

Tuesday
2-5-08

Jan 31-2:42 PM

Define Dermatology
/ Study
Skin of

The name is derived from the Latin word *integumentum*, which means the outer covering of something.

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Functions of the Integumentary System

- barrier
- protection of underlying structures
- prevents the body from drying out
- helps maintain and regulate body temp
- receptors for sensations of heat, touch, cold, pressure, and pain
- disposing of waste products.

✓ sweat

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Fun Facts

House dust is mainly skin flakes!

If you laid out all your skin on a flat surface, it would have an area of about 2 square metres.

Skin weighs about 2.5 kilograms - the largest organ in the body.

What hurts if you pull it, but doesn't hurt if you cut it?
Your hair, of course!

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Heat is lost from the body by radiation, conduction, convection and evaporation of sweat:

radiation - the skin radiates heat in the form of infra-red rays and warms nearby objects

conduction - body heat is also transmitted by direct contact to objects in contact: e.g. clothing, the seat that one is sitting on or any objects being held



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convection - air passing over the skin is warmed. This warm air rises and colder air is drawn in to take its place. This is why the windchill matters.

evaporation - sweat on the skin surface evaporates and as a result the skin surface is cooled; providing the surrounding air is less than 100% humid. The skin therefore influences fluid homeostasis

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Outside

upon

Epidermis

Stratum Corneum

Stratum Lucidum

Stratum Granulosum

Stratum Spinosum

Stratum Germinativum

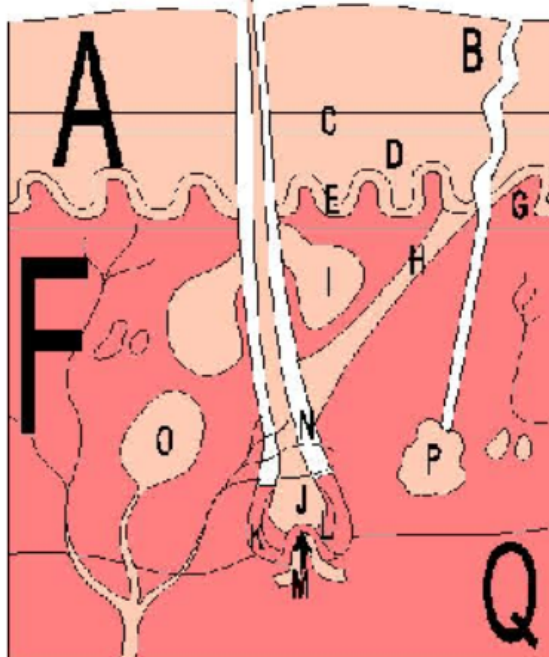
Dermis

Hypodermis

Inside

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epidermis



<http://www.crnasomeday.com/anatpages/integumentary.htm>

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Epidermis

Stratum Corneum	flat, lifeless cells, protection
Stratum Lucidem	clear layer, tightly packed cells, found in areas of rugged wear
Stratum Granulosum	cells contain granules, cells die in this layer, keratinization
Stratum Spinosum	cells shrink, draw apart, one of two cell layers thick
Stratum Germinativum	multiply constantly

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Dermis

dense, fiborous connective tissue, containing nerves

Ch 5

Hypodermis

loose, areolar connective tissue, and adipose tissue

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Define these words

Melanin

dark pigment of skin

Albinism

congenital defect causing a lack of pigment

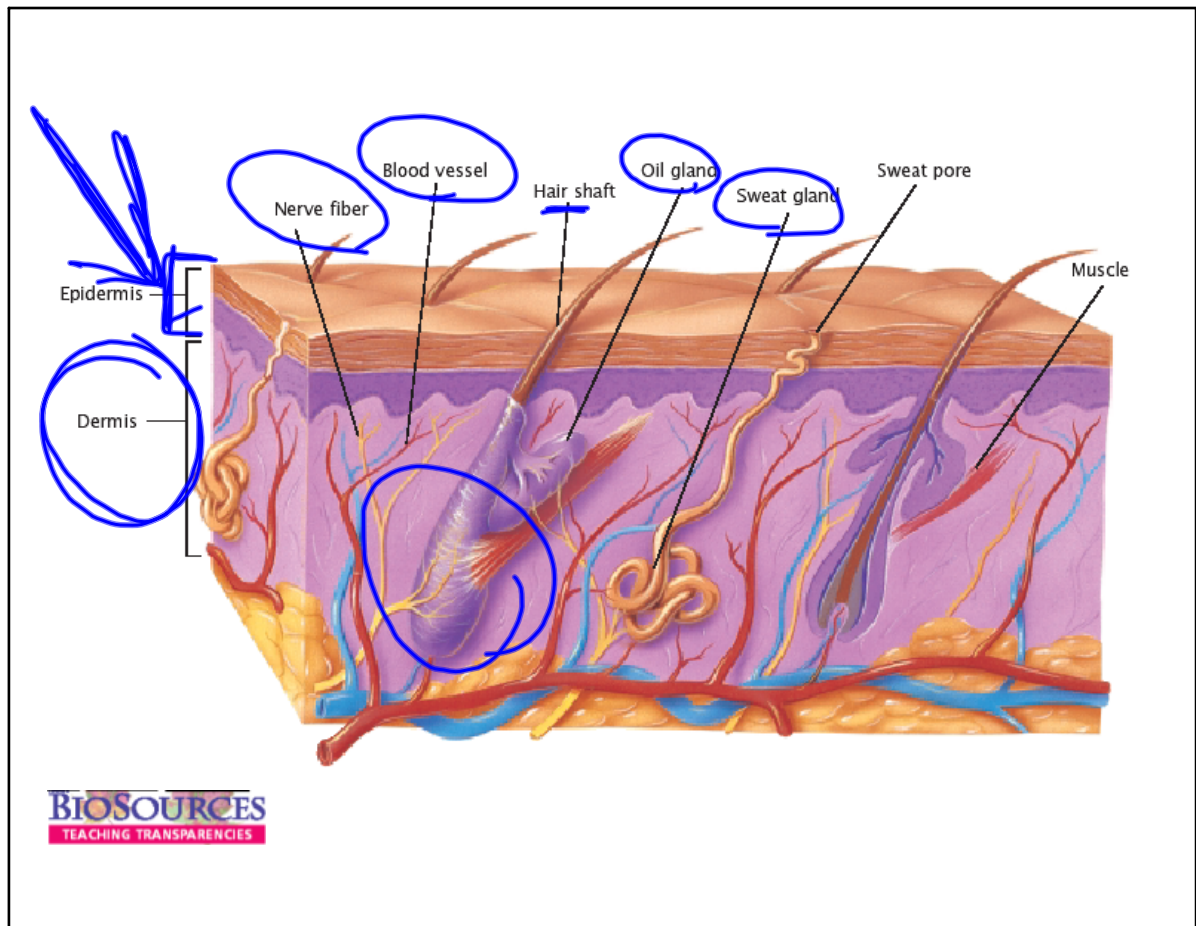
Cyanosis

bluish skin color
lack of oxygen

Dermatitis

inflammation of the skin

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Fur- short fine, hair

Mammals have three types of

hair:

Primary

Secondary

Tactile

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Primary- guard hairs, make up

top coat, smooth appearance,

allows rain to run off the animal

Ex: coarse manes, horse

tails, feathering on dog tails

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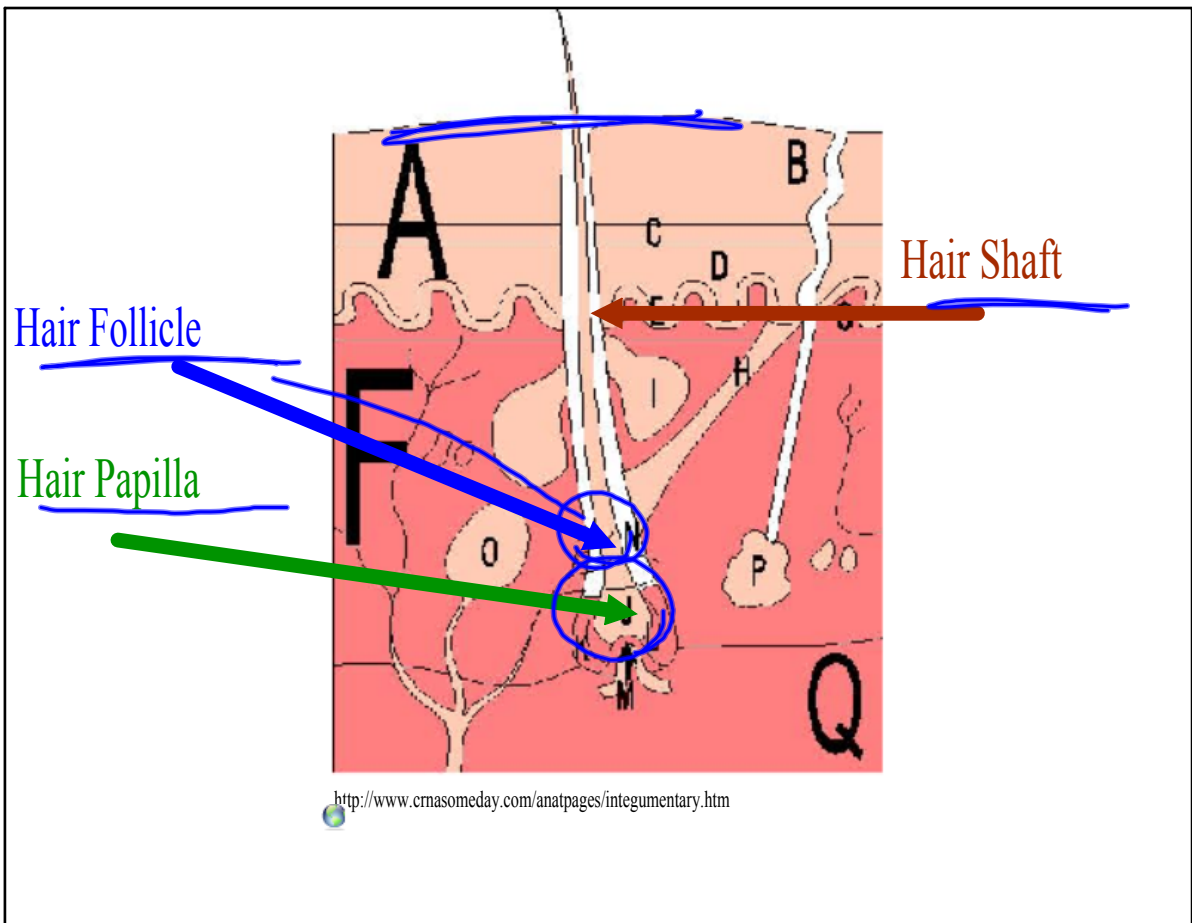
Secondary- wool hair, make up
undercoat, soft, thin, and wavy,

Ex: Sheep have wool hair

Tactile- thicker and longer than
primary hairs, found most often on
face, go deep in hypodermis and
muscle layer, touch receptor

Ex: Cat whiskers

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Simple - each primary hair grows from
a separate opening

Ex- cows and horses

Compound- two to five hair

Ex- dogs and cats

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Agouti- Unique color
Pattern, bands of
light & dark on
each hair

Shedding-
process of
losing hair
Seasonally

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Apocrine sweat glands- found throughout
the animal body, secrete strong smelling
substance into hair follicle

Endocrine sweat glands- coiled tube
structure in dermis, produces water
sweat, found in limited areas like
around nostrils

Dogs and cat sweat a little
Horses sweat generously

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Sabaceous glands- secrete sebum
(waterproofs the coat), increases
the spread of sweat

- Circumoral | around cat's lips
- Horn- strong musk odor in female goats
- Anal sacs- foul smelling and used to express territory marking

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Ceruminous glands- modified sweat glands in the ear canal

Makes Cerumen (earwax)

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Main Points

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<i>component</i>	<i>meaning</i>	<i>example</i>
CUT-	skin	subcutaneous layer = layer below the skin
DERMA-	skin	dermatology = study of the skin and its diseases
EPI-	upon	epidermis = layer above the dermis
LIPO-	fat	lipoatrophy = atrophy of fat below the skin
MELAN-	black	melanin = the black pigment in the skin
ONYCH-	nail	onychectomy = excision of a nail
PACHY-	thick	pachyderma = abnormal thickening of skin
SCLERO-	hard / tough	scleroderma = chronic hardening of the skin
SUDOR-	sweat	sudorific = an agent that promotes sweat
-ITIS	inflammation	dermatitis = inflammation of the skin
-OMA	tumour	melanoma = black coloured skin tumour
-OSIS	condition / disease	dermatophytosis = a fungal infection of the skin

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