

THE CONTROL OF ENTERIC DISEASE OUTBREAKS IN CHILD-CARE FACILITIES



KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT

- **BUREAU OF CHILD-CARE AND HEALTH FACILITIES**
- **DIVISION OF HEALTH AND ENVIRONMENTAL LABORATORIES**
- **LEGAL SERVICES**
- **BUREAU OF EPIDEMIOLOGY AND PUBLIC HEALTH INFORMATICS**

June 2011

PREFACE

The Control of Enteric Disease Outbreaks In Child-care Facilities Manual (2011) is a revised version of the *Control of Enteric Disease Outbreaks In Child-care Facilities Manual* (2005) developed by the Kansas Department of Health and Environment.

Revision History – Summary of Principal Changes from Previous Versions

Version	Revision	Affected
2011	<ul style="list-style-type: none"> • Referenced newer sources and updated. • Removed disease specific guidance (referred to specific disease investigation guidelines.) • Removed GUIDELINES FOR CONTROL OF ENTERIC DISEASE OUTBREAKS IN CHILD-CARE SETTINGS from Section I (Investigational Guidance) and placed in Section IV (Disease Specific Guidance). Section IV renamed. • Added diapering guidance to techniques. • Removed KDHE Bureau of Consumer Health as a food inspector contact. Replaced with KDA contact information. Added contact information for water monitoring. • Reformatted and updated Kansas Statutes and Regulations • Extracted sample letters and questionnaires as word documents and placed in attachments. • Removed lab specimen kit requisition form and placed updated version in attachments. Stool collection instructions modified to address needs of local health department versus patient(separate handouts). 	<p>Reference listing</p> <p>Section II Section IV Section II Section IV</p> <p>Appendix E Appendix G</p> <p>Appendix F: K.A.R 28-1-2; 28-1-5; 28-1-6</p> <p>Appendix A Appendix C</p> <p>Appendix H</p>

REFERENCES

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INTRODUCTION

The target audience for this handbook is local and state health department employees who investigate disease outbreaks in child-care facilities. It may also be useful for child care facility operators and regulators.

Outbreaks of enteric illnesses are common in child-care facilities, especially those that care for children who are not toilet trained. The lack of fecal continence and the high frequency of hand-to-mouth activity that occur among young children facilitate the spread of disease. Staff, family members, and close contacts of infected children occasionally become infected. Children may then become infected from an infected child, staff, or family member.

The main objectives during an outbreak are:

- to identify potential source of the problem
- to reduce morbidity
- to reduce the spread of the organism within the child-care facility
- to reduce the probability of re-infection
- to possibly help prevent future occurrence

For more information on investigation of food-borne enteric outbreaks, please refer to Foodborne Illness and Outbreak Investigation Manual at the KDHE Bureau of Epidemiology and Public Health Informatics website at www.kdheks.gov/epi/disease_investigation.htm.

For more information on enteric diseases, such as Hepatitis A, *Salmonella spp*, *Shigella spp.*, *Giardia spp.*, *Cryptosporidium spp.*, or *Escherichia coli* 0157:H7 and related species, please refer to the specific Kansas Disease Investigation Guidelines at the at the KDHE Bureau of Epidemiology and Public Health Informatics website at www.kdheks.gov/epi/disease_investigation_guidelines.htm.

SECTION I

Roles

Role of the Child Care Provider

1. Notify the Local Health Department (LHD) or Kansas Department of Health and Environment (KDHE) of increased occurrences of diarrhea or vomiting among children at the child-care center.
2. Notify the parents of any outbreak or potential outbreak.
3. Cooperate with the LHD and KDHE during the investigation and the implementation of control measures.
4. Distribute educational materials and questionnaires.
5. Distribute stool kits as instructed.
6. Receive stool kits from parents and submit the kits to LHD or KDHE.
7. Maintain a log of the stool kits distributed and those returned.
8. Maintain a log of sick and convalescent children and staff.
9. Ensure compliance with LHD and KDHE recommendations and requirements.
10. Exclude individuals as instructed (KSA 65-122, refer to Appendix F).
11. Ensure that children on medication take medication appropriately while at the childcare center.
12. Maintain environmental controls and cohorting as recommended.

Role of the Local Health Department

1. Immediately report the outbreak to:
 - KDHE Bureau of Epidemiology and Public Health Informatics (KSA 65-119 and KAR 28-1-2, refer to Appendix F)
 - The local child-care licensing investigator or to KDHE Child Care and Health Facilities.
2. Conduct an outbreak investigation.
3. Request assistance from KDHE as needed.
4. Monitor control measures and compliance with recommendations and state laws daily.
5. Provide the child-care center an adequate supply of stool kits.
6. Collect stool specimens and questionnaires daily. Submit specimens to KHEL for testing and report to BEPHI on the number of stool specimens being submitted.
7. Act as a facilitator and educator. Respond to questions from parents, child-care providers, and staff.
8. Disseminate information about specific outbreaks and outbreak prevention in the community.

Role of KDHE

Bureau of Child-care and Health Facilities

1. Conduct a site inspection.
2. Ensure compliance with state laws.
3. Make recommendations to assure compliance with current standards and regulations.
4. Establish fines, if necessary.
5. Revoke license, if necessary.

Bureau of Epidemiology and Public Health Informatics (BEPHI)

1. If KDHE is the first contact, inform the LHD.
2. Provide technical support and personnel or resources to LHD, as needed, particularly regarding outbreak investigation and control measures.
3. Communicate with KHEL on stool kit and testing needs. Report on the expected number of stool specimens that will be collected and when they are expected. Request and approve any special rule-out testing that is not part of routine enteric screens.
4. Ensure compliance with state laws (KSA " 65-101 and 65-128) and regulations.

Kansas Health and Environmental Laboratories (KHEL)

1. Provide laboratory support.
2. Provide enteric stool kits as needed.

Legal Office

1. Provide support in ensuring compliance with recommendations and/or state laws.
2. Aid in revocations of license, if necessary.

SECTION II

Investigational Guidelines

Investigation Guidelines for Enteric Illness Outbreak

1. Outbreaks must be reported to KDHE Bureau of Epidemiology and Public Health Informatics (KAR 28-1-2(b)) at 1-877-427-7317.
2. Local Health Department should request site inspection by a child-care licensing.
3. If the cause of an outbreak has not been identified, request bacterial cultures and/or parasitologic tests from symptomatic individuals. Provide copies of the instruction sheet on how to collect and submit the stool specimens (Appendix H) and leave the instructions with the kits at the child-care center.
4. Once a definitive diagnosis is available, follow the instructions under specific disease investigation guidelines, if available.
5. Exclude individuals from the facility as necessary to control the spread of disease. Refer to specific disease investigation guidelines and further recommendations in this guideline.
6. Advise on hand washing and diapering. Give the child care center director information on hand washing and diapering. The information sheets (Appendix E) may be used and copied, as needed.
7. Obtain a copy of the activity roster for the past month.
8. Obtain the attendance or absentee log for the past two months.
9. Obtain a list of child-care center attendees, their parents'/guardians' names, addresses, and telephone numbers.
10. Obtain a list of child-care center staff. Ask about former staff that worked at the childcare center within the last month.
11. If the kitchen is unsanitary and/or a foodborne outbreak is suspected, request help with a site inspection (see Appendix G for contact information). Obtain a copy of the menu for the past two weeks. If there are suspected foods, save those food items for possible future testing. Keep frozen foods frozen and other foods refrigerated.
12. If a public water supply is the suspected source contact the Bureau of Water at 1-785-296-5500.
13. If there is a public pool involved, obtain the chlorine and pH log for the past month.
14. Prepare standardized questionnaires, one for parents and one for the child-care center staff. The questionnaires in the appendix C may be used or another questionnaire may be developed. The Infectious Disease and Epidemiology Response Section of the BEPHI is available to review questionnaires to be distributed.
15. Give the child-care provider a copy of the sample letter to parents.
16. Distribute fact sheets for parents and child-care staff.
17. Public health staff should be available to answer questions from parents and child-care center staff.
18. Be prepared to continue active surveillance for disease in the child-care center for up to three weeks after the last related case of diarrhea.

SECTION III

Exclusion of Symptomatic Persons from Child-care Facilities

EXCLUSION OF SYMPTOMATIC PEOPLE FROM CHILD -CARE FACILITIES

Certain symptoms in children may suggest the presence of a communicable disease. Children who have the following symptoms should be excluded from the child-care setting until

- 1) A health care provider has determined the symptoms are not associated with an infectious agent, or
- 2) There is no longer a threat to the health of other children and/or staff in the child-care setting.

NOTE: There are specific guidelines for "sick child-care programs" (contact Kansas Department of Health and Environment, Bureau of Child-care and Health Facilities at 785-296-1270 for those requirements).

It is recommended that child-care providers have policies that are clearly written for excluding sick children from the child-care setting. These policies should be given to parents when the child is enrolled to prevent problems later when the child is ill.

Exclude children with any of the following conditions:

FEVER:

When accompanied by behavior change, stiff neck, difficulty breathing, rash, sore throat, and/or other signs or symptoms of illness. Also exclude if the child is unable to participate in normal activities. Use measurement obtained before temperature-reducing medications are given. Fever is defined as axillary (armpit) temperature: 100° F or higher.

DIARRHEA (Not diagnosed as a Shiga-toxin producing Escherichia coli):

Until diarrhea stops or until a medical exam indicates that it is not due to a communicable disease. Diarrhea is defined as an increased number of stools compared with a person's normal pattern, along with decreased stool form and/or watery, bloody, or mucus-containing stool^[1].

DIARRHEA (Diagnosed as a Shiga-toxin producing Escherichia coli):

No infected child shall attend a child care facility, or a family day care home until two negative stool cultures are obtained at least 24 hours apart and no sooner than 48 hours following discontinuation of antibiotics.

VOMITING:

Exclude a child until vomiting stops. Vomiting is defined as two or more episodes in the previous 24 hours.

UNUSUAL COLOR OF SKIN, EYE, STOOL, OR URINE:

Exclude until a medical exam indicates that the child does not have hepatitis A.

For the mildly ill child, exclude if the child is unable to participate in normal activities or if the child needs more care than can be provided by the child-care center staff.

If an outbreak is occurring at the childcare facility or a child was diagnosed with a specific enteric disease such as Shiga toxin producing E. coli, it may be necessary to modify these recommendations to control the spread of disease. Refer to section IV.

SECTION IV

GUIDELINES FOR CONTROL OF ENTERIC DISEASE OUTBREAKS

GUIDELINES FOR CONTROL OF ENTERIC DISEASE OUTBREAKS IN CHILD-CARE SETTINGS

For the purposes of this document, an outbreak is two or more cases of gastrointestinal illness with similar symptoms occurring within 72 hours among children or staff who do not live in the same household. If the etiologic agent is known, an outbreak is defined as two or more cases occurring within the incubation period for the disease.

The county health officer or health department administrator or his/her designee should implement the following two-phase approach for control of enteric disease in child-care centers at his/her discretion.

Laboratory testing is performed to assist in public health decision-making and for epidemiologic studies. Symptomatic staff and children may be required to submit stool specimens to establish the cause of the outbreak. Once the etiologic agent for the outbreak has been identified, any new symptomatic staff or children may be referred to their health care providers for testing and treatment. Further testing is usually not required for public health purposes, except in special circumstances and as required by Kansas law for specific diseases as noted in Kansas Disease Investigation Guidelines that can be accessed on-line at: www.kdheks.gov/epi/disease_investigation_guidelines.htm

It is generally not recommended that a day-care be closed because of an enteric outbreak. Children and staff that are incubating the disease, but are asymptomatic at the time of closure can transmit the disease to children or staff in other facilities. There may be circumstances where closing is the only option (i.e., if there are not enough healthy staff to continue operations).

PHASE ONE

When measures taken in Section III do not prevent the spread of disease in the facility, this phase should be implemented when an enteric outbreak is suspected or confirmed in a child-care setting and should continue for two incubation periods after control measures have been put into place, or at the discretion of the county health officer or health department administrator or his/her designee.

For Confirmed or Suspected Outbreaks Caused by *Norovirus* (formerly *Norwalk* and *Norwalk-like* viruses and other enteric pathogens of known or unknown etiology for which there are no specific Kansas Disease Investigation Guidelines:

Exclusion: All persons with diarrhea, vomiting or other gastrointestinal symptoms should be excluded. A child who develops symptoms while at the child-care center should be isolated from other children until the parent or guardian removes the child from the facility.

Readmission: Release of persons from exclusion may occur 24 hours after cessation of symptoms depending on the disease and the duties performed by the individual.

Personal Control Measures: See Appendix D.

Environmental Control Measures: See Appendix D

Testing: Stool cultures of three to five symptomatic individuals are recommended during an outbreak to confirm the diagnosis. Testing of all symptomatic individuals is not recommended nor is it a good use of resources. During an outbreak, stool cultures of asymptomatic contacts are usually not warranted.

For Confirmed or Suspected Outbreaks caused by Hepatitis A, *Salmonella spp*, *Shigella spp.*, *Giardia spp.*, *Cryptosporidium spp.*, or *Escherichia coli 0157:H7* and related species refer to the specific Kansas Disease Investigation Guidelines to manage the outbreak.

In the event that PHASE ONE fails to control the outbreak, PHASE TWO can be implemented at the discretion of the county health officer.

PHASE TWO

This phase may be implemented when new cases of enteric disease continue to occur less than two incubation periods after PHASE ONE control measures have been put in place and at the discretion of the county health officer or health department administrator or his/her designee. For the purposes of this document, an incubation period is the median incubation period for the particular pathogen.

Control measures that could be implemented in Phase II include more stringent exclusion or readmission measures, the closing of a daycare to new admissions, or the use of cohorting.

Cohorting is the placing of previously symptomatic children or in some cases asymptomatic, stool positive children and staff in separate rooms from healthy individuals, with provision for separate restrooms when possible. Cohorting is used at the discretion of the county health officer or health department administrator or his/her designee when a facility is considered to have cohorting capabilities.

For Outbreaks caused by other agents than those listed above that have not been controlled by phase one measures or no phase two measures are listed in specific disease investigation guidelines, consult with the KDHE Bureau of Epidemiology and Public Health Informatics at 1-877-427-7317 for recommendations.

SECTION V

Appendices

APPENDIX A

Sample Letters to Parents of Exposed Day-care Attendees (In English and Spanish)

Word documents are available in attachments to the following disease:

- Cryptosporidiosis
- Giardiasis
- Shigellosis

Word documents are available under attachments:

CLICK HERE TO VIEW ATTACHMENTS

Then double click on the document to open.

Other Options to view attachments:

Go to <View>; <Navigation Pane>; <Attachments>

– OR –

Click on the “Paper Clip” icon on the right.

APPENDIX B

Samples of Fact Sheets

	<u>Pages</u>
Cryptosporidiosis	14
Escherichia coli	16
Hepatitis A	17
Shigellosis	18

Fact sheets for different diseases are available at the KDHE Web site at www.kdheks.gov/epi/index.html

Cryptosporidiosis

Health Education Facts

What is cryptosporidiosis?

Cryptosporidiosis, sometimes abbreviated as “crypto,” is caused by a one-celled parasite, *Cryptosporidium parvum*. Cryptosporidia attack the lining of the digestive and respiratory systems. After infection, it takes between one and 12 days before becoming ill, with an average of seven days.

Cryptosporidium was first found in humans in 1976; before that, it was thought to only infect animals and be a veterinary problem. The parasite, which is found in animal and human feces, was relatively unknown before 1993, when about 400,000 persons in the Milwaukee, WI area became sick from the municipal water.

What are the symptoms?

The most common symptoms are diarrhea and stomach cramps. The diarrhea can be profuse and watery. Infection can also cause loss of appetite and vomiting. For persons with weakened immune systems such as those with AIDS, the disease can be very severe and result in death.

In a healthy person, symptoms normally last two weeks or less. Some people with crypto may not get sick, but can still pass the disease to others.

How is cryptosporidiosis diagnosed?

Diagnosis is made by the identification of the parasite in stool specimens or by intestinal biopsy.

How is cryptosporidiosis spread?

The disease is spread by fecal-oral contact. People with cryptosporidiosis have parasites in their feces. If they do not wash their hands properly after going to the toilet, their hands can spread the parasites to surfaces, objects, and foods that will be touched by others. Crypto is very hardy; it has a protective capsule or shell and can survive outside the body for up to six months.

Persons also can become infected by consuming food or water contaminated with the organism. Outbreaks have also been associated with contaminated swimming pools and lakes and drinking unpasteurized apple cider contaminated with cow manure. Hands can become contaminated with parasites when a person changes the diaper of an infant with cryptosporidiosis. Pets, farm animals, drinking water and unpasteurized milk also can contain the parasite.

How can I keep from spreading it?

Food handlers, child care workers, and health care workers with cryptosporidiosis must not work until symptoms have stopped. Children must not attend child care centers, kindergartens or school until symptoms have stopped.

It is very important that people with cryptosporidiosis not prepare or handle food that will be eaten by other people and not share their towel or facecloth.

People infected with cryptosporidium should wash their hands regularly, especially before preparing food and after going to the toilet, avoid close contact with anyone who may have a weakened immune system, and avoid swimming in public bathing areas while they have diarrhea and for at least two weeks after it clears up.

How does crypto get into drinking water?

Health officials point to polluted water as the source of several known outbreaks. Cryptosporidia that pollute the water come from human or animal feces. Most cities get their drinking water from surface water such as rivers and reservoirs, and rain washes waste from livestock, wildlife, and urban sources into this water. Chlorine treatment does not destroy the parasite.

Private well water can become contaminated if wells are near feedlots, downhill from manure, or don't have adequate casings or caps. It also can seep into drinking water supplies from inadequate sewage systems or septic tanks.

How is cryptosporidiosis treated?

There is no drug that can cure cryptosporidiosis. Healthy individuals will recover on their own. Persons with diarrhea should drink plenty of fluids and may want to drink an oral rehydration therapy mix to avoid dehydration. They may also wish to take anti-diarrheal medicine. Persons with weakened immune systems should consult their health care provider.

Treatment for the symptoms can include immodium, octreotides or opiates for the diarrhea. Intravenous feeding is sometimes recommended to replace nutrients.

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High-fat foods should be avoided as they are hard to digest and increase diarrhea. Dairy products produce similar effects.

How can I avoid getting crypto?

The most important prevention measure is careful hand washing with soap and hot running water for at 20 ten seconds:

- before preparing food;
- before eating;
- after going to the toilet or changing diapers;
- after smoking;
- after using a tissue or handkerchief;
- after working in the garden; and
- after playing with pets.
- after changing diapers.

Food handlers should use disposable paper towels or an air dryer to dry their hands. Cloth towels get dirty quickly and can spread germs.

Safe food storage and handling

1. Thoroughly cook all raw foods.
2. Thoroughly wash raw vegetables before eating.
3. Reheat food until its internal temperature reaches at least 60 degree C.

Vegetables and fruit that touch dirt should be washed with water that has been boiled or filtered or bottled water that does not contain cryptosporidium. Unpasteurized milk or dairy products may not be safe.

Household cleaning

Bathrooms and toilets must be cleaned often to avoid the spread of infections. Pay particular attention to toilet seats and handles, taps, and diaper change tables.

Sand boxes can become contaminated with animal feces and urine. Rake the sand frequently and remove any animal feces. Cover the area when not in use.

Water from untreated sources

Untreated water from lakes or rivers probably is contaminated by feces from people or animals; the American Water Works Association estimates 97 percent of the nation's surface water contains crypto. Boil water from these sources for at least 10 minutes before drinking it. After the water cools, it can be stored in a clean, sealed bottle or pitcher with a lid and used normally. Individuals should be careful not to touch the inside of their water bottles.

Lakes, rivers, streams, pools and Jacuzzis may be contaminated. Swallowing this water when swimming or drinking it may cause cryptosporidiosis, as crypto is not killed by chlorine.

Water can also be filtered to remove crypto. Only filters labeled as "reverse osmosis," and/or "tested and certified by NSF Standard 53 for cyst reduction" and/or "absolute micron size of one micron or smaller" are guaranteed to remove cryptosporidium. Persons drinking bottled water should look for evidence of these treatments on the bottled water label, or buy distilled water. Canned and bottled bubbly drinks, such as sodas and beer, are usually heated and filtered enough in the factory to remove or kill cryptosporidium. Hot tea and coffee also have no live cryptosporidia.

Stool, objects, and animals

Cryptosporidium can be found on clothing, bedding or other things used by infected persons, such as persons with diarrhea or children in diapers. Persons should always wash their hands after touching these things and before touching food or the mouth. Sex that may involve contact with stool, especially oral sex, can also pass cryptosporidia. Individuals should always wash their hands after touching animals or cleaning up their stool or visiting barns and areas where these animals live. The stool of domestic and farm animals, especially animals less than six months old or animals with diarrhea, can contain crypto.

Dirt in the garden and other places can become contaminated when an animal leaves its stool there. Any object, such as a faucet handle, diaper table or bed pan, that is touched by an infected person who did not wash well after using the toilet can be contaminated. Individuals should always wash their hands well after working in dirt or touching anything that could have been contaminated by a person with crypto.

For more information:

The U.S. Centers for Disease Control has started a cryptosporidiosis phone and fax service. Callers can listen to recorded messages, or receive printed information by fax. The phone number is 404-330-1242. They also can call the CDC AIDS Hotline at 1-800-342-2437 for more information on cryptosporidiosis.

E. Coli O157:H7

 Health Education Facts

There are hundreds of strains of the bacteria *Escherichia coli*. These strains are commonly found in the intestines of healthy persons and animals. A particular strain, E. coli O157:H7, also known as O157, can cause severe illness and even death. First identified as a cause of human illness in 1982, this bacterium is increasingly being detected throughout the developed world.

What are the symptoms?

Persons infected with this type of E. coli can develop severe diarrhea and painful abdominal cramps. The diarrhea is often bloody. For most the illness subsides in five to ten days. However, for some, the infection can lead to a condition known as hemolytic uremic syndrome, (WS) in which the kidneys fail, and other complications including seizure and stroke can occur.

E. coli O157 is the principal cause of HUS, and HUS is the primary cause of acute kidney failure in children. Less than ten percent of the infections lead to HUS, but persons with this illness often require intensive care, blood transfusions and kidney dialysis to survive. Most do survive this condition, but some may have high blood pressure and kidney problems later in life.

Where does E. Coli O157:H7 come from?

Major sources are undercooked ground beef and raw milk. The O157 bacterium is present in the intestines of cattle, which during slaughter may come into contact with the ground meat product. The bacteria are killed when meat is thoroughly cooked, but can survive in meat that is rare or inadequately cooked. The lesson for prevention is to cook ground beef to an internal temperature of at least 155°F.

Bacteria present in the cow's udders or in milking equipment can be passed into raw milk, but pasteurization kills the bacteria.

How else can the bacteria be passed on?

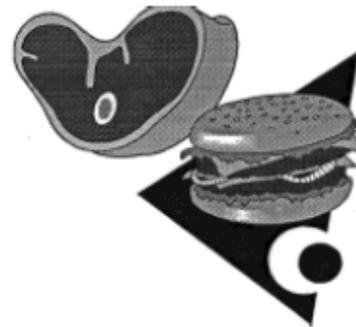
Since waterborne transmission of O157 has been documented, only chlorinated or carbonated water should be considered safe. Also, the organism is easily passed from person-to-person, and for this reason is a concern in daycare settings. Frequent hand washing with soap will prevent transmission.

Who is at the greatest risk?

Those people primarily at risk of severe consequences of infection are children under five years of age and the elderly.

How widespread is the bacterium?

Preliminary estimates indicate that as many as 20,000 cases of infection from E. coli O157:H7 occur in the United States each year. The infection is common in Canada, and is increasingly reported in Europe and Japan.



Public Information

 Office & Bureau of

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 www.kdhe.state.ks.us

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Handout #34

 Revised 01/03

L.2

Hepatitis A (Infectious Hepatitis)

Health Education Facts

What is hepatitis A?

Hepatitis A is a virus transmitted by the fecal-oral route. This means that you must get something in your mouth which is contaminated with stool from an infected person.

Who gets hepatitis A?

Most infections result from contact with a household member or sexual partner who has hepatitis A.

Sometimes infection results from eating food or drink which is contaminated with the hepatitis A virus. Once a person recovers from hepatitis A, the person is immune for life and no longer contagious.

How soon after exposure do hepatitis A symptoms appear?

On average, symptoms appear one month after exposure and may include vomiting, diarrhea, and jaundice (whites of the eyes and skin become yellowish). The contagious period lasts from two weeks before to one week after the jaundice starts.

When symptoms are experienced it is important to seek medical care. Since there are several types of hepatitis, a blood test is needed to determine which type is present. Infected children should stay home from school and day care for 10 days following the onset of illness.

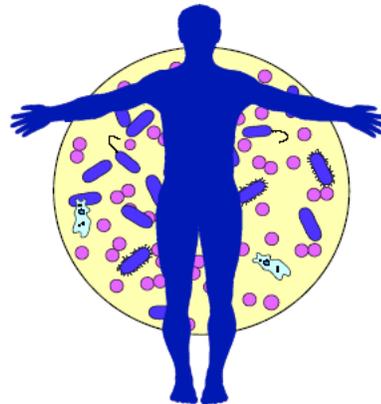
Diarrhea and vomiting can be caused by other things than hepatitis. Adults with moderate to severe gastrointestinal symptoms, particularly diarrhea lasting more than four days, should have a stool culture done through a physician or local health department.

What is the treatment for hepatitis A?

Rest and a balanced diet are usually all that is needed. There is no medication to treat hepatitis A.

How can hepatitis A be prevented?

Handwashing with soap after toileting and diapering is one effective way to prevent the spread of hepatitis A. Gamma globulin (IG) can help prevent infection, and is recommended for people who live in the same house as a person with hepatitis A, to sexual contacts of a person with hepatitis A, or to other children in the same day care center with a child with hepatitis A. IG is NOT given to casual contacts of a person with hepatitis A, such as friends or coworkers, because the risk of infection in these situations is extremely small.



Hepatitis A vaccine is recommended for travelers to countries where hepatitis A is a common infection, and for high-risk adults in this country. Hepatitis A vaccine protects the person who receives it after about one month from the date it is administered. It is not useful for people who have already been exposed to the virus.

Public Information
 Office & Bureau of
 Epidemiology and
 Disease Prevention
 Kansas Department of
 Health & Environment
 1000 SW Jackson
 Topeka, KS 66612
 www.kdhe.state.ks.us

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Handout #33
 Revised 01/03

What causes shigellosis?

Shigellosis is caused by bacteria belonging to the *Shigella* species. These are: *Shigella dysenteriae* 1, *Shigella sonnei*, *Shigella flexneri*, and *Shigella boydii*.

Who gets shigellosis?

Shigellosis affects people of all ages; however, infants and the elderly are at greater risk of disease.

How is shigellosis transmitted?

Only humans carry *Shigella*. Transmission occurs by the fecal-oral route. The usual mode of transmission is through contaminated hands that transfer the bacteria to food or water. Person-to-person transmission also may occur. Flies may transmit the disease by carrying the bacteria on their legs to food. Dogs that eat human feces may transmit the disease to people, especially children.

What are the symptoms and how soon do they appear?

The incubation period ranges from 12 to 96 hours, but may be as long as one week. Symptoms usually include bloody diarrhea accompanied by fever, nausea, vomiting, abdominal cramps, and painful, involuntary contractions of the anus. Severe cases can result in death. Mild and asymptomatic cases may occur. Illness is often self-limiting lasting four to seven days, occasionally up to weeks or months.

How is shigellosis diagnosed?

Shigellosis is diagnosed by culturing the stool for the bacterium. This is done through a laboratory test.

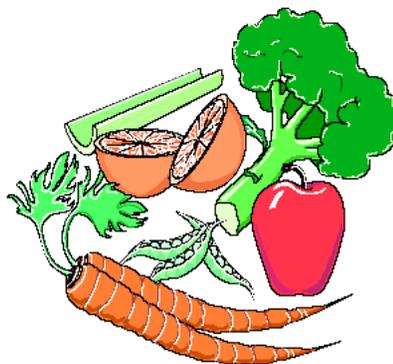
How is shigellosis treated?

Antibiotics are used to treat shigellosis and are effective in shortening the course of illness.

What can be done to prevent shigellosis?

Infection and transmission of *Shigella* can be prevented by:

- Consuming water from a safe source.
- Always washing hands after toileting, before preparing or serving meals, and before eating. Wash hands with soap for 20 seconds then rinse with warm running water.
- Washing fruits and vegetables before eating.
- Always washing hands after petting animals and changing diapers.



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APPENDIX C

Sample Forms

Word documents are available in attachments for the following forms:

- Seven-Day Enteric Questionnaire, Daycare Phone Interviews
- Seven-Day Enteric Questionnaire for Day Care Staff

Word documents are available under attachments:

CLICK HERE TO VIEW ATTACHMENTS

Then double click on the document to open.

Other Options to view attachments:

Go to <View>; <Navigation Pane>; <Attachments>

– OR –

Click on the “Paper Clip” icon on the right.

APPENDIX D

Control Measures during an Enteric Outbreak

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CONTROL MEASURES DURING AN ENTERIC OUTBREAK

Personal Control Measures: All persons, including (but not limited to) children, parents, siblings, staff, visitors, and service personnel, will be required to wash their hands;

1. Upon entering the facility,
2. After using the bathroom, or assisting with toileting or diaper changes
3. After playing outside
4. Before and after handling food or eating.

Additional Personal Control Measures:

5. Adults will supervise children during hand washing.
6. Infant's hands should be washed after diaper changes.
7. Staff involved in food preparation shall not change diapers, whenever possible.

Environmental Control Measures:

1. Individuals with diarrhea should be excluded from food handling and direct care giving.
2. Child-care staff will ensure that hand toys are limited to single child use between cleaning and sanitizing. This may be accomplished by
 - Collecting a toy after a child has finished playing with it and disinfecting the toy with proper disinfectant before allowing another child to play with it; or
 - Removing toys from circulation after children finished playing with them and disinfecting the toys at intervals or at the end of the day.
3. Child-care staff will ensure that food is served in individual portions
4. Use of swimming pools is prohibited.
5. Playing with dough or clay is prohibited and any stored dough or clay that was used during or after the occurrence of illness at the daycare should be discarded.
6. Tables and other contact surfaces should be cleaned regularly during the day using appropriate germicides.
7. Potty chairs will be cleaned and sanitized after each use.
8. Bathrooms cleaned frequently during the day and sanitized at least once a day.

Disinfection should be done with 1% bleach solution or any other disinfectant recommended by the health officer or his/her designee.

APPENDIX E

Techniques

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Hand Washing Technique

The single most important step in the prevention of disease in the child-care setting is proper hand washing. The most prevalent diseases in child-care settings are spread through the fecal-oral route. It is necessary to assure that all staff and children of a child-care are instructed in the proper means of hand washing.

The following list describes the proper way to conduct hand washing:

1. Use warm, running water
2. Apply soap to wet hands
3. Rub hands vigorously for 20 seconds (*use a silly song, see below*)
4. Apply friction. It is the friction that is important.
5. Wash all surfaces, including:
 - backs of hands
 - wrists
 - between fingers
 - tips of fingers
 - under fingernails
6. Rinse hands well. Leave water running
7. Dry hands with a disposable towel. (Pat dry)
8. Turn off the water using a disposable towel, instead of bare hands
9. Dispose of the used towel in the trash can

To minimize irritation to hands and aid in the prevention of chapped hands, use warm (not hot) water, apply soap to wet hands, dry hands thoroughly by patting dry, and use hand creams or lotions.

If the children are too young to wash their hands themselves, it is the responsibility of the staff to wash the hands of the children. Older children should get into the habit of hand washing to help stop disease from spreading. The timing of the hand washing is important and difficult for children to measure. Therefore, it would be beneficial to use silly songs that the children are familiar with, to time hand washing. One example is A Old McDonald had a Farm@. This song sung with one barnyard animal will take approximately 20 seconds.

*Old McDonald had a farm. E-I-E-I-O And on this farm he had a chicken. E-I-E-I-O
With a cluck-cluck here and a cluck-cluck there. Here a cluck, there a cluck, everywhere
a cluck-cluck. Old McDonald had a farm. E-I-E-I-O*

It is important that hand sanitizers do not replace proper hand washing. Hand washing is not intended to kill bacteria and viruses on hands. Rather, its goal is to remove the bacteria and viruses by washing them down the drain. Most hand sanitizers use an alcohol base to kill most of the offending bacteria but do nothing to destroy the viruses. Since the hand sanitizers are rubbed onto the skin, nothing is removed. The offending fecal matter still remains on the hands. Since these hand sanitizers are alcohol based, they strip the skin of the natural, protective oils. Without these oils, the skin becomes dry and begins to crack. These cracks create routes for future infections. Hand sanitizers, if used, should be applied after proper hand washing and followed by liberal application of hand creams or lotions.

IF YOU HAVE DIAPERED CHILDREN IN YOUR CHILD CARE PROGRAM:

Always use this method for changing diapers. This is the best way to stop diseases that spread through the intestinal tract.

1. CHECK to make sure the supplies you need are ready.
 - fresh diaper or clothes;
 - freshly dampened paper towels or pre-moistened towelettes; and
 - plastic bag for soiled diaper
2. PLACE roll paper or a disposable towel on the part of the diapering table where the child's bottom will be.
3. HOLD the child AWAY from your body when you pick him up. When you know a child has soiled his diaper use only your hands to carry him. LAY the child on the paper or towel.
4. REMOVE soiled diaper or clothes.
 - Put disposable diapers in a plastic bag or a plastic lined receptacle.
 - Put soiled clothes in a plastic bag for parents to take home with the child at the end of the day.

Tell the parents that washing or rinsing clothes soiled with stool at the day care center might cause disease germs to spread.
5. CLEAN the child's bottom with:
 - a pre-moistened disposable towelette, or
 - a damp paper towel.

Put the used towelette or paper towel in the plastic bag or plastic-lined receptacle.
6. REMOVE the paper or towel from beneath the child and dispose of it in the plastic bag or plastic-lined receptacle.
7. WIPE your hands with a pre-moistened disposable towelette or a damp paper towel and dispose of it in the plastic bag or plastic-lined receptacle. If you are wearing a glove, dispose of it now.
8. DIAPER or dress the child.

Now you can hold him close to you.
9. WASH the CHILD'S hands:

IMPORTANT: If you must walk from the diapering table to the sink

 - be sure the child cannot fall, or
 - carry him with you.
10. RETURN the child to his CRIB.
11. CLEAN and DISINFECT
 - diapering area;
 - equipment or supplies touched; and
 - soiled crib or cot, if necessary.
12. WASH your hands.

Reprinted from: What You Can Do to Stop Disease in the Child Day Care Center

U.S. Department of Health and Human Services
Public Health Service, Centers for Disease Control
Atlanta, Georgia

December, 1984

APPENDIX F

Kansas Statutes and Regulations

KANSAS STATUTES AND REGULATIONS

This document contains only portions of the statutes and regulations related to the control of infectious disease. Additional statutes and regulations pertaining to child care licensing and registration can be obtained from Kansas Bureau of Child Care Licensing and Registration by request or on-line at <http://www.kdheks.gov/bcclr/regs.html>.

Kansas Statutes

65-101. Health supervision; investigation of causes of disease, sickness and death; sanitation inspections; prevention of spread of disease; outreach services; rules and regulations; injunction.

(A) The secretary of health and environment shall exercise general supervision of the health of the people of the state and may:

(1) Where authorized by any other statute, require reports from appropriate persons relating to the health of the people of the state so a determination of the causes of sickness and death among the people of the state may be made through the use of these reports and other records.

(2) Investigate the causes of disease, including especially, epidemics and endemics, the causes of mortality and effects of locality, employments, conditions, food, water supply, habits and other circumstances affecting the health of the people of this state and the causes of sickness and death.

(3) Advise other offices and agencies of government concerning location, drainage, and water supply, disposal of excreta and heating and ventilation of public buildings.

(4) Make sanitary inspection and survey of such places and localities, as the secretary deems advisable.

(5) Take action to prevent the introduction of infectious or contagious disease into this state and to prevent the spread of infectious or contagious disease within this state.

(6) Provide public health outreach services to the people of the state including educational and other activities designed to increase the individual's awareness and appropriate use of public and other preventive health services.

(B) The secretary of health and environment may adopt rules and regulations necessary to carry out the provisions of

paragraphs (1) through (6), inclusive, of subsection (a). In addition to other remedies provided by law, the secretary is authorized to apply to the district court, and such court shall have jurisdiction upon a hearing and for cause shown to grant a temporary or permanent injunction to compel compliance with such rules and regulations.

HISTORY: L. 1885, ch. 129, sec. 4; L. 1907, ch. 379, sec. 1; R.S. 1923, 65-101; L. 1974, ch. 352, sec. 1; L. 1981, ch. 240, sec. 1; L. 1989, ch. 184, sec. 1; July 1.

65-102. Registration of vital statistics and diseases; forms. The secretary of health and environment shall supervise the registration of marriages, births, and deaths, and also the registration of forms of disease prevalent in the state; and the director of the division of health shall superintend the registration of the vital statistics of the state. The secretary of health and environment shall prepare the blank forms necessary for obtaining and preserving such records, and forward them to the health officers of local boards as may be required by physicians, appraisers, local boards, and others whose duty it is to gather information in relation to the vital statistics of the state.

HISTORY: L. 1885, ch. 129, sec. 5; R.S. 1923, 65-102; L. 1974, ch. 352, sec. 2; L. 1979, ch. 1881; July 1.

65-102b. Confidentiality of information concerning noninfectious diseases disclosure. Information concerning noninfectious diseases obtained by the secretary under K.S.A. 65-102 is confidential and shall not be disclosed except as provided in this section. The secretary may disclose information concerning noninfectious diseases

obtained under K.S.A. 65-102: (a) upon the consent, in writing, of the person who is the subject of the information, or if such person is under 18 years of age, by such person's parent or guardian; or (b) upon the request of an organization or scholarly investigator for legitimate research or data collection purposes so long as such information is disclosed in a manner which will not reveal the identity of the persons who are the subject of the information.

HISTORY: L. 1982, ch. 252, sec. 1; July 1.

65-118. Reporting to local health authority as to infectious or contagious diseases; persons reporting; immunity from liability; confidentiality of information; disclosure. (a) Whenever any person licensed to practice the healing arts or engaged in a postgraduate training program approved by the state board of healing arts, licensed dentist, physician's assistant whose name has been entered on the register of physicians= assistants by the state board of healing arts, licensed professional nurse, licensed practical nurse, administrator of a hospital, licensed adult care home administrator, licensed social worker, teacher or school administrator knows or has information indicating that a person is suffering from or has died from an infectious or contagious disease as defined in rules and regulations, such knowledge or information shall be reported immediately to the county or joint board of health or the local health officer, together with the name and address of the person who has or is suspected of having the infectious or contagious disease, or the name and former address of the deceased individual who had or was suspected of having such a disease. In the case of a licensed hospital or adult care home, the administrator may designate an individual to receive and make such reports. The secretary of health and environment shall, through rules and regulations, make provision for the consolidation of reports required to be made under this section when the person required to make the report is working in a licensed hospital or adult care home. Laboratories certified under the federal clinical laboratories

improvement act pursuant to 42 code of federal regulations, 493 shall report the results of microbiologic cultures, examinations, immunologic essays for the presence of antigens and antibodies and any other laboratory tests which are indicative of the presence of a reportable infectious or contagious disease to the department of health and environment. The director of the division of health may use information from death certificates for disease investigation purposes.

(b) Any person who is an individual member of a class of persons designated under subsection (a) of this section and who reports the information required to be reported under such subsection in good faith and without malice to a county or joint board of health, a local health officer or the department of health and environment shall have immunity from any liability, civil or criminal, that might otherwise be incurred or imposed in an action resulting from such report. Any such person shall have the same immunity with respect to participation in any judicial proceeding resulting from such report.

(c) Information required to be reported under subsection (a) of this section shall be confidential and shall not be disclosed or made public, upon subpoena or otherwise, beyond the requirements of subsection (a) of this section or subsection (a) of K.S.A. 65-119, except such information may be disclosed:

(1) If no person can be identified in the information to be disclosed and the disclosure is for statistical purposes;

(2) If all persons who are identifiable in the information to be disclosed consent in writing to its disclosure;

(3) If the disclosure is necessary, and only to the extent necessary, to protect the public health;

(4) If a medical emergency exists and the disclosure is to medical personnel qualified to treat infectious or contagious diseases. Any information disclosed pursuant to this paragraph shall be disclosed only to the extent necessary to protect the health or life of a named party; or

(5) If the information to be disclosed is

required in a court proceeding involving child abuse and the information is disclosed in camera.

HISTORY: L. 1901, ch. 285, sec. 2; R.S. 1923, 65-118; L. 1953, ch. 283, sec. 1; L. 1976, ch. 262, sec. 1; L. 1979, ch. 189, sec. 1; L. 1998, ch. 35, sec. 1; Apr. 9.

65-119. Duties and powers of local health officers; contagious diseases; confidentiality of information; disclosure, when.

(a) Any county or joint board of health or local health officer having knowledge of any infectious or contagious disease, or of a death from such disease, within their jurisdiction, shall immediately exercise and maintain a supervision over such case or cases during their continuance, seeing that all such cases are properly cared for and that the provisions of this act as to isolation, restriction of communication, quarantine and disinfection are duly enforced. The county or joint board of health or local health officer shall communicate without delay all information as to existing conditions to the secretary of health and environment. The local health officer shall confer personally, if practicable, otherwise by letter, with the person in attendance upon the case, as to its future management and control. The county or joint board of health or local health officer is hereby empowered and authorized to prohibit public gatherings when necessary for the control of any and all infectious or contagious disease.

(b) Any disclosure or communication of information relating to infectious or contagious diseases required to be disclosed or communicated under subsection (a) of this section shall be confidential and shall not be disclosed or made public beyond the requirements of subsection (a) of this section or subsection (a) of K.S.A. 65-118, except as otherwise permitted by subsection (c) of K.S.A. 65-118.

HISTORY: L. 1901, ch. 285, sec. 3; R.S. 1923, 65-119; L. 1953, ch. 283, sec. 2; L. 1974, ch. 352, sec. 8; L. 1976, ch. 262, sec. 2; L. 1979, ch. 189, sec. 2; July 1.

65-122. Schools and child care facilities; non-admissions and exclusions;

readmissions, when. No person afflicted with an infectious or contagious disease dangerous to the public health shall be admitted into any public, parochial or private school or licensed child-care facility. It shall be the duty of the parent or guardian, and the principal or other person in charge of any public, parochial, private school or licensed child care facility to exclude therefore any child or other person affected with a disease suspected of being infectious or contagious until the expiration of the prescribed period of isolation or quarantine for the particular infectious or contagious disease. If the attending person licensed to practice medicine and surgery or local health officer finds upon examination that the person affected with a disease, suspected of being infectious or contagious is not suffering from an infectious or contagious disease, he or she may submit a certificate to this effect to the person in charge of the public, parochial, private school or licensed child care facility and such person shall be readmitted to school or to the child care facility.

HISTORY: L. 1901, ch. 285, sec. 6; R.S. 1923, 65-122; L. 1953, ch. 283, sec. 3; L. 1976, ch. 262, sec. 3; July 1.

65-127. Penalty provision. Any person found guilty of violating any of the provisions of K.S.A. 65-118, 65-119, 65-122, 65-123 and 65-126, and any amendments thereto, or failing to comply with any requirements thereof shall be fined, upon conviction, not less than twenty-five dollars (\$25) nor more than one hundred dollars (\$100) for each offense. HISTORY: L.1901, ch. 285, sec. 11; R.S. 1923, 65-127; L. 1976, ch. 262, sec. 6; July 1.

65-128. Rules and regulation of secretary for isolation and quarantine; publication; definition.

(a) For the protection of the public health and for the control of infectious or contagious diseases, the secretary of health and environment by rules and regulations shall designate such

diseases as are infectious or contagious in their nature, and the secretary of health and environment is authorized to adopt rules and regulations for the isolation and quarantine of such diseases and persons afflicted with or exposed to such diseases as may be necessary to prevent the spread and dissemination of diseases dangerous to the public health.

(b) As used in K.S.A. 65-118, 65-119, 65-122, 65-123, 65-126 and 65-129, and amendments thereto, "infectious or contagious disease" means any disease designated by the secretary of health and environment as an infectious or contagious disease in accordance with subsection (a) but the infectious or

contagious disease acquired immune deficiency syndrome or any causative agent thereof shall not constitute an infectious or contagious disease for the purposes of K.S.A. 65-118, 65-119, 65-122, 65-123, 65-126 and 65-129, and amendments thereto, because such disease is subject to the provisions of K.S.A. 1988 Supp. 65-6001 through 65-6007 and amendments thereto.

HISTORY: L. 1917, ch. 205, sec. 1; R.S. 1923, 65-128; L. 1953, ch. 283, sec. 6; L. 1965, ch. 506, sec. 25; L. 1974, ch. 352, sec. 11; L. 1976, ch. 262, sec. 7; L. 1988, ch. 232, sec. 9; July 1.

KANSAS REGULATIONS

28-1-2. Designation of infectious or contagious diseases. (a) The following diseases shall be designated as infectious or contagious in their nature and cases or suspect cases shall be re-reported within seven days, unless otherwise specified, in accordance with K.S.A. 65-118 and K.S.A. 65-128, and amendments thereto.

- (1) Amebiasis;
- (2) anthrax (report by telephone within four hours to the secretary);
- (3) arboviral disease, including West Nile virus, western equine encephalitis (WEE), and St. Louis encephalitis (SLE);
- (4) botulism (report by telephone within four hours to the secretary);
- (5) brucellosis;
- (6) campylobacter infections;
- (7) chancroid;
- (8) *Chlamydia trachomatis* genital infection;
- (9) cholera (report by telephone within four hours to the secretary);
- (10) cryptosporidiosis;
- (11) cyclospora infection;
- (12) diphtheria;
- (13) ehrlichiosis;
- (14) *Escherichia coli* enteric infection from *E. coli* O157:H7 and other shiga toxin-producing *E. coli*, also known as STEC;
- (15) giardiasis;

- (16) gonorrhea;
- (17) *Haemophilus influenzae*, invasive disease;
- (18) hemolytic uremic syndrome, post-diarrheal;
- (19) hepatitis B in pregnancy (report the pregnancy of each woman with hepatitis B);
- (20) hepatitis, viral;
- (21) hantavirus pulmonary syndrome;
- (22) influenza, if the disease results in the death of any child under 18 years of age;
- (23) legionellosis;
- (24) leprosy or Hansen's disease;
- (25) listeriosis;
- (26) Lyme disease;
- (27) malaria;
- (28) measles or rubeola (report by telephone within four hours to the secretary);
- (29) meningitis, bacterial (indicate causative agent, if known, and report by telephone within four hours to the secretary);
- (30) meningococcemia (report by telephone within four hours to the secretary);
- (31) mumps (report by telephone within four hours to the secretary);
- (32) pertussis or whooping cough (report by telephone within four hours to the

secretary);

(33) plague or *Yersinia pestis* (report by telephone within four hours to the secretary);

(34) poliomyelitis (report by telephone within four hours to the secretary);

(35) psittacosis;

(36) rabies, animal and human (report by telephone within four hours to the secretary);

(37) Rocky Mountain spotted fever;

(38) rubella, including congenital rubella syndrome (report by telephone within four hours to the secretary);

(39) salmonellosis, including typhoid fever;

(40) severe acute respiratory syndrome (SARS) (report by telephone within four hours to the secretary);

(41) shigellosis;

(42) streptococcal invasive, drug-resistant disease from group A *Streptococcus* or *Streptococcus pneumoniae*;

(43) syphilis, including congenital syphilis;

(44) tetanus;

(45) toxic-shock syndrome, streptococcal and staphylococcal;

(46) any transmissible spongiform encephalopathy (TSE) or prion disease (indicate causative agent, if known);

(47) trichinosis;

(48) tuberculosis, active and latent (report active disease by telephone within four hours to the secretary);

(49) tularemia;

(50) varicella or chickenpox;

(51) yellow fever; and

(52) any exotic or newly recognized disease, and any disease unusual in incidence or behavior, known or suspected to be infectious or contagious and constituting a risk to the public health (report by telephone within four hours to the secretary).

(b) The occurrence of a single case of any unusual disease or manifestation of illness that the health care provider

determines or suspects could be caused by or related to a bioterrorism act shall be reported within four hours by telephone to the secretary. The term “bioterrorism act,”

as used in this article, shall mean a dispersion of biological or chemical agents with the intention to harm. Each bioterrorism act shall be reported within four hours by telephone to the secretary. The following shall be considered bioterrorism agents when identified in the course of a possible bioterrorism act:

(1) Anthrax;

(2) plague;

(3) smallpox;

(4) tularemia;

(5) botulism;

(6) viral hemorrhagic fever;

(7) Q fever or *Coxiella burnetii*;

(8) brucellosis; and

(9) any other infectious or toxic agent that can be intentionally dispersed in the environment. (Authorized by K.S.A. 65-101 and 65-128; implementing K.S.A. 65-118 and 65-128; effective May 1, 1982; amended May 1, 1986; amended Dec. 24, 1990; amended April 19, 1993; amended Jan. 12, 1996; amended Dec. 1, 1997; amended Feb. 18, 2000; amended, T-28-11-20-03, Nov. 20, 2003; amended March 5, 2004; amended April 28, 2006.)

28-1-5. General provisions for isolation or quarantine of persons afflicted with infectious or contagious disease; examination of persons; collection of specimens.

(a) When the conditions of isolation and quarantine are not otherwise specified by regulation, the isolation and quarantine of persons afflicted with or exposed to infectious or contagious diseases shall be ordered and enforced by the local health officer or the secretary of health and environment to preserve the public health, safety, or welfare. The conditions of isolation or quarantine so ordered shall be based on current medical knowledge of the infectious agent of the disease for which isolation or quarantine is ordered and may include consideration of the following factors:

- (1) The incubation period;
- (2) the communicable period;
- (3) the mode of transmission; and
- (4) susceptibility.

(b) Isolation or quarantine, or both, shall be ordered in conjunction with investigation of infectious or contagious disease cases and outbreaks for examining persons reasonably suspected of having these diseases and for obtaining specimens from these persons for laboratory evidence suggestive of infectious or contagious disease. (Authorized by K.S.A. 65-101 and 65-128; implementing K.S.A. 65-101; effective May 1, 1982; amended July 20, 2007.)

28-1-6. Requirements for isolation and quarantine of specific infectious and contagious diseases; exception; definition. (a) Any of the requirements specified in this regulation for isolation and quarantine may be altered by the secretary of health and environment or the local health officer if the secretary or local health officer determines that an alteration is necessary for the greater protection of public health, safety, or welfare. The requirements for isolation or quarantine, or both, so altered shall be based on current medical knowledge of the infectious agent of the disease for which isolation or quarantine, or both, are ordered and may include consideration of the following factors:

- (1) The incubation period;
- (2) the communicable period;
- (3) the mode of transmission; and
- (4) susceptibility.

(b)(1) For the purposes of this regulation, the phrase “enteric precautions” shall mean thorough hand washing after attending to any infectious case or touching the feces of an infected person, disinfection of any article that has been in contact with any infectious case or feces, and sanitary disposal of feces.

(2) For the purposes of this regulation, “susceptible person” shall mean an individual who meets both of the following conditions:

(A) Has been exposed to an infected person or a contaminated environment, if the exposure is sufficient to provide the individual with an opportunity to acquire that particular

disease; and

(B) regarding the disease specified in paragraph (b)(2)(A), meets at least one of the following conditions:

- (i) Has no history of the disease that has been documented by a licensed physician;
- (ii) has no laboratory evidence of immunity; or
- (iii) has no documentation acceptable to the secretary that demonstrates current immunity against the disease.

(c) The following isolation and quarantine precautions, as defined in K.A.R. 28-1-1, shall be observed:

(1) Amebiasis. Each infected food handler shall be excluded from that person’s occupation until three negative stools have been obtained. Both the second and the third specimens shall be collected at least 48 hours after the prior specimen.

(2) Chickenpox (varicella). Each infected person shall remain in isolation for six days after the first crop of vesicles appears or until the lesions are crusted, whichever comes first. Each susceptible person in a school, child care facility, or family day care home shall be either vaccinated within 24 hours of notification to the secretary or excluded from the school, the child care facility, or the family day care home until 21 days after the onset of the last reported illness in the school, the child care facility, or the family day care home.

(3) Cholera. Enteric precautions shall be followed for the duration of acute symptoms.

(4) Diphtheria. Each infected person shall remain in isolation for 14 days or until two consecutive negative pairs of nose and throat cultures are obtained at least 24 hours apart and not less than 24 hours after discontinuation of antibiotic therapy. Each household contact and all other close contacts shall have nose and throat specimens tested and be monitored for symptoms for seven days from the time of last exposure to the disease. Healthy carriers with diphtheria shall be treated. Each contact who is a food handler or work with children shall be excluded from that occupation until the nose and throat cultures are negative.

(5) Hepatitis A. Each infected person shall

be excluded from food handling, patient care, and any occupation involving the care of young children and the elderly until 14 days after the onset of illness.

(6) Meningitis caused by *Haemophilus influenzae*. Each infected person shall remain in respiratory isolation for 24 hours after initiation of antibiotic therapy.

(7) Meningitis, meningococcal. Each infected person shall remain in respiratory isolation for 24 hours after initiation of antibiotic therapy.

(8) Mumps. Each infected person shall remain in respiratory isolation for five days from the onset of illness. Each susceptible person in a school, child care facility, or family day care home shall be either vaccinated within 24 hours of notification to the secretary or excluded from the school, child care facility, or family day care home until 26 days after the onset of the last reported illness in the school, child care facility, or family day care home.

(9) Pediculosis (headlice). Each student infested with lice shall be excluded from the school, child care facility, or family day care home until treatment with an antiparasitic drug is initiated.

(10) Pertussis (whooping cough). Each infected person shall remain in respiratory isolation for three weeks if untreated, or for five days following initiation of antibiotic therapy. Each susceptible person in a school, child care facility, or family daycare home shall be vaccinated within 24 hours of notification to the secretary or shall complete a five-day course of antibiotic therapy. Each susceptible person who does not receive the vaccination shall be excluded from the school, child care facility, or family day care home until 21 days after the onset of the last reported illness in the school, child care facility, or family day care home.

(11) Plague (pneumonic). Each infected person shall remain in respiratory isolation until completion of 48 hours of antibiotic therapy. Each close contact who does not receive chemoprophylaxis shall remain in quarantine for seven days.

(12) Poliomyelitis. Each infected person

shall remain in isolation for 10 days from the onset of illness. Enteric precautions shall be followed for six weeks.

(13) Rubella (German measles). Each infected person shall remain in respiratory isolation for seven days after the onset of rash. Each susceptible person in a school, child care facility, or family day care home shall be vaccinated within 24 hours of notification to the secretary or shall be excluded from the school, child care facility, or family day care home until 21 days after the onset of the last reported illness in the school, child care facility, or family day care home.

(14) Rubeola (measles). Each infected person shall remain in respiratory isolation for four days after the onset of rash. Each susceptible person in a school, a child care facility, or a family day care home shall be either vaccinated within 24 hours of notification to the secretary or excluded from the school, child care facility, or family day care home until 21 days after the onset of the last reported illness in the school, child care facility, or family day care home.

(15) Salmonellosis (nontyphoidal). Enteric pre-cautions shall be followed for the duration of acute symptoms. Each infected person with diarrhea shall be excluded from food handling, patient care, and any occupation involving the care of young children and the elderly until no longer symptomatic. Any asymptomatic and convalescent infected person without diarrhea may be excluded from, and may return to, this work by the order of the local health officer or the secretary.

(16) Scabies. Each child or student infected with scabies shall be excluded from a school, child care facility, or family day care home until treated with an antiparasitic drug.

(17) Shiga toxin-producing *Escherichia coli* (STEC). Enteric precautions shall be followed for the duration of acute symptoms. Each infected person shall be excluded from food handling, patient care, and any occupation involving the care of young children and the elderly until two negative stool cultures are obtained at least 24 hours apart and no sooner than 48 hours following discontinuation of antibiotics. No infected

child shall attend a child care facility or family day care home until two negative stool cultures are obtained at least 24 hours apart and no sooner than 48 hours following discontinuation of antibiotics.

(18) Shigellosis. Enteric precautions shall be followed for the duration of acute symptoms. Each infected person shall be excluded from food handling, patient care, and any occupation involving the care of young children and the elderly until two negative stool cultures are obtained at least 24 hours apart and no sooner than 48 hours following discontinuation of antibiotics. No infected child shall attend a child care facility or family day care home until two negative stool cultures are obtained at least 24 hours apart and no sooner than 48 hours following the discontinuation of antibiotics.

(19) Staphylococcal disease. Each infected food handler shall be excluded from that person's occupation until the purulent lesions are healed or until each wound is covered with an impermeable cover, including a finger cot, and a single-use glove is worn over the impermeable cover.

(20) Streptococcal disease, hemolytic, including erysipelas, scarlet fever, and streptococcal sore throat. Each infected person shall remain in isolation for 10 days if untreated or for 24 hours following initiation of antibiotic therapy.

(21) Tinea capitis and corporis (ringworm). Each infected child or student shall be excluded from the school, the child care facility, or the family day care home until treated by a health care provider.

(22) Tuberculosis, active disease. Each infected person shall remain in respiratory isolation until all of the following conditions are met:

(A) Three sputa obtained on consecutive days are negative by microscopic examination.

(B) The person has received standard multidrug antituberculosis therapy for at least two weeks.

(C) The person shows clinical improvement.

(23) Typhoid fever. Enteric precautions shall be followed for the duration of acute

symptoms. Each infected person shall be restricted from food handling, patient care, and any occupation involving the care of young children and the elderly until three negative stool cultures, and three negative urine cultures in patients with schistosomiasis, have been obtained. Both the second and the third specimens shall be collected at least 24 hours after the prior specimen. The first specimen shall be collected no sooner than 48 hours following the discontinuation of antibiotics, and not earlier than one month after onset of illness. If any one of these tests is positive, cultures shall be repeated monthly until three consecutive negative cultures are obtained.

(24) Sexually transmitted diseases. Each infected person shall follow isolation or quarantine measures established by the local health officer for persons who are confirmed or suspected of being infected with a sexually transmitted disease if these persons are recalcitrant to proper treatment. (Authorized by K.S.A. 65-101 and 65-128; implementing K.S.A. 65-101; effective May 1, 1982; amended May 1, 1986; amended Sept. 5, 1997; amended July 16, 1999; amended July 20, 2007.)

28-1-7. Isolation of food handlers with infectious or contagious diseases. Persons employed in the preparation of food for sale or for public consumption shall be excluded from their occupations until all requirements for release from isolation of the specific infectious or contagious disease with which they are afflicted, as specified in K.A.R. 28-1-6, have been met. (Authorized by K.S.A. 1981 Supp. 65-101, K.S.A. 65-128; implementing K.S.A. 1981 Supp. 65-101; effective May 1, 1982.)

28-1-12. Release from isolation or quarantine. All laboratory tests or cultures for release of an individual from isolation or quarantine shall be performed by the laboratory of the state department of health and environment, or by a laboratory approved by the state department of health and environment for this purpose. (Authorized by K.S.A. 65-128, K.S.A. 1981 Supp. 65-

101; implementing K.S.A. 1981 Supp. 65-101; effective May 1, 1982.)

28-1-7. Isolation of food handlers with infectious or contagious diseases. Persons employed in the preparation of food for sale or for public consumption shall be excluded from their occupations until all requirements for release from isolation of the specific infectious or contagious disease with which they are afflicted, as specified in K.A.R. 28-1-6, have been met. (Authorized by K.S.A. 1981 Supp. 65-101, K.S.A. 65-128; implementing K.S.A. 1981 Supp. 65101, effective May 1, 1982.)

28-1-12. Release from isolation or quarantine. All laboratory tests or cultures for release of an individual from isolation or quarantine shall be performed by the laboratory of the state department of health and environment, or by a laboratory approved by the state department of health and environment for this purpose. (Authorized by K.S.A. 65-128, K.S.A. 1981 Supp. 65-101; implementing K.S.A. 1981 Supp. 65-101; effective May 1, 1982.)

Appendix G

Contact Information for Inspectors in Kansas

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FOOD INSPECTORS IN KANSAS

During an enteric outbreak investigation, inspection of certain food facilities may become necessary. KDHE works closely with other agencies in conducting such inspections. This section provides the necessary information including phone numbers to the food inspectors in the state of Kansas.

KDA (Food Safety Inspection Program – Retail Food Inspection Program) is responsible for the following:

- Restaurants
- School food service operations
- Senior meal sites
- Mobile food units
- All lodging facilities
- Licensing and inspecting grocery stores
- Restaurants in grocery stores
- Food processors and manufacturers
- Food wholesalers and warehouses
- Convenience stores
- Mobile ice cream vendors
- Food vending machine companies and dealers

Contacts: (785) 296-7430 or (785) 296-5600

- Director
- Lead Food Inspector

ENVIRONMENTAL (WATER) REGULATORS IN KANSAS

If a water supply is a suspected source during an enteric outbreak investigation, the inspection of the water supply may become necessary. KDHE works closely with other agencies in conducting such inspections. The agency responsible for the regulation of the water supply depends upon the type of supplier. This section provides the necessary contact information for environmental specialists responsible for water protection in the state of Kansas.

Public Water Supply:

The Public Water Supply Section (PWSS) of the Kansas Department of Health and Environment's Bureau of Water is charged with regulating all public water supply systems in the state and assisting them in providing safe and potable water to the people of Kansas.

PWSS can be contacted at (785) 296-5503.

Private domestic/residential groundwater wells or pools:

The KDHE does not regulate private wells or, but Local Environmental Protection Program (LEPP) staff does address water related environmental issues.

Contact information for the LEPP specialist in your county is available at:

www.kdheks.gov/nps/lepp/lepp.html

Public Swimming and Bathing Facilities:

In Kansas, there are currently no statewide regulations for the construction, operation, filtration, or disinfection of public recreational water facilities; but some cities and counties in Kansas establish and enforce local ordinances to protect recreational water.

Contact information for the LEPP specialist in your county is available at:

www.kdheks.gov/nps/lepp/lepp.html

Lakes and Streams:

The Kansas Department of Health and Environments Bureau of Environmental Field Services (BEFS) is responsible for the monitoring of water quality conditions in streams and publicly owned lakes and wetlands throughout Kansas. BEFS can be contacted at (785) 296-6603

Appendix H

Stool Collection Information

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Stool Samples Collection Information for Local Health Departments

The KDHE laboratory provides two types of stool kits to local health departments: (1) enteric kits, for the culture and isolation of *Campylobacter*, *Salmonella*, *Shigella*, and Shiga toxin producing *E. coli*, etc. and (2) ova and parasite (O&P) kits used to identify intestinal parasites, including *Cryptosporidium* and *Giardia*. It is recommended that three sets of each kit (enteric and O&P) are kept on hand.

Requesting stool kits from the KDHE laboratory:

1. Complete the requisition for laboratory specimen kits found in attachments.
 - Under the subheading Parasite (O&P), indicate the number of kits requested next to the label "Feces Mailer."
 - Under the subheading Bacterial Culture, indicate the number of kits requested next to the label "Enteric Mailer."
2. Fax completed form to the KDHE laboratory at (785) 296-1641.

Distributing and collecting stool samples:

1. Provide one enteric kit and one O&P kit with instructions on collection to persons experiencing diarrhea.
 - Diarrhea is defined as three or more loose stools within a 24-hour period for at least three days within a period of one week.
2. Ask person to return stool samples to health department.

Packaging and shipping stool samples:

1. For each specimen received, fill out a KDHE Laboratory Universal Form.
 - Page 1: All items on of the page.
 - Page 2 for enteric exams: Under the subheading "Bacteriology Culture", mark "Enteric Screen". If other agents are being considered (i.e., norovirus, toxin); mark "R/O Other Enteric Organisms" and specify. (Prior consultation with KDHE BEPHI is required for all rule-out testing requests).
 - Page 2 for O&P exams: Under the subheading "Parasitology", mark "Intestinal Parasites (Not Cryptosporidium)". For *Cryptosporidium* testing, mark "R/O *Cryptosporidium*" and mark appropriate boxes below (Watery Diarrhea, Immune Suppressed, Institution Resident, < 5 Years Old).
2. Apply one barcode label from the KDHE Lab Universal Form to each stool collection vial.
3. Appropriately package the vials and Universal Form in the shipping container provided.
 - For additional guidance on packaging, refer to instructions for Category B, Biological Substances at www.kdheks.gov/labs/packaging_and_shipping.html.
4. Mail packaged stool sample to the following address:
Kansas Department of Health and Environment
Division of Health & Environmental Laboratories
Forbes Field, Building 740
Topeka, KS 66620

For additional questions regarding laboratory specimens or Universal Specimen Requisition forms contact the KDHE Laboratory at (785) 296-1620.

Instructions for the collection of stool specimens for bacterial culture or norovirus testing

Figure 1



This stool specimen kit contains a vial of media, a red-topped white container, protective bubble wrap, an absorbent pad, and a cardboard box (**figure 1**).

Figure 2



1. Use newspaper, a bedpan, plastic wrap, or aluminum foil to collect the specimen. Place this lining under the toilet seat and push down slightly in the center creating a “bowl” in which the specimen can be collected (see **figure 2**). Plastic wrap can also be used to line the diaper of an infant or toddler who is not yet using the toilet.
2. Pass the feces directly onto this lining. Do not mix feces with urine or water from the toilet.
3. Open the vial carefully. Use a tongue depressor or disposable plastic spoon to transfer the stool into the vial **IMPORTANT:** Sample areas of the specimen that appear bloody, slimy, or watery. If the stool is formed, sample from each end and the middle of the specimen.
4. Add enough specimen until the liquid reaches the top of the label, if possible (see **the arrow, figure 3**). **DO NOT OVERFILL.**
5. Replace the lid on the vial securely, write the patient’s name on the label, and mix the contents of the vial.
6. Empty the lining in the toilet and dispose of carefully in the trash.
7. Wrap the vial in the provided protective bubble wrap (**figure 4**) and place the wrapped vial in the red-topped white container (**figure 5**). Be sure that the provided absorbent pad is in the bottom of the red-topped white container. Do not write on the outside of the white container.
8. Place the red-topped container in the provided cardboard box (**figure 6**). Close the lid to the cardboard box and secure with a piece of tape (**figure 7**).
9. Fill out the return address part of the label on the box (see **the arrow, figure 8**). The box is now ready to mailed. If desired the box can be dropped off at your local health department for shipment to the Kansas Health and Environment Lab.
10. Do not mail the box on a Friday. **Hold in the refrigerator until Monday.**
11. For questions about specimen collection or submission, call your local health department or the Epidemiology Hotline at Kansas Department of Health and Environment at 877-427-7317.

Figure 3

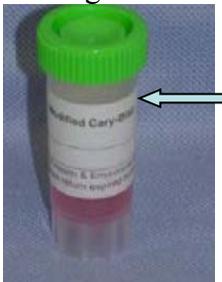


Figure 4



Figure 5



Figure 6



Figure 7



Figure 8

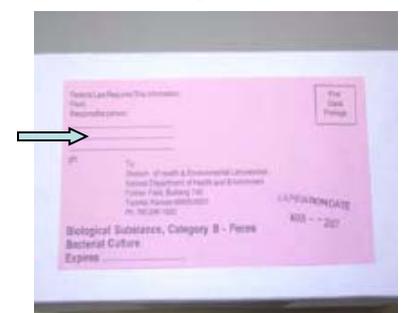


Figure 1



Instructions for the collection of stool specimens for parasite testing

This stool specimen kit contains a two vials (PVA fixative and 10% formalin), a red-topped secondary container, protective bubble wrap, an absorbent pad, and a cardboard box (**figure 1**) ***The liquid inside the vials is a preservative and is poisonous. Keep out of reach of Children.**

Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



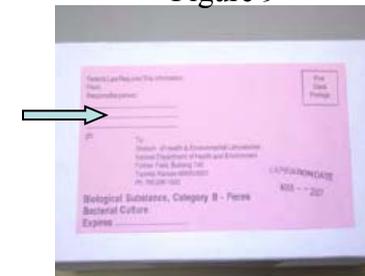
Figure 7



Figure 8



Figure 9



1. Use newspaper, a bedpan, plastic wrap, or aluminum foil to collect the specimen. Place this lining under the toilet seat and push down slightly in the center creating a “bowl” in which the specimen can be collected (see **figure 2**). Plastic wrap can also be used to line the diaper of an infant or toddler who is not yet using the toilet.
2. Pass the feces directly onto this lining. Do not mix the feces with urine or water from the toilet.
3. Open both vials carefully. Use a tongue depressor or disposable plastic spoon to transfer the stool into the vial. **IMPORTANT:** Sample areas of the specimen that appear bloody, slimy, or watery. If the stool is formed, sample from each end and the middle of the specimen.
4. Add enough specimen to the vial labeled “PVA fixative” until the liquid reaches the top of the label, if possible (see **the arrow, figure 3**). **DO NOT OVERFILL.**
5. Add enough specimen to the vial labeled “10% formalin” until the liquid reaches the top of the label, if possible (see **the arrow, figure 4**). **DO NOT OVERFILL.**
6. Replace the lid on each vial, write the patient’s name on both labels, and mix the contents of the vials thoroughly. Make sure that the lids are securely on each vial.
7. Empty the lining in the toilet and dispose of carefully in the trash.
8. Wrap both vials in the provided protective bubble wrap (**figure 5**) and place the wrapped vials in the red-topped white container (**figure 6**). Be sure that the provided absorbent pad is in the bottom of the red-topped white container. Do not write on the outside of the white container.
9. Place the red-topped container in the provided cardboard box (**figure 7**). Close the lid to the cardboard box and secure with a piece of tape (**figure 8**).
10. Fill out the return address part of the label on the box (see **the arrow, figure 9**). The box is now ready to mail. If desired the box can be dropped off at your local health department for shipment to the Kansas Health and Environment Lab.
11. Do not mail the box on a Friday. Hold at room temperature until Monday. **DO NOT REFRIGERATE.**
12. For questions about specimen collection or submission, call your local health department or the Epidemiology Hotline at Kansas Department of Health and Environment at 877-427-7317.

Appendix I

Glossary

GLOSSARY

(These definitions are provided and tailored to assist with the understanding of this manual).

Acute	An infection that has sudden onset and lasts a limited period of time, usually days or a few weeks.
Antigen	Any substance that is foreign to the body, such as bacteria or viruses. An antigen is capable of causing a response from the immune system
Antibody	A protein substance produced by the body's defense (immune) system in response to something foreign. Antibodies help protect against infections
Antimicrobial	The ability to destroy germs and prevent their development. Antimicrobial agents are those chemicals that have the ability to destroy germs and prevent their development.
Asymptomatic	Without symptoms. For example, a child may shed hepatitis A virus in the stool and not have symptoms, but still be able to infect others.
Asymptomatic individual	A person without diarrhea or vomiting.
Bacteria	Organisms with a cell wall that can survive in and out of the body. They are much larger than viruses, and they can usually be treated effectively with antibiotics.
Carrier	A person who has no symptoms of disease, but who is infected with a specific organism and who can spread the disease to others. For example, some children may be carriers of hepatitis A or <i>Giardia lamblia</i>
Chronic	An infection or illness that lasts a long time (months or years).
Cleaning	Removal of dirt and waste material (blood, urine, and stool) by scrubbing and washing with soap and water or vacuuming.
Close contact	An individual who changes diapers or assists in toileting
Cohorting	Placing together in a single room, a group of individuals who satisfy specific criteria. This isolation room ideally should be equipped with its own bathroom. If this is impossible, one bathroom in the day-care should be assigned to this room.
Contagious period	The period of time when an infected person is capable of spreading infection to another person.
Contamination	The presence of infectious germs in or on the body, on environmental surfaces, on article of clothing, or in food or water.
Convalescent	An individual who is recovering from an episode of diarrhea or vomiting.
Day-Care	An establishment or home where the primary concern is the temporary (less than 24 hours/day) supervision of children.

Diarrhea	An increased number of stools compared with the person's normal pattern, along with decreased stool form and/or watery, bloody, or mucus containing stools.
Disinfection	Killing of germs outside of the body with chemical (e.g., bleach or alcohol) or physical (e.g., heat) agents. Surfaces should be cleaned first and then disinfected.
Enteric	Word describing infections of the intestines (often with diarrhea).
Epi-linked cases	These are symptomatic cases that did have testing done, but are contacts of a laboratory confirmed cases.
Epidemiology	The scientific study of the occurrence and distribution of diseases.
Exclusion	Denying admission of an ill child or staff member to a child-care center or family child-care home.
Excretion	Elimination of waste material that is formed and not used by the body, such as feces (stool) and urine.
Febrile	Having a fever.
Fecal	Referring to feces or stool.
Fever	An elevation of body temperature, usually greater than 100oF.
Food handler	A person who prepares and serves food or drink (including mixing formula) or handles utensils that will not be washed before being used to prepare food or drink.
Hepatitis	Inflammation of the liver, can be caused by a virus. There are three main types of infectious hepatitis or viral hepatitis: types A, B, and C. Hepatitis type A has been documented as a frequent cause of hepatitis in child care settings and children are often asymptomatic with this virus. See Hepatitis A Fact Sheet.
Hygiene	Protective measures taken by individuals to promote health and limit the spread of infectious diseases.
Immune Globulin	An antibody preparation made from human plasma. It provides temporary protection against diseases such as hepatitis A. For example, health officials may offer immune globulin injections to children and staff in a child care setting when cases of hepatitis A occur.
Immunocompromised	The state of not having normal body defenses against disease (immune responses)
Immunity	The body's ability to fight a particular infection. For example, a child acquires immunity to diseases such as measles, mumps, rubella, and pertussis after a natural infection or by immunization. Newborns initially have the same immune status as their mothers. This immunity usually disappears within the first 6 to 12 months.

Immunizations	Vaccines that are given to children and adults to help them develop protection (antibodies) against specific infections. Vaccines may contain an inactivated or killed agent or a weakened live organism. Childhood immunizations include protection against diphtheria, pertussis, tetanus, polio, measles, mumps, rubella, Haemophilus influenzae type b, varicella (chickenpox), influenza, hepatitis B and some cases hepatitis A. Adults need to be protected against measles, mumps, rubella, varicella, tetanus, and diphtheria, influenza and in some cases hepatitis A and B.
Incubation Period	The time interval between exposure to an infectious agent and the first appearance of the symptoms associated with the infection.
Infection	When an infectious agent multiplies in the body.
Infectious	Capable of causing an infection (a child can give someone else the illness)
Jaundice	Yellowing of the eyes or skin
Organisms	Living things. Often used as a general term for germs (bacteria, viruses, fungi, or parasites) that can cause disease.
Outbreak	The occurrence of cases of an illness clearly in excess of normal expectancy and derived from a common or propagated source. In day-care facilities, this occurs when two or more unrelated children in the same class present with diarrhea or vomiting within 72 hours.
Outbreak of cryptosporidiosis, giardiasis, or shigella	When two or more unrelated symptomatic children are diagnosed with cryptosporidiosis, giardiasis, or shigellosis within a week. Children do not have to be in the same class.
Prophylaxis	Measures taken at the time of exposure to an infectious disease, or shortly thereafter, to try to prevent the disease. This may include medications or immunizations.
Secretions	Wet material produced by cells or glands that has a specific purpose in the body, such as saliva.
Soiled	Contaminated with stool, urine, vomit, blood, or saliva; eye, nose, or wound drainage; or dirt.
Symptomatic individual	A person with diarrhea or vomiting
Systemic	Pertaining to the whole body rather than to one of its parts.
Transmission	The spread of an infectious organism or germ from an infected person, animal, or contaminated environment to a person.
Virus	A microscopic organism, smaller than bacteria, which may cause disease. Viruses can only grow or reproduce in living cells.