

Just the Facts...

Barracks Hygiene to Prevent Disease Transmission

Infectious diseases are a major preventive medicine problem for U.S. Army Soldiers living in close quarters. Some of these infections are caused by direct person-to-person contact, but other infections are caused by the germs found on surfaces. Improved hygiene can help reduce the spread of infection. An effective hygiene plan must start with accepting that disease-causing bacteria, viruses, fungi, and protozoa are always indoors on people, food, insects, and potentially in the air. Cleaning must be adequate to reduce germs to a level which is not harmful to health. A sterile environment is not expected. To achieve a hygienically clean (as opposed to visibly clean) surface the germs must either be removed or they must be killed by disinfection. Methods of hygienically cleaning sites and surfaces include detergent-based cleaning followed by rinsing, and the use of disinfecting agents.



Hand Hygiene

The hands are probably the most important cause of cross-contamination and cross-infection. The World Health Organization suggests that sanitation-related disease in developing countries could be reduced by up to 60% if people washed their hands after defecating. Acute respiratory infections (colds, sore throats, bronchitis) are most frequently transmitted by droplets from coughing or sneezing. Using tissues or shirt sleeves to interrupt these droplets are effective ways to prevent transmission. However, coughing or sneezing into your hands allows the spread of the germs to other parts of the body (through the eyes or breaks in skin, etc.) or to other individuals through touch.

- ✓ At a minimum, personnel living in close quarters should be allowed time to wash their hands for at least 20 seconds with liquid soap and water before meals and after using the latrine.
- ✓ One study in a military population decreased lost-duty time due to acute respiratory infections with an effective hand hygiene program.
- ✓ Leadership should encourage hand washing at every opportunity and ensure latrines are supplied with liquid soap, water, and paper towels.
- ✓ Liquid soap will eliminate contamination problems associated with bar soap.
- ✓ When soap and water are not available, alcohol-based hand wipes or gel sanitizers may be used. If using gel, rub your hands (to include the backs of your hands) together until dry. The gel does not need water to work; the alcohol in it kills the germs. If hands are visibly soiled, wash with liquid soap and water before using gel sanitizers.

Reservoir Sites (toilets, showers, sinks)

Toilets, showers, and sinks can become reservoirs of germs. Moisture and residual soil at these sites provide an ideal environment for the growth of germs.

- ✓ Toilet flushing is sufficient to remove most of the microbial contamination from the toilet bowl.
- ✓ Since toilet flushing does not achieve decontamination under the flushing rim of the toilet, the toilet must be cleaned daily to maintain a low level of contamination in the toilet bowl and under the flushing rim. This will prevent build-up of scale which could harbor germs.
- ✓ Sinks and showers should also be disinfected daily to prevent build-up of scum that can support germ growth.
- ✓ Allow mop heads to dry before reuse by hanging the mop by the handle with mop heads down.



Floors, Walls, and Other Environmental Surfaces

Exposure to disease-causing germs from contaminated floors and furnishings is very low. Germs are usually transferred from environmental surfaces to individuals by hand contact with the surface.

- ✓ High-touch surfaces (doorknobs, handles, light switches, and walls around toilets) should be cleaned and disinfected daily.
- ✓ Horizontal surfaces, such as window sills and floors, should be cleaned weekly with soap and water and kept visibly clean as necessary.
- ✓ Extraordinary cleaning and disinfection of floors is not recommended.
- ✓ Cleaning of walls, blinds, and window curtains is recommended between training cycles or when they are visibly soiled.

Laundry, Mattresses, and Pillows

- ✓ All soiled clothing and linens should be laundered weekly at 160°F, or at 104°F to 140°F using an activated bleach powder.
- ✓ Plastic covered mattresses are preferred for ease of disinfection. If fabric mattresses are used, keep mattresses dry and discard them if they become and remain wet, stained, torn beyond repair, or unserviceable.
- ✓ Between training cycles or personnel change, clean and disinfect plastic mattress covers using EPA-registered disinfectants that are compatible with the cover material.
- ✓ Replace mattress and pillow covers if they become torn or unserviceable.
- ✓ Routine turn-in of laundry will serve as proper disinfection of laundry materials.
- ✓ Turn in sheets and pillow cases weekly. Blankets, pillows and mattress covers can be turned in every 3 weeks or at personnel change.

Disinfectant Solution

Household bleach with water is the recommended disinfectant solution. It is effective, economical, convenient, and readily available. The solution of bleach and water is easy to mix, safe if handled properly, and kills most infectious germs.

- ✓ Use ¼ cup bleach in 1 gallon of cool water
or
- ✓ Use 1 tablespoon bleach in 1 quart of cool water.
- ✓ A solution of bleach and water loses its strength and is weakened by heat and sunlight. Mix a fresh bleach solution each day that it is needed.
- ✓ The solution can either be applied using a bucket and cloth/sponge or a spray bottle and cloth/sponge. Disposable cloths, such as paper towels, are recommended.
- ✓ Chlorine evaporates into the air leaving no residue, so surfaces sanitized with bleach may be left to air dry.



Do not mix bleach with other cleaning chemicals. Mixing chemicals with bleach may produce hazardous gases. Before using anything other than bleach for disinfection consult with your local preventive medicine office. Always read the label and follow the manufacturer's instructions exactly.

Recommended Cleaning Cycle

Daily – disinfect bathroom floors, sinks, showers, toilets, doorknobs, handles, light switches and other high-touch surfaces; clean with soap and water or sweep other visible dirt on floors and surfaces as necessary.

Weekly – launder all soiled clothing and linens; use soap and water to mop floors and clean all horizontal surfaces.

Every Three Weeks – turn in blankets, pillows, and mattress covers for laundering.

End of Training Cycle – turn in blankets; wipe down mattresses with disinfectant solution; launder mattress pads (if applicable); use soap and water to clean all walls, blinds, windows, and areas not otherwise cleaned.