FEATURE

Keep children—and adults—healthy: Prevent and curb common infections

No one likes to be sick, and no early care and education program wants to spread disease. For several months in early 2020, all health focus was on a respiratory coronavirus called COVID-19. Many programs closed or reduced services to the care of children of first responders and medical personnel. Face masks and social distancing became the health standards during the crisis.

In time, however, we can expect that programs will rebuild in a new normal. While we don't yet know what specific form that will take, and surely regulations will vary by locale, we will continue to be attentive to novel disease outbreaks—and appropriate medical directives. We can also anticipate the recurrence of infections common to programs that serve groups of children like diarrhea, colds, and conjunctivitis (pink eye). Beyond the pain and discomfort infections cause, illnesses cost programs and families both time and money.

Monitor your own health

You must take care of yourself in order to be able to care for children. Take time to assess your own health. Review environmental dangers like toxic cleaning agents, poor lighting, and uncomfortable chairs. Learn how stress affects your health. Remember to use your knees and not your back for lifting.

Follow standard health maintenance practices, including

- Exercising regularly
- Maintaining a nutritious diet with limited fat and sugar
- Drinking water in place of soda or heavily caffeinated energy drinks
- Not smoking
- Getting an annual medical check-up
- Keeping up to date with immunizations

If you're sick, stay home. Guidelines that exclude sick children from care apply to you too.

Maintain a healthy environment

Children are especially vulnerable to infectious diseases because their bodies haven't yet built up defenses against the barrage of bacteria and viruses in their environments. Vaccines help provide defense or *resistance* to many illnesses. Make sure children are up to date on immunizations, and educate parents about the importance of having all children immunized.

Children's basic activities—sleeping, eating, playing, and toileting—offer countless risks for developing and sharing infections. Most contagious diseases are spread in one of four ways: through the respiratory tract (pathogens are inhaled and settle in the throat or lungs), the intestinal tract (pathogens travel to the stomach and intestines), direct contact (pathogens travel from one person to another, generally

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through skin-to-skin contact), and through the blood or other bodily fluids (pathogens travel through anatomical openings).

Fortunately, thorough and routine handwashing is the first line of defense against all infectious diseases. Everyone—children and adults—should wash their hands at these times:

- When arriving for the day
- When moving from one group of children to another
- Before and after
  - eating, handling food, or feeding a child or baby
  - giving medicine
  - playing in water that is used by more than one child
- After
  - diapering
  - using the toilet or helping a child use the toilet
  - handling bodily fluids (mucus, blood, vomit) from noses, mouths, eyes, or open sores
  - handling uncooked food
  - handling pets and other animals
  - playing outdoors
  - handling garbage

The routine use of a sanitizing solution is essential in keeping an environment—and the people who use it—healthy. Mix a fresh batch of sanitizing solution every day by combining 1 quart of water with 1 tablespoon of chlorine bleach in a labeled spray bottle. After washing surfaces to remove visible soil, wet the surface by spraying the solution and allow to air dry. Like all toxic materials, keep the solution out of children's reach; never allow children to apply the solution.

In addition to routine hand washing and sanitizing procedures, follow these guidelines to help prevent infections from occurring and spreading.

- Avoid crowded, stuffy, and overly warm and humid environments. Open windows and air out spaces—even in the winter. Take children outdoors every day—morning and afternoon. Place cribs and cots at least 3 feet apart, alternating head and foot positions, so that children aren't breathing directly on each other.
- Routinely clean and sanitize areas used for diapering, toileting, sleeping, and eating. Sanitize toys and furniture regularly. Wash and sanitize toys that infants and toddlers mouth after every use.
- Remember that disposable gloves aren't a substitute for hand washing. Remove and dispose of gloves and wash hands after contact with each child. If it's impossible to wash hands—on a field trip, for example—use a directed amount of hand sanitizer that is at least 60% alcohol. If you are helping children use hand sanitizer, be cautious with amounts and supervise carefully; never pass the bottle from child to child. Instead, squeeze a nickel-size puddle in the palm of a child's hand and watch the child rub in the mixture it until it dries. The alcohol that makes the sanitizer effective also makes it toxic.
- Teach children how to minimize spreading germs by turning to the floor when they sneeze or cough. Have tissues at the ready and within children's reach. Disinfect areas that are contaminated and insist on immediate hand washing using running water, liquid soap, and paper towels.
- Avoid sharing personal items including hats, combs and brushes, cups, nap mats, bed linens, towels, and food.
- Follow recommended food service procedures regarding sanitizing, labeling, storing, preparation and serving temperatures, and cross-contamination. The national Child Care and Adult Food Program has information on food preparation and safety at www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education.

Manage infections

You can help prevent infections by following recommendations on hand washing, sanitizing, and socialization practices. But when an outbreak of an infectious disease occurs, you must be prepared to identify the infection and limit its spread.

Some infections are caused by viruses or bacteria. Antibiotics are designed to kill specific bacteria (they do not kill viruses) and must be taken exactly as directed to be effective. Some infections, like head lice and scabies, are caused by parasites while others, like ringworm and athlete's foot, are caused by moldlike fungus; each kind of infection must be treated appropriately by a health care professional.

Respiratory diseases. Respiratory infections spread through microscopic secretions from the nose, eyes, or throat typically through hand-to-hand or hand-to-surface contact. Microbes are also spread by airborne droplets from a sneeze or a cough. These rest on surfaces—tabletops, toys, hands, door handles, and trike handlebars, for example. Uninfected people touch surfaces, pick up germs, rub their eyes, and infect themselves.

Common respiratory illnesses including colds, coughs, and the flu are usually caused by viruses. There are no cures for these infections; prevention, including vaccines and sanitation, is key to minimizing spread. Chicken pox is caused by the varicella-zoster virus and spread by respiratory secretions. While not usually a serious illness in children (though uncomfortable and preventable with vaccine), it is dangerous to pregnant women and to people with suppressed immune systems.

TAKE TIME TO ASSESS
YOUR OWN HEALTH.

Inner ear infections and strep throat are caused by bacteria and usually require antibiotic treatment. *Haemophilus influenzae* is a type of bacteria that can causes a variety of infections including meningitis, bronchitis, and pneumonia. *Haemophilus influenzae* type b (Hib disease) vaccination can protect young children when they are most at risk of getting Hib disease and having serious complications.

Gastrointestinal infections. Gastrointestinal (GI) infections are caused by parasites, viruses, or bacteria that multiply in the intestines and are passed out of the body in the stool. Infections spread through stool to hand-to-mouth contacts.

Common GI illnesses include infectious diarrhea caused by giardia, shigella, salmonella, viruses, and parasites. A doctor can accurately diagnose the cause by taking a stool culture, usually indicated when the stool is bloody or diarrhea persistent (lasting more than four days). Clearly, proper hygiene is key to curbing GI infections.

Non-infectious (not contagious) diarrhea can be caused by food allergies, toxins, chronic illnesses (like cystic fibrosis) or antibiotic use. In these situations, follow the guidelines provided by the child's health care provider to address the condition and minimize recurrences.

Direct-contact infections. Direct contact infections are caused by bacteria, parasites, and fungi that spread through direct contact with an infected person.

These infections, including impetigo, viral conjunctivitis, scabies, head lice, and ringworm, are common in early care and education facilities and schools. They can spread quickly, tend to be more bothersome than serious, are contagious, and can be easily treated.

Blood and body fluid infections. Some infections, including cytomegalovirus (CMV), herpes simplex virus (HSV), sexually transmitted infections (STIs), hepatitis B, and HIV/AIDS—spread by physical contact through skin openings. Sometimes there are no symptoms, making it impossible (without medical diagnosis) to determine whether someone is infected—and contagious.

Follow basic hygiene practices and universal precautions when dealing with blood and body secretions (including urine and tears). Treat all blood and body fluids as though they are infected.

Use these guidelines to help limit infections spread by blood or body secretions:

- Wear and properly remove and discard disposable gloves whenever contact with blood or body secretions occurs.
- Use a covered step can lined with a plastic bag for all disposable items that come into contact with blood or body secretions—tissues, diapers, bandages, and wipes, for example. Teach children to use the step can and keep it away from food and food preparation areas.
- Store contaminated clothing and other non-disposable materials in sealed plastic bags.
- Do not allow children to share personal items like toothbrushes, teething rings, and burp cloths.

The American Academy of Pediatrics recommends these universal precautions to prevent exposure to blood and other body fluids.

- Use disposable materials or materials that can be washed and sanitized. For example, insist on disposable diapers rather than cloth diapers, and buy vinyl-covered bean bag chairs instead of those covered in plush fabric.
- Use barriers and techniques that minimize contact with secretions. Wash hands frequently; clean and sanitize toys and surfaces after contamination and **before** allowing others to use the materials; use disposable gloves for cleanup, especially if you have open sores or cuts on your hands.

- Clean up all spills of body fluids—urine, feces, blood, saliva, mucus, eye discharge, injury or tissue discharge, and breast milk—immediately using a sanitizing bleach solution.
- Dispose of blood-contaminated materials and diapers (and wipes) in a plastic bag with a secure tie.

Report infectious illnesses

In Texas, certain contagious conditions must be reported to state health department officials. For more information, see www.dshs.texas.gov/idcu/investigation/conditions/.

The conditions most likely to manifest in early care and education programs include

- Campylobacteriosis (a type of bacterial diarrhea)
- Chickenpox
- Widespread diarrhea (more than two cases)
- *E coli* O157:H7
- Hepatitis A, B, and C
- Measles
- Meningococcal diseases
- Mumps
- Pertussis
- Rubella
- Salmonellosis
- Shigellosis
- Tuberculosis

Reporting helps stop outbreaks, helps medical personnel make accurate diagnoses, and helps health departments recognize new disease threats. When you contact health authorities, be prepared to share information about the child, your program, and the outbreak. Because any child health information is confidential, be careful to share the information with authorized officials only.

References

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