Chapter -7

FAQs-FREQUENTLY ASKED QUESTIONS

Introduction

First aid can save lives and prevent minor injuries becoming major ones. These are some frequently asked questions -

1. Who is an Appointed Person and What are his main duties?

An appointed person is someone who:

- Takes charge when someone is injured or becomes ill;
- Looks after the first-aid equipment e. g. restocking the first-aid container;
- Ensures that an ambulance or other professional medical help is summoned when appropriate.
- Appointed persons may not be first aiders. They should not give first aid treatment without training. A first aider will have emergency first aid training/refresher training.

2. What are the main duties of a first aider?

- Give immediate help to casualties with common injuries or illnesses and those arising from specific hazards;
- When necessary, ensure that an ambulance or other professional medical help is called.
- Emergency first-aid training should help an appointed person cope with an emergency and improve their competence and confidence.

3. What is to be done in an emergency?

- Cardiopulmonary resuscitation (CPR);
- First aid for the unconscious casualty;
- First aid for the wounded or bleeding.

4. What are some of the requirements for effective First Aid at various organisations?

- Provide adequate and appropriate equipment, facilities and qualified first aid personnel.

- Make suitable and sufficient assessment of the risks to the health and safety of their staff at work, and others who may be affected by their undertaking.
- To identify what measures they need to take to prevent or control these risks.
- The Management and/or head of organisation should regularly review the first-aid needs (at least annually), and make subsequent changes at the earliest.
- The head of the organisation must inform all staff (including those with reading and language difficulties) about the first-aid arrangements. This should include the location of equipment, facilities and first-aid personnel, and the procedures for monitoring and reviewing the organisation's first-aid needs.
- A simple method of keeping people informed is by displaying first-aid notices. The information should be clear and easily understood.

5. How many first-aid personnel are required?

There are no rules on exact numbers. Management has to make a judgement based on its own circumstances and a suitable and sufficient risk assessment.

A lower risk place of work (e.g. shops, offices, libraries), with 50-100 employees, should consider having at least one first aider;

A medium risk place of work (e.g. light engineering and assembly work, food processing) with 100-500 employees or people on campus, should consider having at least one first aider for every 50 employees (or part thereof).

A high risk place of work (e.g. manufacturing units) with 500-1000 or more employees or people on campus, should consider having at least one first aider for every 50 employees (or part thereof).

6. First Aid Training: Procedures and Refreshers

Training courses cover a range of first aid competencies. Every organisation should arrange appropriate training for their first-aid personnel. It is helpful to let the training organisation know in advance of any particular areas that should be covered.

7. First-Aid Materials, Equipment and First Aid Facilities

First-Aid containers for travel

Before undertaking any off-site activities, the head of institution should assess what level of first-aid provision is needed. It is recommended that, where there is no special risk identified, a minimum stock of first-aid items for travelling first-aid containers is:

- A leaflet giving general advice on first aid;
- Six individually wrapped sterile adhesive dressings;
- One large sterile un-medicated wound dressing -approximately 18cm x 18cm;
- Two triangular bandages;
- Two safety pins;
- individually wrapped moist cleansing wipes;
- One pair of disposable gloves.

Equivalent or additional items are acceptable.

8. School Transport/Public Service Vehicles

Transport Regulations require that all minibuses and public service vehicles have on board a first-aid container with the following items:

- Ten antiseptic wipes,
- Packaged foil
- One conforming disposable bandage (not less than 7.5 cms wide);
- Two triangular bandages;
- One packet of 24 assorted adhesive dressings;
- Three large sterile unmediated ambulance dressings (not less than 15 cm x 20 cm);
- Two sterile eye pads, with attachments;
- Twelve assorted safety pins;
- One pair of rust less blunt-ended scissors

This first-aid box/container shall be: Maintained in a good condition; Suitable for the purpose of keeping the items referred to above in good condition; Readily available for use; and Prominently marked as a first-aid container.

FAQ'S-PERTAINING TO SPECIFIC EMERGENCIES

- Shock
- Respiration
- Fractures
- Dislocations
- Displaced Cartilage Of The Knee
- Sprains
- Strains and Ruptured Muscles
- Crush Injuries
- Burns and scalds
- The Nervous system
- Unconsciousness (Insensibility)
- Poisons
- Miscellaneous Conditions

7.1 Shock

Ques. 1. What is shock ?

Ans. A condition of severe deterioration of the vital functions. It is associated with changes in the circulatory system varying from temporary weakness to complete failure. Almost always associated with low blood pressure.

Ques. 2. How does its severity vary ?

Ans. With the nature and extent type of the injury and the amount and rapidity of the bleeding.

Ques. 3. What is the most important cause of shock ?

Ans. The loss of whole blood or plasma from the circulation severe infection.

Ques. 4. How many types of shock are there ? Name them.

Ans. Two : nerve shock and established shock.

Ques. 5. What are the general signs and symptoms of shock ?

Ans. These may vary from a transient attack of faintness to a state of collapse and there may be:-

(1) giddiness and faintness,
(2) Coldness,
(3) nausea,
(4) pallor,
(5) cold clammy skin,
(6) a slow pulse at first which tends to become progressively more feeble and rapid,
(7) vomiting,
(8) unconsciousness,

Ques. 6. In what conditions is shock likely to be severe ?

Ans. (1) Major fractures and crush injuries, including those injuries where bleeding is concealed.

(2) Extensive burns and scalds.

Ques. 7. What is the general treatment of shock ?

Ans. (1) Re-assure the casualty ;

(2) Lay him on his back with the head low and turned to one side unless there is injury to the head, abdomen or chest when the head and shoulders should be slightly raised and supported. If vomiting seems likely or If there is interference with breathing, place him in the three quarter prone position ;

(3) Loosen clothing about the neck, chest and waist ;

(4) Wrap him in a blanket or rug ;

(5) If he complains of thirst he may be given sips of water, tea, coffee, or other liquid but not alcohol ;

(6) Do not apply heat or friction to the limbs : hot water bottles should not be used.

Ques. 8. What is the special treatment of an established shock ?

Ans. It must be borne in mind that in severe cases transfusion and surgery are matters of grave urgency if life is to be saved. It is unwise to delay transport to hospital for as long as even five minutes except to deal with failing respiration, to stop severe bleeding, to dress a sucking wound of the chest or to secure a badly broken limb. Nothing should be given by the mouth ; tilt the stretcher so that the level of the head is lower than the rest of the body, except, in cases of head, chest or abdominal injury ; remove urgently to hospital.

7.2 Respiration

Ques. 1. What is respiration ?

Ans. The means by which the tissues or organs of the body are supplied with the oxygen which is essential if they are to continue to live and function efficiently.

Ques. 2. Of what does the respiratory system consist ?

Ans. (1) The air passages and lungs – the respiratory tract.

(2) The muscles concerned with the mechanism of respiration.

(3) The nerve centre in the brain – the respiratory centre which controls and regulated their action.

Ques. 3. How does air reach the lungs ?

Ans. It enters through the nose and mouth and passes down the back of the throat (pharynx) ; then through the organ of the voice (larynx) into the windpipe (trachea); then through the right and left air tubes (bronchi) to the right and left lungs (where the bronchi divide into smaller tubes (bronchioles) and finally enters the air sacs (alveoli) of the lungs.

Ques. 4. What prevents food and fluids entering the larynx ?

Ans. A flap (epiglottis) which closes over the top of the larynx while food or fluid is being swallowed.

Ques. 5. What happens when air enters the Air sacs of the lungs ?

Ans. It is brought into intimate association with the blood in the capillaries of the lungs and the interchange of gases takes place.

Ques. 6. Where are the lungs situated ?

Ans. They occupy the greater part of the chest (thorax), one on each side. They lie immediately above the diaphragm and are protected by the ribs.

Ques. 7. Describe the lungs.

Ans. The lungs consist of a large number of alveoli, capillaries, veins, arteries and connective tissue. The part of the lung where the bronchus and the large arteries enter and the large veins emerge is known as the root of the lung. The lungs are entirely covered by a membrane, the pleura, which at the root of the lung is folded back on itself and lines the inside of the chest wall.

Ques. 8. How is respiration normally effected ?

Ans. By the action of the diaphragm and the ribs.

Ques. 9. Name the three phases of respiration.

Ans. 1. Cellular respiration

2. transport of respiratory gases

3. ventilation of the gas exchange organs (breathing).

7.3 Injuries to Bones and Joints Fractures

Ques. 1. What is a Fracture ?

Ans. It is a term used to indicate that a bone is broken or cracked.

Ques. 2. What are the causes of fracture ?

Ans. (1) Direct force, when the bone breaks on the spot where the force is applied :

(2) Indirect force, when the bone breaks at some distance from the spot where the force is applied :

(3) Muscular action, when the bone breaks due to a sudden violent contraction of the muscles attached to it.

Ques. 3. What is meant by a fracture resulting from indirect force ?

Ans. When a bone breaks at some distance from the spot where the force is applied.

Ques. 4. Name the three main types of fracture

Ans. (1) Simple (closed).

(2) Compound (open).

(3) Complicated.

Ques. 5. What is a simple fracture ?

Ans. When there is no wound leading down to the broken bone.

Ques. 6. What is a compound fracture ?

Ans. When there is a wound leading down to the broken bone or when the fractured ends protrude through the skin, thus allowing germs to obtain access to the site of the fracture.

Ques. 7. What is a complicated fracture ?

Ans. When there is associated injury to some important internal structure such as brain, spinal cord, nerve, lung, liver, spleen, kidney, major blood vessel, or when a fracture at a joint is associated with a dislocation. A complicated fracture may be either closed or open.

Ques. 8. What other types of fractures are there ?

Ans. (1) Comminuted.

(2) Impacted.

(3) Greenstick.

(4) Depressed.

Ques. 9. What are the general signs and symptoms of fracture ?

Ans. (1) Pain at or near seat of fracture.

(2) Tenderness or discomfort on gentle pressure over the affected area.

(3) Swelling about the site of fracture.

(4) Loss of power.

(5) Deformity of the limb.

(6) Irregularity of the bone.

(7) Grating of the bone ends (crepitus).

(8) Unnatural movement.

Ques. 10. What other indications may assist diagnosis of fracture ?

Ans. Comparison with the uninjured side ; marks on the clothing of skin. The snap of the bone may have been heard or felt.

Ques. 11. What are the general rules for the treatment of fractures ?

Ans. (1) Treat the fracture on the spot ;

(2) Steady and support the injured parts ;

(3) Immobilise the fracture.

Ques. 12. In what circumstances may a casualty be moved before treating a fracture ?

Ans. If life is in immediate danger from some other cause.

Ques. 13. How should immobilization be effected ?

Ans. By the use of :

(1) Body bandages ;

(2) Splints and bandages.

Ques. 14. What precautions must be taken when applying bandages ?

Ans. Bandages must not be applied so tightly as to prevent circulation of the blood. Padding must be used.

Ques. 15. What should be done if further swelling occurs ?

Ans. Bandages must be loosened at once ciently to allow circulation to return.

Ques. 16. How should a bandage be applied under the body when the casualty is lying down ?

Ans. Double the bandage over the end of a splint of similar object and pass it under the trunk, or lower limbs where there are natural hollows (the neck, loins, knees, and region just above the heels).

Ques. 17. What requirements must splints fulfill ?

Ans. They must be long enough to immobilize the joint above and below the fracture and be sufficiently firm and wide. They should be well padded to fit accurately to the limb and be applied over clothing.

Ques. 18. How may splints be improvised ?

Ans. Fro a walking stick, of umbrella, broom or brush handle, piece of wood cardboard or firmly folded paper.

Ques. 19. When a fracture of the skull occurs what other damage may be caused ?

Ans. The brain and the nervous system may be injured causing concussion and compression.

Ques. 20. What are the varieties of fracture of the skull and how are they caused ?

Ans. (1) Fracture of the upper part or of the sides, generally caused by direct force ;

(2) Fracture of the base of the skull, generally the result of indirect force.

Ques. 21. What signs suggest the presence of a fracture of the base of the skull ?

Ans. Blood of fluid may issue from the ear channel, escape from the nose, or may be swallowed and afterwards vomited. The fracture may involve the orbit causing a bloodshot eye and later a 'black-eye'.

Ques. 22. What is the treatment of a fracture of the skull ?

Ans. (1) a. If breathing is not noisy, lay the casualty on his back, with head and shoulders slightly raised and supported, turn his head to one side. Should there be bleeding from an ear, place the head so that the affected ear is on the other side.

b. If breathing is noisy with bubbling through secretions, lay the casualty on his side in the three-quarter pron position (half-way between side and face-down position); support the casualty in this position with a paid is front of the chest or draw up from upper knee ; make sure that the throat and air passages are free from obstruction. If there is bleeding from an ear, arrange the position of the casualty so that affected ear is on the lower side.

(2) Keep a continuous and careful watch on the casualty.

(3) Make no attempt to rouse him.

(4) Maintain the position of the head during transport and avoid all unnecessary movement.

Ques. 23. What are the special signs and symptoms of fracture of the lower jaw ?

Ans. (1) Difficulty in speaking ;

(2) Excessive flow of saliva which is frequently blood-stained ;

(3) Pain which is increased by speaking, by jaw movements and by swallowing ;

(4) Irregularity of the teeth ;

(5) Crepitus.

When there has been extensive jaw damage, the tongue is liable to slip backwards and interfere with breathing ; there may also be hemorrhage if the tongue is injured.

Ques. 24. What is the treatment of fracture of the lower jaw ?

Ans. (1) Warn the casualty not to speak ;

(2) Instruct him to lean forward, place the palm of your hand against the injured bone and press it gently against the upper jaw ;

(3) Place the centre of a narrow bandage under the casualty's chin, carry one end upwards over the top of his head and cross with the other end above the ear. Carry the shorter end low down across the front of the forehead and the longer end in the opposite direction round the back of the head. Tie off above the other ear.

(4) If it appears theat the casualty is likely to vomit, remove the bandage, turn his head to the sound side and support the jaw with the palm of your hand. Re-apply the bandage when the vomiting has ceased.

Ques. 25. How should a casualty with a fractured jaw be transported ?

Ans. (1) If the casualty is able to travel in a sitting position, instruct him to sit with his head held forwards and downwards to prevent his tongue from slipping backwards into his throat.

(2) If the casualty is to be transported as a stretcher case (e.g., when fracture is comminuted or extensive) do not apply a bandage to the jaw. When the treatment of other important injuries does not make the following routine impracticable, turn the casualty face downwards on a blanket, lift him by the blanket lift' and place him on the stretcher with his head projecting over the canvas end, his forehead being supported by bandage running between the stretcher handles and his chest placed on a folded blanket to allow his head to hang forward.

Ques. 26. What special assistance should be given during the loading of the ambulance ?

Ans. An assistant must support the head, taking care to ensure that the casualty's face and upper limbs do not get injured.

Ques. 27. Where should the casualty be placed in the ambulance ?

Ans. If possible, a lower berth should be selected so that blood and vomit may be collected in a bowl more easily.

Ques. 28. How may a fracture of the spine be caused ? Give examples.

Ans. (1) By direct force, e.g., the fall of a heavy weight across the back or falling from a height on the back across a bar.

(2) Indirect force, e.g. a broken neck which may result from a fall on the head, and fracture in the lumbar region due to sudden over-flexion or jerking the spine.

Ques. 29. What grave complication may be caused by a fracture of the spine ?

Ans. Injury to the spinal cord or to the nerves issuing from it.

Ques. 30. What is the treatment of cases of spinal injury when medical aid is readily available?

Ans. (1) Immediately warn the casualty to lie still ;

(2) If he is unconscious, ensure that breathing does not become obstructed by the tongue;

(3) Do not move him but cover him with a blanket to ensure warmth and comfort:

(4) Keep him under careful observation pending the arrival of medical aid.

Ques. 31. What is the treatment of cases of spinal injury when medical aids not readily available?

Ans. (1) Immediately warn the casualty to lie steady.

(2) If he is unconscious, ensure that breathing does not become obstructed by the tongue;

(3) Place pads between his ankles, knees and thighs ;

(4) Apply a figure of 8 bandage round his ankles and feet, the knot being tied under the soles of the feet.

(5) Apply broad bandages round his knees and thighs over the intervening pads ;

(6) Make preparations for removal to shelter.

Ques. 32. How should a stretcher be prepared for the transportation of casualty suffering from a spiritual injury ?

Ans. (1) The soft bed of a canvas type of stretcher must be stiffened, preferably by placing short boards across the stretcher, or long ones lengthwise on the canvas only if these are available ;

(2) Cover the stretcher with a folded blanket and then 'blanket the stretcher;

(3) Place pillows or pads in readiness on the stretcher in a position to support the neck and small of the back to preserve the normal curves of the spine.

Ques. 33. How should the movement of the casualty's neck and trunk be prevented ?

Ans. One bearer must apply firm but gentle support to the head and face, so as to prevent neck movements and another bearer must steady and support the lower limbs to prevent trunk movements.

Ques. 34. For how long should this support be given ?

Ans. It must be continued until the casualty has been placed on the stretcher.

Ques. 35. What may be used if a stretcher is not available ?

Ans. A narrow shutter door or board of at least the same width and length as the casualty.

Ques. 36. How may ribs be fractured ?

Ans. (1) By direct force ;

(2) By indirect force.

Ques. 37. Describe the special signs and symptoms of fracture of ribs.

Ans. (1) Pain, which may be sharp and cutting, at the site of fracture, increased by deep breathing or coughing ;

(2) The casualty usually takes short shallow breaths in an attempt to limit movement and to decrease the pain ;

(3) A condition resembling crepitus may occasionally be noticed when a hand is placed over the broken ribs, but the casualty must on no account be instructed to take deep breaths ;

(4) If internal organs are affected there may be signs and symptoms of internal hemorrhage.

Ques. 38. What grave complication may be present ?

Ans. An open wound in the chest wall over the fracture may allow direct access of air to the chest cavity, the air being sucked in and blown out as the casualty breathes, instead of going in and out of the lungs.

Ques. 39. What is the treatment of an uncomplicated fracture of the ribs ?

Ans. (1) Apply two broad bandages round the chest firmly enough to afford support with the centre of the first immediately below and that of the second immediately above the site of the pain. The upper bandage must overlap the lower by half its width. The bandages may be applied over close fitting clothing, but under a jacket or coat. Hard objects (keys, etc.) should be removed from pockets that will be under the bandages ;

(2) Before tying the bandages instruct the casualty to empty the chest by breathing out as far as possible. Tie the knots a little to the front of the uninjured side ;

(3) Support the arm on the injured side in an arm sling ;

(4) If the bandages do not relieve the pain they should be removed.

Ques. 40. What is the treatment of a complicated fracture of the ribs?

Ans. (1) Do not apply bandages except where there is a sucking chest wound :

(2) Lay the casualty down with head and shoulder raised and the body inclined towards the injured side:

(3) Support in the position by means of a folded blanket applied lengthwise to his back:

(4) Support the limb on the injured side in an arm sling.

Ques. 41. How showld a casualty suffering from a fracture of the ribs be transported?

Ans. If the fracture is complicated, the casualty should be transported as a stretcher case; in uncomplicated case, the sitting position is usually more comfortable.

Ques. 42. What is the treatment of fracture of the breast-bone ?

Ans. (1) Undo tight clothing about neck, chest and waist :

(2) Place the casualty on his back in the most comfortable position with due regard to associated injuries :

(3) Keep him covered;

(4) Transport as a stretcher case.

Ques. 43. How may the collar-bone be fractured?

Ans. By indirect force such as a fall on the point of the shoulder or on the palm of the hand when the arm is outstretched from the side.

Ques. 44. Describe the special sign and symptoms of a fracture of the collar-bone.

Ans. The arm on the injured side is partly helpless and the casualty usually supports it at the elbow with the hand of the uninjured side. The broken ends may be felt to overlap, the outer fragment being the lower.

Ques. 45. What is the treatment of fracture of the collar-bone?

Ans.
(1) Immediately support the arm on the injured side ;

(2) Undo the brace (if worn) on the injured side, take off overcoat but do not remove jacket;

(3) Place padding between upper arm and chest;

(4) Bandage the upper arm on the injured side to the side of the chest with a broad bandage, leaving the forearm free;

(5) Support the upper limb on the injured side in a triangular sling;

(6) Feel the pulse on the injured side to ensure that there is no interference with the circulation in the limb;

(7) If shock is not severe, transport casualty as a sitting case, or assist as a walking case;

Ques. 46. What is the treatment of fracture of the shoulder- blade?

Ans.
(1) Do not remove the jacket: unfasten the brace (if worn) on the injured side;

(2) Support the upper limb of the affected side in a triangular sling ;

(3) Transport as a stretcher or sitting case according to the general condition of the casualty.

Ques. 47. In what parts of the upper arm may a fracture occur ?

Ans. (1) Close to the shoulder ;

(2) Near the middle of the shaft ;

(3) Close to or involving the elbow joint.

Ques. 48. What is a colles's fracture?

Ans. A fracture which occurs at the lower end of the radius (forearm bone) and which frequently result from a fall on the outstretched hand, usually after age of 40 year, due 10 weak bones.

Ques. 49. What is the treatment of a fracture of the upper limb when the elbow can be bent without difficulty or increasing pain.

Ans. (1) Do not remove the casualty's jacket.

(2) Bend his elbow and lay the injured link against his chest with fingers just touching the opposite shoulder;

(3) Apply adequate padding between the link and the chest;

(4) Except in cases of colles's fracture injuries involving the wrist, fix the hand with a collar and cuff sling taking care that there is no constriction.

(5) Secure the limb firmly to the chest using two broad bandages;

(6) Ensure there is no interference with the circulation of the limb;

(7) Transport as a sitting or walking case.

Ques. 50. What is the treatment of all fractures of the upper limb when the elbow cannot be bent with out difficulty or increasing pain and transport by stretcher is necessary?

Ans. (1) Place the limb by the side palm to thigh, with adequate intervening padding;

(2) Secure the limb to the trunk and lower limb by three broad bandages tied round the arm and trunk, and the wrist and thigh.

Ques. 51. What is the treatment of all fracture of the upper limb when the elbow cannot be bent without difficulty or increasing pain and the casualty can ride sitting or is fit to walk?

Ans. (1) Apply a well-padded splint to the front of the arm and forearm, long enough to reach from just below the armpit to below the wrist;

(2) Secure by there broad bandages – one above the fracture, one below the fracture and one round the wrist.

Ques. 52. What is the treatment when a fracture is near the wrist?

Ans. Treatment as for all fracture of the upper limb when the elbow can be bent, with the exception that the collar and cuff sling is omitted. Ensure that there is sufficient padding between the limb and chest and the limb and the broad bandages.

Ques. 53. What is the treatment of fracture of the forearm when it is necessary to use splints?

Ans. (1) Place the forearm at right angle to the upper arm, across the chest, keeping the thumb uppermost and the palm of the hand towards the body ;

(2) Apply well-padded splints on the front and back of the forearm from the elbow to the fingers ;

(3) Apply two bandages embracing both splints – one above the fracture and the other round the wrist first and completed as a figure – of – 8 round the hand and wrist ;

(4) Support the limb in an arm sling.

Ques. 54. Describe the special signs and symptoms of fracture of the pelvis.

Ans. (1) Pain of varying intensity in the region of the hips and loins, increased by moving or coughing;

(2) Inability to stand despite the absence of any injury to the lower limbs;

(3) Internal hemorrhage may occur and may be severe;

(4) There may be a desire to pass water frequently, though with difficulty or inability to do so. If passed, the urine may be of dark colour.

Ques. 55. What is the general treatment of fracture of the pelvis ?

Ans. (1) Lay the casualty in the position which gives the greatest comfort, preferably on his back with the knees straight. If he wishes to bend the knees, they should be supported on a folded blanket;

(2) Warm the casualty not to pass water if he can avoid it;

(3) a. Where the distance is short and the casualty is likely to reach hospital in 20-30 minutes transport as a stretcher case as quickly as possible in the position which is most comfortable; do not bandage;

b. Where some time must elapse before the casualty can be taken to hospital or where the journey is long or rough:

(i) gently apply two broad bandages round the pelvis overlapping by half, and with the centre in line with the hip-joint of the affected side. Tie off on opposite side of the body, but if site of fracture is doubtful tie off in the most comfortable position.

(ii) Put padding between ankles and feet,

(iii) Apply a figure-of- 8bandage round ankles and feet and a broad bandage round both knees.

Ques. 56. Where and how can a fracture of the thigh bone (femur) be caused in elderly people?

Ans. At the neck of the bone and frequently from a relatively slight cause such as tripping. Such a fracture may be mistaken for a badly bruised hip.

Ques. 57. Why must a fracture of the femur always be regarded as a serious injury ?

Ans. Because of the great shock which accompanies this fracture and the possibility of extensive hemorrhage into the surrounding tissues.

Ques. 58. What additional signs may help in the diagnosis of a fracture of the femur?

Ans. Shortening, varying half-an-inch to three inches, is often noticeable and the position of the foot which usually lies on its outer side.

Ques. 59. How may the knee-cap (Patellar bone) be broken?

Ans. By direct force but more frequently by muscular action.

Ques. 60. What special signs and symptoms may be present?

Ans. The limb is quite helpless ; there may be marked swelling , some irregularity and a gap felt between the broken fragments.

Ques. 61. What is a pott's fracture ?

Ans. A fracture of the fibula (bone of lower limb/leg) two or there inches above the ankle.

Ques. 62. What is the treatment of fractures of the lower limb. When journey to hospital is expected to take less than about 20 minutes?

Ans. If possible, tie the feet and the knees together, with pads between ankles, but avoid attempts to place the limbs in its natural position if this causes more pain .Place the casualty on a stretcher with as little disturbance as possible .Maintain the position of the limb and control movement with pillows, cushions or bandages. speed and gentle handling are of the greatest importance.

Ques. 63. What is the treatment of a fracture of the thigh when rough ground has to be covered or a long journey undertaken?

Ans.

(1) Apply a well – padding splint between the legs extending from the crotch to the foot;

(2) Tie the feet and ankles together with a figure- of-8- bandage to include the splint, using additional padding if required.

(3) Apply a well-padded splint to the outside of the body extending from just below the armpit to the foot;

(4) Secure by seven bandages:-

(a) the chest, just below armpits,

(b) the pelvis, in line with hip joints,

(c) both ankles and feet,

(d) Both thighs, where possible above the fractures.

(e) both thighs, below the fracture,

(f) both legs

(g) both knees.

Ques. 64. What is the special treatment of a fracture of the knee-cap when rough ground has to be covered or a long journey undertaken?

Ans. (1) Lay the casualty on his back supporting his head and shoulders.

(2) Raise and support the injured leg in a comfortable position

(3) Apply a splint along the back of the limb, reaching from the buttock to beyond the heel, well-padded under the natural hollow of the ankle.

(4) Secure splint to the limb by three band ages :-

(a) Broad bandages round the thigh,

(b) A narrow bandage, as a figure-of-8, round the ankle and foot,

(c) A narrow bandage above and below the knee-cap, crossing at the back of the knee.

During transport, keep the end of the splint raised, resting the lower end of the splint on a box, folded blanket or similar article.

Ques. 65. What is the treatment of a fracture of the leg when rough ground has to be covered or a long journey undertaken?

Ans. (1) Place a well-padded splint between the limbs extending from the crotch to the foot;

(2) Bring the feet as nearly as possible into line without using force or causing pain;

(3) Tie the feet and ankles together with a figure-of-8 bandage, using additional pads between ankles and feet if necessary;

(4) Apply a broad bandage round both thighs;

(5) Bandage the knees together with a broad bandage;

(6) Apply two bandages (narrow or broad according to the size of patient) one above and one below the fracture.

When one limb is affected, the bandages should be tied off over the uninjured limb, but when both limbs are fractured, over the side showing least injury.

Ques. 66. What is the treatment of a crushed foot when a wound is present or suspected?

Ans. (1) Remove the shoe or boot and sock or stocking ;

(2) Treat the wound ;

(3) Apply a padded splint to sole of foot reaching from the heel to the toes;

(4) Secure with a figure-of-8 bandage ;

(5) Raise the foot and support in a comfortable position.

Ques. 67. What is the treatment of a crushed foot when no wound is present or suspected?

Ans. (1) Do not remove the shoe or boot;

(2) Secure with a figure –of-8 bandage ;

(3) Raise and support the foot in a comfortable position.

Ques. 68. How should casualties with fractures of a lower limb be transported?

Ans. They must be transported by stretcher.

7.4 Dislocations

Ques. 1. What is a dislocation ?

Ans. The displacement of one or more bones at a joint .

Ques. 2. What joints are most frequently dislocated?

Ans. The shoulder, the elbow, the thumb, the fingers and the lower jaw.

Ques. 3. What are the signs and symptoms of a dislocation?

Ans. (1) Pain of a sickening character at or near the joint;

(2) Fixed joint (the casualty can not move the joint normally);

(3) Deformity (the limb assumes an unnatural position and appears misshapen at the joint);

(4) Swelling at the joint may occur.

Ques. 4. What is the treatment of a dislocation when the accident occurs out of doors?

Ans. (1) Do not attempt to reduce a dislocation: obtain medical aid at once;

(2) Steady and support the limb and secure it in the most comfortable position, using padding in order to lessen, the effects of jolting during transport.

Ques. 5. What is the treatment of a dislocation when the casualty is indoors?

Ans. (1) Do not attempt to reduce a dislocation : obtain medical aid at once ;

(2) Place the casualty on a couch or bed in the most comfortable position : support the limb with pillows, cushions, etc.

Ques. 6. What is the treatment of a dislocation of the lower jaw?

Ans. (1) Do not attempt to reduce the dislocation : obtain medical aid at once : remove any denture ;

(2) Support the lower jaw by a bandage tied over the top of the head.

7.5 Displaced Cartilage Of The Knee

Ques. 1. How do the signs of a case of displaced cartilage of the knee differ from those of a dislocation?

Ans. Deformity is not present.

Ques. 2. What is the treatment of a displaced cartilage of the knee?

Ans. Similar to that of a dislocation.

7.6 Sprains

Ques. 1. What is a sprain?

Ans. The wrenching or tearing of the ligament.

Ques. 2. What are the signs and symptoms of a sprain?

Ans. (1) Pain at the joint;

(2) Inability to use joint without increasing the pain;

(3) Swelling and later, bruising.

Ques. 3. What is the treatment of a sprain?

Ans. (1) Place the limb in the most comfortable position, preferably raised, and prevent further movement.

(2) Expose the joint and apply a firm bandage ;

(3) Wet the bandage with cold water and keep it wet ;

(4) When this ceases to give relief, take the bandage off and re-apply it.

7.7 Strain and Ruptured Muscles

Ques. 1. What is a strain?

And. The overstretching of a muscle.

Ques. 2. What are the signs and symptoms of a strain?

Ans. (1) A sudden sharp pain at seat of injury;

(2) In the case of a limb, the muscles may swell and cause server cramp. If the back is affected, the casualty may be unable to stand upright;

(3) Further exertion is difficult or impossible.

Ques. 3 What is the treatment of strain?

Ans. Place the casualty in the most comfortable position; steady and support the injured part ;if he has to go a long journey, it may help to immobilize the limb like a fracture.

7.8 Crush Injuries

Ques. 1. What can be done for a trapped casualty whose release is delayed?

Ans. (1) Watch for and try to prevent the onset of established shock;

(2) If casualty is conscious and there is no sign of abdominal injury, give two to four pints of water by mouth. Tea, coffee may be given and the fluid should be given slowly to avoid causing nausea ;

(3) When the casualty is released, raise the injured part and leave uncovered. The circulation should be allowed to return gradually. Heat must never be applied.

7.9 Burns and Scalds

Ques. 1. How is a burn caused?

Ans. (1) By dry heat (fire, piece of hot metal, the sun);

(2) By contact with any object charge with high tension electric current, or by lightning ;

(3) By friction (contact with a revolving wheel (brush burn), fast-moving rope or wire);

(4) By a corrosive chemical (acids- sulphuric, nitric, hydrochloric; or alkalis- caustic soda, caustic potash, strong ammonia or quicklime).

Ques. 2. How is a scald caused?

Ans. By moist heat such as boiling water, steam, improperly applied poultice, hot oil or tar.

Ques. 3. What are the effects of a burn or scald?

Ans. There may be reddening of the skin, or blister formation, or destruction of the skin, or destruction of the deeper tissues, pain, if existent, is very serve.

Ques. 4. What are the dangers in cases of burns and scalds?

Ans. The immediate danger is from shock which may be severe and in some cases made worse by intense pain and loss of plasma into the burnt area. Later there is danger from septic infection.

Ques. 5. If a person's clothing catches fire what should be done?

Ans. Approach him holding a rug, blanket, coat or tablecloth in front of yourself for protection. Wrap it round him, lay him flat and smoothen the flames.

Ques. 6. What should be done if a person's clothing catches fire when alone?

Ans. He should roll on the floor, smothering the flames with the nearest available wrap and call for assistance. **On no account should he rush into the open air**.

Ques. 7. Give the general rules for treatment of burns and scalds.

Ans.

(1) Avoid handling the affected areas more than is necessary : see that your hands are as clean as possible by washing them ;

(2) Do not apply lotions of any kind;

(3) Do not remove burned clothing and do not break blisters;

(4) Cover the area (including the burned clothing) with a prepared dry sterile dressing if possible, otherwise clean, freshly laundered cloth or some similar material may be used ;

(5) Bandage firmly except when blisters are present or suspected in which case bandage lightly ;

(6) Immobilise the affected area by suitable means ;

(7) Take such steps as are appropriate to treat for shock.

Ques. 8. What further treatment is necessary in a major case?

Ans. Remove casualty to hospital as quickly as possible. The casualty will probably require an anesthetic, so that ordinarily nothing should be given by the mouth. If medical aid is delayed for at least four hours, give drinks of water to which salt has been added in the proportion of half a teaspoon to two tumblers of water, with the addition of approximately half a teaspoon of bicarbonate soda (if available).

Ques. 9. What further treatment is given in a minor case?

And. Give large quantities of warm fluids, preferably weak tea sweetened with sugar.

Ques. 10. What should be done when the face is burnt?

Ans. Cut a piece of clean cloth as dressing in the shape of a mask, with a hole for breathing. Maintain the mask in position by a bandage as for a fractured jaw.

Ques. 11. What is the treatment of a burn caused by a corrosive acid?

Ans. (1) Thoroughly flood the part with water ;

(2) Bathe the part freely with an alkaline solution such as two teaspoons (one dessertspoon) of bicarbonate of soda (baking soda) or carbonate of soda (washing soda) to one pint of warm water;

(3) Apply the general rules for paint the treatment of burns but remove contaminated clothing as quickly as possible to prevent further injury. Take reasonable precautions against burning yourself with contaminated clothing.

Ques. 12. What is the treatment of a burn caused by a corrosive alkali?

Ans. (1) If the burn is caused by quicklime, brush off any that remains on the part;

(2) Thoroughly flood the part with water ;

(3) bathe the part freely with a weak acid solution, such as vinegar or lemon juice, diuted with an equal quantity of warm water;

(4) Apply the general rules for the treatment of burns but remove contaminated clothing immediately taking reasonable precautions.

Ques. 13. What is the treatment when the eye is injured by a corrosive chemical ?

Ans. Instruct the casualty to blink his eyelid under water or flush the eye with copious supplies of water. Apply a soft pad of cotton wool over his eye and keep the pad in position by a shade or bandage applied lightly, and see that he obtains medical aid as soon as possible.

7.10 The Nervous System

Ques. 1. Name the two systems of nerves which regulate and control the movement and functions of the body?

Ans. The central nervous system and the autonomous nervous system

Ques. 2. What comprises the cerebro-spinal system?

Ans. The brain, Spinal cord and nerves.

Ques. 3. What do the sensory nerves do?

Ans. Convey sensations to the brain.

Ques. 4. What do the motor nerves do?

Ans. They convey messages from the brain.

Ques. 5. Describe the brain.

Ans. The brain is situated within the skull, is the seat of the intellect, the emotions and the will. It is the organ where impressions received by the sensea and brought by the sensory nerves are analyzed and from which orders for appropriate action are given through the motor nerves.

Ques. 6. Describe the spinal cord.

Ans. It extends from the brain, consists of nerve tissues and lies within the vertebral canal of the spine. It leaves the brain through an opening in the base of the skull and extends downwards as far as the second lumbar vertebra.

Ques. 7. Describe the nerves.

Ans. They proceed from the brain and spinal cord in pairs as pearly-white trunks, and their branches can be traced throughout the tissue of the body.

Ques. 8. What happens when a nerve is severed?

Ans. There is loss of power and/or sensation in the region in which its branches are distributed.

Ques. 9. Describe the autonomic system .

Ans. It consists of a network of bodies of nerve tissue(ganglia) and connecting nerves, and it controls the involuntary muscles and regulates the vital functions of the body.

Ques. 10. Where is an important part of his network situated?

Ans. In the upper part of the abdomen behind the stomach. It is known as the solar plexus.

Ques. 11. Is the autonomic system under the control of the will?

Ans. No, it acts at all times whether awake or in sleep.

7.11 Unconsciousness

Ques. 1. What is unconsciousness ?

Ans. It is due to an interruption of the action of the brain through some interference with the functions of the nervous system. It is an important indication not only in diseases of or injury to the brain, but of many serious injury or diseases of other parts of the body.

Ques. 2. Name the two degrees of unconsciousness, apart from sleep .

Ans. (1) By speaking to the casualty ; in stupor, these can be degree of stupor present : in coma, there is no response ;

(2) By touching the eyelashes or opening the eyelids ; in stupor, the casualty objects to the eyelashes being touched or resists an attempt to draw back the eyelids : in coma, there is no response ;

(3) By the response of the pupils of the eyes to light. If a bright light is flashed into the eyes, or if the eyes are shaded and the shade suddenly removed, the pupils become smaller in stupor but remain fixed in deep coma.

Ques. 3. What are the common causes of unconsciousness?

Ans. (1) Ensure an abundant supply of fresh air and that the air passages are not obstructed ; for example, remove from harmful gases or impure atmosphere, open windows and doors, keep crowd back, remove false teeth ;

(2) If breathing has stopped or appears to be failing, turn the casualty into the prone position and commence artificial respiration;

(3) If breathing is not noisy, lay the casualty on his back with the head and shoulders slightly raised and supported, and turn the head to one side; be prepared to modify the position if breathing becomes difficult or obstructed;

(4) If breathing is noisy (bubbling through secretion) turn the casualty into the three-quarter prone position: support in this position with a pad in front of the chest or draw up the upper knee. If the casualty is on a stretcher, raise the foot of the stretcher to help drain secretion from the lungs;

(5) Undo all tight clothing about the neck chest and waist;

(6) Apply the special treatment for the condition that has caused the unconsciousness

(7) Wrap in a blanket but do not apply heat

(8) Do not leave the casualty until he has been placed in the charge of a responsible person : keep a continuous and careful watch for any change in his conditions

(9) Do not attempt to give food or fluids while the casualty is unconscious;

(10) Remove him to shelter – as a stretch case- as soon as possible;

(11) When he returns to consciousness moister the lips with water: unless an abdominal injury is suspected sips of water may be given if he complains of thirst

Ques. 4. What is concussion?

Ans. A condition of widespread disturbance of the function of the brain which comes on as a result of injury to the head and sometimes of the spine.

Ques. 5. How many concussions can be caused?

Ans. By a blow on the head, a fall from a height on the feet or the buttocks, or a blow on the point of the jaw may all cause concussion by jarring through the base of the skull.

Ques. 6. What are the signs and symptoms of concussion?

Ans. There is loss of consciousness of varying degree together with the associated signs and symptoms of nerve shock, there may be a momentary black-out' or temporary confusion, stupor or coma, or the condition may pass into compression without return to consciousness. If insensibility continues for some time, a further cause may be suspected.

Ques. 7. What may accompany recovery?

Ans. Nausea and vomiting and there is frequently a complete loss of memory of events before and after the injury.

Ques. 8. What is the treatment of concussion?

Ans. Apply the general rules for the treatment of an unconscious person. No case of head injury should be regarded lightly, and all unnecessary movements should be avoided. A caution should be given to a person who has been unconscious even for only a moment to not resume physical or mental activity without the advice of a doctor.

Ques. 9. What is compression?

Ans. A condition due to actual pressure on some part of the brain where in the skull has blood clot or a piece of bone. It may follow concussion with no return to consciousness or it may come on after apparent recovery.

Ques. 10. What may occur during the early stages of compression?

Ans. Signs of irritation may occur; these are twitching of the limbs, crying out or shouting or even convulsions.

Ques. 11. What should be done about these signs?

Ans. The casualty should not be forcibly restrained, but protected from injuring himself.

Ques. 12. What are the signs of compression?

Ans. Most of the following signs will usually be present:-

(1) Unconsciousness- coma may be present or its onset may be delayed or it may follow a period of stupor ;

(2) The face is flushed ;

(3) The breathing is noisy;

(4) The pulse is slow;

(5) The body temperature may be raised the head may feel hot to touch;

(6) The pupils of the eyes may be unequal in size or they may be dilated ;

(7) Paralysis on one side of the body may be present.

Ques. 13. What is the treatment of compression ?

Ans. Apply the general rules for the treatment of unconsciousness. This is a serious condition and medical aid must be obtained as soon possible.

Ques. 14. What is the cause of epilepsy?

Ans. The same as those of compression.

Ques. 15. What additional signs would help in the diagnosis of epilepsy ?

Ans. The age of the casualty, the sudden oneset and the absence of history or signs of injury.

Ques. 16. What is the treatment of epilepsy ?

Ans. Apply the general rules for the treatment of unconsciousness.

Ques. 17. What are the two types of epilepsy ?

Ans. Minor epilepsy ; major epilepsy.

Ques. 18. What are the signs and treament of minor epilepsy ?

Ans. The casualty may become pale with eyes fixed and staring and may become momentarily unconscious. He may then resume his previous activity as though nothing has occurred. The condition may resemble a fainting attack and should be treated as such. If the casualty is known to be subject to epileptic attacks, watch should be kept for the presence of post-epileptic automatism.

Ques. 19. What are the signs and symptoms of major epilepsy (True epileptic fit) ?

Ans. The casualty may have a premonition that he is going to have a fit. He may experience a sense of strangeness accompanied by headache, irritability, restlessness or a feeling of lethargy - the 'dremy state'. These sensations are known as the 'aura.' the epileptic fit consists of four stages :-

(1) the casualty suddenly loses consciousness and falls to the ground, possibly with a cry ;

(2) he remains rigid for some seconds and during this stage the face becomes flushed or even livid ;

(3) the convulsions start, and the casualty may injure himself by striking at some hard object. He froths at the mouth and may bite his tongue. He will not have control of his bladder or bowel and may pass urine and motions involuntarily (incontinence) ;

(4) after a variable time usually a few minutes, the convulsions cease and the casualty may be dazed and confused or sometimes act in a strange manner without realising what he is doing (post-epileptic automatism). This condition varies in duration.

Ques. 20. What is the treatment of major epilepsy ?

Ans. (1) Restrain the casualty only as far as is necessary, forcible restraint may cause injury. When possible, remove any object against which he might injure himself ;

(2) As opportunity arises, place the handle of a spoon or other hard object wrapped in a handkerchief between his back teech to prevent the casualty from biting his tongue ;

(3) Wipe away the froth from his mouth ;

(4) Apply the general rules for the treatment of unconsciousness ;

(5) Keep a careful watch for a possible recurrence, and do not leave him until you are satisfied that he is fully aware of his surroundings or until placed in the care of another responsible person ;

(6) Advise the casualty to see his doctor.

Ques. 21. What is the usual casue of an hysterical attack ?

Ans. An emotional crisis or mental stress.

Ques. 22. Give the signs and symptoms of an hysterical attack.

Ans. They vary from a temporary loss of emotional control to more serious signs including rigidity of the body and apparent unconsciousness. Occasionally there may even by 'apparent' convulsions, but these do not occur when a casualty is alone. The casualty may fall taking care not to injure himself. He may laugh, cry and utter words. The 'convulsions' that consist of voluntary though purposeless movements such as tearing the hair or clutching are never complete unconsciousness.

Ques. 23. What is the treatment of an hysterical attack ?

Ans. The First Aider should not show too much sympathy or concern. Speak firmly to the casualty but do not bully or threaten. The casualty should be kept under observation until he has recovered sufficient control of himself and then be given something to do.

Ques. 24. What are infantile convulsions ?

Ans. They occur in infants as a result of teething, some stomach or chest trouble or when sickening for an illness, such as an infectious disease.

Ques. 25. Describe the signs and symptoms of infantile convulsions.

Ans. There is a general twitching or tremor of the muscles ; extreme pallor and later blueness of the face ; occasional squinting or upturned eyes ; holding of the breath ; froth may appear at the mouth.

Ques. 26. What is the treatment of infantile convulsions ?

Ans. Apply the general rules for the treatment of unconsciousness ; wrap the child in warm blankets.

Ques. 27. What are the causes of heat exhaustion and heat stroke ?

Ans. Exposure to excessive heat, especially damp heat with or without physical exertion ; conditions where the air and surroundings are hotter than the body and there is little air movement so that it is difficult to get rid of heat from the body by the evaporation of sweat. Lack of fluids and salt are contributory causes.

Ques. 28. What are the signs and symptoms of heat exhaustion ?

Ans. These include headache, dizziness, nausea, vomiting, some times abdominal cramp, collapse and unconsciousness. The face is pale with cold clammy sweat ; the pulse is weak ; the temperature may be normal or slightly raised and the condition resembles shock of greater or lesser degree.

Ques. 29. What is the treatment of heat exhaustion ?

Ans. Place the casualty in a cool place ; if conscious give plenty of cool salted water (half a tea-spoon of salt to a pint of water). If he complains of feeling cold, keep him comfortably warm. Watch carefully in case the condition changes into heat stroke.

Ques. 30. What are the signs and symptoms of heat stroke ?

Ans. Unconsciousness comes on rapidly but may be preceded by headache, irritability and vomiting ; the face is flushed ; the skin hot and dry ; the pulse is full and bounding ; the temperature may rise rapidly to be very high (107^0 F. or more) and the casualty will die in a short time if it is not lowered quickly.

Ques. 31. What is the treatment of heat stroke ?

Ans. Place the casualty in the coolest place possible and remove clothing ; sprinkle him with water or wrap him in a wet sheet, and fan him ; care must be taken not to lower the temperature too far (102^0F.). When temperature is lowered, wrap him in a dry sheet and continue fanning. If the temperature rises again, repeat the treatment. On recovery continue as for heat exhaustion and keep under observation.

Ques. 32. What are the signs and symptoms of diabetic coma ?

Ans. The skin is dry ; the breathing is deep and sighing ; the breath may smell of acetone (musty apples or nail varnish) ; there may be varying degrees of unconsciousness. The casualty may be suffereing from some infection such as a boil.

Ques. 33. What are the signs and symptoms of insulin overdose ?

Ans. The skin is moist with perspiration ; the breathing is shallow and quiet; the breath is odourless ; there may be excitability ; faintness or unconsciousness may be present. Casualty's pockets should be searched for a card indicating that he is diabetic and for lumps of sugar which are often carried by diabetics on insulin treatment. Signs of recent injections on the arm, thigh or abdomen may be present.

Ques. 34. What is the treatment of diabetic coma and insulin overdose ?

Ans. Apply the general rules for the treatment of unconsciousness ; get a doctor immediately or if this is not possible remove to hospital. In Insulin Overdose if the casualty can swallow feed with sweet substances, dissolved sugar, jam or sweets given with a teaspoon. Ability to swallow may be tested by putting a teaspoonful of cold water between the gums and the cheek.

Ques. 35. What are the causes of fainting ?

Ans. A fall in blood pressure which may be sudden following fright, bad news, a horrigying sight or pain, or gradual when there has been debilitating illness, fatigue or long periods of sitting or standing in a hot stuffy atmosphere.

Ques. 36. What are the signs and symptoms of fainting ?

Ans. (1) Unconsciousness, which may be sudden, or the casualty may feel giddy and limp before 'passing out'.

(2) The face is pale ;

(3) The skin is cold and clammy ;

(4) The pulse is weak and slow ;

(5) The breathing is shallow.

Ques. 37. What is the preventive treatment of fainting ?

Ans. When a person feels faint get his head down quickly. If the casualty is sitting, lower the head between the knees or lay him down with the head lower than the feet. Smelling salts or sal volatile may be useful if available.

Ques. 38. What is the treatment of fainting when the casualty is unconscious ?

Ans. (1) Lay the casualty down with the head lower than the feet ;

(2) Loosen clothing at neck, chest and waist ;

(3) See that there is plenty of fresh air ;

(4) On recovery, which is usually 'rapid, gradually raise the casualty and give sips of water, tea or other beverage.

Ques. 39. What two types of heart attacks are likely to be met by a first aider ?

Ans. (1) When there is interference with the supply of blood to the heart itself, thus depriving it off the oxygen it needs to do its work properly (coronary disease, anginapectoria);

(2) Where there is chronic heart disease (congestive failure), and the heart cannot meet any extra demand made upon it.

Ques. 40. Describe the signs and symptoms of the two types of heart attack.

Ans. (1) In the first, it is likely to come on suddenly and is not necessarily associated with effort. The face is pale and may be ashen ; there is pain over the heart or in the pit of the stomach, which may be agonising and may go down the left arm ;

(2) In the second type, there is breathlessness and bluish colour of the skin due to lack of oxygen in the blood, but in a crisis the sufferer may collapse suddenly with vomiting or spitting of blood and all the signs and symptoms of shock.

Ques. 41. What is the treatment of heart attacks ?

Ans. (1) Do not move the casualty unless it is absolutely necessary ;

(2) Send for medical aid at once ;

(3) Support the casualty in a sitting position : take appropriate steps to prevent him from falling forward ;

(4) Undo tight clothing around the neck and waist.

Ques. 42. What aids to recovery that the casualty may carry ?

Ans. Small crushable glass capsules for inhalation or tablets to be taken if an attack comes on.

7.12 Poisons

Ques. 1. What is a poison ?

Ans. Any substance which, when taken into the body in sufficient quantity, is capable of injuring health or destroying life.

Ques. 2. How may poisons enter the body ?

Ans. Through the lungs by breathing poisonous gases or fumes ; by the mouth i.e., swallowed ; through the skin.

Ques. 3. How is life endangered by gas poisoning ?

Ans. By asphyxia.

Ques. 4. How is life endangered by swallowed poisons ?

Ans. (1) Directly on the food passages or,

(2) On the nervous system after absorption into the blood.

Ques. 5. How may poisons injected under the skin endanger life ?

Ans. Through coma and asphyxia.

Ques. 6. What are the general rules for the treatment of poisoning ?

Ans. (1) Send for medical aid at once giving brief particulars including, if possible, the suspected cause. Preserve the examination.

(a) any remaining poison ;

(b) any box, carton, bottle or other container, which may help to identify the poison ;

(c) any vomited matter ;

(2) If the casualty is unconscious, place him in the prone position with the head turned to one side and not resting on a pillow : if, however, there is much retching and vomiting the three - quarter prone position may be better. Start artificial respiration instantly if breathing is feeble or unduly slow ;

(3) When the poison has been swallowed and the casualty is conscious -

(a) make the casualty vomit by tickling the back of the throat with a spoon or two fingers, or if this method fails, give an emetic (two tablespoons of salt to a tumbler of water, preferably tepid) ; do not induce vomiting when the casualty is unconscious or when the lips and mouth are burned.

(b) Neutralise the poison by giving an antidote.

(c) dilute the poison by giving copious sips of cold water.

(d) give soothing drinks such as milk (at least one pint), barley water, raw eggs or flour beaten up with water.

Ques. 7. When treating cases where the poison is known. What dosage of antidote should be given to children and infants ?

Ans. For children between 2 and 8 years, the quantity should be reduced to a half. For infants under two years the quantity should be reduced to a quarter.

Ques. 8. What kinds of poisoning occur through careless handling of agricultural poisons or by accidental contamination ?

Ans. The first closely resembling heat stroke ; in the second kind, asphyxia may develop rapidly.

Ques. 9. What are the warning symptoms of poisoning by agricultural weed-killers or insecticides liable to cause asphyxia ?

Ans. Giddiness, nausea, blurred vision and tightness of the chest.

Ques. 10. What signs may be present in cases of poisoning by agricultural weed-killer or insecticides liable to cause asphyxia ?

Ans. Slow pulse, contracted pupils, sweating blueness of the face and lips unconsciousness and possible convulsions.

Ques. 11. What is the treatment of the second kind of poisoning through careless handling or accidental contamination in agricultural poisons ?

Ans. Artificial respiration, which may have to be repeated or continued for a long time. As the doctor may wish to give a special antidote by injection, the First Aider should give the suspected cause of the condition when sending for medical aid.

7.13 Miscellaneous Conditions

Ques. 1. What is the treatment of a foreign body embedded under the skin ?

Ans. If a needle or other foreign body, such as a splinter of glass or a fish-hook, do not attempt to remove. Treat the wound ; immobilise the part (using splints if necessary) and obtain medical aid.

Ques. 2. What is the treatment of foreign body in the eye ?

Ans. (1) Prevent the casualty from rubbing the eye (in the case of a child it may be necessary to get help to keep him still) ;

(2) Seat the casualty facing the light and stand in front of him ;

(3) Pull down the lower eyelid -

(a) if the foreign body is seen and does not appear to be embedded or adherent to the eyeball, remove it with the corner of a clean handkerchief, preferably white, twirled up and moistened with clean water.

(b) if the foreign body is embedded in or adherent to the eyeball, do not attempt to remove it but instruct the casualty to close his eyelids, apply a soft pad of cotton wool and secure it by a bandage, obtain medical aid ;

(4) If the foreign body is suspected to be under the upper eyelid, instruct the casualty to blink his eyelid under water. Alternatively, lift the upper lid forward, push the lower lid beneath it and let go both eyelids. Should the first attempt be unsuccessful, repeat several times ;

(5) If the foreign body is not dislodged, see that the casualty obtains medical aid as soon as possible.

Ques. 3. What is the treatment when medical aid is not available ?

Ans. (1) Seat the casualty facing the light and stand behind him, steadying his head against your chest ;

(2) Place a match-stick on the base of his upper eyelid, press it gently backwards and instruct the casualty to look downwards ; take hold of his upper eyelashes and pull the lid over the match-stick, thereby averting the eyelid ;

(3) Remove the foreign body with a corner of a clean handkerchief, preferably white, twirled up and moistened with clean water.

Ques. 4. What is the treatment when a corrosive acid or alkali is suspected ?

Ans. Instruct the casualty to blink his eyelid under water or flush the eye with copious supplies of water. Apply a soft pad of cotton wool over his eye and keep the paid in position by a shade or bandage applied lightly, and see that he obtains medical aid as soon as possible.

Ques. 5. What is the treatment if an insect is in the ear cannal ?

Ans. Fill the ear with olive or salad oil or insert a few drops of surgical spirit ; the insect will float and may be removed. Medical aid must be obtained.

Ques. 6. What is the treatment of a foreign body in the ear other than an insect ?

Ans. The foreign body should be left in position and the casualty warned not to interfere with it. Medical aid must be obtained.

Ques. 7. What is the treatment for a foreign body in the nose ?

Ans. Instruct the casualty to breathe through the mouth ; do not interfere with the foreign body ; obtain medical aid.

Ques. 8. What should be done in the case of a person who has swallowed a pin or some other small object ?

Ans. Give nothing by the mouth ; medical aid must be obtained without delay.

Ques. 9. What should be done if a fish bone is in the throat ?

Ans. Do not attempt to remove the fishbone but try to avoid panic and seek medical aid.

Ques. 10. What is a abdominal hernia ?

Ans. It is commonly referred to as a 'rupture' and consists of a protrusion of some part of the abdominal content, usually the bowel, through the muscular wall of the abdomen under the skin.

Ques. 11. Where does an abdominal hernia most frequently occur ?

Ans. At the groing but it is not uncommon at the navel or through the sear of an abdominal operation.

Ques. 12. What are the signs and symptoms of abdominal hernia ?

Ans. The condition may come on suddenly or gradually ; if the onset is sudden there may be swelling and pain followed sometimes by vomiting.

Ques. 13. What is the treatment of abdominal hernia ?

Ans. (1) Lay the casualty down, raise and support his head and shoulders, bend his knees and place a pillow under them ;

(2) Make no attempt to reduce the swelling, but seek medical aid without delay.

Ques. 14. What is the treatment of the sting of an insect ?

Ans. (1) Remove the sting, if present, using forceps or tweezers or the point of a needle which has been passed through a flame and allowed to cool for a few moments;

(2) Apply methylated or surgical spirit, or weak ammonia or sal volatile, or a solution of bicarbonate of soda or a wet 'blue bag'. Never use methylated spirit near the eyes ;

(3) If the sting is in the mouth, give a mouth wash of bicarbonate of soda - one tea spoonful to a tumbler or water ; guard against shock and seek medical aid as soon as possible.

(4) Watch for anaphylactic reaction.

Ques. 15. What is the treatment of frost bite ?

Ans. Where possible, bring the casualty into an atmosphere no warmer than ordinary room temperature and cover the affected part. Do not use friction or rub with snow. In cases of severe frostbite, especially after prolonged exposure, the casualty must receive medical aid as soon as possible.

Ques. 16. What is Cramp ?

Ans. Sudden involuntary and painful contraction of a voluntary muscle or groups of muscles.

Ques. 17. What is the treatment of cramp ?

Ans. Massage the affected part and apply warmth. Encourage fluid in take.

Ques. 18. What is the treatment of 'winding' ?

Ans. Apply the general rule for the treatment of unconsciousness ; draw up the casualty's knees and gently massage the abdomen, keep him lying down quietly until he is comfortable and the circulation fully restored.

Ques. 19. What is the treatment of stitch ?

Ans. If not immediately relieved by rest, give sips of hot water and gently rub the affected side.

GLOSSARY

New Resuscitation Guidelines 2010 Notes for Trainers

On October 18th the European Resuscitation Council and the Resuscitation Council (UK jointly Published the new Resuscitation Guidelines 2010. There are no major changes to the 2005 guidelines, although there are some subtle, yet very important amendments that refl ect the latest scientific evidence available on resuscitation.

Here is a summary of the changes to the Basic Life Support Guidelines:

1. **When obtaining help, ask for an Automated External Defi brillator (AED) if one is available.**

   AEDs are becoming more and more widespread in public places and in the emergency services. An AED should be viewed as a standard piece of first aid equipment and remains the single biggest factor in survival rates of sudden cardiac arrest. In the UK approximately 30,000 people sustain cardiac arrest outside of hospital each year. The chances of survival decline at a rate of about 10% with every 1 minute delay in providing a defibrillation shock.

   The new guidelines say that 'training in the use of an AED is desirable but not essential'. Attempting to use an AED without prior training is likely to result in a better outcome than CPR alone (and the machines are very safe), although chances of survival can be increased signifi cantly if training is provided, as this is likely to reduce interruptions in chest compressions and reduce the time taken to deliver the first shock.

2. **Compress the chest to a depth of 5-6cm and at a rate of 100-120 per minute.**

   Previous guidelines indicated a depth of 4-5cm at a rate of 100 per minute. The changes reflect evidence that chest compressions; both inside and outside hospital are often undertaken at insufficient depth and at the wrong rate, both

of which are associated with reduced survival rates. In theory, telling people to 'push harder' will improve on the actual depth achieved.

Interestingly, studies have shown that untrained laypeople generally deliver chest compressions too slow, whereas medical professionals tend to deliver compressions too fast. If chest compressions are delivered outside the new guideline rates of 100 to 120 per minute, coronary perfusion drops significantly. When was the last time you checked your perception of 100 per minute? If you go at the new upper limit of 120, that's 2 beats per second. Practice it!

3. **Give each breath over 1 second rather than 2 seconds.**

This is not actually a change, as the 2005 guidelines also indicated 'take about 1 second to make the chest rise', though the Resus Council (UK) have indicated this as one of the changes. It is likely that this is to further highlight the importance of minimising interruptions in chest compressions, which commonly happen and are associated with a reduced chance of survival.

4. **Do not stop to check the victim or discontinue CPR unless the victim starts to show** signs of regaining consciousness, such as coughing, opening his eyes, speaking or moving purposefully AND starts to breathe normally.

The 2005 guidelines indicated stopping if 'normal breathing' resumed - which often resulted in rescuers interrupting chest compressions to confi rm. The new guidance advocates stopping only if you see signs of the victim regaining consciousness. Note the terminology 'moving purposefully' - which excludes anoxic convulsions or spasms that can happen normally during a cardiac arrest.

This again reflects the need to prevent unnecessary interruptions in chest compressions, but also tllghlights the need to teach first aid students about 'agonal gasps' (see next page).

5. **Teach CPR to laypeople with an emphasis on chest compression, but include ventilation as the standard, particularly for those with a duty of care.**

This is a welcome clarification that teaching rescue breaths is necessary. 'Those with a duty of care' includes workplace fi rst aiders, those who work with children, lifeguards etc.

There is a subtle but significant change in the guidance on when to give CHEST COMPRESSIONS ONLY:

- The 2005 Guidelines said to give compressions only CPR 'if you are unwilling or unable to give rescue breaths ... '
- In the new 2010 guidelines this has changed to 'if you are not trained to, or are unwilling to give rescue breaths ... '

This makes it clear that if you are not trained in CPR, chest compressions only is better than no CPR at all, though victims of drowning and children will have little or no oxygen in the blood at the point of cardiac arrest, so for these casualties rescue breaths are essential. Even with a cardiac arrest of cardiac origin (caused by a heart attack) the residual oxygen in the blood will last 5 minutes at the longest. Even with an open airway (the patency of which can only really be tested by giving a rescue breath!) the air drawn in and out of the lungs by chest compressions alone is not sufficient to oxygenate the lungs because of the 'dead air space' in the airways.

For this reason you should always train first aid students to give full CPR including rescue breaths, and you should only certify competence in CPR if the delegate has demonstrated effective rescue breaths.

Studies on telephone CPR (advice given over the phone, not doing CPR with a telephone!) have shown how attempting to give rescue breaths when the layperson has not received prior training leads to considerable interruptions in chest compressions. Therefore chest compression only CPR is the preferred option if someone has NOT received training in CPR.

6. Teach about agonal gasps.

Around 40% of cardiac arrest victims gasp initially in the first few minutes of cardiac arrest. These are called 'agonal gasps' and are often mistaken for breathing, so CPR is not started. The new guidelines say 'it should be emphasised during training that agonal gasps occur commonly in the first few minutes after sudden cardiac arrest; they are an indication for starting CPR immediately and should not be confused with normal breathing.'

Paediatric Guidelines - A note to avoid confusion

The paediatric guidelines for laypeople / first aiders remain unchanged. The Resus Council (UK) website may cause some confusion if you go to the 'paediatric basic life support' section, as this section advocates a compression/breaths ratio of 15:2. This guidance is only for "Health Care Professionals with a Duty to Respond"

The definition of "Health Care Professionals with a Duty to Respond" has previously been clarified by the Resus Council (UK) as "Nurses, Doctors, Ambulance Crews or other medical professionals who, as their everyday job would expect to perform paediatric resuscitation". It was further clarified that this does not include general nurses, GPs, first aiders, teachers or childminders.

The correct section to look at for first aiders/child minders is actually at the end of the Adult Basic Life Support Guidelines, under the heading 'Resuscitation of children and victims of drowning'.

Manual Changes and Implementation

All the above changes are to be implemented from 1 st January 2011. Course manuals will be adjusted to reflect the changes mentioned above in due course.

The full Resuscitation Guidelines 2010, including references to research can be found at www.resus.org.uk

Information Courtesy of QualSafe.

If you require further information please contact Claire Brlsbourne, STA Qualifications Development Administrator (Lifesaving and First Aid) on 01922 645097 or email claireb@sta.co.uk

Abdominal thrust- an upward push to the abdomen given to clear the airway of a person with a complete airway obstruction

Abrasion- A superficial wound in which the topmost layers of the skin are scraped o

ABCs- Airway, breathing and circulation

AED- Automated External Defibrillator

Airway- The passages which transfer air from the outside environment to the lungs; the tracha, bronchi, bronchioles and alveoli

Airway obstruction- a complete or partial blockage of the airway

Artificial respiration- the process of breathing air into the lungs of a person who has stopped breathing

Artery- A blood vessel carrying blood away from the heart; contains oxygen-rich, highpressure blood in the systemic cardio respiratory system

Avulsion- A tearing away of a section of skin from the layers of issue beneath it

Brachial pulse- the beat that is felt on the inside of a person's upper arm

Blood pressure- the force of the circulating blood pushing against the walls of the blood vessels

Blood vessels- the tubes through which blood circulates throughout the body

Breastbone- the main bone in the front, centre part of the chest to which the ribs are connected

Bystander- Any person, trained or untrained, who assists in an emergency situation, but not as part of a duty of employment

Capillary- The smallest blood vessels in the body; the skin is rife with capillaries

Carotid artery- The main artery providing blood supply to the head

Cardiac arrest- the condition in which the heart stops beating

Cardio pulmonary resuscitation (CPR)- an emergency procedure used for a person who is not breathing and who's heart has stopped beating (cardiac arrest). The procedure involves a combination of rescue breathing and chest compressions.

Carotid pulse- the beat that is felt at side of the neck when the carotid artery is pressed. Located between the wind pipe and the neck muscles, the carotid pulse is checked to determine the presence or absence of heart beat.

Causation- Determination of whether the defendant's actions are causally linked to any harm

Circulation- The movement of blood throughout the body; performed by the heart

Chest compressions- a procedure for manually circulating blood in a person who's heart has stopped beating. It involves pressing down and up on the lower half of breastbone

Circulatory system- the system that carries blood to all the cells of the body. Its main components are the blood vessels and the heart

Consciousness (level of)- A state of awareness or lack thereof

Consent- A legal condition whereby a person can be said to have given consent based upon an appreciation and understanding of the facts and implications of an action

Cyanosis- The bluish coloration of the skin due to the presence of deoxygenated blood near the skin surface; occurs when the oxygen saturation of arterial blood falls below 85%

Defibrillation- Delivering a therapeutic dose of electrical energy to the affected heart with a device called a defibrillator

Diabetes- a disease causing an inability to regulate the level of sugar (glucose) in the blood

Distal- The point on a limb furthest from its point of attachment to the body

EMS- Emergency Medical System or Emergency Medical Services

Foreign body- an object that lodges in a person's airway, causing an obstruction or blockage of the airway

Head tilt/chin lift - a technique used to open the airway of an unconscious person. It is done by applying backward pressure on the forehead and lifting the jaw

Heart attack- a condition in which blood fl ow to part of the heart is blocked, causing that part of the heart muscle to die from lack of oxygen

Hypoxia- A condition in which insufficient oxygen reaches body tissue

Incision- A clean cut caused by a sharp-edged object

Insulin- a hormone that allows glucose to travel from the bloodstream into the cells

Laceration- Irregular wounds caused by a blunt impact to soft tissue which lies over hard tissue; tearing of skin

Landmark- The location of compressions; on the midline of the chest, even with the nipples

Mechanical obstruction- a blockage of the airway by a foreign object such as a piece of food

Mouth to mouth breathing- a form of rescue breathing in which a rescuer breathes air into the mouth and lungs of a person who is not breathing

Myocardial Infarction- Heart attack; bleeding or blockage cuts off blood fl ow to part of the heart muscle

Nailbed- The tissue under the nail; pinching the nail and observing the blood return to the nailbed is a good test of circulation at that location

Nausea- a feeling of sickness in the stomach with an urge to vomit

Neutral position- the position in which a person's head is placed to open the airway

Notch- the place where the lower ribs meet the lower end of the breastbone in the centre of the chest used as a reference point for fi nding the correct hand position in CPR

Oedema (Edema)- Swelling in the lower legs and ankles. Oedema is caused by a fluid build-up in the body.

Primary survey- a series of checks to discover conditions that are immediately life threatening to a victim

Proximal- The point on a limb closest to its point of attachment to the body

Puncture- A wound caused by an object puncturing the skin

Pulse- The rhythmic 'beat' in an artery. As the heart pumps blood, the walls of the arteries expand or contract causing a beat or a pulse

Rescue breathing- same as 'artificial respiration'

Resuscitation- an effort to artificially restore or provide normal heart and/or lung function

Secondary survey- a series of checks to discover conditions that are not immediately life threatening to a victim but that may become life threatening if not corrected

Semi-prone position- A position which keeps the tongue from obstructing the airway and allows any fluids to drain from the mouth (aka recovery position)

Stroke- a condition in which one or more of the blood vessels to the brain becomes clogged or bursts, causing a part of the brain to die from lack of oxygen

Tachycardia- A rapid pulse generally a pulse over 100 at rest

Vein- A blood vessel that carries blood toward the heart; most veins carry low-oxygen blood

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