

SKIN

Skin is composed of two layers, the epidermis, the outer layer, which is derived from ectoderm, and the dermis, derived from mesoderm. The two layers are firmly adherent one to another with the dermis corresponding to the lamina propria of mucous membrane. Loose connective tissue lies under the dermis and corresponds to the superficial fascia.

The epidermis is a stratified squamous keratinized epithelium with five layers or strata. (1) stratum germinativum or stratum basale lies just superficial to the dermis; (2) stratum spinosum or prickle cell layer; (3) stratum granulosum; (4) stratum lucidum; (5) stratum corneum.

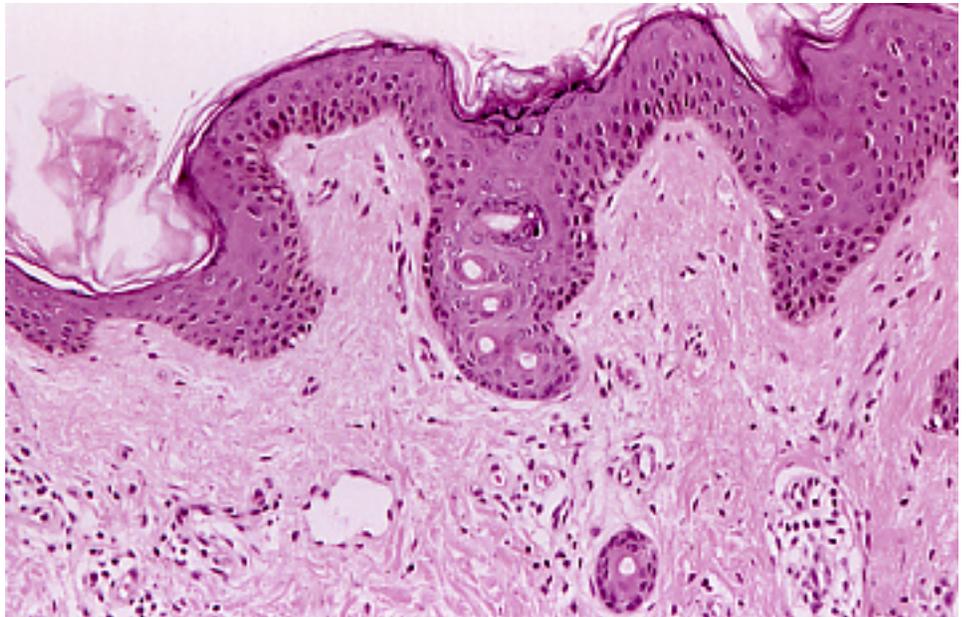
The stratum germinativum consists of a single layer of columnar or cuboidal cells. Mitotic figures are found here which produce new cells that eventually will be displaced into the next layer, the stratum spinosum, which is several layers thick and contains cells that are scale-like or polyhedral and which become flattened toward the surface. The name spinosum derives from "intercellular bridges" which appear to project from one cell to another but do not indicate cytoplasmic continuity between the cells. The stratum spinosum and germinativum are grouped together as the malpighian layer and all cells here are referred to as keratinocytes. The stratum granulosum rests on top of the stratum spinosum and contains flattened polyhedral cells with vesicular nuclei. These cells contain granules of keratohyalin giving a granular appearance to the layer. The stratum lucidum is a clear translucent layer difficult to identify in many sections. The stratum corneum is the outermost layer of the epidermis and is composed of dead scale-like cells that become progressively flattened and joined together. This layer stains pink and is an area for constant loss of dead cells.

The pigment melanin is responsible for the shades of brown in the skin and is produced by specialized cells of epidermis, the melanocytes, that are scattered among keratinocytes of the stratum germinativum and stratum spinosum. They appear as cells with a clear space surrounding an oval shaped nucleus and the melanin they produce is transferred to the adjacent basal cells by phagocytosis. There is one melanocyte for every four to ten basal cells. Melanocytes may be somewhat difficult to identify in routine histological preparations.

The exact limits of the dermis are often difficult to identify since it merges into the underlying subcutaneous tissue. It is composed of dense connective tissue and itself is divided into two layers, the papillary layer, superficially, and the reticular

layer, deep. The papillary layer includes the ridges and papillae that protrude upward into the base of the epidermis and is a thin collagenous and elastic section of the dermis. The reticular layer of the dermis is the fibrous bed of the dermis with coarse, interlacing, collagenous fibers and numerous elastic fibers. Also found in the dermis, chiefly in the reticular layer, are sweat glands, hair follicles with the arrector pili muscle, sebaceous glands, ceruminous glands, and blood vessels, nerves, and lymphatics.

Skin, normal histology. An undulating epidermis is set above the dermis (homogeneous pink staining area)."



The epidermis shows slight undulation. There is a thin stratum corneum, a very thin granular layer, and a normal spinous layer. Underlying dermis is normal.

