

INFORMATION FOR

Directors, Child Care Providers, Parents, and Guardians

**Selected
Communicable Diseases
In Child Care Settings**

Provided By:

The Child Care Nurse Consultant

Serving Winnebago, Boone, Stephenson, Jo Daviess Counties

July, 2009



Selected Communicable Diseases In Child Care Settings

Provided By:

YWCA Child Care Solutions of Rockford

and

Winnebago County Health Department

Serving Winnebago, Boone, Stephenson and Jo Daviess Counties

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Rockford, IL 61108

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* The diseases marked with an asterisk are to be reported to our local health department. Please see page v for more information.

Introduction

The American Academy of Pediatrics estimates that the percentage of children in child care have risen from 30% in 1970 to 75% today. The drastic increase of children in child care will also have more children exposed to communicable diseases in your child care facility. This binder was designed to assist you in care giving and disease prevention.

The Healthy Child Care Coalition recognizes the difficulties incurred when dealing with infectious diseases in the child care setting. In this binder you will find parent letters, fact sheets, reportable diseases, health department information, exclusion recommendation, disinfecting solution recipes, medication administration, and much more. We hope this binder will be helpful to you in addressing some of the common childhood illness that child care providers sometimes encounter.

The parent letters in this binder are intended to help keep confidentiality in the child care facility. If a child in a classroom comes down with one of the illnesses described in this book, please send a letter home with every child in the facility. This ensures that one classroom or one child is not pointed out. The information also can be read at a convenient time for the parent and not cause panic in the child care facility by posting signs with little information regarding the disease.

These materials are designed to help a child care provider when they are aware of a specific diagnosis by physician or local health department. It is not intended for child care providers to use to diagnose children in their facility. If you have any questions regarding information found in this binder, please call your local health department or physician.

Please contact your Child Care Nurse Consultant at (800) 872-9780 ext. 215 to discuss or ask any questions regarding this binder.

Recommendations for Exclusion

See pages 77-79 of DCFS Licensing Standards for Day Care Centers: <http://www.state.il.us/dcfs/docs/407.pdf>

Children should be excluded from the child care setting for the following reasons:

- Diarrhea - 3 or more loose stools, stools that cannot be contained by a diaper, or stool that contains blood or mucus.
- Fever - oral fever $\geq 101^{\circ}$ F or under the arm temperature (axillary) 100° F
- Illness that prevents the child from participating comfortably in program activities.
- Illness that results in a greater need for care than the staff can provide without compromising the health and safety of other children.
- Unusual lethargy, irritability, persistent crying, difficulty breathing, or other manifestations of possible severe illness.
- Vomiting 2 or more times during the previous 24 hours, unless the vomiting is determined to be caused by a non-communicable condition and the child is not in danger of dehydration.
- Mouth sores, unless the child's physician or local health department authority states that the child is noninfectious.
- Rash with fever or behavioral change, until a physician has determined the illness is not a communicable disease.
- Purulent conjunctivitis (defined as pink or red conjunctiva with white or yellow eye discharge, often with matted eyelids after sleep and eye pain or redness of the eyelids or skin surrounding the eye), until examined by a physician and approved for readmission, with treatment.
- Impetigo, until 24 hours after treatment has been initiated.
- Strep throat (streptococcal pharyngitis), until 24 hours after treatment has been initiated and until the child has been without fever for 24 hours.
- Head lice, until morning after the first treatment.
- Scabies, until morning after treatment has been given.
- Chicken pox (Varicella), until all lesions have dried and crusted (usually 6 days).
- Whooping Cough (Pertussis), until 5 days of appropriate antibiotic therapy has been completed.
- Mumps, until 9 days after onset of parotid gland swelling.
- Measles, until 4 days after disappearance of rash.
- Return to day care for all other diagnoses should be decided in consultation with the local health department.



Illinois Reportable Diseases

Mandated reporters, such as health care providers, hospitals and laboratories, must report any suspected or confirmed human cases of these diseases to the local health authority within the number of days or hours indicated in parentheses. (*HIV/AIDS is reportable directly to IDPH)

Any suspected bioterrorist threat (immediately)
 Any unusual case or cluster of cases that may indicate a public health hazard (immediately)
 AIDS* (7d)
 Anthrax (immediately)
 Arboviruses (including WNV) (7 d)
 Botulism, foodborne (immediately)
 Botulism, infant, wound, other (24h)
 Brucellosis (7d, unless bioterrorism suspected, then immediately)
 Chancroid (7d)
 Chickenpox (24h)
 Chlamydia (7d)
 Cholera (24h)
 Creutzfeldt-Jakob Disease (7d)
 Cryptosporidiosis (7d)
 Cyclosporiasis (7d)
 Diphtheria (24h)
 Ehrlichiosis and Anaplasmosis (7d)
 Enteric *E. coli* infections (STEC, O157:H7, ETEC, EPEC, EIEC) (24h)
 Foodborne or waterborne illness (24h)
 Giardiasis (7d)
 Gonorrhea (7d)
Haemophilus influenzae, invasive (24h)
 Hantavirus pulmonary syndrome (24h)

Hemolytic uremic syndrome, post diarrheal (24h)
 Hepatitis A (24h), B (7d), C (7d), D (7d)
 Histoplasmosis (7d)
 HIV infection* (7d)
 Influenza, deaths in <18 yr olds (7d)
 Influenza A, novel virus (immediately)
 Legionellosis (7d)
 Leprosy (7d)
 Leptospirosis (7d)
 Listeriosis (7d)
 Lyme disease (7d)
 Malaria (7d)
 Measles (24h)
 Mumps (24h)
N. meningitidis, invasive (24h)
 Ophthalmia neonatorum (gonococcal) (7d)
 Pertussis or whooping cough (24h)
 Plague (immediately)
 Poliomyelitis (24h)
 Psittacosis (7d)
 Q fever (7d unless bioterrorism suspected then immediately)
 Rabies, human and potential human exposure (24h)
 Reye syndrome (7d)
 Rocky Mountain spotted fever (7d)

Rubella (24h)
 Salmonellosis, other than typhoid (7d)
 Severe Acute Respiratory Syndrome (SARS) (immediately)
 Shigellosis (7d)
 Smallpox (immediately)
 Smallpox vaccination, complications of (24h)
S. aureus, Methicillin resistant (MRSA) clusters in a community setting or colonization/infection in infants <61 days (24h)
S. aureus infections with intermediate or high level resistance to vancomycin (24h)
 Streptococcal infections, Group A, invasive and sequelae to Group A streptococcal infections (24h)
S. pneumoniae, invasive in those <5 yrs (7d)
 Syphilis (7d)
 Tetanus (7d)
 Toxic shock syndrome due to *S. aureus* (7d)
 Trichinosis (7d)
 Tuberculosis (7d)
 Tularemia (7d unless bioterrorism suspected then immediately)
 Typhoid fever (24h)
 Typhus (24h)
 Vibriosis (non cholera) (7d)
 Yersiniosis (7d)

All reports are confidential and should include—

- the disease or condition being reported
- patient’s name, date of birth, age, sex, race/ethnicity, address and telephone number
- physician’s name, address and telephone number

TO REPORT A CASE

contact your local health department:

During regular business hours, call _____ - _____ - _____.

For emergencies after business hours, call _____ - _____ - _____.

If no local health department is available, contact the

Illinois Department of Public Health

217-785-7165 • TTY (hearing impaired use only) 800-547-0466

Thank you for your cooperation!



Health Department Contact

Information

Winnebago County Health Department

401 Division Street

Rockford, IL 61104

(815) 720-4000

Boone County Health Department

1204 Logan Avenue

Belvidere, IL 61008

(815) 544-2951

Stephenson County Health Department

10 W. Linden Street

Freeport, IL 61032

(815) 235-8271

Jo Daviess County Health Department

9483 U.S. Route 20 West

Galena, IL 61036

(815) 777-0263

Stomach Diseases

Enteroviruses Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has an illness due to an enterovirus. Enteroviruses cause a variety of illnesses, common in young children, which usually occurs during the summer and fall months. These viruses often cause mild infections such as colds, sore throats, and intestinal illness. Less often they cause pneumonia, meningitis or encephalitis, or they may affect the eyes or heart.

Cause: Cosackieviruses, echoviruses, or enteroviruses.

Symptoms: Cold-like symptoms, sore throat, mouth sores, fever, rash, vomiting and diarrhea are most common. Some people may not have any symptoms.

Spread: Enterovirus leaves the body through the stool of an infected person and enters another person when hands, food, or objects (such as toys) contaminated with stool, are placed in the mouth. Also, enteroviruses can be spread through droplets that are expelled from the nose and mouth during sneezing and coughing.

Incubation Period: It usually takes from 3 to 6 days from the time a person is exposed until symptoms begin.

Period of Communicability: During illness and possibly for several weeks after illness (through contact with stool). Respiratory shedding is usually limited to a week or less. Also, infected persons who may not seem sick are able to spread the infection.

Prevention/Control:

1. Wash hands thoroughly with soap and running water after using the bathroom, wiping the nose or mouth, and after handling diapers or anything soiled with stool.
2. Clean and disinfect contaminated areas (diapering area, toilets, potty chairs) and toys at least daily and when soiled.

Examples of approved disinfecting solutions:

To disinfect clean, non-food contact surfaces: use a solution of household bleach and water – ¼ cup of bleach in a gallon of water. (To make a smaller amount in a spray bottle, use 1 tablespoon bleach in a quart of water.) Saturate area with solution. Air dry. Do NOT rinse.

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10-20 minutes in a weak bleach solution – 1 tablespoon bleach added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

3. Dispose of tissues and diapers properly.

Diagnosis/Treatment:

If illness is very serious, then specimens may be obtained by a physician. Attempts to recover the virus are particularly important in patients with serious illness during epidemics. No specific therapy for enteroviral infections exists.

Exclusion:

Child should be excluded until diarrhea has stopped.



Enteroviruses Diseases

What are enteroviruses?

Enteroviruses are small viruses. The enteroviruses that occur in the United States include coxsackieviruses and echoviruses. Polioviruses are also included in the term “enterovirus,” but they have been eradicated from the United States by vaccination. In all, more than 60 different types of enteroviruses have been identified.

How common are infections with these viruses?

In Illinois and the United States, enterovirus infections are second only to the “common cold.” It has been estimated that at least 10 million to 15 million persons in the United States develop some sort of enteroviral illness each year.

Can a person develop immunity to these viruses?

Yes, immunity can occur after infection with one of these viruses. However, the immunity is only to one of the enteroviruses. It does not protect against infection from the others.

Who is at risk of infection and illness from these viruses?

Anyone can become infected and ill with these viruses. Infants, children and adolescents are more likely to become ill than are adults. Adults are more likely to be immune to specific enteroviruses than are younger persons.

How does one become infected with one of these viruses?

Enteroviruses can be found in respiratory secretions, such as saliva, sputum or nasal secretions, and in the feces of infected persons. Persons may become infected by direct contact with secretions from an infected person, or by contact with contaminated objects such as drinking and eating utensils. Transmission also may occur if an infected person coughs or sneezes directly in the face of another person. These viruses can be transmitted by contact with feces, such as when persons changing diapers of infants and toddlers do not wash their hands thoroughly. Persons with no symptoms of illness who are infected with an enterovirus can infect other persons who may or may not become ill after they become infected.

What time of year is someone at risk for enteroviruses?

In the United States, infections caused by the enteroviruses are most likely to occur during the summer and fall.

What illnesses do these viruses cause?

Most people who are infected with an enterovirus have no symptoms at all. For persons who become ill with an enterovirus, most develop symptoms of a cold, an influenza-like illness with fever and muscle aches, or an

illness with a rash. Less commonly, some persons develop meningitis caused by an enterovirus. Rarely, enterovirus infections can cause inflammation of the heart muscle or inflammation of the brain.

Are there any long-term complications when a person has meningitis due to an enterovirus infection?

Usually, there are no long-term complications from this mild form of meningitis. Meningitis due to an enterovirus infection resolves on its own and does not require antibiotic treatment.

Are enterovirus infections more common in some years than in others?

Enteroviruses occur more often in individual communities during some years compared to other years. There is no predictable pattern when an individual community will experience an increase in enterovirus infections.

Can enterovirus infections be prevented?

There is no vaccine to prevent the enteroviruses that occur in the United States. Frequent, thorough handwashing will prevent transmission of many infectious diseases, including enterovirus infections. Covering the mouth and nose when coughing or sneezing will also prevent transmission of these viruses. Hands should be washed when they come in contact with oral or nasal secretions or feces, before preparing food and before eating.

Last updated April 25, 2007

Illinois Department of Public Health
535 West Jefferson Street
Springfield, Illinois 62761
Phone 217-782-4977
Fax 217-782-3987
TTY 800-547-0466

Escherichia Coli 0157:H7 Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has an illness due to Escherichia Coli (E. coli) 0157:H7. E. coli 0157:H7 can cause an infection of the intestines. These bacteria are found in the digestive tract of some beef and dairy cattle, where they can get into milk, or into meat during the slaughtering process. In humans the bacteria produce a toxin which can cause diarrhea. In rare cases, people can also develop hemolytic uremic syndrome (HUS), which is a serious complication of E. coli 0157:H7 infection. HUS is more common in children than in adults.

Cause: E. coli 0157:H7 bacteria.

Symptoms: People infected with E. coli 0157:H7 can have no symptoms at all, or they can be ill with watery or severe bloody diarrhea, abdominal cramps, and low-grade fever.

Spread: By eating meat (especially ground beef) that is not thoroughly cooked, or by drinking unpasteurized milk. These bacteria can also be easily spread from person to person, especially from children in diapers. E. coli 0157:H7 leaves the body through the stool of an infected person and enters another person when hands, food, or objects (such as toys), contaminated with stool, are placed in the mouth. Spread can occur when a person does not wash his/her hands after using the toilet or changing diapers. Outbreaks from contaminated apple cider, raw vegetables, alfalfa sprouts, salami, yogurt, and water also have occurred.

Incubation Period: It takes from 1 to 8 days, usually about 3 to 4 days, from the time a person ingests the bacteria until symptoms develop.

Period of Communicability: The bacteria can be found in the stool for about one week, possibly as long as 2 to 8 weeks, after the start of symptoms develop.

Prevention/Control:

1. Thoroughly cook all hamburger or ground beef until it is brown, not pink, inside. Heat kills the bacteria. Do not drink unpasteurized milk.
2. Wash hands of child and self thoroughly with soap and running water after using the toilet, changing diapers, and before preparing or eating food. Thorough hand washing is the best way to prevent the spread of infectious diseases found in the intestinal tract.
3. Clean and disinfect contaminated areas (diapering area, toilets, potty chairs) and toys at least daily and when soiled.

Examples of approved disinfecting solutions:

To disinfect clean, non-food contact surfaces: use a solution of household bleach and water – ¼ cup of bleach in a gallon of water. (To make a smaller amount in a spray bottle, use 1 tablespoon bleach in a quart of water.) Saturate area with solution. Air dry. Do NOT rinse.

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10-20 minutes in a weak bleach solution – 1 tablespoon bleach added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

Diagnosis/Treatment:

Discuss this letter with your physician if you or your child has symptoms of E. coli 0157:H7. There is a lab test to look for E. coli 0157:H7 in the stool. Diarrhea caused by E. coli 0157:H7 usually goes away after a few days without any treatment. Antibiotics and drugs to stop diarrhea are usually not recommended. Check with your doctor. As with all types of diarrhea, it is important to drink plenty of fluids to help prevent dehydration.

Exclusion:

Child should be excluded until stool returns to normal form or diarrhea has stopped.



Escherichia coli O157:H7

What is Escherichia coli ?

E. coli O157:H7, one of hundreds of strains of the bacterium Escherichia coli, is an emerging cause of foodborne illness. While most strains are harmless and live in the intestines of healthy humans and animals, this particular strain produces a powerful toxin that can cause severe illness. It was first identified as a cause of illness in 1982 during an outbreak of severe bloody diarrhea traced to contaminated hamburgers. (The combination of letters and numbers refers to specific markers found on the bacterium's surface that distinguish it from other E. coli, which have other O and H markers.)

How common is the infection?

No good national data are available because many laboratories do not routinely test for the organism. Data from one laboratory that does regularly test for E. coli O157:H7 suggest that an estimated 20,000 cases may occur in the United States annually. In some parts of the U.S., particularly the northernmost states, this infection is not rare. It may well be a global problem. Now common in Canada, the infection is being increasingly recognized in Europe, South Africa, the southern regions of South America, Australia and Japan.

In Illinois, 100-200 cases of E. coli O157:H7 are reported each year.

What sort of illness does it cause?

Many persons infected with the bacterium develop severe diarrhea and painful abdominal cramps, although some people show few or no symptoms. The diarrhea can be very bloody. Because there is usually little or no fever, a person may think some other condition is causing the bowel to bleed, and this infection may go unrecognized. The illness usually resolves in five to 10 days.

In some persons, particularly children younger than 5 years of age and the elderly, the infection can lead to destruction of red blood cells (hemolytic anemia) and acute kidney failure (also known as uremia). This complication, hemolytic uremic syndrome (HUS), can lead to stroke, seizures and death. About 2 percent to 7 percent of infections lead to HUS. In the United States, E. coli O157:H7 infection is the primary cause of HUS, which is the principal cause of acute kidney failure in children. Most children with HUS are hospitalized for about two weeks.

How is E. coli diagnosed?

There are many causes of bloody diarrhea and abdominal cramps. Specific laboratory tests can identify E. coli O157:H7 in the stool of an infected person. However, these tests often are not performed unless the laboratory is instructed to do them.

How is E. coli treated?

Most persons recover without antibiotics or other specific treatment in five to 10 days. Antidiarrheal agents, such as loperamide (Imodium®), should be avoided.

HUS, a life-threatening condition that is usually treated in an intensive care unit, often requires blood transfusions and kidney dialysis. With intensive care, the fatality rate for HUS is 3 percent to 5 percent.

Are there any long-term consequences?

Persons with diarrhea alone usually recover completely, although it may be several months before bowel habits are entirely normal.

Among those who develop HUS, about 8 percent have a poor outcome, such as chronic kidney failure, high blood pressure, stroke, paralysis, bowel resection, blindness or seizures. A decline in kidney function may appear years later in about one-third of those persons who have had HUS. Thus, this infection may be a preventable cause of chronic kidney failure.

How is E. coli O157:H7 spread?

Most cases of E. coli O157:H7 infection come from undercooked ground beef. Beef that is still pink, or has blood-tinged juices, has not been cooked enough to kill E. coli O157:H7. While the number of organisms required to cause disease is not known, it is suspected to be very small. **Contaminated meat looks and smells normal.** The infection also can result from drinking raw unpasteurized milk or drinking or swimming in sewage-contaminated water.

The bacterium is present in the stools of infected persons, and it can be passed from one person to another if hygiene and hand washing habits are inadequate. This is particularly likely to occur among toddlers who are not fully toilet trained. Family members and playmates of such children are at high risk of becoming infected. Bacteria are usually cleared from the stools within a week after the diarrhea resolves. However, in some cases, particularly in young children, the organism may persist in the stool for weeks after the diarrhea has resolved.

How does food become contaminated?

The organism can be found on a small number of cattle farms, where it can live in the intestines of healthy cattle. When the animal is slaughtered, the meat may be contaminated by intestinal contents. When this meat is ground, fecal organisms that were on the outside of the meat are then thoroughly mixed throughout the ground beef. These bacteria can survive **unless the meat is thoroughly cooked.**

Bacteria present on a cow's udders or on equipment may get into and contaminate raw milk.

What can the consumer do to prevent this illness?

- Since hamburger and ground beef may be contaminated with this bacterium, **thorough cooking is essential to prevent** illness. This applies to hamburger prepared at home and hamburger served in restaurants. Hamburgers should be brown or gray on the inside, with clear juices (if any), and the inside should be hot. For advice on how to cook hamburger safely, call the U.S.D.A. Meat and Poultry Hotline, 800-535-4555 (voice and TTY), or your county extension home economist.
- Raw unpasteurized milk can transmit many diseases, including E. coli O157:H7 infection, even if it is obtained from healthy cattle. Consume only pasteurized milk and pasteurized milk products.
- When someone develops E. coli O157:H7 infection, careful hand washing with soap and warm water will reduce the risk of spreading it. Frequent supervised hand washing with soap and warm water is particularly important if the patient is a young child. If feasible, young children with E. coli O157:H7 infection that are still in diapers should not be in contact with uninfected children.
- Treatment of municipal water supplies with adequate levels of chlorine or other effective disinfectants is critical to guard against chance contamination of water when pipes leak or repairs are made.

What else can be done to prevent the infection?

E. coli O157:H7 will continue to be an important public health concern as long as it contaminates meat. It is conceivable that cattle could be vaccinated against the infection, but research into such prevention measures is just beginning.

Use of product names ® does not constitute product endorsement.

Illinois Department of Public Health
535 West Jefferson Street
Springfield, Illinois 62761
Phone 217-782-4977
Fax 217-782-3987
TTY 800-547-0466

Giardiasis Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has giardiasis, an infection of the intestines that is common in children under two years of age. Epidemics have occurred in child care settings where there are children who are in diapers. Some additional important facts about giardiasis are:

Cause: Giardia lamblia, a parasite.

Symptoms: Gas, stomach cramps and bloating, nausea, diarrhea (persistent or recurring).

Spread: Giardia leaves the body through the stool of an infected person and enters another person when contaminated hands, food, or objects such as toys are placed in the mouth.

Spread can occur whether or not a person feels sick. It is easy for diapered children to pass intestinal infections to others, but anyone who does not wash his or her hands after using the toilet or changing diapers can spread disease.

Incubation Period: 1 to 4 weeks, commonly 7 to 10 days.

Period of Communicability: As long as Giardia is present in stool, a person can be a possible source of disease spread.

Prevention/Control:

1. Wash hands thoroughly with soap and running water after using the toilet, changing diapers, and before preparing or eating food. Thorough hand washing is the best way to prevent spread of infectious diseases found in the intestinal tract.
2. One-piece overalls and similar clothing that deters children from being able to reach into their diapers helps in preventing spread.
3. Clean and disinfect contaminated areas (diapering area, potty chairs, toilets) daily or when soiled. Disinfect toys as needed and at least daily. A dishwasher may be used for small toys.

Examples of approved disinfecting solutions:

To disinfect clean, non-food contact surfaces: use a solution of household bleach and water – ¼ cup of bleach in a gallon of water. (To make a smaller amount in a spray bottle, use 1 tablespoon bleach in a quart of water.) Saturate area with solution. Air dry. Do NOT rinse.

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10-20 minutes in a weak bleach solution – 1 tablespoon bleach added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

Diagnosis/Treatment:

Discuss this letter with your physician if you or your child has persistent diarrhea. It is recommended that children who have symptoms of giardiasis have their stools examined for parasites. If Giardia parasites show up in their stools specimens, treatment is available.

Exclusion:

Children with diarrhea due to Giardia should not return to the child care setting until diarrhea is no longer present.



Illinois Department of Public Health

Environmental Health

Pat Quinn, Governor • Damon T. Arnold, M.D., M.P.H., Director

Giardiasis

Giardiasis, a disease caused by the protozoan parasite *Giardia lamblia*, is characterized by chronic diarrhea that usually lasts one or more weeks. Diarrhea may be accompanied by one or more of the following symptoms: abdominal cramps, bloating, flatulence, fatigue or weight loss. Stools are often malodorous and have a pale greasy appearance. Infection without symptoms is also common.

The life cycle of *G. lamblia* involves two stages: trophozoite and cyst. Trophozoites stay in the upper small intestinal tract where they actively feed and reproduce. When trophozoites pass down the bowel, they change into the inactive cyst stage by developing a thick exterior wall that protects the parasite after it is passed in feces.

People become infected either directly by hand-to-mouth transfer of cysts from feces of an infected individual (as in careless diaper changing and poor handwashing technique), or indirectly by drinking feces-contaminated water. The organism does not invade other parts of the body or cause any permanent damage. In infants and small children, however, the severe diarrhea can lead to dehydration and shock if adequate fluid intake is not maintained.

EPIDEMIOLOGY

Giardiasis occurs worldwide. In the United States, *G. lamblia* is the parasite most commonly identified in stool specimens submitted to state laboratories for parasitologic examination. Other surveys conducted in the United States have demonstrated *G. lamblia* prevalence rates ranging from 1 percent to 30 percent, depending on the location and ages studied.

Most transmission occurs sporadically by direct person-to-person contact in households where a case has occurred and among neighborhood contacts with infected children. Epidemics resulting from person-to-person transmission most often occur in daycare centers for preschool-age children and institutions for the developmentally disabled. Infants and toddlers in daycare centers are more commonly infected than older children who have been toilet trained.

Infections also occur among backpackers and campers who drink untreated stream water. Less commonly, community epidemics caused by contaminated drinking water occur. In such outbreaks, approximately 11 percent of the residents have become infected. Both human and animal (beaver) fecal contamination of stream water has been implicated as the

source of *G. lamblia* cysts in waterborne outbreaks. *Giardia* species in dogs and possibly other animals are also considered infectious for humans.

Why some people become ill when infected with *G. lamblia* and others have no symptoms has not been fully explained. Individual immunity undoubtedly plays a role, but the exact immune mechanisms involved have not been identified. A number of other factors such as number of *G. lamblia* cysts ingested (dose), varying virulence among *G. lamblia* strains, human or animal origin of the parasite, etc., may have an influence on the clinical course of infection.

The cyst form of the organism is hardy and may remain viable for a long period of time (approximately two months), particularly in cold water. The ingestion of 10 to 25 cysts may result in giardiasis, with an incubation period from one to four weeks.

DIAGNOSIS

The diagnosis of *G. lamblia* infection is most commonly made by identifying the causative agent, *G. lamblia*, in the feces. It is also possible to identify the parasite in digestive juices or biopsy material taken from the small intestine. In patients with watery diarrhea, trophozoites are most commonly found in stools, but a few cysts may also be present. After the acute stage has passed, stools are more often formed and contain the more hardy cyst form of the parasite.

G. lamblia cysts are passed in the feces on an intermittent basis. When infection is suspected by a physician, a minimum of three stool specimens (one every other day) is usually obtained and examined to minimize the chance of missing an infection.

TREATMENT

Three prescription drugs are available in the United States for the treatment of giardiasis: quinacrine, metronidazole and furazolidone. Quinacrine is considered the drug of choice for adults and older children. Although quinacrine is effective in young children, the drug frequently causes vomiting in this age group. Metronidazole has cure rates similar to quinacrine and is generally well tolerated by both adults and children. With the onset of any of the symptoms preciously mentioned, a physician should be contacted immediately.

PREVENTION

Giardiasis epidemics have commonly resulted from contaminated drinking water. The long-term solution to waterborne outbreaks involving municipal water systems requires use of water filtration equipment in the water treatment process. Although most large U.S. cities use proper filtration methods, many towns and small cities rely solely on chlorination to disinfect drinking water; the amount of chlorine used often does not kill *G. lamblia* cysts.

How to treat drinking water for the removal of *G. lamblia* has become an important concern over the last few years as outbreaks of giardiasis have occurred. Designs appropriate for

small water systems are particularly needed.

Because the cysts of *G. lamblia* resist conventional disinfection, effective filtration must serve as an additional barrier to prevent disease transmission. Studies have shown that diatomaceous earth filtration is an effective process for the removal of *G. lamblia* cysts. Only diatomaceous earth filters approved by the National Sanitation Foundation for treatment of drinking water should be used.

A properly designed slow sand filtration system is also almost 100 percent effective in removing *G. lamblia* cysts. However, proper construction operation, and sand size are critical to the efficiency of the slow sand filter. The sand should have an effective size of .25 - .35 mm with an ideal effective size of .30 mm and a uniformity coefficient of 1.4 to 1.8 with an ideal coefficient of 1.6. More detailed operation and construction guidelines are given in the Department's Surface Source Water Treatment Code.

Backpackers and campers should not drink water directly from streams or lakes, no matter how clean the water appears. *G. lamblia* cysts can survive in the aquatic environment, especially in cold lakes or streams, for months, and are more resistant to disinfection than most other microbial pathogenic agents. Person-to-person transmission of *G. lamblia* can be prevented by practicing good personal hygiene and maintaining a sanitary environment. Good handwashing and fingernail cleaning should be stressed, especially after using the toilet, handling soiled diapers of infants and before eating. Quick and thorough cleanup of fecal accidents at home or in institutions also reduces the risk of spreading *G. lamblia* to others.

WATER DISINFECTION

Boiling - Except for water treatment methods that include filtration, boiling is the only technique that can be recommended with complete confidence for elimination of *G. lamblia* in polluted water. Boiling (at a rolling boil) for three minutes is adequate to kill *G. lamblia* as well as most other bacteria or other pathogens likely to be acquired from drinking polluted water.

Chemical Disinfection - Disinfection of water with chlorine or iodine is less reliable than boiling for killing *G. lamblia*.

It is not possible to recommend a concentration of chlorine and a contact time that would be effective under all types of water conditions. Therefore, providing continuous chlorination of the water supply will not assure the destruction of the cysts. Chlorine concentrations ordinarily used to disinfect water supplies are ineffective in killing *G. lamblia* cysts.

WELL CONTAMINATION

This Department or local health department should be contacted for further advice when *Giardia* is suspected. Normally, *Giardia* cysts are not found in a ground water supplies. If these cysts are discovered in a ground water supply, immediately discontinue using the

water and check the well for proper construction and location. In addition, all possible sources of contamination must be eliminated. It is extremely important to locate the source of the *Giardia* infiltration into the water supply. A nearby sewage seepage field, buried pump suction pipe or improperly installed well may contribute to well contamination. After all potential problems have been identified and corrected, the system should be thoroughly disinfected and sampled.

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Pinworms Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has pinworms. Pinworm infection is the most common intestinal worm infection in the U.S. They are most often found in preschool and school-aged children and mothers of infected children. These small white worms live only in the human large intestine and crawl out of the rectum at night to lay their eggs. Some additional important facts about pinworms are:

Cause: *Enterobius vermicularis* (pinworms).

Symptoms: Rectal itching, especially at night; irritability; disturbed sleep.

Spread: Pinworm eggs are taken into the mouth when a person fails to wash well after scratching the rectal area, using the toilet, or handling contaminated pajamas, underwear, or bedding. Food or other items can be contaminated in the same way. Even eggs floating in the air can be swallowed and cause infection.

Incubation Period: 1-2 months or longer.

Period of Communicability: As long as eggs are present. Eggs can remain infectious outside the body for up to 2 weeks.

Prevention/Control:

1. Wash hands and fingernails of both staff and children thoroughly with soap and running water after using the toilet, after contact with the rectal area, and before eating or preparing food.
2. Discourage scratching or touching bare rectal area and nail biting. Keep nails short.
3. Bathe every morning (shower preferred) followed by a clean change of underclothing.
4. After treatment, wash bed linens and night clothes (do not shake them).
5. Clean and vacuum house daily for several days after treatment.

Diagnosis: You may see the worms around the rectum 2-3 hours after a child has gone to sleep or in the stool. If you suspect pinworms, contact your physician. He or she may advise examining the whole family.

Treatment: Your physician can prescribe the proper medication, which is given once and repeated in two weeks.

Exclusion: Child may return to child care after treatment has been started.

Salmonellosis Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has salmonellosis. Salmonellosis is an infectious disease caused by bacteria that can live and grow in the digestive tract of humans. The bacteria can also be found in the intestines of all animals, whole eggs and egg products, meat and meat products, and poultry.

Cause: *Salmonella*, a bacterium.

Symptoms: Nausea, diarrhea, abdominal cramps, fever, headache, sometimes vomiting.

Spread: By eating foods that are raw or undercooked. Foods of animal origin, such as poultry, ground meat, eggs, milk products, etc., that are contaminated with salmonella.

Person-to-person spread occurs when infectious germs leave the body through the stool of an infected person and enter another person when contaminated hands, food, or objects such as toys are placed in the mouth.

Spread can occur whether or not a person feels ill. It is easier for diapered children to pass intestinal infections to others, but anyone who does not wash his or her hands after using the toilet or changing diapers can spread disease.

Incubation Period: 6-72 hours, usually about 12-36 hours.

Period of Communicability: As long as infectious germs are present in the stool, a person can be a possible source of disease spread.

Prevention/Control:

1. Wash hands with soap and running water after using the toilet, changing diapers, and before preparing or eating food. Thorough hand washing is the best way to prevent the spread of infectious diseases found in the intestinal tract. WASH CHILD'S HANDS ALSO.
2. Clean and disinfect contaminated areas (diapering area, potty chairs, toilets) daily or when soiled. Disinfect toys as needed and at least daily. A dishwasher may be used for small toys.

Examples of approved disinfecting solutions:

To disinfect clean, non-food contact surfaces: use a solution of household bleach and water – ¼ cup of bleach in a gallon of water. (To make a smaller amount in a spray bottle, use 1 tablespoon bleach in a quart of water.) Saturate area with solution. Air dry. Do NOT rinse.

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10- 20 minutes in a weak bleach solution – 1 tablespoon bleach added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

3. Children who wear diapers should be dressed for the child care center in a way which will not allow them to put their hands inside their diapers. Garments such as coveralls that button at the sides are a good choice.

Diagnosis/Treatment:

Discuss this letter with your physician if you or your child has diarrhea and fever or persistent diarrhea. When a case of salmonellosis is suspected, a stool sample may be cultured to see if the bacteria is present.

Antibiotics should not be taken in uncomplicated cases of salmonella as they may prolong the excretion of the bacteria in the stool. Antibiotics should be taken only when prescribed by a doctor. Contact a medical doctor or seek emergency room treatment for severe symptoms. If the person is very young or very old and the diarrhea and vomiting last several days, causing severe dehydration, hospitalization may be required. Usually the disease will run its course within 2-3 days.

Exclusion:

Child should be excluded until diarrhea has stopped.



Salmonella

What is salmonella?

Salmonella bacteria cause much of the food poisoning in the world, including an estimated four million cases of salmonellosis in the United States each year. In Illinois about 1,500 to 2,500 cases of this foodborne illness are reported each year.

Salmonella is a general name for a group of about 2,000 closely related bacteria that cause illness by reproducing in the digestive tract. Each salmonella subgroup, or serotype, shares common antigens and has its own name.

How is it spread?

Salmonella bacteria is found wherever animals live. The bacteria can withstand hot and cold weather, rain and drought. Animals consume salmonella from the soil or contaminated processed feed. The bacteria are then shed alive in the infected animal's feces. The animal may or may not be sick, depending on the bacteria's serotype.

During slaughtering and processing, salmonella may contaminate animal carcasses. According to U.S. Department of Agriculture estimates, nearly 40 percent of the American poultry supply, 12 percent of the pork and 5 percent of the beef are contaminated with salmonella.

In recent years, fresh fruits and vegetables have been implicated in outbreaks of salmonellosis. Tomatoes were identified as the culprit in 1990 and 1993 and, in 1990 and 1991, cantaloupes were linked to salmonellosis. Investigations of these incidents did not identify the source of contamination. It possibly could have occurred in the fields where the produce was grown, during processing after harvest or during handling in the distribution system.

Person-to-person transmission of salmonella occurs when a carrier's feces, unwashed from his or her hands, contaminates food during preparation or through direct contact with another person. Usually the illness comes from food contaminated with animal feces found on or in raw meats, eggs, fish and shellfish and, most commonly, in poultry. Salmonella also may be found in raw milk or in milk that is contaminated after pasteurization. The bacteria also may be carried by pets: birds, fish, dogs, cats and turtles. The U.S. Food and Drug Administration banned the sale of turtles smaller than 4 inches wide in 1975 to prevent the spread of salmonella.

Since early 1950, farmers have administered low doses of penicillin and tetracycline to cows, chickens and pigs to prevent infection and promote growth. As a result, the bacteria in these animals develop a resistance to the drugs. When these drugs are used to treat infections in humans who have eaten meat from treated animals, the drugs are not as effective as they might be. The U.S. Centers for Disease Control and Prevention estimates that between 20 percent and 30 percent of all salmonella cases involve bacteria resistant to antibiotics.

What are the symptoms?

A person may contract salmonellosis many times in his or her life and not always recognize it. Often it is mistaken for the "stomach flu." Symptoms, which last from 24 hours to 12 days, include headache, muscle aches, diarrhea, vomiting, rumblings in the bowels, chills, fever, nausea and dehydration. They usually appear six to 72 hours after ingestion, but

carriers have no symptoms. Children younger than 1 year old, people who have had ulcer surgery or take antacids and those whose immune systems have been weakened by other ailments are most susceptible.

Salmonellosis is seldom fatal (the fatality rate is less than 1 percent). Two or three weeks after being infected with salmonella, one in 10,000 cases develops reactive arthritis or Reiter's syndrome as a complication. These patients also may develop an inflammation of the urethra and eyes.

How is salmonellosis treated?

Fluids are recommended to prevent dehydration because the diarrhea that flushes bacteria out of the body drains a great deal of liquid. Pain relievers and fever reducers may make the person more comfortable.

Most cases of salmonellosis are not treated with antibiotics. In fact, antibiotics may prolong the period during which the person can infect others. Also, antibiotics actually may bring on salmonellosis symptoms by upsetting the bacterial balance in the intestines. Antibiotics sometimes are prescribed for infants, the chronically ill and the elderly to prevent salmonella-triggered local infections or bacteremia. Antibiotics also are needed when the bacteria cause meningitis or infections of the blood stream.

Can salmonellosis be prevented?

People are far more likely to contract salmonellosis at home than in a restaurant, so be sure to handle food safely.

Salmonella are killed when food is thoroughly cooked. This means cooking ground beef to at least 155 degrees and making sure **all** food is cooked properly. Once cooked, any food held in a buffet should be kept hotter than 140 degrees. Cross-contamination--where food is contaminated in the kitchen after it has been cooked--may be avoided by using different utensils, plates, cutting boards and counter tops before and after cooking. Cooked food that stands at room temperature for a long time, especially poultry, is at risk.

Defrost frozen food in the refrigerator or microwave. Refrigerator temperatures should be kept colder than 40 degrees. Rinse poultry in cold water before cooking. Avoid raw milk, raw hamburger meat and raw eggs (many recipes, such as those for homemade ice cream, call for eggs with no subsequent cooking; substitute pasteurized eggs in these recipes). Food contaminated with salmonella may look, smell and taste normal.

Because fruits and vegetables have now been identified as a source of salmonella, it is important that these food items be thoroughly washed in running water before they are eaten.

Wash utensils and wooden cutting boards thoroughly with hot, soapy water. Salmonella may lie dormant for a year or more and then "wake up" when food is present. They also may live in the cut marks on a wooden cutting board. Use an acrylic board that can go in the dishwasher. Rub down or spray wooden boards with a solution of one ounce bleach to one gallon water and allow to air dry. Cutting boards for raw meat and poultry should not be used for cheese, raw vegetables and other foods that will not be cooked before being served.

To prevent the spread of salmonella, wash hands thoroughly after using the bathroom and before handling food. Do not allow an infected person to handle food or work in the kitchen.

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Shigellosis Parent Letter

Dear Parent or Guardian:

An individual in your child care setting has shigellosis. Shigellosis is an infectious disease caused by bacteria that lives and grows in the digestive tract of man.

Cause: Shigella, a bacterium.

Symptoms: Diarrhea, sometimes bloody; fever; nausea, sometimes vomiting; abdominal cramps.

Spread: By swallowing the bacteria that come from infected people, e.g., if an infected person uses the bathroom and does not thoroughly wash his or her hands, bacteria remain in the hands and can contaminate objects such as toys that young children place in their mouths.

By eating foods or drinking beverages that have been contaminated with the bacteria. Food and drink can become contaminated when handled by people who are infected with shigellosis, regardless of whether they are ill or not.

Incubation Period: 1-7 days (usually 2-4 days).

Period of Communicability: As long as infectious germs are present in stool, a person can be a possible source of disease spread.

Prevention/Control:

1. Wash hands with soap and running water after using the toilet, changing diapers, and before preparing or eating food. Thorough hand washing is the best way to prevent the spread of infectious diseases found in the intestinal tract. **WASH CHILD'S HANDS ALSO.**
2. Clean and disinfect contaminated areas (diapering area, potty chairs, toilets) daily or when soiled. Disinfect toys as needed and at least daily. A dishwasher may be used for small toys.

Examples of approved disinfecting solutions:

To disinfect clean, non-food contact surfaces: use a solution of household bleach and water – ¼ cup of bleach in a gallon of water. (To make a smaller amount in a spray bottle, use 1 tablespoon bleach in a quart of water.) Saturate area with solution. Air dry. Do NOT rinse.

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10-20 minutes in a weak bleach solution – 1 tablespoon bleach added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

3. Children who wear diapers should be dressed for the child care center in a way which will not allow them to put their hands inside their diapers. Garments such as coveralls that button at the sides are a good choice.

Diagnosis/Treatment:

Discuss this letter with your physician if you or your child has diarrhea and fever or persistent diarrhea. When a case of shigellosis is suspected, a stool sample may be cultured to see if the bacteria are present.

Antibiotics shorten the duration and severity of illness and the duration of the excretion of the bacteria; they should be used in individual cases if warranted by the severity of the illness or to protect contacts (i.e., in day care centers). Check with your doctor.

Exclusion:

Child should be excluded until diarrhea has stopped.



Shigellosis

What is shigellosis?

Shigellosis is an infectious disease caused by a group of bacteria called *Shigella*. Most people who are infected with *Shigella* develop diarrhea, fever and stomach cramps a day or two after being exposed to the bacterium. The diarrhea is often bloody. Shigellosis usually resolves in five to seven days. In some persons, especially young children and the elderly, the diarrhea can be so severe the patient needs to be hospitalized. A severe infection with high fever also may be associated with seizures in children younger than 2 years of age. Some persons who are infected may have no symptoms at all, but may still pass the *Shigella* bacteria to others.

What sort of germ is *Shigella*?

The *Shigella* germ is actually a family of bacteria that can cause diarrhea in humans. These microscopic living creatures, which can pass from person to person, were discovered 100 years ago by a Japanese scientist named Shiga, for whom they are named. There are several kinds of *Shigella* bacteria but only two are common in the United States.

How are *Shigella* infections diagnosed?

Many different kinds of diseases can cause diarrhea and bloody diarrhea. Effective treatment depends on which germ is causing the diarrhea. Determining that *Shigella* is the cause of the illness depends on laboratory tests that identify the bacteria in the stools of infected persons. These tests are sometimes not performed unless the laboratory is instructed specifically to look for the organism. The laboratory also can do special tests to tell which type of *Shigella* the person has and which antibiotics, if any, would be best to treat it.

How common is shigellosis?

Every year, about 18,000 laboratory confirmed cases of shigellosis are reported in the United States; 1,300 in Illinois. Because many milder cases are not diagnosed or reported, the actual number of infections may be 20 times greater. Shigellosis is particularly common and causes recurrent problems in settings where hygiene is poor and can sometimes sweep through entire communities. Shigellosis is more common in summer than winter. Children, especially toddlers from 2 to 4 years of age, are the most likely to get shigellosis. Many cases are related to the spread of illness in child care settings and many more are the result of the spread of the illness in families with small children. In the developing world, shigellosis is far more common and is present in most communities most of the time.

How are *Shigella* infections treated?

Shigellosis can usually be treated with antibiotics. The most commonly used antibiotics are ampicillin, trimethoprim/sulfamethoxazole, nalidixic acid or ciprofloxacin. Appropriate treatment kills the *Shigella* bacteria that might be present in a patient's stools and shortens the illness. Unfortunately, some *Shigella* bacteria have become resistant to antibiotics and using antibiotics to treat shigellosis can actually make the germs more resistant in the future. Persons with mild infections will usually recover quickly without antibiotic treatment. Therefore, when many persons in a community are affected by shigellosis, antibiotics are sometimes used selectively to treat only the more severe cases. Antidiarrheal agents (e.g., loperamide or diphenoxylate with atropine) are likely to make the illness worse and should be avoided.

Does shigellosis have any long-term effects?

Persons with diarrhea usually recover completely, although it may be several months before their bowel habits are entirely normal. About 3 percent of persons who are infected with one type of *Shigella* (*Shigella flexneri*) will later develop pains in their joints, irritation of the eyes and painful urination. This is called Reiter's syndrome and it can last for months or years, sometimes leading to chronic arthritis, which is difficult to treat. Reiter's syndrome is caused by a reaction to *Shigella* infection that happens only in people who are genetically predisposed to it. Once someone has shigellosis, they are not likely to get infected with that specific type again for at least several years. However, they can still get infected with other types of *Shigella*.

How do people catch shigellosis?

The *Shigella* bacteria pass from one infected person to the next. The bacteria are present in the diarrheal stools of infected person while they are sick and for a week or two afterwards. Most infections occur when the germ passes from the stool or soiled fingers of one person to the mouth of another person. This happens when basic hygiene and handwashing habits are inadequate. It is particularly likely to occur among toddlers who are not fully toilet trained. Family members and playmates of such children are at high risk of becoming infected.

Shigella infections also may be acquired from eating contaminated food. Contaminated food may look and smell normal. Food may become contaminated by infected food handlers who forget to wash their hands with soap and water after using the bathroom. Vegetables can become contaminated if they are harvested from a field with sewage in it. Flies can breed in infected feces and then contaminate the food. *Shigella* infections also can be acquired by drinking or swimming in contaminated water. Water may become contaminated if sewage runs into it or if someone with shigellosis swims in it.

What can a person do to prevent this illness?

There is no vaccine to prevent shigellosis. However, the spread of *Shigella* from an infected person to other persons can be stopped by careful handwashing with soap and water. Frequent, supervised handwashing of all children should be followed in day care centers and in homes with young children (including children in diapers). When possible, young children with a *Shigella* infection who are still in diapers should not be in contact with uninfected children.

- People who have shigellosis should not prepare food or pour water for others until they have been shown to no longer be carrying the *Shigella* bacterium.
- If a child in diapers has shigellosis, everyone who changes the child's diapers should be sure the diapers are disposed of properly in a garbage can with a tightly fitted lid, and should wash his or her hands carefully with soap and warm water after changing and disposing of the diapers. After use, the diaper changing area should be wiped down with a disinfectant such as household bleach, or bactericidal sprays or wipes.
- Basic food safety precautions and regular drinking water treatment prevents shigellosis. At swimming beaches, having enough bathrooms near the swimming area helps to keep the water from becoming contaminated.

Simple precautions taken while traveling to the developing world can prevent *Shigella* infections. Drink only treated or boiled water and eat only cooked hot foods or fruits you peel yourself. The same precautions prevent traveler's diarrhea in general.

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Rash Illnesses

Fifth Disease Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has fifth disease. Fifth disease occurs most often in school-aged children with a peak season from late winter to early spring.

Cause: Human parvovirus B19.

Symptoms: Rash; sometimes a fever or sore throat. The characteristic rash causes a striking redness of the cheeks (“slapped cheek”) in children. The rash often begins on the cheeks and is later found on the arms, upper body, buttocks, and legs; it has a very fine, lacy, pink appearance. The rash tends to come and go for days or even weeks, especially as a response to sunlight or heat. In general, the rash around the face will fade within 4 days. The rash on the rest of the body usually fades within 3 to 7 days of its appearance. Pain and swelling of the joints may occur.

Spread: Person-to-person spread through contact with infected respiratory secretions. School and community outbreaks are common in late winter and spring, but infection occurs year round.

Incubation Period: 4 to 14 days (can be as long as 21 days incubation).

Period of Communicability: Before rash appears.

Prevention/Control:

1. Hand washing and proper tissue disposal can reduce transmission.
2. Female teachers of childbearing age should seek medical advice about the risk of fifth disease before they are exposed during pregnancy. About 50% of adults show evidence of immunity to parovirus B19, which causes fifth’s disease.

Treatment: None

Exclusion: Exclude child, as with any rash illness until diagnosed by physician. Children with fifth disease may return to child care after rash appears because they are no longer contagious.

Hand, Foot, and Mouth Disease Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has hand, foot, and mouth disease. Hand, foot, and mouth disease is an infection that is usually found in children under ten years old. This illness occurs most often in the summer and fall months.

Cause: A coxsackievirus.

Symptoms: Sores occur toward the front of the mouth, on the sides of the tongue, inside the cheeks, and on the gums. These mouth sores may last 7 to 10 days. In most cases a rash (with blisters) will also be found on the palms of the hands, fingers, diaper area, and the soles of the feet. A low fever may last 1 to 2 days.

Spread: By contact with nose and mouth secretions (for example, through sneezing and coughing) and contact with stool.

Incubation Period: Usually 3 to 6 days.

Period of Communicability: During illness and possibly for several weeks after illness (through contact with stool). Also, infected persons who may not seem sick are able to spread infection.

Prevention/Control:

1. Both staff and children should wash hands thoroughly with soap and running water after using the toilet, wiping the nose or mouth, and after handling diapers or anything soiled with stool.
2. Clean and disinfect contaminated areas (diapering area, potty chairs, and toilets) daily or when soiled. Disinfect toys as needed and at least daily. A dishwasher may be used for small toys.

Examples of approved disinfectant solutions:

To disinfect clean, non-food contact surfaces: use a solution of household bleach and water – ¼ cup of bleach in a gallon of water. (To make a smaller amount in a spray bottle, use 1 tablespoon bleach in a quart of water.) Saturate area with solution. Air dry. Do NOT rinse.

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10-20 minutes in a weak bleach solution – 1 tablespoon bleach added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

3. Dispose of tissues and diapers properly.

Treatment: None.

Exclusion: Child may return when well enough to participate in normal daily activities, including a regular diet (sores may still be present).

Impetigo Parent Letter

Dear Parent or Guardian:

An individual with impetigo has been identified in our child care setting. Impetigo is usually uncomplicated, but may lead to more serious illness. Some additional facts about impetigo are:

Cause: Streptococcus and Staphylococcus bacteria.

Symptoms: It is characterized by the formation of reddened areas peaking to blisters. These “fluid-filled” blisters enlarge, rupture, and become covered with honey-colored gummy crusts. These crusts are easily removed, exposing moist red skin lesions underneath, which quickly will crust over again. May itch.

Spread: It is quite contagious under conditions of close physical contact. Impetigo is usually spread by intimate contact with an infected person and/or indirect contact (using same handkerchief, towels, napkins, pencils, toys, etc.). It can also be commonly spread if plastic wading pools are used and not regularly cleaned with an antiseptic or disinfectant. Any abrasion or opening of the skin may serve as an entry for the infection. Impetigo is often found on the face around the nose and mouth and on infants in the diaper area. The impetigo lesions may last from 1 to 2 weeks, and without treatment will be spread to other areas of the body by the child’s scratching and itching.

Incubation Period: Variable, commonly 4 to 10 days.

Period of Communicability: Until sores are healed or child has been treated with antibiotics for at least a full 24 hours.

Prevention/Control:

1. Practice careful hand washing with soap and running water by the child with the infection and by persons who have contact with sores.
2. When possible, cover sores to prevent spread.

Treatment: If you suspect impetigo, contact your physician for diagnosis and treatment. Impetigo often can be treated with topical antibiotics (applied directly to the skin) when only a few lesions are present. When there are more than a few lesions, your physician may prescribe oral or injectable antibiotics.

Exclusion: Until sores are healed or can be covered with a bandage and child has been treated with antibiotics for at least a full 24 hours.

MRSA Parent Letter

Dear Parent or Guardian:

An individual with MRSA has been identified in our child care setting. MRSA is a bacterium that is commonly carried in the nose and on the skin of healthy people.

- Cause:** Staphylococcus aureus bacterium.
- Symptoms:** Most infections caused by staph are skin infections, such as pimple or boils. infections can be red, painful, swollen, or have pus or other drainage.
- Spread:** Staph can be easily spread by contaminated hands that have not been properly washed. It also can be transmitted by contact with secretions from infected skin lesions, wounds and nasal discharge, and objects and surfaces contaminated with staph. Close skin-to-skin contact; openings in the skin, such as abrasions or cuts; contaminated items or surfaces; and crowded living conditions are some factors linked to the spread of staph or MRSA.
- Incubation Period:** 4-10 days after exposure.
- Period of Communicability:** Present as long as draining lesions are present.
- Prevention/Control:**
1. Keep your hands clean by washing thoroughly with soap and water or using an alcohol-based hand gel.
 2. Keep cuts and scrapes clean and covered with a bandage until healed.
 3. Avoid contact with other people's wounds or bandages.
 4. Avoid sharing personal items such as towels and clothing.
- Diagnosis:** MRSA infection can be diagnosed by positive culture together with signs/symptoms of infection. In some cases, MRSA is cultured from blood.
- Treatment:** Antibiotic of choice for MRSA infections is vancomycin given intravenously. Many minor MRSA infections can be successfully treated with trimethoprim-sulfamethoxazole, if susceptibility is established by testing.
- Exclusion:** Those with wound drainage (pus) that cannot be covered and contained with a clean, dry bandage, and/or child has fever and/or is unable to participate in normal activities.



MRSA – Methicillin-resistant Staphylococcus aureus

What is Staphylococcus aureus (staph)?

- Staphylococcus aureus (Staf-lo-coc-cus aw-ree-us) is a bacterium that is commonly carried in the nose and on the skin of healthy people. The bacterium is often referred to as “staph.” It is estimated that 30 percent of the population carries staph on the skin or in the nose. Methicillin or penicillin and cephalosporins are generally used to treat staph infections. About 1 percent of persons have a type of staph resistant to these antibiotics called methicillin-resistant staph aureus, which is often referred to as MRSA. Other antibiotics must be used to treat MRSA infections. The drug Vancomycin has proven to be the most effective and reliable in these cases, but it is used intravenously and is not effective against MRSA when taken by mouth. Over the past 20 years, MRSA infections have occurred among patients in hospitals or long-term care facilities. However, MRSA infections are becoming more common in otherwise healthy persons who have not had contact with health care personnel or patients. These infections are known as “community-associated MRSA” or CA-MRSA infections.

What does a staph infection look like?

- Most infections caused by staph are skin infections, such as pimples or boils. Staph skin infections can be red, painful, swollen, or have pus or other drainage. More serious staph infections can also cause pneumonia and infections of the blood and joints.

How is staph spread?

- Staph can be easily spread by contaminated hands that have not been properly washed. It also can be transmitted by contact with secretions from infected skin lesions, wounds and nasal discharge, and objects and surfaces contaminated with staph. MRSA is not spread easier, but it is more difficult to treat.
- Close skin-to-skin contact; openings in the skin, such as abrasions or cuts; contaminated items or surfaces; and crowded living conditions are some factors linked to the spread of staph or MRSA skin infections among athletes, children, military recruits and correctional facility inmates.

If I have staph, or MRSA skin infection, what can I do to prevent others from getting infected?

- **Cover your wound.** Keep wounds that are draining or have pus covered with clean, dry bandages.
- **Follow your health care provider’s instructions.** Pus from infected wounds can contain staph or MRSA. Keeping the infection covered will help prevent the spread to others. Bandages or tape can be thrown away with the regular trash.
- **Wash your hands.** You, your family, and others in close contact should wash hands often with soap and warm water, especially after changing a bandage or touching an infected wound. You can use an alcohol-based hand gel when soap and water are not available.

- **Do not share personal items.** Avoid sharing personal items, such as towels, washcloths, razors, clothing, or uniforms that may have had contact with the infected wound or bandage. Wash soiled sheets, towels, and clothes with water and laundry detergent. Drying clothes in a hot dryer, rather than air-drying, also helps kill bacteria in clothes.
- **Talk to your doctor.** Tell any health care providers who treat you that you have or had a staph or MRSA skin infection.

What to do to prevent staph skin infections

- Keep your hands clean by washing thoroughly with soap and water or using an alcohol-based hand gel.
- Keep cuts and scrapes clean and covered with a bandage until healed.
- Avoid contact with other people's wounds or bandages.
- Avoid sharing personal items such as towels or razors.

Additional recommendations are available for the control of staph or MRSA skin infections when multiple cases occur in a group or school setting. Contact your local public health department or the Illinois Department of Public Health at 217-782-2016 for more information.

Adapted from MRSA information published by the U.S. Centers for Disease Control and Prevention.

Last updated April 25, 2007

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Oral Herpes (Cold Sores) Fact Sheet

In the child care setting, children and staff may be present with herpes simplex infections of the lips and mouth (cold sores, “oral herpes”). Commonly, these infections are acquired for the first time in early childhood and may recur throughout a person’s lifetime. Herpes simplex virus can also cause herpes simplex gingivostomatitis, a disease that causes inflammation and painful ulcers in the mouth and gums and a fever.

Some additional important facts about oral herpes infection are:

Cause: Herpes simplex virus type 1 (HSV-1)

Symptoms: Cold sores (fever blister) appear on the lips and face; less often in the mouth. They will crust and heal within a few days.

Spread: By close person-to-person contact, such as direct contact with saliva or the sores (for example, kissing).

Most experts believe that herpes can not be spread from non-human sources such as toilet seats, lipsticks, towels, washcloths, bathroom glasses, or toys. However, sharing personal items such as washcloths or drinking glasses should be discouraged for hygienic reasons.

Incubation Period: 2 to 12 days.

Prevention/Control:

1. Frequent hand washing with soap and running water for infected persons and caregivers.
2. Caregivers may wear gloves when contact with lesions is necessary (for example, when applying medication).
3. Do not kiss an infected person when lesions are present.
4. Clean and disinfect mouthed toys daily or when soiled.

Examples of approved disinfecting solutions:

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10-20 minutes in a weak bleach solution – 1 tablespoon of bleach added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

Exclusion: Only exclude a child with open blisters or mouth sores if the child is a biter, drools uncontrollably, or mouths toys that other children may in turn put in their mouths.

Ringworm Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has ringworm, a fungal infection that can affect the body, scalp, or hair. This letter will tell you some important facts about ringworm.

Cause: A fungus.

Symptoms: Body: Ringworm appears as flat, spreading ring-shaped lesions. The edge of the lesion may be dry and scaly or moist and crusted. As the lesion spreads outward, the center often becomes clear.

Scalp: Ringworm may be hard to detect in the early stages. It often begins as a small scaly patch on the scalp. Mild redness and swelling may occur. Infected hairs become brittle and break off easily.

Spread: By direct contact with lesions of infected person, pets, and contaminated objects. To prevent spread of infection, children should not exchange hats, combs, towels, clothing, or personal articles that may be contaminated.

Period of Communicability: As long as infected lesions are present. Communicability is greatly reduced once treatment has begun.

Prevention/Control:

1. If you suspect ringworm in your household members, contact your physician. Be sure to let him or her know of the exposure at child care to assist in diagnosis.
2. Other children and members of the family should be checked for signs of infection. If infection is present, treatment should be started as soon as possible.

Diagnosis: Most often diagnosed visually, but cultures can be taken if diagnosis is questionable.

Treatment: Antifungal ointments are often used for treating ringworm. Oral medications may also be necessary when infection of the hair or scalp is more extensive.

Exclusion: Body: Until 24 hours after treatment has been started and sores are covered.
Scalp: Until 24 hours after treatment has been started.

Roseola Fact Sheet

Roseola is one of the most common rash illnesses of very young children and is not very communicable. Most cases occur in children six months to three years of age. Some additional important facts about roseola are:

- Cause:*** Human herpesvirus-6
- Symptoms:*** Sudden onset of fever which may reach 104 degrees F or higher. Convulsions sometimes occur as the temperature is rising. As the fever disappears on the third to fifth day, a rash appears. At this time, the child usually does not look very ill. The rash may appear as small, slightly bumpy, rose-pink spots on light skin. It begins on the chest and abdomen, usually lasting 1 to 2 days.
- Spread:*** Unknown; incidence is greater in the spring.
- Incubation Period:*** About 10 days.
- Period of Communicability:*** Unknown; unusual for there to be a history of contact with the disease. Immunity seems to develop following disease.
- Prevention/Control:*** Preventative measures are not necessary.
- Treatment:*** There is no specific treatment.
- Exclusion:*** Provided that other rash illnesses, especially measles, have been ruled out, the child may return when he or she is able to participate.

Scabies Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has scabies. Scabies is an infestation caused by tiny mites that burrow and lay eggs under the skin. We encourage you to check your child(ren) for a rash. If you find a rash, follow the suggested treatment and prevention plan found at the end of this letter.

Cause: Sarcoptes scabiei, a mite.

Symptoms: Rash and intense itching which may be especially severe at night. Common locations to see the rash are folds of skin between fingers, around wrists and elbows, waistline, thighs, male genitals, abdomen, chest, and lower portion of buttocks. Infants may be infested on head, neck, palms, and soles of feet.

Spread: By direct contact with skin or through shared bedding, towels, and clothing of the infested person.

Incubation Period: 2 to 6 weeks before onset of itching. Symptoms may appear in less than 2 weeks if the person has had scabies before.

Period of Communicability: From the time a person acquires the mites (before rash appears) until mites and eggs are destroyed by treatment, ordinarily after one or occasionally two courses of treatment, a week apart.

Prevention/Control: Clothing such as underwear and pajamas, bedding, and towels should be machine washed and dried in hot temperatures at time of treatment.

Diagnosis: If you suspect scabies in your family members, see your physician. Skin scrapings may be examined to identify the mites.

Treatment:

1. All family members must be treated at the same time. Consult your physician for treatment. Medication is available by prescription only.
1. Itching may persist for 1 to 2 weeks and, during this period, should not be regarded as a sign of drug failure or re-infestation; over treatment is common and should be avoided because of the toxicity of some of these medications.

Exclusion: Until morning after treatment begins.



Scabies

What is scabies?

Scabies is a fairly common disease caused by a very tiny mite that lives in, or just below, the surface of human skin. It can be spread among people of all races, incomes, ages and levels of cleanliness. The female scabies mite lays her eggs in burrows or channels just beneath the skin. Young mites develop in a few days and emerge from the burrows. Proper applications of a scabies treatment product kills adult mites and eggs; however, a person can get scabies again if he or she is re-exposed to the scabies mite.

What are the symptoms of scabies?

Intense itching, particularly at night, and the appearance of small, raised, red bumps, blisters or rashes are the most obvious signs of scabies. The areas of the skin most affected by the scabies mite include the webs and sides of the fingers, and around the wrists, elbows, armpits, waist, stomach, thighs, genitalia, nipples, breasts and lower buttocks. In infants, the entire body, including the neck, head, palms of the hands and soles of the feet, can be affected; these areas are usually spared in older individuals. Occasionally, persons develop bacterial infections because of intense scratching due to the mites. The first time a person gets scabies, the itching begins in two to six weeks. If a person has had scabies before, he or she is more sensitive to a reinfestation and symptoms appear much more quickly, within one to four days.

How is scabies spread?

Scabies mites are transferred from one person to another by direct skin-to-skin contact, including sexual contact. The mite does not jump from one person to another. At controlled temperatures and relative humidity in the laboratory, scabies mites have survived off a human for 10 or more days, but under ordinary household conditions, most mites live for only a few days at room temperature. Clothing and bedding can play a role in the spread of scabies when worn or used by a person with scabies immediately beforehand.

How is scabies diagnosed?

A physician needs to diagnose scabies because red, itchy rashes or blisters can be caused by other conditions or disorders that look very much like scabies. First, the physician collects several skin scrapings, usually from areas where there are no signs of scratching. Then, a microscope is used to see if the mite is in the skin scrapings. A specific way of applying ink to the skin also can help the doctor identify scabies burrows.

How is a person treated for scabies?

Skin lotions or creams containing lindane, permethrin, pyrethrin or crotamiton are applied to the skin of a person with scabies and to that of other individuals who have had skin-to-skin contact with that person. These treatment products are only available with a doctor's prescription. Instructions for their use vary from product to product, but treatment products should not be used more often than the doctor prescribes. It is always important for the physician to carefully select treatment products, but especially so for infants, young children and pregnant women. Scabies resistance to lindane has been reported in some areas of the world, including parts of the United States.

To properly treat and kill the scabies mites and eggs, it is necessary to apply the lotion or cream thoroughly to all areas of the body from the chin down to, and including, the soles of the feet. Because scabies can affect the scalp and head of infants and young toddlers, it is important to include these areas when treating the rest of the body of a person in this age

group. Treatment of the person is repeated in seven days to get rid of any eggs that survive the first treatment. Itching often lasts for more than one week and can even last several weeks after effective treatment. Itching that continues does not mean the treatment has failed or that the person has gotten scabies again. It is important not to overuse treatment products.

It is uncommon for only one person in a family to have scabies. The ongoing physical contact that occurs in family settings easily spreads the scabies mite. Up to six weeks can pass before the itching, red bumps, blisters or rashes begin and during this time the mite can be spread among family members. Therefore, family members, sexual contacts and others who have had skin-to-skin contact with a person diagnosed with scabies also need to be treated as soon as the person is diagnosed.

How do you treat personal items and the environment for the scabies mite?

After the scabies treatment is applied, the person changes to clean clothing. Clothing, bedding and personal articles (e.g., towels) of the person being treated should be disinfested at the same time. Since temperatures above 125.6 degrees Fahrenheit (F) for 10 minutes are lethal to mites and their eggs, most personal articles of clothing and bedding can be disinfested by machine washing in hot water or by using the hot cycle of a dryer. Items that cannot be placed in a washing machine or dryer, or be dry-cleaned, can be sealed in a plastic bag for one week to prevent them from coming into contact with human skin. Fumigating rooms and using insecticidal sprays on furniture, infant carriers, child car seats and carpets is not recommended for cases of common scabies. To clean these types of items, and the houses, wards and rooms of persons with scabies, thorough vacuuming is sufficient.

Disinfestation of objects and the environment does not need to be repeated unless the second treatment is given more than seven days after the first treatment.

Are there different forms of scabies?

A rare form of scabies known as "Norwegian scabies," or "crusted scabies," is caused by the same mite that causes common scabies. This severe form of scabies results in crusting of the skin. A person with a normal, working immune system who acquires the mite from a person with crusted scabies will develop common scabies, not the more severe form. Crusted scabies usually is seen in persons with weakened health or failing immune systems. A health care professional can give advice about treatment and special control measures for this severe form of scabies.

How can scabies be prevented?

A person can spread scabies until mites and eggs are destroyed by treatment. Persons with scabies should not attend school or day care, or be at the workplace, until the day after the first treatment. It is important to understand how scabies is spread; that persons with scabies need to be diagnosed early; and that persons diagnosed with scabies, and their contacts, need to be treated at the same time. Clusters of cases, or outbreaks, are sometimes seen in nursing homes, institutions and child care centers. A health care professional can give advice to control scabies in these settings.

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Shingles Parent Letter

Dear Parent or Guardian:

An individual in our childcare setting has shingles. Shingles is an infection caused by the reactivation of varicella-zoster virus acquired through active disease (chickenpox) or immunization.

<i>Cause:</i>	Herpes-zoster virus
<i>Symptoms:</i>	Appearance of red bumps and blisters, usually in a band-like pattern on one side of the body, that may be painful.
<i>Spread:</i>	Direct contact with blisters –exposed individual would develop chickenpox (if they had not had chickenpox in the past).
<i>Incubation Period:</i>	The virus can remain in an inactive state for many years.
<i>Period of Communicability:</i>	Until the blisters are covered by scabs.
<i>Prevention/Control:</i>	Cover blisters/lesions. Hand washing.
<i>Diagnosis/Treatment:</i>	Diagnosis is based on clinical symptoms. Pain management is the only treatment.
<i>Exclusion/Readmission:</i>	Exclude if blisters/lesions can not be covered and/or child has fever and/or is unable to participate in normal activities.

Streptococcal Sore Throat/ Scarlet Fever Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has streptococcal (strep) throat or scarlet fever (scarlatina, a strep throat with a rash). These infections are usually not serious; however, complications such as rheumatic fever or kidney disease may develop if children do not receive proper treatment with antibiotics. Some additional important facts about these infections are:

- Cause:*** Streptococcus bacteria (Group A beta hemolytic strep).
- Symptoms:*** Sudden onset of fever, sore throat, swollen glands, headache, abdominal pain.. Nausea and vomiting may occur with severe cases. Also, in scarlet fever a very fine raised rash (feels like sandpaper) is present. A fuzzy white tongue (“strawberry” appearance) usually occurs. The rash appears most often on the neck, chest, in folds of the armpit, elbow, groin, and in the inner thigh. Later on, there may be peeling of the skin on the fingertips and toes. Scarlet fever is not a complication of strep throat, but is the result of infection with a different strain of streptococcus.
- Spread:*** Person-to-person spread from nose and throat secretions of infected persons (those with and without symptoms).
- Incubation Period:*** Short, usually 2 to 5 days.
- Period of Communicability:*** 10 to 21 days untreated, but only 24 hours once treatment is started.
- Prevention/Control:*** If your child does not appear well or develop a sore throat and other symptoms listed above, keep him or her home and call your physician.
- Diagnosis:*** Confirmed by identification of strep in the throat, either by throat culture or by using a rapid test that can provide same-day results.
- Treatment:*** If the culture is positive, a penicillin shot or antibiotics taken by mouth (for a full 10 days) are usually prescribed. This treatment will help to prevent more serious illness such as rheumatic fever, which can damage the heart valves.
- Exclusion:*** Until at least a full 24 hours after treatment begins and the child will continue the antibiotics for 10 days.



Group A *Streptococcus*

Background

Group A *Streptococcus* comprises a number of strains of bacteria that can produce a wide range of illnesses. Some, like "strep throat" and impetigo, are quite common and easily treated. Others, including those referred to as invasive disease, are more rare and require immediate medical attention.

Common Strep Illnesses

- "Strep throat," the most common illness caused by this bacteria, is easily treated with a 10-day course of conventional antibiotics, usually penicillin. If left untreated or partially treated, however, it can be followed by rheumatic fever, which may result in permanent damage to the heart valves. Rheumatic fever, currently a rare disease, may occur when patients do not complete a full course of antibiotics to treat strep throat.
- Impetigo is the second most frequent illness caused by group A bacteria. This is a mild skin infection accompanied by open, draining sores. Complications are rare. It is easily treated with common antibiotics.
- Scarlet fever is characterized by a fever, sore throat, red sandpaper-like rash and a red "strawberry" tongue. It is caused by several different strains of the streptococcal bacteria, all of which produce a toxin that causes the characteristic red rash. It is treated in the same manner as strep throat.
- Rare and more serious, glomerulonephritis is a complication of streptococcal infections, usually strep throat or impetigo. Antibiotic treatment of the original infection does not necessarily prevent the condition, which usually resolves itself.

Invasive Infections

Certain strains of group A bacteria can lead to several forms of invasive disease, including pneumonia, meningitis, infection of the bone and an illness resembling toxic shock syndrome. Relatively uncommon, these streptococcal diseases first caught the public's notice in the late 1980s, when published reports in medical journals began to draw attention to them. The death of Muppet creator Jim Henson in

1990 as a result of an aggressive strep infection brought more visibility. In 1994, focus moved to the strain of group A *Streptococcus* causing necrotizing fasciitis.

Necrotizing Fasciitis

Necrotizing fasciitis is the medical term for a serious skin and muscle infection caused by certain strains of group A *Streptococcus*. These bacteria produce an enzyme that destroys tissue. While it occurs in less than 10 percent of the patients who develop an invasive group A infection, it can be fatal in 20 percent to 30 percent of these cases.

If necrotizing fasciitis does develop, it is usually in the wake of a skin wound that has allowed the bacteria to enter the body. The bacteria multiply in the wound and produce a toxic substance that kills skin, muscle tissue and the membrane covering the muscles. Not everyone infected with the bacteria will become ill, although the reason for this is unknown.

As is the case with other strains of group A *Streptococcus*, those that cause necrotizing fasciitis are treated with common antibiotics, although not necessarily the same ones used to treat milder diseases. Because of the extensive tissue damage associated with this kind of infection, physicians sometimes combine a regimen of antibiotics with the surgical removal of severely damaged skin and muscle tissue.

Incidence in Illinois

Illinois hospitals, physicians and other health care providers have been required to generally report all group A *Streptococcus* infections to local health departments. The rules governing the reporting of communicable diseases have been revised recently and now require that cases of invasive streptococcal disease, including necrotizing fasciitis, be specifically reported to public health officials.

The following table presents information on reported cases of group A streptococcal disease during the last several years.

Reported Group A *Streptococcus* Cases by Year in Illinois, 1994-2001

	1994	1995	1996	1997	1998	1999	2000	2001
Streptococcal Pharyngitis (Strep throat)	55,886	61,282	48,899	42,356	56,620	75,080	66,527	**
Scarlet Fever	3,294	2,426	1,554	1,259	1,920	2,339	1,921	**
Rheumatic Fever	8	0	1	2	1	2	0	2
Group A Strep, Invasive Disease	66	89	89	106	193	273	224	272

** Data no longer collected as of April 1, 2001

Transmission/Treatment/Prevention

Some persons may harbor group A *Streptococcus* in their noses or on their skin without exhibiting any symptoms. These bacteria are usually transmitted from person to person by direct contact and rarely by contact with articles handled by an infected person. An infected person also can contaminate some kinds of food, causing illness in those who ingest it.

Group A *Streptococcus* bacteria are known to be sensitive to penicillin, so it is the preferred antibiotic for most types of streptococcal infections. However, necrotizing fasciitis is sometimes thought to be more effectively treated with penicillin in combination with clindamycin, or another antibiotic, and surgery.

The spread of all types of group A *Streptococcus* infections may be reduced by good handwashing, especially after coughing and sneezing, before preparing foods and before eating. Persons with sore throats should be seen by a doctor who can perform tests to find out whether it is "strep throat"; if so, the person should stay home from work, school or day care until 24 hours or more after taking an antibiotic.

Since it is not clear why some infected persons develop necrotizing fasciitis and others do not, it is important that wounds be kept clean and covered with bandages. If a person has an infection (redness or inflammation around a wound) that does not stay centrally located, seek medical attention as soon as possible.

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health fact sheets



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[Questions or Comments](#)

Yeast Infections (Thrush) Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has a yeast infection which may cause creamy white patches on the tongue or lining of the mouth (oral thrush) or a rash in the diaper area. The fungus may be found in healthy people and mainly causes illness among infants, persons with weak immune systems, or those on certain antibiotics. Some additional important facts about yeast infections are:

Cause: Candida albicans, a fungus.

Symptoms: Mouth: Thrush is characterized by white, soft, slightly elevated patches inside the mouth, which give the appearance of curdled milk. Milk can easily be cleansed from the mouth, thrush, however, if scraped off, will leave raw, bleeding surface. Pain, redness, and swelling around the corners of the mouth are often associated with thrush.

Diaper area: A smooth, shiny “fire engine” red rash that may have red bumps surrounding the solid red area, usually in the skin folds.

Spread: By contact with skin lesions, unclean objects (such as toys, pacifiers, and nipples), mouth, vaginal secretions, or feces of infected person or asymptomatic carrier.

Period of Communicability: While lesions are present.

Prevention/Control:

1. Wash hands frequently of both staff and children with soap and running water.
2. Minimize contact with secretions and stool of those infected.
3. Clean and sanitize mouthed toys daily or when soiled.
4. Clean and disinfect bottle nipples and pacifiers daily. (Boil or use dishwasher.)

Examples of approved disinfecting solutions:

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10-20 minutes in a weak bleach solution – 1 tablespoon of bleach added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

Diagnosis: See your physician, who can identify the fungus and prescribe the proper medication.

Treatment: Treatment often used includes antifungal lotions, creams, or a purple dye. Rarely a swallowed medication is needed.

Exclusion: Because this fungus is so widespread among healthy people, exclusion is not indicated unless there are an unusual number of infected infants.

Vaccine Preventable Diseases

Vaccine Information Sheets (VIS) available at: <http://www.cdc.gov/vaccines/pubs/vis/default.htm>

Recommended Immunization Schedule for children and teens at:
<http://www.cdc.gov/vaccines/recs/schedules/downloads/child/2007/child-schedule-color-print.pdf>

Recommended Immunization Schedule for adults at:
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5641a7.htm?s_cid=mm5641a7_e

Certificate of Child Health Examination Form <http://www.state.il.us/DCFS/docs/cfs600.pdf>

Medical Report on an Adult in a Child Care Facility <http://www.state.il.us/DCFS/docs/cfs602.pdf>

U.S. Vaccines at:
<http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/us-vaccines.pdf>

Chickenpox Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has chickenpox. Chickenpox is a vaccine preventable disease. The Varicella (chickenpox) vaccine may be a two dose series, 1st dose given 12-15 months and a recommended 2nd dose at 4-6 years of age. Chickenpox, one of the most common infections of childhood and is highly contagious. It usually occurs in children under the age of 10 years, although older children and even adults may develop it. However, when it occurs in adults it may be more severe. Chickenpox in newborns and those with weak immune systems can also be severe. Some additional facts about chickenpox are:

- Cause:** Varicella zoster, a member of the herpes virus family.
- Symptoms:** Initial rash begins with red flat and elevated lesions that rapidly progress to blisters and then to crusting (scab) stage. The lesions appear in crops with greatest concentration on the trunk. Face and extremities are generally less affected. Lesions in all stages may be found simultaneously in any area. All lesions are usually crusted within 5 to 10 days. Some children have only a few lesions and little evidence of illness; others are covered and have a high fever and severe itching.
- Spread:** By droplets – small particles of fluid that are expelled from the nose and mouth during sneezing and coughing, by direct contact with the blisters, or indirectly through articles freshly soiled by discharges from skin eruptions and mucous membranes of an infected person. 5% of children who have been immunized may develop chickenpox following immunization. The rash, in immunized children, may not be easily recognizable because varicella skin lesions may resemble insect bites. These children are still considered potentially infectious.
- Incubation Period:** Usually 13 to 17 days. Observe your child for symptoms for a period of 3 weeks.
- Period of Communicability:** From 1 to 2 days before the onset of the rash and until all blisters are crusted (about 6 days).
- Prevention/Control:** When a susceptible pregnant woman or person with a weak immune system who has not had chickenpox is exposed, he or she should contact a physician.
1. DO NOT GIVE ANY ASPIRIN TO A CHILD WITH CHICKENPOX (Tylenol* [Acetaminophen] is safe to give to a child with chickenpox). There appears to be an association between Reye Syndrome (a serious condition which can cause death) and aspirin given to children during viral illnesses such as chickenpox and influenza.
 2. Varicella vaccination is now required in Illinois for any child entering child care or kindergarten.
- Exclusion:** Children may return to the child care setting when all the blisters have dried and formed scabs, about 6 days after onset of the rash. Exposed children without symptoms do not need to stay home unless chickenpox develops. *Brand names are mentioned for identification purposes only and do not constitute an endorsement by the Healthy Child Care Coalition.*

See also Vaccine Information Sheet (VIS).



Chickenpox

What is chickenpox?

Chickenpox, a highly contagious disease caused by a virus called varicella zoster, is one of the most commonly reported childhood diseases. Usually mild and not life-threatening to otherwise healthy children, it may be severe in infants, adults and persons with impaired immune systems. Infection confers long immunity; second attacks are rare.

How is chickenpox spread?

Chickenpox is one of the most readily communicable diseases. It can be spread from person to person by direct contact with fluid from the blisters or with secretions from the respiratory tract or by handling an infected person's clothing or bedding. Airborne transmission is possible through sneezing and coughing. Susceptibility to chickenpox is universal among those not previously infected. The greatest number of cases occur in the winter and early spring.

What are the symptoms of chickenpox?

Symptoms, which usually start about two weeks after exposure (range is 10 to 21 days), include a fever, a feeling of tiredness and an itchy rash. The rash--or the pox--generally starts as little red spots on the chest, stomach or back and then on the face. The infected person may get only a few spots or a cluster of spots, or he or she may develop hundreds of spots during the first three to five days of the rash. The spots change into clear blisters filled with fluid. These blisters become cloudy, can break open and form a crust or scab in two to four days. The scabs can be very itchy. Chickenpox is contagious one to two days before the rash appears and until all blisters have formed scabs.

Who is most at risk of complications from chickenpox?

Children usually do not develop complications. Those at increased risk for complications (generally pneumonia or bacterial infection of lesions) are immunocompromised persons, infants younger than 1 year of age, adolescents and adults, newborns whose mothers had chickenpox around the time of delivery, or premature infants whose mothers have not had chickenpox. Approximately one in every 400 persons who get chickenpox requires hospitalization. There are about 90 deaths a year from chickenpox in the United States.

Chickenpox infection apparently remains latent and may recur years later as herpes zoster (shingles). The incidence of shingles increases with age. Persons with HIV infection are also at increased risk of shingles.

Is there a vaccine for chickenpox?

In 1995, the federal Food and Drug Administration approved a vaccine to immunize children and other susceptible individuals against chickenpox. Children vaccinated at 12 months through 12 years of age require

one dose. After age 13, natural varicella is more severe, complications are more frequent, and two doses of vaccine, given four to eight weeks apart, are needed.

All adolescents 13 years of age and older and adults who may be susceptible to chickenpox should be assessed for possible vaccination. Specific efforts should be focused on those at highest risk of exposure and of transmitting disease to others. Vaccination is recommended for susceptible persons who will have close contact with persons at high risk for serious complications. This includes health care workers and susceptible family contacts of immunocompromised individuals. Vaccination should be considered for susceptible persons in the following groups who are at high risk of exposure:

- Persons who live or work in environments in which there is a high likelihood of transmission of chickenpox; for example, teachers of young children, day care workers, and residents and staff in institutional settings.
- Persons who live or work in environments in which transmission of chickenpox may occur, for example, college students, inmates and staff of correctional institutions and military personnel.
- Nonpregnant women of childbearing age. Women should be asked if they are pregnant and advised to avoid pregnancy for one month following each dose of vaccine.
- International travelers. Immunization should be considered for international travelers without evidence of immunity to the chickenpox virus, especially if they expect to have close personal contact with local populations. Chickenpox is endemic in most countries throughout the world.

Is vaccination for chickenpox required for attendance in day care and schools?

Yes, effective July 1, 2002, the following children are required to show proof of immunity to varicella:

- Children 2 years of age and older entering a child care facility, a school operated program below the kindergarten level or a Head Start center for the first time on or after July 1, 2002. Children who have attended a child care facility prior to July 1, 2002, but enroll in a new facility on or after July 1, 2002, must comply with the varicella requirement.
- Children entering kindergarten for the first time on or after July 1, 2002 (effective 2002-2003 school year).
- Children entering for the first time on or after July 1, 2002, a school program where grade levels are not assigned must be immunized if they will reach 5 years of age prior to the 2002-2003 school year.

The immunization rules allow doctors, health officials (for example, local health department staff) and child care or school health professionals (for example, school nurses or health aides) to verify that a parent's or legal guardian's description of chickenpox disease history indicates past infection and to accept such history as documentation that a child has had the disease. If a parent indicates on the child health exam form that the child has had chickenpox, a health care provider must still verify this, including the date (or approximate date) of illness, and sign the health exam form. Laboratory evidence of past varicella infection is also acceptable.

If exposure occurs, can chickenpox be prevented?

Some newborn babies, any immunodeficient child and any susceptible persons older than 14 years of age who have not had chickenpox before may need a shot of varicella zoster immune globulin (VZIG) to try to prevent chickenpox after being exposed. VZIG needs to be given as soon as possible but within 96 hours after exposure to chickenpox.

How is chickenpox treated?

If a person develops chickenpox, acetaminophen can be given to reduce fever. Do not give aspirin to young children; it may cause Reye syndrome. Calamine lotion and antihistamines can help reduce itching.

Acyclovir is a drug that is now given to some people within the first day after rash onset to make the symptoms of chickenpox milder. Check with your physician.

Where can I get more information?

If you have questions about chickenpox or about immunizations, contact your doctor or your local health department or call 800-526-4372, TTY (hearing impaired use only) 800-547-0466.

Last updated April 25, 2007

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Haemophilus Influenzae Type B (Hib)

Dear Parent or Guardian:

An individual in our childcare setting has haemophilus influenzae (Hib). Haemophilus influenzae is a vaccine preventable disease. If immunization (Hib) status is not current measures should be taken to ensure completion of the immunization schedule. Children should receive four doses of the Hib vaccine: 2, 4, 6 and 12-15 months of age.

Haemophilus influenzae not to be confused with “the flu” was the most common cause of bacterial meningitis in children under the age of 5 years in the U.S. prior to the Hib vaccine.

Cause: Haemophilus influenzae

Symptoms: May include fever, vomiting, irritability, stiff neck, rapid onset of difficult breathing, cough, swollen joints, swelling and discoloration of the skin – particularly of the cheeks and around the eye. Hib disease can also cause pneumonia, severe swelling of the throat leading to breathing problems, infections of the blood, joints, bones, and covering of the heart.

Spread: Respiratory droplets – airborne person to person.

Incubation Period: Unknown

Period of Communicability: Until one day after antibiotic treatment.

Prevention/Control:

1. Provide immunization
2. Exclude all individuals with proven Hib infection.
3. The health department will determine if preventive antibiotic treatment is necessary for those exposed

Diagnosis: Positive culture

Treatment: Antibiotic treatment

Readmission: According to local health department recommendations.

See also Vaccine Information Sheet (VIS).

Hepatitis A Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has Hepatitis A. Hepatitis A is an infection of the liver. In recent years, child care settings have been recognized as an important source of hepatitis A epidemics which have spread into the community at-large. Spread occurs most commonly when diapered children are present. Some additional important facts about hepatitis A are:

Cause: Hepatitis A virus.

Symptoms: Onset is usually sudden, with loss of appetite, nausea, tiredness, fever, and stomachache. Dark colored urine, light-colored stools, and jaundice (yellowing of eyes or skin) may appear a few days later. Jaundice occurs more often among adults than children. Symptoms vary greatly, from severe to none at all.

Spread: Hepatitis A virus leaves the body through the stool of an infected person and enters another person when contaminated hands, food, or objects such as toys are placed in the mouth. Spread can occur when a person does not wash his or her hands after using the toilet or changing diapers and later prepares or eats food.

Diapered children may pass the virus to family members or center staff without ever having symptoms.

Incubation Period: 2 to 6 weeks after a person is exposed to the virus; most commonly one month.

Period of Communicability: 2 weeks before to 1 week after onset of symptoms. Once an individual recovers from hepatitis A, he or she is immune for life and does not continue to carry the virus.

Prevention/Control

1. Wash hands with soap and running water after using the toilet, changing diapers, and before preparing or eating food. Thorough hand washing is the best way to prevent the spread of infectious diseases found in the intestinal tract. WASH CHILD'S HANDS ALSO.
2. Clean and disinfect contaminated areas (diapering area, potty chairs, toilets) daily or when soiled. Disinfect toys as needed and at least daily. A dishwasher may be used for small toys.

Examples of approved disinfecting solutions:

To disinfect clean, non-food contact surfaces: use a solution of household bleach and water – ¼ cup of bleach in a gallon of water. (To make a smaller amount in a spray bottle, use 1 tablespoon bleach in a quart of water.) Saturate area with solution. Air dry. Do NOT rinse.

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10-20 minutes in a weak bleach solution – 1 tablespoon bleach

added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

3. Immune Globulin (IG): Should be given to persons exposed to hepatitis A within 14 days of exposure. To get the best protection, it should be given within 7 days after exposure. The health department has been contacted and will provide immune globulin for your child.

Treatment:

No specific medicines or antibiotics are used to treat a person once symptoms appear. Generally, bed rest is all that is needed. Contact your physician or local health department for more information.

Exclusion:

Exclude from onset of illness to at least 1 week after onset.

See also Vaccine Information Sheet (VIS).



Hepatitis A

What is hepatitis?

Hepatitis is an inflammation of the liver caused by certain viruses and other factors, such as alcohol abuse, some medications and trauma. Its various forms affect millions of Americans. Although many cases of hepatitis are not a serious threat to health, infection with certain hepatitis viruses can become chronic (long-lasting) and can sometimes lead to liver failure and death.

How many kinds of viral hepatitis are there?

There are four major types of hepatitis, all caused by different viruses: hepatitis A, hepatitis B, hepatitis C and delta hepatitis. This “Health Beat” focuses on hepatitis A.

What is hepatitis A and how is it transmitted?

Hepatitis A, formerly known as infectious hepatitis, is caused by the hepatitis A virus. The virus enters through the mouth, multiplies in the body and is passed in the stool. It can be carried on the hands of an infected person who does not wash his or her hands thoroughly after using the toilet. The infection can be spread by direct contact with the hepatitis A virus or when another person consumes food or drink handled by an infected person who does not practice good hygiene, such as handwashing. In some cases, it can be spread to persons who ingest sewage-contaminated water.

What are the symptoms of hepatitis A?

The symptoms of hepatitis A include fatigue, poor appetite, fever and vomiting. Urine may become darker. Jaundice may then appear. Symptoms can appear from 15 to 50 days after exposure, but usually within 28 to 30 days of being exposed to the virus.

The disease is rarely fatal, and most people recover in a few weeks without any complications. Infants and young children tend to have very mild or no symptoms and are less likely to develop jaundice than are older children and adults. Not everyone infected with the virus will have all of the symptoms. There are no long-term effects. Once an individual recovers from hepatitis A, he or she is immune for life and does not continue to carry the virus.

How contagious is hepatitis A?

Casual contacts — fellow classmates or work associates, for example — are generally not at risk. Because close personal contact in classrooms or offices is unlikely and because older children and adults typically practice good hygiene, the likelihood that hepatitis A will be transmitted in these settings is reduced. However, hepatitis A can be transmitted in child day-care settings, especially if good hygiene is not practiced after changing diapers. It also is due to the close personal contact among children, who are still learning to practice proper hygiene.

The contagious period begins about two weeks before symptoms appear and continues up to one week after the onset of jaundice (a yellowing of the skin and whites of the eyes). Because of the delay in symptoms, a person can transmit the virus without realizing it.

In Illinois, the incidence of hepatitis A has declined since 1990, when 1,726 cases were recorded, to 821 cases in 1998.

How can hepatitis A be prevented?

The single most effective way to prevent the spread of the hepatitis A virus is careful handwashing after using the toilet. Also, infected people should not handle foods during the contagious period (about two weeks before symptoms appear and up to one week after onset of jaundice).

Household members, day-care contacts or others in close personal contact with an infected person should call a doctor or their local health department to obtain a shot of immune globulin, which reduces the chances of becoming ill. In normal working and classroom situations (except day-care centers), contacts do not need to receive immune globulin.

What is the proper handwashing technique?

Wet hands with soap and warm water. Rub hands for 10 to 20 seconds, making sure you clean under fingernails. Rinse under warm water. Dry hands on a paper towel or your own clean towel. In washrooms where paper towels are available, use a paper towel to turn off the water faucet and throw the towel away.

How is hepatitis A treated?

No special medicines or antibiotics are used to treat a person once symptoms appear. Generally, bed rest is all that is needed.

Is there a vaccine to prevent hepatitis A?

In 1995, a hepatitis A vaccine was licensed for use in the United States. This vaccine is recommended for persons who plan to travel to countries where hepatitis A occurs frequently, those who have blood clotting disorders or chronic liver disease, men who have sex with men and illegal drug users. Current guidelines call for a two-shot series with an interval between the doses of between six and 18 months, depending on the brand of vaccine used and the age of the person receiving the vaccine. Please check with your physician.

After receiving the full series of vaccinations, a person should develop long-term immunity. Research suggests immunity could last as long as 20 years.

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Hepatitis B

Dear Parent or Guardian:

An individual in our childcare setting has been diagnosed with hepatitis B. Hepatitis B usually causes liver inflammation that will resolve, but sometimes can lead to serious illness, lifelong infection or liver failure. Vaccination for hepatitis B is routinely given at birth, 2 months, and a year. If immunization status is not current, measures should be taken to ensure completion of the immunization schedule.

Cause:	Hepatitis B virus.
Symptoms:	Muscle aches, vomiting, loss of appetite, fatigue, and sometimes jaundice (yellowing of the skin). Many children, however, have no symptoms.
Spread:	Spread through blood or intimate body fluids, rarely by saliva.
Incubation Period:	45 to 160 days, average 90 days.
Period of Communicability:	Months to years.
Prevention/Control:	<ol style="list-style-type: none">1. Proper immunization.2. Clean any surface contaminated by a body fluid that can pass the virus (primarily blood).
Diagnosis/Treatment:	Hepatitis B is usually diagnosed by a blood test. No treatment is routinely available. Chronic infection is sometimes treated with interferon.
Exclusion:	No exclusion unless child is unable to participate or if child meets other exclusion criteria such as fever. Open wounds need to be covered.

See also Vaccine Information Sheet (VIS).



Hepatitis B

What is hepatitis?

Hepatitis is an inflammation of the liver caused by certain viruses and other factors, such as alcohol abuse, some medications and trauma. Its various forms affect millions of Americans. Although many cases of hepatitis are not a serious threat to health, infection with certain hepatitis viruses can become chronic (long-lasting) and can sometimes lead to liver failure and death.

How many kinds of viral hepatitis are there?

There are four major types of viral hepatitis, all caused by different viruses: hepatitis A, hepatitis B, hepatitis C and delta hepatitis. This "Health Beat" focuses on hepatitis B.

What is hepatitis B and how is it transmitted?

Infection with the hepatitis B virus (HBV) may be without any symptoms, mild or severe. Among adults infected by HBV, 90 percent to 94 percent recover completely and have no long term effects. Six percent to 10 percent will become chronic carriers of HBV and will be at risk of developing cirrhosis or liver cancer. Over time, hepatitis B can destroy the liver (cirrhosis) and can cause liver cancer.

HBV is spread by direct contact with blood or other body fluids of infected people. (Delta hepatitis is spread the same ways as HBV; however, it is a defective hepatitis virus that can only be acquired in the presence of hepatitis B virus.)

Each year, an estimated 200,000 to 300,000 persons in the United States become infected with HBV. In Illinois, there were 591 cases of HBV reported in 1990; this declined to 315 reported cases in 1994.

Since the disease is not easily spread, persons with HBV do not pass the virus to others through casual contact, such as shaking hands or sharing a work space or bathroom facility. HBV is most commonly transmitted by sharing drug needles, by engaging in high-risk sexual behavior (especially anal sex), from a mother to her baby during childbirth and in the health-care setting.

What are the symptoms of hepatitis B?

Many people infected with viral hepatitis have no symptoms. For example, about one-third of people infected with HBV have a completely "silent" disease. When symptoms are present, they may be mild or severe. The most common early symptoms are mild fever, headache, muscle aches, fatigue, loss of appetite, nausea, vomiting and diarrhea. Later symptoms may include dark coffee-colored, rather than dark yellow, urine, clay-colored stools, abdominal pain, and yellowing of the skin and whites of the eyes (jaundice).

About 15 percent to 20 percent of patients develop short-term arthritis-like problems. Another one-third of those with hepatitis B develop only mild flu-like symptoms without jaundice. Very severe hepatitis B is rare,

but it is life-threatening. Signs and symptoms, which require immediate medical attention, include prolonged blood clotting time, personality changes and agitated behavior.

Can people with no symptoms pass hepatitis B to others?

Some people infected with HBV become chronic carriers of the virus, although they may have no symptoms. There are an estimated 1.5 million HBV carriers in the United States and 300 million carriers worldwide. Children, when exposed to HBV, are at greatest risk of becoming carriers. Up to 90 percent of babies who become infected at birth with HBV, and up to half of youngsters who are infected before 5 years of age, become chronic carriers.

How is hepatitis B diagnosed?

Several blood tests can detect signs of HBV even before symptoms develop. These tests measure liver function and identify HBV antigens (certain portions of the hepatitis B virus) or antibodies (proteins produced by the body in response to the virus) in the blood.

How is hepatitis B treated?

There are no specific treatments for the acute symptoms of viral hepatitis B. Doctors recommend bed rest, preventing dehydration, a healthy diet and avoidance of alcoholic beverages.

A synthetic form of the protein interferon alpha is used to treat people with chronic hepatitis B. The drug improves liver function in some people with hepatitis and diminishes symptoms, although it may cause side effects such as headache, fever and other flu-like symptoms.

Most patients with mild to severe acute hepatitis begin to feel better in two to three weeks and recover completely within four to eight weeks. People with HBV infection who also become infected with the hepatitis C virus at the same time may be at particular risk for developing severe, life-threatening hepatitis.

Many chronic carriers remain symptom free or develop only a mild condition, chronic persistent hepatitis. However, approximately 25 percent go on to develop the most serious complications of viral hepatitis: cirrhosis of the liver, liver cancer and immune system disorders.

How can hepatitis B be prevented?

The most effective means of preventing hepatitis B virus infection is to avoid contact with the blood and body fluids, including semen and vaginal secretions, of infected individuals. People who have hepatitis B virus infection should

- Avoid sharing items that could infect others, such as razors or toothbrushes.
- Protect sex partners from exposure to semen, vaginal fluids or blood through the proper use of latex condoms.

There are several vaccines available to prevent hepatitis B. Vaccination should be considered by people at high risk of infection: male homosexuals and heterosexuals with multiple partners, people who receive hemodialysis or blood products, household and sexual contacts of HBV carriers, and users of street drugs who share needles. Many health care and laboratory workers who handle blood and other body fluids also are vaccinated. People who come into direct contact with the blood or body fluids of an HBV carrier may receive one or more injections of hepatitis B immune globulin, sometimes in combination with hepatitis B vaccine. Immune globulin offers temporary protection, while the vaccine provides long-lasting immunity.

In an effort to eliminate chronic carriers of HBV, the U.S. Centers for Disease Control and Prevention (CDC) recommends that all newborn babies be vaccinated against the hepatitis B virus. The CDC and other groups have recommended that pregnant women be screened for hepatitis B as part of routine prenatal care. If the mother is infected, her baby can be given hepatitis B immune globulin and vaccine immediately after birth.

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Influenza

What is the flu?

Influenza, commonly called the flu, is a respiratory illness caused by a specific kind of virus. Compared to most viruses that cause upper respiratory illnesses (e.g., the common cold), influenza viruses usually cause a more severe illness that is more likely to lead to serious medical complications, such as pneumonia.

What kinds of viruses cause influenza?

Influenza viruses are divided into three types: A, B and C. Types A and B are responsible for the outbreaks of respiratory illness that occur almost every year and often are associated with increased rates of hospitalization and death. Currently there are three different influenza strains in worldwide circulation: two type A viruses and one type B. (Type C differs because it usually causes either a very mild respiratory illness or no symptoms at all.) However, influenza viruses continually change over time (usually by mutation). This enables a virus to evade a person's immune system, making people susceptible to influenza infection throughout their lives.

Occasionally, type A viruses can change abruptly and a new subtype will suddenly emerge. When this occurs, large numbers of people--sometimes an entire population--have no antibody protection. This results in a worldwide epidemic, or pandemic. There have been three influenza pandemics this century. In 1918-19, the Spanish flu caused approximately 500,000 deaths in the United States and 20 million worldwide. The Asian flu resulted in 70,000 U.S. deaths in 1957-58, and the Hong Kong flu of 1968-69 claimed 34,000 lives in the United States. However, these are rare events.

When is influenza most common?

The influenza season, when the illness is most common, usually occurs during the colder months of the year: late fall, winter and early spring.

What are the symptoms of influenza?

Typical symptoms include fever--often with chills and headache, muscle aches and fatigue. Respiratory symptoms are a cough, sore throat, and a runny or stuffy nose. Although nausea, vomiting and diarrhea can sometimes accompany an influenza infection, especially in children, gastrointestinal symptoms are rarely prominent. The term "stomach flu" is incorrectly used sometimes to describe gastrointestinal illnesses caused by other microorganisms.

How many people are affected by influenza each season?

During most years, between 10 percent and 20 percent of the population are infected with influenza viruses. Children get influenza more often than healthy adults. Older adults and people of any age with chronic illnesses are more apt to suffer from serious medical complications from influenza. In an average year, approximately 36,000 Americans die from influenza and its complications and many more are hospitalized.

What can be done to prevent influenza?

The best prevention is vaccination against flu. Because influenza viruses change frequently and because protection from the vaccine decreases with time, people should get vaccinated every year. The amount of vaccine manufactured in the United States has increased substantially in recent years. During the 2003-2004 influenza season, there were 88 million doses of vaccine available. While most people get shots against influenza, there is a nasal spray vaccine product for healthy persons between the ages for five and 49.

There are several antiviral drugs available that are effective in preventing and treating influenza. These drugs are available by prescription and are prescribed specifically for type A or B infections. However, they must be taken before or within 48 hours of onset of illness.

Who should get an influenza shot?

Anyone who wants to reduce his or her risk of getting influenza should get an annual flu vaccination. Vaccination is particularly important, though, for certain people at risk of complications from influenza:

- persons 65 years of age and older, even if they are otherwise in good health;
- residents of nursing homes and long-term care facilities;
- persons of all ages who have chronic heart or lung conditions, including asthma;
- persons with diabetes, renal disease, severe anemia or suppressed immune systems;
- children who are on aspirin therapy; and
- health care providers or household members of any of the above groups.

Are there any good reasons not to get a flu shot?

Persons who have a severe allergy to eggs or who have had a previous allergic reaction to influenza vaccine should not get a flu shot without consulting a physician.

Many people avoid getting vaccinated for the wrong reasons:

- **The vaccine causes unpleasant side effects or may even cause the flu.** Influenza vaccine causes no side effects in most people. Less than one-third of those who get flu shots have some soreness at the vaccination site and about 5 percent to 10 percent experience mild side effects such as headache or low-grade fever for about a day after getting the shot.
- **Flu shots are not very effective.** Overall vaccine effectiveness varies from year to year, depending on how similar the influenza virus strains included in the vaccine are to those that are circulating during the flu season. Because vaccine strains are chosen nine to 10 months before the flu season and because influenza viruses mutate over time, the circulating strains can change between the time the vaccine strains are chosen and the next flu season. These changes in the virus(es) sometimes reduce the ability of the vaccine-induced antibodies to inhibit the newly mutated virus, thereby reducing the vaccine's effectiveness. Vaccine effectiveness also varies from one person to another. Studies of healthy young adults have shown influenza vaccine to be 70 percent to 90 percent effective in preventing illness. In the elderly and those with chronic medical conditions, the vaccine is often less effective in preventing influenza than in reducing the severity of the illness and the risk of serious complications and death. Research has shown the vaccine to reduce hospitalization by about 70 percent and death by about 85 percent in independent seniors. Among nursing home residents, vaccine can reduce the risk of

hospitalization by about 50 percent, the risk of pneumonia by about 60 percent and the risk of death by 75 percent to 80 percent.

- **Flu shots are expensive for those on fixed incomes.** Since May 1993 Medicare Part B has paid for flu shots for the elderly, the country's largest high-risk group. Almost half of eligible Medicare part B persons in Illinois still do not receive vaccine.

When is the best time to get a flu shot?

In the United States, influenza activity is typically very low until December; peak activity most often occurs between January and March. Influenza vaccine should be administered between September and mid-November. It takes about one to two weeks after vaccination for antibodies against influenza to develop and provide protection.

What else can be done to avoid getting the flu?

- Wash hands frequently with soap and warm water.
- Cover your nose and mouth when you cough and sneeze, preferably with a facial tissue or your arm, not your hands.
- Avoid close contact with people who are sick.
- When you are sick, keep your distance from others to protect them from getting sick. Stay home from work or school until you recover.
- Contact your medical provider if you are experiencing severe symptoms that you believe require medical attention.
- Do not share things that go into the mouth, such as drinking cups, straws, etc.
- Frequently clean commonly touched surfaces if someone in your house has a cold or the flu.
- Avoid touching your eyes, nose or mouth while in public as these areas act as portals for bacteria and viruses to enter your body.

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Measles Parent Letter

Dear Parent or Guardian:

An individual in our childcare setting has measles. Measles is a vaccine preventable disease. If immunization status is not current measures should be taken to ensure completion of the immunization schedule. Children should be given the first dose of Measles, Mumps, Rubella (MMR) vaccine soon after the first birthday (12 to 15 months of age). The second dose is recommended before the start of the kindergarten. Measles disease is seen infrequently in the U.S. among individuals with adequate immunizations. Outbreaks do occur among those who have not been protected by the vaccine. It can lead to ear infection, pneumonia, seizures (jerking and staring), brain damage, and death.

Cause: *Measles virus*

Symptoms: Fever, cough, runny nose, and red, watery eyes with small red spots in the mouth (Koplik spots). A rash that starts at the head and spreads downward over the body. Diarrhea or ear infection may be present.

Spread: Respiratory droplets – airborne person to person

Incubation Period: Generally 8 -12 days from exposure to onset of symptoms.

Period of Communicability: From 1-2 days before the first signs of symptoms appear (3-5 days before the rash) until 4 days after the appearance of the rash.

Prevention/Control:

1. Update immunization status
2. Exclude exposed children who have not been immunized
3. Careful and frequent hand washing
4. Sanitize surfaces touched by hands

Diagnosis: Positive specimens

Treatment: No specific treatment for measles

Exclusion:

1. Infected children should be excluded until 4 days after the beginning of the rash.
2. Un-immunized individuals should be excluded

Readmission: According to local health department recommendations

See also Vaccine Information Sheet (VIS).



Measles

What is measles?

Measles is a serious, highly contagious disease caused by a virus. The virus is spread easily through the air when an infected person coughs or sneezes or by direct contact with infected nose or throat secretions.

How common is measles?

Prior to widespread immunization, measles was common in childhood. In fact, almost everyone born before 1957 has already had measles. Currently, measles usually occurs in preschool-age children who have not had their measles vaccine or in school-age children and young adults who have had only one shot of measles vaccine. Measles occurs primarily in the late winter and early spring.

With effective childhood immunization programs, measles cases in the United States, Canada and other countries have dropped by 99 percent. However, there was a marked increase in measles cases in the United States during 1989-1991. The majority of these cases occurred in non-immunized children, including almost 25 percent of cases in babies younger than 15 months of age. Non-immunized inner-city preschool children were a major contributing factor in this epidemic.

What are the symptoms of measles?

Symptoms of measles include a rash that starts on the face and neck and then spreads, a high fever, runny nose, cough and red, watery eyes. The fever starts about 10 days (range seven to 18 days) after exposure. The rash appears about 14 days after exposure. Infants and adults usually are sicker than children and teenagers.

In the United States, death from measles has occurred at a rate of about two to three per 1,000 cases in recent years. These deaths occur mainly in children younger than 5 years of age, primarily from pneumonia and occasionally from encephalitis. Other complications include ear problems, diarrhea and brain damage.

Should a person with measles stay home?

Measles is very contagious, so stay away from work, school and social activities from the time when symptoms are first noticed until five days after the rash appears.

What is the treatment for measles?

Treatment includes bed rest, lots of fluids and medicine for fever and headache. Antibiotics do not help – either to cure measles or to prevent it. There are no anti-viral drugs for treating measles.

Can measles be prevented?

Measles can be prevented with measles vaccine. The vaccine is recommended for children at 12 months of age. This shot is given as measles, mumps, rubella (MMR) vaccine. A second shot of measles vaccine, usually MMR, is now required in Illinois for all children kindergarten through 12th grade. Anyone born after January 15, 1957, who has not had at least one dose of measles vaccine after 12 months of age or who has not had the measles should be immunized. Persons working in health care settings should receive two doses of measles vaccine (MMR) unless they have had the disease and, therefore, are immune. Women should not get the vaccine if they are already pregnant or if they plan to get pregnant within three months after getting the vaccine.

Acquired immunity after illness is permanent.

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Mumps Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has mumps. Mumps is a vaccine preventable disease. If immunization status is not current measures should be taken to ensure completion of the immunization schedule. Children should be given the first dose of Measles, Mumps, Rubella (MMR) vaccine soon after the first birthday (12 to 15 months of age). The second dose is recommended before the start of the kindergarten.

Mumps disease is characterized by swollen glands in front of and below the ear.

<i>Cause:</i>	<i>Mumps virus</i>
<i>Symptoms:</i>	Fever, headache, earache, and swelling of the salivary glands. It can lead to deafness, meningitis, and painful swelling of the testicles and ovaries in teenagers and adults.
<i>Spread:</i>	Respiratory droplets – airborne person to person
<i>Incubation Period:</i>	Usually 16-18 days, but cases may occur from 12-25 days after exposure.
<i>Period of Communicability:</i>	3 days before to about 9 days after symptoms appear
<i>Prevention/Control:</i>	<ol style="list-style-type: none">1. Provide immunization2. Exclude those with infection3. Exclude those not current with immunization
<i>Diagnosis/Treatment:</i>	Children with swollen salivary glands for more than 2 days without other apparent cause should undergo diagnostic testing to confirm mumps. No specific treatment for mumps.
<i>Readmission:</i>	According to local health department recommendations.

See also Vaccine Information Sheet (VIS).

Pertussis (Whooping Cough)

Dear Parent or Guardian:

An individual in our child care setting has pertussis. Pertussis is a vaccine preventable disease, although protection is incomplete and decreases over time after routine childhood immunization. If immunization status is not current, measures should be taken to ensure completion of the immunization schedule. Children should receive five doses of Diphtheria, Tetanus, Pertussis (DTaP) 2, 4, 6, 15-18 months, and 4-6 years. Despite the effectiveness of vaccination pertussis continues to occur in the United States among all age groups.

Pertussis (whooping cough) is a contagious bacterial infection that causes a range of illnesses, from mild cough to severe disease.

Cause: *Bordetella pertussis*

Symptoms: The first symptoms are similar to a cold: runny nose and occasional cough. Fever is usually absent or minimal. The cough gradually progresses to spasmodic bursts of numerous, rapid coughs. The characteristic high-pitched “whoop”, which is more common in children, comes from breathing in after a coughing episode. During such an attack, the individual may turn blue from loss of breath, vomit, and become exhausted. Between coughing attacks, the person usually appears normal.

Spread: Respiratory droplets –airborne person to person

Incubation Period: Varies from 6 to 21 days, usually 7 to 10 days after exposure.

Prevention/Control:

1. Update immunization status
2. Preventive antibiotics for close contacts
3. Careful and frequent hand washing
4. Teach good hygiene principles to adults & children

Diagnosis: Per health care provider

Treatment: Antibiotics

Exclusion:

1. Exclude infected individuals
2. Close contacts with coughing
3. Individuals inadequately immunized

Readmission: According to local health department recommendations.

See also Vaccine Information Sheet (VIS).

Pneumonia Parent Letter

Dear Parent or Guardian:

An individual in our childcare setting has pneumonia. Certain types of pneumonia are preventable with vaccines. Pneumococcal conjugate vaccine is recommended for all children less than 24 months old and for children between 24 and 59 months old who are at high risk of disease. It is a four dose series usually administered at 2, 4, 6, & 12 months of age. The pneumococcal vaccine can also prevent certain types of meningitis and bacteremia (blood poisoning) that can be caused by the same germs that cause pneumonia.

Pneumonia is an inflammation of the lungs secondary to an infection of the nose & throat or blood.

<i>Cause:</i>	Virus or Bacteria
<i>Symptoms:</i>	Cough, fast & difficult breathing, fever, muscle aches, loss of appetite, and tiredness
<i>Spread:</i>	Respiratory droplets – airborne person to person Direct contact – contaminated hands and items
<i>Incubation Period:</i>	Varies depending on the germ, but can be as short as 1-3 days
<i>Period of Communicability:</i>	Unknown , but probably less than 24 hours after effective antibiotic treatment.
<i>Prevention/Control:</i>	<ol style="list-style-type: none">1. Encourage immunization2. Careful and frequent hand washing3. Teach good hygiene principles to adults & children4. Sanitize surfaces that are touched by hands frequently such as toys, tables and doorknobs.
<i>Diagnosis/Treatment:</i>	Diagnosis is from positive blood and other sterile cultures Antibiotic treatment
<i>Exclusion:</i>	Exclude children who are unable to participate or who meet other exclusion criteria, such as fever.
<i>Readmission:</i>	When exclusion criteria is resolved.

See also Vaccine Information Sheet (VIS).



Pneumococcal Disease

What is pneumococcal disease?

Pneumococcal disease is caused by bacteria (*Streptococcus pneumoniae*) that can attack different parts of the body. The bacteria can cause serious infections of the lungs (pneumonia), the bloodstream (bacteremia) and the covering of the brain (meningitis).

Pneumococcal pneumonia is a serious illness, accounting for 10 percent to 25 percent annually of all pneumonias. Nationally, about 40,000 persons die as a result of pneumococcal pneumonia each year, but the illness is particularly dangerous for the very young, the elderly and persons with certain high-risk conditions. For example, among people 65 years of age and older with pneumococcal pneumonia, about 20 percent to 30 percent develop bacteremia. At least 20 percent of those with bacteremia die from it, even though they receive antibiotics.

Can pneumococcal pneumonia be prevented?

Yes, by getting vaccinated. The vaccine is safe, it works and one shot lasts most people a lifetime. People who get the vaccine are protected against almost all of the bacteria that cause pneumococcal pneumonia and other pneumococcal diseases as well. The cost of the shot is covered by Medicare.

Who should get the vaccine?

According to the National Institutes of Health, everyone 65 years of age and older should get the pneumococcal vaccine. Some younger people should get it, too.

Ask for the vaccine if you --

- are 65 years of age or older or care for someone 65 years of age or older,
- have a chronic illness, such as heart or lung disease or diabetes,
- have a weak immune system (caused by certain kidney diseases, some cancers, HIV infections, organ transplant medicines and other diseases), or
- are a resident or an employee of a nursing home or other long-term care facility.

There are two exceptions to children receiving the vaccine. First, since the vaccine is not effective in children younger than 2 years of age, shots will not benefit this age group. Second, in children who are otherwise healthy, frequent diseases of the upper respiratory system, including ear and sinus infections, are not considered reasons to use this vaccine.

When is the best time to get the vaccine?

For older individuals, some experts say it may be best to get the shot before reaching 65 years of age -- anytime after 50 years of age. They base this opinion on the fact that the younger you are, the better able your body is to mount a protective immune response. For those who receive an annual flu shot, the pneumococcal vaccine can safely be given at the same time.

Other adults and children who are at high risk of pneumococcal disease should consult their physicians. Generally, however, individuals who are scheduled for cancer chemotherapy or immunosuppressive therapy should wait at least two weeks after receiving pneumococcal vaccine to start therapy. The safety of pneumococcal vaccine for pregnant women has not been evaluated. Ideally, at-risk women should be vaccinated before they get pregnant.

Should a person who already has had pneumonia get the vaccine?

Experts agree that persons who already have had pneumonia can benefit from the vaccine. There are many kinds of pneumonia and having one kind does not insure immunity against the others. The vaccine protects against 88 percent of the pneumococcal bacteria that cause pneumonia. However, it does not guarantee that you will never get pneumonia, and it does not protect against viral pneumonia.

How often does a person need to be vaccinated?

Most people need to get the shot only once. However, some people may need a booster; check with your physician to find out if this is necessary for you.

Are there side effects?

About half of those who are given pneumococcal vaccine have very mild side effects, such as redness and pain at the injection site. Less than 1 percent of those getting the vaccine may develop fever, muscle aches and severe local reactions. Serious side effects, such as dangerous allergic reactions, have rarely been reported. As with any drug or vaccine, there is a **rare** possibility that allergic or more serious reactions or even death could occur. The pneumonia shot cannot cause pneumonia because it is not made from the bacteria itself but from an extract that is not infectious.

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Rotavirus Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has rotavirus. Diarrhea caused by rotavirus is common in infants and young children during the winter months. It can spread quickly to others, including adult caregivers, in child care settings. Children with rotavirus diarrhea are sometimes hospitalized because of dehydration. Rotavirus is vaccine preventable. Children should get 3 doses of rotavirus vaccine, recommendations are: first dose- 2 months of age; second dose- 4 months of age; third dose- 6 months of age. The first dose should be given between 6 and 12 weeks of age. The rotavirus vaccine is not administered after 32 weeks of age.

Cause: Rotavirus.

Symptoms: Vomiting, fever, and watery diarrhea. Many children show no symptoms. Sometimes a cough, runny nose or ear infections are present.

Spread: Rotavirus leaves the body through the stool of an infected person and enters another when hands, food, or objects (such as toys), contaminated with stool, are placed in the mouth. Respiratory transmission may have a role in disease transmission.

Incubation Period: It takes about 1 to 3 days from the time a person is exposed until symptoms begin.

Period of Communicability: From 1 to 2 days before and up to 10 days after onset of symptoms.

Prevention/Control:

1. Wash hands with soap and running water after using the toilet, changing diapers, and before preparing or eating food. Thorough hand washing is the best way to prevent the spread of infectious diseases found in the intestinal tract. WASH CHILD'S HANDS ALSO.
2. Clean and disinfect contaminated areas (diapering area, potty chairs, toilets) daily or when soiled. Disinfect toys as needed and at least daily. A dishwasher may be used for small toys.

Examples of approved disinfecting solutions:

To disinfect clean, non-food contact surfaces: use a solution of household bleach and water – ¼ cup of bleach in a gallon of water. (To make a smaller amount in a spray bottle, use 1 tablespoon bleach in a quart of water.) Saturate area with solution. Air dry. Do NOT rinse.

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10-20 minutes in a weak bleach solution – 1 tablespoon bleach added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

Diagnosis/Treatment:

Discuss this letter with your physician if your child has the symptoms of rotavirus. There is a lab test to detect virus in the stool. While there is no specific treatment, making sure your child gets enough fluids is very important.

Exclusion:

Child should be excluded until stool can be contained in the diaper.

See also Vaccine Information Sheet (VIS).

Rubella (German Measles) Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has rubella. Rubella is a vaccine preventable disease. If immunization status is not current measures should be taken to ensure completion of the immunization schedule. Children should be given the first dose of Measles, Mumps, Rubella (MMR) vaccine soon after the first birthday (12 to 15 months of age). The second dose is recommended before the start of kindergarten.

Rubella is a mild viral infection usually lasting 3 days. If a woman gets rubella while she is pregnant, she could have a miscarriage or her baby could be born with serious birth defects.

<i>Cause:</i>	<i>Rubella virus</i>
<i>Symptoms:</i>	Red or pink rash on face and body, swollen glands behind the ears, slight fever, and possible joint aches
<i>Spread:</i>	Respiratory droplets – airborne person to person
<i>Incubation Period:</i>	12-23 day; usually 16-18 days
<i>Period of Communicability:</i>	May be spread 7 days before to 7 days after the rash
<i>Prevention/Control:</i>	<ol style="list-style-type: none">1. Update immunization status2. Exclude those with infection3. Exclude those not properly immunized
<i>Diagnosis:</i>	Per health care provider
<i>Treatment:</i>	No specific treatment for rubella
<i>Readmission:</i>	According to local health department recommendation.

See also Vaccine Information Sheet (VIS).



Rubella

What is rubella?

Rubella, also called German measles, is a viral illness that is spread from person to person by breathing in droplets of respiratory secretions exhaled by an infected person. It also may be spread by touching the nose or mouth after a person's hands have been in contact with secretions (such as saliva) of an infected person.

How common is rubella?

Rubella and congenital rubella syndrome, a condition that affects newborn infants when the mother transfers rubella to the baby, became nationally reportable diseases in 1966. Prior to this, epidemics were occurring every six to nine years. Following vaccine licensure in 1969, no further large epidemics have occurred, and the number of U.S. cases has dropped annually from 58 per 100,000 in the pre-vaccine era to 0.5 per 100,000 by 1983. Since 1994, the disease has occurred predominately among persons 20 to 39 years old; most of these persons were born outside the U.S. in areas where rubella vaccine is not routinely given. The decrease in rubella cases has paralleled increased efforts to vaccinate susceptible adolescents and young adults, especially women.

Outbreaks continue to occur among groups of susceptible persons who congregate in locations that increase their exposure, such as workplaces, and among persons with religious and philosophic exemption to vaccination. Several recent outbreaks have occurred among Hispanic persons. In fact, in 1996, two-thirds of reported cases were among Hispanics.

What are the symptoms of rubella?

Symptoms of rubella include an acute onset of rash (small, fine pink spots) that starts on the face and spreads to the torso, then to the arms and legs, with low-grade fever, swollen lymph nodes or conjunctivitis. Many (25 percent to 50 percent) cases are asymptomatic, especially in children, but adults may experience symptoms for one to five days. Incubation is normally 16-18 days, but can be 12-23 days. Persons with rubella are infectious from seven days before rash onset to seven days after rash onset.

Rubella can be especially dangerous to pregnant women, who may transfer infection to the baby, resulting in abortions, miscarriages, stillbirths and severe birth defects. The most common congenital defects are cataracts and other eye defects, heart defects, sensorineural deafness, mental retardation and other immunodeficiencies.

Should a person with rubella stay home?

The disease is most contagious when the rash is erupting. In schools and other educational institutions, exclusion of persons without valid evidence of immunity and persons exempted from rubella vaccination because of medical, religious or other reasons should be enforced and continue until two weeks after the onset of rash of the last reported case in the outbreak setting. In medical settings, mandatory exclusion and vaccination of adults should be practiced.

What is the treatment for rubella?

Treatment includes bed rest, lots of fluids and medicine for fever, headache or joint pain. Antibiotics neither cure nor prevent rubella. There are no antiviral drugs for treating rubella.

Can rubella be prevented?

The best prevention against rubella is immunization. The rubella vaccine is part of the MMR (measles, mumps, rubella) vaccine administered to children beginning at 12 months of age. Susceptible hospital personnel, volunteers, trainees, nurses, physicians and all persons who are not immune should be vaccinated against rubella. Women who are pregnant or intend to become pregnant within three months, however, should not receive rubella vaccine.

Acquired immunity after illness is permanent.

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Other Diseases

Conjunctivitis (Pinkeye) Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has conjunctivitis. This letter tells of some important facts about this infection.

Cause: Allergies, chemicals, viruses, or bacteria. It can exist alone or as a complication of a sore throat, tonsillitis, or sinusitis. Children under five are most prone to bacterial conjunctivitis.

Symptoms: Red, watery, itching, burning eyes; swollen eyelids; sensitivity to light. A thick discharge may cause the eyelids to crust over and stick together during the night.

Spread: Viral and bacterial infections can be spread by contact with the secretions from the eyes, nose, and throat.

Incubation Period: Commonly 1 to 3 days (bacterial and viral).

Period of Communicability: Until the active infection passes or until 24 hours after treatment begins (bacterial).

Prevention/Control:

1. Keep children's eyes wiped and free of discharge. Wash the eyelids with water to remove extra secretions or crusting, being careful not to get any fluid from one eye into the other.
2. Dispose of contaminated tissues properly.
3. Practice frequent careful hand washing by child care staff, children, and household members.
4. Clean and disinfect mouthed toys daily or when soiled. Try to prevent sharing of toys when conjunctivitis is evident.

Examples of approved disinfecting solutions:

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10-20 minutes in a weak bleach solution – 1 tablespoon of bleach added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

Diagnosis: Bacterial and viral conjunctivitis can look the same. If your child has eye drainage, discuss this letter with your physician. He or she will determine whether the child needs antibiotic treatment (eye ointment or drops). Avoid non-prescription eye drops.

Exclusion:

Bacterial: until 24 hours after treatment begins.

Viral: until a letter from a physician is provided to verify that the child does not have bacterial conjunctivitis.

In both situations, the child should be well enough to participate in normal daily activities before returning to child care.



Conjunctivitis

What is conjunctivitis?

Conjunctivitis is an inflammation of the thin, clear membrane (conjunctiva) that covers the white of the eye and the inside surface of the eyelids. Conjunctivitis, commonly known as “pink eye,” is most often caused by a virus but also can be caused by bacterial infection, allergies (e.g., cosmetics, pollen) and chemical irritation.

How is it spread?

Anyone can get conjunctivitis. It can spread fairly easily from person to person, especially in dormitories, schools or other places where large numbers of persons congregate. People commonly get conjunctivitis by coming into contact with the tears or other eye discharges of an infected person, and then touching their own eyes. Hands, towels and washcloths can spread conjunctivitis. Symptoms normally appear a few days after contact with an infected person or an object contaminated with the virus (such as a towel).

Individuals with conjunctivitis may be contagious as long as symptoms persist or the eye appears abnormal. Risk of conjunctivitis increases with use of contact lenses, and touching/rubbing the eyes without handwashing first.

What are the symptoms of conjunctivitis?

Symptoms of conjunctivitis may include the following:

- Eye redness and irritation
- Sensitivity to bright light
- Itchiness or a gritty sensation in the eye
- Swollen eyelids
- Tearing and discharge (Discharge may make the eyelids and eyelashes stick together or have crusty debris, especially in the morning.)

Viral conjunctivitis often begins with fairly sudden onset of pain or the feeling of dust in the eye. Infection may begin in only one eye but often spreads to involve both.

Should I contact a doctor if I develop symptoms of conjunctivitis?

You should contact your health care provider –

- if you have symptoms of conjunctivitis and they do not improve in 24-48 hours;
- if you have conjunctivitis and wear contact lenses;
- if you have vision problems or significant eye pain; or
- if you develop fever.

Other concerns, including the duration of your conjunctivitis symptoms, whether or not your symptoms are improving as expected, etc., should also be shared with your health care provider.

How is conjunctivitis treated?

Treatment varies with the cause. There is no curative treatment for common viral conjunctivitis; it usually will go away by itself in one to six weeks. Lubricating eye drops sometimes help to ease symptoms. (Do not share these eye drops with other persons.) If symptoms last for more than 24-48 hours, or vision is affected, it is important to be seen by a health care practitioner. Other kinds of conjunctivitis often have specific treatments that may be prescribed.

A person with conjunctivitis should follow these general guidelines:

- If medication has been prescribed, use exactly as directed for the full course of treatment. (All treatments used for conjunctivitis should be thrown away when no longer needed.)
- Be sure to wash hands with soap and water before and after using eye medication.
- Wash hands frequently during waking hours with soap and water (15 seconds), and use paper towels or blow dry.
- Avoid touching your eyes. Gently wipe discharge from the eye using disposable tissues.
- Use warm or cool water compresses to reduce discomfort.
- Do not use eye makeup. Discard eye makeup if used when conjunctivitis was present because organisms may remain in makeup and cause a reoccurrence.

Should contact lens wearers take special precautions?

- Disinfect lenses, also clean and disinfect storage case.
- Do not use eye drops or ointment with the lens in place.
- Do not wear contact lenses until eyes are entirely clear of conjunctivitis.
- If using disposable lenses, discard; after infection clears, use new lenses.

Can conjunctivitis be prevented?

Conjunctivitis can be prevented by practicing good hygiene.

- Wash hands frequently with soap and water.
- Use clean paper towels to dry hands.
- Avoid touching the hands of others or rubbing the eyes.
- Avoid exposure to eye irritants such as perfumes and smoke.
- Throw away or machine wash towels, tissues and other items that touch the eyes **after each use**.
- Avoid sharing towels and wash cloths.
- Avoid sharing eye drops, eye makeup, contact lens solution, tissues and other items used on the face.

Last updated April 25, 2007
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Cytomegalovirus (CMV)

Dear Parent or Guardian:

An individual in our childcare setting has been diagnosed with cytomegalovirus (CMV). CMV is a very common illness in childhood. Many children with this illness may not appear ill or only mildly sick.

Cause: Cytomegalovirus

Symptoms: Mild to no symptoms in children. Adults may have fever and sometimes enlargement of the liver or spleen.

Spread: Person to person contact with infected saliva and urine.

Incubation Period: Unknown.

Period of Communicability: Unknown.

Prevention/Control:

1. Wash hands frequently.
2. Wash toys with recommended disinfectant frequently.

Diagnosis/Treatment: CMV is usually diagnosed by a blood test. It usually does not require treatment in healthy individuals. In rare cases it is treated with gancyclovir.

Exclusion: No exclusion unless child is unable to participate or if child meets other exclusion criteria such as fever.



Meningitis

What is meningitis?

Meningitis is an inflammation of the membranes that cover the brain and spinal cord. It can be caused by a number of infectious agents including viruses and bacteria. The type of meningitis and its cause can only be determined by a physician using laboratory test results.

Viral meningitis (also called aseptic meningitis) is the most common type of meningitis and is less severe than bacterial meningitis. In Illinois, an average of 600 cases of aseptic meningitis are reported annually, with most occurring in late summer and early autumn. The majority of cases of aseptic meningitis are due to viruses called enteroviruses that can infect the stomach and small intestine. A small number of cases are caused by different viruses, which can be transmitted by infected mosquitoes; these are called arboviruses. Fatal cases of viral meningitis are rare and complete recovery is the rule.

Bacterial meningitis is often more severe than aseptic meningitis, particularly in infants and the elderly. Before antibiotics were widely used, 70 percent or more of bacterial meningitis cases were fatal; with antibiotic treatment, the fatality rate has dropped to 15 percent or less. Bacterial meningitis is most common in the winter and spring. Three bacteria cause the majority of cases: *Haemophilus influenzae*, *Neisseria meningitidis* or *Streptococcus pneumoniae*.

- *Haemophilus meningitis* is most frequently caused by *Haemophilus influenzae* type b, also known as Hib. Before effective vaccines became available and widely used, Hib was the most frequent cause of bacterial meningitis in children 5 years of age and younger. In Illinois, an average of 230 cases were reported annually. However, from 1985 to 1996, there was an 82 percent reduction of *Haemophilus influenzae* meningitis. Currently, there is an average of 50 cases per year; the fatality rate is about 5 percent. This large decrease is believed to be due to routine use of Hib vaccines.
- Meningococcal meningitis, caused by *Neisseria meningitidis*, is primarily a disease of young children, with the incidence of cases declining in those older than 1 year of age. The disease is most common during winter and spring. In some persons, the bacteria can cause a severe blood infection called meningococemia. Illinois averages 115 cases of meningococcal disease annually; approximately 10 percent are fatal.
- Pneumococcal meningitis, caused by *Streptococcus pneumoniae* (pneumococci), generally strikes infants, the elderly and individuals with certain chronic medical conditions. An average of 100 cases occurs in Illinois each year. In general, 5 percent to 10 percent of cases are fatal; however, in persons with significant underlying disease the fatality rate can be 20 percent to 40 percent.

How is it spread?

Meningitis is not highly contagious. **Both viral meningitis and bacterial meningitis can be spread through direct contact with nose and throat secretions.** Healthy persons, who have no signs of illness, can have these bacteria in their nose or throat and spread them to others. Sharing a glass, cup or eating utensil, coughing or sneezing into the face of another person, or sharing a cigarette are examples of how contact with another person's respiratory secretions might occur.

Viral meningitis can be transmitted by fecal contamination (in addition to respiratory secretions) when an infected person sheds or excretes virus in his/her stool.

What are the symptoms of meningitis?

Meningitis can produce mild symptoms — such as headache, low-grade fever and tiredness lasting two to three days — in some patients. In other patients, the symptoms can be severe and begin suddenly with fever, headache and stiff neck accompanied by some combination of other symptoms: decreased appetite, nausea, vomiting, sensitivity to bright light, confusion and sleepiness.

In newborns and infants, the classic findings of fever, headache and stiff neck may or may not be present. An infant may have no other symptoms than being listless, irritable and sleepy, having little interest in feeding and possibly vomiting. A purplish red rash may appear with meningococcal meningitis.

How is meningitis diagnosed?

Cerebrospinal fluid can be tested to determine the type of meningitis causing the symptoms. Such identification is important in selecting effective antibiotics for treating bacterial meningitis cases.

How is meningitis treated?

Treatment for persons who have viral (or aseptic) meningitis usually consists of reducing fever and making sure they take plenty of liquids. All three forms of bacterial meningitis, however, require the immediate medical attention of a physician and can be treated with a number of antibiotics. Appropriate antibiotic treatment of the most common types of bacterial meningitis should reduce the fatality rate to approximately 10 percent though the fatality rate is higher in infants, the elderly and persons with certain underlying medical conditions.

How is meningitis prevented?

Transmission of viral and bacterial meningitis can be prevented by raising the level of hygiene among persons at risk of infection and among those who might be spreading the disease. Of primary importance is proper handwashing technique. Wet hands with soap and warm water. Rub hands for 10 to 20 seconds, making sure you clean under fingernails. Rinse under warm running water. Dry hands on a paper towel or your own clean towel. When paper towels are available, use a paper towel to turn off the water faucet and throw the towel away.

Persons should cover their noses and mouths when sneezing or coughing and discard used tissues promptly. Wash hands thoroughly following exposure to respiratory secretions, including handling of soiled tissues and handkerchiefs. Persons should not share straws, cups, glasses, water bottles used during sports or recreation, eating utensils, cigarettes, etc. Eating and drinking utensils should not be shared and should be used by others only after they have been washed. Discouraging persons from kissing an infant, toddler or child on the mouth also can help prevent the spread of illness.

Preventing viral meningitis also requires proper handwashing to remove fecal contamination after toileting, changing diapers, assisting toddlers with toileting and so forth.

For meningococcal meningitis, household contacts and others who have had close personal contact with infected persons are recommended to receive a preventive antibiotic, often rifampin, which kills bacteria living in nose and throat secretions. For contacts to certain cases of *Haemophilus influenzae* meningitis, rifampin also may be recommended. Illness seldom occurs in close contacts to *Streptococcus pneumoniae* meningitis. Since the recommendations for use of rifampin and other preventive antibiotics vary according to the specific situation, it is best to consult with a physician or local health department for recommendations. Even if rifampin or another preventive antibiotic is taken, close contacts should be observed for any signs of disease and should be promptly evaluated by a physician if symptoms occur.

The American Academy of Pediatrics and the Advisory Committee on Immunizations Practices both recommend vaccination against Hib for all infants beginning at 2 months of age. *Neisseria meningitidis* can attack persons of any age but it is relatively uncommon in the United States. Meningococcal vaccine is generally recommended only for persons traveling to other countries where epidemics are in progress, for military recruits and, rarely, in other circumstances. A vaccine against the pneumococcus is recommended for certain children and adults with chronic or specified medical conditions and for persons 65 years of age or older.

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Mononucleosis Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has mononucleosis. Infectious mononucleosis is a very mild illness in infants and young children. Often there are no symptoms at all. This disease is not very contagious in the child care setting.

Cause: Epstein-Barr virus (EBV).

Symptoms: Fever, sore throat, tiredness, and swollen glands, especially behind the neck. Sometimes there is a rash. Young adults may have jaundice (yellowing of the skin or eyes), and an enlarged spleen. Infectious mononucleosis usually lasts from one week to several weeks, and it is rarely fatal.

Spread: Person-to-person, through saliva. Spread can occur by direct contact, such as kissing, or through items such as toys that are contaminated with saliva.

Incubation Period: It takes about 4 to 6 weeks from the time a person is exposed until symptoms develop.

Period of Communicability: For many weeks to a year or more. Some adults are carriers of the virus.

Prevention/Control:

1. Wash hands thoroughly with soap and running water after any contact with saliva or items contaminated with saliva.
2. Clean and disinfect mouthed toys at least daily and when soiled.

Examples of approved disinfecting solutions:

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10-20 minutes in a weak bleach solution – 1 tablespoon of bleach added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

Diagnosis/Treatment: See your physician. A blood test is available, but infants and young children with infectious mononucleosis often have negative blood tests. There is no treatment for infectious mononucleosis.

Exclusion: Until the child is well enough to return to normal activities. Because children can have the virus without any symptoms, and people can be contagious for such a long time, excluding children (or staff) who have mononucleosis will not prevent spread.

Respiratory Syncytial Virus (RSV) Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has developed Respiratory Syncytial Virus (RSV). RSV is a common respiratory illness that can affect persons of any age. It is an important cause of bronchitis and pneumonia in infants and young children. RSV can be especially serious in infants who were born prematurely, or those with heart, lung, or immune system problems. Outbreaks of RSV occur almost every year during winter and early spring. Spread in child care centers, among both adults and children, is common.

Cause: Respiratory Syncytial Virus.

Symptoms: Fever, cough, wheezing, watery eyes, runny nose, and sneezing. Very young infants sometimes have tiredness, irritability, a loss of appetite, and difficulty breathing.

Spread: By direct contact with contaminated hands, or close contact through droplets, which are small particles of fluid that are expelled from the nose and mouth during sneezing or coughing. The virus can live on hands for one-half hour or more.

Incubation Period: It takes 2 to 8 days, usually 4 to 6 days, from the time a person is exposed until symptoms develop.

Period of Communicability: The virus is usually shed for 3 to 8 days, although some infants can spread RSV for as long as 3 to 4 weeks.

Prevention/Control:

1. Wash hands of child and self frequently with soap and running water, especially after coughing, sneezing, or wiping a nose.
2. Minimize contact with respiratory secretions, such as saliva or nasal mucus.
3. Dispose of any tissues or items soiled with discharges from the mouth or nose in a waste container.
4. Clean and disinfect mouthed toys at least daily and when soiled.

Examples of approved disinfecting solutions:

To disinfect mouthed toys or eating utensils: boil, use dishwasher, or soak clean items for 10-20 minutes in a weak bleach solution – 1 tablespoon of bleach added to one gallon of water. Air dry. Do NOT rinse. This solution can also be used to disinfect clean kitchen surfaces.

PREPARE SOLUTION FRESH DAILY because it loses its ability to kill germs.

Diagnosis/Treatment: There is a laboratory test to detect RSV. See your physician

Exclusion: The child may return when they are well enough to participate in normal activities and they have no difficulty breathing or eating.

Other Information



Asthma

What is asthma?

Asthma is a chronic condition characterized by inflammation of the airways in the lungs and by the spasm of muscles surrounding these airways. Inflammation occurs when irritated tissues swell and produce extra mucus, creating a condition known as bronchoconstriction. The combination of the two can cause constriction or complete blockage of the airways and can initiate symptoms of an asthma attack. Symptoms of an asthma attack can include wheezing, coughing, chest tightness and shortness of breath. Asthma attacks may occur at anytime, but there are risk factors that can trigger an attack.

What causes asthma and asthma attacks?

No clear cause of asthma is known, but many risk factors have been linked to triggering asthma attacks. Individuals are more likely to have asthma if there is a family history of the disease. Several biological and environmental factors can trigger an asthma attack. Allergy plays a key role in about half of all asthma cases. After exposure to an allergen, the body releases chemicals that produce conditions associated with an attack. Common allergens in the environment are pollen, dust mites, cockroaches, bacteria, molds, animal hair and animal dander. Allergens also may originate from food and food additives. Studies have shown that common additives, such as monosodium glutamate (MSG), can cause an asthma attack.

Environmental pollutants are irritating to the lungs and can cause reactions similar to those caused by allergens. Common indoor pollutants associated with asthma include second-hand tobacco smoke, pesticides, volatile organic compounds (VOCs), formaldehyde and combustion gases. VOCs are present in many types of cleaning products, paints, glues and cosmetics. Formaldehyde is released from new furnishings, especially those made of particle board and pressed wood. Combustion gases are given off from space heaters, furnaces and fireplaces. Common outdoor pollutants associated with asthma include ozone, carbon monoxide, and nitrogen and sulfur compounds. The major sources of these pollutants are industrial and automobile emissions.

Bacterial infections frequently lead to asthma attacks. Because of the allergens they produce, yeasts also lead to allergic reactions that can cause an asthma attack. Emotional stress, panic and anxiety also may trigger an attack in certain individuals. Responses to emotional situations, such as laughing, crying or yelling, involve deep, rapid breathing that can trigger an attack.

Deep, rapid breathing during exercise also can trigger an asthma attack. Though breathing may become difficult and uncomfortable, exercise still benefits an asthmatic's overall health. By taking proper steps to avoid an attack, most asthmatics can fully participate in physical activities. Studies show that breathing cold air can lead to the swelling of airways. Other weather conditions, such as wind and rain, also create problems. Wind distributes pollen and other allergens into the air and rain can increase pollen and mold levels.

Is asthma like bronchitis?

Asthma is a reversible pulmonary disease, in that the airway constriction is a result of exposure to an allergen. Some people are born allergy prone (atopic) and some are not. Bronchitis is also a pulmonary disease but is not reversible. Over time, it results in progressive tissue damage and airway constriction. Bronchitis does not result from exposure to an allergen, although certain irritants (e.g., cigarette smoke or viral or bacterial infections) can produce an acute attack.

What are the symptoms of an asthma attack?

Symptoms that may suggest an asthma attack are frequent coughing and wheezing, chest tightness and shortness of breath. These symptoms may occur alone or in combination with other symptoms. A sign that asthma may be present, especially in children, is an excessive number of chest colds or episodes of pneumonia. Because these symptoms are common to other disorders, asthma is often difficult to diagnose. Recognizing and reducing the frequency and severity of symptoms can help prevent further damage to the lungs.

Is asthma a fatal illness?

An estimated 15 million to 20 million Americans have asthma. Every year about 450,000 of these people seek hospital care, and approximately 4,000 of them die. Although asthma is not presently curable, changes in lifestyle and proper medication can reduce the frequency and severity of asthma attacks.

What can I do to control asthma?

You should see your physician for diagnosis and medical advice about your asthma condition. Other steps can be taken to control:

- Keep your home clean.
- Properly maintain heating, ventilation and air conditioning systems by regularly changing filters and cleaning humidifiers. Use high efficiency particle filters to remove particles from the indoor environment.
- Install exhaust fans in the kitchen and bathrooms.
- Relative humidity in the home should be kept at less than 60 percent. If humidifiers are used in the home, change the water daily and clean the tank weekly to prevent the growth of bacteria and mold.
- Immediately replace or clean building materials that have been water damaged.
- Avoid the use of pesticides in the home. Instead, prevent pests by removing water and food sources that attract them and blocking openings they use to get into the home. If pests are in the home, use nonchemical methods of control, such as traps, when possible.
- Remove animals from the home. If this is not possible, bathe and groom pets weekly.
- Do not allow cigarette smoking in your home. Avoid second-hand smoke as much as possible.
- Use paints and solvents that contain VOCs sparingly and only with proper ventilation.
- Asthmatics should limit time spent outdoors on high ozone days. State or local agencies will notify residents of ozone alerts.
- Refrain from exercising outdoors during cold weather. During windy weather or after light rain, time outdoors should be limited because pollen counts may be high.
- Develop an asthma action plan to help prevent symptoms to recognize them if they occur and to know what medicine to take and when to take it.

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Childhood Lead Poisoning

What is lead poisoning?

Lead poisoning is the presence of too much lead in the body. The most common preventable pediatric health problem in the United States today, it is caused by exposure to lead that is either eaten or breathed, in the form of dust. The body carries the lead in the blood to soft tissues and bones, where it can be stored for many years. Lead harms several organs, including the nervous system and kidneys.

What are common items that contain lead?

The largest source of lead is paint manufactured before 1978 and the dust created when it decays. This paint was used for many purposes, including painting the interior and exterior of houses, playground equipment, farm machinery and toys. Other items also contain lead. Some imported crayons, jewelry and miniblinds, calcium supplements and hair dyes have high lead contents, as do improperly glazed pottery, certain cosmetics, leaded crystal and some folk remedies. Certain hobbies -- such as stained glass, target shooting and casting fishing weights -- can expose people to lead.

Who gets lead poisoning?

People of any age, race or economic level can get lead poisoning, but children are at the greatest risk. Their small bodies absorb more lead than adult bodies do, and the lead harms them more because their bodies are still growing. Children also are more likely to absorb lead dust because they place hands and other objects in their mouths.

Adults with certain occupations that expose them to lead can get lead poisoning as well. These jobs include battery manufacturing and recycling, construction work, auto repair and lead smelting. Workers in these occupations can unknowingly carry lead dust home from the workplace and expose their families. Lead poisoning also can be passed from a pregnant mother to her unborn child.

How many children have lead poisoning?

National surveys estimate that more than 3 million children 6 years of age and younger have lead poisoning. This number represents almost one out of every six children under the age of 7. In Illinois, 26,384 children were found to have lead poisoning in 1999.

What are the symptoms of lead poisoning?

Lead poisoning has no obvious signs, and most children do not report any abnormal symptoms. Children with lead poisoning might report stomachaches, decreased appetite, hyperactivity, sleeping problems or irritability. Because these symptoms appear to mimic other childhood problems, lead poisoning is sometimes mistaken for a cold or the flu.

What kinds of complications can lead poisoning cause?

Lead poisoning is related to a number of serious health problems. Children with elevated lead levels may suffer from learning disabilities, mental retardation, behavioral problems, lowered IQ, stunted growth and hearing impairment. Convulsions, coma and death can occur at higher lead levels. Some recent studies claim that childhood lead poisoning can contribute to problems later in life, such as academic failure, juvenile delinquency and high blood pressure.

How can I tell if my child has lead poisoning?

The only way to diagnose lead poisoning is by having a blood test. A doctor or nurse takes blood from a child's finger or arm. The health care provider sends the blood sample to a laboratory to find out how much lead it contains. A level of 10 micrograms per deciliter (mcg/dL) or greater is considered unsafe. All children 6 months through 6 years of age who are entering day care, preschool or kindergarten must be assessed for lead poisoning by a health care provider.

How is lead poisoning treated?

Special drugs, called chelators, may be used to treat children with very high blood lead levels. These medications are given in the hospital either through intravenous or intramuscular injections or by mouth. The medicine attaches to the lead and pulls it out of the body in the urine. If the lead level is very high, more than one treatment session may be necessary to lower the amount of lead in the blood. Even after treatment, some children's blood lead levels never decrease to less than 10 mcg/dL. Children with elevated blood levels may be placed on special diets and need to be monitored closely to lower their risk of lead related complications.

How can lead poisoning be prevented?

Lead poisoning can be prevented by taking simple precautions around the house. These methods include the following steps:

- Cleaning up paint chips and peeling paint.
- Washing floors, countertops and window sills weekly with an all-purpose detergent or a detergent specifically formulated to remove lead dust.
- Feeding children a diet high in iron, calcium and vitamin C and low in fat.
- Offering children healthy snacks, such as fruit or pretzels, throughout the day so they will not put non-food items into their mouths.
- Using proper safety measures when renovating or remodeling your house, like not using electric sanders or heat guns to remove paint or wallpaper.
- Assuring that children and pregnant women do not enter the work area until renovations are complete and the area has been thoroughly cleaned.
- Washing a child's hands, mouth and face and toys often.
- Allowing the cold water to run for several minutes in the morning before using it for drinking, cooking or mixing infant formula in case lead pipe or solder is present.

- Removing shoes when coming indoors so lead dust is not tracked inside.
- Laundering work clothes separately from other clothes.
- Not serving or storing food in pottery made outside the United States.
- Most importantly, having children assessed for lead poisoning each year.

For more information on lead poisoning prevention, please contact the Illinois Department of Public Health at 217-782-0403, 800-545-2200 or TTY (hearing impaired use only) 800-547-0466; or call your local health department.

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Head Lice Parent Letter

Dear Parent or Guardian:

An individual in our child care setting has head lice. Head lice are a common problem for children in child care settings and schools. Anyone can get head lice – they are not a sign of being dirty. There are two other kinds of lice that infest people, but they do not live on the head.

Head lice are very small, tan-colored insects (less than 1/8” long) that live on human heads. They lay their eggs (nits) close to the scalp. The eggs are tiny (about the size of the eye of a small needle) and grey or white in color.

We encourage you to check your child(ren) for head lice. If you find lice or eggs, follow the suggested treatment and prevention plan at the end of this letter.

Cause: Pediculus humanus capitis, a louse.

Symptoms: Itching of the scalp and neck. Look for (1) crawling lice in the hair, usually few in number; (2) eggs (nits) glued to the hair, often found at the back of the neck; and (3) scratch marks on the scalp or back of neck at hairline.

Spread: Lice are spread by direct person-to-person contact and by sharing personal items such as combs, brushes, hats, scarves, jackets, blankets, sheets, pillowcases, etc.

Lice do not jump or fly; they crawl and can fall off the head. Head lice do not live longer than 48 hours off the head. They lay their eggs only while on the head. Nits which are more than ¼” from the scalp are dead or empty and will not hatch. Also, the eggs do not hatch if they fall off. Lice do not spread to or from pets. Pets do not become infested, but they may carry the lice from one person to another. Refrain from permitting animals to sleep with household members. Avoid rough-housing with pets during an infestation. Do not treat animals with medicines for humans.

Incubation Period: 6-10 days.

Period of Communicability: Until treated with lice-killing medication. Crawling forms of the louse are communicable; the nits are not.

Prevention/Control:

1. Avoid sharing hair care items, towels, bedding, clothing, hats, and headgear.
2. Hang clothing in individual lockers or on assigned coat hooks. Coat hooks should be spaced at least 12 inches apart so clothing does not touch.
3. All combs, brushes, and similar items must be disinfected by either soaking in lice-killing shampoo for 4 to 10 minutes (depending on the

product used), in a 2% Lysol* solution for 1 hour, or by heating in water of at least 130 degrees F for 10 minutes.

4. Clean floors, furniture, mattresses, car seats, and carpeting by thorough vacuuming. The use of insecticide sprays is not recommended.
5. Clothing such as jackets, hats, scarves, pajamas, etc., bedding, and towels should be washed in hot (130 degrees F or higher) water and dried in a hot dryer for at least 20 minutes before being used again. Non-washable clothing, linens, and stuffed toys can be dry cleaned or sealed in plastic bags for 2 weeks.
6. Check child's head frequently throughout the year. If one person in a family, child care, school, etc. has head lice, others should be checked, too.

Treatment:

2. Use a lice-killing shampoo or lotion obtained either over the counter at the drugstore or by prescription from your physician. If you have children under the age of 2 with head lice consult your physician.
2. Follow the directions carefully. Directions will vary, depending on the product used. If live lice are seen after treatment, consult your physician.
3. For some medications, a second treatment is recommended 7 to 10 days later to kill nits that may have survived the first treatment. If you use a prescription medication, discuss this with your physician. More than these two treatments are unnecessary and could be harmful. Fine-toothed combs are available to remove treated nits.

Exclusion:

Child should be excluded until the morning after treatment has been accomplished.

*Brand names are mentioned for identification purposes only and do not constitute an endorsement by the Healthy Child Care Coalition.



Head Lice

What are the symptoms of a head lice infestation?

The earliest and most common symptom of a head lice infestation is itching, particularly in the area behind the ears and at the nape of the neck. Intense scratching may lead to secondary bacterial infection.

How are head lice spread?

Head lice can be passed from person to person through direct contact. But they also can be transferred indirectly among clothing items when coats, hats and scarves hang or are stored touching one another (in cloak rooms or when these items are placed against one another on coat hooks or racks). Head lice also can be spread when infested hair brushes or combs are shared or when infested bedding, towels or shower caps are shared. Once present in a home, school or institutional environment, head lice usually spread rapidly.

There are many misconceptions about head lice. They do not transmit communicable diseases. They do not jump or fly; they can only crawl. Head lice depend completely on their host for nourishment; their only source of food is human blood. The prevalence of head lice infestation is no different in individuals with long hair than in those with short hair. Head lice seldom occur on eyebrows or eyelashes. They infest persons from all socioeconomic levels, without regard for age, race, sex or standards of personal hygiene. Animals are not a source of human lice.

How long do head lice live?

The life span of an adult louse on a host ranges up to 30 days. During this time, the female head louse can deposit about 90 eggs. After incubating for seven to 10 days, the nits hatch and, after another 10 days, mature into adult head lice and the cycle begins again. Off the host, adult head lice can live about two to four days at 74 degrees Fahrenheit (F) and one to two days at 86 degrees. Nits will remain alive off the host for up to 10 days; they will not hatch at or below room temperature (68 degrees F).

How are head lice infestations treated?

Both prescription and over-the-counter remedies are effective in treating head lice. But it is important that pregnant women and infants be treated under the direction of a physician because of concerns about potentially adverse effects. Be careful not to use topical preparations more frequently and over longer periods of time than directed. Overuse of these preparations may cause dermatitis or result in absorption of potentially toxic quantities of the drug. Since agents that kill lice may not kill nits completely even when used according to directions the U. S. Centers for Disease Control and Prevention (CDC) recommends that infested patients be treated twice. The interval between treatments should approximate the incubation period for nits (seven to 10 days) so the second application will kill any newly hatched parasites. Waiting longer than 10 days to apply a second treatment may allow some parasites to mature and lay more eggs.

All persons who have head lice in a household should be treated. To treat an infested person--

- Remove all clothing;
- Apply head lice medication according to label instructions (do not bathe before treatment), using a towel to protect the eyes;
- Have the person bathe and put on clean clothing after treatment; and
- Repeat treatment in seven to 10 days.

Special fine-tooth combs (nit combs) are readily available and can be used to scrape nits and lice off the hair shaft. Combing out nits and lice after proper treatment is not necessary to eliminate infestation, but it may be used for cosmetic reasons or may be required by school "nit-free" policies or by health authorities. Parents and guardians should check treated children for lice and nits daily for two or three weeks after treatment.

Should objects (e.g., clothing, furniture, etc.) be treated?

Objects that are able to harbor head lice and serve as vehicles of transmission should be treated.

- Exposing lice and nits to temperatures above 125 degrees F for 10 minutes is lethal. Most personal articles of clothing and bedding can be disinfested by machine washing in hot water or machine drying for at least 20 minutes using the hot cycle. Be sure to allow time between loads for water to reheat to the disinfesting temperature.
- Place non-washable personal articles of clothing or bedding in the dryer on high heat for at least 20 minutes, dry clean or seal non-washable fabrics in a plastic bag for a minimum of 10 days.
- Place combs and brushes in a pan of water and heat on a stove to about 150 degrees F for 10 minutes. If heating may damage combs or brushes, soak them for one hour in a phenol solution (e.g., Lysol®). To prevent the spread of head lice, do not share combs, brushes, hats, coats, towels or other articles that come in contact with the head, neck and shoulders.
- Thoroughly vacuum or clean car seats, bus seats, and individual infant and car seats according to manufacturer's directions.
- Fumigating rooms and using insecticidal sprays on furniture and carpets are not recommended to kill head lice; **thorough** vacuuming of houses and rooms inhabited by infested persons is sufficient.

Use of product brand names® does not constitute product endorsement.

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Recipe for Bleach Disinfecting Solution

For use in bathrooms, diapering areas, etc.

¼ cup bleach
1 gallon of cool water
or
1 tablespoon bleach
1 quart cool
water

Spray clean surface with bleach water. Air dry. DO
NOT WIPE.

For use on toys, eating utensils, etc.

1 tablespoon bleach
1 gallon of cool water

Soak clean toys in bleach solution for 10-20 minutes.
Rinse. Air dry.

Medication Administration

Some children will require medications while in your child care facility. Each child care facility should maintain a written policy regarding medication administration. Each staff member should follow this policy routinely. Listed below are some suggestions of what to include in a policy.

Staff members will only administer medication if the parent or legal guardian has provided a written consent. The written consent should include:

- The child's name.
- The name of the medication, how and when it is to be given.
- The parent's signature of consent.

Instructions for the dose, frequency, method to be used, and duration of administration should be provided to the child care provider from a signed note from the physician, prescription label, or over the telephone from a person legally authorized to prescribe medication. This applies to both prescription and over-the-counter medications.

You should make sure that any prescribed medication that you give a child:

- Has the first and last name of the child on the container.
- Has been prescribed by a licensed health professional.
- Is in the original package or container.
- Has the date the prescription was filled.
- Has an expiration date.
- Has specific instructions for giving, storing, and disposing of the medication.
- Is in a childproof container.

You should make sure that any over-the-counter medications that you give a child:

- Is in a childproof container.
- The container is labeled with the child's first and last name.
- There are specific, legible instructions for administration and storage supplied by the manufacturer.
- The name of the health care provider that recommended the medication for the child.

Medication will not be used beyond the expiration date and annual prescriptions will be renewed yearly.

A medication log should be maintained. This log should include:

- The child's name.
- The name of the medication.
- Date, time, and dose given.
- Staff member initials that gave the medication.

DCFS medication log: <http://www.state.il.us/DCFS/docs/cfs534.pdf>

Medication consent forms: <http://www.state.il.us/DCFS/docs/cfs593.pdf>

Web Links

Asthma Action Plan: <http://www.state.il.us/DCFS/docs/cfs690.pdf>

Certificate of Child Health Examination Form:
<http://www.state.il.us/DCFS/docs/cfs600.pdf>

Medical Report on an Adult in a Child Care Facility:
<http://www.state.il.us/DCFS/docs/cfs602.pdf>

Medication log: <http://www.state.il.us/DCFS/docs/cfs534.pdf>

Medication consent forms: <http://www.state.il.us/DCFS/docs/cfs593.pdf>

Recommended Immunization Schedule for adults at:
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5641a7.htm?s_cid=mm5641a7_e

Recommended Immunization Schedule for children and teens at:
<http://www.cdc.gov/vaccines/recs/schedules/downloads/child/2007/child-schedule-color-print.pdf>

U.S. Vaccines at:
<http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/us-vaccines.pdf>

Vaccine Information Sheets (VIS) available at:
<http://www.cdc.gov/vaccines/pubs/vis/default.htm>

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Illinois, Title 89: Social Services; Chapter III: Department of Children and Family Services; Subchapter e: Requirements for Licensure; Part 407: *Licensing Standards for Day Care Centers*, February 15, 2004.

Illinois Department of Public Health, <http://www.idph.state.il.us/>, Health Fact Sheets.

