

SKIN LESIONS YOU MAY RUN ACROSS IN YOUR WORK

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Intoxications, and Travel-Related Infectious Diseases of the Southwest”

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DIFFERENTIATING SKIN ESCHARS AND BULLAE



Zoonotic disease	Differentiating points
Tularemia (<i>Francisella tularensis</i>)	Prominent lymphadenopathy
Orf	Painless bullae
Cat scratch	Fleeting eschar
Tick-borne <i>Rickettsia</i> : <i>R. africae</i> , STARI, RMSF	Small eschar, often with body rash
Anthrax: Bullous lesions give rise to eschar	Gram-positive bacilli beneath eschar

LET'S START WITH ORF! A ZOOONOSIS OF SHEEP AND GOATS

More terrifying looking than any problems it causes
Heals without scarring
Rarely fever or erythema multiforme after two weeks



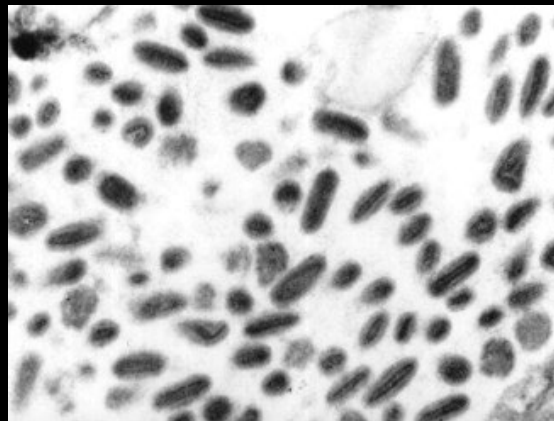
ORF

- Human Orf Virus Infection from Household Exposures — United States, 2009–2011
- 4 cases from MMWR, 2012
- Slaughtering of sheep and goats at home
- Lesions developed at site of bone puncture in two, cut finger in another
- Large targetoid lesions, painless can be 3 inches across



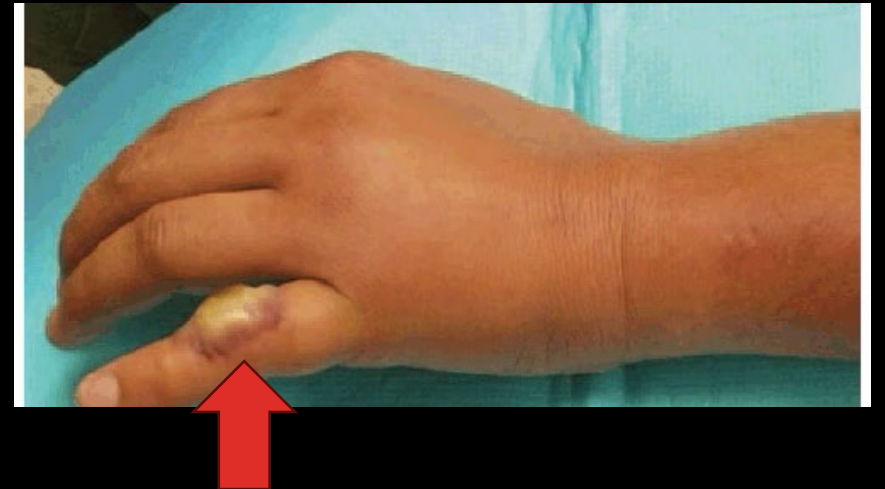
WHAT IS ORF?

- Parapox virus infection known as orf or ecthyma contagiosum=contagious ecthyma
- Harmless cutaneous lesions of the skin in man (hands, arms, face)
- Caused by contact with infected animal or fomite
- Sheep, goats, camels



I BRING THIS UP BECAUSE OF UPCOMING RELIGIOUS HOLIDAYS AND CHANGING CULTURES

- Passover April 12, 2025
- Easter: April 20, 2025
- Eid-ul Adha June 25, 2025
- Ethiopia: traveling on buses with bags of sheep skins



RESOLUTION

- Imiquimod
- 4-8 days incubation
- Self-healing in 6-8 weeks
- May dehisce and drain
- No scarring
- Secondary bacterial infection possible

2005 IN TUCSON AREA

Herd of Bighorn
Sheep in Silverbell
Mtns.

Wildlife biologist
at UA capturing
sheep



Domestic sheep
flock grazing on
land before
Bighorns

Scabs can
remain
contagious for
years



BACILLUS SPECIES

***Bacillus* species
important in
recycling of
carbon and
nitrogen**

**Over 30 *Bacillus*
species; several
are pathogens of
insects**

***B. anthracis*
possesses 2
plasmids which are
required for
pathogenicity**

Ft. Smith,
Kansas 1905

Outbreak of
anthrax in
cattle, same
farm in 1990



**PATHOGENICITY
OF *B.*
*ANTHRACIS***

**Possession of a 60 kDa
plasmid encoding a
polyglutamic acid capsule**

**Possession of a 120 kDa
plasmid with a tripartite toxin
(protective factor, edema
factor and lethal factor)**

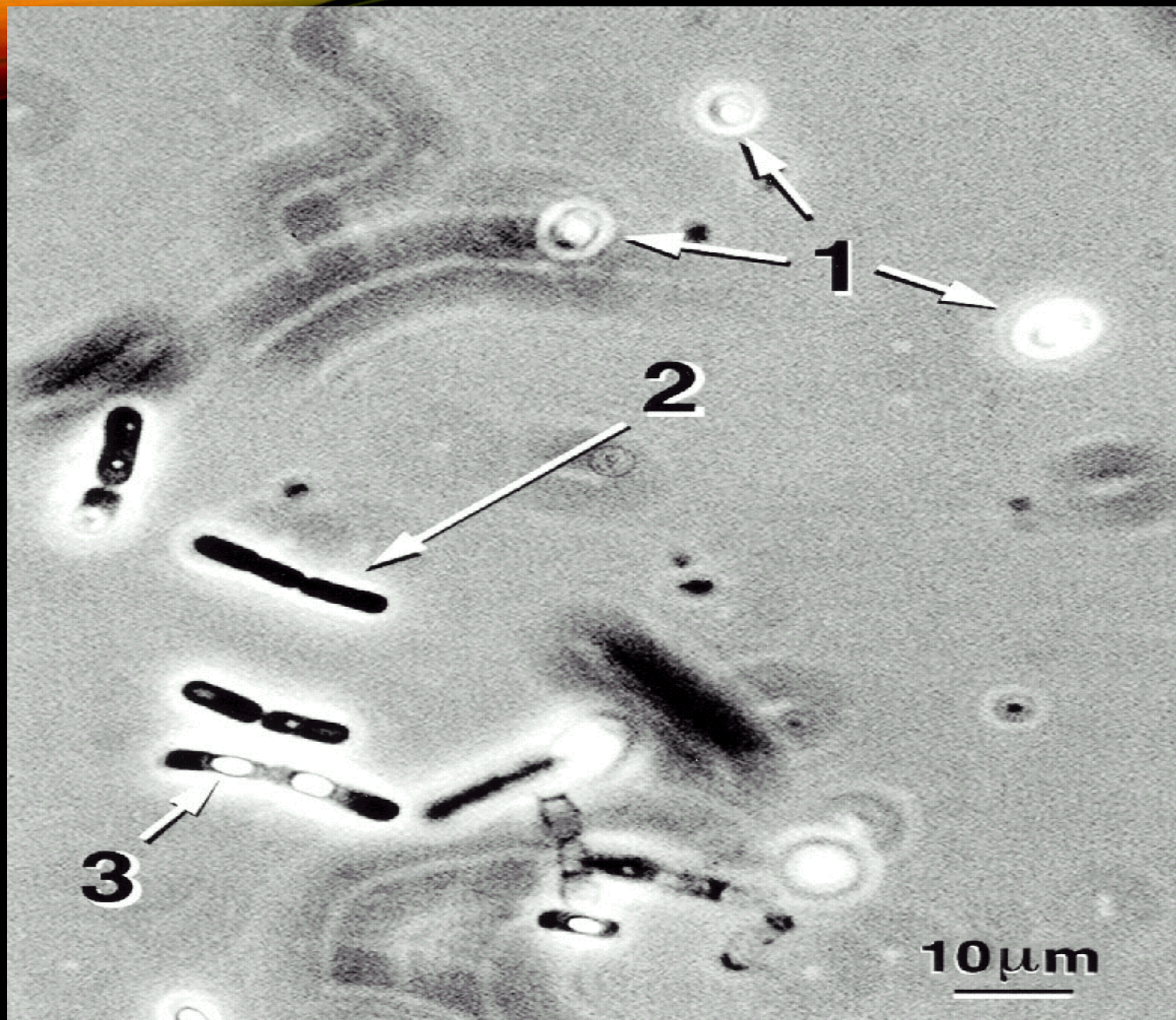
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Papular lesion of anthrax





**Anthrax lesion on arm of
ABC News Producer's son**



Boxcar-like
gram positive
bacillae seen
under eschar
(2)

10µm

**Pleuropneumonitis after
inhalation**

Hemorrhagic Meningitis

**Treat with aminoglycosides,
ciprofloxacin**

**Prophylaxis with doxycycline or
ciprofloxacin**

Think anthrax

Employment history: herdsman, veterinarian, textile worker, hide/wool worker

Chest x-ray findings: widened mediastinum; pleural effusion (hemorrhagic)

Cutaneous lesions: necrotizing ulcer with bullae; eschar (bacteria present beneath lesion)

Hemorrhagic meningitis: gram-positive bacteria present in CSF

WHEN TO THINK: ANTHRAX



Francisella tularensis



Modes of Acquisition of Tularemia

MONKEY POX

- Orthopoxvirus
- Native to Central Africa in monkeys
- Can be transmitted to other mammals-e.g., prairie dogs in N. America
- Man to man transmission: 2022 epidemic
- Vaccinia-derived vaccine



38-YEAR OLD FARMER, BUTCHERED
BULL 10 DAYS BEFORE FOR EID -UL
ADHA IN TURKEY. WHAT IS THE
DISEASE.



HISTORY

- Laboratory examination revealed white blood count 11 600 cells/ μ L with left shift, and C-reactive protein 85 mg/dL (N: 0-5). Aspiration of material was obtained from the lesion on the 4th finger, stained with Gram stain and cultured. Gram-positive bacilli were seen