



Large Vaccination Reactions and Robust Takes Bacterial Superinfection of Site



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Robust Takes Definition



- Area of redness greater than 3 inches
- Swelling
- Warmth
- Pain at Vaccination Site



Robust Takes Differentiation



- Robust Take
 - ◆ Onset 8-10 days post-vaccination
 - ◆ Clinical improvement within 72 hours
 - ◆ Lack of clinical progression
- Secondary Bacterial Infection
 - ◆ Onset within 5 days post-vaccination, OR
 - ◆ Greater than 30 days post-vaccination



Robust Takes Clinical Management



- Vigilant observation
- Patient Education
- Supportive care
 - ◆ Rest of affected limb
 - ◆ Oral, non-steroidal anti-inflammatory medications
 - ◆ Oral anti-pruritic agents
- Do NOT apply salves, creams or ointments to vaccination site

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Vaccinia Specific Adverse Events

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Vaccinia Adverse Events

- Contact Transmission Cases
 - ◆ Eczema vaccinatum
 - ◆ Inadvertent inoculation
 - ◆ 5-19 days after suspected exposure
 - ◆ Rate of 2 to 6 per 100,000 first-time vaccinations



Prevention of Contact Transmission



- Proper hand-hygiene
- Healthcare Setting
 - ◆ Cover with gauze
 - ◆ Cover gauze with semi-permeable dressing
 - ◆ Until scab separates
- Non-Healthcare Setting
 - ◆ Cover with gauze
 - ◆ Wear sleeve over site

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Adverse Events Associated with Smallpox Vaccine



- Inadvertent inoculation
- Ocular vaccinia
- Generalized vaccinia
- Eczema vaccinatum
- Progressive vaccinia
- Post-vaccinial Encephalopathy
- Encephalomyelitis
- Fetal Vaccinia



Contraindications to Smallpox Vaccine



- Pregnant Women
- Eczema or Atopic Dermatitis
- Immunosuppression
- Skin Conditions (burns, herpes, shingles, etc.)
- Allergic to vaccine components



Treatments for Adverse Events



- VIG
- Cidofovir
- Ophthalmic antivirals

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Rates of Adverse Events 1968



	National Survey		Ten-State Survey	
	All primary vaccinees	Vaccinees ≥ 1 yr old	All primary vaccines	Vaccinees ≥ 1 yr old
Serious, but not life-threatening				
Inadvertent Inoculation	25.4	27.1	529.2	532.0
Generalized Vaccinia	23.4	17.7	241.5	222.8
Erythema Multiforme	NA	NA	164.6	131.3
Total	48.8		935.3	
Life-threatening reactions				
Postvaccinial Encephalitis/ Encephalomyelitis	2.9	2.4	12.3	8.6
Progressive Vaccinia	0.9	1.0	1.5	1.7
Eczema Vaccinatum	10.4	10.6	38.5	41.5
Total	14.2		52.3	
Deaths	1.1	0.6	1.5	None

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Rates of Adverse Events Today



- May be higher today
- More persons at risk from immune suppression
 - ◆ Cancer
 - ◆ Cancer therapy
 - ◆ Radiation
 - ◆ Organ Transplantation
 - ◆ HIV/AIDS
 - ◆ Eczema or Atopic Dermatitis

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Local Skin Reactions Irritation from Adhesive Dressing



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Local Skin Reactions Irritation from Adhesive Dressing





Local Skin Reactions Secondary Reaction to Adhesive Dressing





Non-Specific Rashes Erythematous Patches



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Non-Specific Rashes

Maculopapular Rash



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