

3. Tenover FC, Arbeit RD, Goering RV, et al. Guest commentary: interpreting chromosomal DNA restriction patterns produced by pulsed-field gel electrophoresis—criteria for bacterial strain typing. *J Clin Microbiol* 1995;33:2233-2239.
4. Bradley SF, Terpenning MS, Ramsey MA, et al. Methicillin-resistant *Staphylococcus aureus*: colonization and infection in a long-term care facility. *Ann Intern Med* 1991;115:417-422.

Paul J. Drinka, MD
Mary E. Stemper, MS, RM (AAM),
MT (ASCP)
Cathy D. Gauerke, MT
Janice E. Miller, MT
 Wisconsin Veterans Home
 King, Wisconsin
Kurt D. Reed, MD
 Marshfield Laboratories
 Marshfield, Wisconsin

Semipermeable Dressing Used to Cover Smallpox Vaccination Sites as a Cause of Skin Damage

To the Editor:

Vaccinia was discontinued in the United States as a routine vaccine in 1971. In 2003, the Advisory Committee on Immunization Practices (ACIP) recommended the vaccination of selected healthcare workers (HCWs).¹ The Centers for Disease Control and Prevention provided recommendations for site care of HCWs designed to minimize the risk of disease transmission from HCWs to patients.² More recently, the Healthcare Infection Control Practices Advisory Committee (HICPAC) has provided additional draft recommendations for vaccination site care for HCWs.³ ACIP and HICPAC have recommended that vaccination sites be

covered with a sterile gauze pad and semipermeable dressing.

We report the frequency of adverse local skin reactions to the transparent dressing, Tegaderm (3M Health Care, St. Paul, MN), provided by our state health department and used on employees of our hospital. We followed the recommended protocol for the placement of site dressings.^{2,3} We vaccinated 28 HCWs on March 5, 2003. All HCWs were evaluated at 48 hours and at 7 days.

Twenty-one (75%) of the HCWs complained of itching and burning and developed erythema in areas of contact with the semipermeable dressing adhesive at 48 hours. At 1 week, all volunteers had evidence of a vaccine take. Between days 5 and 7, 7 (25%) of the HCWs required an alternative dressing due to local skin irritation. The alternative dressing was composed of two to three layers of 4 × 4-cm sterile gauze pads secured with sterile gauze wrap and tape. By day 7, 5 of the HCWs had developed vesicles under the adhesive and 9 had skin tears or open skin. Two HCWs were relieved from duty and provided oral diphenhydramine hydrochloride: one HCW at day 7 missed 2 days of work and one HCW on day 8 missed 1 day of work following vaccination.

Twelve days after vaccination, we began using a new semipermeable dressing, Curafoam Island (Kendall Co., Mansfield, MA), on HCWs with significant skin reactions. All dressings were changed every 3 days until the scab separated between days 19 and 21. On March 18, 27 HCWs received vaccination. All HCWs received a Curafoam Island dressing, which consists of a one-piece dressing that includes a central sterile foam covering semipermeable material. The alternative dressing was approved by the North Carolina State

Health Department (Judith Agner, RN, personal communication, March 14, 2003). Dressings were changed every 3 days or when wet or nonadherent. Only 1 HCW developed skin irritation. This individual, after having the dressing changed to one using Tegaderm, continued to manifest skin irritation and developed erythema multiforme on day 8 that was believed to be unrelated to the dressing.

The more frequent skin reactions associated with Tegaderm may be due to the type of adhesive used in the dressing, traction on the skin during use of the dressing, or removal of the dressing. We believe that traction is the most likely cause of the skin irritation. This problem may possibly be minimized by ensuring that the dressing is applied in such a manner as to not produce skin traction and removed after anchoring the skin. Alternatively, a different semipermeable dressing may be used.

REFERENCES

1. Wharton M, Strikas RA, Harpaz R, et al. Recommendations for using smallpox vaccine in a pre-event vaccination program. *MMWR* 2003;52:1-16.
2. Centers for Disease Control and Prevention. *Vaccination Site Appearance and Care*. Atlanta, GA: Centers for Disease Control and Prevention; 2003. Available at www.cdc.gov.
3. Anonymous. CDC finishing IC guidelines for smallpox vaccinees. *Hospital Infection Control* 2003;30:48-51.

Elaine Crittenton, RN, CNOR
Alonzo Davis, PhD, MD
 Department of Infection Control
 Carteret General Hospital
 Morehead City, North Carolina
Karen K. Hoffmann, RN, MS, CIC
William A. Rutala, PhD, MPH
David J. Weber, MD, MPH
 University of North Carolina at
 Chapel Hill School of Medicine
 Chapel Hill, North Carolina