

Integument

The term integument referred as skin form the outer barrier of organism and interface to environment and have function :-

1. Protection of body against mechanical , chemical, physical and biological.
2. Receptor for perception pressure, pain , heat and cold.
3. Storage and Excretion.
4. Thermoregulation / water and temperature regulation .
5. Lipid soluble drug absorption (Topical steroids).
6. Immunological defiance.
7. Vitamin D production.

The integument have development several structure.

1. Subcutaneous tissue
2. Skin
3. Modification
 - a) Skin
 - b) Foot pads
 - c) Claw, hoof
 - d) Horn

Skin its derivatives

- **Epidermis**
- **Subcutaneous**
- **Sweat and sebaceous glands**
- **Hair and nails**

Common Integument

The thickness of the skin of the horse varies from 1 – 5 mm indifferent region and is greatest at the attachment of the mane and on the dorsal surface of the tail.

The glands are numerous and are larger than those of the other domesticated animals. The sebaceous glands are specially developed on the lips, prepuce, mammary glands, perineum and labia of valva.

The sweat glands are yellow or brown in color. They occur in almost all parts of skin but are largest and most numerous in that of the lateral wing of the nostril, flank, mammary gland and the free part of penis.

In addition to the ordinary and tactile hairs, certain region present coarse hairs of great length. The main springs from dorsal border of the neck and the adjacent part of the withers, its rostral part, which covers the forehead to a variable extent, is termed the fore top. The tail, with the exception of its ventral surface, bears very large and long hairs. The tuft of long hairs on the flexion surface of the fetlock give rise to the popular name of this region.

Subcutaneous bursa may be present at various prominent points :-

e. g. :- The olecranon, the coxal tuber, calcaneal tuber, withers.... Etc.

There are not present in the young.

The Hoof

The hoof is the horny covering of the distal end of the digit. It is convenient to divide it for description in to three parts termed the Wall, Sole and Frog.

Foot Pads

The pads are formed by strongly modified common integument and found in fore limb and hind limb. They act as shock absorbers. The base pads formed by digital cushion which are made has three groups (derivatives):-

- 1- Carpal / Tarsal pads
- 2- Metacarpal / metatarsal pads
- 3- Digital pads

Skin

The skin encloses the pads and blends with mucous membrane at various openings of digestive, urinary, respiratory and genital systems. The surface of skin marked by fine grooves and skin pouches are present in sheep, cat and dog.

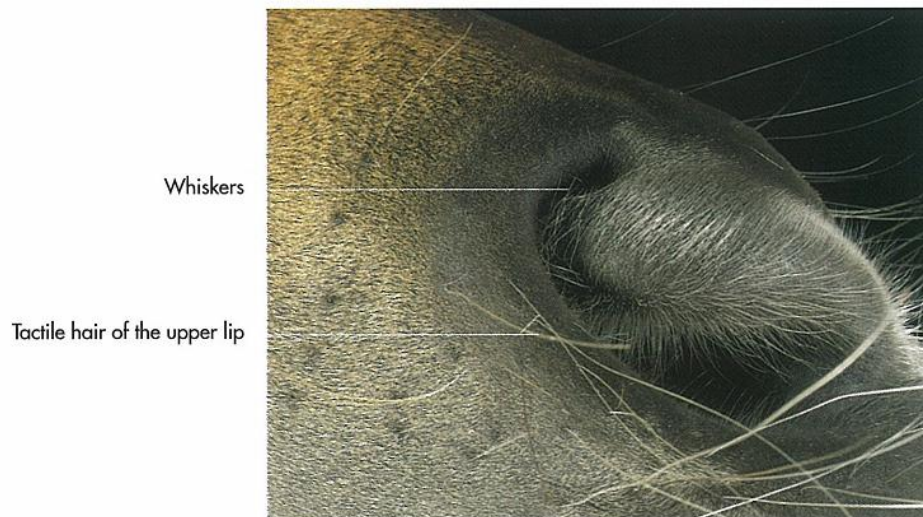
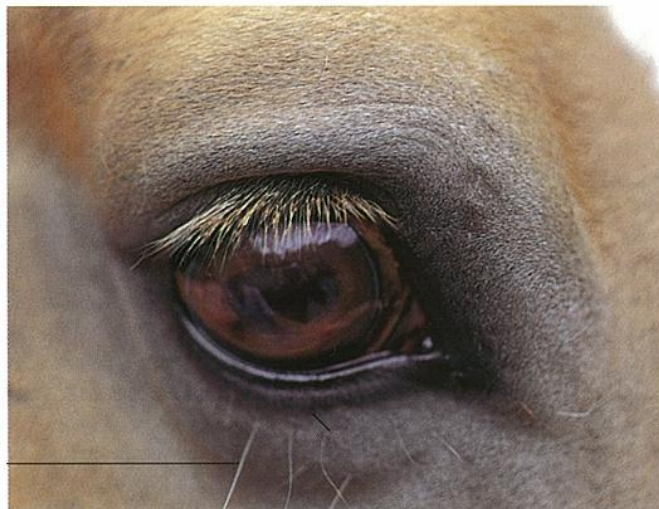


Fig. 18-11. Guard hairs at the vestibule of the nares of a horse (vibrissae).

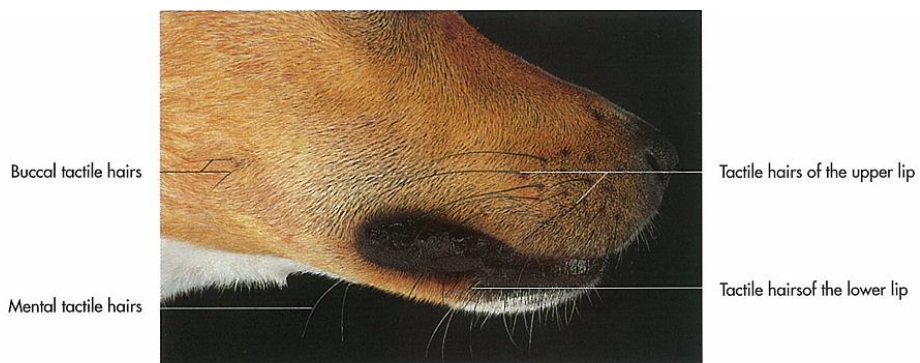


Fig. 18-12. The hairs of tragus around the ear (tragi).



Infraorbital tactile hair

Fig. 18-13. Eyelashes (cilia) of the upper lid of the horse.



Buccal tactile hairs

Mental tactile hairs

Tactile hairs of the upper lip

Tactile hairs of the lower lip

Fig. 18-16. Tactile hairs on the head of a dog.



Fig. 18-17. Tactile hairs (pili tactiles carpales) at the carpus of a cat.



Fig. 18-18. Hair whorl (vortex pilorum divergens) in a dog.



Fig. 18-19. Hair crest (linea pilorum convergens) in a horse.