

SMALLPOX CLINICAL PATHWAY (Updated 06/03/02)
(CONFIRMED SMALLPOX CASE(S) PREVIOUSLY REPORTED)
SUMC Bioterrorism & Emergency Preparedness Task Force

IN THE SETTING OF ANY CONFIRMED SMALLPOX CASE, THE FOLLOWING WILL HAVE BEEN SET-UP:

- G1/H1 will have been converted into a Dedicated Type C Facility with an Assessment Area and Ward with a Triage Area adjacent to G1/H1
- Pre-designated health care workers will be staffing the G1/H1 Ward, Assessment Area, and Triage Area and each will have been given smallpox vaccine from CDC; each will be wearing a fitted N-95 mask (call EH&S 723-8143 if you have not been fit tested) or Powered Air Purified Respirator (PAPR), disposable yellow gown or Tyvek coveralls, gloves, goggles, hair cover, and shoe covers (See [Infection Control Precautions for Suspected Bioterrorism Agent Disease](#))
- Controlled entry into the hospital buildings will have been implemented including signs directing all patients who have any rash or known exposure to smallpox to the Triage Area adjacent to G1/H1
- Daily hospital tracking for smallpox cases by the SUMC Infection Control Department using [Guide A: Form 7 – Smallpox Hospital Surveillance Daily Tracking](#) from the [CDC Interim Smallpox Response Plan and Guidelines](#)
- Public Service Announcements will have been made directing persons with suspected smallpox to designated smallpox sites within the Santa Clara County

START HERE

In Triage Area adjacent to G1/H1, screeners will complete triage using [Smallpox Screening Questions and Examination](#)
Known/credible exposure to smallpox or fever/malaise or new rash/oral lesions?

YES ↓

NO →

In G1/H1 Assessment Area, physician will evaluate each patient:

Typical smallpox rash?

- Centrifugal rash (first on face (incl. oral mucosa) and extremities (incl. soles/palms) then trunk)
- Evolves over 1- 2 wks: Maculopapular lesions → vesicular lesions often with umbilication → pustular round tense lesions → flattening of lesions → scabbing of lesions → scarring
- Lesions often painful, may be discrete, confluent, or semi-confluent; all are at the same stage of development

Or atypical smallpox rash?

- Prodromal erythematous maculopapular rash +/- enanthems; hemorrhagic lesions or persistently flat lesions

With/without associated smallpox symptoms (onset usually before rash):

- Fever, chills, malaise, prostration, headache, backache, abdominal pain, vomiting, delirium

- Send patient to ED triage for clinical evaluation

YES/EQUIVOCAL →

NO →

- Consult Dermatology Resident & Attending STAT Call Operator 723-6661
- Consult ID Fellow & Attending STAT Call Operator 723-6661

Smallpox Ruled Out by Dermatology and Infectious Diseases Teams?

NO ↓

YES →

Early smallpox sx without rash in pt with known/credible exposure?

- Fever, chills, malaise, prostration, headache, backache, abdominal pain, vomiting, delirium

YES →

NO ↓

- Notify SCCPHD (408) 885-4214 Days or (408) 229-2501 Nights
- Notify Infection Control Page 16167 (adult) or 18503 (peds)
- Give [Possible Smallpox Information Sheet](#), [Smallpox – FAQ](#), and [Bioterrorism Agent Exposure Epidemiology Tracking Form](#) to the patient
- Collect lab specimens per [Specimen Collection for Suspected Bioterrorism Agent Diseases](#) and hand carry to the Micro/Virology Lab
- Admit patients to G1/H1 Ward if:
 - Signs of sepsis, respiratory distress, or encephalitis
 - Severe prostrating constitutional symptoms
 - Pain control not achievable as an outpatient
 - Lack of social support at home
 - Petechiae, hemorrhage (hemorrhagic smallpox)
 - Persistently flat lesions (malignant smallpox)
 - Confluent lesions
 - Other reasons based on clinical judgment
- If not, place patients in voluntary home isolation (or home quarantine if mandated by the SCCPHD) and give [Smallpox – Home Care Instructions](#)

Face-to-face (<6 ft) or household contact with confirmed/suspected smallpox patient(s) since patient's fever?

or
Person exposed to the initial release of smallpox virus (as defined by CDC/SCCPHD)?

YES ↓

NO ↓

- Notify SCCPHD (408) 885-4214 Days or (408) 229-2501 Nights and notify Infection Control Page 16167 (adult) or 18503 (peds)
- Give [Bioterrorism Agent Exposure Epidemiology Tracking Form](#) to pt
- Reassure all who have not yet had the vaccine that CDC will provide each with it within a few days if exposure deemed significant
- Tx for presenting complaint; if admission is warranted, admit to a negative pressure room (if one is not available, then admit to a standard private room & move to a negative pressure room as soon as possible); if admission is not warranted, treat and arrange follow-up based on clinical judgment

Reassure; disposition, treatment, and follow-up based on clinical judgment

Examples of Early Smallpox Rashes and EnantheMs

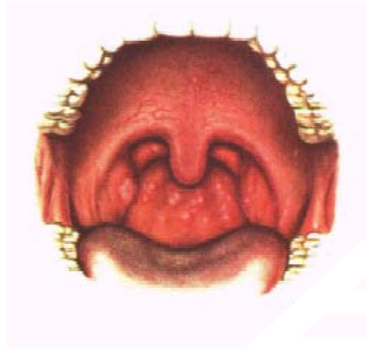
A



B



C



- A. Erythematous prodromal rash* on the upper arm, near the sites of vaccination performed 8 days earlier but sparing the skin immediately adjacent to the vaccination lesions.
(Reprinted from: Fenner F, DA Henderson, I Arita, et al. *Smallpox and its Eradication*. Geneva: WHO, 1988.)
- B. Measles-like prodromal rash* on the lateral side of the trunk on the 4th day of illness.
(Reprinted from: Fenner F, DA Henderson, I Arita, et al. *Smallpox and its Eradication*. Geneva: WHO, 1988.)
- C. The enanthem. Lesions occur throughout the oropharynx and in the nasal cavity, as well as on the tongue. The lesions on the palate are usually smaller than those on the posterior pharyngeal wall and tonsil.
(Reprinted from: Uchida M. *Atlas of the Acute Infectious Diseases. Volume 2. Smallpox*. Tokyo: Kanchara Shuppan, 1955 [Japanese].)
- * The prodromal rashes are best seen in fair-skinned persons and are more common in those previously vaccinated.

Appearance and Distribution of Established Smallpox Rash

APPEARANCE

Day 3



Day 5



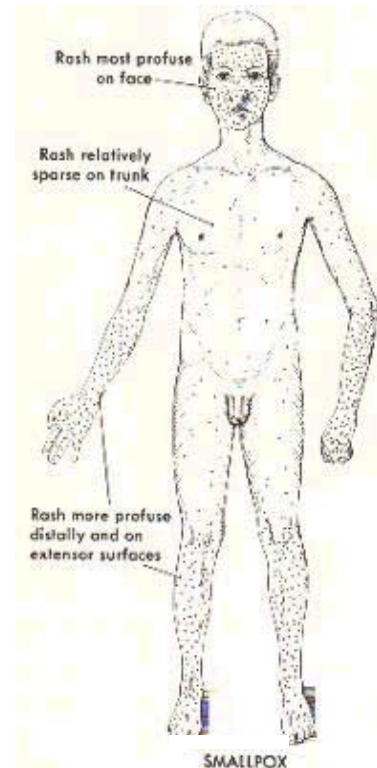
Day 7



Typical established smallpox rash at days 3, 5, and 7 of evolution. Smallpox lesions are denser on the face and extremities than on the trunk; they appear on the palms of the hand; and they are similar in appearance to each other. They progress from macules to papules to pustules to scabs.

(Reprinted from: http://jama.ama-assn.org/issues/v281n22/fig_tab/jst90000_f2.html)

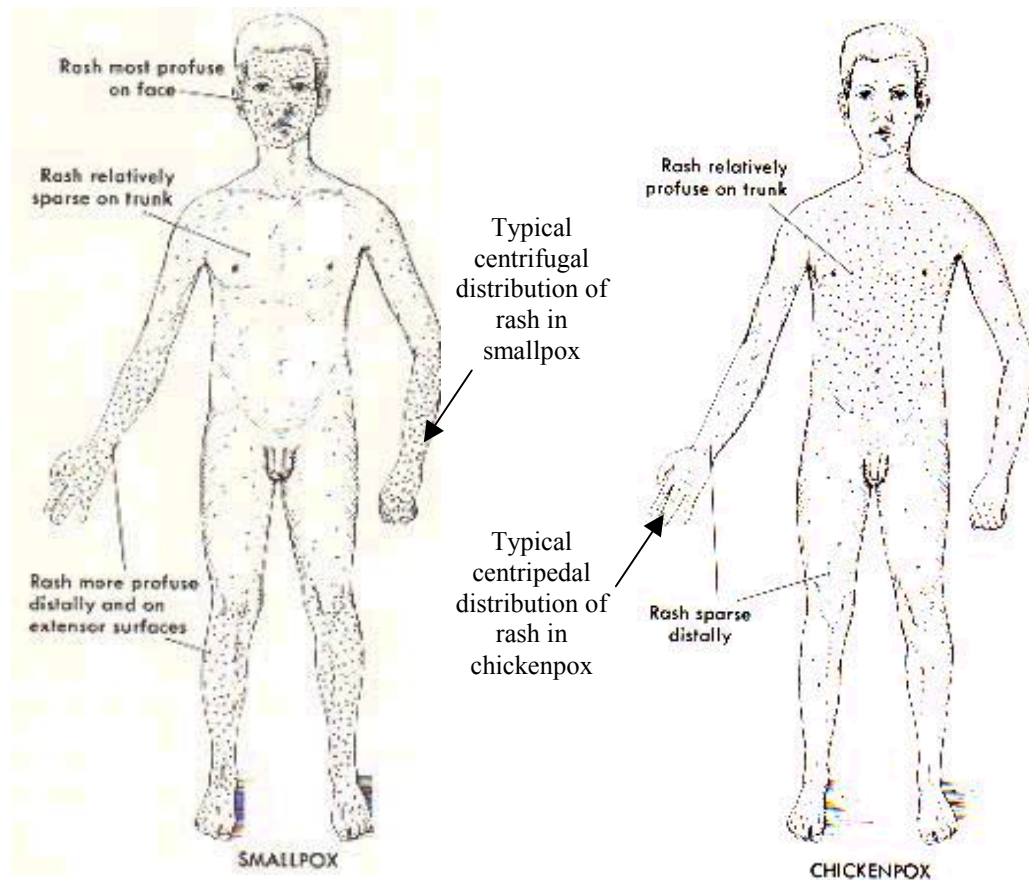
DISTRIBUTION



Typical centrifugal distribution of established smallpox rash

Comparison of Smallpox to Chickenpox

	SMALLPOX	CHICKENPOX
FEVER:	2-4 days before the rash	At the time of the rash
RASH:		
<i>Evolution</i>	Evolves slowly over 1-2 wks	Evolves quickly over 5-7 days
<i>Appearance</i>	Lesions at the same stage of evolution	Lesions at all stages of evolution
<i>On palms and soles</i>	Usually present	Usually absent
<i>Distribution</i>	Centrifugal (see below)	Centripetal (see below)



Unlike chickenpox lesions, smallpox lesions are denser on the face and extremities than on the trunk; they appear on the palms of the hand and soles of the feet; and they are similar in appearance to each other. In chickenpox, one would expect to see, in any area, macules, papules, pustules, and lesions with scabs.

NB: Children vaccinated for chickenpox may still develop chickenpox although it is usually only a mild infection with minimal number of lesions.