

DISAPPEARING NAIL BED

Tracey C. Vlahovic, DPM FFPM RCPS (Glasg)
Clinical Associate Professor, Temple University
School of Podiatric Medicine,
Philadelphia, PA

A patient presents with complaint of...

- Ingrown toenail at the **tip** of the toe
- Has had multiple nail avulsions to treat nail fungus which has never seemed to solve the problem
- The length of the left hallux nail is not the same as the right, which is bothersome to the patient



Comparison of Right vs Left



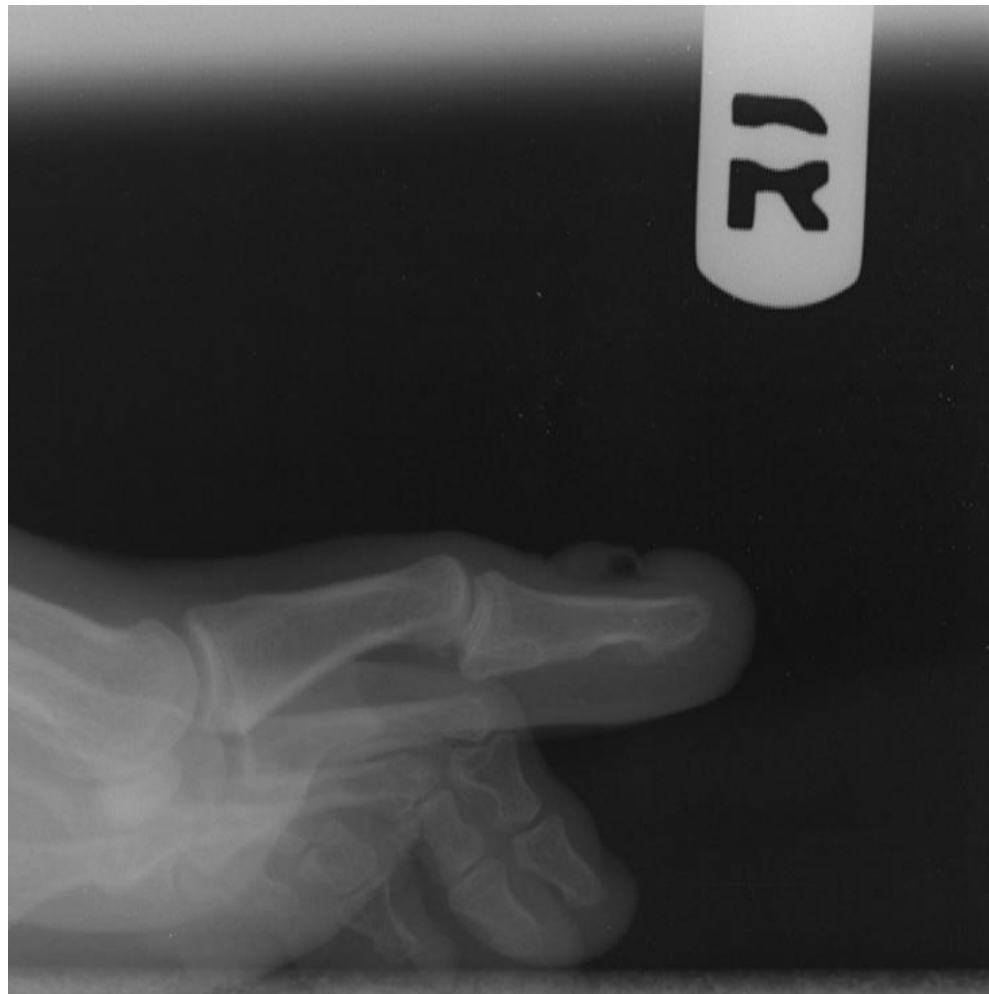
Physical Exam and Lab Results

- Pain on palpation at the distal tip of the nail
- No pain on palpation of the medial or lateral corners or on the nail plate itself
- No drainage, no edema of the lateral nail folds
- Distal hypertrophy of the pulp of the hallux

- In office KOH, no hyphae present

- What's next?

Radiographs collimated to great toe



What are your thoughts?

- A. Dermatophyte infection--KOH isn't that sensitive
- B. Subungual exostosis that is cartilaginous in nature and you can't see on plain films
- C. Trauma—it's her narrow toebox causing the nail to look like this
- D. Too bad for you, lady, bad things happen to good nails and you're just going to have to deal with it
- E. It doesn't matter, I will just remove the nail again
- F. Disappearing nail bed is the cause and I have to discuss this with the patient

Disappearing Nail Bed

- Coined in 2005 by Dr Daniel (*Cutis* 2005;76:325–327)
- A shortened or narrowed nail bed that is the result of long standing onycholysis
 - 20% shorter than the bilateral nail
- Long standing onycholysis can cause epithelialization to occur and dermatoglyphics to appear
- May occur on fingernails (onychophagia) or toenails (hallux most common)



What can cause it?

- Onychomycosis
- Onychogryphosis
- Trauma (blunt force or repetitive)
- Nail Surgery (ie iatrogenic)
- Biomechanics (ie hallux extensus)
- Other disorders that cause nail onycholysis: ie psoriasis, lichen planus, medications

- You do want to rule out subungual exostosis or other boney deformity first



Why?

- Normal nail bed lacks a granular layer of the epithelium and is 2-3 layers thick with a hearty vascular and nerve supply. The nail plate is the “stratum corneum” layer for the nail bed
- As it grows forward, Nail plate slides over the nail bed. There is a thin attachment called the bed epithelium
- Nail bed with no nail plate covering it seems to have digital fingerprint memory—ie the nail bed becomes like the distal tip of your toe. The nail plate can no longer slide across the nail bed.

Why? Cont'd

- The distal pulp of toe deforms, creating a physical barrier for the nail to grow forward
- Unknown how long onycholysis needs to be present for this to occur
- Anecdotally, I have noticed a grossly atrophied nail matrix upon removal of these nails



What are our options?

- Doing a total nail avulsion will NOT solve this issue
- Once epithelialization has occurred, the nail plate and nail bed will never adhere
- If the nail can grow forward, there will be a cavern underneath the nail and discoloration
- Must create realistic expectations with patient!



How do we manage?

- Conservative options:
- “Tape” the distal skin (Omnifix)
- Treat the ingrown nail
- Camouflage with Keryflex (ie cosmetic)
- Wear shoes that accommodate the deformity
- Treat dermatophyte, but set patient expectations



Taping method b/l



Keryflex Nail Restoration

Before



After



From Keryflex.com

How do we manage? Cont'd

- Surgical options:
- Remove wedge of skin distally and advance skin distal
- If subungual exostosis or hallux extensus present, account for that
- Gingival graft to recreate nail bed??



The wedge excision I have done



Final thoughts...



Thank you!

traceyv@temple.edu

