

AN APPROACH TO A PATIENT WITH NAIL DISORDERS

DR Shawana Sharif
Assistant Professor
DERMATOLOGY DEPARTMENT
BENAZIR BHUTTO HOSPITAL

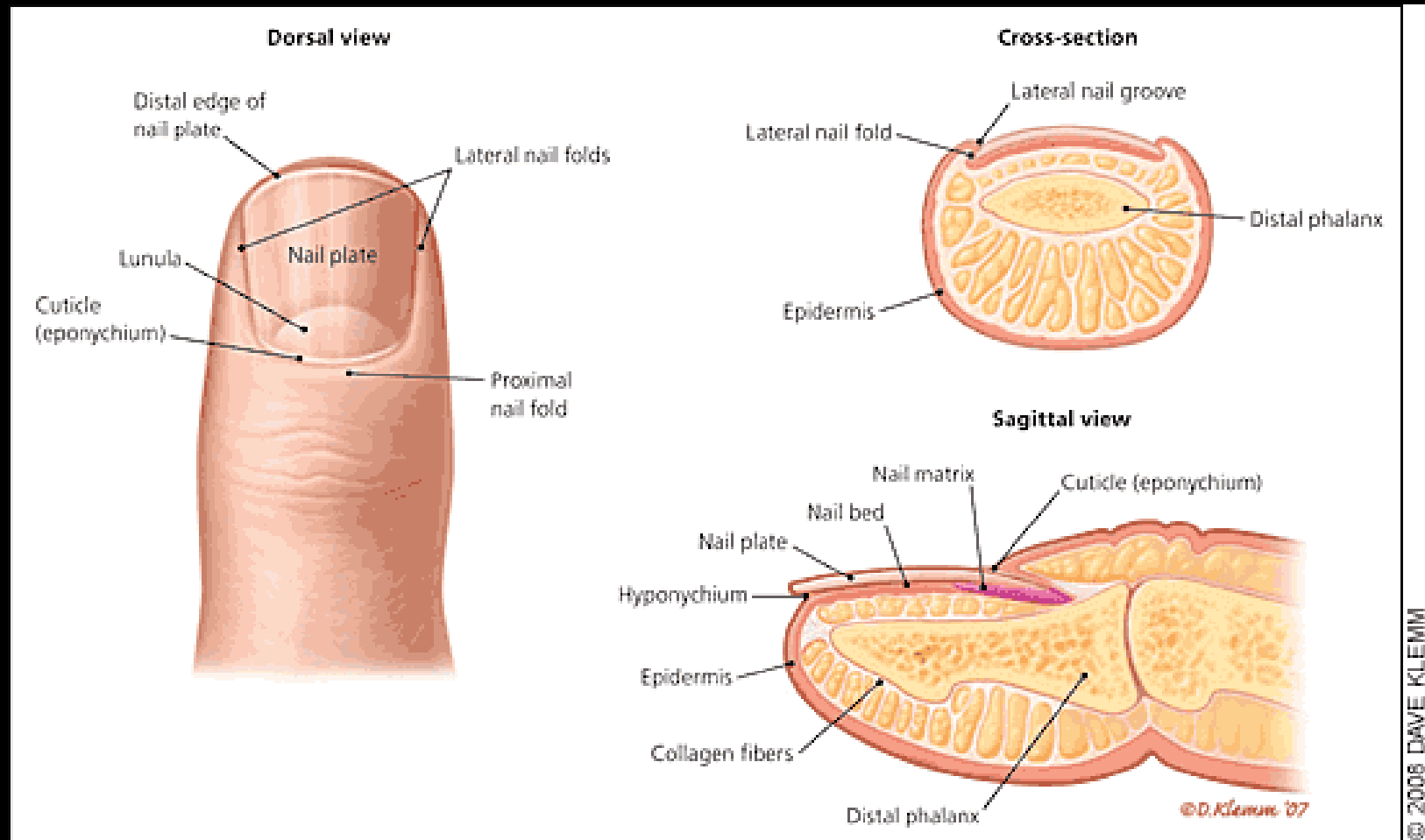
LEARNING OUTCOMES

- At the end of lecture, student should be able to
 - Know the anatomy of nail apparatus
 - Identify nail diseases
 - Know the common associations of nail diseases with systemic disorders
 - Know the tumours arising in nail apparatus
 - Nail changes of common skin diseases

Vertical Integration

Normal nail

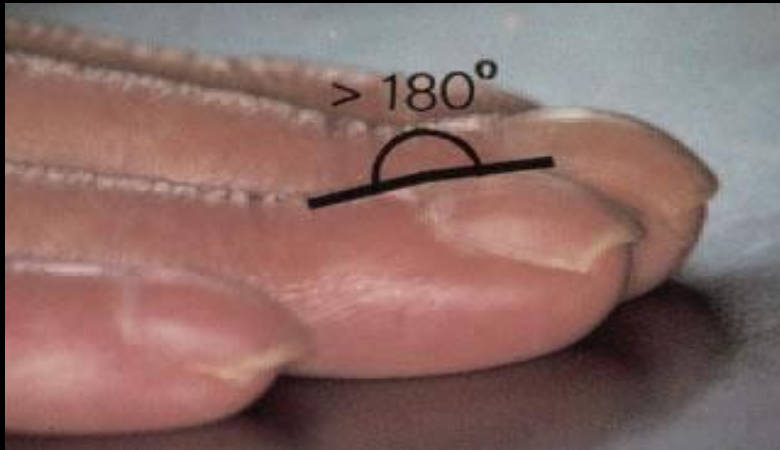
- ANATOMY:**



Vertical Integration

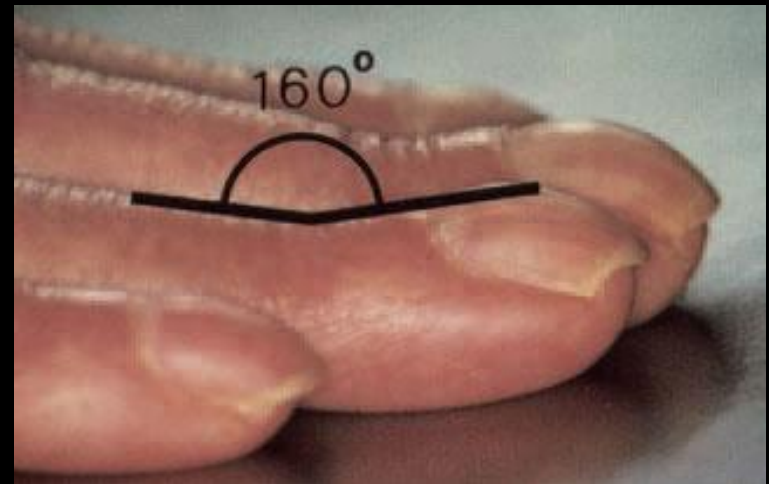
Clubbing

Lovibond's angle



- angle at the junction between the nail plate and the proximal nail fold
- normally less than 160°
- exceeds 180° in clubbing.

Curth's angle



- angle at the distal interphalangeal joint
- normally about 180°
- diminished to less than 160° in clubbing

Vertical Integration

Koilonychia

- Nails become concave (**spoon-shaped**)
- Common in **infancy** as a benign feature of the great toenail
 - in some infants its persistence may be associated with a deficiency of cysteine-rich keratin
- The most common systemic association is with **iron deficiency** and **haemochromatosis**
- **Familial**
 - Autosomal dominant
 - Majority of adults



Core Concept

Yellow nail syndrome

- The nails are yellow due to thickening, sometimes with a tinge of green
- The lunula is obscured
- increased transverse and longitudinal curvature
- loss of cuticle
- Arrested nail growth is diagnostic.
- Onycholysis is often associated





Core Concept

Colour changes due to drugs

- Yellowing of the nail
 - prolonged tetracycline therapy
- blue–black pigmentation
 - Chloroquine
- longitudinal or vertical bands of pigmentation
 - Other antimalarials
- bluish colour
 - Mepacrine
- slate blue
 - Argyria
- transverse white stripes (*Mees' stripes*)
 - inorganic arsenic

Vertical Integration

leukonychia



- White discoloration of the nail
- **total leukonychia**
 - rare, inherited form
 - all nails are milky porcelain white
- **subtotal leukonychia**
 - proximal two-thirds are white, becoming pink distally.
 - attributed to a delay in keratin maturation, and the nail may still appear white at the distal overhang
- **Transverse leukonychia (Mees' line)**
 - chemotherapy
 - poisoning
 - systemic infection
- **Apparent leukonychia**
 - changes in the nail bed are responsible for the white appearance
 - anaemia, oedema or vascular impairment

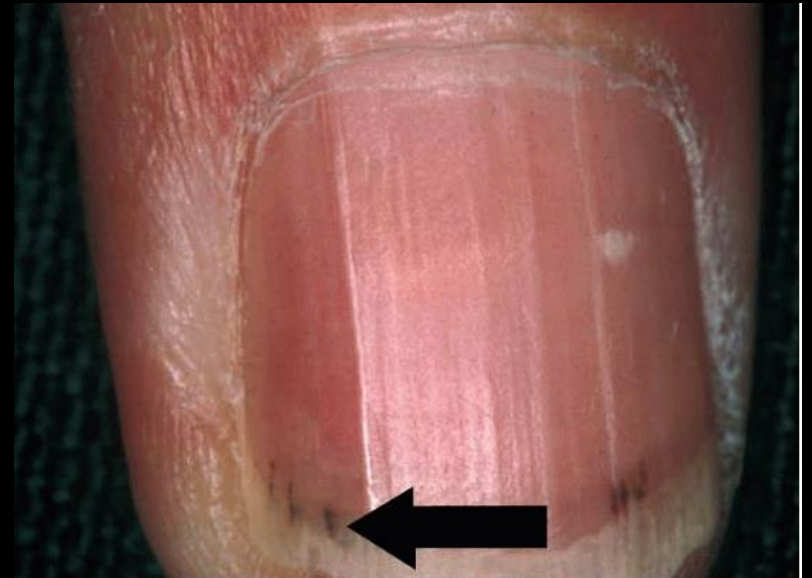
Core Concept

Onycholysis

- separation of the nail from the nail bed
 - distal and/or lateral
- Areas of separation appear white or yellow due to air beneath the nail and sequestered debris, shed squames and glycoprotein exudate
- Isolated islands of onycholysis present as 'oily spots' or 'salmon patches' in the nail bed

Splinter haemorrhages

- longitudinal haemorrhages in the nail bed conforming to the pattern of subungual vessels



Core Concept

Beau's lines

- deep grooved lines that run from side to side on the fingernail due to a temporary cessation of cell division in the nail matrix
- reflecting a systemic event
 - such as drug reaction ,coronary thrombosis, measles, mumps or pneumonia



Core Concept

Causes of Longitudinal Melanonychia

- **Race**
 - most common cause
- **Acquired immunodeficiency syndrome**
- **Inflammatory nail disorders**
 - lichen planus, onychomycosis
- **Drugs**
 - hydroxyurea, minocycline, zidovudine, antimalarials
- **Addison disease**
- **Pregnancy**
- **Laugier-Huntziker syndrome**
- **Tumors**
 - Melanocytic naevus, Malignant melanoma, Squamous cell carcinoma *in situ*
- **Trauma**



Junctional nevomelanocytic nevus of the nail matrix



Half-and-half nails

- proximal white zone and distal (20–60%) brownish sharp demarcation
- histology of which suggests an increase of vessel wall thickness and melanin deposition
- **Causes**
 - chronic renal failure
 - after chemotherapy



Half-and-half nails – proximal nail is white and distal nail is pink; associated with renal disease

Acute paronychia

Core concept

- Usually staphylococcal infection
- result from local injuries, splits, splinters or nail biting,
- complication of chronic paronychia (*Pseudomonas pyocyanea*, coliform organisms and *Proteus vulgaris*)



- **Clinical features**

- presents as a painful swelling of the nail fold

- **Treatment**

- Drainage
- antibiotic



Chronic paronychia

Core concept

- an inflammatory dermatosis of the nail folds, with secondary effects on the nail matrix, nail growth and soft-tissue attachments
- **Etiological factors**
 - *Candida albicans*
 - wet work or caustic materials
 - Wet, cold hands
 - domestic workers, bar staff, canteen workers, fishmongers
 - background of atopy or psoriasis
 - Organisms
 - *S.aureus* or *albus*, *Proteus vulgaris*, *E.coli*, *Pseudomonas pyocyanea*

C/F *Chronic paronychia*

Core concept

- Slightly tender swelling at the base of one or more nails
- lost cuticle
- Surface of nail irregular and discolored



Pterygium

- central fibrotic band divides a nail proximally in two.
- **Causes**
 - trauma
 - lichen planus
 - Graft versus- host disease
 - leprosy



Subungual hyperkeratosis

- hyperkeratosis of nail bed and hyponychium
- **Causes**
 - psoriasis
 - onychomycosis
 - wart
 - pityriasis rubra pilaris
 - eczema



Psoriatic nails

nail matrix

- Pits
- ridges
- grooves

nail bed or hyponychium

- onycholysis
- Subungual hyperkeratosis
- splinter haemorrhages

Psoriasis: pitting.



Psoriasis: onycholysis.



subungual hyperkeratosis.

Represents nail bed disease





Lichen planus

The nail bed is inflamed, affecting the matrix with resultant thinning of the nail plate and longitudinal ridging

Eczema

- Severe pompholyx around the nail folds may cause nail dystrophy, resulting in irregular ridges



Benign tumors **Viral warts**

- most common tumour involving the nail
- usually found in one of the nail folds but
- also seen in the digit pulp
- Less commonly on the nail bed



Nail plate groove due to proximal myxoid cyst.

Core concept

Treatment

- incision and drainage
- injected sclerosant or steroid
- cryosurgery
- laser
- infrared photocoagulation

high relapse rate



MELANOMA

- Involvement of nails is rare (0.7 percent to 3.5 percent of melanomas).
- Thumb or hallux is most often affected.
- Longitudinal melanonychia and Hutchinson sign are classic.
- Lesion is amelanotic in 25 percent of cases.
- Only 15 percent of patients survive 5 years or longer.

image

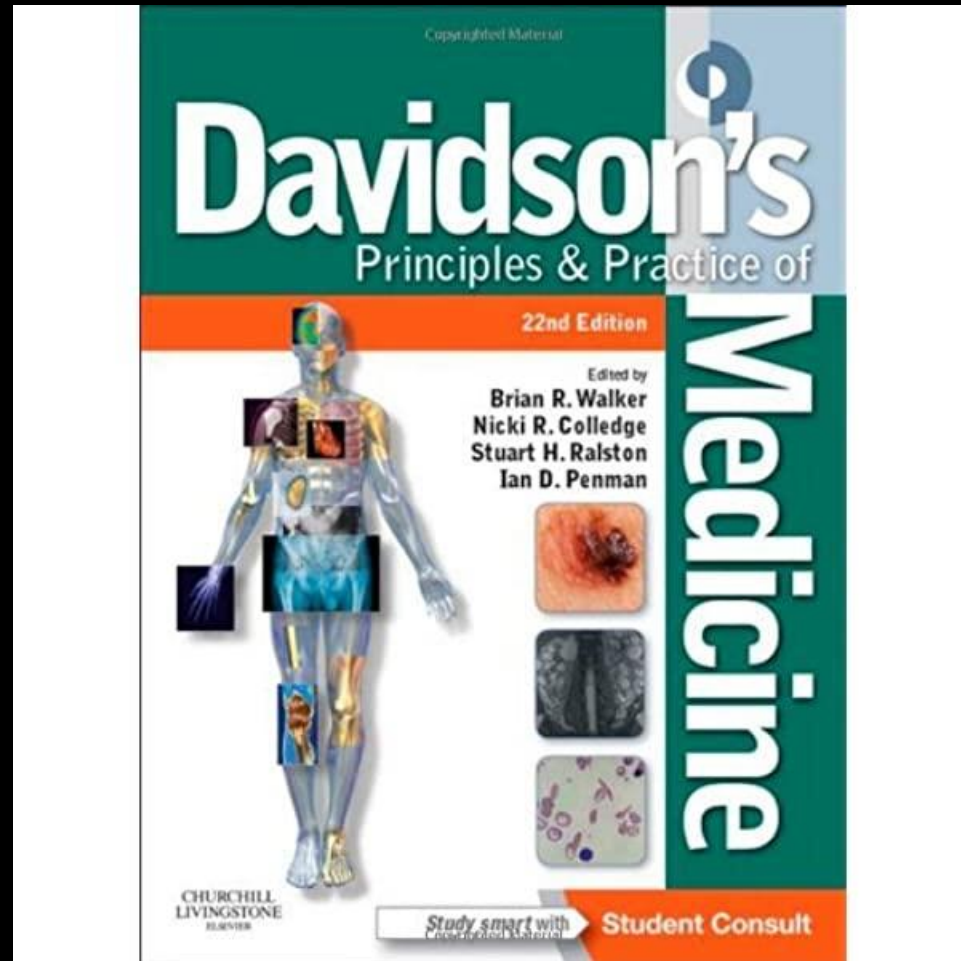


Ingrowing toenail

- The lateral nail fold of the great toe is penetrated by the edge of the nail plate, resulting in pain, sepsis and, later, the formation of granulation tissue



Study Material



Bioethics

- The four main principles of medical ethics
 - Autonomy
 - Nonmaleficence
 - Beneficence
 - Justice
- These principles are universal to all of medicine, including dermatology.


Family Medicine


- Common nail disorders that a family physician can pick
 - Leuconychia
 - Koilonychia
 - Paronychia
 - Onychomycosis
 - Clubbing
 - Half and half nails
 - Splinter hemorrhage
 - Ingrown toe nail

Research :

 **National Library of Medicine**
National Center for Biotechnology Information


Log in

 **PubMed Central®**



As a library, NLM provides access to scientific literature. Inclusion in an NLM database does not imply endorsement of, or agreement with, the contents by NLM or the National Institutes of Health.
[Learn more about our disclaimer.](#)

Annals of Medicine

 **Taylor & Francis**
Taylor & Francis Group

[Ann Med.](#) 2022; 54(1): 694–712. Published online 2022 Mar 3. doi: [10.1080/07853890.2022.2044511](https://doi.org/10.1080/07853890.2022.2044511)
PMCID: PMC8896184 | PMID: [35238267](https://pubmed.ncbi.nlm.nih.gov/35238267/)

Optimal diagnosis and management of common nail disorders


[Debra K. Lee](#)^a and [Shari R. Lipner](#)^b

► [Author information](#) ► [Copyright and License information](#) ► [Disclaimer](#)


Associated Data


► [Data Availability Statement](#)

Feedback


 **National Library of Medicine**
National Center for Biotechnology Information

Log in

 **PubMed Central®**



As a library, NLM provides access to scientific literature. Inclusion in an NLM database does not imply endorsement of, or agreement with, the contents by NLM or the National Institutes of Health.
[Learn more about our disclaimer.](#)

 **Royal College of Physicians** | **Clinical Medicine**

[Clin Med \(Lond\).](#) 2021 May; 21(3): 166–169. doi: [10.7861/clinmed.2021-0243](https://doi.org/10.7861/clinmed.2021-0243)
PMCID: PMC8140692 | PMID: [34001565](https://pubmed.ncbi.nlm.nih.gov/34001565/)

Nails in systemic disease

[Charlotte E Gollins](#), dermatology registrar^A and [David de Berker](#), consultant dermatologist^B

► [Author information](#) ► [Copyright and License information](#) ► [Disclaimer](#)

ABSTRACT

Go to: ►

A change in colour, size, shape or texture of the hands and toenails can be an indicator of underlying systemic disease.

Feedback