

THE INTEGUMENTARY SYSTEM

The integumentary system protects the body against pathogenic organisms and injury. It consists of the skin, lymph canals and lymph nodes.

The skin is a protective, elastic, waterproof and sensitive organ covering the entire body surface, and has two layers:

a) **Epidermis** - or the outer skin, which consists of closely packed epithelial cells and is divided into layers of the epithelial tissue. The top layer of cells is continuously shed from the body as inner cells reproduce themselves; these new cells push the upper ones to the surface, where they die and slough off - this process is called desquamation. The body makes and loses millions of these cells every day. The epidermis contains no blood vessels but it contains melanin. This is a pigment that determines the dark or light colour of the skin and is inherited genetically. Some other factors, such as sunlight, can increase deposits of melanin in the epidermis. This is the body's method of protecting the skin from damage due to long exposure to sunlight.

b) **Dermis** - is the second layer, which is composed of connective tissue. It contains nerves, capillaries and lymph vessels. Sensory nerve endings provide the sense of touch.

Hair, nails and oil glands are called the **skin appendages**. Hairs grow on all body surfaces except the palms of the hands and the soles of the feet. The roots of hairs are located in the dermis; each hair has a follicle, that surrounds the roots and capillaries around the follicle to provide nourishment. Small muscles are attached to every hair follicle and are contracted when the body is exposed to cold. This action causes the hair to stand up and increases the oil supply to the skin, which prevents further loss of heat from the body surface. The reactions of the skin to cold are small muscle contractions promoting shivering which produces heat when additional warmth is needed. The oil also slows the evaporation of water from the skin.

Nails, which are hardened epidermal tissue, serve as tough protective plates for ends of fingers and toes and also assist in picking up objects. **The skin has several vital functions such as protecting against microorganisms and toxic substances, sense of touch, regulation of body temperature and elimination of body waste.** As to elimination, the skin influences the loss of body fluids through **perspiration**. It is also a means of elimination of certain salts, which helps to maintain the mineral balance of the body. In addition, **the skin protects the body against chemicals in the air and ultraviolet rays from the sun.** Body hair aids in protection of the skin against burns from the sun's gamma rays; hair in the nasal cavities acts as a barrier to harmful particles in the air, etc. The sense of touch keeps the body aware of its surroundings and protects it by transmitting messages to the brain and from the brain to the muscles.

VOCABULARY

acne [ækni:]	trudovina
appendage [ə'pendidʒ]	přívěsek
armpit [a:mpit]	podpažní jamka
boil [boil]	vřít, vřidek
crust [krast]	strup
dermatitis [də:mə'taitis]	zánět kůže
dermatology [də:mə'tolədʒi]	kožní lékařství
desquamation [deskwə'meiʃn]	odlupování buněk
downgrowth [daungrəuθ]	výrůstek
dryness [draɪnis]	suchost
eczema [eksimə]	ekzém

encounter [ən'kauntə]	setkat se s
erythematous [eri'θi:mətəs]	zarudlý
evaporation [ivæpə'reiʃn]	vypařování, odpařování
fibre [faɪbə]	vlákno
folding [fəʊldɪŋ]	záhyb
follicle [folɪkl]	váček
furuncle [fjuərəŋkl]	nežít
apocrine gland [æpəkrain]	apokrinní žláza
cutaneous gland [kju:'teɪnjəs]	kožní žláza
sebaceous gland [si'beɪʃəs]	mazová žláza
herpes zoster [hə'pi:z zɒstə]	pásový opar
humidity [hju:mɪdətɪ]	vlhkost
impetigo [ɪmpɪ'taɪgəʊ]	impetigo
itch [ɪtʃ]	svědit, svrab
keratin [kerətɪn]	rohovina
basal cell layer [beɪsl sel]	vrstva bazálních buněk
granular cell layer [grænjulə]	zrnitá vrstva
prickle-cell layer [prɪkl-sel]	vrstva trnitých buněk
leprosy [leprəsi]	malomocenství
lesion [li:ʒn]	poranění, poškození
miliaria [mɪli'eəriə]	potničky
mole [məʊl]	mola, zasněť
naevus, naevi [ni:vəs]	mateřské znaménko
nail [neɪl]	zde: nehet
nodule [nɒdju:l]	uzlík
nongreasy [nɒŋgri:zi]	nemastný
nourishment [nə'riʃmənt]	potrava, výživa
palm [pɑ:m]	dlaň
palpable [pælpeɪbəl]	hmatatelný
papilla [pə'pɪlə]	papila, bradavka
papula, pl. papulae [pæpjulə]	malý pupen
particle [pɑ:tɪkl]	částička
perspiration(sweat) [pə:spɛ'reiʃn]	pot, pocení
protective plates [prə'tektɪv pleɪts]	ochranné destičky
scale [skeɪl]	šupina, povlak
subcutaneous [sʌbkju:'teɪnjəs]	podkožní
sweat duct [swet dakt]	potní kanálek
trauma [tro:mə]	úraz, poranění