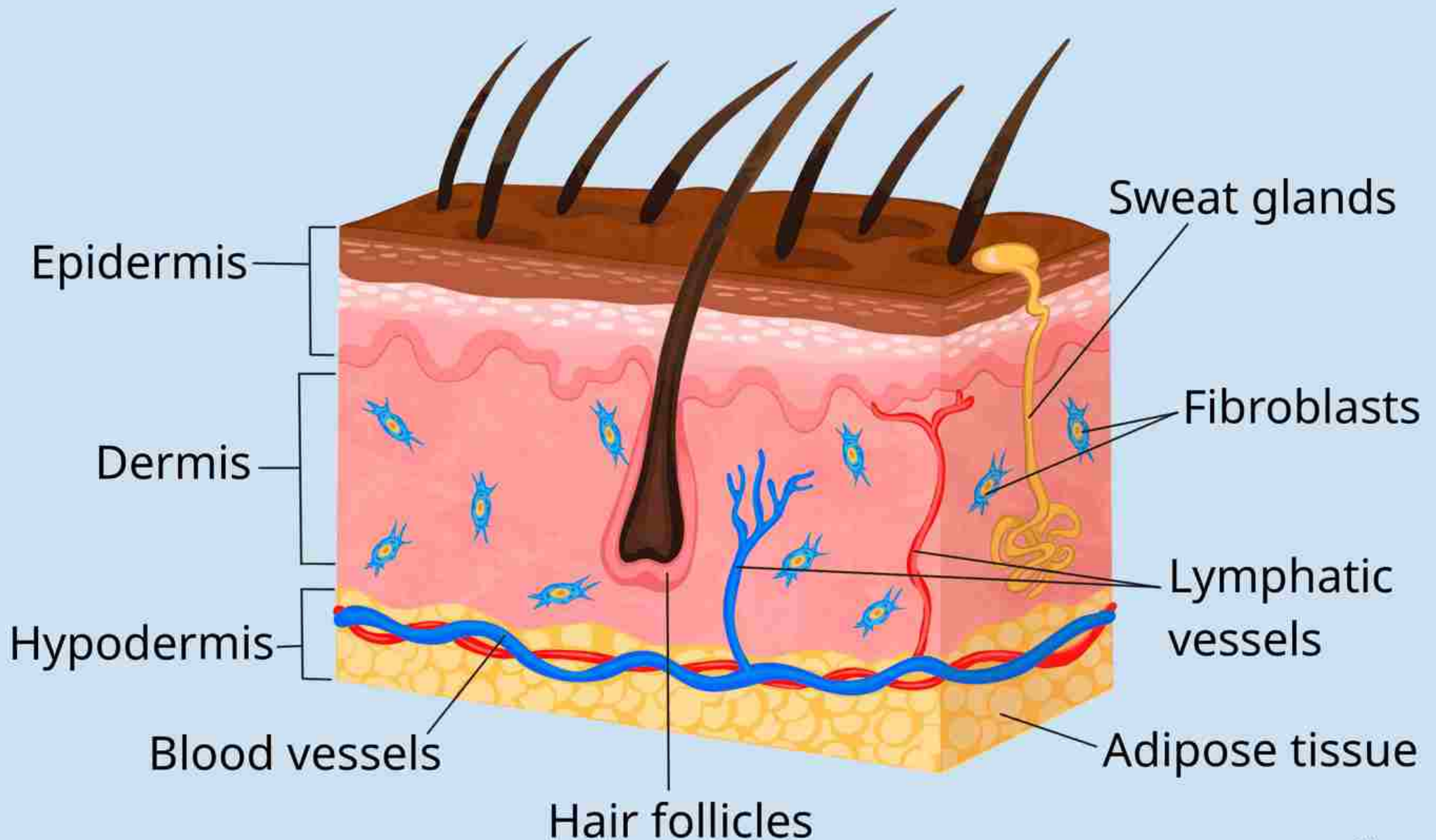


Layers of the Skin



Skin

PAGE NO.
DATE:

→ Integumentary system —

[Skin, Nails, Hair
and its Nerves]

→ Largest organ of the Body

→ completely covers the Body and is continuous with the Membranes lining the orifices.

o → Surface area is $1.5 - 2^2$ m. (adult)

a → In certain cases, it contains —
- Glands
- Hairs
- Nails

→ Account for 16% of Total Body weight.

→ Functions

- 1) Protection
- 2) Regulation
- 3) Defense
- 4) Storage

→ 3 layers of skin

- 1) Epidermis
- 2) Dermis
- 3) Hypodermis

1) Epidermis —

- Most superficial & visible layer of skin
- Composed of keratinised stratified squamous epithelium.
 - ↳ Keratin protein provide hardness
- Thickness varies.
- No blood vessels → cells in deepest layers are nourished by diffusion of oxygen from surrounding air & by blood capillaries extending to dermis.
- Hair, secretion from sebaceous gland & duct of sweat gland pass through epidermis to reach the surface.

• Sublayers of epidermis — (strata)

— superficial to deep these layers are — — —

- Stratum corneum
- Stratum lucidum ^{only} (palm & sole)
- Stratum granulosum
- Stratum spinosum
- Stratum basale (germinative layer)

↳ attached to dermis layer is (Dermal papillae)

formed → Finger ridges & (Finger print)

→ Basal cells present in stratum
Basal layers of epidermis

→ Basal cells are pass to upper cells

* Basal keratinization, keratinocytes.
cells (upward grow)

→ every 30 days our epidermis is
replace it is sub part → stratum
corneum

→ Meckel cells (sensory touch, Tem. etc.)
fill to this cells

→ Melanocyte cells → Melanin (colour)
given
&
UV protection

- sub cells of
stratum Basal
layer

→ Langerhans cells → Immune cells.
2) Dermis -

→ Tough & elastic

→ Present collagen fibres

↳ (due to old age collagen is low)
(to Rm cells are growing in skin)

→ contains - Blood & lymph vessels
hair follicles, sweat glands

→ Two layers of Connective Tissue

1) Papillary layer

- upper layer of epidermis

- collagen & elastic fibers form loose meshwork.

- Fibroblast, few fat cells, cl
- Bundles of small blood vessels.

- Phagocytes, Touch Receptors & Nerve ending present.

2) Reticular layer

- 2nd layer of dermis

- collagen & elastic fibers are present

But, tight meshwork

- Much thicker under to papillary layer

- well vascularised and rich sensory and sympathetic nerve supply

3) Hypodermis —

→ Subcutaneous fat layers of skin or also called superficial fascia

→ underlying to bones & muscles

→ fat storage (Provides insulation)

o →

Appendages of SKIN

- 1) Hair follicle & Hair
- 2) Sweat glands & sebaceous glands
- 3) Nails of fingers & toes.

1) Hair → develops from hair follicles
 are present in the epidermis
 Root in dermis

→ Made of Keratin protein

→ Melanin provide of Hair Black colour

Structure of Hair

- 1) Hair shaft
- 2) Hair follicle
- 3) Hair Bulb
- 4) Dermal Papilla
- 5) Arrector pili Muscle
- 6) Sebaceous gland

2) Sweat gland

- Produce watery sweat for cooling
 (Thermoregulation)

3) Sebaceous gland

- Produce oily sebum for Hair/skin
 Lubrication

3) Nails

→ Protect the delicate finger tip and toe tissue from trauma

→ It is tools for scratching or picking up small objects.

→ components

1) Nail Plate

2) Nail Matrix

3) Nail Bed

4) Nail folds

5) Cuticle

6) Lunula

7) Hypoonychium

4) Clinical Anatomy of skin

1) Temperature regulation

2) Sensation

3) Barrier function

4) Skin cancers - Melanoma -