Clinical Pearls: Management of DM Foot

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Learning Objectives

- Evaluate DM foot ulcer
- Diagnosis and treatment Charcot Foot
- Initiate treatment for ingrown toenail

Evaluate DM Foot

- Foot check – EVERY VISIT!
  - Shoes and socks off
  - Look under band-aids

Why?

Identify DM pt's at risk of foot ulcer

>25% foot ulcer = amputation

Reduce risk of major LE amputation

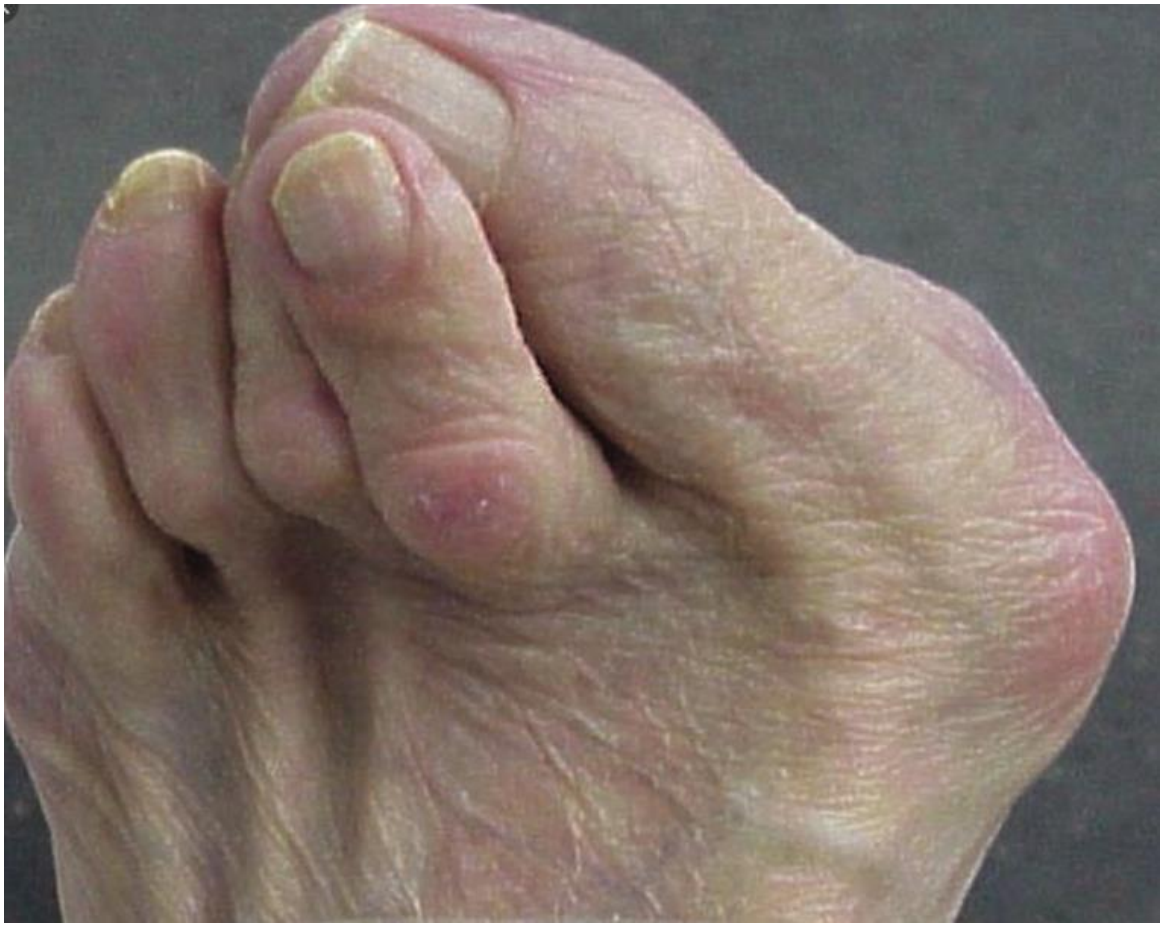
50% mortality at 5 yrs post-op

DM foot = 2/3 LE amp in US

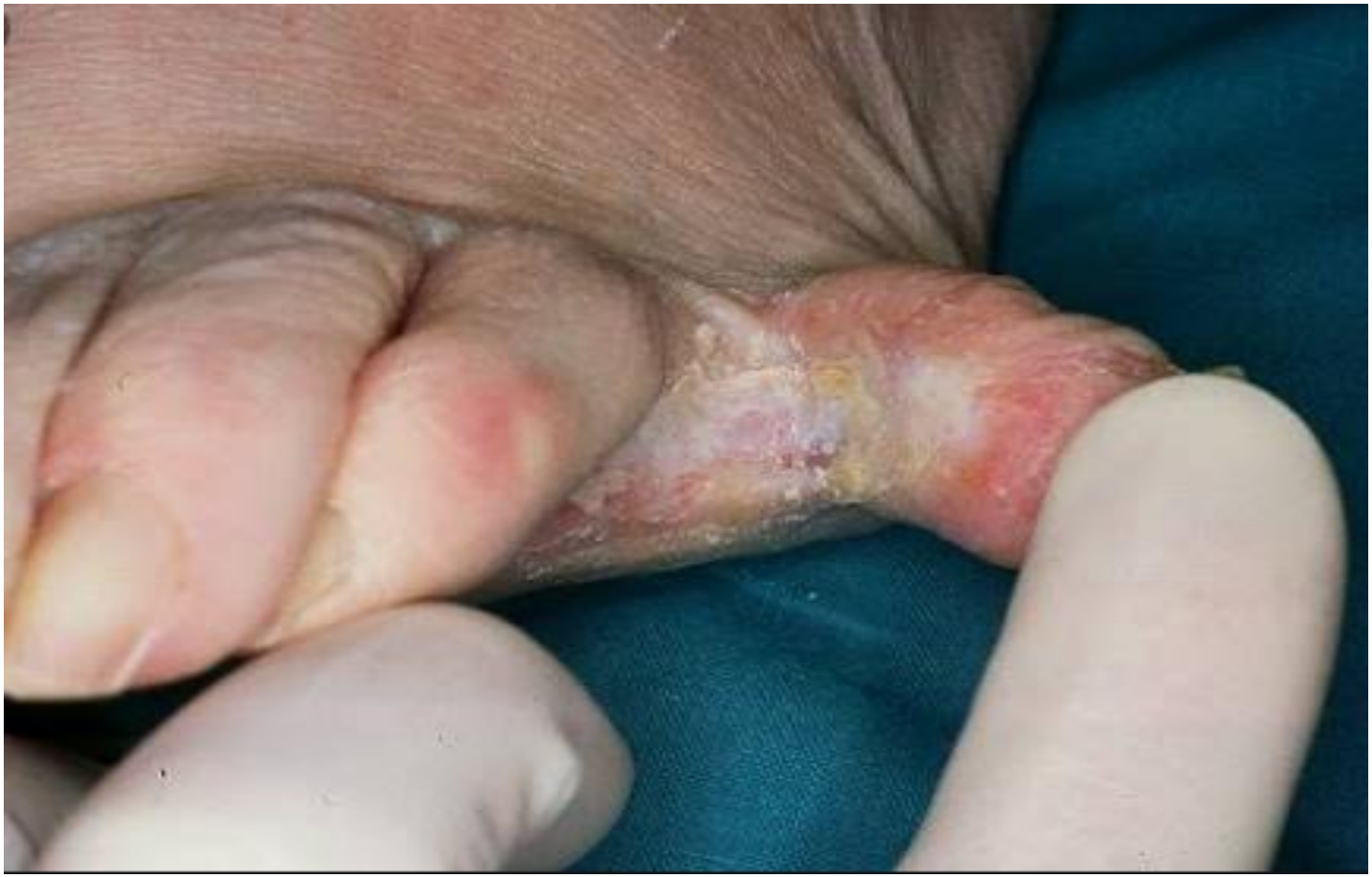
DM foot exam

- **Visual inspection**
  - Foot deformity
  - Skin integrity
- **Palpate pulses**
  - Yes/No - DP&PT
- **Monofilament exam**
  - Test toes and forefoot

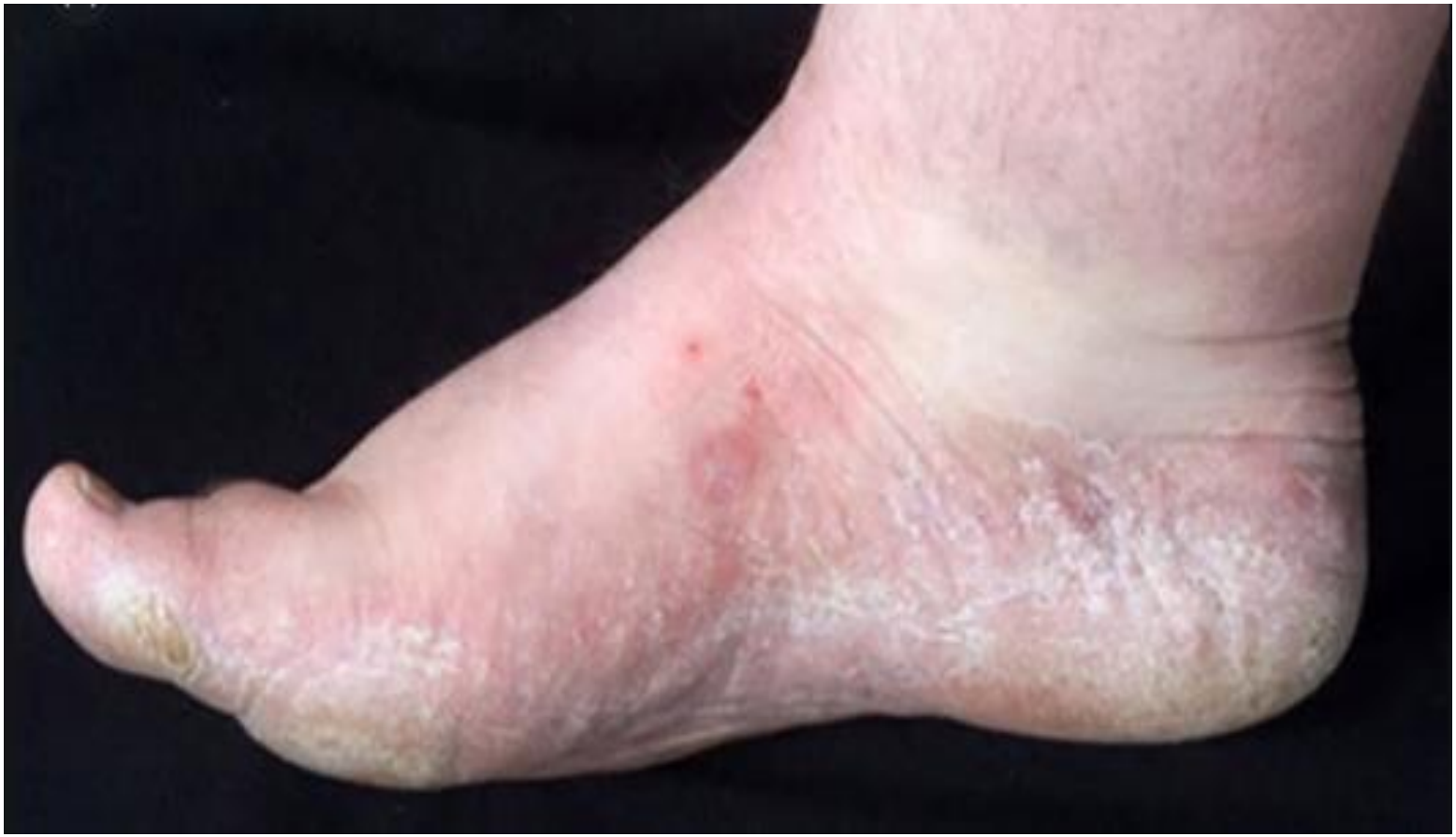
Visual inspection



Visual inspection

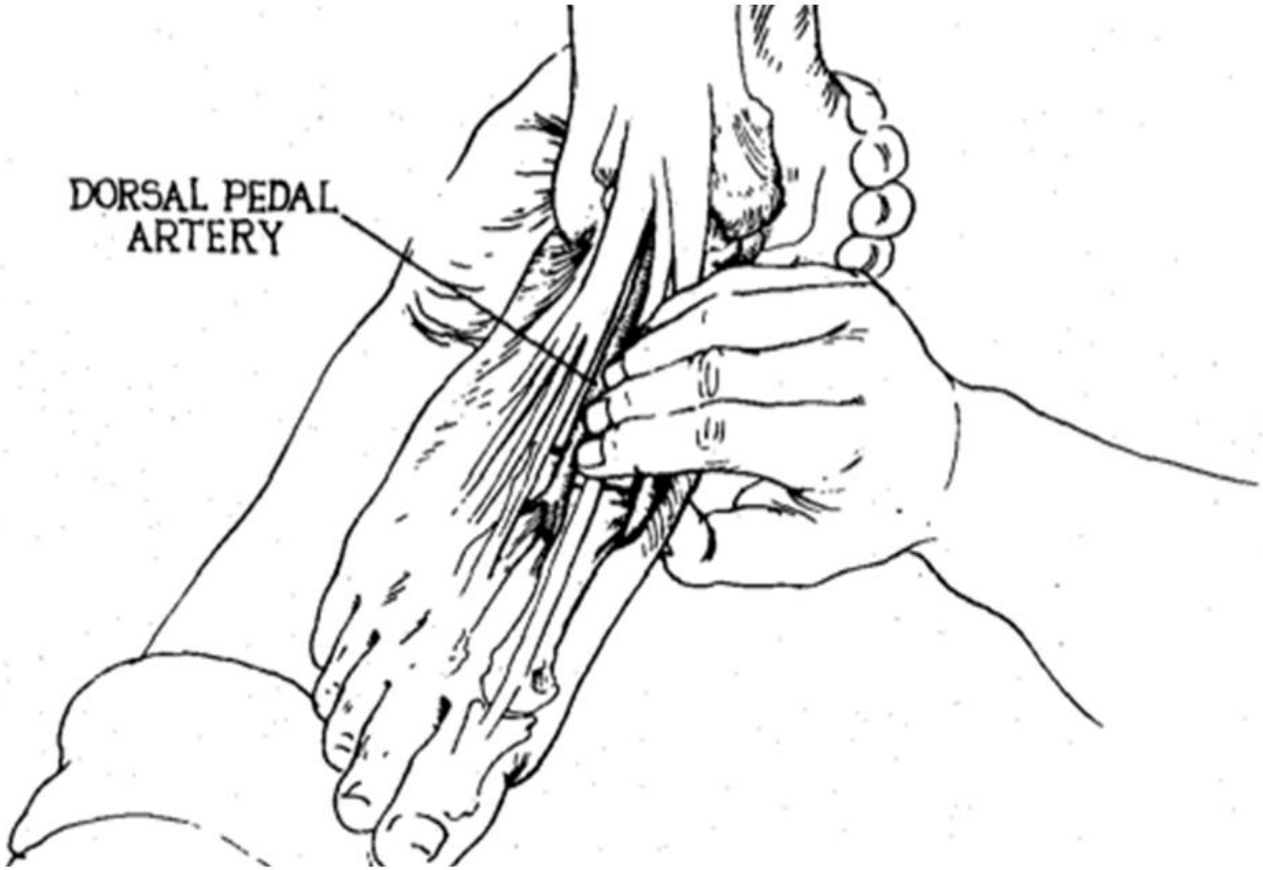


Visual inspection

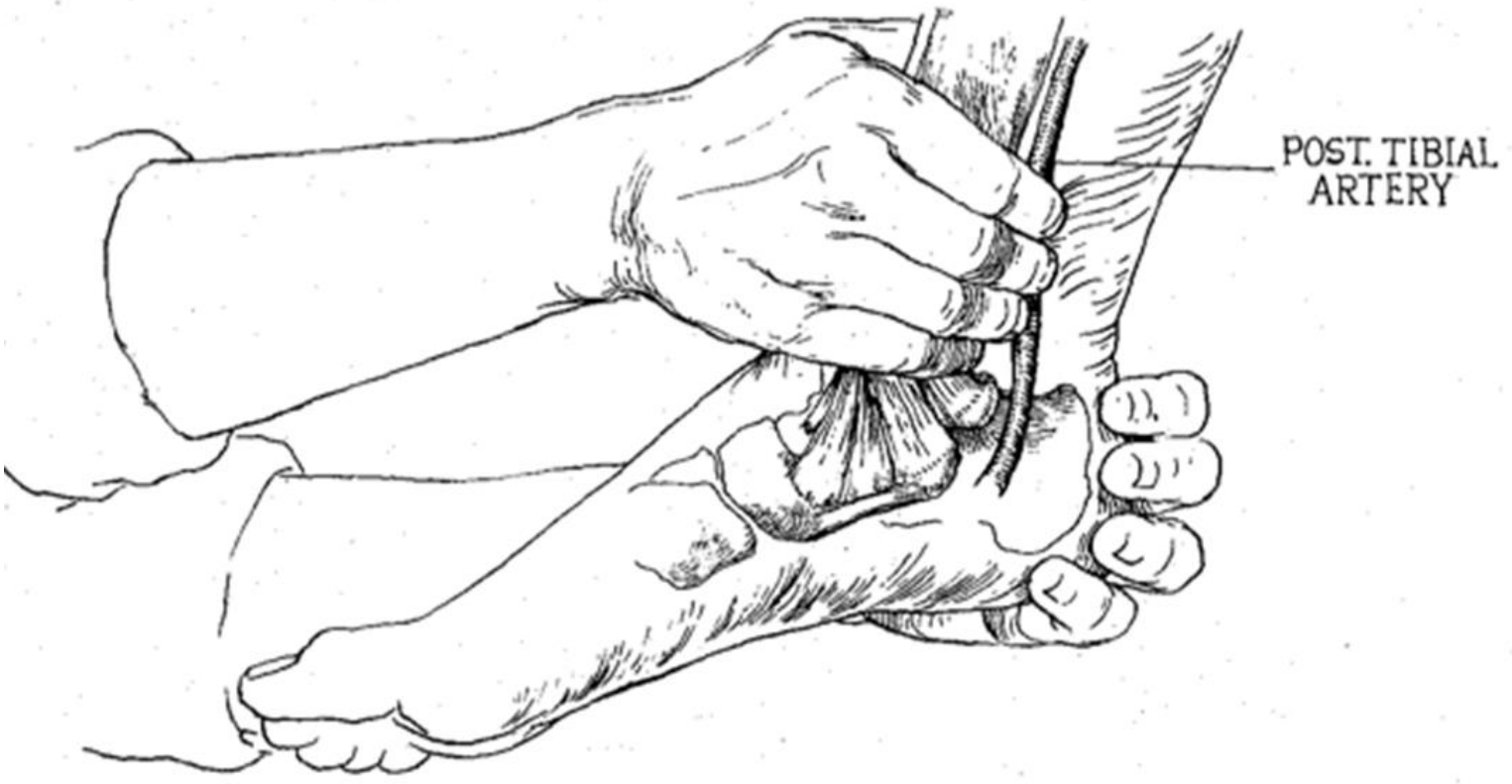


Visual inspection

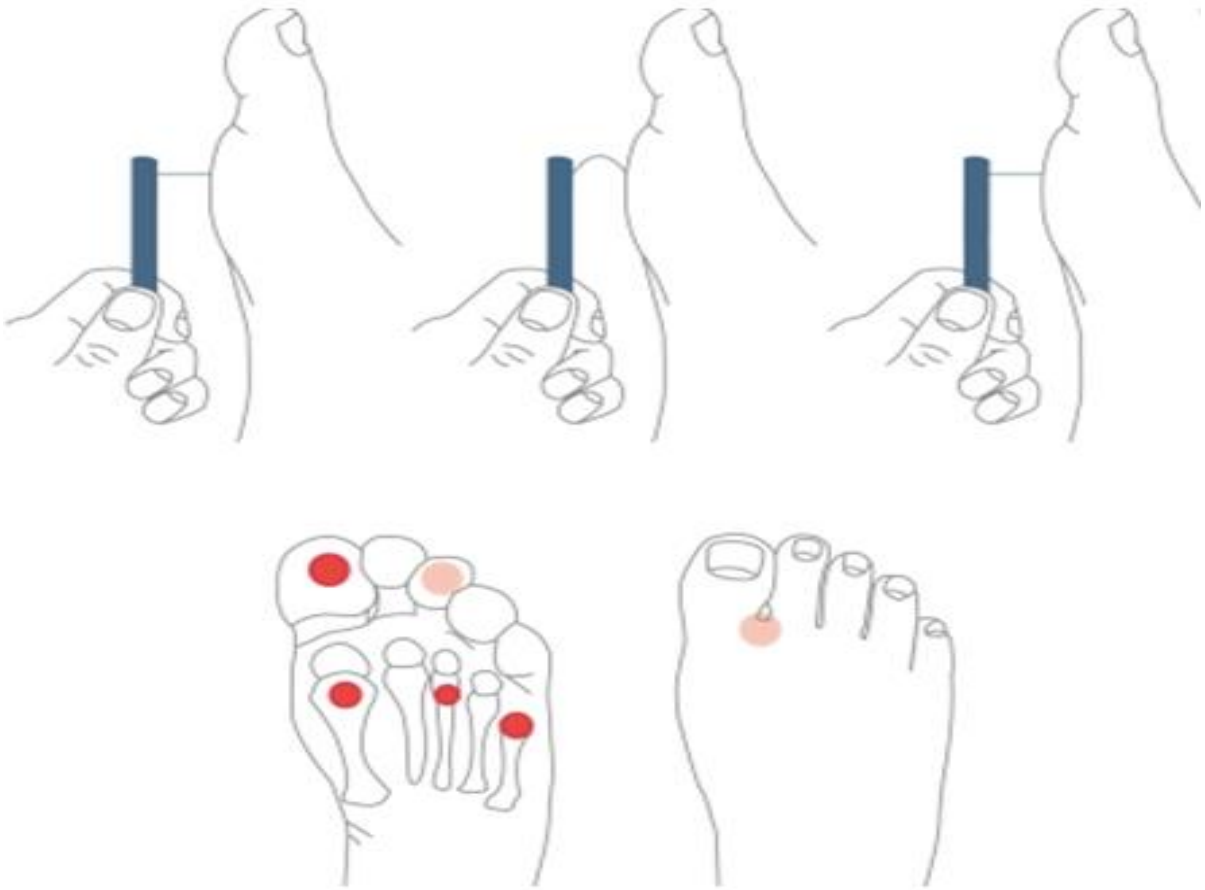
Palpate pulses



Palpate pulses



Monofilament exam



Risk Category

- **Low Risk**: (+) protective sensation

  0

- **High Risk** : (-) protective sensation

  1 - (-) deformity (-) Hx ulcer

  2 - (+) deformity (-) Hx ulcer

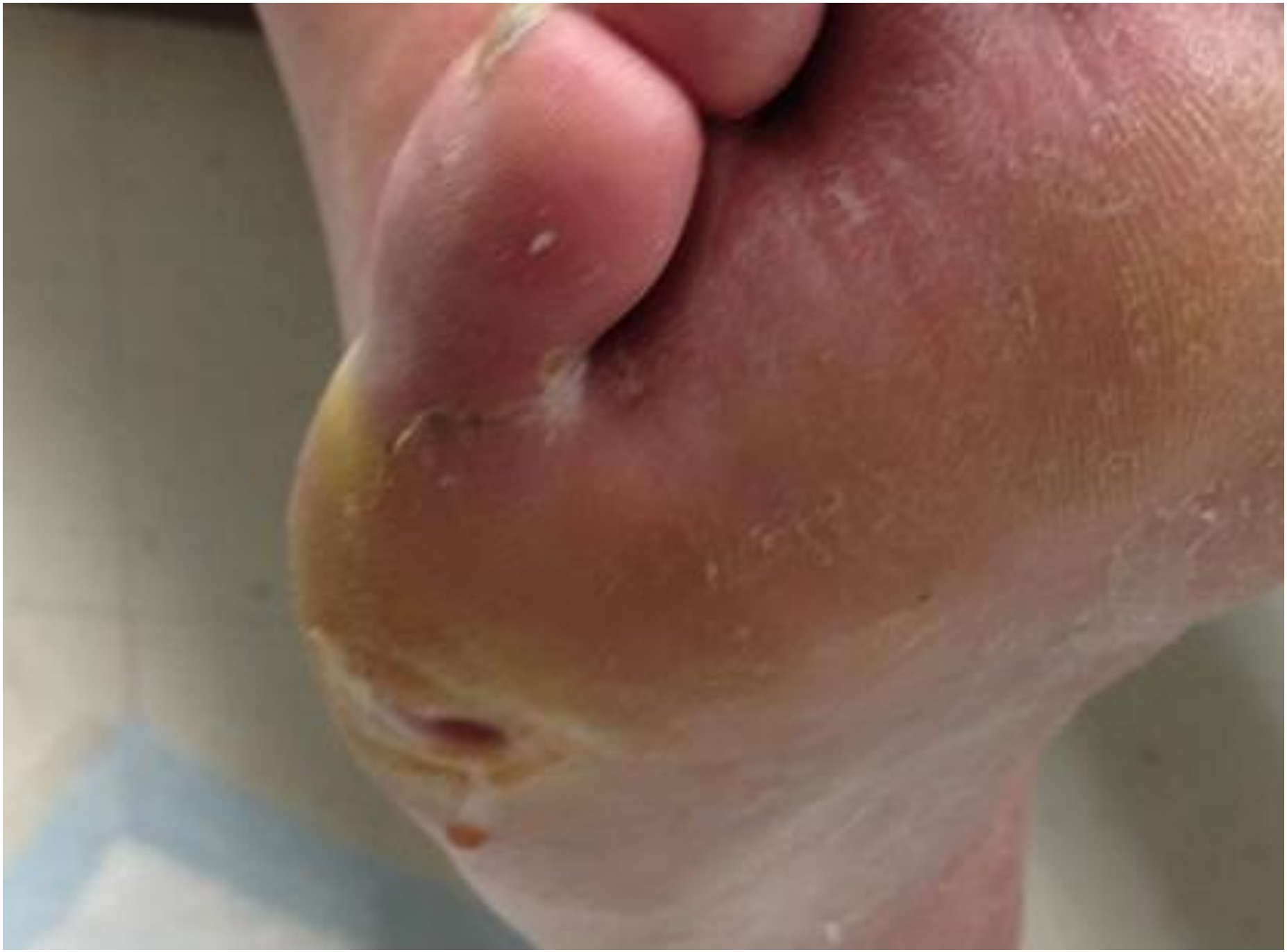
  3 – (+/-) deformity (+) Hx ulcer

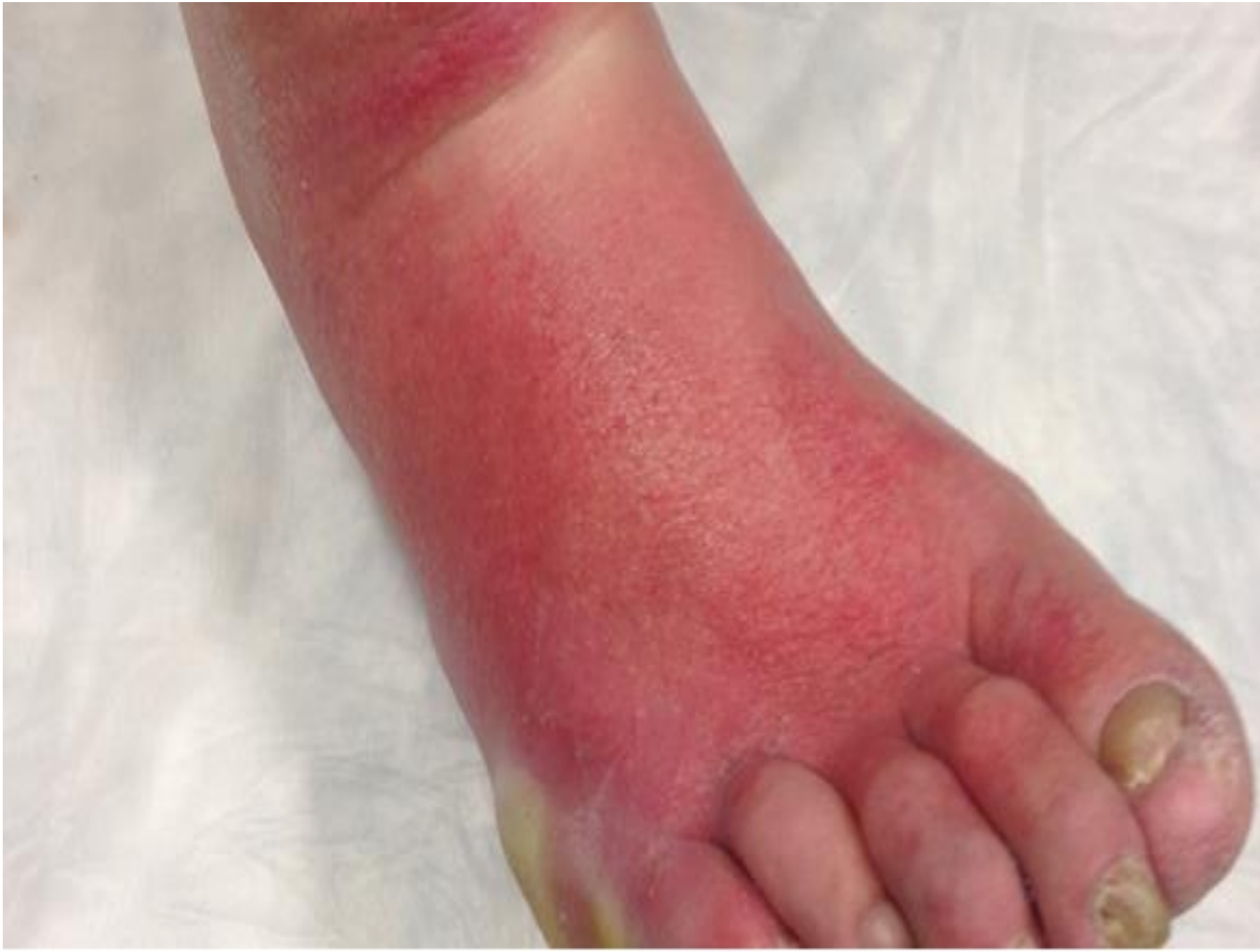
Rx DM footwear

- Medicare criteria for DM footwear
  - DM w/ Hx of amputation (BKA, partial foot)
  - DM w/ loss of protective sensation **AND**
    - Foot deformity
    - Pre-ulcerative callus
    - Hx of foot ulcer

Foot Ulcer: is it infected?

- Return visit:
- 65 yo male with CHF, CRI and DM
- Pt mentions a “blister” on his foot
  - Increased LE edema, late refill diuretic
  - Recent Cr 1.8, HbA1c 11%
  - It’s Friday afternoon…





DM Foot ulcer

- Work up from clinic visit:
  - Labs: CBC, BMP, CRP, ESR, deep culture
  - X-ray: 3 views foot – weight bearing
  - Vascular studies if unable to palpate pulse
    - Non-invasive studies: ABI, TBI, Arterial doppler

Preliminary Work-up:

Labs:

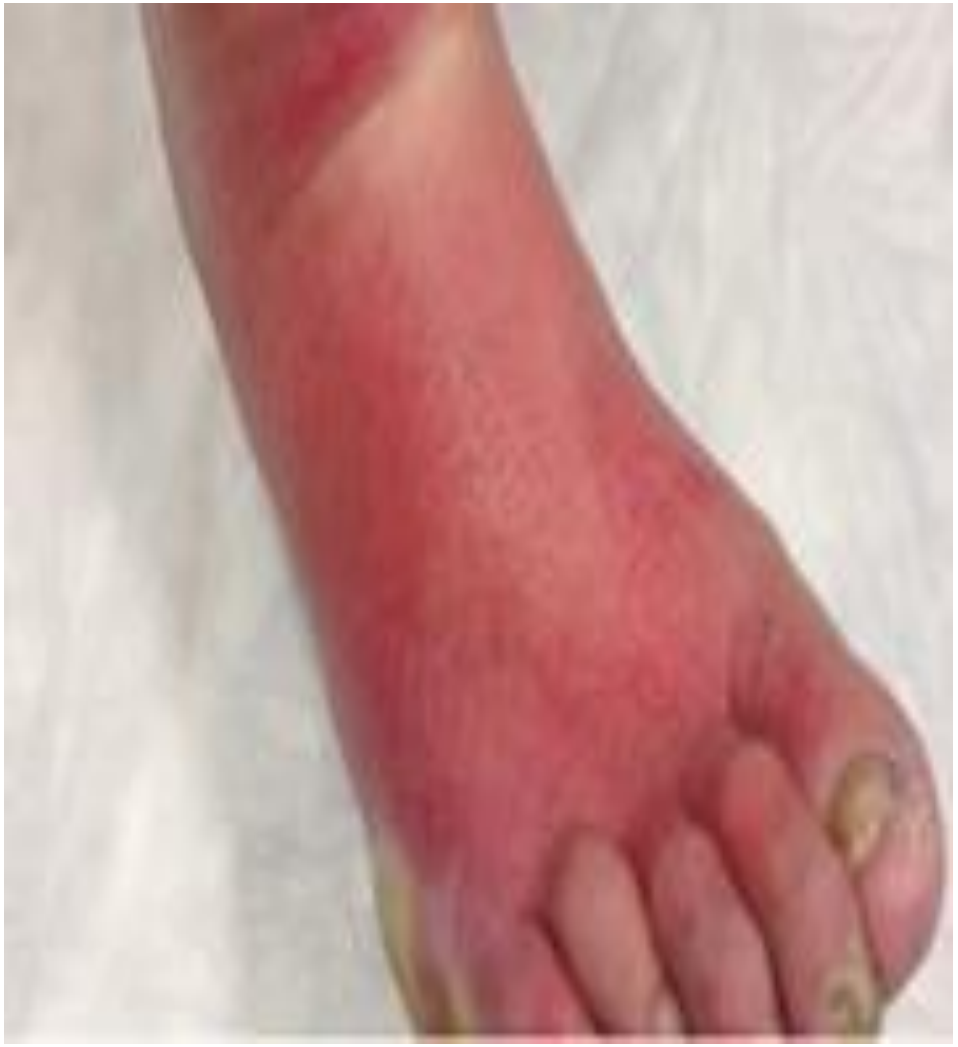
- WBC – 12.04
- BMP – Cr 2.73 mg/dL
- CRP – 27.3 mg/L
- ESR 129 mm/hr
- gm stain (+) cocci

X-ray :

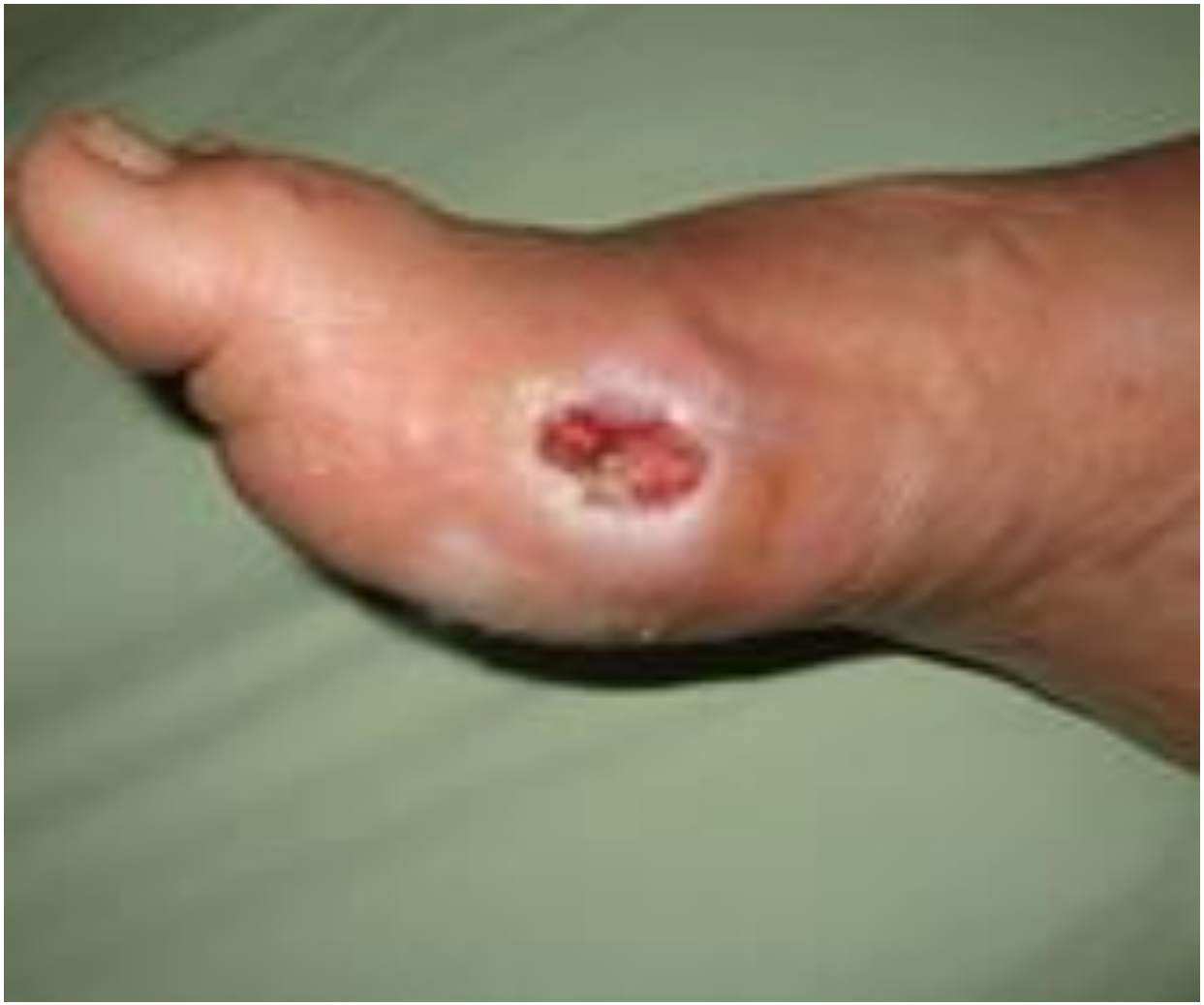
- erosion 5th met head

Cellulitis > 2cm from wound

Palpable pulses DP&PT



What if……?



Preliminary work-up

Labs:

WBC – 10.09

BMP – Cr 1.8 mg/dL

CRP – 3.0 mg/L

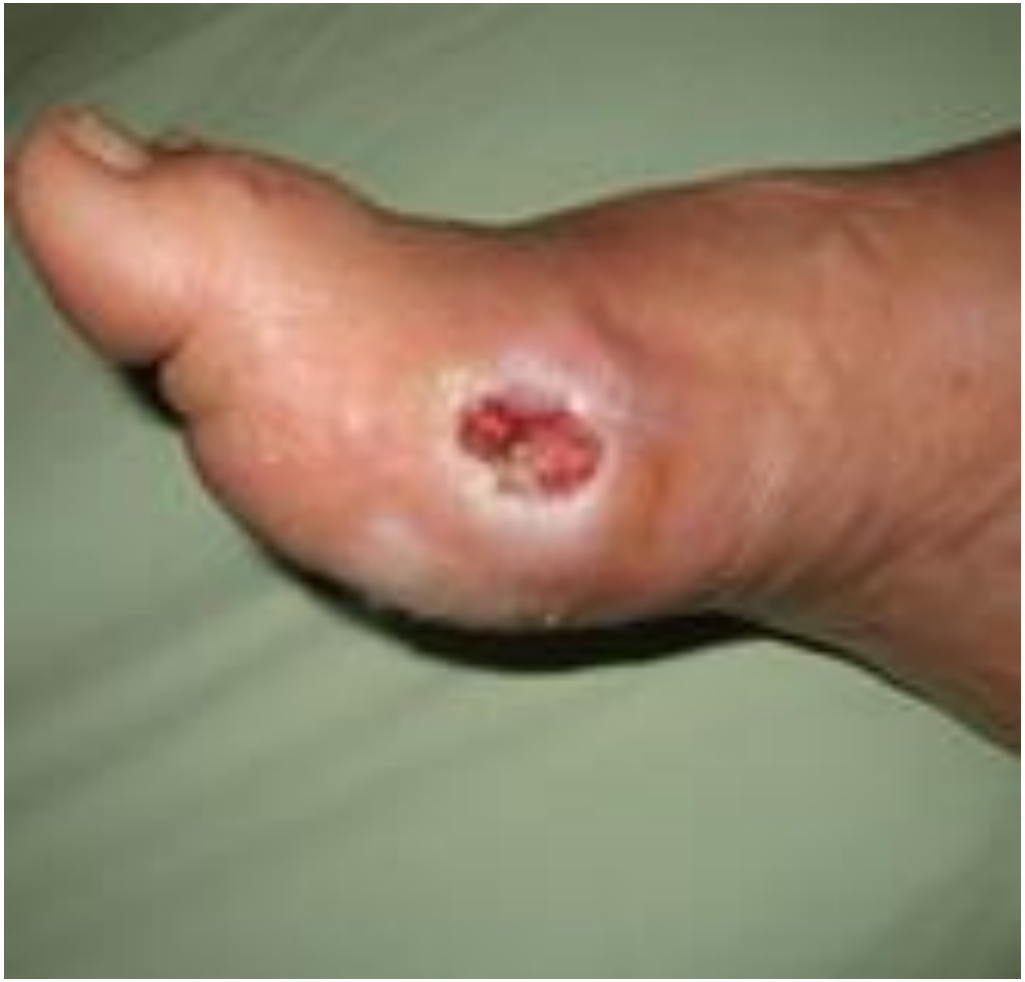
ESR – 48 mm/hr

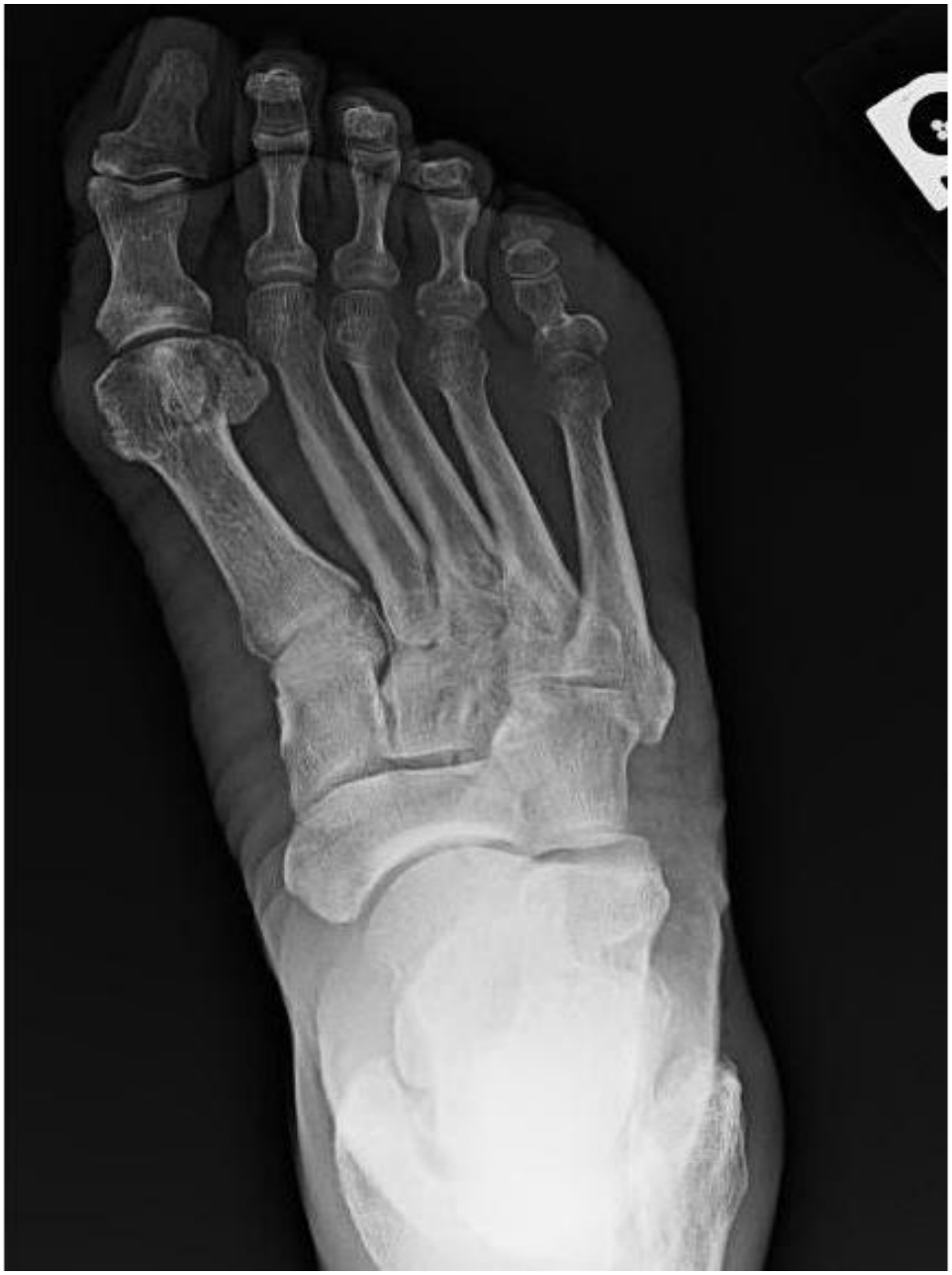
X-ray:

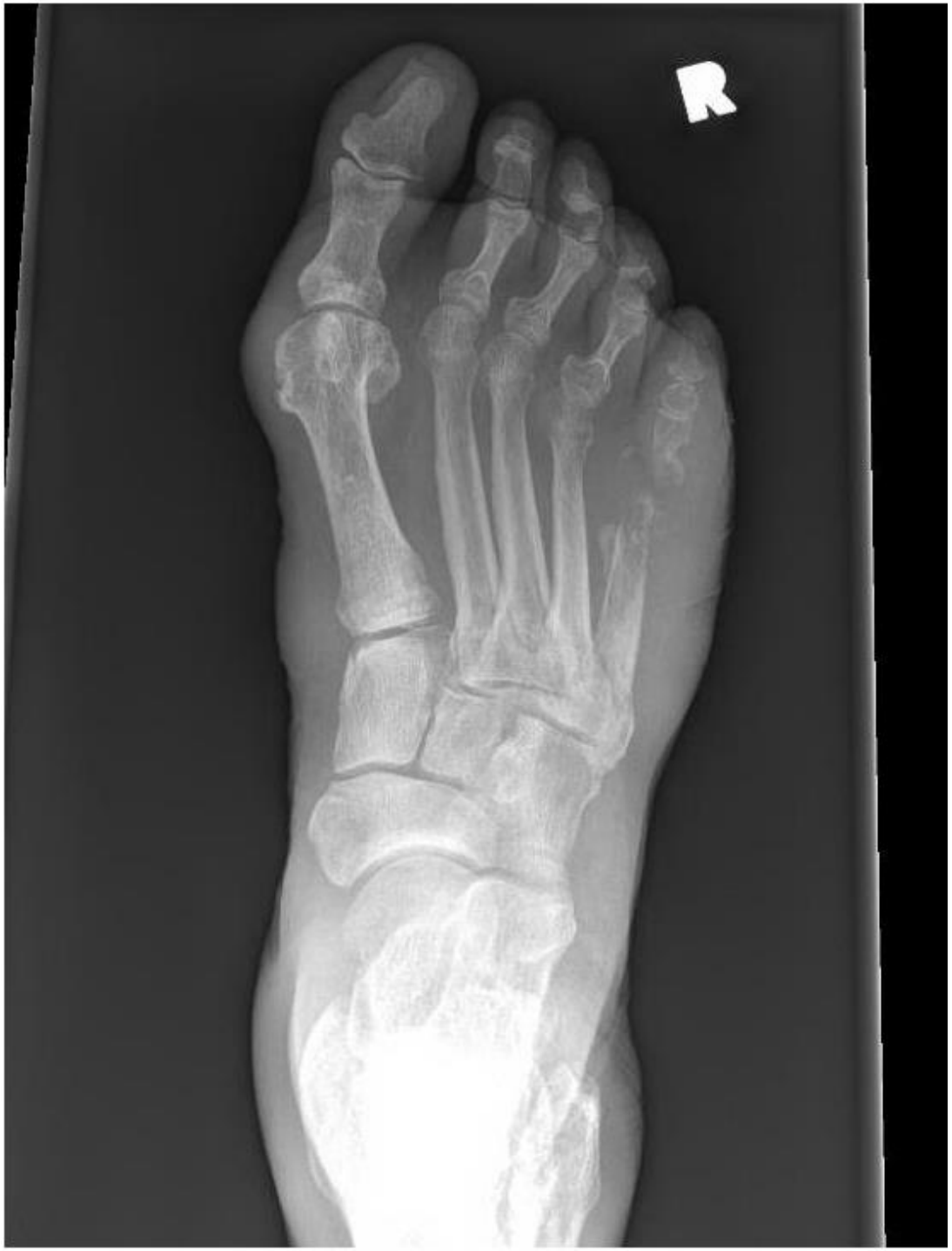
erosion at 1st met head

No erythema in soft tissue

Slight edema 1st MTP/digit



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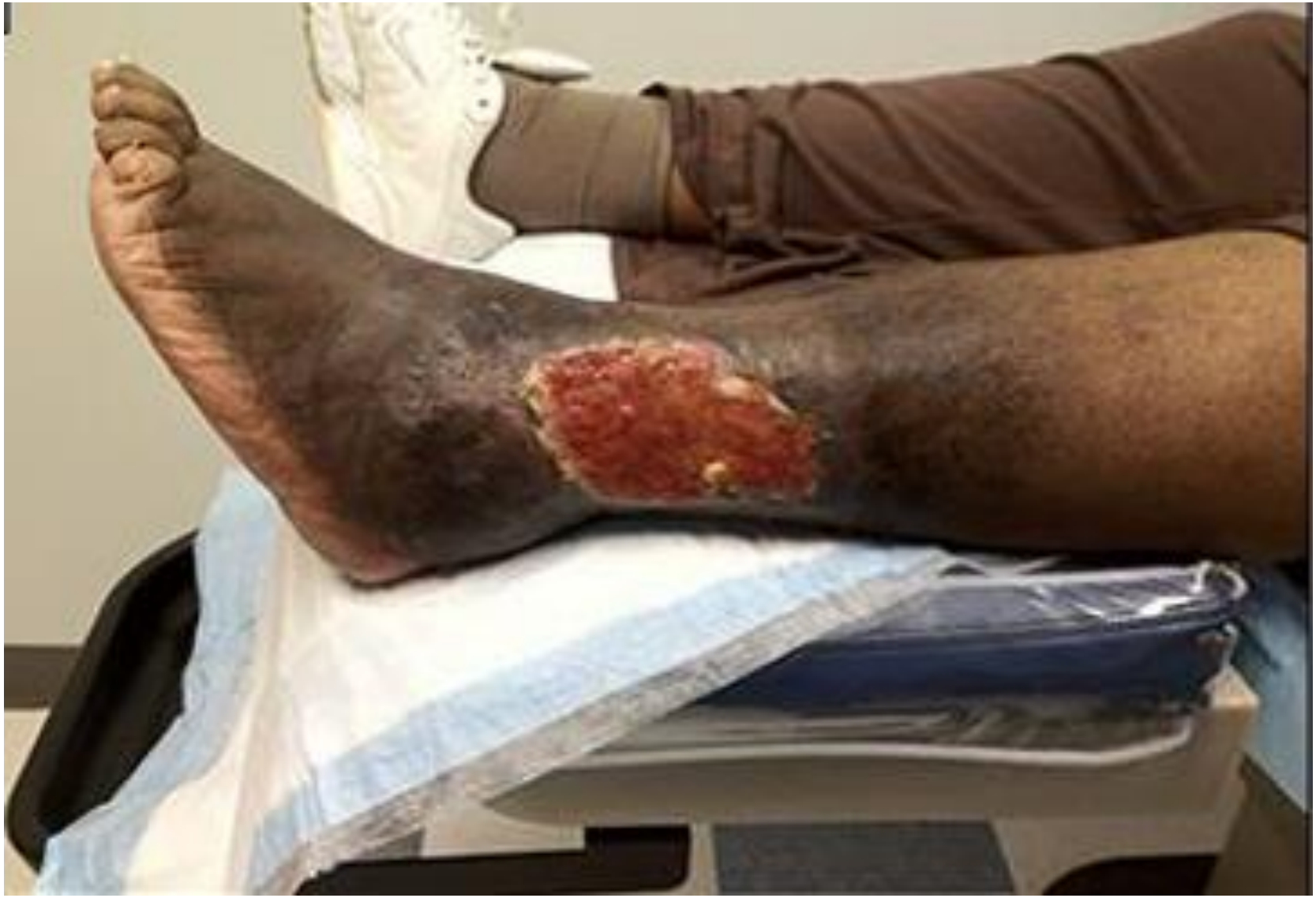
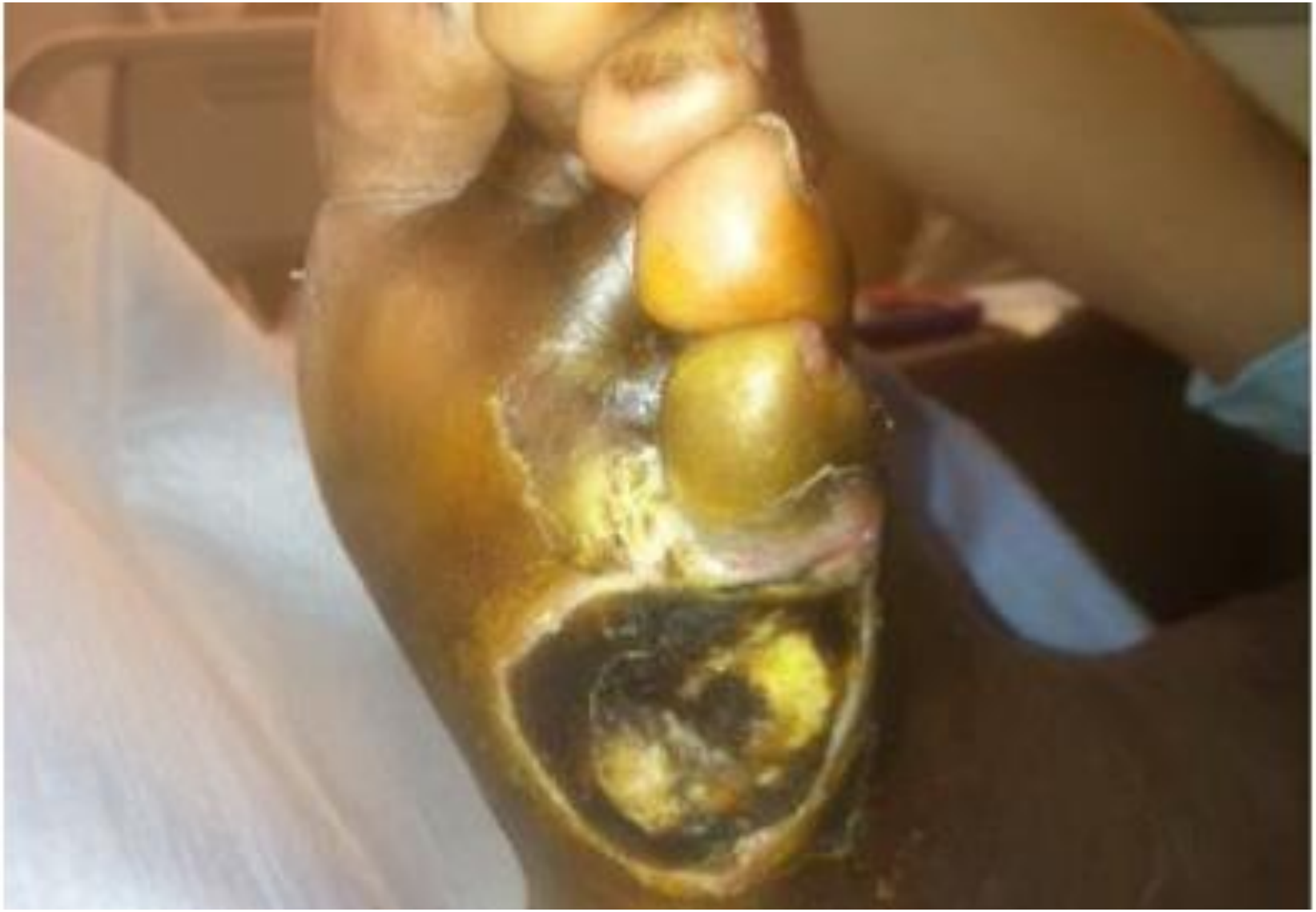
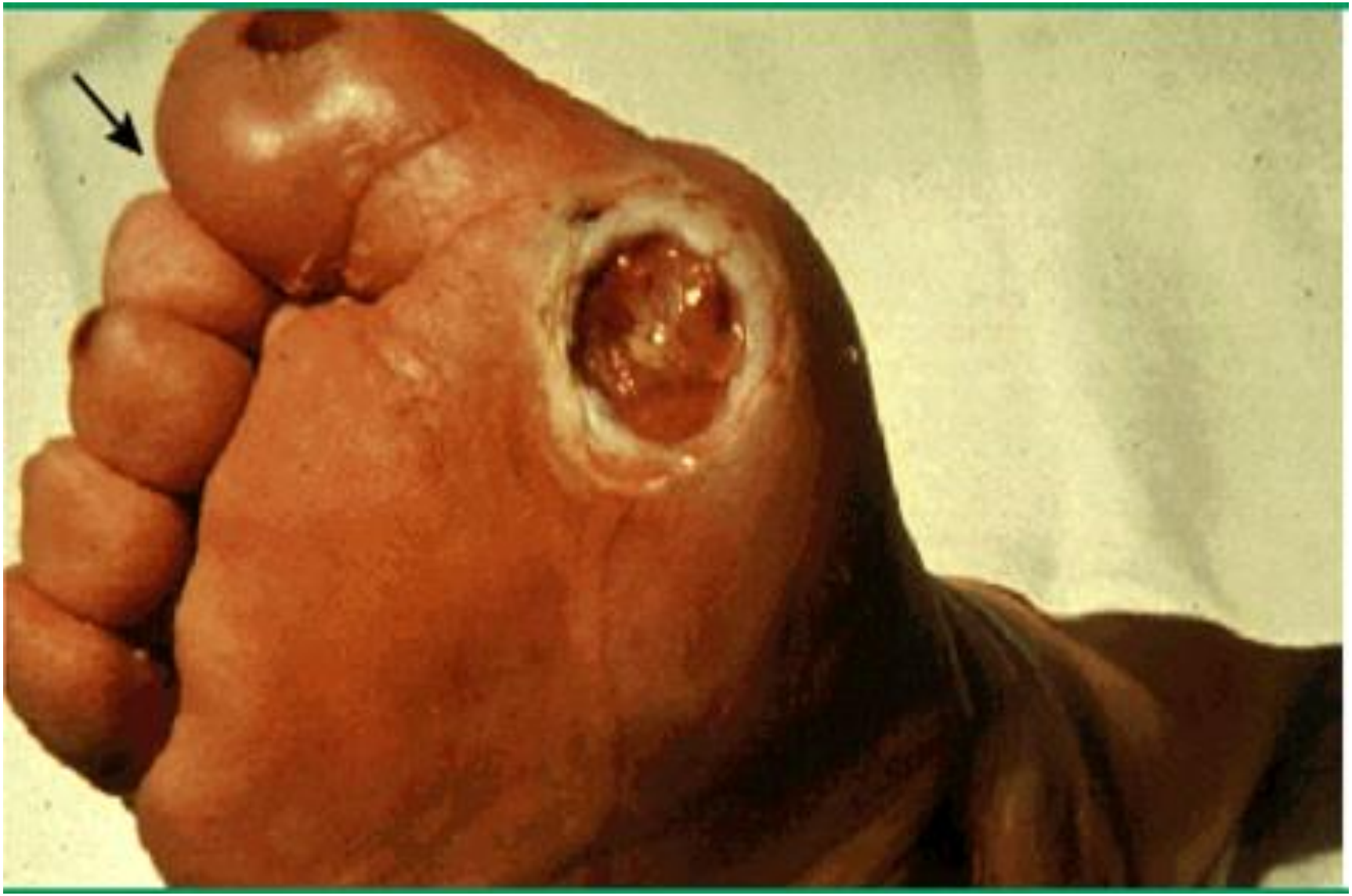


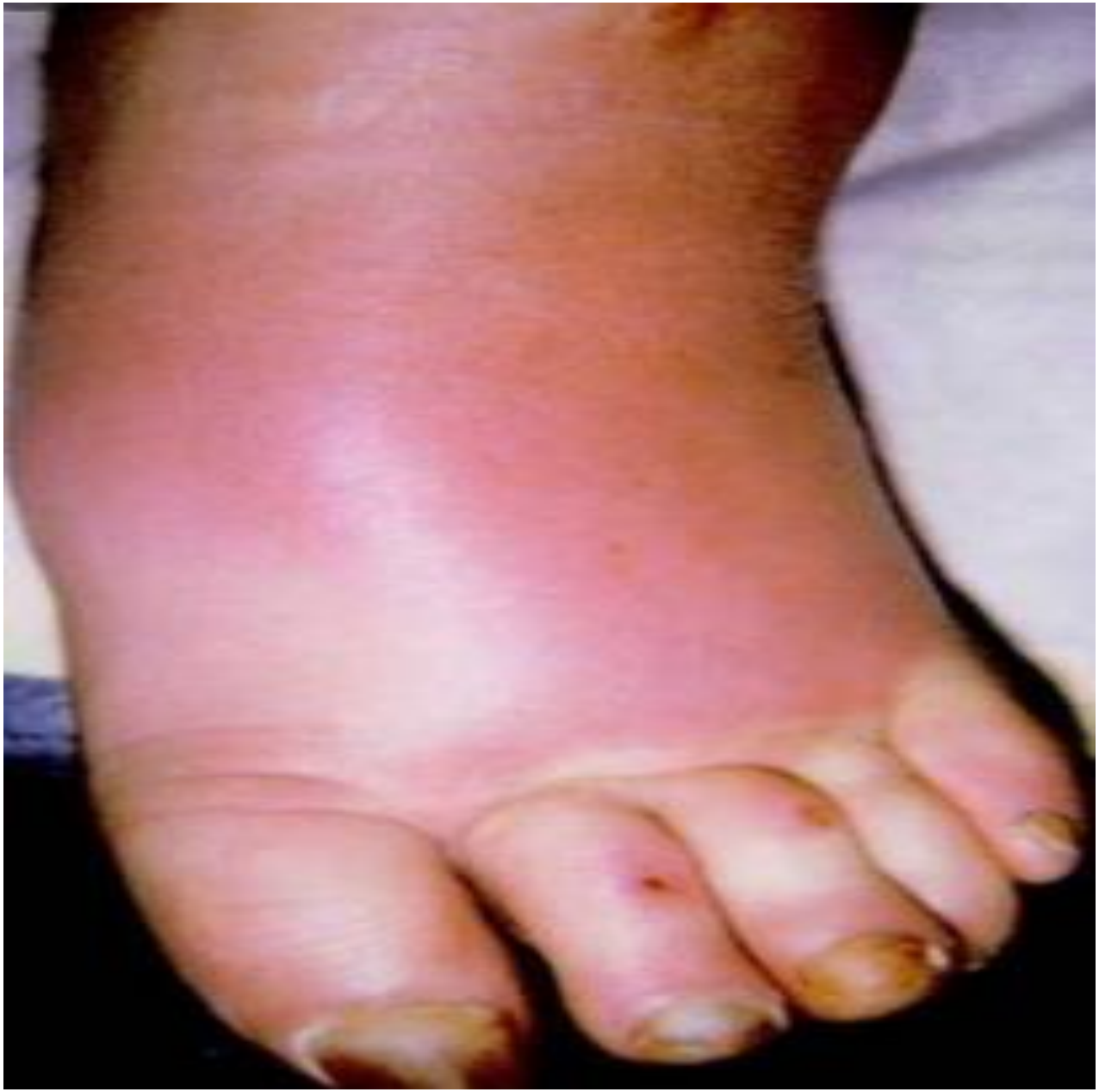




Red Hot Swollen Foot

- Acute visit:

- 52 yo female w/ unilateral swelling in foot and lower leg
- PMH: DM, HTN, mild CRI



DDX: unilateral swelling foot

- Infection
  - Cellulitis, septic arthritis, osteomyelitis
- Non-infectious
  - DVT
  - Inflammatory arthritis – crystal/non-crystal
  - Neuroarthropathy – Charcot Foot
  - OA
  - Complex regional pain syndrome

Charcot Foot

Clinical presentation

unilateral erythema, edema

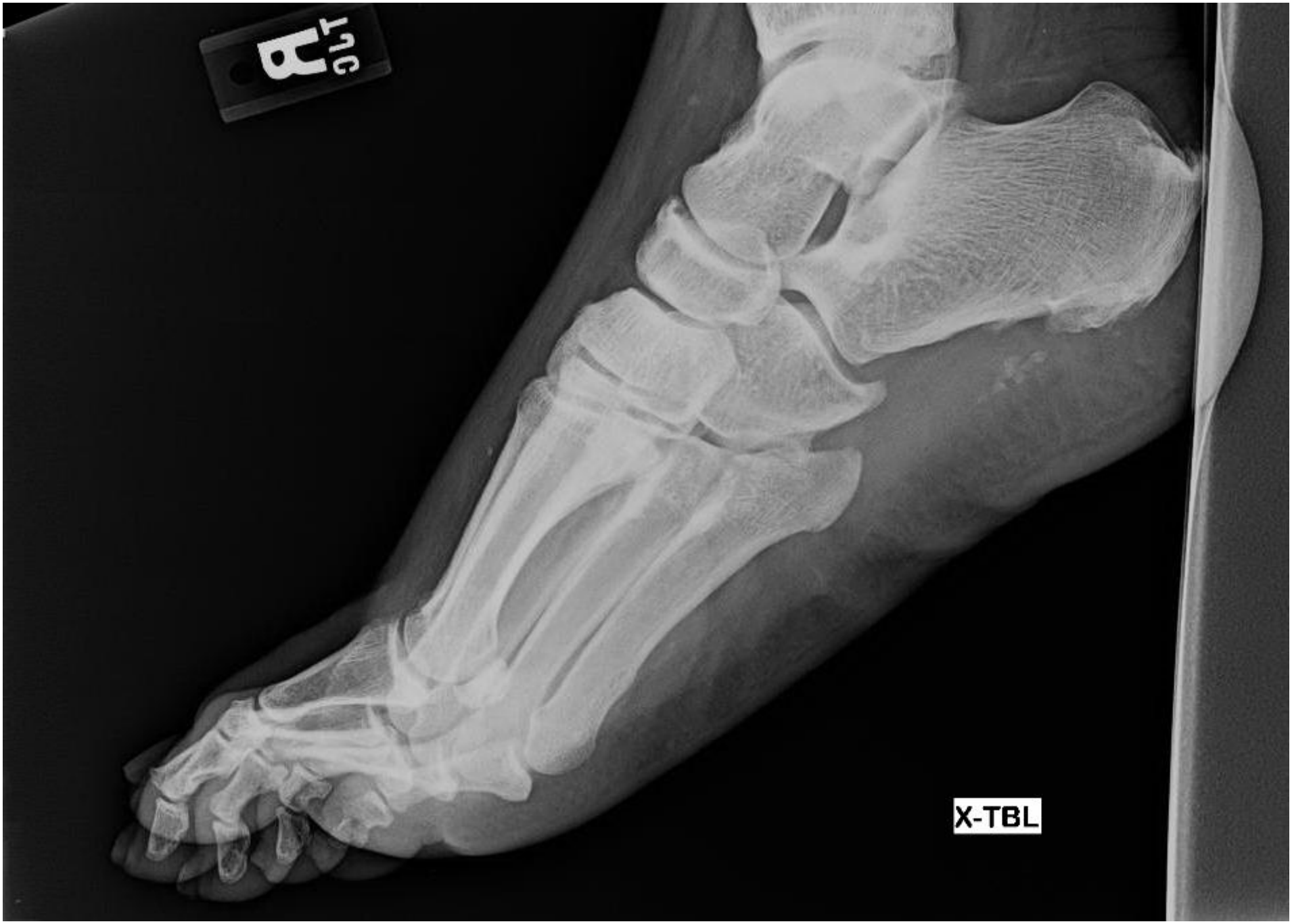
Who is at risk

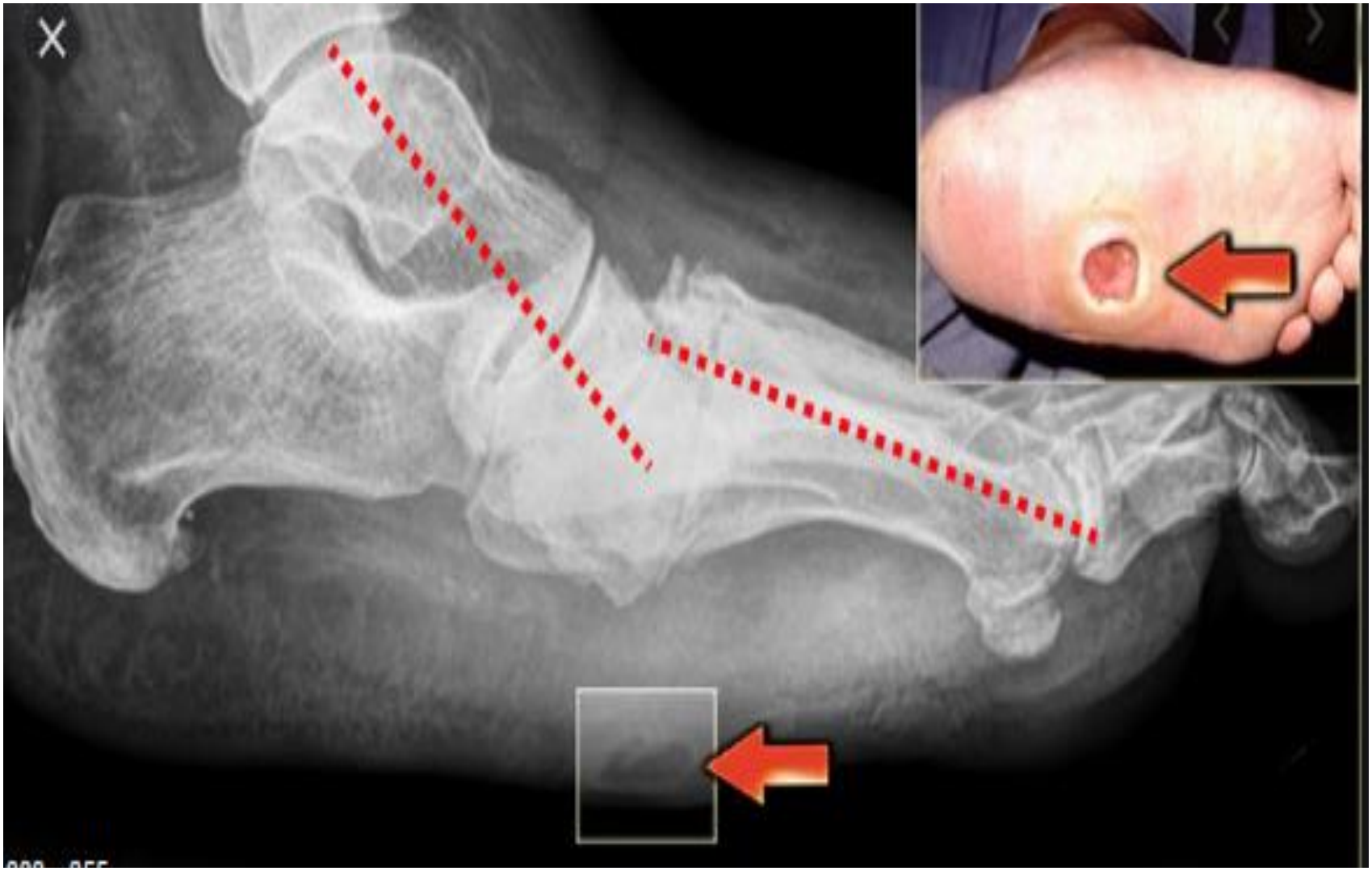
neuropathy, incidence 0.3%-12%

How does this develop

trauma - exaggerated inflammatory

autonomic - vasomotor instability


X-TBL



Charcot Foot

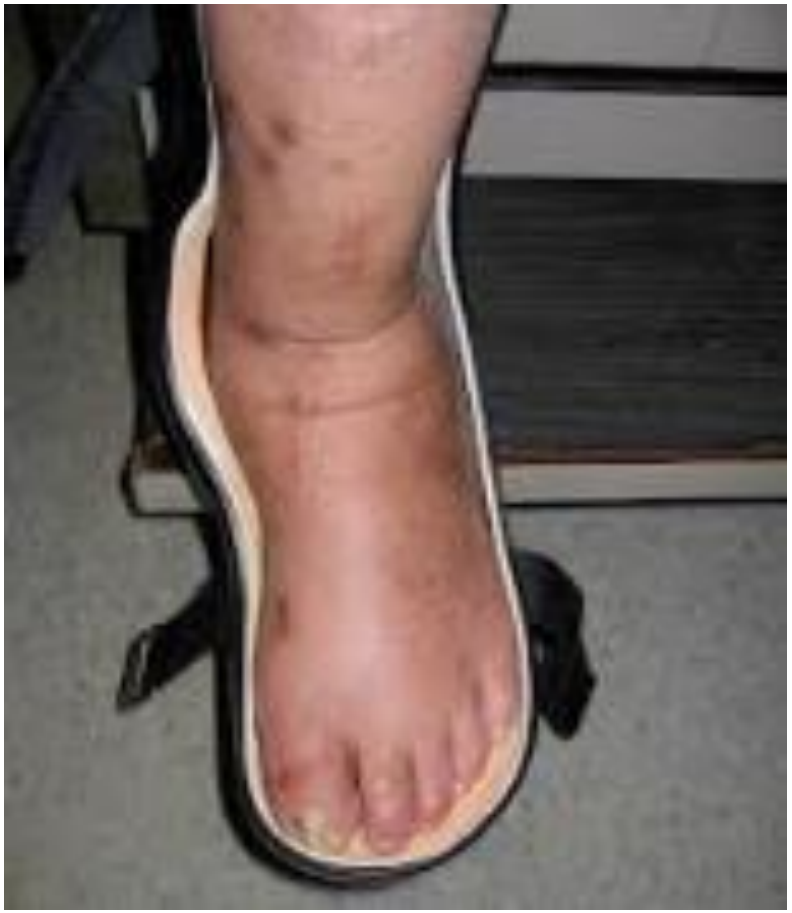
- Staging: clinical and radiographic

- 0 – early inflammatory: (+) edema (-) x-ray
- 1 – development: (+) edema (+) x-ray/collapse
- 2 – coalescence: (<) edema (+) Fx healing
- 3 – remodeling: (-) edema (+) bone callus

Treatment – Charcot Foot

- **Off-load foot**
  - CAM Boot, crutches, knee scooter, wheelchair
- Protect skin from breakdown
  - Insensate skin precautions, examine frequently
- Protect foot from collapse
  - CROW Brace, Rx DM footwear
- Treatment can take months

CROW Brace

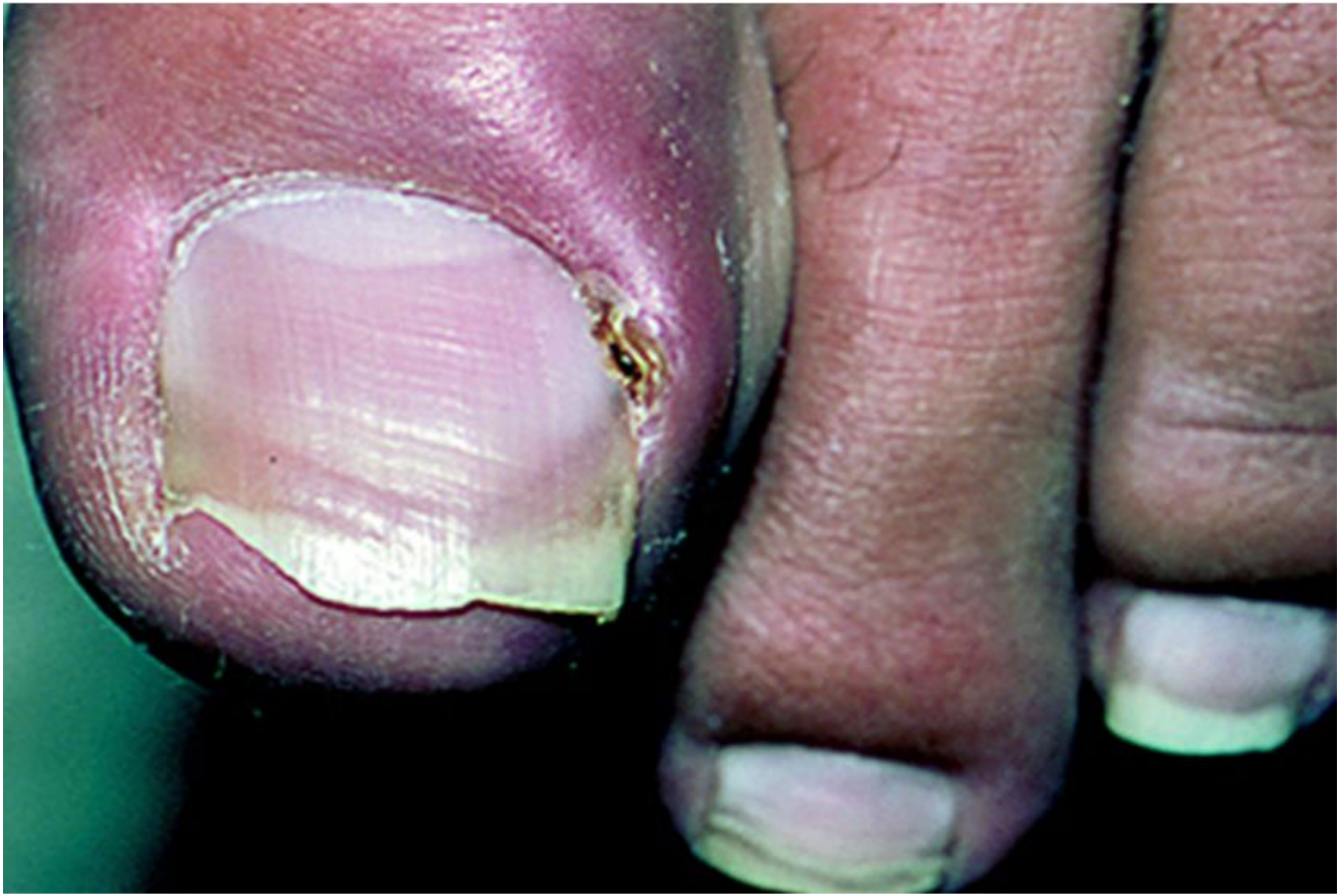


Rx DM footwear

Ingrown Toenails

- Acute visit:

- 28 yo DM type 1 w/ ingrown toenail
  - Several days increasing pain/swelling
  - HbA1c 7.6%
  - Recent Cr 0.9



Paronychia

Abx

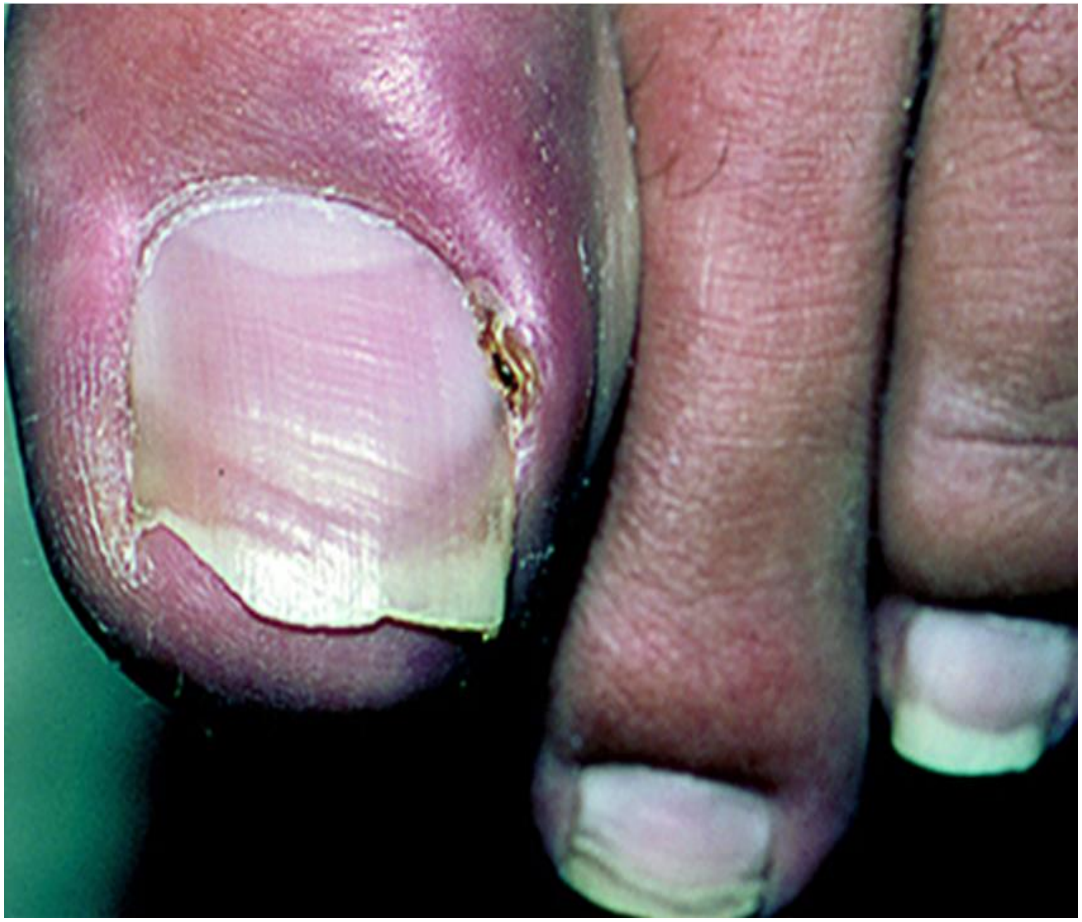
cephalexin 500mg tid

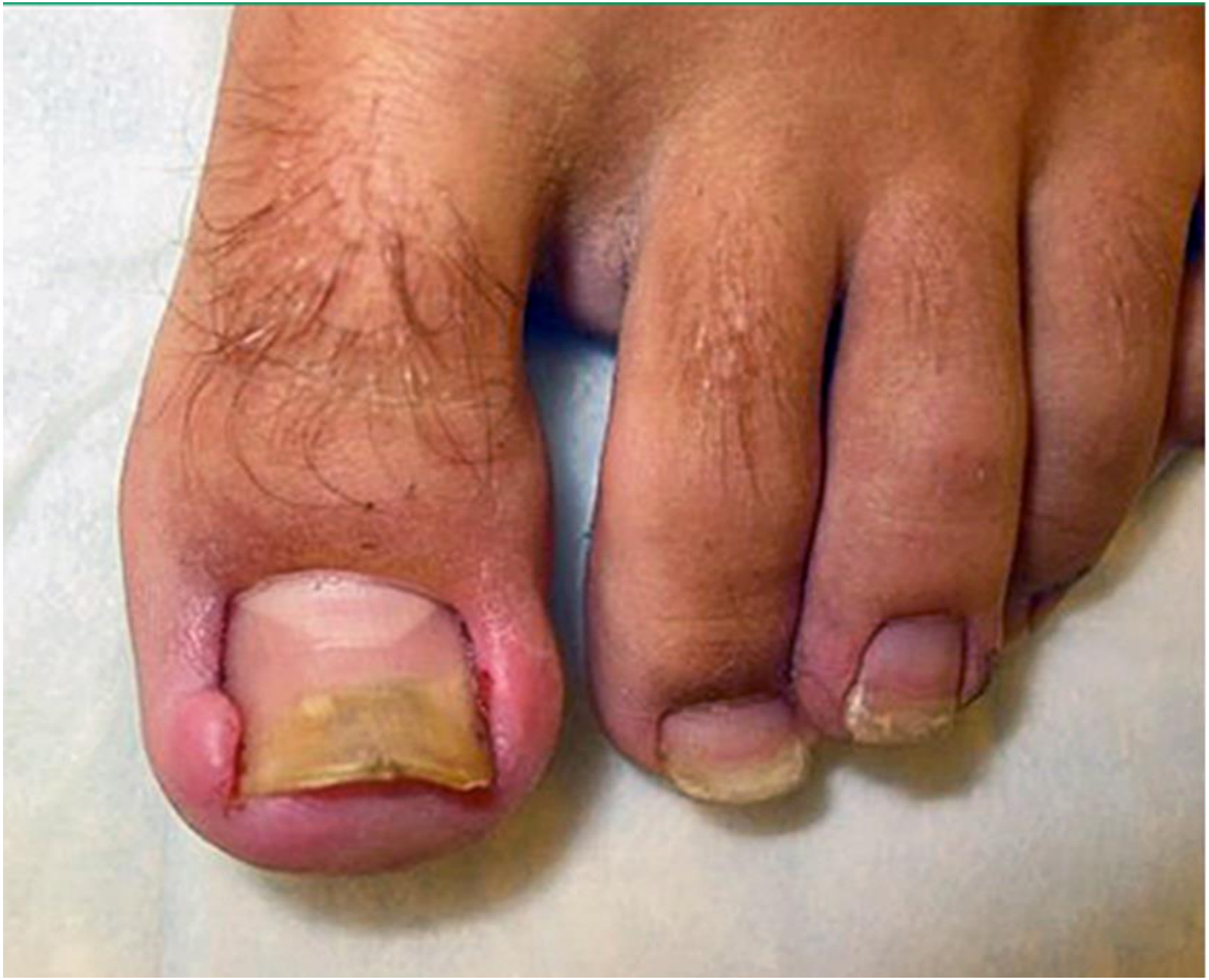
doxycycline 100mg bid

Soak toe: 5 min

- 2tbs epsom salt
- quart water

Trim toenail straight across





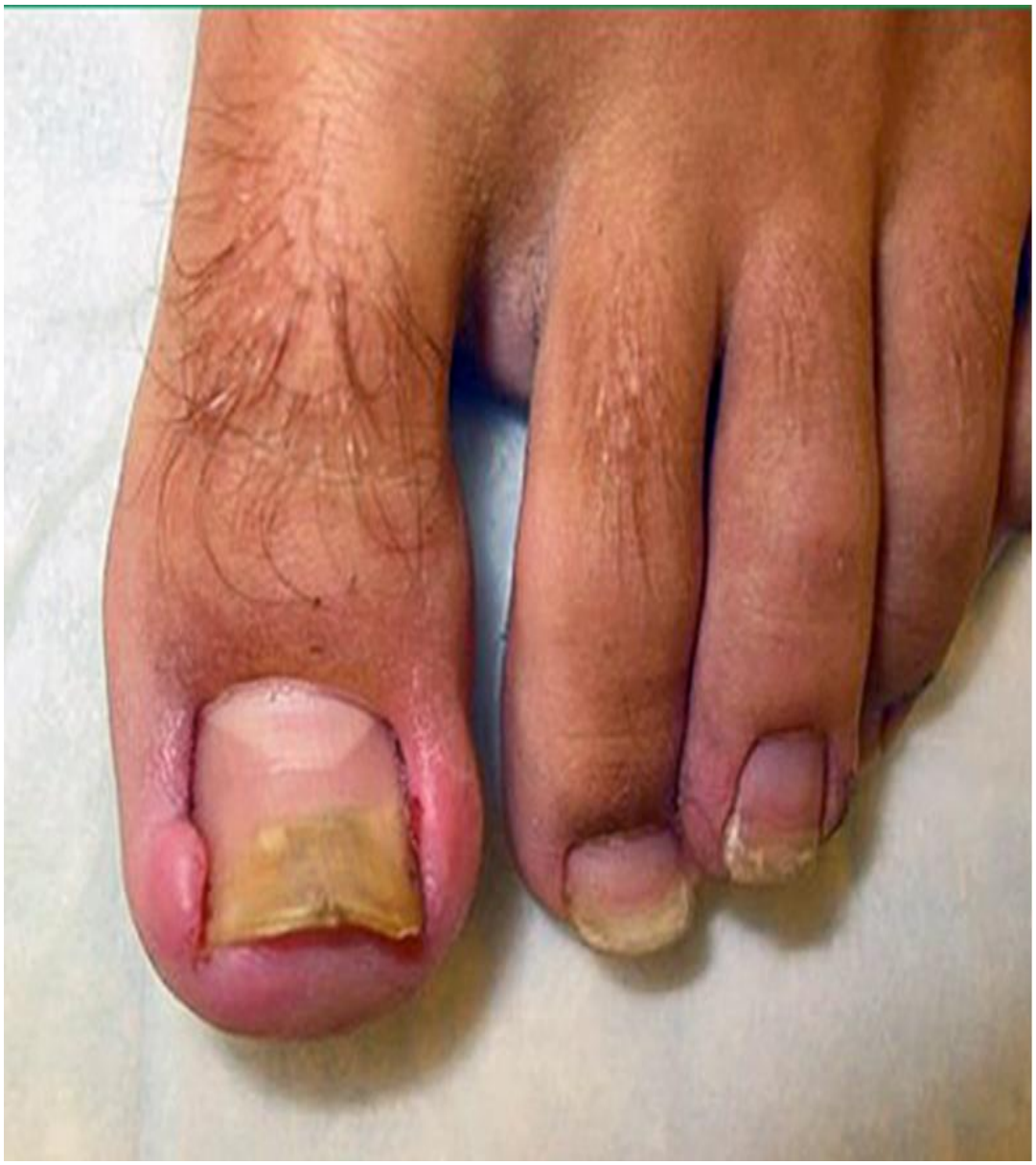
Ingrown Toenail

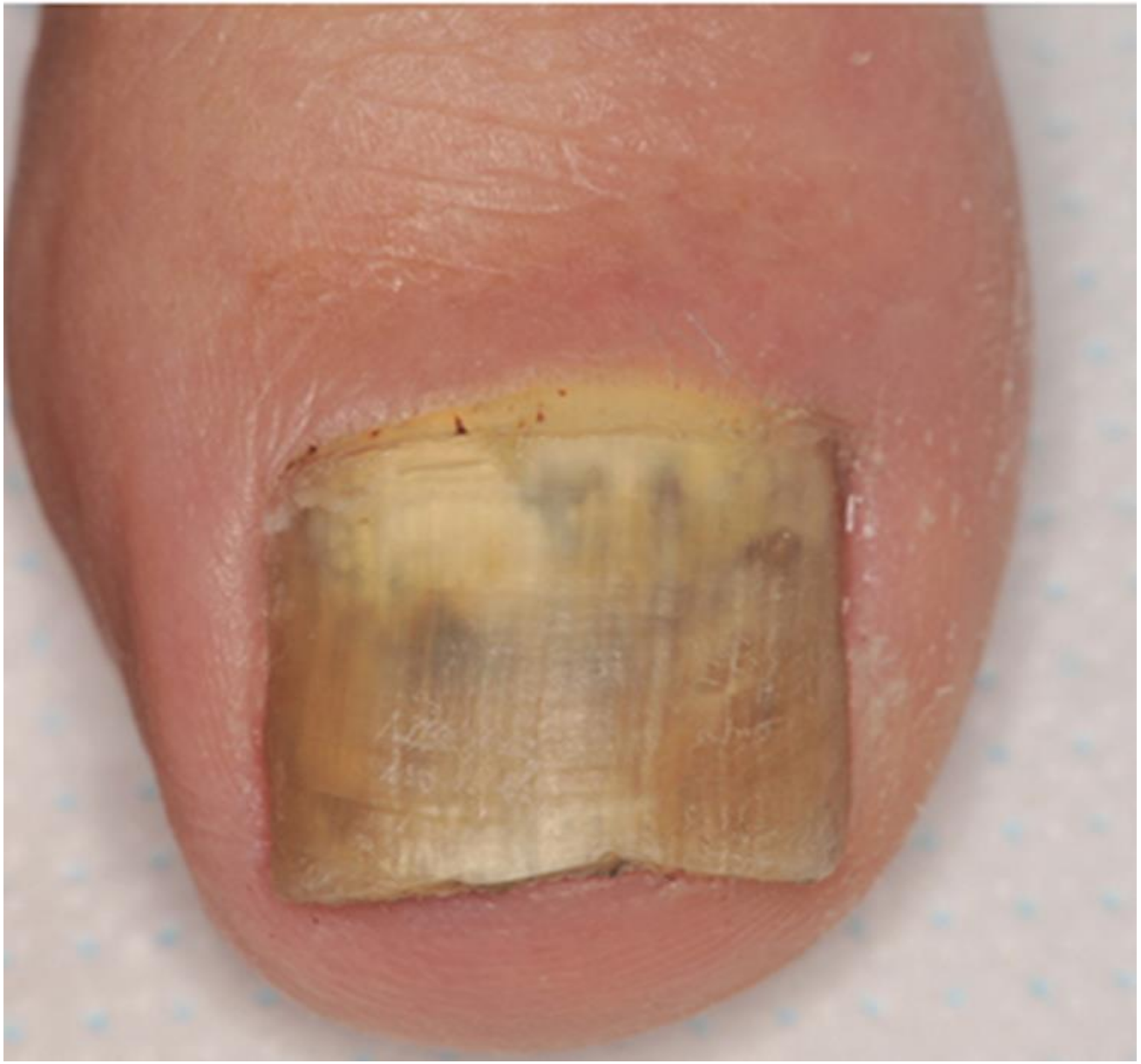
Granuloma

Abx - (+/-)

Soak toe

Excision of toenail
- total or partial





Onychomycosis

Abx – not indicated

Soak – not indicated

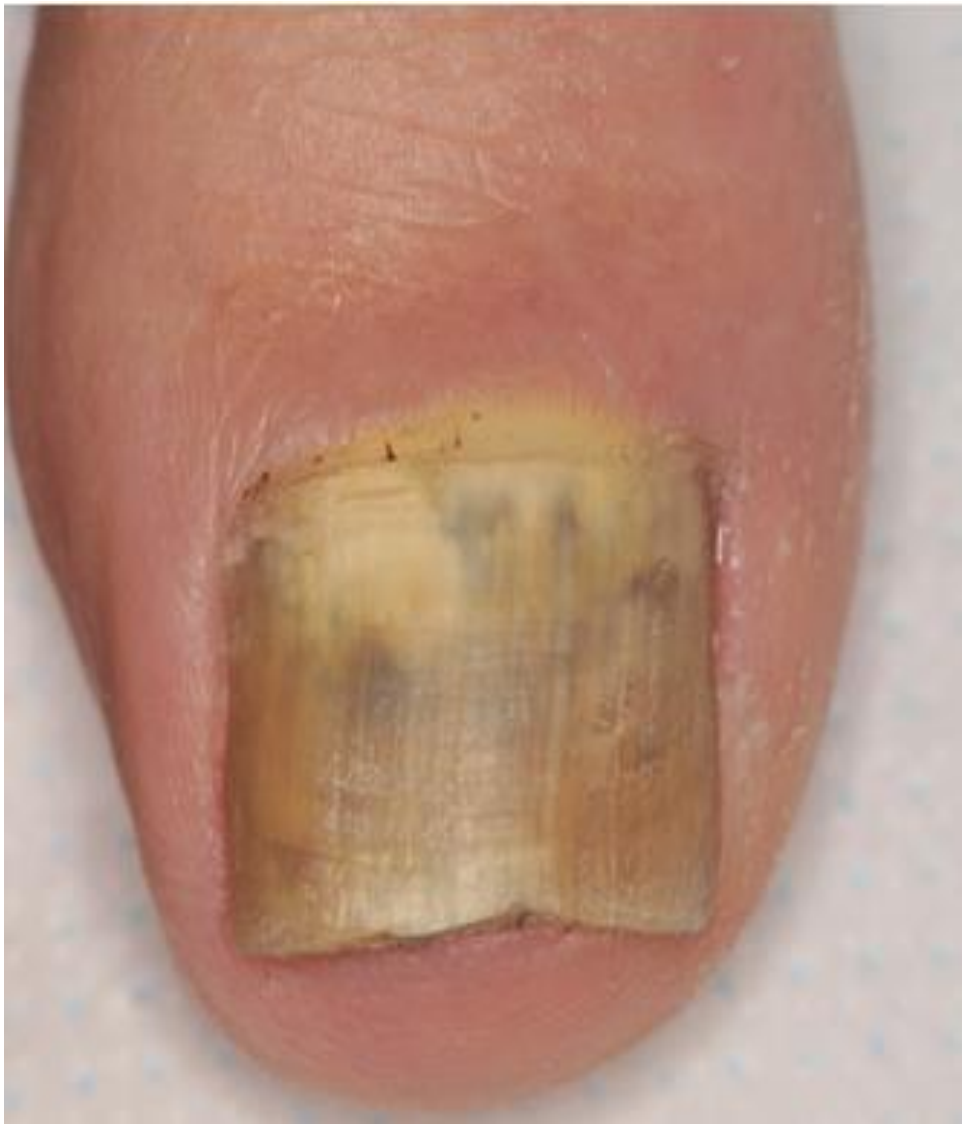
Trim toenail straight

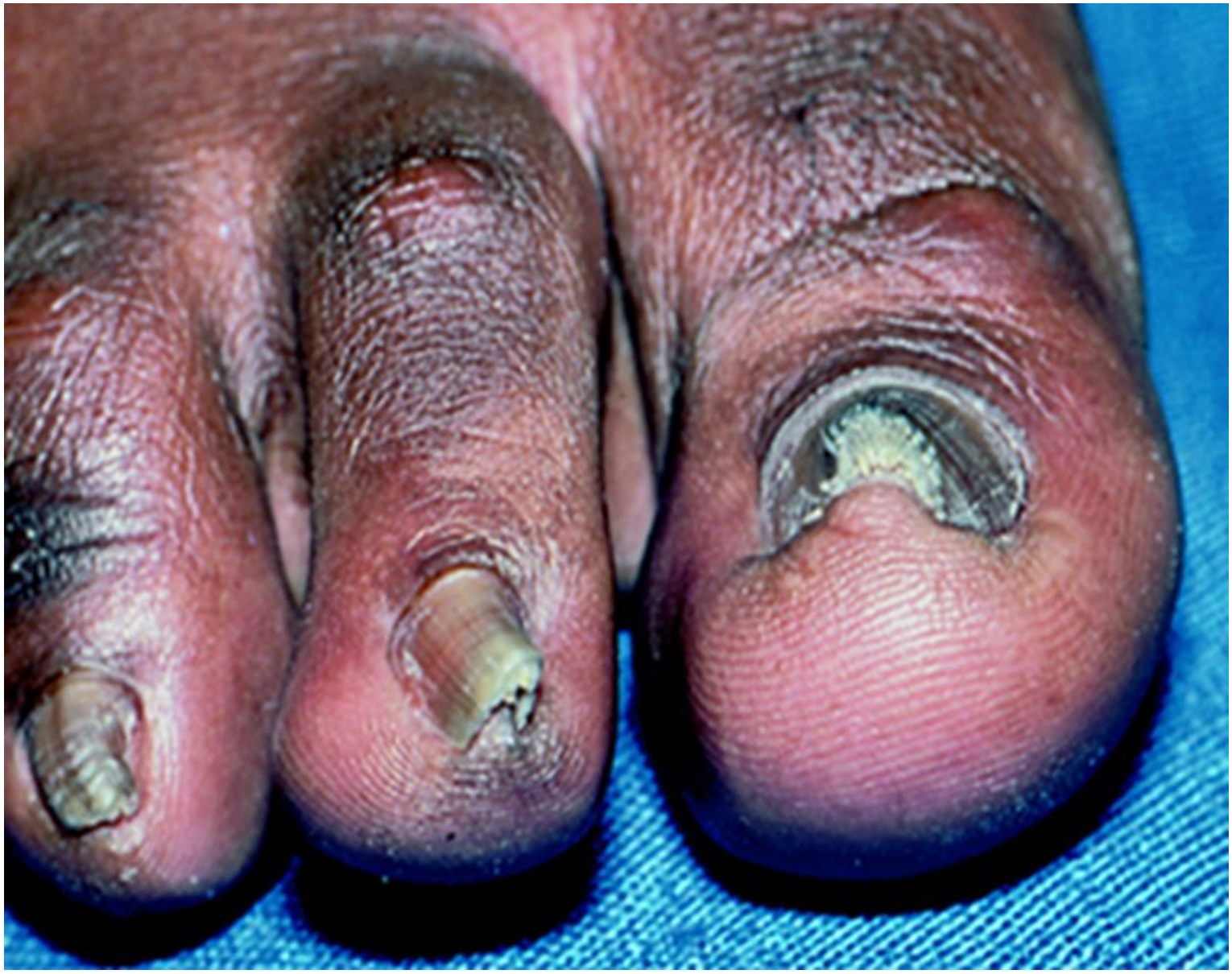
or

Total nail avulsion

or

Oral antifungal Tx



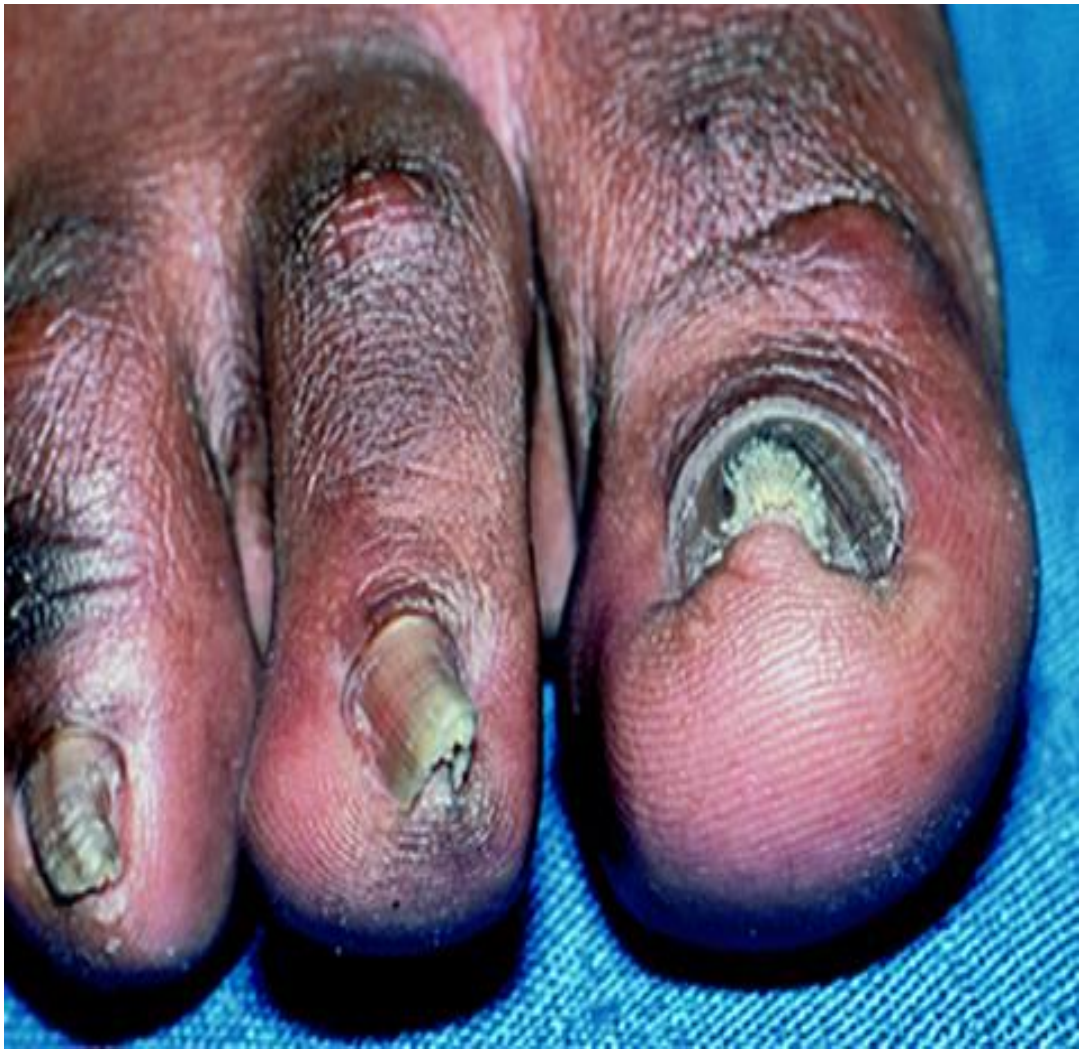


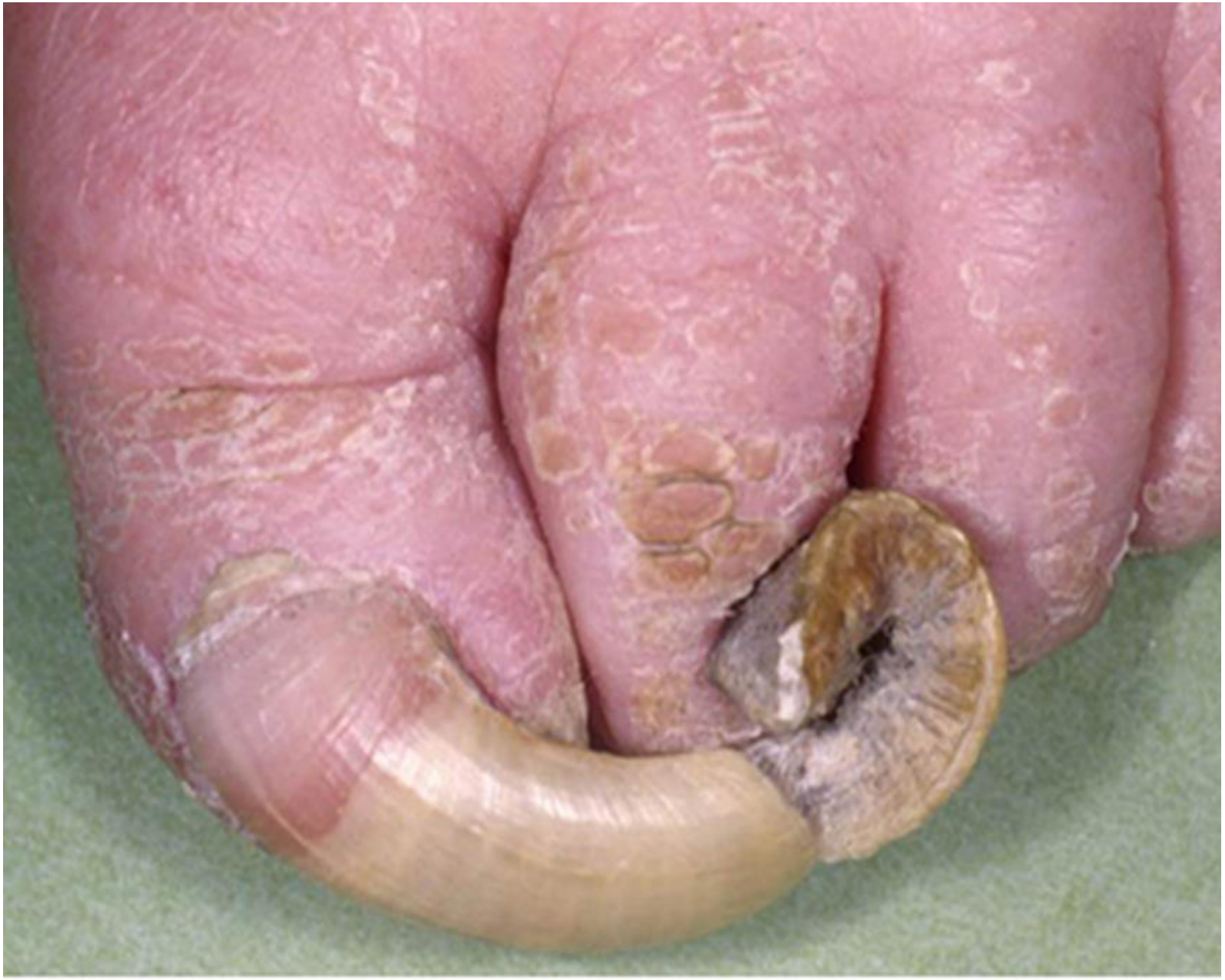
Onychocryptosis

Abx – not indicated

Soak – not indicated

Trim - straight across
Thin - emery board
or
Remove toenail



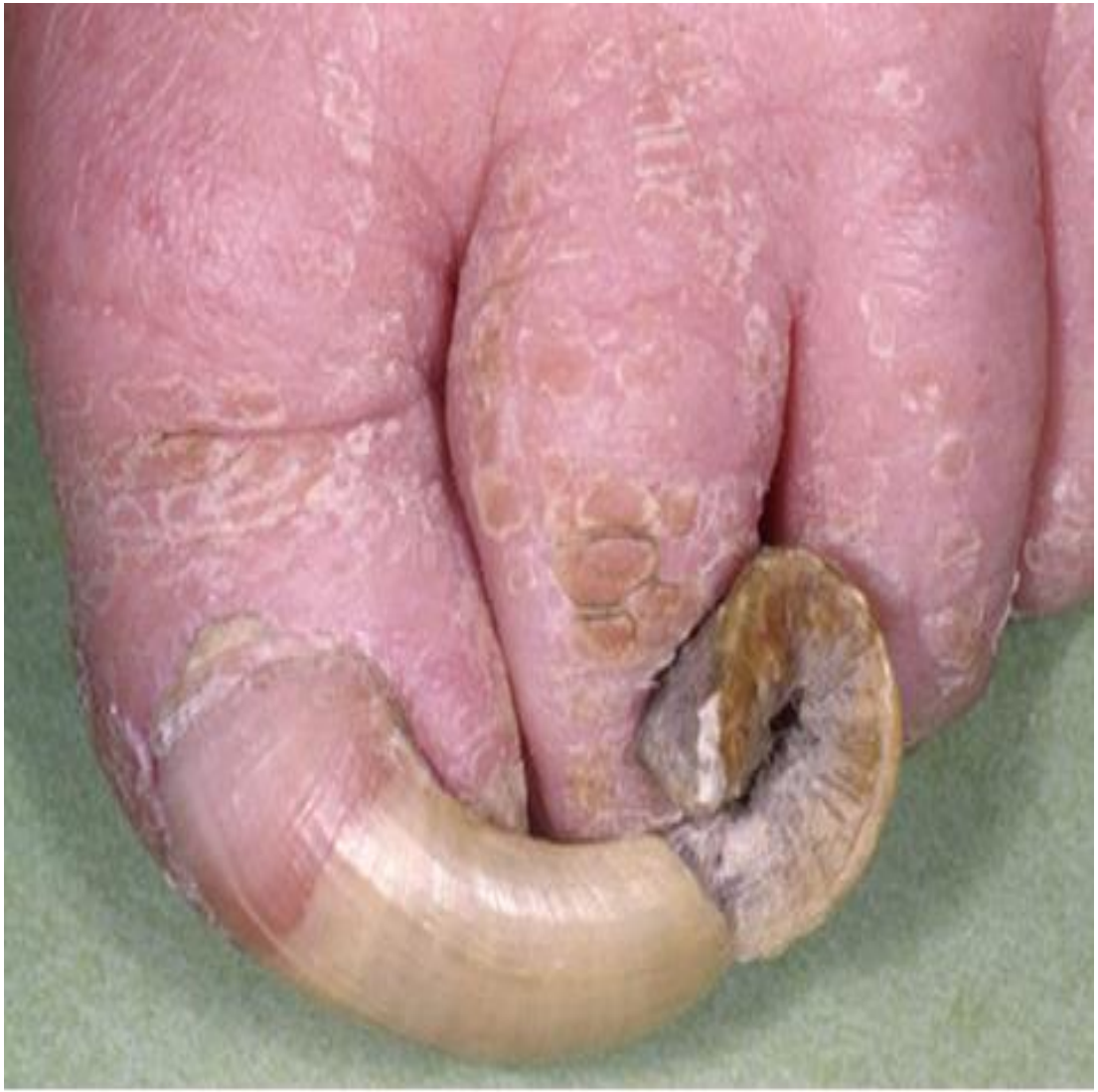


Onychogryphosis

Abx – not indicated

Soak – not indicated

Trim – even with digit




Emery Boards
Emery Boards