The recommendations in this publication do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

Infectious Diseases Curriculum    PARTICIPANT’S MANUAL

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The recommendations in this publication do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate. Original document included as part of Managing Infectious Diseases in Child Care and Schools: A Quick Reference Guide. Copyright © 2010 American Academy of Pediatrics. All Rights Reserved. The American Academy of Pediatrics does not review or endorse any modifications made to this document and in no event shall the AAP be liable for such changes.
US Environmental Protection Agency Definitions

Sanitization—Reduce, but not necessarily eliminate, microorganisms from the inanimate environment to levels considered safe as determined by public health codes or regulations.

Disinfection—Used on hard, inanimate surfaces and objects to destroy or irreversibly inactivate infectious fungi and bacteria, but not necessarily their spores.

Sterilize—Used to destroy or eliminate all forms of microbial life including fungi, viruses, and all forms of bacteria and their spores.


Managing Infectious Diseases in Child Care and Schools: A Quick Reference Guide

Aronson SS, Shope TR.

General Guidelines for Surfaces and Equipment

- Carpets, porous fabrics, other surfaces that trap soil, and potentially contaminated materials, such as potted plants, should not be used in toilet rooms, diaper-changing areas, and food preparation areas.
- Walls, ceilings, floors, furnishings, equipment, and other surfaces should be maintained in good repair and kept clean.
- Because children will touch any reachable surface (including floors), all surfaces may be contaminated and can spread infectious disease agents. Generally, sanitizing agents are not very effective at removing visible soil, and do not work well to sanitize if visible soil is present. Therefore, all surfaces must be properly cleaned and then sanitized.
- Respiratory tract secretions (nasal discharge, drool, eye secretions) may contaminate surfaces. They may contain viruses that remain infectious for varying periods of time, making it possible to acquire an infection by touching these surfaces. Children usually have respiratory tract secretions on their hands and may have viruses in their respiratory tract before and after they seem sick. That is why any surface that might have been in contact with a child’s hands must be cleaned and sanitized so often.
- All surfaces, furnishings, and equipment that are not in good repair or have been contaminated by body fluids should not be used until repaired, cleaned, and, if needed, sanitized effectively. Have a way to take out of service any

Fecal bacteria in the environment have been shown to increase during outbreaks of diarrheal illnesses. Health officials may recommend a more frequent cleaning schedule in certain areas, depending on the nature of the problem.

Prevention of Disease Transmission

Baseline routine frequency of cleaning and sanitation can be found in the “Cleaning and Sanitizing Chart” on page 21. Frequency of cleaning and sanitation should be increased when
- There are outbreaks of illness.
- There is known contamination.
- There is visible soil, blood, or other body fluids.
- There are recommendations by the health department to control certain infectious diseases.

~ Consult with your local health department or regulatory licensing authority for any product other than household bleach.

Surface sanitizing method.
- Household bleach is inexpensive, relatively safe, and easy to use, and can be mixed as follows:
  - For all tasks that do not involve blood, mix ¼ cup of household bleach to 1 gallon of tap water (or 1 tablespoon of household bleach to 1 quart of water) for a 1:64 dilution. Because chlorine evaporates from bleach and is weakened by sunlight and heat, this minimal dilution may become too diluted to be effective if not made fresh daily from the stock bottle of household bleach. Freshly purchased stock supplies should be used within a few months so they, too, do not become too weak to be effective when diluted.
  - To sanitize with the freshly made 1:64 dilution of bleach, spray the diluted solution on the surface until glossy. Leave the bleach solution on the surface for at least 2 minutes before wiping it off with a clean paper towel, or allow it to air-dry.
  - If blood is involved, change the strength of the bleach and water solution to 1:10 and conduct the same cleaning and sanitizing procedure, carefully bagging all articles in contact with potentially contaminated surfaces.

Dipping methods for sanitizing dishes and toys that have been washed and rinsed also are useful.
- Follow the manufacturer’s instructions on the containers for products other than bleach.
- Household bleach
  - Mix 1.5 teaspoons of household bleach per gallon of water (100 parts per million chlorine) that is not less than 75°F (23.9°C).
  - Immerse the object to be sanitized for at least 2 minutes.
  - Allow the object to air-dry.
- Hot water immersion
  - Completely immerse in hot water at 170°F (76.7°C) for not less than 30 seconds.
  - Air-dry.

- Disinfecting: eliminating virtually all germs from surfaces through the use of chemicals registered with the US EPA as disinfectants or physical agents (eg, heat).

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surfaces or furnishings that cannot be cleaned or repaired right away. For example, you can use a plastic bin labeled, “dirty—to be washed”, for soiled toys, and yellow plastic tape or yarn to rope off areas that must be temporarily put out of use.

- Adhere to appropriate hand and personal hygiene for children and staff. (See “Hand Hygiene” on page 25.)
- Clean all toys—make it a priority to use toys that can be washed in a dishwasher or washing machine.
- Clean/sanitize tables and countertops, including those used for play, food handling, and eating.
- Clean/disinfect spills of blood or body fluids.
- Sanitize floors and handles of doors and cabinets—all surfaces that children touch.
- Use caution when shampooing rugs used by children who are crawling. Cleaning with potentially hazardous chemicals should be scheduled to minimize exposure to children.
- To prevent animal and insect access, cover sandboxes when they are not in use.
- Ensure that pets are appropriately enclosed and their enclosures are kept clean of waste.
- Ensure that staff wash hands before and after contact with any animal, and after handling animal waste, cages, or bedding (including fish tanks).
- Provide separate and sanitary sleep equipment for each child.
- One way to measure compliance with the standard for cleanliness is to wipe a surface with a clean mop or rag and then insert the mop or rag in cold rinse water. If the surface is clean, no residue will appear in the rinse water.

**Cleaning Equipment**

- Only utility gloves/equipment designated for cleaning and sanitizing toilets should be used. After each use, wash utility gloves with soapy water and then let them air-dry.
- Disposable gloves commonly are made of latex or vinyl. If individuals sensitive to latex are present in the facility, only vinyl disposable gloves should be used.
- Disposable towels are preferred for cleaning, and should be placed in a plastic-lined container until removed to outside garbage.
- After each day of use, place cloth rags in a closed, foot-operated receptacle until laundered.
- Reusable rags should be cleaned and sanitized before and after each day of use.
- Sponges are not recommended because they retain organic material that promotes bacterial growth.
- Mops should be assumed to be contaminated because they are used to remove contamination from floors and other soiled surfaces. Be sure they are cleaned and sanitized before and after a day of use.
- Bleach solution that is used for sanitizing the child care and school environment (see “Routine Cleaning, Sanitizing, and Disinfecting of Contaminated Surfaces” on page 20) can be used for sanitizing mops and rags. Detachable mop heads and reusable rags may be cleaned in a washing machine without other types of articles in the same load, and dried in a mechanical dryer or hung to dry.

**Waste Receptacles**

Waste receptacles in toilet rooms should be kept clean, lined with plastic bags, in good repair, and emptied daily. Those that receive materials that are contaminated with body fluids should be of the hands-free type, such as a foot-operated receptacle. All other waste receptacles should be kept clean and emptied daily. This practice prevents the spread of disease.

**Toys**

- All toys can spread disease. Toys become contaminated when children touch them or put them into their mouths. If other children play with or mouth the toy, those children can get the germs on their hands and mucous membranes.
- Toys that cannot be washed and, if needed, sanitized should not be used.
- Mouthed toys or toys contaminated by body secretions or excretions should be removed from the play area until they are washed with water and detergent, rinsed, sanitized, and air-dried.
- Machine-washable cloth toys should be used only by one child until these toys are laundered.
- Indoor toys should not be shared between groups of infants or toddlers unless they are washed/sanitized before being moved from one group to another.
- Small, hard-surfaced toys can be cleaned in a dish pan labeled “soiled toys,” containing soapy water to remove soil, or a dry container can be used to bring the soiled toys to a toy cleaning area later in the day. A dishwasher that can sanitize dishes can be used to clean and sanitize hard-surfaced toys.
- Have more than one set of toys on hand so that one set can be used while the other is cleaned.

**Mouthed Objects**

Thermometers, teething toys, and similar objects should be cleaned, and reusable parts should be sanitized between uses. Pacifiers should be cleaned, and not shared. Pacifiers should never be placed in a caregiver’s mouth.
Bedding, Personal Clothing, and Cribs
Sleep equipment should be used only by one child and cleaned and sanitized before use by another child. Equipment used by one child should be stored separately from that used by others.
- Cribs and crib mattresses should have a nonporous, easy-to-wipe surface.
- Bedding (eg, sheets, pillows, blankets, sleeping bags) should be washable.
- Lice infestation, scabies, and ringworm are among the most common contagious diseases in child care and school settings. Although no evidence exists to show that lice are transmitted except by head-to-head contact, some skin diseases have been shown to spread if bedding materials, jackets with hoods, and hats used by various children are stored so that they touch each other.

Potty Chairs and Toilets
- Potty chair use is not recommended and should be discouraged. Toilets adapted for use by children are preferable.
- If potty chairs are used, they should be:
  ~ Made with a surface that is easily cleaned and sanitized
  ~ Used only in a bathroom area
  ~ Used over a surface that will not be damaged by moisture
  ~ Out of reach of toilets or other potty chairs
  ~ Emptied into a toilet, then cleaned in a sink that is used only for cleaning and sanitizing potty chairs
- Toilets should be kept visibly clean and separate from the children’s activity area.

Staff Training
Provide training for staff who are responsible for cleaning, including the following:
- How to handle, mix, and store cleaning solutions. (See “Sanitation, Disinfection, and Maintenance” on page 20.)
- Proper use of protective barriers (eg, gloves).
- Proper handling and disposal of contaminated materials, such as soiled diapers or bandages that are contaminated with blood or body fluids.
- Information required by the US Occupational Safety and Health Administration about the use of any chemical agents. Even if custodial services are provided under a contract with an outside service organization, be sure that an assigned staff member supervises routine cleaning of the facility according to the facility’s schedule. Be sure that the staff have read the Material Safety Data Sheet for any products they use.

Hand Hygiene
Because many infected people carry communicable diseases without having symptoms and are contagious before they experience symptoms, caregivers/teachers need to protect themselves and the children they serve by carrying out hygienic procedures on a routine basis.

Why Is Hand Hygiene Important?
Hand hygiene is the most effective means of reducing germs and infections in group care settings. Studies have shown that unwashed or improperly washed hands are primary carriers of infections. Lack of hand washing and poor hand-washing techniques have contributed to many outbreaks of diarrhea among children and staff in group care settings. Conversely, adherence to good hand-washing techniques has consistently demonstrated a reduction in disease transmission in child care and school settings. While working with children, caregivers/teachers should not wear elaborate jewelry or long or artificial nails, because these interfere with effective hand washing. Using hand lotion after hand washing to prevent chapping and cracking of skin also is important.

Although alcohol-based hand rubs have come into common use in hospitals and other health care settings, hand washing is still the preferred method of hand hygiene in educational settings. Alcohol-based hand rubs should only be used when there is no visible soil, and when soap and water washing is not practical. Proper use of alcohol-based hand rubs requires that the product contain at least 60% alcohol and that the amount of product applied to the skin be sufficient to keep the hands wet with the solution for the length of time specified on the manufacturer’s label, generally 15 seconds. This is not less time than it takes to wash hands with soap and water. While the alcohol-based hand rubs are convenient carry-along products, they are expensive, toxic, and flammable. If they are used, precautions to handle these risks are required. Instructions for the use of these products are included in “Hand Hygiene” on page 25.

Hand washing is best; use hand rubs only when there is no visible soil, and soap and water washing is not practical.

Diaper Changing
See “Diaper Changing” on page 27 for sanitary procedures.