Diarrhea

What is diarrhea?

Diarrhea is an illness in which someone develops more watery or more frequent stools than is typical for that person. Diarrhea can be caused by changes in diet, such as drinking an excessive amount of fruit juice or eating more than the usual amounts of certain foods, and the use of some medications. Diarrhea can also be the result of a problem with the intestines, such as inability to absorb nutrients or allergy to foods. Infections with some viruses, bacteria, parasites, and toxins produced by certain bacteria can cause diarrhea.

- Viruses: rotaviruses, enteric adenoviruses, astroviruses, *Sapovirus*, enteroviruses, and noroviruses
- Bacteria: *Shigella, Salmonella, Campylobacter*, Shiga toxin–producing *Escherichia coli, Clostridioides difficile*
- Parasites: *Giardia duodenalis, Cryptosporidium*

What are the signs or symptoms?

- Frequent loose or watery stools
- Abdominal cramps and tenderness
- Fever
- Not feeling well
- Blood in stool

Note: Individuals can be infected and infectious with minimal or no signs or symptoms.

What are the incubation and contagious periods?

See the Quick Reference Sheet for each specific disease.

How is it spread?

- Fecal-oral route: Contact with feces of children who are infected. This generally involves an infected child contaminating their own fingers and then touching an object that another child touches. The child who touched the contaminated surface then puts their fingers into their own mouth or another person's mouth.
- Water or food contaminated by human or animal feces (eg, swimming pools).
- Contact with raw or undercooked poultry or beef.
- Contact with animals in the child's environment (eg, puppies, reptiles, poultry), during trips to sites with animals (eg, farms, pet stores, petting zoos), or in the wild.

What are some types of diarrhea?

- Viruses cause most diarrheal illness in early childhood education (ECE) settings. Rotavirus was the most common virus associated with severe diarrhea in young children. Rotavirus vaccine was included in the routine immunizations of infants in 2006. Now, diarrhea caused by this virus is much less common. Rotavirus tends to cause illness in winter. Enteroviruses are more common in the summer than other times of the year. Noroviruses, now the most common viral cause of diarrhea in children, occur year-round. Noroviruses often cause outbreaks of diarrhea and vomiting. Other viral infections may include diarrhea as one symptom (see the Quick Reference Sheet for each specific disease for more information).
- Diarrheal infections from bacteria are less common. They may cause bloody diarrhea. A health professional should always evaluate anyone with bloody diarrhea. The evaluation should include 1 or more tests, usually including stool cultures to identify the type of bacteria involved.
- Diarrhea from intestinal diseases unrelated to infections, foods, juices, or medicines is not infectious and usually is not severe enough to cause dehydration.

How do you control it?

- Ensure immunization of infants for rotavirus, following the most recent immunization schedule.
- Use good hand-hygiene technique at all the times listed in Chapter 2, especially after toilet use or handling soiled diapers and before anything to do with food preparation or eating.
- Ensure proper surface disinfection that includes cleaning and rinsing of surfaces that may have become contaminated with stool (feces) with detergent and water and application of a US Environmental Protection Agency–registered disinfectant according to the instructions on the product label.
- Ensure proper cooking and storage of food.
- Exclude infected staff members who handle food.
- Exclude for specific types of symptoms (see the section Exclude from educational setting?).

What are the roles of the educator and the family?

- Report the condition to the staff member designated by the ECE program or school for decision-making and action related to care of ill children and staff members. That person, in turn, alerts possibly exposed family and staff members to watch for symptoms.
- Ensure staff members follow the control measures listed in the section How do you control it?
- Report outbreaks of diarrhea (more than 2 children and/or staff members in the group) to the Child Care Health Consultant, who, in turn, may report the problem to the local health department.
- Require a medical evaluation for any child or staff member with diarrhea and blood or mucus in the stool.

Exclude from educational setting?

Yes, if

- The local health department determines exclusion is needed to control an outbreak.
- Stool is not contained in the diaper for diapered children.
- Diarrhea is causing "accidents" for toilet-trained children.
- Stool frequency exceeds 2 stools above normal for that child during the time the child is in the program because this may cause too much work for EC educators and make it difficult for them to maintain sanitary conditions.
- There is blood or mucus in the ill child's stool.
- The ill child's stool is all black.
- The child has a dry mouth, no tears, or no urine output in 8 hours (suggesting the child's diarrhea may be causing dehydration).
- The child is unable to participate and staff members determine they cannot care for the child without compromising their ability to care for the health and safety of the other children in the group.
- The child meets other exclusion criteria (see Conditions Requiring Temporary Exclusion in Chapter 4).

Readmit to educational setting?

Yes, when all the following criteria are met:

- For blood or mucus in the stool: A health professional must clear the child or staff member for readmission.
- For a diarrhea outbreak: Readmit following the requirements of the local health department authorities. State laws may govern exclusion for these conditions and should be followed by the health professional who is clearing the child or staff member for readmission. The following organisms may require negative stool testing before the child can return:
  - *Shigella:* At least 1 negative stool culture result (rules vary by state) obtained after antibiotic treatment is complete (if prescribed).
  - Shiga toxin–producing *E coli*: 2 negative stool culture results obtained at least 48 hours after antibiotic treatment is complete (if antibiotic is prescribed). Studies have not shown a benefit of antibiotics for this condition.
  - *Salmonella* Typhi and Paratyphi: Typically, 3 negative stool culture results obtained at least 48 hours after antibiotic treatment is complete but check state or local health department guidelines.
- Once the frequency of bowel movements is no more than 2 stools above normal for that child during the time the child is in the program, allow return to the ECE program of diapered children who have their stool contained by the diaper (even if the stools remain loose) and of toilet-trained children who are not having toileting accidents. A child who has had diarrhea may establish a new normal pattern that may include more frequent stools for a period after the child has recovered from diarrhea and seems otherwise well.
- When the child is able to participate and staff members determine they can care for the child without compromising their ability to care for the health and safety of the other children in the group.

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