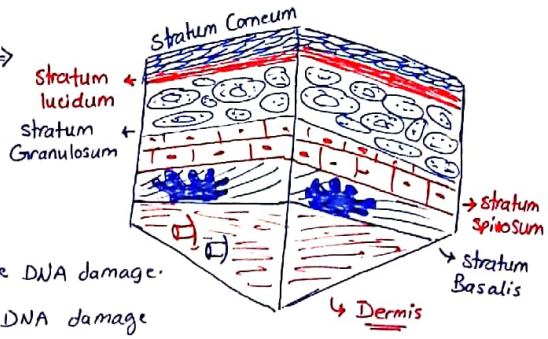
Skin Cancer

Skin Layers : 1. Epidermis ⇒ Keratinized Stratified Squamous epithelium ⇒
2. Dermis ⇒ Contain vessels & sebaceous Glands. & hair follicles.
3. Hypodermis ⇒ fat & remnant of panniculus corrosus.



Sunlight is devided to three types of Rays:
1. Ultra Violet light → 3 Types → A → 95% reach to us & don't cause DNA damage.
2. Visible light → B → 5% reach to us & cause DNA damage
3. Infra-Red. → C → Totally Absorped by Ozon Layer & cause DNA damage.

	Basal Cell Carcinoma (The most common type of skin cancer)	Squamous cell carcinoma (2nd most common type)
Layer of Origin.	Stratum Basalis	Stratum Spinosum. (Prickle cell layer)
Affected Areas.	- In sun exposed Areas (could occur in unexposed areas too) - Above the line that is between angle of mouth & ear lobe (Nose is the most common)	
Risk factors	1. Solar radiation 2. Immunocompromised 3. Xerodermapigmentosum (AR) → Defecient DNA repair of UV damage. 4. Arsenic exposure. 5. Basal cell nevus Syndrome (Gorlin's Syndrome) → AD, multiple BCC.	1. solar radiation 2. Immunocompromised 3. Xerodermapigmentosum. 4. Mineral Oil 5. Malignant changes In longstanding Ulcers : Marjolin Ulcer, Venous ulcer or Burn scar or chronic Osteomyelitis. 6. Chronic Inflammation : Suppurative Hydenitis, Cutaneous TB, Necrobiosis lipoidica, radiation dermatitis, Leprosy, snake Bite., decubitus ulcer. 7. premalignant Conditions : 1. Solar Keratosis (Most common, 25%) 2. Keratoacanthoma 3. Bowen's Disease (SCC in situ).
Morphology	1. Nodular/Noduloulcerative (Most Common), Nodulo Cystic. 2. Sclerosing / Morpheaform (Most Aggressive) 3. Superficial 4. Pigmented. ⇒ Pearly/shiny nodule with Telangectasia ⇒ Rolled Edge with central Necrosis ⇒ Because it Grows Slowly & peripherally → ↓ central Blood Supply → Central Necrosis / Minimal Induration.	- Small nodule with rapidly Growing feature (within few months rather than few years as in Bcc.) with central necrosis & ulceration & everted margins / Marked Induration Indicates Rapid Growth.
Spread	- Local Invasion (Rarely lymphatics & Distant mets) - Regional LNs not Enlarged. - Very locally Aggressive ⇒ Rodent Ulcer.	- Local infilteration & lymphatics. - Regional LNs may be Involved. - Hematogenous (Rare)
Diagnosis	- Clinical Diagnosis. - Shave Biopsy (If difficult to distinguish from melanoma) or Punch Biopsy * Histologically: Nest of cells that resemble Basaloid Cells (Dark staining) surrounded by myxoid stroma (stroma with Blue appearance) with cleft inbetween.	* Histologically: Sheets of prickle cell-like cells & epithelial Pearls (Malignant cells form nodule with Concentric layers - Onion like Clusters of cells)
Treatment Cosmetic Concern	- Surgical & non-surgical (intra-lesional interferon) ↳ Destructive ⇒ cautery. Cryosurgery. ↳ Excisional: ① wide local excision (4-10mm safety margin) in head & neck <1cm, Trunk & extremity <2cm. ② Moh's Micrography surgery (MMS) for Tumors: A- with Indistinct margin (Morpheaform) B- when sparing normal tissue is paramount - Nose, Lips, Cheeks. - Radiotherapy (As SCC)	- Surgical Excision: ① wide local excision (4-10mm) with regional LN dissection if clinically involved. ② Moh's Micrography surgery. - Radio therapy: ① Not fit for surgery ② Advanced disease ③ Recurrance ④ Adjuvant therapy (+ve margins)
Prognosis	Excellent	More Aggressive than BCC
follow up	- Not required routinely. - Only for Recurrent disease or with Gorlins Syndrome (Multiple BCC)	Required

Solar Keratosis :

- Also called Senile / Actinic keratosis.
- Most common premalignant cause of SCC
  → 25% risk of malignant degeneration.
- Areas ⇒ sun exposed (face, Back of hand & ear helix).
- Description ⇒ Raised, Thickened patches of skin - yellow - Grey or Brown - seen in Elderly who work outdoor (farmer)

Seborrhoic Keratosis:

- Also called senile warts or Basal cell papilloma.
- Overgrowth of Basal cell layer
  → Not premalignant.
- Crops of lesions of various degree of pigmentation (stuck on appearance), itchy, can suddenly fall or picked off to leave pink patch.

Aim of Resection in BCC

- To prevent Recurrance

According to Residual Tumor (R) :

- R0 → No Residual Tumor
- R1 → Microscopic demonstrable residual Tumor.
- R2 → Macroscopic visible Tumor

Keratoacanthoma (Mulloscum Sebacceum) :

- Self-limiting SCC or unusual response to viral Infection.
- Rarely progress to Invasive SCC.
- Presentation: - Rapidly Growing Nodule with central Keratin plug ⇒ Grows within weeks then central necrosis occur.
- Resolve spontaneously within few months (4-6 months) leaving deep indrawn scar.

⇒ Should Always be Excised Due to :

① Confirm Dx.
② Risk of Invasive SCC.
③ Prevent disfiguring scar.

Melanoma

Nevi Types & Pathology :

① Freckles: Normal number of melanocytes, normal position but ↑ production of melanin
② Lentigo : ↑ Numbers but normal position & production
③ Dermal Moles (Common Mole): light or dark, flat or warty, hairy or hairless
- Hairy moles are almost always Dermal moles - Anywhere except palms, soles, Genitalia
Mature Adult mole, No malignant Potential.
④ Junctional Mole: Immature / unstable, Anywhere, vast majority of malignant melanoma arise from Junctional mole yet risk of malignant degeneration is low.
⑤ Compound Mole: Indistinguishable from dermal mole, but has malignant Potential.

- Melanocytes : Neural Crest in Origin, found in Stratum Basalis,
- 1 in every 35 Keratinocyte (Constant) & Produce melanin (Radiation Barrier).

ABCDE's of melanoma

- Asymmetrical
- Borders are uneven.
- Color (Multiple)
- Diameter > 6 mm.
- Evolving (Change in size, shape & color.)

Types of Malignant Melanoma :

Decreasing Frequency ↓

① Superficial Spreading (Most Common)
② Nodular Melanoma (Most Aggressive)
③ Lentigo Maligna Melanoma (Best Prognosis)
④ Acral lentiguous Melanoma
⑤ Amelanotic Melanoma
⑥ Desmoplastic Melanoma

Clarks level & Breslow Depth : (Most Imp. prognosticator for Malignant Melanoma)

- Level 1 : Epidermis (In situ) - 10 years survival rate 100%
- Level 2 : Papillary dermis - 93%
- Level 3 : Whole Papillary dermis but not reticular dermis. - 71%
- Level 4 : Reticular Dermis - 59%
- Level 5 : Subcutaneous Tissue & fat - 36%

* Recommended surgical margin excision for melanoma :

- Melanoma In situ - .5 - 1 cm
- < 1 mm thick - 1 cm
- ** - 1 - 2 mm thick - 1 - 2 cm
- > 2 mm thick - 2 cm.