



Centers for Disease Control
and Prevention
National Institute for Occupational
Safety and Health
1090 Tusculum Avenue
Cincinnati OH 45226-1998

July 1, 2019
HHE 2019-0095

Gary Myrick
Safety Manager
Great Lakes Area
U.S. Postal Service
500 Fullerton Ave.
Carol Stream, Illinois 60199-3040

Dear Mr. Myrick:

In February 2019, the National Institute for Occupational Safety and Health (NIOSH) received a union request for a health hazard evaluation (HHE) at a U.S. Postal Service (USPS) facility located at 1025 West 20th Street in Oshkosh, Wisconsin. The union was concerned that several employees had been diagnosed with Methicillin-resistant *Staphylococcus aureus* (MRSA) cellulitis. The union believed these skin conditions may be related to a change in cleaning procedures at this USPS facility in 2018. This letter summarizes our evaluation and provides recommendations to address the workplace concerns.

What We Did

We discussed the request with the American Postal Workers Union (APWU) requestor on February 11, 2019. Per the requestor, five individuals reportedly had been diagnosed with MRSA since April 2018. Four employees reportedly had MRSA around the eye and one had MRSA on the leg. These employees had different job duties. The requestor stated that the cleaning procedures throughout USPS facilities changed in March 2018 which he believed may have caused employees' skin infections at this location. NIOSH requested a copy of the cleaning procedures, list of cleaning products (with Safety Data Sheets [SDSs]), and management contacts. After our initial call with the requestor, we also had a conference call with additional local and national APWU representatives, at their request.

On February 21, 2019, we had a conference call with USPS management, safety, legal, and occupational health representatives from the Oshkosh facility and other USPS facilities in the Great Lakes Area region. During this call we discussed the request, answered questions about the HHE program, and obtained information about the facility, cleaning processes, other reported health concerns, occupational health benefits available to employees, and how employees could

report health and safety issues. We also requested the following information (pertaining specifically to the Oshkosh facility) during the conference call: the number of employee sick days during the last three years and the contact information for the facility's occupational health clinic. Separately, we spoke with: (1) a representative from the company who makes the cleaning solutions, PortionPac[®], to ask questions about their products; and (2) a communicable disease nurse at Winnebago County Health Department (local health department for Oshkosh, WI).

What We Found

Employees with Health Concerns

We requested management send out an email to all staff at the Oshkosh USPS facility with our contact information to solicit additional information about employee health concerns and answer employee questions about the HHE. On March 3rd, management decided it was not necessary to send out an email to employees because they believed that this information had already been shared by the union. Therefore, we worked with the union to post information about the HHE and our contact information on the APWU bulletin board from March 5 to April 19, 2019.

We received calls and/or emails from five employees who were diagnosed with skin conditions or had general health concerns. The medical provider for one employee indicated that the employee had MRSA affecting the skin around an eye. However, no diagnostic testing was done to confirm this diagnosis. Two other employees stated they were diagnosed with a hordeolum (infection in the eyelid commonly known as a sty), but were not given a MRSA diagnosis. These three employees had different daily job duties and job. The two other employees whom we talked with reported general health concerns. None of the employees sought care from an occupational health clinic. Employees did not report any other health concerns.

Four of the employees voiced concerns regarding the new cleaning process: certain equipment ("sticks" used to remove mail from conveyor belts, ring scanners, and railings on stairs used for mail sorting) were never cleaned between shifts, custodians did not have enough time to clean properly, and cleaning solutions did not contain disinfectant.

Cleaning and Disinfecting Procedures

We reviewed the cleaning procedures and products for USPS facilities that were adopted by this site in March 2018. Specifically, we reviewed the USPS maintenance Series Handbook MS-47 Facility Cleaning (Handbook), Job Aids for cleaning steps for custodians (Restroom Specialists, Light Duty Specialists, Vacuum Specialists, and Utility Specialists). Each type of specialist was assigned tasks using specific color-coded tools, equipment, and chemicals (Table 1). This color also matched the chemical/cleaning solution from PortionPac[®].

Table 1. Specialists and Color Codes (adapted from Table 4-1 – Specialist Types in Handbook MS-47)

Specialist	Function	Color Code
Restroom	Cleans and disinfects restrooms including, but not limited to, the restocking of supplies in restrooms and custodial closets	Red
Light Duty	Cleans all horizontal surfaces above the floor. Examples include dusting surfaces up to 10 feet above the finished floor, emptying trash, cleaning interior glass, and spot cleaning.	Green
Vacuum	Vacuums all hard floor surfaces including carpets, furniture, and any area not exposed to moisture.	Blue
Utility	Cleans exterior glass, mops, scrubs, and seals hard floors, hauls trash to dumpsters from designated collection points, services exterior areas, and performs other tasks.	Yellow

According to the Handbook, Restroom Specialists used the Germicidal Cleaner (red) solution to clean and disinfect restrooms. However, all other areas were cleaned using the ScrubPac® (green, all-purpose cleaner) solution. The Handbook also specified the frequency and how to disinfect or clean each area (Table 2). Cleaner and disinfectant type was only specifically listed in the instructions for restrooms, lunch/swing rooms, and locker rooms. However, the Job Aids instructed the Light Duty Specialist to “use green cleaning solution and green microfiber cloth to wipe wall to wall, all horizontal surfaces, mirrors, glass, columns, walls, and cabinets, as well as critical contact points like badge readers, drinking fountains, common area phones, hand rails, door knobs, and light switches” for all areas.

Table 2: Area cleaning and disinfecting instructions and frequency

Work Area	Frequency	Cleaning/Disinfecting Surfaces
Restroom Specialist		
Restroom	3 to 7 times per week	Spray <i>disinfectant</i> , and wipe mirrors and touchable items or fomites such as door handles. Spray and wipe toilets and urinals. Wipe the top of the toilet seat first, then bowl
Light Duty Specialist		
Lunch/Swing Room	3 to 7 times per week	Using a <i>multi-purpose detergent spray</i> bottle, damp wipe horizontal surfaces such as but not limited to cabinets, tables, sinks, water fountains, microwave ovens, etc.
Locker Room	3 to 7 times per week	
Work Room	1 to 6 times per week	Spot wipe doors, push plates, switch plates, and drinking fountains and damp clean horizontal surfaces including telephones, if applicable
Office Space	3 to 7 times per week	
Supply Room	2 to 6 times per week	
Active Storage room	12 to 52 times per year	
Inactive Storage room	4 to 12 times per year	
Enclosed Platform dock	1 to 6 times per week	
Service Lobby	5 to 7 times per week	
Corridor	2 to 7 times per week	
General Shop Area	Daily, when used	Wipe all walls, trim, doors, and control panels
Elevator	3 to 7 times per week	
Stairway	3 to 7 times per week	Clean handrail(s) and door handles.
Lookout Gallery	4 to 12 times per year	Wipe doors, push plates, and switch plates. Spot clean vertical surfaces.

Discussion

MRSA

According to the workers we spoke to, none had laboratory-confirmed diagnoses of MRSA. One employee was diagnosed with MRSA in the skin around the eye, but we are not aware of any testing (such as a culture result) which confirmed that diagnosis. Two other employees reported having skin infections around their eyes and were diagnosed with hordeleums (stye) which are caused by a bacterial infection in the oil-producing glands in the eye-lid [Lindsley 2017]. One of the two employees with a stye was treated with two rounds of antibiotics (topical and oral).

MRSA is a *Staphylococcus* (staph) bacteria that is resistant to several antibiotics and can be found in the community where individuals live, work, shop, etc. [CDC 2019a]. It generally

causes infections that appear as red, swollen areas on the skin that can be painful and full of drainage. Anyone can be diagnosed with MRSA and the risk increases for those spending time in crowded places, have frequent skin-to-skin contact, and have shared equipment or supplies. At this facility, workers shared equipment, restrooms, lunch rooms, and office space. MRSA can also become part of normal bacteria (colonization), which means that people may carry it on their body (generally in the nose and on the skin) but have no signs or symptoms of the infection. These individuals may develop recurrent infections when the colonized MRSA enters an open wound. Approximately 33% of the population is colonized with staph bacteria and approximately 1% is colonized with MRSA [NIOSH 2015].

The communicable disease nurse at Winnebago County Health Department (local health department for Oshkosh, WI) we spoke with stated that Oshkosh was not experiencing a community outbreak of MRSA at that time. Without laboratory testing, we are unable to determine if the skin infections and styes were caused by MRSA. However, we have included information below about MRSA prevention.

Personal Hygiene

To prevent MRSA and other skin infections it is important to:

- Wash your hands often, especially after touching an infected wound, changing a bandage, or touching soiled clothing and fabric,
- Cover any open breaks in the skin wounds with clean, dry bandages until healed,
- Not share personal items such as towels, clothing, and uniforms, and
- Wash laundry before use by others.

Cleaning and Disinfection [CDC 2019b]

MRSA can survive on some surfaces for hours, days, or even weeks, making it important to properly clean and disinfect contaminated surfaces.

- *Cleaners* remove soil, dirt, dust, organic matter, and germs (like bacteria, viruses, and fungi). They lift dirt and germs off surfaces so they can be rinsed away with water. Some disinfectants have a cleaning agent mixed in to the solution.
- *Disinfectants* are used to kill germs. Disinfectants effective against *Staphylococcus aureus*, or staph, are also effective against MRSA. The disinfectant's label should have a list of germs that the product can kill, along with an Environmental Protection Agency (EPA) registration number.
- When cleaning and disinfecting, it is important to focus on surfaces that come in contact with people's bare skin (desks, chairs, shared equipment, faucets, light switches and tables). Large surfaces, such as floors and walls, have not been associated with spreading MRSA. A targeted approach of frequently cleaning and disinfecting touched surfaces and surfaces that have been exposed to skin contact (including skin which may have breaks in it) is recommended.

The PortionPac® representative with whom we discussed the cleaning and disinfecting solutions reported that the Germicidal Cleaner (red) solution should be used in any areas which need to be disinfected. This Germicidal Cleaner is EPA registered to clean and disinfect walls, toilet

fixtures, tables, and mirrors and effective against staph (including MRSA), *Salmonella*, *Pseudomonas*, influenza, HIV, and fungi [PortionPac® 2019]. The active ingredients in the Germicidal Cleaner are quaternary ammonium compounds which are commonly used disinfectants [Gerba 2015]. The ScrubPac® (all-purpose cleaner, green) solution can be used for cleaning soiled surfaces and deep cleaning floors [PortionPac® 2019], however, it has no disinfecting properties.

General Health of Employees and Access to Occupational Health Clinics

We requested the number of sick days the Oshkosh facility had during the last three years (March-February) to determine any trends in overall health in this workforce. However, the USPS system was unable to remove long-term leave, such as maternity leave or FMLA (Family Medical Leave Act) leave used for family members. Therefore, we were unable to use this to determine any trends. During the conference call with management, the regional occupational health nurse stated that she was not aware of any Oshkosh workers visiting occupational health clinics for MRSA or a skin condition. There is not one dedicated occupational health clinic for USPS Oshkosh workers so we were unable to obtain other summary medical information concerning these issues.

Cleaning and Disinfecting Procedures

The Handbook and Job Aids gave detailed instructions on how each specialist should use the cleaning/disinfecting solutions in the different areas of the USPS facility. However, the type of solution to use in certain areas was not clear and only explicitly stated in the Handbook for the restrooms, lunch/swing rooms, and lock rooms. Also, disinfecting solution is currently only being used in restrooms. Although disinfecting solution is not necessary on all surfaces, high-contact surfaces such as tables, light switches, keyboards, counters, shared equipment and faucets may need to be disinfected at a regular frequency to minimize potential spread of communicable diseases in this workplace.

The Job Aid also requires Light Duty Specialists to “always use all 16 sides of properly folded microfiber cloth” when cleaning. According to two custodians, this type of folding was time consuming and made it difficult to complete the required cleaning. Bergen and associates conducted a study looking at bacterial contamination on surfaces after using the 16-sided cleaning method with microfiber cloths [Bergen et al. 2009]. They found that cleaning by using the 16-side method led to unexpected contamination of sterile surfaces. They recommended that a new cloth be used after cleaning each area to reduce contamination. The amount of time allotted for each cleaning activity was also detailed in the Handbook. For example, the performance standard for Light Duty Specialists cleaning the lunch/swing room is 5,700 square feet/hour and 3 minutes per fixture for Restroom Specialists cleaning the restroom. This may not be enough time to thoroughly clean all the surfaces effectively especially if they are heavily soiled using any cleaning cloth and disinfectant.

Communication

Through health hazard evaluations, NIOSH frequently finds that communication between management and employees could be improved. Employees sometimes fear being singled out or fear repercussion from management or from other employees when they speak up about their concerns. During this HHE, one worker we spoke to refused to give their name for fear of reprisal and others stated they were concerned management may find out they called. Management typically has more success in effectively dealing with occupational safety and health concerns of employees when an anonymous health and safety concern reporting system is developed and when a health and safety team to address the concerns is established. This facility does have a reporting system for health and safety concerns, but it is not anonymous.

Recommendations

The USPS Oshkosh facility has taken positive steps concerning facility maintenance in the March 2018 adoption of standard cleaning and disinfection procedures (via use of the USPS Maintenance Series Handbook MS-47 Facility Cleaning). On the basis of the information that was provided in the course of this HHE we recommend the following to further improve current facility maintenance practices and to address occupational health concerns:

1. Management should
 - a. ensure shared equipment, restrooms, faucets, and high-contact surfaces are cleaned and disinfected using EPA-registered disinfectants. It is important to read labels thoroughly and ensure all products are used safely and appropriately. A list of EPA-registered products effective against MRSA can be found at <https://www.epa.gov/pesticide-registration/list-h-epas-registered-products-effective-against-methicillin-resistant>. The Germicidal Cleaner currently in use is appropriate, but it may need to be used on a greater number of surfaces and areas as discussed above.
 - b. provide employees with a detailed training on when and how to wash their hands properly. The Centers for Disease Control and Prevention recommends washing hands with soap and water for at least 20 seconds. More information about hand hygiene can be found at <https://www.cdc.gov/handwashing/index.html>.
 - c. specify the type of cleaner and/or disinfectant the specialist should use for all cleaning activities in the Handbook.
 - d. update the handbook to specify that a new microfiber cloth should be used after cleaning each area to reduce contamination.
 - e. enable good communication between USPS Oshkosh managers and employees, especially regarding responses to employee health and safety concerns. One way to accomplish this is by providing employees with an anonymous system to report workplace health and safety concerns. Another way to enable good communication between managers and employees is to establish a joint management and employee health and safety team with regular meetings. Those involved in the work can best set priorities and assess the feasibility of our recommendations for the specific situation at this location.

- f. encourage employees with health concerns to seek evaluation and care from their regular health care provider or USPS-affiliated occupational health provider (if work-related). If an employee is determined by their healthcare provider to have an illness related to an occupational exposure, the healthcare provider and the appropriate management personnel should work to eliminate that exposure and assess the need for environmental evaluation.
2. Employees should:
 - a. report work-related health concerns to their supervisor,
 - b. seek and follow-through with medical care for work-related injuries and illnesses through the program established by USPS Oshkosh management,
 - c. cover draining wounds with clean, dry bandages,
 - d. wash hands regularly with soap and water,
 - e. maintain good personal hygiene, including appropriate laundering (and not sharing) of soiled items (such as clothing and towels).
3. For more information about MRSA in the workplace, information can be found at <https://www.cdc.gov/niosh/topics/mrsa/default.html>.

This letter serves as a final report and concludes this health hazard evaluation. NIOSH recommends that employers post a copy of this letter for 30 days at or near work areas of affected employees. We are sending a copy of this letter to the requestors.

Thank you for your cooperation with this evaluation. If you have questions, please call or email LCDR Reynolds at 513-841-4174, lreynolds@cdc.gov or Dr. Burton at 513-841-4323, nburton@cdc.gov.

Sincerely yours,

Laura E.

Reynolds -S2

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cc: APWU

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