

# 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

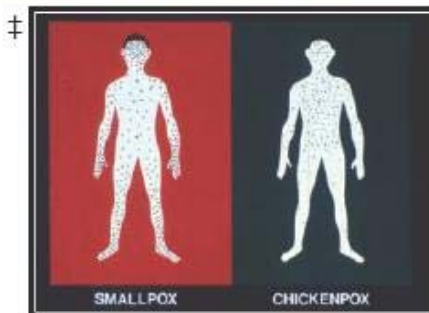
- Begins on face which spreads to arms, legs, hands and feet. All lesions on any one part of the body are in the same stage of development
- 3<sup>rd</sup> day: Rash becomes raised bumps
- 4<sup>th</sup> day: Become fluid-filled with a depressed center (bellybutton-like)

### 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:

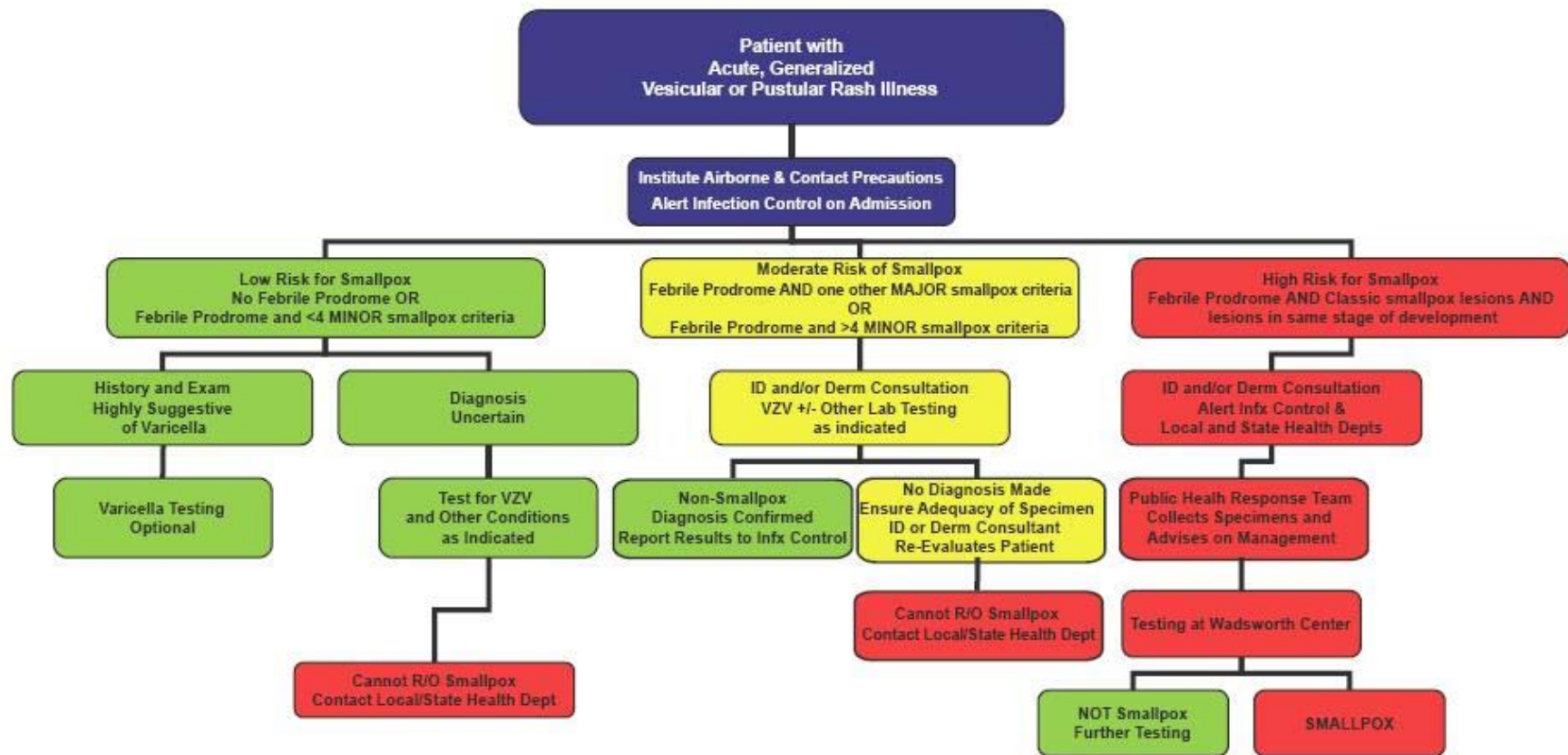
Smallpox is HIGHLY INFECTIOUS. Manipulation of specimen material should be avoided.

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)