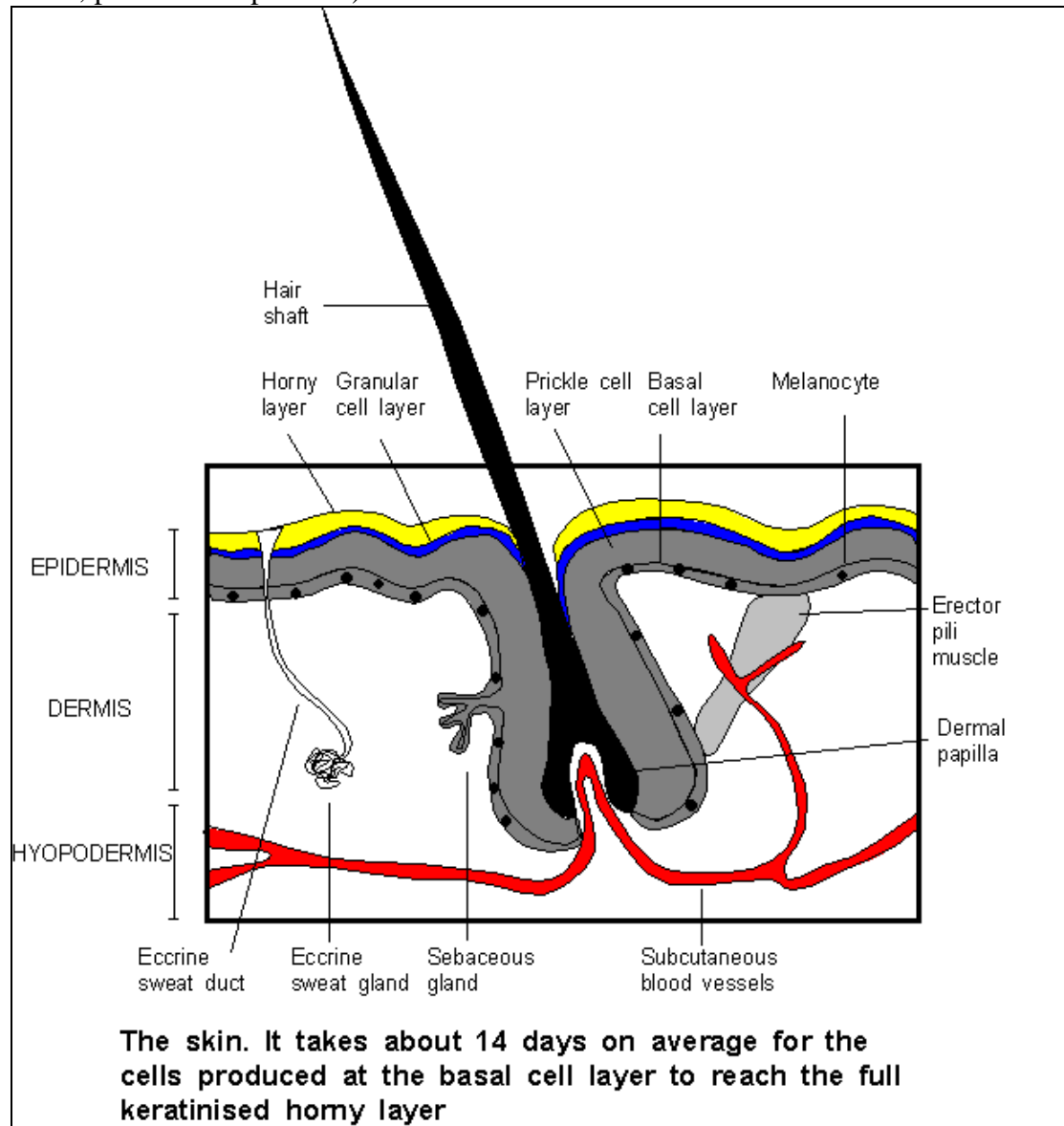


SKIN

The skin contains ducts, hair, nails, blood vessels and sensory detectors (notably for touch, pain and temperature).



The epidermis

The epidermis comprises stratified squamous tissue. The outermost layer, the stratum corneum, comprises hardened dead cells with new epidermal cells being continuously produced by the germinative basal and prickle cell layers. The epidermis is thickest on the soles and palms of the hand, the areas that have most wear. The epidermis contains no blood vessels and only a few nerves. Melanocytes, in the basal layer, provide an absorbing blanket for ultra-violet light (racial pigment is related to the products of melanocytes rather than the number of melanocytes). Hair and nails are epidermally derived.

The dermis

The dermis is mostly connective tissue and contains blood vessels, numerous nerves and ducts, particularly of the sweat glands (the sweat glands are in fact derived from the epidermis). Sweat glands have a single duct and are either eccrine (secretory) and are activated by the sympathetic nervous system (using noradrenaline rather than

acetylcholine) or apocrine to produce a more concentrated odorous form of sweat from the axilla, vulva and from around the nipple. Earwax is secreted by modified sweat glands. Elastic fibres in the dermis determine skin elasticity. These fibres decline with age thus the skin becomes wrinkled with age.

Skin functions include:

- A protective barrier between the deeper tissues and the outside world
- Protection against injury, including sunlight
- Prevention of fluid loss from deeper tissues
- Temperature regulation by regulation of blood flow and sweating
- Sensing, including touch, pain, and temperature
- Grip
- Storage of water and fat
- Vitamin D production
- Appearance
- Hair and nails
- Waterproofing and lubrication (from secretions of the sebaceous glands)