DoD SMALLPOX VACCINATION LESSONS LEARNED 24 Jan 03

12 STEPS TO SMALLPOX VACCINATION

Source: Lessons learned at Walter Reed Army Medical Center and other DoD hospitals and clinics worldwide, Dec 02 – Jan 03.

1. Space. Plan for:

a. Classroom or auditorium space for briefings.

b. Smaller, more private space(s) for vaccine candidates to ask questions of clinicians about their personal circumstances.

c. Clinic space for vaccine delivery and documentation. See also Annex B of the DoD Smallpox Response Plan, ANNEX A, Ref 11 (www.smallpox.army.mil/media/pdf/DODSpoxPlan.pdf).

2. Supplies & Logistics. Vaccine kits come with 100 bifurcated needles each. Plan separately for hand sanitizers, cleansing supplies (e.g., soap, acetone, alcohol, disinfectants), 2x2 sterile gauze, 4x4 sterile gauze, 2x3 Telfa gauze, Micropore, Transpore, Scanpore tape, semi-permeable membrane bandages for healthcare workers, standard Band-Aids® for other vaccine recipients, gloves, rigid sharps containers, biohazard bags, extra bifurcated needles for training, tape-glue remover, paper rulers, forms, et cetera.

3. Identify Teams, Team Leaders, & Clear Division Of Responsibilities. Establish methods for communication. Plan regular meetings. Establish email groups to share new information or changes to plan rapidly. Define prescribing authority to administer the vaccine. Identify expeditious pathways for clinical consults (e.g., cell-phone access to dermatologists or other specialists by primary-care providers screening vaccine candidates). Before initiating smallpox vaccinations, flight surgeons should record background rates of “duties not including flying” (DNIF) among aviators, to determine effects of smallpox vaccination on DNIF rates.

4. Train Medical & Support Personnel Thoroughly. Provide smallpox-specific training for medical director, clinical consultants, vaccination supervisors, vaccinators (see education toolkit at www.smallpox.army.mil/education/toolkit.asp for training presentations; via CD-ROM in remote locations), administrative team, logistics team, information management team, patient-administration team, laboratory-support team. Agree on scope of practice for each professional and paraprofessional category of worker. Review emergency procedures for fainting, anaphylaxis, other acute events, need for vaccinia immune globulin. Clinicians need to be familiar with DoD clinical policies at www.smallpox.army.mil/media/pdf/SPclinicalpolicy.pdf. Speakers must be

well versed in smallpox and vaccinia details (at a minimum, be fluent in the questions and answers at www.smallpox.army.mil/resource/qa.asp).

5. Public Relations. Notify city, county, and state or host-nation health department that vaccinations are about to begin. Prepare press release for local news media. Permit access to knowledgeable spokesperson, but do not allow media to disrupt clinic flow. Media may take photographs of vaccination; however, IAW DoD Public Affairs Guidance DO NOT allow photographs that identify the soldier/civilian or unit involved. Coordinate with installation public-affairs outlets (e.g., installation newspaper).

6. Educate Vaccine Candidates & Their Family Members & Close Contacts. Provide briefings on smallpox, smallpox vaccine, risks, benefits, issues regarding site care, and ways to prevent auto-inoculation and contact transfer of vaccinia (use current briefing slides at www.smallpox.army.mil/education/toolkit.asp). Permit ample time to answer questions. Ideally, hold education and medical screening events at least the day before vaccination day, to allow time for questions to be answered. Distribution of current DoD Smallpox Trifold Brochure is required (see www.smallpox.army.mil/education/toolkit.asp); your local medical treatment facility has stocks of these for use. Distribution of CDC's Smallpox Vaccine Information Statement (VIS) is recommended. Thirty-day diary cards are available for use, if desired individually or collectively.

7. Answer Vaccine Candidates' Individual Questions. Expect questions to arise after briefing sessions, after vaccination, up through healing of vaccination sites. Provide ready access to healthcare providers to decipher memories of childhood health conditions.

8. Medical Screening Process. Use current version of DoD standard screening forms ("Initial Medical Notes") at www.smallpox.army.mil/resource/forms.asp). Two- and three-page versions are available, according to clinic preference. Have physician, physician assistant, or nurse practitioner on site during screening to resolve questions about diagnoses and contraindications (especially regarding eczema and atopic dermatitis), to order medical consults, and to determine fitness for smallpox vaccination. Remind medical personnel to accept an oral history of prior smallpox vaccination, supplemented with records or evidence of an earlier vaccination scar. Presumptive evidence includes birth before 1971 (i.e., 1 year of age in 1972) or military entry before 1990.

9. Vaccination.

a. Before reconstituting vaccine, bring diluent to room temperature. To avoid expelling diluent into the air, do not expel air from the diluent syringe. In case of error, replacement diluent syringes are available from USAMMA. Attach transfer needle tightly. The diluent may be added to the powder through the vial stopper, as per package directions, or (alternately) the stopper may be removed and the diluent added directly to the vial of powder. Allow time for the diluent to wet and resuspend the

vaccine powder. If resuspension does not occur within a few minutes, allow more time to elapse.

b. Deliver all jabs (punctures) as close together in space and time as possible. Educate vaccinators to validate the procedure by immediate inspection of vaccination site, looking for trace bleeding or bleeding beneath the skin (petechiae). Vaccinators should avoid inducing frank bleeding (suggesting excess force). If no evidence of skin-surface break (e.g., trace bleeding, petechiae) within ~20 seconds, revaccinate immediately. Walter Reed Army Medical Center used a skin marker to place four dots in a 1-cm diameter circle, with all jabs placed between these aiming points. This approach yielded >95% take among primary vaccinations and >98% take among revaccinations

c. At the vaccination station, use a team of two vaccinators who trade off duties. One administers the vaccination jabs, while the other acts as blotter, bandager, and documenter. Have additional staff assure completeness of all forms.

d. Locate the vial of smallpox vaccine toward the back of the vaccination station, so that items are not passed over an open vial. A hole may be carved in a Styrofoam block, to prevent the small vial from being accidentally bumped and spilled. During prolonged vaccination sessions, place the vial on a cooling (but not freezing) tray.

10. Post-Vaccination Care.

a. Remind vaccine recipients of importance of not touching vaccination site and using barriers (e.g., Band-Aids, sleeves) and hand washing to prevent auto-inoculation and contact transfer. Instruct vaccine recipients about expected vaccination response. Instruct them where to return for response evaluation. At “take-check” visits, use common DoD form to evaluate response and identify symptoms after vaccination (current versions are available at www.smallpox.army.mil/resource/forms.asp).

b. Use WHO/CDC definitions for major reaction (“take”) and equivocal reactions. See www.smallpox.army.mil/media/pdf/SPclinicalpolicy.pdf.

c. For healthcare workers: Per DoD policy, each DoD hospital and clinic will establish a bandage-checking station, to evaluation bandage integrity at beginning of each worker’s duty shift. Replace bandages when the absorbent pad collects exudate (e.g., every 2 to 3 days). With adequate attention to infection control and bandage assessment, there is no need to furlough medical workers. A restriction on hands-on care in transplantation and oncology wards and neonatal nurseries may be prudent.

11. Adverse Events. Assure primary-care clinics are alert to expected and unexpected adverse events after smallpox vaccination. Fever-malaise-lymphadenopathy syndrome may peak 8 to 12 days after vaccination, with greater incidence among primary vaccinees (~4% to 5% needing sick leave) than after revaccination (~1% to 2%). Refer patient as needed for diagnosis, treatment and follow-up. Report events to the Vaccine Adverse Events Reporting System (VAERS) that involve hospitalization, loss of duty >

24 hours, auto-inoculation, or contact vaccinia transfer. Encourage filing VAERS reports online via www.vaers.org, with paper copies submitted via usual reporting channels.

12. Quality Assurance.

a. Confirm adequacy of screening for people with personal or household contraindications to smallpox vaccination. Track the take rate of the first 50 to 100 people vaccinated by each vaccinator, to assure proper technique. Reinforce instructions for bandages, sleeves, and hand washing, to prevent auto-inoculation and contact transfer of vaccinia virus. Confirm proper vaccine storage and handling. Look for differences in take rate or infection rate with one vial, compared to others.

b. Audit quality of entries into electronic immunization tracking systems (e.g., MEDPROS, AFCITA, SAMS) against paper-based immunization records. Emphasize precision of entry for name of vaccine, date of vaccination, lot #, and provider.