

## 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.

## 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 błądź  
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



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

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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

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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

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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.