

Study finds livestock-related 'Staph' strain in child care worker

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A new strain of *Staphylococcus aureus* bacteria associated with exposure to livestock was recently discovered in one Iowa child care worker who reported no contact with livestock, according to University of Iowa researchers.

The discovery was an unexpected finding in a study of *Staphylococcus aureus* in child day care facilities conducted by Erin Moritz, a doctoral student in epidemiology in the UI College of Public Health, for her dissertation. The finding was reported in a letter written by Moritz and her advisor, Tara Smith, Ph.D., assistant professor of epidemiology in the College of Public Health. The letter was published in the April issue of the [Centers for Disease Control and Prevention](#) journal, [Emerging Infectious Diseases](#), and is accessible online at: <http://www.cdc.gov/eid/content/17/4/742.htm>.

Moritz's dissertation looked at the occurrence of *Staphylococcus aureus*, often called "staph," in child day care facilities. As part of that research, she conducted molecular typing on all of the staph isolates found in child care workers and children and on surfaces in participating facilities, and discovered the single occurrence of asymptomatic ST398, a *Staphylococcus aureus* strain primarily associated with livestock farmers or others who have contact with livestock.

"We weren't expecting it," Moritz said. "Most people who have been found to carry ST398 have had contact with animals, especially agricultural animals, and she (the child care worker) reported no contact.

That's what was unique about it."

While ST398 is the same staph strain as the one Smith found in a previous study of Iowa swine and swine workers in 2009, it is not exactly the same type. The ST398 found in the child care worker is treatable with the antibiotic methicillin, while the type found in the 2009 study was methicillin-resistant.

ST398 was first discovered in the Netherlands about five years ago, and most of the research on this strain has been conducted there. To the best of their knowledge, Moritz and Smith's studies are two of only three instances in which the strain has been reported in the United States. The other research team in New York City found ST398 in a population group from the Dominican Republic.

Because the strain was found in one individual out of a very small sample of study participants, it's difficult to draw any conclusions from the finding, Smith said.

"Especially in the U.S., where we don't have a lot of good national surveillance for many [infectious diseases](#), the epidemiology of ST398 is kind of a black box," she said. "So, we're not sure quite yet what it means other than she (the child care worker) did pick this up somehow besides the obvious route of livestock contact.

"We know that about a third of us carry some strain of *Staphylococcus aureus*. This is just a novel strain that has been picked up in the last five years, and we really don't know a whole lot about it. It's not any worse than your run-of-the-mill human staph that's out there in the community already," Smith added.

This finding should not be a cause for concern among parents and child care workers, according to Moritz, who defended her dissertation in

December and will graduate in May. "Child care workers are at increased risk of carrying infectious agents, which is no surprise to anyone," she said.

Moritz encouraged child care staff to follow the standard public health recommendation of frequent hand washing to reduce the spread of all infectious organisms in day care facilities.

Provided by University of Iowa Health Care

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