UNIT 2

IMMOBILIZATION

A. Warm-up

Assistance rendered to most victims usually involves moving the latter to a specialised medical unit for further treatment sooner or later. This may entail further deterioration to the victim's condition.

Working in pairs or threes answer the questions.

1. What injuries to what body structures may get worse or cause further damage when the victim is moved?
2. What kind of damage may moving the victim entail? May this damage be life-threatening?
3. Can the fact of being moved affect the victim's perception of their condition?
4. How can the negative consequences of the victim being moved be minimized?

Compare and discuss your answers.

B. Reading

Task 1

Read the text and answer the questions which follow.

PART ONE

When a bone or a joint with their related structures become dislocated, ruptured or broken, they have to be immobilized to prevent further damage and to enhance future healing. The former is particularly important to a paramedic who is well aware that a bone left freely moving during a victim's movement or transport can aggravate the victim's condition. Not only can it cause further damage to the surrounding bony structures but also rupture the neighbouring blood vessels, nerves and even internal organs, not to speak of being a source of pain. An inadvertently ruptured blood vessel can be a source of blood loss which can threaten the victim's life if not arrested in due time. An injury to a nerve can seriously impair the communication network of the body and hence the body function. Injuries to internal organs are also potentially life-threatening. All and any of these developments can make doctors' tasks more difficult and even affect adversely the outcome not solely of the rescue action but also of the post-rescue treatment. And ultimately, the quality of the victim's life in the post-trauma life.

1. Why is it potentially dangerous to leave an injured bone or joint unattended until arrival at hospital?
2. What can occur when an accident victim is being moved first to an emergency vehicle and then to hospital?
3. What may a threat to the victim's life develop?
4. Why and how can the failure of the paramedics to perform proper immobilization affect the development of the case?

Vocabulary

assorted rozmaite
inadvertent nieumyślny, niezamierzony
affect adversely mieć działanie uboczne
unattended bez opieki
splint szyna
serrated edges krawędzie z ząbkami
cast opatrunek gipsowy
brace klamra
sling temblak
collar kołnierz
traction wyciąg
custom made dopasowany
fibreglass włókno szklane
pliable giętki
mould modelować, ukształtować
tape okleić taśmą
foam padding wyściółka z pianki
cushioned straps amortyzujące pasy
conform dostosowywać się
supine patient pacjent leżący (na plecach)
adjustable regulowany
slip wsunąć
fasten umocować
adhesive strapping nakładanie przylepca dla zbliżenia brzegów rany
overlap nachodzić na siebie, nakładać się
forceps kleszczyki
pliers szczypce
tweezers pęseta
splinter drzazga, odłamek
safety pin agrafka

PART TWO

A large number of devices and techniques of their application have been developed to aid paramedics in minimizing potential further injury in transport and also the pain the victim is likely to experience. The immobilization devices used by paramedics to support, protect and restrict motion of broken bones, dislocated joints and other injured tissues such as tendons and ligaments are generally temporary and are replaced by more stable immobilization devices to be used by medical staff in casualty and emergency department. Their temporariness does not in the least diminish their importance and the knowledge and skills of the paramedic who decides to apply them, not to mention the responsibility involved. Different injuries, once detected or suspected, need to be approached in a different way. Moreover, the process of both their detection and treatment should be performed within a very short time, usually without consultation.

The immobilization devices as a whole include splints, casts, braces, slings, collars, tractions. They are available commercially in a wide variety of types, their actual application being dependent not only on the type of injury but also on the current practice observed in either medical practice as a whole or in a given country. What should be realized and kept in mind is the fact that their proper application may protect the neighbouring blood vessels and nerves from further injury. They also reduce pain, swelling and muscle spasm.

Custom-made casts of plaster or fibreglass are usually applied by a physician after a surgery. They are therefore of less importance here. It is splints that are generally more common in the paramedics practice. While they can be made of wood or even a folded newspaper, those currently in use by paramedics are made of aluminium, acrylic or polyethylene foam. They are easy to apply, can often be cut or shaped to fit the contour of the affected limb or part of limb. As a rule, they are X-ray transparent, not affected by moisture and light weight. Those which cannot be trimmed with scissors are available in different sizes. Those more pliable are often provided with a foam padding and can be moulded and taped to the injured part or even have cushioned straps which eliminates the use of tape.

1. Why have a large number of immobilization devices been developed?
2. What general purposes do they serve?
3. Which parts of the body may require immobilization?
4. Why should paramedics be taught to detect the need for immobilization and to apply it in a professional way?
5. Can you mention a few widely known and applied immobilization devices?
6. What types of splints are now available to paramedics? What are their advantages?

PART THREE

Manufacturers of medical equipment provide also a variety of cervical collars, made of different materials and available in different sizes. They are shaped so as to conform to the chin and jaw and allow the patient not only for maximum protection but also for maximum comfort. Some designs let the collar be easily applied to both sitting and supine patients, to paediatric as well as adult patients, others are adjustable. While stiff collars are recommended to support the neck when there has been a fracture of the bones of the neck, soft ones can relieve pain as they restrict movement of the head and neck and transfer some of the head weight from the neck to the chest. A device of great interest in some situations is the headbed cervical immobilization device which can be slipped beneath the patient's head even after the patient has been positioned on a board. The device allows for convenient immobilization of the head and the cervical area. As it includes also adhesive strapping, there is no need for the use of tape to fasten it.

Another way of immobilizing a body structure or structures is to use traction. With the application of traction the broken ends of

a bone can be prevented from overlapping. This highly diversified technique is generally applied by doctors and nurses in hospital.

Minor, though not less important, devices necessary to perform immobilization include a variety of versatile as well as highly specialized forceps, pliers, tweezers and scissors, some straight and some curved, some very fine and some thicker, some with serrated edges and some with plain ones, to mention only splinter tweezers, surgical scissors, Lister bandage scissors, tissue forceps. Some of the smaller instruments are available in instrument kits, including, for instance 1 pair of scissors, 1 set of safety pins, 1 tweezer or 1 pair of Lister scissors, 1 set of assorted safety pins and 1 tweezer.

1. What are cervical collars? Why are they widely used? In what circumstances are they strongly recommended?
2. Why are cervical collars available in a variety of sizes and models?
3. What is the headbed? What are its advantages? When is it used?
4. What is a traction? When is it used?
5. What are the minor, auxiliary, instruments used in the process of immobilization? Can you tell in what situation they prove helpful?

C. Listening

Task 2

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Paramedics (P) arrive on the site and find an accident victim lying on his back, breathing and with contact. Listen to the conversation and complete the text with the missing words.

P1: The victim needs immediate transport to hospital. He's likely to have sustained a ..... We must put him on a ..... first.

P2: Yes. ..... of his head while I get a long board.

P1: Is his head all right? Have you ..... it?

P2: Yes. The ..... is on and I'm ..... the head in a neutral position.

P1: *(to Paramedic 3)* Jack, come here. ..... next to me and help us ..... the man on his side.

P3: I'm ready, too. .....?

P1: One, two, three *(after a brief examination)* His back and buttocks are all ..... but there are no open wounds. Let's go on. Bill, ... under him. Now, let's ..... him down slowly.

P2: Here he is. Now I'll ..... him on and off we go.

Task 3

Imagine you are one of the paramedics. Report on what you have done.

Task 4

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

1. Paramedics can communicate with the victim.
2. The victim was out of the vehicle when they arrived.
3. There were three paramedics on the site of the accident.
4. They began by sliding a short board under her back.
5. They kept reassuring the victim that there was no need to worry.
6. The victim's legs remained bent throughout the procedure.
7. After the victim had been taken out of the vehicle and put on a long board, all the straps were eased.
8. The victim has not regained consciousness yet.

9. The victim's head was unattended by paramedics.
10. The victim was first put on the short board and then on the longer one.

Imagine you are one of the paramedics. Report on what you have done.

Vocabulary

finger guard ochraniacz na palec
trim przycinać
durable trwały
fastening strap pas mocujący
cling type przylegający

D. Vocabulary Practice

Task 5

Match a piece of equipment with its function.

1. A headbed	a. helps fasten the device
2. A foam cervical collar	b. can be cut to any size needed with a pair of scissors
3. An adhesive strap	c. provides protection and comfort to an injured neck
4. This type of splint	d. are usually X-ray transparent
5. A finger guard	e. can be slipped under the patient's head
6. Aluminium and foam splints	f. protects injured fingers and toes
7. A paediatric longboard	g. takes pressure off specific areas of the back and fills voids that allow the patient's movement
8. An extrication vest device	h. do not restrict the victim's movement
9. A scoop stretcher	i. lifts a patient a few centimetres off the ground
10. Clip straps	j. includes a recessed portion that accommodates head or torso padding

Task 6

Decide which of the following statements are true (T) and which false (F). Explain.

1. Splints can be made of different materials.
2. It is helpful when a splint can be cut or trimmed to the right size.
3. Splints need not be X-ray transparent.
4. Unlike wire splints, wooden splints can be easily shaped to fit the required contour.
5. Splints should be fast and easy to apply.
6. Splints need not be either durable or lightweight.
7. Splints serve long-term rather than short-term immobilization.
8. Splints can but need not be padded with foam.
9. It is helpful when splints are equipped with a fastening strap.

Now collect the information to describe splints, their properties and use.

Task 7

Complete the instruction with the verbs from the box.

Cut • Choose • Secure • Bend • Place • Pad • Insert • Stabilize • Make Sure • Apply

1. ..... what splint will be best.
2. ..... the splint so that it holds the injured limb.
3. ..... the splint to the required size.
4. ..... the splint in position with a cling-type bandage.
5. ..... the casualty is positioned on the long board.
6. ..... the head on the board by positioning an immobilizer or a rolled towel.

7. ..... the rigid cervical collar.
8. ..... a short spinal board between the patient's upper back and the seat back.
9. ..... any space between the patient's head and the immobilizing device.
10. ..... the longboard next to the patient's buttocks, perpendicular to the trunk.

Task 8

Decide which of the following statements are true (T) and which false (F). Explain.

1. Cervical collars are available in one size which fits all patients.
2. Cervical collars can be applied only to supine patients.
3. Cervical collars serve to immobilize the head but not the neck.
4. Cervical collars are easy to position and secure.
5. Once removed a cervical collar cannot be put back on.
6. Cervical collars are standard rescue ambulance equipment.
7. Cervical collars are used only in very special cases as they may interfere with the circulation.
8. Cervical collars are provided in a flat form which can be shaped to fit the neck.
9. Cervical collars are not used when a victim is unconscious.
10. If removal to hospital is delayed and SCI is suspected, medical rescuers may apply a cervical collar.

Task 9

Complete the instruction with the verbs listed:

remove • secure • perform • minimize • choose • put • stabilize • hold • place • steady and support

1. ..... the victim's head.
2. ..... the preliminary examination.
3. ..... the right size of the collar.
4. ..... it from the packaging.
5. With another rescuer keeping the victim's head stable, ... the collar round the victim's neck.
6. Try to ..... movement within the vertebral column during the procedure.
7. ..... the collar in place.
8. ..... and ..... the casualty's head in the neutral position.
9. ..... the centre of the cervical collar at the front of the victim's neck, below the chin.
10. ..... firmly the head and neck while, and after, the collar is fitted.

Task 10

Rearrange the stages of moving a victim with a back bone injury onto a hard board in the proper order.

1. Rescuer 2 grabs the victim by the shoulder and the hip while Rescuer 3 by the thigh and the leg.
2. The hard board is placed along the less injured side of the body.
3. Rescuer 2 puts on a cervical collar.

4. Rescuers 2 and 3 kneel on the side of the victim opposite the board, Rescuer 2 at the level of the thorax and Rescuer 3 at the level of the thighs.
5. Rescuer 1 ensures manual stabilization of the neck throughout the procedure.
6. Rescuer 1 stabilizes the cervical segment of the vertebral column in a neutral position with his/her forearms close to the victim's neck.
7. At the signal from Rescuer 1, Rescuers 2 and 3 begin rolling the victim onto the board.
8. The victim is rolled on his/her side.
9. Rescuers examine the victim's back and buttocks.
10. The victim is positioned with his/her straight, the palms of the upper limbs facing inwards.

Task 11

Make ten collocations using the following words.

bones • collar • devices • gloves • immobilizer • injury • position • rolls • strap • stretcher • broken • cervical • disposable • fastening • folding • head • immobilizing • recovery • spinal • towel

E. More Vocabulary Work

Lifting and carrying devices

Task 12

Complete the text with the words given in the boxes and answer the questions.

Vocabulary

folding stretcher nosze składane
head immobilizer stabilizator/unieruchamiacz głowy
total spinal immobilization całkowite unieruchomienie kręgosłupa
tarpaulin płachta brezentowa, nieprzemakalna
long spine board deska ortopedyczna długa, nosze typu deska

PART ONE

special lock • special place • standard equipment • wheels • wheeled • site of event • handles • straps

Lifting and carrying devices are ..... of any emergency ambulance as a victim or victims must usually be transported from the ..... to the ambulance, sometimes downstairs or over the pavement. Most can be both ..... and carried. They are usually equipped with ..... and ..... as well as ..... which fasten a victim to the device. Ambulances are provided with a ....., for holding them and a ..... inside the ambulance to secure the victim when the ambulance is moving.

PART TWO

no wheels • carrying • different types • folded (2) • storage • consists • structure

The device used for ..... a victim away from the scene of the accident is the stretcher. There are ..... of stretchers. Two of them, the normalised or folding stretcher and the disaster stretcher, have ..... The folding stretcher ..... two poles, two transverse hinged bars and a sheet of cloth stretched between the poles and four feet. The bars can be ..... for storage and transport to the site. The disaster stretcher consists of a tubular aluminium ..... with a washable cloth. It cannot be ..... but it is easy for ..... and transport because it can be piled up.

pad wyściółka, podkładka, poduszeczka
padding wyścielane obicie
padded spine board deska ortopedyczna wyścielana
scoop stretcher nosze podbierakowe/podbierające
confined ciasny

PART THREE

ensure • detached • fastened • facilitating • giving • lifting • placed • scooped • provided • split

The scoop stretcher is designed for ..... patients from, for example, the ground onto an ambulance stretcher or a long board. The stretcher can be ..... into two longitudinal halves which can be ..... from each other. The halves can be ..... under the patient from either side and ..... back together. A victim can be lifted or ..... onto the stretcher manually but the use of the scoop stretcher reduces a possibility of ..... a victim, especially a heavily injured one, additional pain and trauma, not to speak of ..... the work of the rescuers. Some scoop stretchers are ..... with spine board straps and a head immobilizer and thus ..... a total spinal immobilization.

PART FOUR

provided • unfolded • moving • prevent • handled • lifting • stretcher • slid

The reeves stretcher or flexible ..... has longitudinal, wooden or plastic planks. This tarpaulin with handles is convenient for ..... victims through narrow, confined spaces as well as for ..... obese patients as it has 6 handles which causes that it can be ..... by a larger number of rescuers. A folded stretcher is ..... under a victim and then .....

The hypothermia stretcher is ..... with insulation and heating elements which are intended to ..... hypothermia from developing in transit.

PART FIVE

used • secured • tied • kept • suspected • confine • give • scoop • carry

A long spine board is a board designed to ..... and ..... the victim to the stretcher. The victim may remain ..... to the board which is ..... to the stretcher when there is a suspicion of a spinal trauma.

A padded spine board resembles a long spine board but has padding on top of the plastic surface to ..... more comfort to transported victims.

A vacuum mattress which is equipped with handles can be ..... for immobilization when this is necessary and also as a stretcher for no spinal injury is ..... It is believed to work well where the stretcher cannot be ..... horizontal, especially in ..... spaces.

1. Why is it useful for the carrying device to be both wheeled and carried?
2. What are lifting and carrying devices typically equipped with?
3. What differs the normalized or folding stretcher from other stretcher? Where is it still used?
4. What are the advantages of the disaster stretcher? When is it used?
5. What is the scoop stretcher basically used for? How is it constructed?

Translation

Task 13

Translate the following sentences into English.

1. Rozmaite nosze stosowane przez medyczne służby ratownicze stanowią podstawowe wyposażenie ambulansu.