

Smallpox: Differential Diagnosis

General Information

Transmission

- Direct contact with lesions, body fluids or contaminated bedding and towels
- Droplet inhalation (within 6 feet)

Contagious: YES

- With onset of fever and rash
- Once all scabs have fallen off, the patient is no longer contagious

Incubation Period: 12-14 Days

Initial Symptoms

- High fever (101 - 104°F), malaise, head and body aches

Rash Characteristics

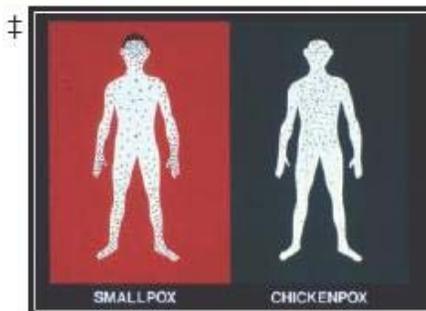
- Begins on face which spreads to arms, legs, hands and feet. All lesions on any one part of the body are in the same stage of development
- 3rd day: Rash becomes raised bumps
- 4th day: Become fluid-filled with a depressed center (bellybutton-like)

Can be Misidentified as Chickenpox



Smallpox (upper photos):
Lesions present on palms of hands and soles of feet

Chickenpox (lower photos):
Lesions rarely seen on palms of hands and soles of feet



Lesion Distribution

Specimen Collection Procedures

ONLY vaccinated individuals should perform collection of suspect smallpox specimens

Personal Protective Equipment (PPE): Gloves and N95 Respirator

Specimens to be Collected

Specimen collection and transport guidelines are available at the State Laboratories Division-DOH website.

Acceptable; specimen types: Swab, touch prep and scabs

Safety:

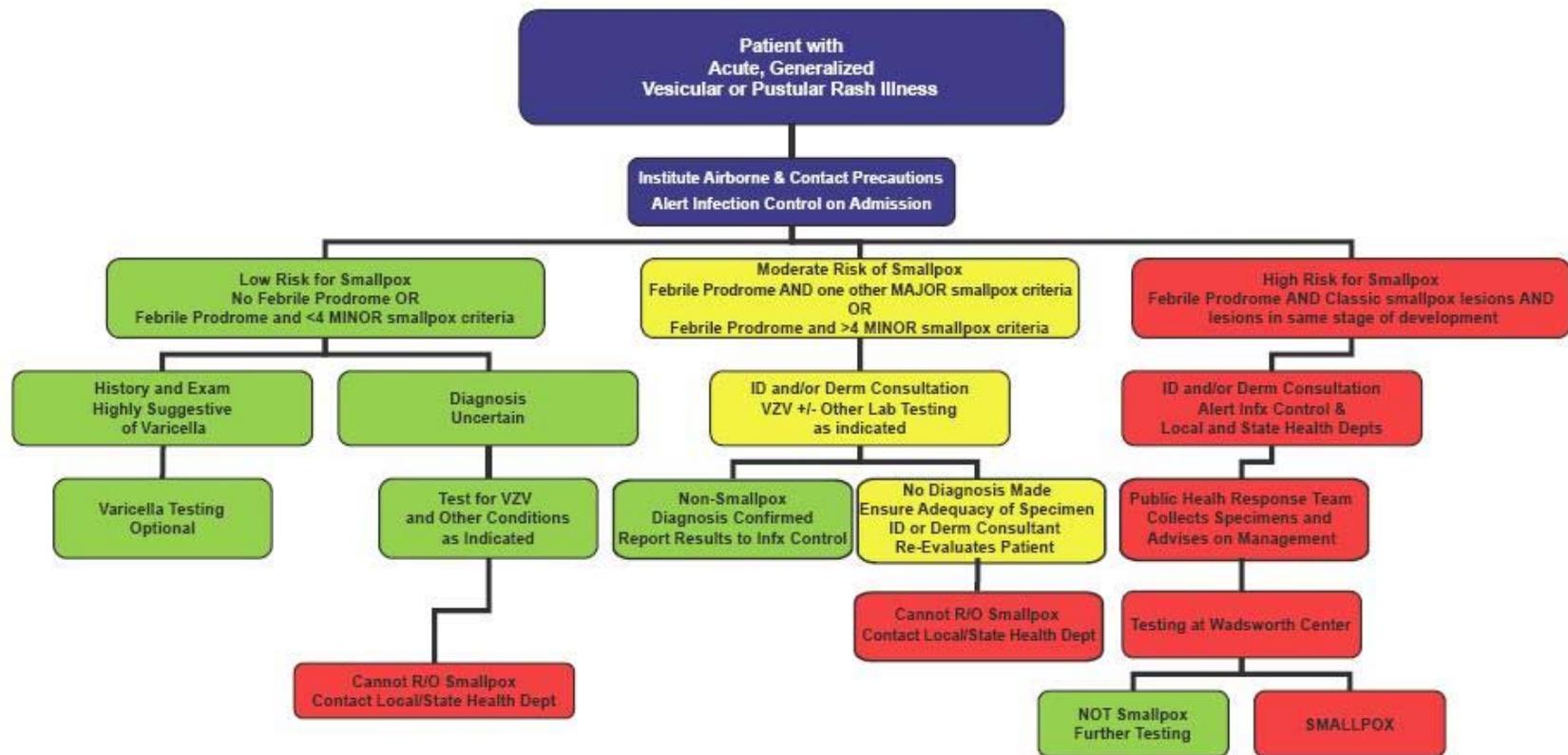
Smallpox is HIGHLY INFECTIOUS. Manipulation of specimen material should be avoided.

Labs should not attempt to culture or perform any diagnostic assay on specimens that are high risk of having smallpox.

A completed Chain-of-Custody documentation shall accompany the specimen.



Patient Evaluation for Smallpox Infections



Major Smallpox Criteria

Febrile prodrome: Occurring 1 - 4 days before rash onset, Fever >101°F AND at least one of the following: prostration, headache, backache, chills, vomiting or severe abdominal pain

Classic smallpox lesions: Deep-seated, firm/hard vesicles or pustules, may be umbilicated or confluent

Lesions in same stage of development: On any one part of the body all lesions are in the same stage of development (i.e.: all vesicles or all pustules)

Minor Smallpox Criteria

Centrifugal distribution with greatest concentration of lesions on face and distal extremities

First lesions on the oral mucosa, face or forearms

Slow evolution of lesions: macules to papules to pustules

Lesions on the palms and soles

Patient appears toxic or moribund

	SMALLPOX	CHICKENPOX
FEVER	2 to 4 days before rash	At time of rash
RASH		
• Appearance	Pocks in same stage	Pocks in several stages
• Development	Slow	Rapid
• Distribution	More pocks on arms and legs	More pocks on body
• On palms and soles	Usually present	Usually absent
DEATH	Usually 1 in 10 die	Very uncommon

Source: Centers for Disease Control and Prevention (CDC)