

# Pyogenic *S. aureus* Skin Infections: Location Is Key

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VIENNA — Pyogenic *Staphylococcus aureus* skin infections located on the axilla, groin, upper thigh, or buttocks are twice as likely to be due to the more virulent Pantone-Valentine leukocidin-positive strains than to *S. aureus* negative for the cytotoxin, according to a large U.K. study.

On the other hand, staphylococcal skin infections located on the torso are three times more likely to be Pantone-Valentine leukocidin (PVL) negative than PVL positive, Dr. Angela M. Kearns said at the meeting.

These new findings regarding the differential preference of PVL-positive and PVL-negative *S. aureus* skin infections for certain body sites can aid in speedy recognition, diagnosis, and treatment of these infections, as can



**Staphylococcal skin infections on the torso are three times more likely to be PVL negative than PVL positive.**

DR. KEARNS

additional insights provided by the U.K. study, noted Dr. Kearns of the Health Protection Agency Centre for Infections, London.

She presented an analysis of 1,230 isolates of *S. aureus* from boils, abscesses, carbuncles, and furuncles in patients throughout England, Wales, and Northern Ireland in 2008. Of these, 68% were methicillin-susceptible *S. aureus* (MSSA) and 32% were methicillin-resistant *S. aureus* (MRSA). Two-thirds of the *S. aureus* isolates were PVL positive, and two-thirds of PVL-positive isolates were MSSA.

Patients with PVL-positive pyogenic skin infections tended to be younger, with a median age of 26 years, compared with 38 years for patients with PVL-negative disease. Classically, a pyogenic skin infection in a patient aged 40 years or older is likely to be PVL negative, she said.

A total of 42% of all PVL-positive infections occurred on the buttocks, axilla, or groin, as did 23% of all PVL-negative infections.

“Those are areas where there’s a preponderance of hair follicles and a warm, moist environment,” Dr. Kearns noted.

In contrast, 33% of all PVL-negative skin infections were located on the torso, compared with just 11% of PVL-positive infections.

The head, arms, and legs accounted for similar proportions of all PVL-positive and PVL-negative infections.

PVL-positive infections were more likely to be recurrent, sometimes to the point of being quite debilitating. One-third of all PVL-positive infections were recurrent, as were 22% of PVL-negative ones.

A total of 4% of patients with pyogenic skin infections due to PVL-positive *S. aureus* strains had a strong history of international travel, as did 1.4% of those with PVL-negative disease.

A total of 7% of patients in each group had multiple skin lesions.

Dr. Kearns drew particular attention to what she called a “remarkable” difference between PVL-positive and PVL-negative infections in terms of propensity for

clustering. There was just a single case of household transmission of a PVL-negative staphylococcal pyogenic skin infection, compared with 30 instances of household transmission of PVL-positive infections, each involving up to six individuals. Investigators also noted clustering of PVL-positive skin infections in schools, nurseries, long-term care facilities, sports teams, and the military.

In reply to an audience question, she

said she doesn’t encounter many cases of PVL-positive staphylococcal pyogenic skin infection in association with nasal carriage. Where she sees a lot of repeatedly recurrent PVL-positive pyogenic skin infections is in conjunction with throat carriage. “That’s a very difficult site to eradicate [infection],” Dr. Kearns said. ■

**Disclosures:** Dr. Kearns reported no financial conflicts.

