



PREVENT MRSA

MAINTAIN A
"CLEAN ZONE"
IN THE
FIRE STATION

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Photos: front cover: Sarah Fish; above, left to right: Sarah Fish, ©2012 www.photos.com

Recent studies have found MRSA on surfaces in fire stations. The risk of MRSA infections is an increasingly important concern for firefighters. The University of Washington MRSA in Fire Stations project provides general guidance and strategies to reduce the spread of MRSA and other infectious diseases.

Prevent MRSA: Basic Workplace Strategies

1. Develop and implement an Exposure Control Plan according to federal and state health and safety laws (such as, WAC 296-305-06505). The National Fire Protection Association Standards also provide guidance to reduce occupational health risks associated with infectious diseases.
2. Require use of standard infection control precautions on all calls (such as, the use of personal protective equipment [PPE], hand hygiene, and safety devices). Be prepared to increase the level of PPE, especially in high-risk MRSA environments, such as nursing homes, jails, or shelters.
3. Hand washing is the most important practice to prevent transmission of disease. Place signs throughout the fire station to remind personnel to wash their hands. Provide a sink for hand washing or provide automatic hand sanitizers (requiring no physical contact of user hands to operate) at all entrances to the living and office areas. Provide touchless hand towel dispensers in fire station and bay.

What is MRSA?

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a bacterium that can cause minor or even severe skin infections, bloodstream infections, and pneumonia. As the name implies, MRSA is resistant to first-line antibiotics. It is spread by direct skin-to-skin contact with an active infection or by contact with contaminated items and surfaces. MRSA can live for weeks or months on surfaces that are not kept clean. Firefighters may have a higher likelihood of exposure to MRSA when they come in contact with patients during emergency medical situations. The risk of disease to firefighters as a result of exposure to MRSA is not known.

Remember...The Biggest Risk Factor for MRSA Infection Is Broken Skin.

- Keep skin wounds and lesions covered with clean, dry bandages.
- Seek medical attention if skin rashes or infections do not improve. Treatment of MRSA will vary by the specific type of organism and the location of the infection.
- Do not share personal items (such as, soap, towels, washcloths, razors, clothing, or uniforms).

How to Keep Living Quarters a “Clean Zone”

Fire stations are required to have standard operating protocols to protect firefighters in the workplace that cover infection control, training, personal protective equipment, cleaning protective gear and equipment, and post-exposure actions. However, cleaning protocols in the living quarters are less standardized and can vary by department. Develop, maintain, and follow a set of written standard operating procedures for cleaning the living quarters of the fire station. Particular attention should be given to maintaining the living quarters as a “clean zone.”

Photos, below: Sarah Fish; right: Sarah Fish



Where is MRSA?

MRSA is found on surfaces that are in frequent contact with hands and skin, such as:

- bathroom counters and sink handles
- door handles
- gym equipment
- in the living room: TV remotes, armchair rests
- kitchen table and appliances
- desks and computer keyboards
- beds
- in emergency response vehicles: steering wheel, door handles, seat belts, mobile data terminals
- turnout gear
- medical bag handles





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A key strategy for preventing MRSA transmission is to
“Clean First, Then Disinfect.”

“Clean First, Then Disinfect”

Step 1: Clean surfaces to remove dirt and visible contaminants according to standard procedures.

Step 2: Apply disinfectant to a clean surface. Allow disinfectant to remain wet on the surface for the specified contact time as indicated in the product’s label instructions.

- Select disinfectants that carry the Environmental Protection Agency (EPA) registration and are effective against MRSA. www.epa.gov/oppad001/chemregindex.htm (List H). Consider disinfectants that carry the EPA Design for the Environment seal on the label.

Step 3: Disinfect in targeted areas. Identify surfaces contaminated with blood or other bodily substances and surfaces often touched by a variety of hands (such as doorknobs, light switches, counters, phones, toilets, gym equipment, sinks, computer keyboards and mouse).

Which Is Better?

According to the Centers for Disease Control and Prevention, there is no evidence that spraying or fogging entire rooms or surfaces with disinfectants will more effectively prevent MRSA infections than the targeted approach of cleaning frequently touched surfaces and any surfaces that have been exposed to contaminated items (www.cdc.gov/MRSA/environment/index.html).



How to Maintain a “Clean Zone” in Living Quarters

Wash hands. Hand washing is the most important practice to prevent transmission of disease. Wash hands before entering the living quarters.

Clean and disinfect targeted surfaces and areas.

Ensure living quarters are maintained at relative positive air pressure as compared with the apparatus bay (air should flow from living quarters to the apparatus bay).

Place multi-level scraper walk-off mats with rubber backing at entrances of the fire station and the living quarters (mats should span the entryway and be 15 to 20 feet long). Vacuum walk-off mats daily.

Clean dirt and debris off work boots. Leave all boots outside of entrances to the living quarters.

Avoid taking home hazardous substances. Launder work clothes at the fire station or by a professional cleaning service to reduce the risk of carrying MRSA home.

Replace cloth surfaces with hard surfaces, wherever possible. For example, replace carpeting in favor of hard flooring; replace upholstered furniture fabric with material that can be cleaned easily; replace old wooden or damaged kitchen counters and tables with stainless steel.

Wash sheets, blankets, and bed covers in hot water with a detergent at the fire station or by a professional cleaning service before each new user. Do not share sheets, blankets, or bed covers.

Provide cleanable covers for electronics (such as TV remote, keyboards, and radios). Many items such as computer keyboards or handheld electronic devices may be difficult to clean or disinfect or they could be damaged if they become wet. Check to see if the manufacturer has instructions for cleaning. Alcohol is recommended for some electronics (www.cdc.gov/MRSA/environment/index.html), but it is best to refer to manufacturer’s instructions before applying.



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Is Training Available for Firefighters?

Your local health department is the best source of information and training on infectious diseases. The Global Health Institute offers a special MRSA training for firefighters. Information on this training is available from the Western Fire Chiefs Association (www.wfca.com).

Prevent Transmission of MRSA from Apparatus Bay into Other Areas of the Fire Station

After caring for patients, clean and disinfect equipment and the inside of your rig according to standard operating protocols and manufacturer's instructions. This includes steering wheel, door handles, radio handset, headsets, mobile data terminals, gurney, and other high-touch surfaces. Wear disposable gloves while performing these tasks and dispose of the gloves properly after use.

Inspect gear regularly for dirt, damage, and expiration dates.

Clean turnout gear according to manufacturer's instructions and fire station policies.

Store turnout gear in the apparatus bay, not in the living quarters.

Do not take emergency medical equipment into the living quarters of the fire station.





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What is a Comprehensive Environmentally Preferable Purchasing (EPP) Cleaning Program?

Many municipalities are passing ordinances that encourage or even require fire stations to use “green” products, referred to as environmentally preferable cleaning products. US Executive Order 13101 defines environmental preferable as “products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.” An EPP cleaning program includes standardized operations, effective cleaning chemicals, uniform dispensing systems, comprehensive staff training, and the adoption of new equipment and technologies. Key elements of an EPP Cleaning Program include:

1. Develop and maintain a set of written standard operating procedures for cleaning the living quarters of the fire station. This should include schedules for routine cleaning operations and activities performed periodically.
2. Choose certified cleaning products and chemical-dispensing stations that comply with a set of effective, environmental, and human health criteria (such as, Green Seal and Ecologo).
3. Practice most advanced cleaning methods (such as, Green Seal GS-42 Standard for Cleaning Services). For example, perform restroom cleaning from high to low, toward the doorway, and with dry cleaning tasks performed prior to wet cleaning tasks.
4. Frequently clean general surfaces with a certified all-purpose cleaner and microfiber cloths and mops. Use a clean surface of the cloth to prevent cross contamination.
5. Disinfect targeted surfaces especially in high-risk areas such as the gym or exercise equipment.
6. Clean floors daily with a microfiber mopping system and a third-party certified floor care cleaning product.
7. Use a vacuum cleaner with a high efficiency particulate air (HEPA) filter on carpeting.

For more information about MRSA,
contact these resources:

CDC: www.cdc.gov/MRSA

WA Fire Chiefs: www.wsafc.org

UW Field Group: www.depts.washington.edu/frcg/MRSA

Environmental Sampling for MRSA in Fire Stations Project

<http://depts.washington.edu/frcg/MRSA.html>

Emergency Management Response Information Sharing
and Analysis Center Infogram 23-11:

www.usfa.fema.gov

Green Seal: www.greenseal.org

<http://www.greenseal.org/FindGreenSealProductsAndServices.aspx>