discomfort or a prickling or itching sensation at the site of bite, progressing within days to symptoms of central nervous system dysfunction: anxiety, confusion, agitation, delirium, abnormal behavior, hallucinations, and insomnia. Once a person begins to exhibit signs of the disease, survival is rare. To date less than 10 documented cases of human survival from clinical rabies have been reported and only two have not had a history of pre- or post-exposure prophylaxis.

SIGNS & SYMPTOMS IN ANIMALS:

Rabies virus causes acute encephalitis in all mammals and the outcome is almost always fatal. The first symptoms of rabies may be nonspecific and include lethargy, fever, vomiting, and anorexia. Signs progress within days to central nervous system dysfunction, cranial nerve dysfunction, trouble walking, weakness, paralysis, seizures, difficulty breathing, difficulty swallowing, excessive salivation, abnormal behavior, aggression, and/or self-mutilation. A bat found on the ground maybe unable to fly due to rabies causing weakness or paralysis of the wings.

INCUBATION PERIOD:

Rabies: range of 8 days to 6 years with median of 6 weeks, but usually 3-8 weeks

HOW IS IT SPREAD?

Rabies is transmitted through the saliva of infected mammals, primarily through a bite. Though transmission has been rarely documented via other routes such as contamination of mucous membranes (i.e., eyes, nose, mouth), and corneal and organ transplantations. **Bat bite wounds may be unnoticeable upon examination of skin, and children may not report contact with bats to an adult. The most likely way a child at a school or childcare facility would be exposed to rabies is through unrecognized contact with a bat.**

ANIMAL BITES : Continued on next page

PUBLIC HEALTH REPORTING REQUIREMENTS:

- REPORTING: Report the animal bite incident to the local animal control agency local public health agency, or police department within **24 hours**. Any bat found in a room or on the ground in a fenced yard with an unattended child should be tested for rabies. The parents/guardians of a child bitten by an animal or found unattended with a bat must be notified.
- A child with an animal bite should receive immediate medical treatment.
- Occasionally children are found touching or playing with live or dead bats. If this occurs, the local or state public health agency must be notified immediately and the bat must be submitted to the CDPHE laboratory for rabies testing.

CONTROL OF SPREAD:

- *EXCLUSION*: Exclusion of a child involved in an animal bite is NOT necessary.
- Children should be instructed not to approach, attempt to pet, or handle strange or wild animals.
- Any school or childcare facility with a bat colony on the premises should takes steps to reduce the chance of contact between the children and bats. CDPHE has a webpage on "bats at schools" with a 30 second educational video for children in Spanish and English, as well as an educational video for school staff, focusing on how to recognize signs of roosting bat colonies, how to properly exclude bats, and what to do if a bat is found on the ground or inside a room with a child or sleeping person; please review the webpage at: http://www.colorado.gov/cs/Satellite/CDPHE-Main/CBON/1251625118707

- All dogs, cats, and ferrets should be vaccinated against rabies by a veterinarian.
- A dog, cat, or ferret involved in a human bite must be observed for 10 days following the bite. The local animal control agency or police/sheriff department usually enforces this observation period. . If the animal is still alive 10 days after the bite, there is zero chance that rabies virus was in the saliva of the animal at the time of the bite. This time period is not established for domestic-wild hybrids or any wild mammal.

TREATMENT:

Animal bite treatment includes thorough cleaning of the wound and tetanus prophylaxis if appropriate (see page 74). Occasionally antibiotics are prescribed to treat bacterial infections. There is no treatment for rabies after symptoms appear. Rabies vaccine can provide immunity when administered after an exposure. The treating health care provider and state or local public health agency will evaluate each bite incident to determine if rabies vaccine is needed. Rabies post-exposure vaccination for humans is a series of 4 or 5 rabies vaccinations over 2 to 4 weeks and one dose of human rabies immunoglobulin given as soon as possible after the exposure. This series of vaccinations and wound care usually must be initiated in the ER of a hospital or an urgent care setting. In general, public health assumes that skunks, raccoons, foxes, and bats have rabies until proven otherwise. In Colorado, dog and cat bites usually do not require rabies vaccine.

BACTERIAL MENINGITIS

WHAT IS BACTERIAL MENINGITIS?

Bacterial meningitis is an inflammation of the tissues surrounding the brain and spinal cord and is a medical emergency caused by several types of bacteria (e.g. meningococcal, pneumococcal, and *Haemophilus influenzae*). A person's blood may also be infected with the bacteria. Some people may carry these bacteria in their nose and/or throat and have no symptoms of disease.

SIGNS & SYMPTOMS:

- High fever
- Severe headache
- Stiff neck
- Sleepiness
- Nausea/vomiting
- Loss of appetite
- Being disoriented, irritable or confused
- Eyes sensitive to light

INCUBATION PERIOD:

Meningococcal: 1 to 10 days (usually less than 4 days);
Haemophilus influenzae(H.flu): unknown (probably a few days);
Pneumococcal: as short as 1 to 3 days

HOW IS IT SPREAD?

Bacteria that cause meningitis can be spread by direct contact with saliva or nose/throat discharges of the infected person. Infected individuals who do not have symptoms can still infect others.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?

Cases can be contagious until completing 24 hours of antibiotic treatment.

PUBLIC HEALTH REPORTING REQUIREMENTS:

- For meningococcal and *H. flu*, report the infection to the state or local public health agency within **24 hours** of a suspected or confirmed diagnosis. For pneumococcal, report the infection to the state or local public health agency within 7 days of diagnosis.

CONTROL OF SPREAD:

- *EXCLUDE* all infected students and staff until at least 24 hours after treatment with antibiotics.
- Suspect cases of meningitis should be referred to a health care provider.
- Contact state or local public health agency for assistance if the school or child care facility plans to notify parents/guardians about a case of meningitis in the facility.
- **Preventative Antibiotics:** For meningococcal infections, close contacts (such as household members, boyfriend/girlfriend, and child care classroom contacts) should receive a preventative antibiotic. School classmates, teachers, and personnel do not routinely require a preventative antibiotic, unless they had prolonged exposure beyond the classroom. For *H. flu* serotype B (Hib) infections, a preventative antibiotic may be recommended for household and childcare contacts in certain situations. Typically, the state or local public health agency will notify household contacts if a preventative antibiotic is needed.
- Vaccine is recommended for certain age groups for some causes of bacterial meningitis. Meningococcal vaccine is routinely given to pre-teens and college students. Hib and pneumococcal vaccines are routinely given to children starting at age 2 months. Healthy children 5 and older do not routinely receive Hib and pneumococcal vaccine.
- The Colorado School Immunization Rules require childcare/preschool students to have *Haemophilius influenza* serotype b(Hib) vaccine and pneumococcal vaccine starting at 4 months of age or an exemption of vaccination.

TREATMENT:

Cases of bacterial meningitis and bloodstream infections often require hospitalization and are treated with antibiotics.

BED BUGS

Neither the Communicable Disease Program nor the Environmental Health and Sustainability Division of the Colorado Department of Public Health & Environment investigate bed bug outbreaks because there is no evidence that bed bugs transmit disease. Outbreaks of bed bugs are not reportable.

Some helpful resources for bed bugs:

http://www.colorado.gov/cs/Satellite/CDPHE-DEHS/CBON/1251584553731

http://www.colorado.gov/cs/Satellite/CDPHE-DEHS/CBON/1251587193348

CAMPYLOBACTER

WHAT IS *CAMPYLOBACTER*?

Campylobacter infection causes an intestinal illness referred to as campylobacteriosis. Campylobacteriosis is the most commonly reported bacterial intestinal illness in the United States. *Campylobacter* bacteria commonly live in poultry and cattle, but can also be found in puppies, kittens, birds and other animals.

SIGNS & SYMPTOMS:

- Diarrhea (sometimes bloody)
- Low-grade fever
- Abdominal pain
- Malaise

INCUBATION PERIOD:

1 to 10 days (usually 2 to 5 days)

HOW IS IT SPREAD?

Campylobacter is spread through the fecal→oral route and can occur when a person drinks contaminated water or unpasteurized milk, eats contaminated food (it is commonly found in raw poultry), or comes into contact with animals that are infected (including pets and farm animals). Transmission can occur from person-to-person through the fecal→oral route, but this is not common.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?

Camplyobacter can be spread as long as the bacteria are in the stool. A person may be contagious for a few days after symptoms are gone, but is most contagious while having diarrhea.

PUBLIC HEALTH REPORTING REQUIREMENTS:

- Staff who become aware of illness should report the infection to the facility director or the school nurse. The facility should report to the state or local public health agency within 7 days of diagnosis.
- If other children or staff are ill with diarrhea, refer them to their health care providers and contact public health as soon as possible as this could be an outbreak.

CONTROL OF SPREAD:

- *EXCLUDE* all infected children and/or caregivers until at least 24 hours after diarrhea has resolved.
  - CHILD CARE: Ill children should not go to another facility during the period of exclusion.
  - In rare circumstances, public health may require additional testing before an infected person can return to work, school, or child care.
- Exclude affected individuals from food preparation until cleared by the state or local public health agency.
- Encourage frequent handwashing, especially after animal contact, after using the toilet, changing diapers and before eating.
- Promptly sanitize contaminated surfaces (like diaper changing areas) and other commonly touched surfaces (like toys) and discard food or water if it is thought to be contaminated. See page 19.
- Refer to page 17 of this document for information on food safety.

TREATMENT

Treatment with antibiotics shortens the duration of the illness and prevents relapse when given early in the infection. Antibiotic treatment is typically 5 to 7 days, and usually eradicates the organism from the stool within 2 or 3 days.

CHICKENPOX (Varicella) & SHINGLES (Herpes zoster)

WHAT IS CHICKENPOX? (DESCRIPTION):
Chickenpox is a highly contagious viral illness. The virus remains inactive in the person's nerve cells after chickenpox resolves, and reactivation can occur later in life resulting in shingles. A vaccinated person may get chickenpox as a mild illness with fewer lesions that might not be blister-like.

CHICKENPOX SIGNS & SYMPTOMS:

- Itchy rash (small flat spots that become blister-like and then scab over)
- Rash more on truck than extremities
- Fever
- Crops of lesions appear over several days resulting in rash in various stages
- Fatigue

SHINGLES SIGNS & SYMPTOMS:

- Painful rash on one side of the body

INCUBATION PERIOD:
Chickenpox: 10 to 21 days (usually 14-16 days)

HOW IS IT SPREAD?

- Chickenpox is spread through the air when an infected person coughs and/or sneezes or by direct contact with the rash of an infected person.
- Direct contact with a shingles rash (prior to crusting) can cause chickenpox in persons not immune to chickenpox.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?

- A person is contagious with chickenpox one to two days before the rash appears until all the blisters have crusted over (usually 5 days after rash onset).
- A person with shingles is contagious until all blisters have crusted over.

PUBLIC HEALTH REPORTING REQUIREMENTS:

- Report cases of chickenpox to the state or local public health agency within 7 days of a suspected or confirmed diagnosis. The report from the school should include as much information as possible without violating the Family Educational Rights and Privacy Act (FERPA), and the amount of personal information reported may vary by school or school district. Shingles does not need to be reported.

CONTROL OF SPREAD:

- *EXCLUDE* all students and/or staff with chickenpox until all blisters have formed scabs and crusted.
- Persons with shingles may attend school and child care if the rash is covered.
- A sample letter to notify parents and additional information are available on the CDPHE varicella website: http://www.colorado.gov/cs/Satellite/CDPHE-DEHS/CBON/1251611026714
- Properly dispose of articles soiled with nose/throat discharges.
- Two doses of varicella vaccine are recommended with the first dose given at age 12-15 months and the second dose given at age 4-6 years.
- All childcare/preschool students 15 months of age to kindergarten are required to have 1 varicella vaccine dose unless they have a documented history of varicella or an exemption to vaccination.
- As of the 2012-2013 school year, the varicella requirement for students in kindergarten through 12th grade varies by grade level.
- Younger elementary students are required to have 2 varicella vaccine doses and some high school students are not required to have varicella vaccine. Each school year an additional grade level will be added to the requirement until all grades are required to have 1 dose by 2013 and 2 doses by 2019.
- Varicella vaccine administered within 3 to 5 days of exposure may prevent the disease.

TREATMENT: ASPIRIN SHOULD BE AVOIDED because it increases the risk of Reye's Syndrome, a serious disorder that can lead to coma and death. If a medicine to lower temperature or reduce discomfort is necessary, acetaminophen-containing medicines (like Tylenol) are recommended. An anti-viral medication may be given to persons at increased risk of getting severe disease.

CHLAMYDIA

WHAT IS CHLAMYDIA?

Chlamydia trachomatis, a bacterium, causes chlamydia infection, which is the most frequent bacterial sexually transmitted infection (STI) in the United States. The majority of infections do not cause symptoms and are detected through screening tests. Symptoms of chlamydia, when present, are similar to those of gonorrhea. These two infections often present as co-infections in the same person and his or her partner(s).

SIGNS & SYMPTOMS:

- Many infected persons do not have symptoms (asymptomatic).
- Females may have cervical discharge with swelling, redness and bleeding. Complications can include pelvic inflammatory disease (PID), which can lead to ectopic pregnancy, infertility, and chronic pelvic pain.
- Males may have urethritis, characterized by a whitish or clear discharge, and painful or difficult urination. Complications can include epididymitis, infertility, and reactive arthritis (Reiter's syndrome).

INCUBATION PERIOD:

Usually one to three weeks.

HOW IS IT SPREAD?

Through sexual contact: oral, anal, and vaginal.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?

As long as the bacteria are present.

PUBLIC HEALTH REPORTING REQUIREMENTS:

- Chlamydia infections must be reported by laboratory and health care providers to the state or local public health agency within seven days of a suspected or confirmed diagnosis.
- The possibility of sexual abuse must be considered when infections occur in prepubescent children and must be reported to appropriate authorities.

CONTROL OF SPREAD:

- No exclusions or environmental interventions are necessary, since STIs require close intimate physical contact for transmission, virtually always of a sexual nature.
- Infected persons should be examined by a health care provider and treated as soon as the diagnosis is confirmed to prevent complications. Treatment of partner(s) is a crucial strategy to prevent re-infection. Infected persons should seek medical care if symptoms persist or recur. Parental consent is <u>not</u> required for minors to be examined and treated.
- Infected persons should avoid sexual activity until they and their partner(s) are treated and cured.
- Infected persons should abstain from sex or use condoms to prevent future infections.
- General education of STI prevention is advocated.
- Additional information is available at: http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607766338

TREATMENT:

Treatment is with antibiotics. Concurrent treatment of sex partner(s) with same regimen is essential to prevent re-infection or spread of disease.

CYTOMEGALOVIRUS (CMV)

WHAT IS CYTOMEGALOVIRUS?

Cytomegalovirus (CMV) infection is most common in children under five years of age. Most infections cause no symptoms or mild symptoms such as a low-grade fever. The disease can be more serious in persons with impaired immune systems. The virus is a frequent cause of post-transplant and post-transfusion infections. Most people have been exposed to CMV by the time they are adults and are immune to it. Infants can be infected before they are born. A small percentage of these infants will develop illness, while most will not have symptoms and will be immune to subsequent infections.

SIGNS & SYMPTOMS:

- Sudden onset of bloody diarrhea
- Abdominal cramps
- Little or no fever
- Sometimes vomiting and watery (non-bloody) diarrhea is present

INCUBATION PERIOD

About 3 to 12 weeks

HOW IS IT SPREAD?

CMV is spread by contact with body secretions of infected individuals (in children, primarily saliva and urine). Infection requires close contact with a person excreting the virus.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?

People are contagious as long as the virus is in body secretions, which can be months or years.

PUBLIC HEALTH REPORTING REQUIREMENTS:

- Individual cases are not reportable. The school nurse should be consulted for specific concerns, or consultation with the state or local public health agency is available.
- Referral to a health care provider is optional unless symptoms are severe.

CONTROL OF SPREAD:

- *EXCLUSION* is not necessary.
- Women of childbearing age working with young children should pay close attention proper handwashing procedures (especially those who work with developmentally disabled children).
- Encourage frequent handwashing and proper hygiene techniques especially after changing diapers.

TREATMENT

There is no treatment for CMV infection in healthy individuals. However, immunocompromised individuals should consult a health care provider regarding appropriate treatment.

COMMON COLD

WHAT IS THE COMMON COLD?
Many different viruses cause the common cold. The common cold is an upper respiratory illness characterized by runny or stuffy nose, sneezing, coughing, watery eyes, mild sore throat, chills, and fatigue lasting two to seven days. Fever is uncommon in children over 3 years of age and is rare in adults. Children and adults are more susceptible to colds in the fall and winter.

SIGNS & SYMPTOMS:
- Runny or stuffy nose
- Sneezing
- Coughing
- Chills
- Sore throat
- Fatigue

INCUBATION PERIOD:
About 1 to 3 days (usually 48 hours)

HOW IS IT SPREAD?
The common cold is spread through contact with droplets (produced by coughing and sneezing) and infectious discharges from an infected person. Contact with hands, tissues, and other articles contaminated with nose/throat discharges of ill people can spread the virus.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
People are contagious from about 1 day before the symptoms appear until 5 days after the first signs of illness.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- REPORTING: Individual cases are not reportable. The school nurse should be consulted for specific concerns, or consultation with the state or local public health agency is available.
- If the child develops more severe symptoms or experiences ongoing symptoms, he/she should be referred to a health care provider to be checked for secondary complications (such as bronchitis, sinus infections, middle ear infections, and laryngitis).

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary, unless the child is displaying severe symptoms like fever accompanied by behavior change, or difficulty breathing.
- Encourage frequent handwashing and proper hygiene techniques.
- Teach children to cover their mouth when coughing and sneezing.
- Properly dispose of articles soiled with nose/throat discharges, such as tissues.

TREATMENT:
There is no specific treatment for the common cold. Check with the child's doctor before giving symptom relieving medications like cough suppressants and decongestants. ASPIRIN SHOULD BE AVOIDED because it increases the risk of Reye's Syndrome, a serious disorder that can lead to coma and death. Antibiotics should not be used for viral infections such as the common cold.

CROUP

WHAT IS CROUP?
Croup refers to the swelling around the vocal chords and other parts of the upper and middle airway that causes a harsh repetitive cough similar to a seal barking. This type of infection is typically caused by a group of viruses called human parainfluenza viruses (HPIVs). Less often, respiratory syncytial virus (RSV) or other respiratory viruses can cause croup. More cases of croup are typically seen in the fall.

SIGNS & SYMPTOMS:
- Sharp barking cough (usually at night)
- Labored or noisy breathing
- Fever
- Bronchitis
- Exacerbates symptoms of chronic lung disease
- Pneumonia

INCUBATION PERIOD:
Ranges from 2-7 days

HOW IS IT SPREAD?
Parainfluenza viruses and other respiratory viruses are spread from person to person primarily by respiratory droplets created by coughing or sneezing. Transmission may also occur through contact with contaminated surfaces, hands, used tissues, or other articles soiled by nose and throat secretions.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
The infection is passed for up to 1 week before onset of symptoms to 1-3 weeks after symptoms.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Report the infection to the facility director or school nurse. If this becomes a group outbreak (3 or more ill at one time) report the outbreak to the local or state health department within 24 hours of diagnosis.

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary, but it is recommended that children experiencing acute respiratory symptoms stay home until they feel better.
- Ill people should avoid direct and indirect exposure to non-infected individuals.
- Disinfection of eating and drinking utensils and commonly touched surfaces. See page 19.
- Promptly dispose of tissues soiled with nose and throat secretions.
- Teach children to cover their nose and mouth when they cough or sneeze.
- Emphasize frequent and thorough hand washing especially after coughing or sneezing.
- Please consult with local or state public health if help is needed with implementation of control measures.

TREATMENT:
There is no antibiotic treatment for a viral infection. Most infections are self-limited and require no treatment. Oral and nebulized steroids are sometime used in severe cases.

CRYPTOSPORIDIUM

WHAT IS CRYPTOSPORIDIUM?
Cryptosporidium is a parasite that causes an intestinal illness referred to as cryptosporidiosis. In children, symptoms often begin with loss of appetite and vomiting. Some people can be infected without showing any symptoms. The infection can be more severe in people with weakened immune systems. Healthy children usually get better on their own. The illness usually lasts an average of 10 days, but can last up to 20 days or longer.

SIGNS & SYMPTOMS:
- Watery, non-bloody diarrhea
- Abdominal cramps
- Little or no fever
- Sometimes vomiting
- General Malaise

INCUBATION PERIOD:
1 to 12 days (usually 7 days)

HOW IS IT SPREAD?
Cryptosporidium is spread by fecal→oral transmission and occurs by ingesting the parasite from the stool of infected people or animals. People can be exposed to this parasite when they swim in or drink contaminated water, eat contaminated food, or visit a petting zoo where animals are infected. The parasite can survive outside the body for 2 to 6 months in moist surroundings.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
People are contagious as long as they have the parasite in their intestine, and are most contagious while they have diarrhea. The parasite may be present in the stool for several weeks after symptoms subside.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Staff who become aware should report the infection to the facility director or school nurse. The facility should report to state or local public health agency within 7 days of diagnosis.
- If other children or staff are ill with diarrhea, refer them to their health care providers and contact public health as soon as possible as this could be an outbreak.

CONTROL OF SPREAD:
- *EXCLUDE* all infected children and/or caregivers until 24 hours after diarrhea has resolved.
    - CHILD CARE: Ill children should not go to another facility during the period of exclusion.
- Exclude affected individuals from food preparation until cleared by the state or local public health agency
- Afffected individuals should not swim in pools or other recreational water <u>until 2 weeks after their diarrhea has resolved.</u>
- Encourage frequent handwashing and proper hygiene techniques
- Chlorine sanitizers (such as bleach) do not kill this organism. A non-chlorine sanitizer should be used to sanitize contaminated articles (such as a 5% ammonia solution or 3% hydrogen peroxide solution for ten minutes). Heat (140°F for two minutes) will also destroy the organism. Do not mix bleach and ammonia products.
- Untreated water (such as water from lakes, ponds, springs, rivers, and streams) should not be used as drinking water unless it is boiled for at least one minute or adequately filtered. Chemical disinfectants such as chlorine and iodine are not effective at killing *Cryptosporidium*.

TREATMENT:
Most people with healthy immune systems will recover without treatment. People with suppressed immune systems should contact their health care provider. Ill persons should be given plenty of fluids to prevent dehydration.

E. COLI O157 & OTHER SHIGA TOXIN-PRODUCING BACTERIA

WHAT IS *E. COLI*?

Escherichia coli (serotype O157) and other Shiga toxin-producing bacteria can cause illness ranging from mild intestinal symptoms to severe kidney complications called Hemolytic Uremic Syndrome (HUS). In most cases, the illness is mild and lasts one to three days. These types of bacteria are carried in many animals, including cattle, sheep, goats, deer, and elk.

SIGNS & SYMPTOMS:

- Diarrhea, which can be bloody
- Abdominal cramps
- Little or no fever
- Sometimes vomiting

INCUBATION PERIOD:

Ranges from 1-10 days (usually 3-4 days)

HOW IS IT SPREAD?

E. coli infection is spread through eating contaminated food (e.g. undercooked ground beef, unpasteurized juice or milk, or contaminated produce), drinking or swimming in contaminated water, or having contact with animals or their feces, as at a petting zoo or farm. *E. coli* is highly contagious and can spread person-to-person through the fecal →oral route, especially in child care centers.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?

As long as the bacteria is in the stool, typically 1-4 weeks, even after symptoms have resolved.

PUBLIC HEALTH REPORTING REQUIREMENTS:

- Report the infection to the facility director or the school nurse <u>and</u> the local or state health department within 7 days of diagnosis.
- If other children or staff are ill with diarrhea, refer them to their health care providers and contact public health as soon as possible as this could be an outbreak.

CONTROL OF SPREAD:

- Please consult with local or state public health on implementation of control measures.
- *EXCLUDE* all infected children and/or caregivers until diarrhea has resolved, **AND**
  - *CHILDCARE*: Children must be excluded until they have two consecutive negative stool samples collected 24 hours apart. Ill children should not go to another facility during the period of exclusion.
  - *Most STAFF in CHILDCARE* should be excluded until they have 2 negative stool samples collected 24 hours apart. Consult with public health about the necessity of follow-up testing.
  - *SCHOOLS*: Children who wear diapers or have developmental delays resulting in fecal incontinence or hygiene concerns should be excluded until they have two consecutive negative stool samples collected 24 hours apart.
  - *STAFF in SCHOOLS* who handle food should be excluded until they have 2 negative stool samples collected 24 hours apart
- If other children or staff are ill with diarrhea, refer them to their health care providers and contact public health as soon as possible as this could be an outbreak.
- Exclude affected individuals from food preparation until cleared by the state or local public health agency.
- Encourage frequent handwashing, especially after animal contact, after using the toilet, changing diapers and before eating
- Promptly sanitize contaminated surfaces (like diaper changing areas) and other commonly touched surfaces (like toys) and discard food or water if it is thought to be contaminated. See page 19.
- Refer to page 17 of this document for information on food safety.

TREATMENT:

For mild illness, antibiotics have not been shown to shorten the duration of symptoms and may increase complications in some people. Severe complications such as HUS require hospitalization.

FIFTH DISEASE

WHAT IS FIFTH DISEASE?
Fifth disease is a common and mild childhood illness caused by a virus called parvovirus B19. Some people have this infection without symptoms. Infection leads to long-term immunity. Over 50% of adults are immune to fifth disease. For women who have never been infected, there is a small risk of miscarriage if they become infected while they are pregnant. Infection is not a proven cause of birth defects or mental retardation. Persons with a compromised immune system may have a more serious illness.

SIGNS & SYMPTOMS:
- Rash-"slapped cheek" rash on face and lacy rash on rest of the body
- Rash may go away and return over time
- Low-grade fever
- Cold symptoms before rash
- Tired/Malaise
- Joint pain and swelling in older children and adults

INCUBATION PERIOD:
4-14 days; sometimes as long as 21 days

HOW IS IT SPREAD?
Fifth disease is spread from person-to-person through contact with nose/throat discharges. It can be spread by sneezing and coughing or direct contact with contaminated utensils and drinking glasses.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
The virus is spread during the early part of the illness, before the rash appears. Once the rash appears a person is unlikely to be contagious.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Individual cases are not reportable.
- Inform parents/guardians of outbreaks since the disease is highly contagious.

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary for a healthy person since the person is no longer contagious by the time the disease is recognizable.
- Routine exclusion of pregnant caregivers when fifth disease is occurring is not recommended. However, pregnant staff members may choose to avoid exposure during an outbreak.
- A pregnant woman exposed to fifth disease is advised to contact a health care provider regarding counseling and antibody testing.
- Encourage frequent handwashing, especially after contact with any item soiled with nose/throat discharges.
- Encourage students to cover their mouths and noses when sneezing or coughing.
- Dispose of tissues soiled with nose/throat secretions.
- Please consult with local or state public health about control measures.

TREATMENT:
There is no specific treatment. Most infections are mild enough that they do not require medicine.

GENITAL HERPES (Herpes Simplex Virus (HSV))

WHAT IS GENITAL HERPES (HSV)?
Genital herpes are caused by the herpes simplex virus (HSV). There are two types of HSV (type one and type two); both can cause genital herpes, although type two is a more common cause. Genital herpes may be recurrent and has no cure. The first occurrence typically lasts about 12 days. Subsequent, usually milder, occurrences typically last about four days. The interval between clinical episodes is called the latent period. Viral shedding occurs intermittently during latency and sexual transmission of HSV may occur at these times.

SIGNS & SYMPTOMS:
- Single or multiple fluid-filled sores appear anywhere on the genitalia.
- Sores spontaneously rupture to form shallow ulcers that can be very painful. The ulcers resolve spontaneously with minimal scarring.
- Central nervous system involvement, development of sores at other sites, and fungal infections are possible (but rare) complications.

INCUBATION PERIOD:
Usually two to 12 days

HOW IS IT SPREAD?
Genital herpes is transmitted through sexual contact: oral, anal, and vaginal.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Once a person is infected with HSV, he/she can shed it intermittently for years and possibly lifelong.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Cases of genital herpes are NOT reportable to public health.
- The possibility of sexual abuse must be considered when infections occur in prepubescent children and must be reported to appropriate authorities.

CONTROL OF SPREAD:
- No exclusions or environmental interventions are necessary, since STIs require close intimate physical contact for transmission, virtually always of a sexual nature.
- Infected persons should be examined by a health care provider. Infected persons should seek medical care if symptoms persist or recur. Parental consent is not required for minors to be examined and treated.
- Sexual activity should be avoided if a person has signs and symptoms.
- Patients should abstain from sex or use condoms to prevent future infections.
- General education of STI prevention is advocated.
- Additional information is available at: http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607766338

TREATMENT:
The antiviral drug acyclovir can reduce shedding of the virus, diminish pain and accelerate healing time. However, the virus may be shed intermittently for years and possibly lifelong.

GENITAL WARTS (Human Papillomavirus (HPV))

WHAT ARE GENITAL WARTS (HPV)?
Genital warts are caused by the human papilloma virus (HPV), and are the most common sexually transmitted infection (STI). There are more than 40 types of HPV. A diagnosis may be made based on the typical clinical presentation; however many people infected with HPV do not have noticeable symptoms and do not know they are infected. Some types of HPV are associated with cervical dysplasia (abnormal cell growth) and cancer; however these types of HPV do not cause genital warts.

SIGNS & SYMPTOMS:
- Single or multiple soft, fleshy, painless growths/bumps anywhere on or around the genitalia. They can be small or large, raised or flat.
- HPV may also infect the mouth and throat, although this is rare.
- Generally symptoms are minor or not present at all.

INCUBATION PERIOD:
Variable

HOW IS IT SPREAD?
Genital warts are transmitted through sexual contact: oral, anal, and vaginal.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Once a person is infected, they may spread the infection to others throughout life.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Cases of genital warts or HPV infections are NOT reportable to public health.
- The possibility of sexual abuse must be considered when infections occur in prepubescent children and must be reported to appropriate authorities.

CONTROL OF SPREAD:
- No exclusions or environmental interventions are necessary, since STIs require close intimate physical contact for transmission, virtually always of a sexual nature.
- Infected persons should be examined by a health care provider and should seek medical care if symptoms persist or recur. Parental consent is not required for minors to be examined and treated.
- Sexual activity should be avoided if a person has signs and symptoms.
- Patients should abstain from sex or use condoms to prevent future infections.
- There is a vaccine available for the most common types of HPV. The vaccine is given in three doses; it is important to get all three doses to get the best protection. The vaccine is most effective when given before a person's first sexual contact. Females can receive either Cervarix or Gardasil vaccines. Males can receive Gardasil.
- Additional information is available at: http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607766338

TREATMENT:
There is no treatment for HPV, but visible genital warts can be physically removed by a health care provider. Wart removal does not eradicate HPV; however, it will decrease the amount of virus available for transmission. Removal regimens include cryotherapy, electrodessication, electrocautery or other topical treatments.

GIARDIA

WHAT IS GIARDIA?
Giardia is a parasite (*Giardia lamblia)* that causes an intestinal infection in people and animals referred to as giardiasis. Symptoms sometimes start and stop so it can take several weeks before an ill person seeks medical care and is diagnosed. Many people infected with *Giardia* have no symptoms.

SIGNS & SYMPTOMS:
- Diarrhea
- Foul-smelling stools
- Abdominal cramping
- Excess gas or bloating
- Nausea
- Fatigue

INCUBATION PERIOD:
1-3 weeks, commonly 7-10 days

HOW IS IT SPREAD?
Giardia is spread by the fecal→oral route and may result from drinking contaminated water or eating contaminated food. Transmission from person-to-person does occur but is not often reported.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
As long as the organism is present in the stool, sometimes up to months. People with diarrhea are more likely to spread the infection than asymptomatic carriers.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Staff who become aware should report the infection to the facility director or school nurse. The facility should report to the local or state health department within 7 days of diagnosis.
- If other children or staff are ill with diarrhea, refer them to their health care providers and contact public health as soon as possible as this could be an outbreak.

CONTROL OF SPREAD:
- *EXCLUDE* all infected children and/or caregivers until 24 hours after diarrhea has resolved.
  - CHILDCARE: Ill children should not go to another facility during period of exclusion.
- Exclude affected individuals from food preparation until cleared by the state or local public health agency.
- Encourage frequent handwashing, especially after animal contact, after using the toilet, changing diapers, and before eating.
- Promptly sanitize contaminated surfaces and discard food or water if it is thought to be contaminated. See page 19.
- Untreated water (such as from lakes, ponds, springs, rivers, and streams) should not be used as drinking water unless it is boiled for at least one minute, adequately filtered, or adequately treated with chemical disinfectants like chlorine or iodine.

TREATMENT:
Treatment of ill children with appropriate antibiotic/anti-parasitic medication usually makes them non-infectious within a few days. Testing and treatment of students with no symptoms is not usually necessary.

GONORRHEA

WHAT IS GONORRHEA?

Neisseria gonorrhoeae, a bacterium, causes gonorrhea infection (sometimes referred to as gonococcal infections). The majority of infections do not cause symptoms and are detected through screening tests. Symptoms of gonorrhea, when present, are similar to those of chlamydia. These two are often seen together as co-infections in the same person and his or her partner(s).

SIGNS & SYMPTOMS:

- Many infected persons do not have symptoms (asymptomatic).
- Females may have abnormal vaginal discharge, abnormal menses, or have painful or difficult urination. Ten percent to 20 percent of infected females develop pelvic inflammatory disease (PID), which can lead to ectopic pregnancy, infertility, and chronic pelvic pain.
- Males may have painful or difficult urination, increased frequency of urination, and urethral discharge. Males are at risk for epididymitis.
- Anorectal and pharyngeal (throat) infections occur and a person may or may not have symptoms.

INCUBATION PERIOD:

Usually one to 14 days.

HOW IS IT SPREAD?

Through sexual contact: oral, anal, and vaginal.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?

As long as the bacteria are present.

PUBLIC HEALTH REPORTING REQUIREMENTS:

- Gonorrhea infections must be reported to the state or local public health agency within seven days of a suspected or confirmed diagnosis.
- The possibility of sexual abuse must be considered when infections occur in prepubescent children and must be reported to appropriate authorities.

CONTROL OF SPREAD:

- No exclusions or environmental interventions are necessary, since STIs require close intimate physical contact for transmission, virtually always of a sexual nature.
- Infected persons should be examined by a health care provider and treated as soon as the diagnosis is confirmed to prevent complications. Treatment of partner(s) is a crucial strategy to prevent re-infection. Infected persons should seek medical care if symptoms persist or recur. Parental consent is not required for minors to be examined and treated.
- Infected persons should avoid sexual activity until they and their partner(s) are treated and cured.
- Infected persons should abstain from sex or use condoms to prevent future infections.
- Additional information is available at: http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607766338

TREATMENT:

Treatment is with antibiotics. Concurrent treatment of sex partner(s) with same regimen is essential to prevent re-infection or spread of disease. Because of the high incidence of gonorrhea and chlamydia coinfection, treatment of gonorrhea should include treatment for chlamydia.

HAND, FOOT & MOUTH DISEASE (HFMD)

WHAT IS HAND, FOOT & MOUTH DISEASE?
Hand, foot and mouth disease (HFMD) is a common and mild childhood illness caused by specific strains of enterovirus or coxsackievirus. Since several different types of viruses can cause HFMD, people can develop the disease more than once if exposed to a different virus type. HFMD is most common in children under 5 years of age, but can sometimes occur in adults. It is frequently seen in the summer and fall.

SIGNS & SYMPTOMS:
- Fever
- Poor appetite
- Sore throat
- Small blistering sores*

* The sores appear in the mouth, on the palms of the hands, buttocks, and on the soles of the feet. The sores fade without treatment in 7-10 days.

INCUBATION PERIOD:
Usually 3 to 6 days

HOW IS IT SPREAD?
Infection is spread from person-to-person through direct contact with nose/throat discharges or stool of infected persons.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
An infected person is most contagious during the first week of the illness. However, the virus can be present in the body for weeks after the symptoms have gone away.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Individual cases are not reportable. The school nurse should be consulted for specific concerns, or consultation with the state or local public health agency is available.
- Suspected outbreaks should be reported to the state or local public health agency.

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary unless the student has mouth sores and is drooling uncontrollably.
- Referral to a health care provider may be necessary to ensure that the child does not have a more serious disease (such as measles).
- Encourage students to cover their mouths and noses when sneezing or coughing.
- Encourage frequent and thorough handwashing, especially after using the toilet, and contact with any item soiled with nose/throat discharges.
- Promptly disinfect contaminated surfaces (like diaper changing areas) and other commonly touched surfaces (like toys). See page 19.
- Please consult with local or state public health with implementation of control measures.

TREATMENT:
There is no specific treatment. Over-the-counter medications can provide some degree of relief from fever or aches and pains associated with the sores.

HEAD LICE (PEDICULOSIS)

WHAT IS HEAD LICE (PEDICULOSIS)?

Head lice are common among children in all socioeconomic groups, and are not a health hazard or a sign of uncleanliness. Lice are the size of a sesame seed and feed on small amounts of blood. Lice lay oval-shaped eggs (nits) that are firmly attached to hair close to the scalp. Animals do not carry lice that can spread to humans, and human lice do not live on animals.

SIGNS & SYMPTOMS:

- Itching behind the ears and above the neck
- Some people will show no symptoms

INCUBATION PERIOD:

Nits hatch in 10-14 days. Adults live 3-4 weeks.

HOW IS IT SPREAD?

Head lice are spread by direct contact with the head of an infested person, or by contact with items used by an infested person (such as combs, brushes, and hats). Lice cannot hop or fly.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?

A person is contagious as long as they are infested with live lice or nits close to the scalp that have not yet hatched.

PUBLIC HEALTH REPORTING REQUIREMENTS:

- Individual cases are not reportable. The school nurse/facility director should be consulted for specific concerns, or consultation with the state or local public health agency is available.

CONTROL OF SPREAD:

- *EXCLUDE* child with an active infestation.
    - *CHILDCARE*: Children should be excluded until 24 hours after treatment has begun.
    - *SCHOOLS*: Children should be excluded with an active infestation from the end of the school day until after the first treatment (nits need not be removed, although recommended).
- Students likely to have had direct head-to-head contact with an infested student should be checked for lice preferably by their parents/guardians at home and treated if live lice are found.
- Checking entire classrooms or schools has not shown to be effective at controlling spread.
- Parents/guardians of infested students should be instructed about in-home control measures and should check other household members for lice (give attached "How to Control Head Lice" to parents).
- Students clothing and personal items should be stored separately (hooks, cubbie holes, etc.).
- Teach children not to share personal items (like hats).
- Launder clothing and bedding in hot water (130F) for a minimum of 20 minutes and dried on the hot setting, OR dry clean. This should be done for items in the facility and at the home.
- Items that cannot be cleaned should be placed in a plastic bag for 2 weeks.
- Carpet and furniture can be vacuumed or gently ironed (not sprayed with insecticide).
- Combs and brushes should be soaked in disinfectant solution (1/4 cup bleach to 1 gallon of water) or lice-killing solution for 10 minutes.
- "No-nit" policies that require children to be nit free are not recommended because they have not been shown to be effective controlling outbreaks and may keep children out of the program needlessly.

HEAD LICE : Continued on next page

TREATMENT:

Over-the-counter and prescription treatments are available. Treatment instructions should be followed closely. Flammable or toxic substances, such as gasoline or kerosene, should never be used. Nits can survive treatment, so a second treatment is often needed 7 to 10 days after the first treatment. Removing nits from the hair using a nit comb is recommended.

How to Control Head Lice

1. Shampoo the child's hair (and other infested family members) with an appropriate shampoo or cream rinse, which is labeled for controlling lice. Some examples of lice shampoos or rinses include: A – 200 Pyrinate, Kwell, Nix, Rid, and R & C. These and other products are available at your local drug store, or they may be prescribed by a doctor. Be sure to follow the instructions on the label!!! Do not use remedies or products that are not labeled for controlling lice as these may not work, and they may even be harmful.
2. Be sure to shampoo all affected family members at the same time! Any family member with nits (eggs) in the hair or with an itchy scalp should be treated.
3. After shampooing, family members should change into clean clothes. Wash all dirty clothing, linens, and towels in a hot or warm wash cycle. Non-washable items may be dry-cleaned, or they may be vacuumed and sealed in plastic bags for two weeks.
4. Soak combs, brushes, hair picks, etc. in hot (almost boiling) water for at least 15 minutes.
5. Vacuum chairs, couches and other furniture where the children sit, sleep, or play in order to pick-up any loose nits or lice. You do not need to apply household pesticides.
6. Be sure to shampoo everyone once again 7 to 10 days later!!! The timing is very important. In addition, remember to wash dirty clothes, vacuum furniture and treat combs and brushes on the same day.
7. To better your chances for a successful treatment, take the time to remove nits from your child's hair, preferably by using nit combs which are available at local drugstores. Nit removal is important as some of the eggs will survive the shampoo treatments.

How To Avoid Getting Head Lice

1. Do not share hats, combs, brushes, scarves, or coats.
2. Hang your coats separately. Do not hang or pile them on top of each other.

We hope this information is helpful to school officials and parents in their battle against head lice.

HEPATITIS A

WHAT IS HEPATITIS A?
Hepatitis A is a viral infection that causes inflammation of the liver. The severity of illness ranges from mild, lasting one to two weeks, to severe, lasting several months. Older children and adults are more likely to have symptoms, while young children may have mild symptoms or no symptoms at all. A blood test for hepatitis A antibodies (IgM) is needed to diagnose this infection. Animals do not carry or spread this virus.

SIGNS & SYMPTOMS:
- Yellow skin and eyes (jaundice)
- Abdominal cramps
- Diarrhea
- Dark urine
- Pale stools
- Low-grade fever

INCUBATION PERIOD:
2-6 weeks, usually four weeks

HOW IS IT SPREAD?
The disease is spread through the fecal→oral route (through consumption of contaminated food and water or through person-to-person transmission) and can be spread by people who do not have symptoms.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
A person is most contagious in the two weeks before symptoms begin, and remains contagious for a week after jaundice begins.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Report the infection to the local or state health department within **24 hours** of a suspected or confirmed diagnosis which is permitted by FERPA. See page 7.
- Notify local or state public health department if the Hepatitis A case prepares food for others or attends or works in a child care facility.

CONTROL OF SPREAD:
- Please consult immediately with local or state public health for implementation of control measures.
- *EXCLUDE* all infected children and/or staff until 1 week after the onset of jaundice.
  - CHILD CARE: Ill children should not go to another facility during the period of exclusion.
- Exclude affected individuals from food preparation until cleared by the state or local public health agency.
- Unvaccinated people who are exposed to someone with hepatitis A (through close contact or eating food prepared by the ill person) can be given vaccine or immune globulin (IG) in the 2 weeks after exposure in order to prevent illness or lessen the severity of symptoms.
- The local public health agency will evaluate whether anyone should receive IG or hepatitis A vaccine. Parents/ guardians, siblings, or close playmates may need IG/vaccine.
  - SCHOOLS: In most instances, teachers and classmates are not at risk of becoming infected.
  - CHILDCARE: Consult with public health as soon as possible to determine risks of transmission and persons who may require IG/vaccine.
- Encourage frequent handwashing, especially after using the toilet, changing diapers and before eating.
- Promptly sanitize contaminated surfaces (like diaper changing areas) and other commonly touched surfaces (like toys) and discard food or water if it is thought to be contaminated. See page 19.

TREATMENT:
There is no specific treatment for hepatitis A after symptoms have developed. Vaccination for hepatitis A is effective in preventing the disease and is recommended for all children at age one.

HEPATITIS B

WHAT IS HEPATITIS B? :
Hepatitis B is a viral infection. Like hepatitis A and C, hepatitis B causes inflammation of the liver, and infected children are unlikely to have symptoms. Only a blood test can identify hepatitis B infection and distinguish hepatitis A, B, and C infections from one another. Hepatitis B virus can cause lifelong infection, cirrhosis (scarring) of the liver, liver cancer, liver failure, and death. There is a safe and effective vaccine to prevent Hepatitis B infections.

SIGNS & SYMPTOMS:
- Nausea
- Loss of appetite
- Abdominal pain
- Vomiting
- Joint pain
- Dark urine
- Jaundice(yellowing of the skin and whites of eyes)
- Fatigue

INCUBATION PERIOD:
45-160 days (average 120 days)

HOW IS IT SPREAD?
Hepatitis B is transmitted by direct inoculation of infective blood or body fluids into fresh cuts, wounds, or mucous membranes, or by intimate sexual contact. It can also be spread by sharing nonsterilized needles or syringes, or from a pregnant mother to her infant at birth. Hepatitis B is not spread through casual activities such as hugging, kissing, or by sharing eating utensils. It is uncommon in school/child care facilities.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Persons are contagious as long as the virus is in the blood. This can be several weeks before the onset of symptoms, throughout the clinical course of the illness, and in some cases, into a carrier state that may last for many years.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Report the infection to the facility director or school nurse and the local or state health department within 7 days of diagnosis.

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary. The Colorado School Immunization Rules requires children in childcare and schools to be vaccinated against Hepatitis B or have an appropriate exemption.
    - *CHILDCARE*: prevent scratching, biting, or combative behavior
    - *SCHOOLS*: prevent scratching, biting, or combative behavior
- Vaccination is recommended for residents and staff of facilities for developmentally disabled persons and for anyone seeking protection from hepatitis B infection.
- Surfaces contaminated with blood should be cleaned and sanitized while wearing medical exam quality gloves, then sanitized with a bleach-based or other appropriate sanitizer. See page 19.
- Dispose of soiled items in plastic bags.
- Encourage proper handwashing techniques.
- Please consult with local or state public health with implementation of control measures.

TREATMENT
There is no specific treatment for acute Hepatitis B infection. There are treatment options for cases with chronic hepatitis B.

HEPATITIS C

WHAT IS HEPATITIS C?
Hepatitis C describes an inflammation of the liver caused by the hepatitis C virus. For every one hundred people infected with the hepatitis C virus, 75-85 people will develop a chronic infection. Chronic infections can lead to serious liver problems, including liver damage, cirrhosis (scarring), liver failure, or liver cancer. Many adults and most children with a hepatitis C infection do not have symptoms.

SIGNS & SYMPTOMS:
An estimated 3.2 million people in the United States have chronic hepatitis C. Most are unaware of their infection, because they have never experienced symptoms. Symptoms may include:

- Nausea
- Loss of appetite
- Fatigue
- Abdominal pain
- Vomiting
- Joint pain
- Dark urine
- Fever
- Gray-colored bowel movements
- Jaundice(yellowing of the skin and whites of eyes)

INCUBATION PERIOD:
14 to 180 days (average: 45 days)

HOW IS IT SPREAD?
Hepatitis C is transmitted when blood from a person infected with the hepatitis C virus enters the body of someone who is not infected. This can occur by sharing personal items with infected blood such as razors, nail clippers, toothbrushes or glucose monitors. It can also be spread by sharing non-sterilized needles or syringes. Having a sexually transmitted disease or sex with multiple partners also increases the risk of acquiring the hepatitis C virus from an infected partner. If a pregnant woman is infected with the hepatitis C virus, there is a 5% chance that the newborn child will also become infected with the hepatitis C virus. Hepatitis C virus is not spread through casual contact in a typical school/child care setting.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Cases are contagious one or more weeks before onset of symptoms and as long as the virus is present in the blood. A person can be contagious for life.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Report the infection to the facility director or school nurse and the local or state health department within 7 days of diagnosis.

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary
  - *CHILDCARE*: Prevent scratching, biting, or combative behavior
  - *SCHOOLS*: Prevent scratching, biting, or combative behavior
- Surfaces contaminated with blood should be cleaned and sanitized while wearing medical exam quality gloves, then sanitized with a bleach-based or other appropriate sanitizer. See page 19.
- Dispose of soiled items in plastic bags.
- No vaccine is available. Immune globulin (IG) is not useful in preventing Hepatitis C.
- Please consult with local or state public health with implementation of control measures.

TREATMENT:
There are treatments available for people with chronic Hepatitis C

HERPES (COLD SORES, FEVER BLISTERS)

WHAT IS HERPES?
Herpes is a common infection that causes fluid-filled sores on the face or lips caused by the Herpes simplex virus (HSV) types 1 and 2. Type 1 usually causes cold sores /fever blisters and type 2 usually causes genital herpes (see page 37). Sometimes herpes infections are referred to as cold sores or fever blisters, although herpes is not related to having a cold or a fever. The sores can be painful, and usually heal within several days. After the initial outbreak, the virus is usually dormant in the skin or in the nerves until something triggers another eruption. In some people, overexposure to sunlight, fever, physical or emotional stress, hormonal changes, or certain foods and drugs seem to reactivate the virus. In rare cases, the herpes virus can infect the brain and other parts of the nervous system. This complication is usually seen only in immunocompromised individuals.

SIGNS & SYMPTOMS:
- Painful fluid-filled blisters on the face or lips
- Tingling, itching or burning of the skin before the blisters appear

INCUBATION PERIOD:
2-12 days

HOW IS IT SPREAD?
Herpes is spread by direct contact through kissing and contact with open sores. Less commonly, it can be spread through articles contaminated by the fluid from the blisters or saliva.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Cases are contagious until the sores heal.

PUBLIC HEALTH REPORTING REQUIREMENTS:
Individual cases are not reportable. The school nurse should be consulted for specific concerns, or consultation with the state or local public health agency is available.

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary unless the student has open sores and is drooling uncontrollably.
- A person with sores should wash their hands often and avoid touching their eyes after touching the sore.
- Disinfect objects or toys that have come into contact with saliva. See page 19.
- Do not share food or drinks.
- Please consult with local or state public health with implementation of control measures.

TREATMENT:
There is no cure for herpes. Over-the-counter medications can help reduce the irritation while the sores heal. The antiviral drug acyclovir has been shown to reduce shedding of the virus, diminish pain, and accelerate healing time. The virus may be shed intermittently for years and possibly lifelong.

HIV AND AIDS

WHAT IS HIV AND AIDS?
The human immunodeficiency virus (HIV) causes HIV infection and Acquired Immune Deficiency Syndrome (AIDS). There are two types of HIV: HIV-1 and HIV-2. HIV attacks certain cells of the immune system and typically leads to an increased susceptibility to disease. AIDS is the most severe manifestation of HIV infection. There has not been a cure for HIV infection identified.

SIGNS & SYMPTOMS:
Many people with HIV infection feel and appear completely healthy. People with HIV-related illness may have generalized lymphadenopathy (swollen lymph nodes all over their body), weight loss, chronic fever, chronic diarrhea, and/or fatigue, which may progress to AIDS or other illnesses due to the weakened immune system.

INCUBATION PERIOD:
Variable. The time from HIV infection to the development of detectable antibodies is generally one to three months. The time from HIV infection to diagnosis of AIDS can be less than one year to over 15 years. Infants who acquire HIV infection before or during birth from infected mothers typically develop symptoms between 12 – 18 months, although some remain symptom-free for more than five years.

HOW IS IT SPREAD?
HIV is present in the blood and some body fluids (semen, vaginal secretions, breast milk), and infection is spread by sexual contact, sharing injectable drug needles and syringes, transfusion of infected blood or blood products (which rarely occurs due to blood screening), transplantation of infected tissues or organs (also very rare), and from mother to child before or during birth, or through infected breast milk. All HIV infected persons can spread the disease by these routes. HIV is <u>not</u> spread by casual social contact in the workplace, school, or child care setting. Sharing food, eating utensils, dishes, or toilet facilities does <u>not</u> spread the disease, nor is it spread through touching or insect bites.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
All HIV infected persons can spread the virus throughout their lifetime.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- HIV/AIDS must be reported by laboratory and health care providers to the state or local public health agency within seven days of a suspected or confirmed diagnosis.
- The identity of persons with HIV or AIDS should be known only to the people providing direct care to the infected person. The penalties for a breach of confidentiality are severe.

CONTROL OF SPREAD:
- Students with HIV or AIDS should be able to attend child care and school without special restrictions. Contact the CDPHE STI/HIV Section at (303) 692-2700 for further guidance on this issue.
- Persons cleaning surfaces contaminated with blood should wear latex gloves, and the surface should be cleaned with soap and water, followed by disinfection with a bleach solution (1 cup bleach in 1 gallon of water). See page 19.
- School health education should stress that having unprotected sex and sharing drug paraphernalia increase the risk of HIV infection.

TREATMENT:
Effective antiretroviral treatment is available.

IMPETIGO

WHAT IS IMPETIGO?
Impetigo is a skin infection caused by streptococcal and staphylococcal bacteria. It can occur in people of any age, but is more common in children. Impetigo can affect skin anywhere on the body, although it most often occurs on the face.

SIGNS & SYMPTOMS:
- Area of itchy skin where tiny blisters develop
- Blisters will eventually burst to reveal areas of red skin that may weep fluid
- Most commonly found on the arms, legs and face

INCUBATION PERIOD:
7 to 10 days for Streptococcal; variable for Staphylococcal

HOW IS IT SPREAD?
Infections may be spread by direct contact with infected skin. Less commonly, it can be spread through direct contact with articles (such as clothing, bedding, towels, etc.) that have come in with the rash.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Treated persons are no longer contagious after 24 hours of antibiotic therapy. Untreated persons are contagious as long as there is discharge from affected areas.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Report the infection to the facility director or school nurse.
- Individual cases of impetigo are not reportable to public health.
- Suspected outbreaks of all types (including impetigo) are reportable to state or local public health.

CONTROL OF SPREAD:
- *EXCLUDE* infected students until 24 hours after beginning antibiotics.
    - *CHILDCARE*: Children should be excluded until 24 hours after antibiotic treatment has begun.
    - *SCHOOLS*: Children should be excluded until 24 hours after antibiotic treatment has begun.
- Discourage scratching or touching the sores and scabs.
- Keep the sores covered with a bandage.
- Encourage frequent handwashing, and wash hands after touching anything that could be contaminated with fluid from the sores.
- Sharing of towels, clothing and other personal items should be discouraged.
- Cleanliness and prompt attention to minor wounds will help prevent impetigo.
- Wash contaminated clothes, linens and towels.
- Please consult with local or state public health with implementation of control measures.

TREATMENT:
Oral or topical antibiotics may be prescribed to treat impetigo. Antibiotics will decrease spread of disease and the risk of secondary infections, and speed healing.

INFLUENZA

WHAT IS INFLUENZA?
Influenza (flu) is a very contagious viral illness caused by the influenza virus and should not be confused with "stomach flu" (viral gastroenteritis). Influenza causes community-wide outbreaks every winter, usually from November through March. In general, healthy children tolerate influenza well and suffer only a few days of discomfort. Persons most at risk for complications from influenza are infants, the elderly, and those with certain chronic underlying medical conditions (including, but not limited to, asthma, cystic fibrosis, diabetes, and neurological conditions).

SIGNS & SYMPTOMS:
- Fever (typically sudden onset)
- Headache
- Muscle aches
- Dry cough
- Sore throat
- Nausea and vomiting may occur

INCUBATION PERIOD:
1 to 4 days (usually 2 days)

HOW IS IT SPREAD?
The influenza virus is spread from person to person primarily by respiratory droplets created by coughing or sneezing. Transmission may also occur through contact with contaminated surfaces, hands, used tissues, or other articles soiled by nose and throat secretions.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Infected persons are contagious from 24 hours before to 5-7 days after the onset of symptoms. Children may be contagious for longer than 7 days.

PUBLIC HEALTH REPORTING REQUIREMENTS:
Non-hospitalized cases of influenza do not need to be reported. Influenza-associated hospitalizations are reportable to the state or local public health agency within 7 days of diagnosis. Additionally, an influenza-associated death in a child under the age of 18 years (with or without hospitalization) must be reported to the state or local public health agency within 7 days. Outbreaks of influenza can cause large increases in absenteeism rather suddenly; schools should report significant increases in school absenteeism resulting from influenza-like illness to the state or local public health agency. Consultation with the state or local public health agency is available in these situations.

CONTROL OF SPREAD:
- *EXCLUDE* children/students/staff with flu-like symptoms from childcare/school/work until at least 24 hours after they no longer have a fever or signs of a fever (chills, feeling very warm, flushed appearance, or sweating) without the use of fever-reducing medicine.
- Ill children/students/staff should be separated from others until they can be picked up/go home.

INFLUENZA : Continued on next page

CONTROL OF SPREAD (CONT.):

- Teach children to:
  - Cover their nose and mouth with a tissue when they cough or sneeze, and to throw away the tissue after they use it;
  - Avoid touching their eyes, nose, or mouth;
  - Wash their hands frequently with soap and water, especially after they cough or sneeze; an alcohol-based hand rub can be used if soap and water are not nearby.
- The flu vaccine is available each year and recommendations for who should receive the vaccine are revised annually. It is recommended that everyone 6 months of age and older receive the vaccine each year, especially persons at higher risk for flu-related complications as noted above. . . People who live with or care for those at high risk should also receive the vaccine.
- School closure is not indicated to control spread; however, some schools may decide to close based on local considerations, such as high student and staff absenteeism.
- Please consult with local or state public health with implementation of control measures/school closures.

TREATMENT:

In certain circumstances, a health care provider may prescribe antiviral medications. These medications may reduce symptoms and duration of illness by one or two days. Acetaminophen-containing medicines (such as Tylenol) can be used to lower temperature or reduce discomfort. ASPIRIN SHOULD BE AVOIDED because it increases the risk of Reye's Syndrome,a rare but serious illness than can lead to confusion, seizures, or coma. Antibiotics should not be used for viral infections such as influenza.

MEASLES

WHAT IS MEASLES?
Measles is a highly viral contagious illness that is currently very rare in this country. Measles can result in serious complications, such as ear infections, pneumonia, seizures, brain damage and death.

SIGNS & SYMPTOMS:

- Rash - red, raised and flat spots that begins on face along hairline and behind ears & becomes generalized over the next 3 days.
- Fever, usually 101°F or higher
- Cough
- Koplik's spots - tiny white spots with bluish-white centers found inside the mouth
- Runny nose
- Red, watery eyes
- Rash begins on face and spreads

INCUBATION PERIOD:
7 to 21 days (usually 10-12 days)

HOW IS IT SPREAD?
Measles is a highly contagious disease spread by direct contact with nose/throat discharges of an infected person, or, less commonly, through the airborne route. The virus may remain infectious in the air and on surfaces for up to two hours. A person is contagious from 4 days before rash onset through the first 5 days of rash.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Measles is contagious from 4 days before the rash begins through the first 5 days or rash.

PUBLIC HEALTH REPORTING REQUIREMENTS:
Report the infection to the state or local public health agency within **24 hours** of a suspected or confirmed diagnosis.

CONTROL OF SPREAD:

- *EXCLUDE a* case until after the fifth day of rash. Case should be isolated at home during these 5 days.
  - *CHILDCARE* & *SCHOOLS*: If a measles exposure occurs within a school, all susceptible children and staff refusing measles-containing vaccine or lacking proof of immunity to measles will be excluded from school until the outbreak is over (i.e. until 21 days after the onset of rash in the last reported case). Discuss school exclusion with the state or local public health agency.
- Review student's vaccination records for two measles immunizations and staff's vaccination records for measles immunity status. Measles vaccine administered within 72 hours of exposure may prevent disease.
- Recommend measles vaccine for persons without measles immunity.
- Suspect cases with diarrhea should be referred to a health care provider.
- Do not transfer children to other facilities.
- Measles virus vaccine, in combination with mumps and rubella (MMR) and sometimes varicella vaccine (MMRV), is routinely given at 12 to 15 months of age with a second dose recommended at age 4 to 6 years.
- The Colorado School Immunization Rules requires students in K through 12 to have 2 measles immunizations and childcare/preschool students 15 months of age to Kindergarten to have one dose of rubella vaccine unless the student has an exemption to immunization.
- Please consult with local or state public health with implementation of control measures.

TREATMENT:
There is no specific treatment for measles, but there is a highly effective vaccine to prevent infection.

MOLLUSCUM CONTAGIOSUM

WHAT IS MOLLUSCUM CONTAGIOSUM?
Molluscum contagiosum is caused by a pox virus and causes a mild skin disease similar to warts. It is characterized by small, pearly, flesh-colored bumps with a tiny, hard, central depression that may be itchy. Molluscum infections occur worldwide but are more common in warm, humid climates and where living conditions are crowded.

SIGNS & SYMPTOMS:
- 2 to 20 discrete papules
- Lesions on adults are usually found on the lower abdomen, pubis, and inner thigh
- Lesions on children are usually on the trunk, face, and arms.
- Occasionally the lesions may appear linearly due to patient scratching

INCUBATION PERIOD:
Ranges from 2 to 7 weeks and may take as long as 6 months.

HOW IS IT SPREAD?
The virus is spread from person to person through direct and indirect physical contact. Direct contact may be either through play, rough housing, touching, or sexual contact. Indirect contact is when the lesions (virus) come in contact with towels, toys, or clothing and another person uses those items prior to cleaning.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
It is not known how long a person is infectious; however it is presumed to be as long as the lesions are present.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Report the infection to the facility director or school nurse.
- Report to the local or state health department only if 2 or more cases are identified within 7 days of diagnosis of the first case as this may be an outbreak.

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary for child care or school.
- Encourage frequent and proper hand washing.
- Scratching the bumps should be avoided as that can spread the virus to another site or allow bacteria to enter.
- Make sure all lesions are covered by clothing. If lesions are not covered by clothing, make sure to cover with a water tight bandage.
- If a child with growths in the underwear/diaper area needs assistance going to the restroom or needs a diaper change, then the lesions in this area needs covering too if possible.
- All infected individuals should not participate in contact sports as long as the lesions are present.
- Activities that use shared gear should be avoided unless the lesions can be covered.
- Swimming should also be avoided unless the lesions can be covered with a water tight bandage.
- Do not share items such as hair brushes, unwashed cloths, soap, and towels.
- If the lesions are in the pubic area avoid sexual contact until seen by your health care provider.
- Please consult with local or state public health for help with implementation of control measures.

TREATMENT:
There is generally no treatment required as the lesions usually go away on their own within 6 months, however this may take up to 4 years. When a therapy is recommended by a health care provider, the physical destruction of the lesions should be done in a physician's office. Do not follow any treatment methods that are not directly recommended by a physician.

MONONUCLEOSIS

WHAT IS MONONUCLEOSIS?
Mononucleosis is caused by the Epstein-Barr virus and is characterized by swollen lymph glands, sore throat, and fever lasting from 1 to 4 weeks. Enlargement of the spleen can occur as well. Some infected children do not have symptoms or develop very mild symptoms, but 35% to 50% of adolescents or young adults develop infectious mononucleosis. The disease is most common in high school and college-aged children.

SIGNS & SYMPTOMS:
- Swollen lymph glands
- Fever
- Sore throat
- Fatigue

INCUBATION PERIOD:
Usually 4 to 6 weeks

HOW IS IT SPREAD?
Mononucleosis is spread person-to-person through saliva.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Individuals with mononucleosis can excrete the virus for a period of weeks or months after initial infection. The virus can be present over the infected person's lifetime in throat or blood cells. Most people who have had a previous infection are not susceptible to a second infection.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Individual cases are not reportable. The school nurse or child care health consultant should be contacted for specific concerns, or consultation with the local or state health department is available.

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary.
- Suspect cases with severe tonsil and throat swelling should be referred to a health care provider.
- Dispose of tissues soiled with throat secretions.
- Encourage frequent handwashing.
- Promptly sanitize contaminated articles soiled by throat secretions. See page 19.
- Avoid kissing that involves the transfer of saliva directly or indirectly through objects.
- Please consult with local or state public health with implementation of control measures.

TREATMENT:
There is no specific treatment for mononucleosis other than treating the symptoms. Over-the-counter medications can provide some relief from fever or sore throat. A health care provider may prescribe steroids to control severe swelling of the tonsil and throat.

STAPHYLOCOCCUS AUREUS and METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA)

WHAT IS *Staphyloccus aureus* and Methicillin-Resistant *Staphylococcus aureus (*MRSA)?
Staphylococcus aureus (often referred to as "staph") is a type of bacteria commonly found on the skin or in the nose of healthy people (referred to as colonization). Staph is a common cause of skin infections, but it can also cause serious infecions like surgical wound infections, bloodstream infections, and pneumonia, most frequently among patients in healthcare settings. Some staph bacteria are resistant to certain classes of antibiotics. These resistant bacteria are called methicillin-resistant *Staphylococcus aureus*, or MRSA. Historically, MRSA infections occurred in hospitalized patients, but now these infections are also common in the community. People who have MRSA infections acquired in the community typically have infections of the skin.

SIGNS & SYMPTOMS:
- Signs and symptoms will vary by the type of infection.
- In child care and school settings, most staph and MRSA infections are skin or soft tissue infections that may appear as pustules or boils which are often red, swollen, painful, and/or have pus or other drainage. Often, MRSA skin and soft tissue infections may look like spider or insect bites. Pictures of MRSA skin and soft tissue infections can be found at the CDC website: http://www.cdc.gov/mrsa/symptoms/index.html

INCUBATION PERIOD:
Variable; depends on the type and severity of infection.

HOW IS IT SPREAD?
MRSA and other staph bacteria are usually spread from one person to another by direct skin-to-skin contact or contact with a contaminated item (such as towels or bandages) used by someone with MRSA or staph on their skin. Persons who have draining skin infections are more likely to spread MRSA and staph.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
As long as the bacteria are present.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Report the infection to the facility director or school nurse.
- Only MRSA cultured from normally sterile sites (such as blood or CSF) in residents of the Denver metropolitan area are reportable to public health within 7 days of diagnosis. Individual cases of MRSA skin or soft tissues infections are not reportable to public health.
- Suspected outbreaks of all types (including staph and MRSA) are reportable to state or local public health. Outbreaks have been documented in school sports teams, such as football and wrestling teams.

CONTROL OF SPREAD:
- CDPHE has developed thorough recommendations for placement and exclusion of children with MRSA in school and child care settings. These recommendations, titled "Recommendations for Management of Children with MRSA in School and Child Care Settings" can be found on the CDPHE website: http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607766264

TREATMENT:
Treatment for staph and MRSA will vary by the type and location of infection. Persons infected with staph or MRSA should seek care from a healthcare professional so proper treatment can occur.

MUMPS

WHAT IS MUMPS?
Mumps is caused by a virus and is more severe in adults. Mumps typically starts with a few days of fever, headache, muscle aches, tiredness, and loss of appetite, and is followed by swelling of salivary glands. The most common complication of mumps in adolescent and adult males is swollen testicles; however, mumps very rarely leads to sterility. Other complications may include meningitis (inflammation of the tissue surrounding the brain and spinal cord), inflammation of the ovaries, and deafness. Approximately one-third of individuals infected with mumps do not develop symptoms, but are contagious. Immunity from mumps is life-long.

SIGNS & SYMPTOMS:
- Usually parotid gland swelling (located in cheek area at the back angle of the jaw)
- Swelling of one or more salivary glands on one or both sides of the face
- Fever (usually low-grade)
- Headache
- Muscle aches

INCUBATION PERIOD:
Ranges from 12-25 days (usually 16-18 days)

HOW IS IT SPREAD?
Transmission is by nose/throat discharges and direct contact with saliva from an infected individual. Infected individuals who do not have symptoms can still infect others.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
A case is contagious from 2 days before to 5 days after swelling onset.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Report the infection to the facility director or school nurse and the local or state health department within 7 days of diagnosis.

CONTROL OF SPREAD:
- *EXCLUDE* all infected students and/or staff until 5 days after swelling onset.
- Discuss possible exclusion of children and staff without proof of mumps immunity with the state or local public health agency.
- Do not transfer children in or out of the facility.
- Review students' vaccination records and staff's immunity status.
- Recommend mumps vaccination for children and staff without mumps immunization or positive immunity lab results. Post-exposure vaccination may not protect against the disease but may provide protection against future exposure.
- Mumps virus vaccine is routinely given at 12 to 15 months of age in combination with measles and rubella (MMR) vaccine and sometimes varicella vaccine (MMRV) with a second dose recommended at age 4 to 6 years. The Colorado School Immunization Rules requires children in grades K through 12 to have 2 mumps immunizations and childcare/preschool students 15 months of age to kindergarten to have one dose of rubella vaccine, unless the student has an exemption to immunization.

TREATMENT:
There is no specific treatment for mumps.

NOROVIRUS & OTHER VIRAL GASTROENTERITIS

WHAT IS VIRAL GASTROENTERITIS?
Often referred to as "stomach flu" (a misnomer, as it is not caused by the influenza virus) these viruses include rotavirus, adenovirus, calicivirus, astrovirus, and norovirus. Viral gastroenteritis is seen more often in the winter months. Illness usually lasts 1-2 days, but can be longer.

SIGNS & SYMPTOMS:
- Low-grade fever
- Abdominal cramps
- Diarrhea
- Vomiting
- Nausea
- Headache

INCUBATION PERIOD:
Varies depending on the specific virus, but often 1-2 days.

HOW IS IT SPREAD?
Viral gastroenteritis is highly contagious and is spread mainly through the fecal→oral route, either by consumption of fecally contaminated food or water, or by direct person-to-person spread. It may also be spread by inhaling virus particles that have been released into the air when an infected person vomits.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
During the illness and for several days after symptoms have resolved.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Single cases of illness do not need to be reported to public health.
- Clusters of illness (such as two or more people ill with similar symptoms closely grouped in terms of time and place) should be reported to the state or local public health agency immediately as this could be an outbreak.

CONTROL OF SPREAD:
- *EXCLUDE* all infected children and/or staff until diarrhea and vomiting have resolved for at least 48 hours.
- Affected individuals should not prepare food for others for at least 48 hours after resolution of symptoms.
- Encourage frequent handwashing, especially after using the toilet, changing diapers and before eating.
- Immediately clear the room or area after a public display of vomiting.
- Persons cleaning up vomit are encouraged to wear a simple face mask.
- Promptly sanitize contaminated surfaces (like diaper changing areas) and other commonly touched surfaces (like toys) and discard food or water if it is thought to be contaminated. See page 19.
- Persons with severe or prolonged diarrhea (lasting longer than 2 to 3 days) or who have a high fever or bloody diarrhea should be referred to a health care provider.
- **Noroviruses** are resistant to many commonly used disinfectants. If norovirus is suspected, it is important to use a 5000 part per millon (ppm) bleach solution (one cup bleach in nine cups water) or a disinfectant approved by the EPA with specific claims for activity against norovirus. A list of EPA-registered disinfectants effective against norovirus is available at: www.epa.gov/oppad001/chemregindex.htm.

TREATMENT:
There is no specific treatment for viral gastroenteritis. Fluids are important to prevent dehydration. No immunization is available.

PERTUSSIS (WHOOPING COUGH)

WHAT IS WHOOPING COUTH (PERTUSSIS) ?
Whooping cough, also known as pertussis, is caused by the bacteria *Bordatella pertussis*. A vaccine exists for this disease. Pertussis may be severe in infants and young children, especially those who have not had three doses of vaccine, resulting in hospitalizations, pneumonia, neurologic problems, and death. The cough may last as long as 3 months. Pertussis may not be as severe in adults and fully immunized children.

SIGNS & SYMPTOMS:
- Begins with cold-like symptoms including mild cough and low-grade or no fever
- Cough becomes more severe, causing coughing spells or fits.
- Coughing spells may be followed by vomiting, difficulty catching breath, face turning blue, and/or high-pitched whoop
- Appears well between coughing spells

INCUBATION PERIOD:
Ranges from 4 to 21 days (usually 7 to 10 days)

HOW IS IT SPREAD?
Transmission is by direct contact with nose/throat discharges of an infected person.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
A person is most contagious in the early stages of the disease. Individuals are virtually noncontagious after the third week of coughing, or after five days of appropriate antibiotic treatment.

PUBLIC HEALTH REPORTING REQUIREMENTS:
Report the infection to the local or state health department within **24 hours** of diagnosis.

CONTROL OF SPREAD:
- *EXCLUDE* individuals with pertussis until they have completed five days of appropriate antibiotic treatment or until three weeks after the onset of cough or until the cough has stopped, whichever period is shorter.
    - If close contacts to a person with pertussis have pertussis symptoms, they should be excluded from child care or school until meeting the criteria listed above.
- Household or other close contacts (regardless of immunization status) should be referred to a health care provider to receive appropriate antibiotics to prevent infection or reduce symptoms.
- An antibiotic to prevent infection is frequently recommended for child care/preschool classroom contacts and rarely recommended for school classroom contacts.
- Consult with the child care center or school nurse, or state or local public health agency, about notifying parents/guardians of exposed classmates.
- Pertussis vaccine is routinely given in combination with diphtheria and tetanus vaccine(DTap and Tdap) starting at 2 months of age.
- Children should receive 5 doses of pertussis vaccine by 4 to 6 years of age.
- A pertussis booster (Tdap) is recommended for children >10 years of age and adults
- Review pertussis immunization records and recommend DTaP or Tdap vaccine for under-immunized students and staff. Vaccine administration after exposure will not prevent infection; however, it may provide protection against future exposure.
- The Colorado School Immunization Rules require all students older than 3 months of age to have pertussis immunizations or an exemption to immunization.
- The number of required pertussis doses varies by the age of the student.
- Additional information is available at: http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251611026285

TREATMENT:
Appropriate antibiotic treatment shortens the period of contagiousness, but does not reduce symptoms except when given during the incubation period or in the early stages of the disease.

PINK EYE (CONJUNCTIVITIS)

WHAT IS PINK EYE (CONJUNCTIVITIS)?
Pink eye can be caused by a variety of bacterial, viral, and fungal pathogens, as well as allergies (such as pollen, mold, or cosmetics), contact lens use, indoor or outdoor air pollution (such as smoke or dust), and chemical irritation (such as after swimming, or exposure to chemical fumes). Pink eye is common in children and adults, and it can be difficult to determine the exact cause.

SIGNS & SYMPTOMS:
- Excess amount of blood in the whites of the eye and eyelid, giving the eye a pink or red appearance
- Eye itchiness, irritation, swelling, watery, light sensitivity, and/or burning
- *Bacterial or viral:* One or both eyes can be affected. There is usually a discharge (thicker, whitish-yellowish in bacterial infections) from the eye. Respiratory infection symptoms or swollen lymph nodes near the front of the ear may be present. Bacterial pink eye symptoms can last a couple of days to three weeks, but generally symptoms improve in two to five days without treatment. Viral pink eye symptoms can last from one to three weeks or more.
- *Allergies:* Usually both eyes are affected. Symptoms like itchy nose, sneezing, or scratchy throat may be present, and symptoms may be seasonal. Typically symptoms clear once the allergen is removed.
- *Chemical irritation:* One or both eyes can be affected.

INCUBATION PERIOD:
Bacterial: 24-72 hours *Viral:* usually 1-12 days *Allergies or chemical irritation:* variable

HOW IS IT SPREAD?
Bacterial and viral: Can be easily spread by direct contact with discharge from the eye of an infected person or by direct contact with objects contaminated with eye discharge. Contaminated fingers, clothing, towels, shared eye makeup applicators, etc. may spread the infection.
Allergies or chemical irritation: Not contagious.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Bacterial: Infected persons are contagious as long as they have symptoms or until antibiotic eye drops or ointment are started.
Viral: Some types are contagious as long as a person has symptoms (which can be variable).

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Individual cases are not reportable.
- Suspected outbreaks of all types (including pink eye) are reportable to state or local public health.

CONTROL OF SPREAD:
- *EXCLUDE* children and staff with pink eye suspected of being caused by a viral or bacterial infection until a health care provider evaluates the person and approves readmission. Individuals can return to school or child care once any indicated therapy is implemented unless their behavior is such that close contact with others cannot be avoided. Students with pink eye due to allergies or chemical irritation do not need to be excluded.
- Encourage frequent handwashing.
- Avoid touching or rubbing eyes and avoid sharing personal items.
- Ensure good cleaning and sanitizing practices are being followed. See page 19.

TREATMENT:
Bacterial: A health care provider may prescribe antibiotic eye drops or topical ointment. Antibiotic treatment will generally speed recovery and reduce spread to others.
Viral: There is usually no treatment.
Allergies: May be treated with allergy medications.
Chemical irritation: Symptoms generally resolves once the irritant is removed.

PINWORM

WHAT ARE PINWORMS?
Enterobius vermicularis is a small thin white roundworm (nematode) that lives in the long intestine. While an infected person sleeps, female pinworms leave the intestine through the anus and deposit their eggs on the surrounding skin.

SIGNS & SYMPTOMS:
- Itching and irritation around the anal or vaginal area
- There is the potential for a secondary infection of scratched sites
- Noticeable worms seen in the perianal region 2-3 hours after child goes to sleep

INCUBATION PERIOD:
1-2 months (or longer) from the ingestion of an egg until the adult females are noticeable in the perianal region

HOW IS IT SPREAD?
Pinworm infections are spread through direct transfer of eggs through the fecal→oral route, or indirectly through clothing, bedding, food, or other articles contaminated with the parasites eggs. A dust borne infection is possible in heavily contaminated areas.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
A person is infectious as long as eggs are present on the perianal skin. Eggs remain infective in an indoor environment for about 2-3 weeks.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Report the infection to the facility director or school nurse.
- If more than one child is ill, refer them to a physician and contact public health as this may be an outbreak.

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary unless proper precautions to control the spread cannot be followed.
- Exclude infected individuals from food preparation until cleared by physician.
- Educate children and staff on good personal hygiene, particularly the need for hand washing before eating and food preparation.
- Keep fingernails as short as possible.
- Make sure those infected with pinworms, as well as household contacts and caregivers, are receiving proper treatment.
- Daily bathing in the morning with showers or stand up baths is recommended over sit-down bathing in a bathtub. Co-bathing children should be avoided.
- Frequent changing of underclothing, night clothes, towels and bedding.
- Launder clothing, towels and bedding in hot water daily for several days post treatment.
- Clean home/daycare/classroom daily for several days post treatment.
- Please consult with local or state public health for help with implementation of control measures.

TREATMENT:
There are appropriate anti-worm medications that will be prescribed by a physician, which are taken 2 weeks apart. Control is difficult in child care centers and schools due to high reinfection rates. In such situations, mass and simultaneous treatments, repeated in 2 weeks, may be effective.

PUBIC LICE (Crabs)

WHAT ARE PUBIC LICE (CRABS)?
Pubic lice (also referred to as crabs because they resemble a miniature crab when viewed through a magnifying glass) are an infestation of the louse *Phthirus pubis*. An infestation is called pthiriasis. Adult pubic lice are about 1.1 to 1.8 millimeters in length, are tan to grayish-white in color, and are typically found attached to hair in the public area. Occasionally, pubic lice may be found on coarse hair elsewhere on the body, such as the eyebrows, eyelashes, beard, mustache, chest, armpits, etc.). In order to survive, lice must feed on human blood. Lice found on hair on the scalp are generally head lice, not pubic lice.

SIGNS & SYMPTOMS:
- Itching in the pubic/genital region; may range from minimal to intolerable itching.
- Red spots or bumps in the pubic/genital region may be present.
- Adult lice or lice eggs may be visible on pubic hair.

INCUBATION PERIOD:
The louse life cycle is composed of three stages: eggs (also called nits), nymphs, and adults. Eggs are attached to the hair shaft and take about six to 10 days to hatch. Nymphs are an immature louse that hatches from the egg. It takes about two to three weeks for a nymph to mature to an adult. Adult lice are capable of reproducing. The average life cycle of the louse is 15 days. If a louse falls off a person, it dies within two days.

HOW IS IT SPREAD?
Pubic lice are transmitted through sexual contact: oral, anal, and vaginal. Occasionally, pubic lice may be spread by contact with articles of clothing, bed linens, or towels that have been used by an infested person.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
As long as nymphs or adult lice are present.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Cases of pubic lice are NOT reportable to public health.
- The possibility of sexual abuse must be considered when infections occur in prepubescent children and must be reported to the appropriate public health authority.

CONTROL OF SPREAD:
- No exclusions or environmental interventions are necessary, since STIs require close intimate physical contact for transmission, virtually always of a sexual nature.
- Infected persons should be examined by a health care provider. Infected persons should seek medical care if symptoms persist or recur. Parental consent is <u>not</u> required for minors to be examined and treated.
- Sexual activity should be avoided if a person has signs and symptoms.
- General education of STI prevention is advocated.
- Additional information is available at:
  http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607766338

TREATMENT:
Treatment options are the same as used for head lice. A second treatment 7 to 10 days after the first treatment is recommended to kill any lice that hatched that were not killed by initial treatment. Bedding and clothing should be machine-washed and dried using the hot settings.

RASHES

A rash involves a change in the color and/or texture of skin, and can have many different causes. It can be a symptom of a contagious or non-contagious disease. Contact dermatitis (an inflammation of the skin caused by direct contact with an irritating substance) can occur following an exposure to dyes and chemicals found in clothing, chemicals found in elastic and rubber products, cosmetics, poison ivy, and poison oak. This type of rash usually occurs where the irritating agent touches the skin. Eczema (a chronic hypersensitiviy reaction in the skin) can cause a scaly and itchy rash. Medications, foods, or insect bites that cause allergic reactions can also cause a rash. The table below outlines 12 different illnesses that can cause rashes.

ILLNESS	APPEARANCE	DISTRIBUTION	ITCHING	COMMENTS/EXCLUSION
Chickenpox - viral (Varicella)	Blister-like rash that scabs over.	More abundant on trunk than extremities	Yes	Highly contagious. Immunization is available. Exclude until blisters scab over.
Fifth Disease - viral (Erythema Infectiosum, Human Parvovirus)	Red cheeks (“slapped cheek”). Red, lace-like rash on body. May fade and then reappear.	Begins on cheeks, spreads to trunk and extremities	Slight, if any	No exclusion necessary for healthy persons. Exposed pregnant women should contact their health care provider.
Hand-Foot-Mouth - viral (Entero- and Coxsackieviruses, Viral Exanthem)	Small blister-like sores.	Palms, soles of feet, mouth and buttocks	No	No exclusion necessary unless the child has mouth sores and is drooling uncontrollably.
Impetigo – bacterial (Streptococcal and Staphylococcal bacteria)	Small blisters that burst to reveal red skin.	Usually the face, arms, or legs but can occur anywhere	Yes	Exclude until 24 hours after appropriate antibiotic treatment.
Measles - viral (Rubeola, Hard Measles)	Red, raised and flat spots. Rash turns white on pressure.	Begins on face along hairline, spreads to trunk and extremities	Slight, if any	Highly contagious. Immunization is available. Exclude for 5 days after rash onset.
Ringworm – fungal (Tinea)	Small red bump or ring that spreads outward.	A single area of skin	Yes	Exclude from the end of the day until after the first treatment.
Roseola - viral (Exanthem subitum, Sixth Disease)	Small, discrete pinkish-red spots. Almond shaped flat spots appear on trunk and neck.	Begins on face, chest and abdomen, spreads to entire body	No	Most common in children 6 to 24 months of age. No exclusion necessary unless child has a fever along with the rash.
Rubella - viral (German Measles)	Small pink spots. May become confluent but remains pink.	Begins on face, spreads to neck, trunk & extremities	No	Immunization is available. Exclude for 7 days after rash onset.
Scarlet Fever - bacterial (Group A streptococci)	Small red bumps. Rash turns white on pressure. Pigmented areas in skin creases.	Begins on neck and groin, spreads to rest of body	No	Strep throat symptoms are present. Exclude until 24 hours after appropriate antibiotic treatment.
Shingles - viral (Herpes Zoster)	Blister-like rash that scabs over. Painful in affected area.	A single area of skin	Sometimes	Reactivation of the chickenpox virus. No exclusion necessary if blisters are covered.
Smallpox - viral	Deep-seated, hard, round, fluid-filled blisters.	Entire body	No	Highly contagious. Notify public health immediately.

RINGWORM AND OTHER FUNGAL SKIN INFECTIONS
(TINEA, DERMATOPHYTES)

WHAT IS RINGWORM AND OTHER FUNGAL SKIN INFECTIONS?
Some fungi, called dermatophytes, can cause skin, hair, and nail infections. Examples of fungal skin infections include ringworm (also known as tinea – it is not caused by a worm) and athlete's foot (also known as tinea pedis). These types of infections are very common and can affect anyone. Persons with weakened immune systems and persons involved in contact sports (such as wrestling) may be affected more often. These infections typically have no long-term health consequences and can be effectively treated.

SIGNS & SYMPTOMS:
- Fungal infections can affect skin on almost any area of the body, including the scalp. Moist areas of skin (such as skin folds) can be affected more often.
- Affected areas can be itchy and become infected if scratching is excessive.
- Ringworm begins as a small red bump or ring that spreads outwards. Affected areas have a red, scaly outer ring with a clear central area, or may appear wet and crusty.
- If the scalp is affected, a bald patch of scaly skin may appear.

INCUBATION PERIOD:
Between 4-14 days

HOW IS IT SPREAD?
Fungal infections, including ringworm, are spread by direct contact with the rash on an affected human or animal, or by direct contact with a contaminated object/surface (such as clothing, towels, and bedding). Animals like dogs, cats, cows, goats, pigs, and horses can have ringworm and can transmit it to people.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
As long as the rash is present on the skin.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Individual cases are not reportable.
- Suspected outbreaks of all types (including fungal infections/ringworm) are reportable to state or local public health.

CONTROL OF SPREAD:
- **Ringworm:** *EXCLUDE* children and staff with ringworm from the end of the child care/school day until treatment has started.
- **Other fungal infections:** Consult with public health about exclusion.
- Ensure all infected persons and pets are treated.
- Avoid sharing personal items.
- Encourage good hygiene and handwashing.
- See page 19 for sanitizing and disinfecting guidelines.

TREATMENT:
Fungal infections, including ringworm, can be treated with antifungal medicine that can be taken in tablet or liquid form by mouth, or as a topical cream applied directly to the affected area. The particular medication used and duration of treatment is based on the location of the infection. Some treatments require a prescription by a health care provider, and some topical creams can be purchased over-the-counter.

ROSEOLA (SIXTH DISEASE)

WHAT IS ROSEOLA (SIXTH DISEASE)?
Roseola is a rash illness caused by a virus, either human herpesvirus 6 or 7. Some people have a mild illness without a rash. Roseola occurs mainly in children between the ages of 6 and 24 months. Most children have had roseola before 4 years of age. Sometimes it is referred to as Sixth Disease, or exanthem subitum.

SIGNS & SYMPTOMS:
- High fever (often > 103°F) lasting 3 to 7 days
- Seizures may occur with the high fever
- Rash appears after the fever ends
- Rash, if present, lasts hours to several days
    - Rash is typically pinkish-red spots that are not itchy
    - Rash usually begins on face, the trunk, and then spreads to the neck, arms, legs and back
    - Rash is typically flat with some raised spots

INCUBATION PERIOD:
Probably 5 to 15 days (average of 9 to 10 days)

HOW IS IT SPREAD?
Person-to-person, probably from infected nose and throat discharges. The virus exists in the nose and throat discharges of persons with symptoms and without symptoms, who have had roseola in the past. After having roseola, the virus remains inactive in the person's body and may be reactivated later without causing symptoms.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Probably as long as the virus is present in a person's nose and throat discharges. The virus has been found intermittently in nose and throat discharges of healthy persons who had roseola in the past, so persons infected at some point in their life can potentially transmit to others. It appears that roseola is not very contagious.

PUBLIC HEALTH REPORTING REQUIREMENTS:
Roseola does not need to be reported to public health, unless an outbreak is occurring. Outbreaks are uncommon.

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary unless child has a fever along with the rash.
- Any child with a fever and rash should seek medical care to ensure that he/she does not have a more serious illness.
- Children should be taught to cover his/her mouth when sneezing or coughing, and then washing hands after doing so.
- Dispose of tissues soiled with nose and/or throat discharges.
- Children and staff should practice proper and frequent handwashing.

TREATMENT:
There is no treatment for roseola, and it typically goes away on its own.

ROTAVIRUS

WHAT IS ROTAVIRUS?
Rotavirus is a virus that causes gastrointestinal illness. Infants and young children are most often affected, and the illness can be severe in these populations. Older children and adults can also become infected, but illness generally is not as severe as in younger children. Symptoms generally last 3 to 8 days. There are two rotavirus vaccines licensed for use in the US (RotaTeq and Rotarix), which have been shown to be safe and effective at preventing severe illness. Vaccinated and unvaccinated persons may develop rotavirus infection more than once because there are many different types of rotavirus. Usually a person's first infection with rotavirus causes the most severe symptoms. Rotavirus infection can occur any time of the year, but is more likely to occur in the winter and spring months.

SIGNS & SYMPTOMS:
- Watery, non-bloody diarrhea (can be severe)
- Abdominal pain/cramps
- Loss of appetite
- Vomiting
- Fever
- Dehydration

INCUBATION PERIOD:
Ranges from 1-3 days

HOW IS IT SPREAD?
Persons ill with rotavirus shed the virus in their feces (stool). The virus is easily spread (especially among young children) by the fecal-oral route, meaning that the virus is shed by infected persons in their feces and then enters susceptible persons mouths (by contaminated hands, toys, surfaces, food, water, etc.) to cause infection.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
As long as the virus is in the feces, which can occur before symptoms appear and up to 21 days after a person becomes ill.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Report the infection to the facility director or school nurse.
- Individual cases of rotavirus are not reportable to public health.
- Suspected outbreaks of all types (including rotavirus and other diarrheal illness) are reportable to state or local public health.

CONTROL OF SPREAD:
- *EXCLUDE* all infected children and staff, including food preparation staff, until diarrhea has resolved.
- Do not transfer ill children to other facilities.
- Encourage frequent hand washing, especially after using the toilet, changing diapers, before eating, and before food preparation.
- Promptly sanitize contaminated surfaces (like diaper changing areas) and other commonly touched surfaces (like toys), and discard food or water if it is thought to be contaminated. See page 19.
- Encourage routine rotavirus vaccination in infants.
- Consult with local or state public health for help with implementation of control measures.

TREATMENT:
There is no treatment for this infection; since it is caused by a virus, antibiotics will not help. Infected persons should drink plenty of fluids to prevent dehydration. Oral rehydration fluids (like Pedialyte and similar fluids) should be used if possible.

RSV (RESPIRATORY SYNCYTIAL VIRUS)

WHAT IS RSV (RESPIRATORY SYNCYTIAL VIRUS)?
RSV causes respiratory tract illness in people of all ages. Symptoms can last for 8 to 15 days. Symptoms can be severe in infants, young children, older adults, and immunocompromised persons and hospitalization may be required. Premature infants, children under 2 years of age with chronic lung or heart conditions, and children with weakened immune systems are at particularly high risk for developing severe infections. RSV is more common in the late fall, winter, and early spring. Almost all children will be infected with RSV by their second birthday.

SIGNS & SYMPTOMS:
- Similar to the common cold – runny/stuffy nose, sneezing, coughing
- Fever
- Decreased appetite
- Sometimes wheezing
- Pneumonia and/or bronchiolitis (inflammation of the small airways in the lungs) can occur in infants and young children
- Infants may only have symptoms of irritability, decreased activity, and breathing difficulties

INCUBATION PERIOD:
Ranges from 2-8 days (usually 4-6 days)

HOW IS IT SPREAD?
RSV is spread by inhaling or having contact (typically through the mouth, nose, or eyes) with virus-containing droplets produced by an infected person who is coughing and sneezing. Virus-containing droplets do not stay in the air for very long, but can settle on surfaces that are touched by others. Contact with hands, tissues, and other articles contaminated with nose/throat discharges of ill people can spread the virus.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Infected persons are usually contagious for 3 to 8 days. Some infants and persons with weakened immune systems can be contagious for as long as 4 weeks.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Individual cases are not reportable.
- Suspected outbreaks of all types (including RSV) are reportable to state or local public health.
- Consultation with the state or local public health agency is available.

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary, but it is recommended that children experiencing acute respiratory symptoms stay home until they feel better.
- Encourage frequent handwashing.
- Encourage children to cover coughs and sneezes.
- Clean potentially contaminated surfaces, like doorknobs, tables, hand rails, etc. See page 19.
- Avoid sharing cups and eating utensils.
- Persons with respiratory symptoms should not interact with children at high-risk for severe disease.

TREATMENT:
There is no specific treatment for RSV, and it usually resolves on its own. Antibiotics should not be used for viral infections, such as RSV. Aspirin should be avoided because it increases the risk of Reye's Syndrome, a serious disorder that can lead to coma and death.

RUBELLA (GERMAN MEASLES)

WHAT IS RUBELLA (GERMAN MEASLES)?
Rubella is caused by the rubella virus. In children, rubella is a fairly mild illness. However, rubella infection during the first trimester of pregnancy can cause fetal death, premature delivery, and serious birth defects known as congenital rubella syndrome. A vaccine exists for Rubella.

SIGNS & SYMPTOMS:
- Generalized rash: Pink isolated spots which appear first on the face, then spread rapidly to the trunk, upper arms, and upper legs. Over about two days the rash fades from the face and trunk and spreads to the forearms, hands, and feet. The rash is usually gone within three days.
- Swollen glands, usually at the base of the skull and behind the ears
- Mild or no fever
- 20% to 50% of infected individuals will not have symptoms

INCUBATION PERIOD:
Ranges from 12 to 23 days (usually 14 days)

HOW IS IT SPREAD?
Transmission occurs mainly from contact with nose/throat discharges of infected persons through coughing and sneezing.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Cases are contagious from 7 days before to 5-7 days after the rash onset. Infected individuals who do not have symptoms can still infect others.

PUBLIC HEALTH REPORTING REQUIREMENTS:
Report the infection to the local or state health department within **24 hours** of diagnosis.

CONTROL OF SPREAD:
- *EXCLUDE* all infected children and/or staff until seven days after the rash onset.
    - Discuss with the state or local public health agency possible exclusion of children/students and staff without prior proof of rubella immunity.
- Suspect rubella cases should be referred to a health care provider. Laboratory testing is needed to confirm the diagnosis, because the rubella rash looks similar to other rashes.
- Determine if any exposed contacts are pregnant, and provide names of pregnant contacts to the state or local public health agency. [See Regulation 5 (regarding investigations) of the Rules and Regulations Pertaining to Epidemic and Communicable Disease Control]. Exposed pregnant women, especially those in the first trimester, should contact their healthcare provider to find out if they are immune to rubella.
- Review students' rubella immunization records and staff's rubella immunity status. Only one dose of rubella vaccine given on or after the first birthday is needed for proof of immunity.
- Recommend rubella vaccine for persons without rubella immunity. Vaccine given after exposure will not prevent infection; however, it may provide protection against future exposure.
- A live rubella virus vaccine is routinely given at 12 to 15 months of age in combination with measles and mumps vaccine (MMR vaccine) and sometimes varicella vaccine (MMRV). A second MMR is recommended at 4 to 6 years of age.
- The Colorado School Immunization Rules requires students in grades K through 12 are required to have two doses of rubella vaccine and childcare/preschool students 15 months of age to kindergarten to have one dose of rubella vaccine unless the student has an exemption to immunization.
- Pregnant women should not receive a rubella vaccination due to the possible risk to the developing child.

TREATMENT:
There is no specific treatment for rubella.

SALMONELLA

WHAT IS SALMONELLA?
Salmonella infection can cause an intestinal illness referred to as salmonellosis. *Salmonella* bacteria live in a very wide range of animals including reptiles, amphibians, chicks, ducks, rodents and cattle.

SIGNS & SYMPTOMS:
- Diarrhea (sometimes bloody)
- Abdominal cramps
- Vomiting
- Fever

INCUBATION PERIOD:
6-72 hours (usually 12-36 hours), but could be up to 7 days

HOW IS IT SPREAD?
Salmonella is spread by the fecal→oral route through eating contaminated food, drinking contaminated water, or putting contaminated objects in the mouth. *Salmonella* is also spread from person-to-person and from animals to people (especially reptiles and chicks). A wide variety of foods have been associated with infection include undercooked meat/poultry or eggs, unpasteurized milk, and produce.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Salmonella can be spread as long as the bacteria are in the stool. People who are having diarrhea are more likely to spread the illness than those whose symptoms have resolved. People may continue to shed *Salmonella* bacteria in their stools for many weeks after their illness has gone away.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Staff who become aware of illness should report the infection to the facility director or school nurse. The facility should report to the local or state health department within 7 days of diagnosis.
- If other children or staff are ill with diarrhea, refer them to their health care providers and contact public health as soon as possible as this could be an outbreak.

CONTROL OF SPREAD:
- *EXCLUDE* all infected children and/or staff until diarrhea has resolved.
    - CHILD CARE: Ill children should not go to another facility during the period of exclusion.
    - In rare circumstances, public health may require additional testing before an infected person can return to work, school, or child care.
- Exclude affected individuals from food preparation until cleared by the state or local public health agency.
- Encourage frequent handwashing, especially after animal contact, after using the toilet, changing diapers and before eating.
- Promptly sanitize contaminated surfaces (like diaper changing areas) and other commonly touched surfaces (like toys) and discard food or water if it is thought to be contaminated. See page 19.
- Refer to page 17 of this document for information on food safety.

TREATMENT:
Ill people are usually not given antibiotics for mild *Salmonella* infections because antibiotics do not shorten the duration of illness and may prolong shedding of the bacteria in the stool.

SCABIES

WHAT IS SCABIES?

Scabies is caused by *Sarcoptes scabei*, a microscopic mite that causes skin infestations. The mites burrow into the upper layer of skin. Typically, an infested person only has 10-15 mites on the body. Scabies is common among children, and child care centers are common sites of scabies outbreaks. A scabies infestation does not develop as a result of poor personal hygiene. Scabies is diagnosed by the appearance of characteristic signs and symptoms and microscopic examination of skin scrapings.

SIGNS & SYMPTOMS:

- Raised, red, pimple-like, itchy bumps/sores on the skin (tiny blisters or scales may also be present)
- Red streaks on the skin
- Tiny, raised, crooked, grayish-white or skin-colored burrows on the skin surface
- Intense itching, particularly at night
- The itching and rash may affect any part of the body, but commonly affected areas include the webbing between the fingers, wrists, elbows, armpits, waist/belt-line, buttocks, and genitalia.

INCUBATION PERIOD:

Persons who have never had scabies before: 2 weeks to 6 weeks
Persons who have had scabies before: 1 day to 4 days

HOW IS IT SPREAD?

Scabies is transmitted by direct, prolonged, physical contact (skin-to-skin) with an affected individual or through direct, immediate contact with contaminated clothing or linens. An infested person can spread scabies before he/she shows signs and symptoms. Mites do not reproduce or survive without a human host, so inanimate objects other than contaminated clothing or linens (like toys and desks) and surfaces are not important in the spread of scabies.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?

Infested individuals can transmit the disease until the mites and eggs are destroyed, usually after the first or second treatment.

PUBLIC HEALTH REPORTING REQUIREMENTS:

- Individual cases are not reportable. The school nurse/facility director should be consulted for specific concerns, or consultation with the state or local public health agency is available.

CONTROL OF SPREAD:

- *EXCLUDE* students and staff with an active infestation until the day after completing the first treatment.
- Refer affected persons to a health care provider for diagnosis and treatment.
- Close contacts to a person with an active infestation should be monitored for symptoms, or may be treated prophylactically. Please consult with public health about prophylactic treatment of contacts.
- Clothing and bedding used by a person with an active infestation should be dry-cleaned or laundered using hot settings on the washer and dryer. Items from an infested person that cannot be laundered can be placed in a plastic bag for 4 days.
- Carpet and furniture can be vacuumed (not sprayed with insecticide).
- Provide educational materials to teachers, students, and parents/guardians outlining precautionary and control measures.

TREATMENT:

Scabicide lotions and creams, often containing permethrin are used to treat scabies. If more than one treatment is needed, consecutive treatments should be done a week apart. The instructions that come in the box or on the label should be followed carefully. Since the sores/rash result from hypersensitivity to the mites, like an allergic reaction, itching may increase and continue several weeks after a successful treatment. Mites can be resistant to treatment. Contact a physician if a person continues to show symptoms three weeks after receiving treatment.

SHIGELLA

WHAT IS SHIGELLA?
Shigella infection causes an intestinal illness referred to as shigellosis. Most infections resolve in 2 to 3 days. Sometime people can be infected and not show any symptoms. Animals do not carry or spread this type of bacteria.

SIGNS & SYMPTOMS:
- Diarrhea (sometimes with blood or mucus)
- Abdominal cramps
- Fever
- Vomiting

INCUBATION PERIOD:
1-7 days (usually 1-3 days)

HOW IS IT SPREAD?
Shigella is highly contagious and spreads easily from person-to-person, especially in child care facilities. *Shigella* is spread by the fecal→oral route through direct contact with infected people, by coming into contact with contaminated surfaces, or by eating food contaminated by infected persons.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
People are contagious as long as the organism is present in the stool, which can be weeks. People with diarrhea are more likely to spread it than those who are infected but do not have symptoms.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Staff who become aware of illness should report the infection to the facility director or school nurse. The facility should report to the local or state health department within 7 days of diagnosis.
- If other children or staff are ill with diarrhea, refer them to their health care providers and contact public health as soon as possible as this could be an outbreak.

CONTROL OF SPREAD:
- Please consult with local or state public health with implementation of control measures.
- *EXCLUDE* all infected children and/or staff until diarrhea has resolved, **AND**
    - *CHILDCARE*: Children should be excluded until they have been treated with an effective antibiotic for 3 days OR they have two consecutive negative stool samples collected 24 hours apart. Ill children should not go to another facility during the period of exclusion.
    - *Most STAFF in CHILDCARE* should be excluded until they have 2 negative stool samples collected 24 hours apart. Consult with public health about the necessity of follow-up testing.
    - *SCHOOLS*: Children who wear diapers or have developmental delays resulting in fecal incontinence or hygiene concerns should be excluded until they have two consecutive negative stool samples collected 24 hours apart OR the child has been treated with an effective antibiotic for 3 days.
    - *STAFF in SCHOOLS* who handle food should be excluded until they have 2 negative stool samples collected 24 hours apart.
- Exclude affected individuals from food preparation until cleared by the state or local public health agency.
- Encourage frequent handwashing, after using the toilet, changing diapers and before eating.
- Promptly sanitize contaminated surfaces (like diaper changing areas) and other commonly touched surfaces (like toys) and discard food or water if it is thought to be contaminated. See page 19.

TREATMENT:
Antibiotics can be used to treat infections, but some antibiotics will not eliminate these bacteria. Antibiotic treatment is recommended for cases with severe disease or underlying immunosuppressive conditions. Some *Shigella* bacteria have become resistant to certain antibiotics. Laboratory tests can determine which antibiotics are effective for a specific *Shigella* case.

SEXUALLY TRANSMITTED INFECTIONS (STIs)

WHAT ARE SEXUALLY TRANSMITTED INFECTIONS (STIs)?

Over 16 infectious diseases are recognized as being STIs. The STIs described in this section of the guidelines cover only those most common (i.e., situations with which school/child care nurses and personnel are more likely to be confronted). Teens, especially females, have very high reported rates of STIs for several reasons:

- Many STIs do not cause symptoms, sexual partners do not know that they are infected and can spread the disease;
- Social stigma attached to STIs may cause embarrassment and result in hesitance to be examined for fear that others will "find out" about the infection;
- Lack of knowledge about STIs and how they are transmitted.

SIGNS & SYMPTOMS:

Varies depending on the disease. See the following pages for information on specific STIs.

INCUBATION PERIOD:

Varies depending on the disease. See the following pages for information on specific STIs.

HOW IS IT SPREAD?

STIs are transmitted through various forms of sexual contact: oral, anal, and vaginal. People with an STI are generally contagious until they receive treatment, although some STIs are potentially communicable for life (like HIV, genital herpes, and genital warts).

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?

Varies depending on the disease. See the following pages for information on specific STIs.

PUBLIC HEALTH REPORTING REQUIREMENTS:

- Chlamydia, gonorrhea and Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) must be reported to the state or local public health agency within seven days of diagnosis.
- Syphilis must be reported with 24 hours of a suspected or confirmed diagnosis.
- The possibility of sexual abuse must be considered when infections occur in prepubescent children and must be reported to appropriate authorities.

CONTROL OF SPREAD:

- No exclusions or environmental interventions are necessary, since STIs require close intimate physical contact for transmission, virtually always of a sexual nature.
- Infected persons should be examined by a health care provider and treated (if treatment is available) as soon as the diagnosis is confirmed to prevent complications. Treatment of partner(s) is a crucial strategy to prevent re-infection. Infected persons should seek medical care if symptoms persist or recur. Parental consent is not required for minors to be examined and treated.
- Infected persons should avoid sexual activity until they and their partner(s) are treated (if treatment is available) and cured.
- Infected persons should abstain from sex or use condoms to prevent future infections.
- General education of STI prevention is advocated.
- A vaccine exists for the most common types of Human Papillomavirus (HPV) (the virus that causes genital warts); there are currently no other vaccines for STIs.
- Additional information is available at:
- http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607766338

TREATMENT:

Infected persons should be taught how to take prescribed medications correctly. For additional treatment information, see the 2010 Sexually Transmitted Diseases Treatment Guidelines, published by the CDC: http://www.cdc.gov/std/treatment/2010/default.htm

STREPTOCOCCAL SORE THROAT (STREP THROAT)

WHAT IS STREPTOCOCCAL SORE THROAT (STREP THROAT)?
Streptococcal sore throat, also referred to as strep throat, is caused by the bacteria *Streptococcus pyogenes* (also known as Group A streptococcus). Not all sore throats are caused by streptococcal bacteria. Persons ill with a sore throat should see a health care provider to determine the cause. Strep throat is usually diagnosed by a rapid strep test or a throat culture.

SIGNS & SYMPTOMS:
- Sore throat – throat appears red and there may be white pus on the tonsils
- Fever
- Enlarged lymph nodes in the neck
- Runny nose (toddlers may only have a runny nose and/or fever)
- Sometimes headache, stomach pain, nausea, and/or vomiting
- Some persons may develop a skin rash called a scarlatiniform rash
- Complications of strep throat can include:
    - Rheumatic fever, an inflammatory disease that can involve the heart, joints, skin, and brain. The risk of rheumatic fever is reduced by promptly treating strep throat with the appropriate antibiotics.
    - Acute glomerulonephritis, a disease of the kidneys.
    - Toxic shock syndrome.

INCUBATION PERIOD:
2 to 5 days

HOW IS IT SPREAD?
Strep throat is usually transmitted through contact with droplets and respiratory secretions from an infected person, such as through coughing and sneezing.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Persons are no longer contagious within 24 hours of appropriate antimicrobial therapy. Communicability of persons who are not treated gradually diminishes over a period of weeks.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Report the infection to the facility director or school nurse.
- Individual cases of strep throat infections, scarlet fever, and rheumatic fever are not reportable to public health.
- Suspected outbreaks of all types (including strep throat) are reportable to state or local public health.

CONTROL OF SPREAD:
- *EXCLUDE* symptomatic children and staff in child care centers and schools with strep throat until 24 hours after beginning antibiotic treatment.
- A student or staff member without symptoms, regardless of a positive test result, does not need to be excluded.
- Family members and household contacts of an ill person do not need to be routinely tested unless they are symptomatic, or contacts are at increased risk of developing sequelae from strep infection, or the child has rheumatic fever or acute glomerulonephritis.
- Follow-up testing of symptomatic persons with a positive strep test is not routinely recommended. If symptoms persist after antibiotic therapy, a health care provider should be consulted.
- Encourage frequent handwashing.

TREATMENT:
Typically antibiotics (usually penicillin or amoxicillin) are prescribed to treat strep throat. Treatment instructions should be followed closely in order to prevent complications such as rheumatic fever.

SYPHILIS

WHAT IS SYPHILIS?

- Syphilis is caused by *Treponema pallidum*, a bacterium. Syphilis can affect the entire body, and has three stages: primary, secondary, and late. Symptoms vary and can be indistinguishable from other diseases, and often people with syphilis do not have noticeable symptoms for years.

SIGNS & SYMPTOMS:

- Primary stage: One or more small, round, hard, painless sores (called chancres) appear at the site of exposure, usually around the penis, mouth, vagina, and/or anus. Chancres generally resolve after three to six weeks without treatment.
- Secondary stage: If not treated, a non-itchy, reddish, rough rash develops on the palms of the hands and on the bottoms of the feet. A rash with a different appearance may occur on other parts of the body. Sometimes the rash is faint and not noticed. Second-stage symptoms can also include fever, swollen lymph glands, sore throat, patchy hair loss, headaches, weight loss, muscle aches, and tiredness. Even without treatment, the symptoms of secondary syphilis usually resolve.
- Late stage: A person with untreated syphilis can experience a period of many years without any symptoms following the primary and secondary stages. Signs and symptoms of the late stage of syphilis include difficulty coordinating muscle movements, paralysis, numbness, gradual blindness, and dementia. The damage may be serious enough to cause death.

INCUBATION PERIOD:

Ten days to three months (usually three weeks).

HOW IS IT SPREAD?

Direct exposure to a chancre through sexual contact: oral, anal, and vaginal.

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?

Persons with a chancre(s) who is in the primary or secondary stage can spread syphilis.

PUBLIC HEALTH REPORTING REQUIREMENTS:

- Syphilis infections must be reported by laboratories and health care providers to the state or local public health agency within **24 hours** of a suspected or confirmed diagnosis.
- The possibility of sexual abuse must be considered when infections occur in prepubescent children and must be reported to appropriate authorities.

CONTROL OF SPREAD:

- No exclusions or environmental interventions are necessary, since STIs require close intimate physical contact for transmission, virtually always of a sexual nature.
- Infected persons should be examined by a health care provider and treated as soon as the diagnosis is confirmed to prevent complications. Treatment of the partner(s) is a crucial strategy to prevent re-infection. Infected persons should seek medical care if symptoms persist or recur. Parental consent is not required for minors to be examined and treated.
- Infected persons should avoid sexual activity until they and their partner(s) are treated and cured.
- Patients should abstain from sex or use condoms to prevent future infections.
- General education of STI prevention is advocated.
- Additional information is available at:
- http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607766338

TREATMENT:

Treatment is with antibiotics. Syphilis is easy to cure in its early stages. Late stage syphilis complications require more extensive antibiotic treatment.

TETANUS

WHAT IS TETANUS?
Tetanus is caused by *Clostridium tetani*, which is a spore-forming bacteria found in soil and in human and animal feces. The spores enter the body through breaks in the skin, often wounds, and grow under low oxygen conditions. The bacteria excrete a potent toxin(poison) that effects the central nervous system. Tetanus can be fatal. There are very few cases of tetanus in the United States due to the use of tetanus vaccine.

SIGNS & SYMPTOMS:
- The jaw and neck are usually involved first, causing lockjaw, stiff neck, and difficulty swallowing
- Painful, severe muscular contractions (spasms)
- Generalized tonic seizure-like activity
- Eventually the entire body is affected (usually in a descending pattern)

INCUBATION PERIOD:
Ranges from 2 days to several months (usually 8 to 14 days)

HOW IS IT SPREAD?
Persons can acquire tetanus when spores enter the body through breaks in the skin (wounds).

HOW LONG CAN A PERSON PASS THE INFECTION TO OTHERS?
Tetanus is not contagious person-to-person.

PUBLIC HEALTH REPORTING REQUIREMENTS:
- Report the infection to the facility director or school nurse and the local or state health department within 7 days of diagnosis.

CONTROL OF SPREAD:
- *EXCLUSION* is not necessary because Tetanus is not spread person-to-person.
- Tetanus can be prevented with vaccination.
- Tetanus toxoid is part of DTaP, DT, Tdap, and Td vaccines.
- Tetanus vaccine is routinely given starting at 2 months of age.
- The Colorado School Immunization Rules require students to have tetanus vaccine starting at 4 months of age or an exemption to vaccination.
- Tetanus vaccine and/or tetanus immune globulin (TIG) may be recommended after an injury in certain situations depending on the type of wound and the person's tetanus vaccination status.
- Instances where tetanus vaccine and/or TIG may be needed include animal bites, cuts, burns, puncture wounds, and wounds contaminated with soil, feces, or saliva.
- Consultation with the state or local public health agency is available or the injured person may be referred to their health care provider.
- The following link may help child care and school nurses determine whether tetatnus prophylaxis (tetanus shot or TIG) is needed after an injury. See Table 1. Guide to tetanus prophylaxis in routine wound management under the "Vaccination" section of the "Tetanus" chapter of the Centers for Disease Control's Manual for the Surveillance of Vaccine Preventable Diseases:
  http://www.cdc.gov/vaccines/pubs/surv-manual/chpt16-tetanus.html

TREATMENT:
All wounds should be cleaned. Tetanus immune globulin (TIG) is recommended for persons with tetanus. Antibiotic prophylaxis against tetanus is not useful.

TUBERCULOSIS (TB)

WHAT IS TUBERCULOSIS (TB):
Tuberculosis (TB) is a disease caused *by Mycobacterium* tuberculosis. The bacteria usually attack the lungs, but TB bacteria can attack any part of the body such as the kidney, joints/bones, spine, and brain. If not treated properly, TB disease can be fatal.

HOW IS IT SPREAD?:
TB is spread through the air from one person to another. The TB bacteria are put into the air when a person with active TB disease of the lungs or throat coughs, sneezes, speaks, or sings. People nearby may breathe in these bacteria and become infected.

TB is NOT spread by:

- shaking someone's hand
- sharing food or drink
- touching bed linens or toilet seats
- sharing toothbrushes
- kissing

Not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: latent TB infection and active TB disease.

Latent TB Infection
TB bacteria can live in your body without making you sick. This is called latent TB infection (LTBI). In most people who breathe in TB bacteria and become infected, the body is able to fight the bacteria to stop it from growing. People with latent TB infection do not feel sick and do not have any symptoms.

Active TB Disease
TB bacteria become active if the immune system can't stop it from growing. When TB bacteria are active (multiplying in your body), this is called TB disease. TB disease will make you sick. People with TB disease may spread the bacteria to people they spend time with every day.

TUBERCULOSIS: Continued on next page

The Difference between Latent TB Infection and Active TB Disease

A Person with Latent TB Infection	A Person with Active TB Disease
• Has no symptoms	• Has symptoms that may include: - a bad cough that lasts 3 weeks or longer - pain in the chest - coughing up blood or sputum - weakness or fatigue - weight loss and/or no appetite - chills and/or fever - sweating at night
• Does not feel sick	• Usually feels sick
• Cannot spread TB bacteria to others	• May spread TB bacteria to others
• Usually has a skin test or blood test result indicating TB infection	• Usually has a skin test or blood test result indicating TB infection
• Has a normal chest x-ray and a negative sputum smear	• May have an abnormal chest x-ray, or positive sputum smear or culture
• Needs treatment for latent TB infection to prevent active TB disease	• Needs treatment to treat active TB disease

CONTROL OF SPREAD:

- EXCLUDE active TB cases from child care or school until they are receiving treatment and are cleared by a health care provider or a public health official. Children/students and staff who do not have symptoms should not be excluded from child care or school solely based on a positive skin or blood test.
- Referral to a health care provider is mandatory for suspected or confirmed case of TB. Recent skin or blood test converters should have a chest x-ray and consult a health care provider or public health agency to determine if treatment is indicated.
- Skin or blood testing of all exposed children and staff may be necessary in some instances.
- No immunization is recommended in the United States.
- Consultation with the state or local public health agency is encouraged for situations that may arise in child care or school settings. The CDPHE Tuberculosis Program can be reached at ***303-692-2638***.

PUBLIC HEALTH REPORTING REQUIREMENTS:

- Report the active TB cases to the facility director or school nurse and the local or state health department within 24 hours of diagnosis.
- Report positive TB skin tests to the facility director or school nurse and the local or state health department within 7 days of diagnosis.

Related Links

Colorado Dept. of Public Health and Environment TB Program website:
http://www.colorado.gov/cs/Satellite/CDPHE-DCEED/CBON/1251607766357

CDC TB home page:
http://www.cdc.gov/tb/

VIRAL MENINGITIS (ASPETIC MENINGITIS)

WHAT IS VIRAL MENINGITIS?
Viral meningitis is a relatively common illness but rarely is serious. Meningitis is infection of the tissue that covers the brain and spinal cord. Causes of viral meningitis Enteroviruses include coxsackie virus and echoviruses. Other causes of viral meningitis include: measles, chickenpox, mumps, herpes virus, and West Nile virus. Increases in cases of viral meningitis occur regularly in the summer and fall and are not cause for alarm. Symptoms of viral meningitis are similar to bacterial meningitis, which can be very severe. Persons suspected of having meningitis should be seen by a health care provider to rule or bacterial meningitis.

SIGNS & SYMPTOMS:

- Fever
- Severe headache
- Stiff neck
- Trouble waking up
- Sensitivity to light
- Confusion
- Nausea/vomiting

INCUBATION PERIOD:
Dependent on the virus involved (i.e, incubation for enterovirus is 3 to 7 days).

HOW IS IT SPREAD?
How the infection spreads varies among the viruses that cause viral meningitis. Viral meningitis is most often spread through direct contact with nose/throat discharges or the stool of an infected person.

HOW LONG CAN A PSERSON PASSS THE INFECTION TO OTHERS?
Contagiousness varies among the viruses that cause viral meningitis. It is usually spread during the time the infected person has symptoms of illness.

PUBLIC HEALTH REPORTING REQUIREMENTS:
Report the infection to the local or state health department within 7 days of diagnosis.

CONTROL OF SPREAD:

- *EXCLUSION* is usually not necessary. However, meningitis caused by certain viruses, such as chickenpox, mumps, or measles would require exclusion!
- Suspect cases with diarrhea should be referred to a health care provider.
- Encourage frequent and thorough hand washing.
- Encourage covering of mouth and nose when coughing or sneezing.
- Promptly disinfect contaminated surfaces (like eating/drinking utensils) and other commonly touched surfaces (like toys) and doorknobs soiled by secretions. See page 19.
- Please consult with local or state public health about control measures.

TREATMENT:
No specific treatment is available. Health care providers often recommend rest, plenty of fluids, and over-the-counter medications to relieve fever and headaches.

INFECTIOUS DISEASE IN CHILD CARE AND SCHOOL SETTINGS –SUMMARY CHART

DISEASE/AGENT	INCUBATION PERIOD	TRANSMISSION	CONTAGIOUS PERIOD	REPORT TO PUBLIC HEALTH	EXCLUSION
Animal Bites/Rabies Rabies virus	Rabies: 8 days-6 years (usually 3-8 weeks)	Saliva of an infected animal	As long as symptoms are present	YES (24 hours for animal bites)	None for animal bites
Campylobcater *Campylobacter* bacteria	1-10 days (usually 2-5 days)	Fecal-oral spread, contaminated food/water animals	While diarrhea is present; can spread for a few days after symptoms are gone	YES (7 days)	Yes-until 24 hours after diarrhea resolves
Chickenpox (Varicella) Varicella-zoster virus	10-21 days (usually 14-16 days)	Droplet/infectious discharges, skin contact	1-2 days before the rash appears until all the blisters have crusted over (usually days after onset)	YES (7 days)	Yes-until all blisters have crusted over
Chlamydia *Chlamydia trachomatis* bacteria	1-3 weeks	Sexual transmission	Until treated	YES (7 days)	None
CMV Cytomegalovirus	3-12 weeks	Body secretions (primarily saliva and urine)	As long as the virus is present in body secretions (months or years)	None	None
Common Cold A variety of viruses	1-3 days (usually 48 hours)	Droplet/infectious discharges	1 day before symptom onset until 5 days after	None	None-unless symptoms are severe
Croup	2-7 days	Droplet/infectious discharges	1 week before symptom onset to 1-3 weeks after symptoms	None	None-unless symptoms severe
Cryptosporidium *Cryptosporidium parvum* parasite	1-12 days (usually 7 days)	Fecal-oral spread, contaminated food/water animals	While diarrhea is present; can spread for several weeks after symptoms are gone	Yes (7 days)	Yes-until 24 hours after diarrhea resolves
E. coli O157:H7 and other Shiga Toxin Producing E.coli (STEC) *Escherichia coli* bacteria	1-10 days (usually 3-4 days)	Fecal-oral spread, contaminated food/water, animal	While diarrhea is present; can spread for 1-3 weeks after symptoms are gone	Yes (7 days)	Yes-until diarrhea resolves (diapered children need 2 negative stool tests)
Fifth Disease Human parovirus B19	4-21 days	Droplet/infectious discharges	1 week before rash appears	None	None
Genital Herpes Herpes simplex virus	2-12 days	Sexual transmission	Potentially lifelong	None	None
Genital Warts Human papilloma virus	Variable	Sexual transmission	Potentially lifelong	None	None
Giardia *Giardia lamblia* parasite	1-3 weeks (usually 7-10 days)	Fecal-oral spread, contaminated food/water	While diarrhea is present; can spread for months after symptoms are gone	Yes (7 days)	Yes-until 24 hours after diarrhea resolves
Gonorrhea *Neisseria gonorrhea* bacteria	1-14 days	Sexual transmission	Until treated	Yes (7 days)	None

*Outbreaks of any disease are reportable to public health within 24 hours

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DISEASE/AGENT	INCUBATION PERIOD	TRANSMISSION	CONTAGIOUS PERIOD	REPORT TO PUBLIC HEALTH	EXCLUSION
Hand, Food, and Mouth Disease Strains of enteroviruses	3-6 days	Droplet/infectious discharges, fecal-oral spread	During the first week of illness for respiratory droplets; virus can be present in stool 4-6 weeks	None	None-unless the child is drooling uncontrollably
Head Lice (Pediculosis) *Pediculus humanus,* the head louse	Nits hatch in 10-14 days, adults live 3-4 weeks	Direct contact with an infested person/object	As long as live lice are present	None	Yes-from end of school day until after first treatment
Hepatitis A Hepatitis A virus	2-6 weeks (usually 4 weeks)	Fecal-oral spread, contaminated food/water	Most contagious 2 weeks before symptom onset and slightly contagious 1 week after jaundice onset	Yes (24 hours)	Yes-until 1 week after symptom onset or jaundice
Hepatitis B Hepatitis B virus	2-6 months (usually 2-3 months)	Infective blood or body fluids, sexual transmission	Several weeks before symptom onset and throughout the illness, some people carry virus for life	Yes (7 days)	None
Hepatitis C Hepatitis C virus	2 weeks – 6 months (usually 6-7 weeks)	Infective blood	1 or more weeks before symptom onset and as long as the virus is present in the blood which can be lifelong	Yes (7 days)	None
Herpes (Cold Sores, Fever Blisters) Herpes simplex virus	2-12 days	Direct contact	As long as the sores are present	None	None unless the child is drooling uncontrollably
HIV and AIDS Human immunodeficiency virus	Variable	Infective blood & some body fluids	Lifelong	Yes (7 days)	None
Impetigo Streptococcal or staphylococcal bacteria	7-10 days for Streptococcal; Variable for Staphylococcal	Direct contact	Until treatment with antibiotics for at least 24 hours or lesions are no longer present	None	Yes-until 24 hours after treatment
Influenza Influenza virus	1-4 days (usually 2 days)	Droplet/infectious discharges	From slightly before symptom onset to about day 3 of illness	**Yes(**hospitalized cases or deaths in children <18 years –7 days)	None
Measles (Rubeola) Measles virus	7-21 days (usually 10-12 days)	Airborne/droplet/ Infectious discharges	4 days before rash onset to 5 days after	**Yes (24 hours)**	Yes-until 5 days after rash onset
Meningitis (Bacterial) Bacteria such as *Neisseria meningitides* (meningococcal) *Haemophilus influenza* (H.flu), *Streptococcus pneumonia* (pneumococcal)	Depends on the agent (usually 1-10 days)	Droplet/infectious discharges	Until completing 24 hours of antibiotic treatment	**Yes (24 hours for meningococcal and H.flu)** (7 days for pneumococcal)	Yes- until 24 hours after treatment
Meningitis (Viral) Several different viruses	Depends on agents	Droplet/infectious discharges, fecal-oral spread	Depends on agent	Yes (7 days)	None
Molluscum	2-7 weeks	Direct/indirect contact	As long as lesions are present	None	None

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DISEASE/AGENT	INCUBATION PERIOD	TRANSMISSION	CONTAGIOUS PERIOD	REPORT TO PUBLIC HEALTH	EXCLUSION
Mononucleosis Epstein-Barr virus	4-6 weeks	Saliva	Up to a year after the initial infection	None	None
MRSA Methicillin-resistant Staphylococcus aureus	Variable	Skin contact or contaminated items	See CDPHE guidelines (link located in chapter)	Yes (from sterile sites in Denver area residents) (7 days)	See CDPHE guidelines (link located in chapter)
Mumps Mumps virus	12-25 days (usually 16-18 days)	Droplet/infectious discharges, saliva	2 days before swelling onset to 5 days after	Yes (7 days)	Yes-until 5 days after swelling onset
Norovirus & Viral Gastroenteritis Various viruses, such as norovirus	Varies by virus (usually 1-2 days)	Fecal-oral spread, contaminated food/water	While diarrhea or vomiting is present and several days after symptoms are gone	None	Yes-until 48 hours after diarrhea and/or vomiting resolves.
Pink Eye (Conjunctivitis) Various bacteria and viruses, allergies, chemical irritation	Bacterial: 24-72 hours Viral: 1-12 days Allergies: variable Chemicals: variable	Bacterial and viral: infectious discharges Allergies and chemicals: not contagious	Bacterial: as long as symptoms are present or until treatment has been started Viral: as long as symptoms are present	None	Yes- (bacterial or viral) until approved for return by a school nurse/health care provider or until treatment has been started.
Pinworm	1-2 months	Fecal-oral, indirect contact	As long as eggs are present	None	None, unless proper control measures cannot be followed
Pubic Lice (Crabs) *Phthirus pubis*, the pubic louse	Average life cycle is 15 days	Sexual transmission	As long as lice are present	None	None
Ringworm (Tinea) Several fungi species	4-14 days	Skin contact/direct contact	As long as rash is present on skin	None	Yes-from end of school day until after first treatment
Roseola	5-15 days (usually 9-10 days)	Droplet/infectious discharges	As long as virus is present in nose/threat secretions	None	None, unless fever is present with rash
Rotavirus	1-3 days	Fecal-oral spread	As long as virus is in feces; from before symptom onset to 21 days after	None	Yes-until diarrhea has resolved
RSV Respiratory Syncytial Virus	2-8 days (usually 4-6 days)	Droplet/infectious discharges	3-8 days after symptom onset	None	None
Rubella (German Measles) Rubella virus	12-23 days (usually 14 days)	Droplet/infectious discharges	7 days before rash onset to 5-7 days after	Yes (24 hours)	Yes-until 7 days after rash onset
Salmonella *Salmonella* bacteria	6-72 hours, but up to 7 days (usually 12-36 hours)	Fecal-oral spread, contaminated food/water, animals	While diarrhea is present; can spread for a variable period of time after symptoms are gone	Yes (7 days)	Yes-until diarrhea has resolved
Scabies *Sarcoptes scabei*, a mite	2-6 weeks if never infected, 1-4 days if infected before	Skin contact/direct contact	Until the mites and eggs are destroyed, usually after 1st or 2nd treatment	None	Yes-from end of school day until after first treatment

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DISEASE/AGENT	INCUBATION PERIOD	TRANSMISSION	CONTAGIOUS PERIOD	REPORT TO PUBLIC HEALTH	EXCLUSION
Shigella *Shigella* bacteria	1-7 days (usually 1-3 days)	Fecal-oral spread, contaminated food/water	While diarrhea is present; can spread for weeks after symptoms are gone	Yes (7 days)	Yes-until diarrhea resolves (diapered children require 2 negative stool tests)
Shingles (Herpes Zoster) Varicella –zoster virus	10-21 days (usually 14-16 days)	Skin contact	Until all the blisters have crusted over	None	No- as long as the blisters are covered
Staph Infection	Variable	Skin contact or contaminated items	As long as the bacteria are present	None	See CDPHE guidelines (link located in chapter)
Strep Throat *Streptococcus pyogenes* bacteria	2-5 days	Droplet/infectious discharges	Until treated with antibiotics for 24 hours, or 10-21 days for untreated cases	None	Yes-until 24 hours after treatment
Syphilis *Treponema pallidum* Bacteria	10 days-3 months (usually 3 weeks)	Sexual transmission	Until treated	Yes (24 hours)	None
Tetanus *Clostridum tetani* bacteria	2 days-several months (usually 8-14 days)	Through breaks in the skin	Not contagious	Yes (7 days)	None
Tuberculosis *Mycobacterium tuberculosis* mycobacterium	2-12 weeks	Airborne	As long as symptoms are present or until on treatment	Yes (24 hours)	Yes- (active cases) until on treatment and cleared by a health care provider
Whooping Cough (Pertussis) *Bordetella pertussis* bacteria	5-21 days (usually 7-10 days)	Droplet/infectious discharges	Until after the third week of coughing, or until after 5 days of treatment	Yes (24 hours)	Yes-until 5 days after treatment or until 3 weeks after cough onset.

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