

F. Follow-up

Prepare a mini-presentation on injuries to the musculoskeletal system. Say what information the dispatcher and the ambulance crew should collect from the victim or witnesses, what they should give particular attention to.

Unit 2

THE INTEGUMENTARY SYSTEM

A. Warm-up

We may tend to take the skin for granted and perceive it only in terms of its aesthetic value. This would be a serious mistake as the skin is a complex structure performing a number of vitally important functions.

Working in pairs or threes try to answer the questions given below.

1. What are the functions of the integumentary system?
2. What structural elements does the integumentary system consist of?
3. What other systems does the integumentary system cooperate with, why and how?

Compare and discuss your answers to sum up the information gathered.

Vocabulary

integument powłoka
additional dodatkowy
accessory dodatkowy, pomocniczy
excess nadmiar
reticular siatkowy
moisturize nawilżyć
adipose tłuszczowy, otłuszczony
extension rozszerzenie,
wydłużenie
hair follicles mieszki włosowe
sweat pot
exocrine zewnętrzny wydzielniczy
fluctuate wahać się
sebum łój (skóry)
sebaceous łojowy

B. Reading and Vocabulary Building

Task 1

Study the **integumentary system** related vocabulary. For each fragment complete the text with the words given in the boxes.

PART ONE

contains • additional • glands (2) • provides • nerves • composed
• performs • skin • synthesized • consists • makes • containing •
contained (2) • found • protecting • light

The **integumentary system** or the skin the outer covering of the body. The integument or the skin of three layers: *epidermis*, *dermis* and *hypodermis* but also a number of accessory or structures such as nails, hair, sweat and sebaceous, blood vessels and

The **epidermis**, the outer layer of the skin is of layers of epithelial tissue two important molecules: keratin and melanin. Keratin in the dead cells of the upper layers of the epidermis the skin tough and waterproof. Melanin in both living and dead cells of the epidermis two functions giving colour to the and the skin from excess ultraviolet Another important element in the epidermis is the precursor of vitamin D by sunlight.

PART TWO

tissue (3) • function • water • organs • thickness • region •
strength • protein • body • skin • network • stretch • level

The **dermis**, the middle of the integument, thicker than the epidermis and composed mostly of connective, has the function of joining the epidermis with the hypodermis. The

..... fibres contained in the connective of the dermis – collagen, elastin and reticular fibres have their unique Each collagen fibre gives the skin, flexibility and ability to keep necessary to moisturize the Elastin fibres allow the skin to while reticular fibres form a holding connective tissue together.

The **hypodermis**, the innermost of the skin is composed of adipose or fat of varying which serves to protect the underlying and insulate the from cold.

PART THREE

brain • pain • surface • contains • found • removing • bringing •
receiving • sensory • rich • sending • preventing • protecting •
surface • fingers • entering • getting • responsible

Blood vessels are concerned with nutrients to the cells of the skin and waste products. They can be in the dermis and in the hypodermis.

Nerves are for the sense of touch or feeling. Their tips close to the of the skin are receptors specialised in the sensation of heat, and pressure and electrical information signals along the nerves to the or to the spinal cord.

Nails are hard keratin extensions of the epidermis of the and toes.

Hair is of waterproof and strong keratin and melanin. It performs protective functions, in the nose bacteria and viruses from the respiratory system and in other places us from cold or from hurt.

PART FOUR

softening • killing • sweating • releasing • located (2) • intensifies
• protects • regulates • provides • excreting • preventing •
conserving • pressure • regulate • react • secrete • evacuate •
remove

Sebaceous glands, usually close to hair follicles
an oily substance called sebum which performs a triple function
of the skin, too much water from leaving
the skin and bacteria.

Sweat glands are exocrine glands in the dermis the
function of which is to body temperature by
..... water and to waste molecules of urea,
ammonia and salt. Their action when the body gets
hot, for instance, when exercising.

The skin performs a number of important functions. It
the body from the external environment (temperature fluctuations,
pathogens and harmful substances). It body tempera-
ture by heat or its excess through sweating. It
prevents water loss from the body. It helps to body
wastes or toxins also through It helps in the production
of vitamin D. It a warning system as the nerve sensors in
the skin to touch,, pain and temperature.

Task 2

Mark the following statements true (T) or false (F). Justify your
answer in the context of the texts above and your general
knowledge.

1. The skin is a complex structure.
2. Keratin and melanin contained in the epidermis are important
multifunctional molecules.
3. There is a relation between the skin and the level of vitamin D
in the human organism.

4. The only function of the dermis is to join the epidermis with
the hypodermis.
5. The hypodermis, composed of a thin layer of connective tissue
forms the foundation of the remaining layers of the skin.
6. Blood vessels are present in all three layers of the skin.
7. If not for the nerve endings in the skin, our perception of the
environment would be much poorer and our relations with
the environment much more life-threatening.
8. In humans hair is but a decorative element.
9. The two types of glands found in the skin are both endocrine
glands.
10. The function of sebum secreted by sebaceous glands is to
lubricate the skin.
11. Sweat glands are not only a sort of an air-conditioning system
but also help the human organism get rid of toxins and wastes.
12. Though the skin performs a lot of functions, even an
extensive damage to it cannot disturb the functioning of
other organ systems.

Recap the contents of each passage and then the whole text.

C. More Vocabulary Work

Study the integumentary system injuries related vocabulary.

Task 3

Complete the text with the vocabulary given below.

PART ONE

vary • involve • location • exposed • caused • character • related •
burns • affected

Being the outermost layer of the body the skin is the organ most
..... to the environment and environment injuries.

Vocabulary

abrasion otarcie
bruise siniak, stłuczenie
contusion siniak, stłuczenie
laceration rana szarpana,
skaleczenie
scraping otarcie
diffuse rozlany, rozproszony
bullet pocisk (z broni palnej)
bullet wound rana postrzałowa
incision rana cięta, cięcie
haematoma krwiak
ecchymosis siniak, wybroczyna
puncture rana kłuta, nakłucie
frostbite odmrożenie
burn oparzenie ogniem lub
chemiczne
charred zwęglony

tenderness tklliwość uciskowa
 erythema rumień
 hyperemia przekrwienie
 tingling mrowienie
 paleness bledość
 scald oparzenie gorącą wodą lub
 parą
 vesicle pęcherzyk
 blister pęcherzyk na skórze
 thrombosis zakrzepica

The latter mechanical ones such as bruises, lacerations, abrasions, wounds as well as injuries by contact with extreme temperatures, namely,, scalds and frostbites or toxic substances. Their severity and consequences for the person and for the organism as a whole depending on their, extent and depth as well as the time and of medical intervention.

PART TWO

skin • irregular • discoloured • potential • diffuse • associated •
 subcutaneous • discoloration • mucous

A bruise also referred to as contusion is an injury with a effusion into tissue in which the skin is but not broken. Apart from, it may be with pain, swelling and tenderness. Bruises to the head, chest and abdomen may signal internal injuries.

An abrasion is a scraping away of a portion of or of a membrane as a result of an injury.

A laceration is a wound or tear of flesh.

PART THREE

tissues (2) • instrument • puncture • injuries • injury •
 compression • blood (2) • damage • threat • wound • infection
 • rise • cut • parts • point • structures • treated • vessels • exit

A **wound** is an caused by violence or trauma to which involves breaking the continuity of soft of body structures. Wounds are frequently associated with of bones, tendons or blood An incised wound is a sharp into the body, in which the are not severed. It may be either aseptic or infected. A **bullet wound** is a wound usually with a small of entrance and a larger point of if the bullet left the body.

A **contused wound** in which the skin remains unbroken while vessels underneath are ruptured may result in the formation of a **haematoma** if extravasated becomes encapsulated or **ecchymosis** if it is diffused. A **crushing wound** involves mashing or of tissues with minimal laceration. A **penetrating wound** is a in which not only the skin is broken but has occurred also to subcutaneous tissue and deeper lying or cavities. A **puncture wound** made by a sharp pointed is potentially dangerous because it may give to thrombosis and possible release of emboli and as it is usually a collapsed wound.

Infection, haemorrhage, thrombosis may all constitute a serious to the organism if not in time.

PART FOUR

part • parts • formation • symptoms • effect • exposure • area •
 development • degrees

Frostbite is the freezing or of freezing of skin or deeper tissues of any of the body, especially such as ears, nose, cheeks, fingers or toes, due to a prolonged to low temperature. The usual include tingling, redness followed by paleness and numbness of the affected Three of frostbite are distinguished: transitory hyperemia following numbness, of vesicles (blisters) and of gangrene.

PART FIVE

formation • full • size • thickness • local • charred • damage •
 excessive • underlying • electrical • superficial • systemic • outer •
 intensity • tenderness

A **burn** is a tissue injury resulting from exposure to thermal, chemical, or radioactive agents. The effects may be or both local and depending on the type, duration and of the exposure as well as on the location

and of the affected area. Burns are usually classified as:

First degree burns, characterized by erythema, hyperaemia, and pain, in which damage is and limited to the layer of the epidermis.

Second degree burns, in which involves the epidermis and part of the dermis but not its full, so epidermis can regenerate, usually accompanied by the of vesicles or blisters.

Third degree burns, which affect the thickness of the skin (both epidermis and dermis) and also the tissues, tissues being frequently or coagulated.

PART SIX

developing • greater • size • covering • slower • serious • dry • depends • hot • rarely • immediately • moist • body • fatal

The severity of a burn not only on its degree but also, to a large extent, on the of the affected area. A superficial burn a large part of the body is more than a small, deep one, unless important blood vessels and/or nerves are affected. While a primary shock after the injury is common and fatal, a secondary shock insidiously after severe burns may often be

A **scald** is a burn caused to the skin or underlying tissue by heat and vapours such as steam. It is usually deeper than a burn from heat, healing is and scar formation

Task 4

Answer the following questions to the text read.

1. What environmental factors can adversely affect the skin?
2. What injuries can they cause?
3. Are injuries to the skin dangerous or life-threatening?

4. What is the difference between bruises, abrasions and lacerations?
5. Why shouldn't bruises be taken lightly? What danger may they signal?
6. What is a wound?
7. What types of wounds does the text refer to? How do they differ?
8. What is the difference between haematoma and ecchymosis?
9. Are all wounds equally dangerous to the human organism?
10. What do frostbites, burns and scalds have in common?
11. How to recognize frostbite? What are its symptoms?
12. How are frostbites divided and on what grounds?
13. Are burns caused by high temperature only?
14. How are burns divided and on what grounds?
15. Does the severity of a burn depend only on its depth?
16. What is the difference between burns and scalds?

D. Vocabulary Practice

Task 5

Report on the circumstances of the accident as given by the victim.

1. 'I wanted to pour some extra oil on the frying pan. The bottle slipped and the next moment the hot oil was all over my hands.'
The victim reports
2. 'I was in a hurry to turn off the cooker and the kettle simply fell pouring water all over me.'
.....
3. 'I lifted the lid of the pan to see if the soup was ready and the steam simply hit me.'
.....

Vocabulary

stung ukąszony (użądłony)
thickness grubość
superficial powierzchowny
flame płomień
clammy lepki, lepiący się, wilgotny
coppery miedziany, rdzawy
singed osmolony, przypieczony
residue pozostałość, resztką
scorching przypalony,
przypieczony
purulent ropny
waxy woskowo bładny
scratch zadrapanie
peel łuszczyć się
rash wysypka
splutter pluć
soot sadza
slip poślizgnąć się, spaść

4. 'I was on my bike when that car drove by really very fast. I couldn't keep my balance. I was sort of thrown to the side. I fell and I have bruises and lacerations all over.'

.....

5. 'I stretched in the deck chair just to enjoy the sunshine and relax a little. I must have fallen asleep. I woke up 4 hours later. I felt awful.'

.....

6. 'The two guys were fighting. We wanted to draw them apart, me and two other people. I didn't know they had knives. I was just pulling one of them away when he suddenly turned round and hit me with a knife.'

.....

7. 'I spent a few hours outdoors removing the snow. It was pretty cold but not that cold.'

.....

8. 'I was drinking and smoking last night. The cigarettes set the bed on fire. I fled the burning bedroom with left lower extremity leathery, pale burns intermixed with some blistering, tender-to-touch areas.'

.....

9. 'I was watching television at about midnight and suddenly I was engulfed by smoke and flames. The house was on fire. I ran outside, coughing and spluttering. My chest felt tight. My mouth was very dry and tasted of soot.'

.....

10. 'I've got spots all over my chest and legs. I've got a rash.'

.....

Task 6

Using the vocabulary given below in three groups, complete the statements about the patient's condition.

a) upper arm; right side; left thigh; chest; right arm and shoulder; left leg; front of leg; back of leg

b) contused; bruised; lacerated; charred; reddened; damaged; swollen; pale; numb; scalded; purulent; waxy

c) bruises; lacerations; redness; blisters; broken skin; pallor; abrasions; skin charring; scorching; peeling; scratching

1. The victim's looks
2. The victim's shows
3. The victim's is covered with
4. The victim's looks
5. The victim's shows
6. The victim's is covered with
7. The victim's seems to be
8. The victim's appears to be
9. The victim's suggests
10. The victim's resembles

Task 7

Complete the following statements about the extent and severity of the injury. Use your imagination and add more details, for instance: 'the left thigh' or 'one-third of ...'

1. The affected area is limited to
2. The contused area covers
3. The charring affected
4. The lacerated area is limited to
5. The affected area covers

6. The frostbite is limited to
7. The laceration extends over
8. The blisters cover
9. The contused area extends from
..... to
10. A third-degree burn involves both

Task 8

Using the vocabulary given below (and your own ideas) make statements about the patient's condition following the examples given.

PART ONE

A.

several lacerations • numerous abrasions • evident damage to the deep layers of the skin • numerous blisters • crushing wound(s) • puncture wound • charred areas • a few places of broken skin • deep incised wound • soot • singed facial and nasal hairs • a brown, coppery residue

B.

on the victim's chest • all over the victim's body • on both extremities • in the victim's left side • on the casualty's skin • around the casualty's nose and mouth

1. There is a bullet wound in the victim's left arm.
2. There is/are
3. There
4. There
5. There
6. There

PART TWO

A.

charring • extensive damage to the skin • other lacerations • blisters • other injuries • discolouration of the skin • areas of broken skin • bleeding from the wound • colour change to the skin • sweating • pale, clammy skin • hardening of the skin

B.

in the area exposed to the chemical • to the victim's legs • in the forehead • of the chest • on the exposed areas • on the victim's body • on the affected extremity • of the affected area • in the arms, legs or abdominal wall • in the casualty's armpit • in your lap

1. There is no damage to the skin in any area.
2. There is/are no
3. There
4. There
5. There
6. There
7. There
8. There
9. There
10. There

Task 9

Write the questions for the given answers.

1.
The victim's forearm is reddened and covered with blisters.

2.
The victim poured cold water on the affected area to reduce the pain.

3.
The victim spent about two hours outdoors without any protection against low temperature.

4.
The victim was stabbed with some kind of a rod, he says.

5.
The victim was shot about three hours ago. The bullet went through. The bleeding was not profuse at first. He did not want to seek medical help.

6.
The victim lost control over his bike when riding fast and fell off it on his right side.

7.
The victim rinsed the wound but did not disinfect it.

8.
A passer-by attempted to help the victim, moved him away from the site of the accident.

9.
A baby was stung by a bee in the back of the arm.

10.
The casualty presented with flame burns to both lower limbs and was given a tetanus injection.

Task 10

Complete the sentences with the English equivalents of the Polish words given in brackets.

1. The patient has two, one in the and the other in the left (rany postrzałowe; klatka piersiowa; bark)
2. The patient reports prolonged to low temperature after which he began to feel first and then in the feet. (wystawienie; mrowienie; brak czucia)
3. The burn affected the full of the skin as well as the tissue, some of which was (grubość; leżące poniżej; zwęglone)
4. The patient sustained a burn. It is but covering approximately one third of the body. (poważne; powierzchowne; rozległe)
5. We have a road accident victim with a number of and (ran tłuczonych; ran miażdżonych)
6. We have a fight victim with a few and a lot of (rany cięte; siniaki)
7. We have a 5-year-old girl with an extensive of the left side of the body but no and no (oparzenie parą; pęcherze; uszkodzona skóra)
8. The victim has laceration of the left thigh and a of the left leg, with a possible (rozległa; rana tłuczona; złamanie)
9. The casualty should be observed closely (obszar zaczerwienienia z pęcherzykami wypełnionymi płynem)
10. The casualty suffered from (oparzenia głębokie). His dry, greyish-white skin (nieblednąca pod wpływem ucisku gazą sterylną).

E. Listening Practice & Dialogue Completion

Task 11

Listen and complete the dialogues between the caller (C) and the dispatcher (D).

Dialogue 1

4 

C: There's been an accident. My neighbour's has poured some over herself. It looks real bad.

D:? What's the address?

C: Katie Crosby. I'm calling from

D: How old is the girl?

C: She's

D: Is the burn? Which parts of the body are

C: I can't tell. The and, as far as I can see. Maybe, the left, too. She's in great pain.

D: What does the skin look like?

C: It's very and

D: An ambulance will be with you in a few minutes.

Dialogue 2

5 

C: There's been a in front of my restaurant and people have been

D: What's your name and address?

C: Peter Kent. And my address is, The Restaurant. I'm the owner.

D: How many

C: The others simply ran away. I mean the attackers.

D: What sort of injuries did they sustain?

C: One has been, I presume. He's on the street and he's profusely. The other has just been and seems to have but he's not bleeding.

D: An ambulance is on its way to you. I understand you've the police?

C: Yes. That's first thing I did. I can hear them coming.

Recap the information to the ambulance crew to be sent to the site of the accident.

Exercise 12

6 

Listen and mark the statements below T (true) or F (false).

1. The call concerns a young woman.
2. The woman is a victim of a road accident.
3. It is a warm and sunny day.
4. The dispatcher tells the caller not to take any action on his own.
5. The caller makes a guess about what has happened to the woman.
6. The caller is a relative.

Task 13

Complete the dialogue with the words from the list. Then mark the sentences 1–6 below as T (true) or F (false).

changed • remained • collapse • move • when • give • see

AC: Did you her or has she been lying here for some time?

C: Actually I saw her walking slowly as if with difficulty and I wondered why these elderly people must go out in the middle of the day when it's so hot. Then I saw her sway and collapse.

AC: was it?

C: Some 15–20 minutes ago. I called you immediately.

AC: Did you her?

C: No, I didn't. Actually, she's too heavy for me and there's not much shade anywhere near. I tried to protect her from the sun with my own body.

AC: Did you her anything to drink?

C: No. I didn't have anything with me.

AC: Has her condition while you were with her?

C: Not that I've noticed. She's flushed, sweaty, sort of unresponsive and heavily breathing.

1. The woman's collapse was sudden and unexpected.
2. The woman collapsed in the street over half an hour ago.
3. The caller could not move the woman to a shaded place.
4. The caller gave her some water to drink.
5. The woman's condition deteriorated while she was waiting for the ambulance.
6. The woman was pale and short of breath but remained in full contact.

Task 14

You are an ambulance crew member. Advise the A&E hospital you are taking the woman to of your arrival and the victim's condition.

F. Follow-up

Task 15

Prepare a mini-presentation on the emergencies related to the integumentary system. Say what information the dispatcher and the ambulance crew should collect from the victim or witnesses, what they should give particular attention to.

Task 16

Prepare a list of questions the patient or the patient's relative or the caller/witness should be asked.