

Cleaning and Disinfecting Diaper-Changing Surfaces



A 2007 outbreak of shigellosis in Florida affecting 46 children was associated with multiple child-care facilities. The most important risk factor for illness was having a diaper changed.

A 2010 E. coli outbreak at a Vancouver, Washington daycare led to the death of a four-year-old boy and four hospitalizations. Investigators believe risky diapering procedures may have been a factor.

Public Health Reasons

Dirty diapers containing fecal matter can be the source of pathogens that cause gastrointestinal illness. Children in child-care centers commonly excrete intestinal pathogens even if not presenting symptoms. For example, noroviruses can be shed in the feces of children for at least 25 days after symptoms have stopped. Similarly, rotavirus can be shed for 25-57 days after the onset of diarrhea in a child. Continued shedding of pathogens in the feces of asymptomatic children can increase the transmission to healthy individuals.

Surfaces and fomites play an important role in the spread of pathogens. During diaper changing, the diaper-changing pad or the diaper-changing table may come into contact with dirty diapers and fecal matter. Many pathogens can survive for long periods of time on environmental surfaces. For example, noroviruses can survive up to 42 days at room temperature when dried onto a surface. When child-care providers and children come in contact with contaminated diaper-changing surfaces, pathogens may be transmitted from the surfaces to their hands or clothes, and then they may spread pathogens to other children and the child-care environment. In a study by Jiang et al., a person with clean hands touched a contaminated ball, then touched a clean ball, and passed it down a line of people. The hands of the first three of five participants tested positive for the contaminant.

It is important to clean and disinfect surfaces in and around the diaper-changing area because classroom objects in close proximity to diaper-changing areas can become contaminated, making them a source of gastrointestinal pathogens. Both sanitizers and disinfectants are products regulated by the Environmental Protection Agency (EPA). However, there are some differences in the two. Disinfectants are used on hard inanimate surfaces and objects to destroy or irreversibly inactivate infectious fungi, viruses, and bacteria, but not necessarily their spores. Sanitizers are used to reduce, but not necessarily eliminate, bacteria from the inanimate environment to levels considered safe as determined by public health codes or regulations. When cleaning diaper-changing areas, it is important to use a disinfectant.

Practices

Clean and disinfect *all* surfaces in the diaper-changing area every time a diaper is changed.

Cleaning

- Clean any visible soil from the changing surface using a reusable cloth or a paper towel dipped in warm water and a detergent.
- Rinse surfaces with warm to hot water to remove cleaning products and suspended debris.

Disinfecting

- Wet the entire changing surface with a disinfectant that is appropriate for the surface material you are treating. Follow the manufacturer's instructions for use.
- Let the solution stand for the contact time given on the label. Make sure there is enough disinfecting solution on the surface that it does not dry up before the recommended contact time ends.
- Be sure to get disinfectant on all areas of the changing table and other surfaces in the diaper-changing area.
- Let surfaces air dry before using.

Recommended Disinfectants

See EPA list of registered products effective against noroviruses. Follow product labels for use and dilution:

- Ethyl or isopropyl alcohol (70-90%)
- Sodium hypochlorite (5.25-6.15% household bleach diluted 1:10)
- Phenolic germicidal detergent solution
- Iodophor germicidal detergent solution

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Authors and Acknowledgements

AUTHORS: Cortney Miller, MS, Angela Fraser, PhD, Roman Sturgis, MFA (editor), Xi Chen, MS, Anna Saunders. Department of Food, Nutrition, and Packaging Sciences, Clemson University, Clemson, SC 29634

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