Understanding drug-resistant superbugs

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News reports reveal drug-resistant super bacteria identified as carbapenem-resistant Enterobacteriaceae (CRE) have been found in the waters of Rio de Janeiro where the 2016 Olympics sailing events will be held.

"If someone were to be in contact with CRE contaminated water doesn't mean they will become infected with these multi-drug resistant organisms, but the presence of the bacteria is certainly concerning," says Mayo Clinic infectious diseases specialist Dr. Pritish Tosh.

WHAT IS A SUPERBUG?

"When most people talk about superbugs what they are referring to are bacteria that are resistant to multiple kinds of antibiotics," says Tosh. "For example, sexually transmitted diseases, such as gonorrhea, have become resistant to the routine antibiotics we would normally give. The term superbug isn't very specific. It refers to a broader issue we are having in medicine of bacteria becoming resistant to routine antibiotics, making them much harder to treat. There is more than one superbug. When people use the term superbug, they are referring to any number of organisms that have become resistant to a lot of antibiotics."

CARBAPENEM-RESISTANT ENTEROBACTERIACEAE (CRE)

CRE are strains of bacteria that are resistant to carbapenem, a class of broad-spectrum antibiotic used to treat severe infections, as well as most

other antibiotics.

"One of our newest classes of antibiotics, in a way, one of the last lines of treatment for drug resistant bacteria are carbapenem," Tosh says. "These are antibiotics used to sometimes treat very severe infections. CRE are concerning, because we know that people who are infected with CRE don't respond as well to the antibiotics that they are given, have more complications and die in larger numbers. Being exposed to CRE doesn't mean you will become colonized with it or later infected, but it does speak to other issues, such as antibiotic overuse, especially in the developing world, where you often do not need a prescription to get an antibiotic."

WHAT YOU NEED TO KNOW

We should try to reduce our use of antibiotic exposure, individually and also as a population. These multi-drug-resistant organisms are proliferating because of antibiotic overuse and misuse.

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