

Ambulance equipment contaminated with drug-resistant superbug

Manas Mishra

(Reuters Health) - Ambulance oxygen tanks are likely to carry the “superbug” MRSA, a small U.S. study suggests, pointing to the need for regular disinfection of medical equipment.

Researchers tested nine oxygen tanks carried by three ambulances based at an emergency medical services (EMS) station in Alabama. They found MRSA, or methicillin-resistant *Staphylococcus aureus*, on all nine tanks.

They also swabbed oxygen tanks in a storage area, finding MRSA on 96 percent of the stored cylinders.

MRSA infections are difficult to treat because the bacteria are resistant to common antibiotics. Although usually mild, MRSA infections still cause thousands of deaths each year.

Other equipment on the ambulances, such as heart monitors and blood pressure cuffs, tested negative for MRSA contamination. But the floor of all three ambulances and a door handle in one ambulance tested positive.

“Oxygen cylinders are exchanged pretty rapidly between facilities, they (need) to be refilled, they’re not like normal pieces of medical equipment or supplies, which are disposable,” study author Cody Gibson, who was with Calhoun Community College when the study was conducted, told Reuters Health over the phone.

Because oxygen tanks are exchanged between facilities, the bacteria could spread across large areas, Gibson notes in the *Emergency Medicine Journal*.

The presence of MRSA on the tanks could be due to a lack of universal disinfection protocols for oxygen equipment, said Gibson, who is now at the University of Alabama at Birmingham.

Sponsored

Most ambulance equipment is disinfected after each patient because of company protocol or as directed by regulatory authorities, but oxygen cylinders could oftentimes be overlooked.

Gibson interviewed EMS personnel and found the staff was not aware of when the oxygen cylinders were last disinfected, while other surfaces that patients contacted were regularly decontaminated with disinfectants.

Dr. David Tan of Washington University in St. Louis, Missouri, who is President-Elect of the National Association of EMS Physicians, told Reuters Health, “While it would be safe to say there is no ‘universal’ protocol for disinfection of an ambulance, there are a number of guidelines available for agencies to develop their own policy and procedure for ambulance disinfection.”

“MRSA exists in firehouses and EMS stations as well,” Tan said, “and the challenge is finding universally effective disinfection procedures and techniques that are both effective and efficient, especially in busier EMS services where there is constant system pressure to get back in service to answer the next call for help.”

Dr. Michael David, assistant professor of Medicine and Epidemiology at the University of Pennsylvania’s Perelman School of Medicine in Philadelphia, said contamination of ambulance oxygen cylinders is not widely discussed.

“This paper raises the problem of these specific objects being contaminated by MRSA and resulting in a previously unaddressed reservoir of MRSA in ambulances,” he told Reuters Health. “This observation importantly may result in new standard procedures to clean these objects with an antiseptic between uses.”

The study didn’t look at actual transmission rates, so it’s unclear whether anyone actually became infected from bacteria on these tanks. Also, Gibson points out, the samples only came from a single EMS station, and at only one point in time.

Still, he concludes, “Oxygen cylinders appear (likely to carry) MRSA. The development of universal disinfection protocols for oxygen equipment could help reduce the risk of patient infection due to cross-contamination.”

SOURCE: bit.ly/2QgqjX5 Emergency Medicine Journal, online December 1, 2018.