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Mediastinitis Associated With HCW Nasal Carriage

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Staphylococcus aureus mediastinitis is a severe complication of cardiothoracic surgery, and infants rarely develop surgical-site infections (SSIs). An investigation was conducted by Dr. S. Weber and colleagues from the University of Iowa, following the identification of four children on a cardiothoracic surgery unit (CTU) that developed methicillin-susceptible *S aureus* (MSSA) wound infections. Two infections were superficial SSIs, and two were mediastinitis. Pulsed-field gel electrophoresis indicated that three of the four patients were infected with the same strain (designated as strain B).

Cultures were obtained from the nares of 37 healthcare workers (HCWs) and the nares and hands of 18 HCWs in the operating room (OR), primarily those who had direct contact with the surgical site. Of these 55 HCWs, 25 (45%) had *S aureus* in their

nares, and 5 (28%) of the 18 had this organism on their hands. Fourteen HCWs (36% of the carriers and 25% of the population) carried strain B in their nares—2 surgeons, 4 anesthesiologists, 5 nurses, and 3 perfusionists. Two HCWs carried strain B on their hands—one surgeon and one perfusionist. Cultures also were taken of the staff on the CTU and general wards that cared for these patients. Of the 157 HCWs tested, 55 (35%) carried *S aureus*, and 17 (31% of the carriers and 11% of the population) carried strain B. The MSSA carriage rate among HCWs in the OR was not different from that among HCWs on the CTU and wards. However, HCWs in the OR were more likely to carry the epidemic strain than were HCWs who cared for the patients postoperatively on the CTU and wards.

A case-control study found that the exposure to four HCWs in the OR was associated with developing an SSI. Two of the HCWs carried the epidemic strain, one of whom was the surgeon, who carried the strain in his

nares and on his hands. All HCWs who carried the epidemic strain were treated immediately with intranasal mupirocin ointment. HCWs who had strain B on their hands were instructed to wash their hands with chlorhexidine. The associated surgeon was removed from the OR until two cultures of his hands were negative for *S aureus*. The authors noted that this outbreak was unusual, because it involved pediatric cardiothoracic patients, and the proportion of HCWs who carried strain B was much higher than that reported for other epidemic strains.

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