

# Skin adnexa

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- Adnexal structures such as hair follicles, sebaceous glands and sweat glands span both the epidermal and dermal layers and - contain some keratinocytes in their ducts. In injuries where epidermis is lost, re-epithelialisation occurs from these structures as well as from the wound margins. Hair follicles are tubular invaginations of the epidermis, from which grow hair shafts (dead keratinised tissue). Strips of smooth muscle (arrector pili) are inserted into the wall of the hair follicle and elevate it in response to stress and cold. Sebaceous glands are hair follicle appendages situated between the follicle and arrector pili muscle such that muscle contraction compresses the gland and sebum is released (holocrine secretion) along the elevated hair. Simple eccrine and apocrine sweat glands open into pores in hair follicles. Eccrine glands are distributed throughout the entire body surface, except the lips. They secrete sweat in response to emotion or during thermoregulation. Apocrine glands are found in the axillae and groins and become active at puberty. Their secretion, characteristically malodorous after bacterial degradation, is in response to emotion and hormone secretion.

Hair Sweat pore Epidermis Pilus muscle Sebaceous gland Dermis Hair follicle Subcutis Figure 45.1  
Three-dimensional diagram of the structural layers of the skin and its adnexal structures.  
(Reproduced from Simonsen T, Aarbakke J, Kay I et al. Illustrated pharmacology for nurses .  
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