



Cleaning and Disinfecting

It is inevitable that germs will spread to surfaces and objects after being soiled with blood or bodily fluids such as stool, urine, vomit, mucus, saliva, human milk, etc. To prevent the spread of germs and create a sanitary and hygienic environment for children, you need to regularly clean and disinfect those surfaces and objects.

Are Cleaning and Disinfecting the Same?

Cleaning and disinfecting are not the same. You need to do both to keep germs from spreading .

Cleaning gets rid of the dirt you can see. Routine cleaning with soap and water is the most useful method for removing germs from surfaces in the child care setting. Good cleaning (scrubbing with soap and water) physically reduces the number of germs from the surface, just as hand washing reduces the number of germs from the hands. However, some items and surfaces should receive an additional step, *disinfection*, to kill germs after cleaning with soap and rinsing with clear water.

Disinfecting or sanitizing means cleaning with a bleach solution (or other approved disinfectant) to kill and get rid of most of the germs you cannot see but which remain on surfaces after cleaning.

The disinfection process uses chemicals that are stronger than soap and water, and will destroy and reduce the number of germs. It usually requires soaking or wetting the item for several minutes to give the chemical time to kill the remaining germs.

Items that can be washed in a *dishwasher* or *hot cycle of a washing machine* do not have to be disinfected because these machines use water that is hot enough for a long enough period of time to kill most germs.

Surfaces considered most likely to be contaminated are those with which children are most likely to have close contact. These include toys that children put in their mouths, crib rails, food preparation areas, and surfaces likely to become very contaminated with germs, such as diaper-changing areas. Sinks and sponges are the worst.

What Disinfectants Should Be Used?

A disinfectant is a chemical used to destroy harmful germs. One of the most commonly used chemicals for disinfection in child care settings is a *homemade solution of household bleach and water*. Bleach is cheap and easy to get. The solution of bleach and water is easy to mix, nontoxic, safe if handled properly, and kills most germs.

Other commercial products that meet the Environmental Protection Agency's (EPA's) standards for hospitals may be used for the purpose of disinfection.



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Common Disinfectants Used at Home

Chemical Name	Examples of Trade Products Using These Chemicals	Uses*/Advantages/Disadvantages
Orthophenyl phenolics Phenyl phenol Benzyl-p-chlorophenol	Lysol Pheno-Cen Ves-Phene Staphene	<ul style="list-style-type: none"> • May be used on floors and walls, but do not use in kitchens, on toys, or on objects that people put in their mouths. • May be used with detergents. • Inadequately diluted solutions are associated with hyperbilirubinemia in infants. • Can be irritating to skin and other body tissues.
Chlorine bleach Sodium hypochlorite	Clorox Purex Household bleach	<ul style="list-style-type: none"> • May be used on all surfaces, providing that the correct dilution is used. • Are corrosive to metal and damaging to plastics and rubber. • Bleach solutions should be made fresh daily. • Work best when surface dirt or other extraneous material has been removed. • Less effective when mixed with soap, detergents or alkaline chemicals. • Do not mix with ammonia, vinegar, or rust removers. • Leaves no residue. • Are the least expensive.
Quaternary Ammonias Benzalkonium chloride Dimethylbenzyl ammonium chloride	San-O-Six Clean-N-San D/S/O Tri-Quat Mytar Sage	<ul style="list-style-type: none"> • Are made less effective when a residue of soap is present on surface. • May be used on kitchen floors. • Are relatively nontoxic. • Are not as effective at destroying some types of bacteria such as bleach, phenols, or alcohol.
Alcohol (70% - 90%)	Ethyl Alcohol Isopropyl Alcohol	<ul style="list-style-type: none"> • Leaves no residue. • May be used on skin as well as hard surfaces. • Dries skin. • Over the long term may harden rubber and plastic. • Requires 10 to 15 minutes of exposure.
Pine oil cleaners	Pinesol Murphy's Oil Soap	<ul style="list-style-type: none"> • Pleasant odor may mask housekeeping problems. • Are ineffective against staph infections. • Are less effective at killing some bacteria than phenols, chlorine bleach and alcohols.

**Follow the manufacturer's guidelines to determine the correct application techniques and dilution.*

(From Child Care Infection Control Guide, Seattle-Kings County Department of Public Health, Child Care Health Program, 1994)



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Schedule for Cleaning and Disinfecting			
AREA	CLEAN	DISINFECT	FREQUENCY
Classrooms/Child Care/Food Areas			
Countertops/tabletops	X	X	Daily and when soiled.
Food preparation and service surfaces	X	X	Before and after contact with food activity; between preparation of raw and cooked foods.
Floors	X	X	Daily and when soiled.
Door and cabinet handles	X	X	Daily and when soiled.
Carpets and large area rugs Clean with a carpet cleaning	X		Vacuum daily when children are not present. Method approved by the local health authority. Clean carpets only when children are not present until the carpet is dry. Clean carpets at least monthly in infant areas, at least every 3 months in other areas and when soiled.
Small rugs	X		Shake outdoors or vacuum daily. Launder weekly.
Utensils, surfaces and toys that go into mouth or have been in contact with saliva or other body fluids	X	X	After each child's use, or use disposable, the one-use utensils or toys.
Toys that are not contaminated with body fluids	X		Weekly.
Dress and clothes not worn on the head	X		Weekly.
Sheets and pillowcases, individual cloth towels (if used), combs and hairbrushes, washcloths and machine-washable cloth toys (none of these items should be shared among children)	X		Weekly and when visibly soiled.
Blankets, sleeping bags	X		Monthly and when soiled.
Hats	X		After each child's use.
Cubbies	X		Weekly.
Cribs	X		Weekly.
Toilet areas			
Hand-washing sinks, faucets, surrounding counters	X	X	Daily and when soiled.
Soap dispensers	X	X	When being refilled and when soiled.
Toilet seats, toilet handles, door knobs or cubicle handles, floors	X	X	Daily, or immediately if visibly soiled.
Toilet bowls	X	X	Daily.
Door knobs	X	X	Daily.
Changing tables	X	X	After each child's use.
Potty chairs (Use of potty chairs in child care is discouraged because of high risk of contamination)	X	X	After each child's use.
Any surface contaminated with body fluids: saliva, mucus, vomit, urine, stool or blood	X	X	Immediately.



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Preparing Bleach Solution

The standard recommended bleach solution is 1/4 cup bleach to one gallon water, or mix 1 tablespoon bleach in 1 quart water. *Use this solution for routine, everyday cleaning and disinfecting of items and surfaces, table tops, toys, eating utensils and plates.*

For certain types of heavily contaminated or very high-risk body fluids, *a strong bleach solution of one part bleach to ten parts water is necessary (e.g., one cup bleach in ten cups of water).* Use this stronger solution, which might gradually eat away some surfaces or cause excessive wear if used routinely, in the following situations:

- To clean and disinfect all *blood spills* or blood-contaminated items.
- To clean and disinfect *gross contamination with body fluids*, such as large amounts of vomit or feces. (This is not necessary for removing traces of feces or urine from a changing table or small amounts of “spit-up” from a high-chair tray.)

You must use your judgment to decide which strength is needed. The use of rubber gloves is recommended whenever you must clean areas contaminated with body fluids.

You do not need to buy commercially sold disinfectants, since either of these recommended bleach solutions can be made easily at very little cost. *However, you do need to make any bleach solution each day* because bleach loses its strength (and thus its effectiveness) as it is exposed to air. It is best to store it in a carefully labelled spray bottle.

Recipe for Bleach Disinfecting Solution (for use in bathrooms, diapering areas, etc.)

1/4 cup of bleach
1 gallon of cool water

OR

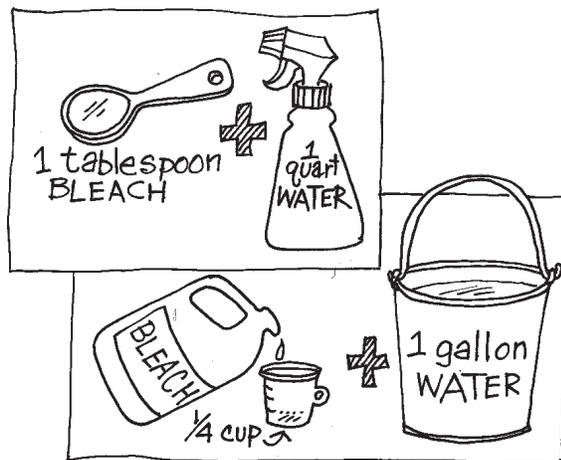
1 tablespoon of bleach
1 quart of cool water

Add the household bleach
(5.25 % sodium hypochlorite)
to the water.

Recipe for Weaker Bleach Disinfecting Solution (for use on toys, eating utensils, etc.)

1 tablespoon of bleach
1 gallon of cool water

Add the bleach to the water.



The National Health and Safety Performance Standards: Guidelines for Out-of-Home Care programs recommends using household bleach with water. It is effective, economical, convenient and readily available. However, it should be used with caution on metal and metallic surfaces. If you use a commercial (brand-name) disinfectant, read the label and always follow the manufacturer’s instructions exactly.



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GENERAL RECOMMENDATIONS FOR CLEANING AND DISINFECTING

1. Items which get daily use should be washed and disinfected daily. Heavily soiled areas need longer contact time with the disinfecting solution.
2. After cleaning and disinfecting, air dry all items before returning them to the setting.
3. Paper towels are the cleaning tools with the least risk for spreading infections, but only use them once. Sponges and handy wipes give germs the two things they need most to grow: moisture and food sources.
4. Include children whenever possible in hand washing and the cleaning of table tops and chairs.
5. Pour or dump all liquids or solutions used for cleaning and disinfecting into a closed disposal system, i.e. flush them down the toilet.
6. Wash and disinfect mops and other cleaning materials daily.

All surfaces, furnishings and equipment that are not in good repair or require cleaning and disinfecting need to be taken out of service until they can be cleaned and disinfected effectively.

Washing and Disinfecting Diaper Changing Areas

Diaper changing areas should:

- Only be used for changing diapers
- Be smooth and nonporous, such as formica (NOT wood) or a plastic-covered pad
- Have a raised edge or low “fence” around the area to prevent a child from falling off
- Be next to a sink with running water
- Be easily accessible to providers
- Be out of reach of children
- Not be used to prepare food, mix formula, or rinse pacifiers

Diaper changing areas should be cleaned and disinfected after each diaper change as follows:

1. Clean the surface with soap and water, and rinse with clear water to reduce the number of germs on the surface.
2. Dry the surface with a paper towel.
3. Thoroughly wet the surface with the recommended bleach solution.
4. Air dry. Do not wipe. This will give the chemicals time to kill the remaining germs.

Washing and Disinfecting Toilets, Seats, Hand Washing Sinks, Faucets, Doorknobs

Bathroom surfaces, such as faucet handles and toilet seats, should be washed and disinfected several times a day if possible, but at least once a day or when soiled.

The bleach and water solution, chlorine-containing scouring powders or other commercial, bathroom surface cleaners/disinfectants can be used in these areas. Surfaces that infants and young toddlers are likely to touch or mouth, such as crib rails, should be washed with soap and water and disinfected with a nontoxic disinfectant, such as bleach solution, at least once every day and more often if visibly soiled.



After the surface has been drenched or soaked with the disinfectant for at least 10 minutes, surfaces likely to be mouthed should be thoroughly wiped with a fresh towel moistened with tap water. Be sure not to use a toxic cleaner on surfaces likely to be mouthed. Floors, low shelves, door knobs and other surfaces often touched by children wearing diapers, should be washed and disinfected at least once a day and whenever soiled.

Washing and Disinfecting Toys

- Whenever possible, infants and toddlers should not share toys. Toys that children (particularly infants and toddlers) put in their mouths should be washed and disinfected between uses by individual children. Toys for infants and toddlers should be chosen with this in mind. If you can't wash a toy, it probably is not appropriate for an infant or toddler.
- When an infant or toddler finishes playing with a toy, you should retrieve it from the play area and put it in a bin reserved for dirty toys. This bin should be out of reach of the children. Toys can be washed at a later, more convenient time, and then transferred to a bin for clean toys and safely reused by other children.

To wash and disinfect a hard plastic toy:

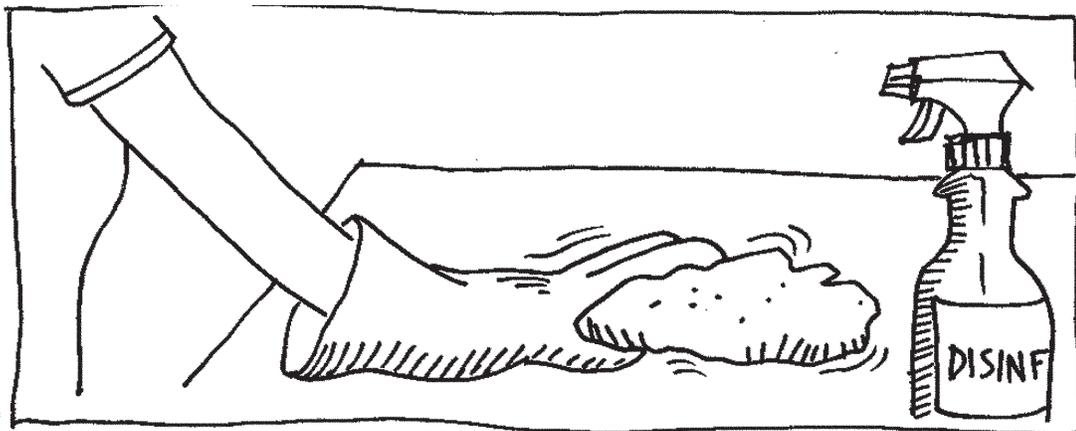
- Scrub the toy in warm, soapy water. Use a brush to reach into the crevices.
 - Rinse the toy in clean water.
 - Put the toy in bleach solution (see above) and allow it to soak in the solution for 10-20 minutes.
 - Remove the toy from the bleach solution and rinse well in cool water.
 - Air dry.
- Hard plastic toys that are washed in a dishwasher, or cloth toys washed in the hot water cycle of a washing machine, do not need to be additionally disinfected.
 - Children in diapers should only have washable toys. Each group of children should have its own toys. Toys should not be shared with other groups.
 - Stuffed toys used only by a single child should be cleaned in a washing machine every week, or more frequently if heavily soiled.
 - Toys and equipment used by older children and not put into their mouths should be cleaned at least weekly and when obviously soiled. A soap and water wash followed by clear water rinsing and air drying should be adequate. No disinfection is required. (These types of toys and equipment include blocks, dolls, tricycles, trucks and other similar toys.)
 - Clean and disinfect brushes used to clean toys.
 - Do not use wading pools, especially for children in diapers.

Handout #5.5

Cleaning up Body Fluid Spills

Spills of body fluids, including blood, feces, nasal and eye discharges, saliva, urine and vomit should be cleaned up immediately.

- Wear gloves unless the fluid can be easily contained by the material (e.g., paper tissue or cloth) being used to clean it up. Be careful not to get any of the fluid you are cleaning up in your eyes, nose, mouth or any open sores you may have.
- Clean and disinfect any surfaces, such as countertops and floors, on which body fluids have been spilled.
- Discard fluid-contaminated material in a plastic bag that has been securely sealed.
- Mops used to clean up body fluids should be:
 - (1) cleaned
 - (2) rinsed with a disinfecting solution
 - (3) wrung as dry as possible
 - (4) hung to dry completely
- Be sure to wash your hands after cleaning up any spill even if you wore gloves.



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- Make a fresh bleach solution every day using:
 - 1 tablespoon bleach in 1 quart water
 - OR-
 - 1/4 cup bleach in 1 gallon water.



- Clean off any visible soil with soap and water.



- Disinfect by spraying with bleach solution. Wipe disinfectant over the surface with a paper towel. Leave glistening wet—do not dry off.



- Allow to air dry for 2 minutes.