

## APPENDIX D: FIRST-AID PROBLEMS

Problem No. 1

A workman was involved in an accident and when found by his co-workers he was lying on his abdominal cavity (face down) and had sustained the following injuries: A wound 6 inches long on his scalp; a 2-inch wound on the chin; 3 fractured ribs on his left side; a 3-inch wound on the right hip; arterial bleeding from a 3-inch wound on bottom of left foot and the lower part of his body is paralyzed. He is unconscious and suffers from physical shock throughout the problem. Treat. Working time - 10 minutes.

List of injuries:

1. Arterial bleeding, wound on bottom of left foot.
2. Physical shock.
3. Wound on bottom of left foot.
4. Wound on scalp.
5. Wound on chin.
6. Wound on right hip.
7. Fracture of ribs on left side.
8. Fracture of back.

## Outline for Working Problem

1. Arterial bleeding, bottom of left foot.
  - (a) Apply digital pressure at bend of knee, thigh or groin pressure points.
  - (b) Apply tourniquet at thigh pressure point.
2. Physical shock.
  - (a) Head level with body.  
(Note: Upper part of chest and lower extremities will be elevated later with folded blankets when splint is applied for broken back.)
  - (b) Remove foreign material from mouth and see that tongue is forward.
  - (c) Loosen tight clothing at neck, chest and waist.
  - (d) Apply at least two tested, heated objects.
  - (e) Give tested stimulant by inhalation (must be given twice during problem).
  - (f) Must cover patient with blanket upon completion of problem (can be done at any time before team returns to base).
3. Wound on bottom of left foot.
  - (a) Apply bandages as for wound of foot.
  - (b) Knot of compress ties on pad of compress, outer bandage knot ties as near the front of ankle as possible.

Problem No. 1 (Con.)

4. Wound on scalp.
  - (a) Apply gauze and outer bandage as for extensive wounds and bleeding of scalp.  
(Note: Gauze may be held in place with a compress, or the lower split tails from the chin dressing may be used to hold gauze from slipping.)
5. Wound on chin.
  - (a) Apply split-tailed compress bandage as for wound of chin.
6. Wound on right hip.
  - (a) Apply split-tailed compress bandage and outer bandages as for wound of hip.
7. Fracture of ribs on left side.
  - (a) Apply bandages as for fractured ribs.
  - (b) All 3 bandages tie on pad on right side.
8. Fracture of back.
  - (a) Prepare a well-padded broken-back splint with extra padding under chest and lower extremities.
  - (b) Test splint.
  - (c) Three men lift patient from his right side only high enough to place splint under him.
  - (d) Tie forearms with crossed hands resting under forehead (unconscious).
  - (e) Apply 13 bandages as for broken back.
  - (f) Elevate foot end of splint at least 6 inches.

Problem No. 2

A workman was found with the following injuries: A 2-inch wound on right eyelid; slight bleeding from a 3-inch wound in left armpit; a dislocated lower jaw; a compound fracture of the right kneecap with blood oozing from a 2-inch wound on top of the right kneecap; blood is spurting from a 3-inch wound on the inside of the left ankle, and a crushed right hand with bright red blood spurting from a 3-inch wound on the back of the right hand. The right hand is out of line from normal position. The patient is unconscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. Working time - 8 minutes.

## List of injuries:

1. Arterial bleeding, inside of left ankle.
2. Arterial bleeding, back of right hand.
3. Physical shock.
4. Wound on back of right hand.
5. Wound of left ankle.
6. Wound of right eyelid.
7. Wound of right kneecap.
8. Wound of left armpit.
9. Fracture of right kneecap (compound).
10. Fracture of right hand (compound).
11. Dislocated lower jaw.
12. Transportation.

## Outline for Working Problem

1. Arterial bleeding, inside of left ankle.
  - (a) Can apply digital pressure at bend of knee, thigh or groin pressure points.
  - (b) Apply tourniquet at thigh pressure point.
2. Arterial bleeding, back of right hand.
  - (a) Can apply digital pressure at bend of elbow, arm or armpit pressure points.
  - (b) Apply tourniquet at arm pressure point.
3. Physical shock.
  - (a) Head level with body.
  - (b) Remove foreign material from mouth and see that tongue is forward.
  - (c) Loosen tight clothing at neck, chest and waist.
  - (d) Apply at least two tested, heated objects.
  - (e) Give tested stimulant by inhalation (must be given twice during problem).
  - (f) Must cover patient with blanket upon completion of problem (can be done at any time before team returns to base).

Problem No. 2 (Con.)

4. Wound on back of right hand.
  - (a) Apply compress bandage as for wound of back of hand. Outer dressing not required.
  - (b) Tie compress knot away from wound.
5. Wound on left ankle.
  - (a) Apply bandages as for wound of ankle.
  - (b) Knots of compress and outer bandage tie on pad of compress.
6. Wound of right eyelid.
  - (a) Apply compress bandage as for injury of eye.
  - (b) Knot of compress ties on top of head.
7. Wound of right kneecap (compound fracture).
  - (a) Apply tourniquet loosely at thigh pressure point.
  - (b) Apply bandages as for wound of knee.
  - (c) Knots of compress and outer bandage can be tied above the knee or at either side of knee.
8. Wound in left armpit.
  - (a) Apply bandages as for wound of armpit.
  - (b) Knots of compress and outer bandage tie under armpit on opposite side.
9. Fracture of right kneecap (compound).
  - (a) Support top of right leg, one hand above and one hand below kneecap.
  - (b) Apply padded splint and bandages as for fracture of kneecap.
  - (c) Extra padding under ankle, knee and small of back.
10. Fracture of right hand (compound).
  - (a) Support the hand above and below fracture until medium or narrow cravat sling is applied.
  - (b) Straighten hand to near normal position.
  - (c) Apply padded splint and bandages as for fracture of hand.
  - (d) Apply extra padding under wrist.
11. Dislocated lower jaw.
  - (a) Simulate reducing dislocation with wrapped thumbs.
  - (b) Apply bandages as for dislocation of lower jaw.
  - (c) Wedge must be placed between teeth before second bandage applied and wedge must be removed after dressing is completed.
12. Transportation.
  - (a) Test stretcher.
  - (b) Patient's arms must be placed in basket sling (unconscious).
  - (c) Three men lift from left side and place patient on stretcher.
  - (d) Elevate foot end of stretcher at least 6 inches.

Problem No. 3

A workman while carrying material tripped and fell down a poorly lighted stairway. He was found lying on his back and was suffering from the following injuries: A fractured right hip; a simple fracture of the left collarbone; a 3-inch wound on left side of neck; a 2-inch wound on right ear; a compound fracture of the right foot with bright red blood spurting from a 2-inch wound on top of right foot, and the foot is out of line from normal position; a 2-inch wound on palm of right hand with arterial bleeding. He is unconscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. Working time - 8 minutes.

## List of injuries:

1. Arterial bleeding palm of right hand.
2. Arterial bleeding top of right foot.
3. Physical shock.
4. Wound on palm of right hand.
5. Wound on top of right foot.
6. Wound of right ear.
7. Wound of left side of neck.
8. Fracture of left collarbone.
9. Fracture of right hip.
10. Fracture of right foot (compound).
11. Transportation.

## Outline for Working Problem

1. Arterial bleeding, palm of right hand.
  - (a) Can apply digital pressure at bend of elbow, arm or armpit pressure points.
  - (b) Apply tourniquet at arm pressure point.
2. Arterial bleeding, top of right foot.
  - (a) Can apply digital pressure at bend of knee or thigh pressure points.
  - (b) Apply tourniquet at thigh pressure point.
3. Physical shock.
  - (a) Head level with body.
  - (b) Remove foreign material from mouth and see that tongue is forward.
  - (c) Loosen tight clothing at neck, chest and waist.
  - (d) Apply at least two tested, heated objects.
  - (e) Give tested stimulant by inhalation (must be given twice during problem).
  - (f) Must cover patient with blanket upon completion of problem (can be done at any time before team returns to base).

Problem No. 3 (Con.)

4. Wound on palm of right hand.
  - (a) Apply bandages as for wound of palm of hand.
  - (b) Knot of compress ties on pad, outer bandage knot ties at back of wrist.
5. Wound on top of right foot (compound fracture).
  - (a) Apply compress bandage as for wound of foot. Outer dressing not required.
  - (b) Tie compress knot away from wound.
6. Wound of right ear.
  - (a) Apply bandages as for wound of ear.
  - (b) Knots of compress and outer bandage tie on pad of compress.
7. Wound of left side of neck.
  - (a) Apply bandages as for wound of left side of neck.
  - (b) Knots of compress and outer bandage tie on pad of compress.
8. Fracture of left collarbone.
  - (a) Support collarbone until sling is applied.
  - (b) Apply bandages as for fracture of collarbone.
  - (c) Padding required under armpit and under knots of the two cravat bandages.
9. Fracture of right hip.
  - (a) Support hip until two wide bandages applied.
  - (b) Pad required only under knot of first wide bandage.
  - (c) Apply padded, well-padded board or broken-back splint, and tie with required number of bandages.
  - (d) Padding required between legs, if board is used.
  - (e) Extra padding required under ankles, knees and small of back.
  - (f) Tie bandage around head and board or broken-back splint (unconscious).
  - (g) Patient's arms must be placed in basket sling (unconscious).
  - (h) Three men lift from left side and raise patient just high enough to slide board or broken-back splint under him.
10. Fracture of right foot (compound).
  - (a) Support foot at heel and toes.
  - (b) Straighten foot to near normal position.
  - (c) Apply padded splint and bandages as for fracture of foot.
11. Transportation.
  - (a) Test stretcher.
  - (b) Three men lift from left side and place patient on stretcher.
  - (c) Elevate foot end of stretcher at least 6 inches.

Problem No. 4

A workman is found along the haulage road at a mine, lying on his abdominal cavity (face down), unconscious and apparently not breathing. A live electric wire is lying across the buttocks causing a burn 2 inches wide and 5 inches long on each buttock. He also has the following injuries: A compound fracture of the left leg with blood oozing from a 3-inch wound on the outside of the left leg 6 inches below the knee, and the leg is out of line from normal position; a compound fracture of the right foot with blood oozing from a 2-inch wound on the bottom of the foot, midway between toes and heel, and the ends of bones are protruding through the bottom of the foot, and the foot is out of line from normal position; a 3-inch wound on the right knee; a 5-inch wound on the outside of the left thigh and a bruise on the back of the right leg midway between the knee and ankle. Demonstrate two methods of "shorting" or "cutting off" electric current before removing wire from patient, then resuscitate patient by having all team members (except patient) performing artificial respiration for one (1) minute each. The change of operators to be made without breaking rhythm. Patient regains consciousness at the end of artificial respiration, but suffers from physical shock throughout the problem. Treat and prepare for transportation. Working time - 8 minutes.

List of injuries:

1. Artificial respiration.
2. Physical shock.
3. Wound on outside of left leg.
4. Wound on outside of left thigh.
5. Wound on right knee.
6. Wound on bottom of right foot.
7. Burn of buttocks.
8. Bruise on back of right leg.
9. Fracture of left leg (compound).
10. Fracture of right foot (compound).
11. Transportation.

Outline for Working Problem

1. Artificial respiration. (Holger Nielsen method.)
  - (a) Demonstrate two methods of "shorting" or "cutting off" electric current. (Pull out switch, cut wire with dry handled axe, etc..)
  - (b) Remove foreign material from mouth and see that tongue is forward.
  - (c) Loosen tight clothing at neck, chest, and waist.
  - (d) Each team member (except patient) must give 12 strokes of the Holger Nielsen (back-pressure arm lift) method.
  - (e) Change of operators to be made without breaking rhythm.
2. Physical shock.
  - (a) Head as near level as possible (head placed on back of hands for artificial respiration).
  - (b) Apply at least two tested, heated objects.
  - (c) Give one tested stimulant by inhalation while patient is unconscious and one tested stimulant by mouth when patient is later turned on his back or face up.
  - (d) Must cover patient with blanket upon completion of problem (can be done at any time before team returns to base).

Problem No. 4 (Con.)

3. Wound on outside of left leg (compound fracture).
  - (a) Apply tourniquet loosely at thigh pressure point.
  - (b) Apply bandages as for wound of leg.
  - (c) Tie knots of compress and outer bandage away from wound.
4. Wound on outside of left thigh.
  - (a) Apply gauze on wound of left thigh (5-inch wound).
  - (b) Apply outer bandage as for wound of thigh.
5. Wound on right knee.
  - (a) Apply bandages as for wound of knee.
  - (b) Manual--tie compress knot in place, tie outer bandage knot above knee.
6. Wound on bottom of right foot (compound fracture).
  - (a) Apply tourniquet loosely at thigh pressure point.
  - (b) Apply compress as for wound of foot. Outer dressing not required.
  - (c) Tie compress knot away from wound.
7. Burn of buttocks.
  - (a) Simulate removing clothing from burned area.
  - (b) Apply moistened picric-acid gauze over burned area.
  - (c) Apply triangular bandages as for wound of buttocks.
8. Bruise on back of right leg.
  - (a) Apply cold applications.
  - (b) Elevate the leg.
9. Fracture of left leg (compound).
  - (a) Support the under part of leg, above and below fracture.
  - (b) Straighten leg to near normal position.
  - (c) Apply padded splint and bandages as for fracture of leg.  
(Note: Extra or 8th bandage not necessary.)
  - (d) Apply extra padding under small of back, bend of knee and ankle.
10. Fracture of right foot (compound).
  - (a) Support foot at heel and toes.
  - (b) Straighten foot to near normal position.
  - (c) Apply padding above and below fracture to prevent protruding bones from contacting splint.
  - (d) Apply bandages as for fracture of foot.
11. Transportation.
  - (a) Test stretcher.
  - (b) Three men may lift from left or right side.
  - (c) Elevate foot end of stretcher at least 6 inches.

Problem No. 5

A car dropper was found lying on his back near the tippie, with the following injuries: A compound fracture of the nose with slight bleeding from a 1-inch wound on the nose; a compound fracture of the skull with slight bleeding from a 2-inch wound at the back of the head which is also the point of the skull fracture; a backward dislocation of the right hip; a dislocated right shoulder; a simple fracture of the left forearm and the forearm is out of line from normal position; four fractured ribs on the right side and a 3-inch wound on the left hip. The patient is unconscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. Working time - 9 minutes.

## List of injuries:

1. Physical shock.
2. Wound at back of head.
3. Wound on nose.
4. Wound on left hip.
5. Fracture of skull.
6. Fracture of nose (compound).
7. Fracture of left forearm.
8. Fracture of ribs on right side.
9. Dislocation of right hip.
10. Dislocation of right shoulder.
11. Transportation.

## Outline for Working Problem

1. Physical shock.
  - (a) Head raised and turned to one side and place a pad under head (fractured skull at back of head).
  - (b) Remove all foreign material from mouth and see that tongue is forward.
  - (c) Loosen tight clothing at neck, chest and waist.
  - (d) Apply at least two tested, heated objects.
  - (e) Do not give stimulants (fractured skull).
  - (f) Must cover patient with blanket upon completion of problem (can be done at anytime before team returns to base).
2. Wound at back of head (compound fracture).
  - (a) Apply bandages as for wound of back of head.
  - (b) Knots of compress and outer bandage tie away from wound.
3. Wound on nose (compound fracture).
  - (a) Apply split-tailed compress bandage as for wound of nose.
4. Wound on left hip.
  - (a) Apply split-tailed compress bandage and outer bandages as for wound of hip.

Problem No. 5 (Con.)

5. Fracture of skull (compound).
  - (a) Elevate and turn head to either side so as not to rest on fracture.
  - (b) Cold applications must be used. (See discount sheet 7d after gauze is placed on wound or after wound is dressed.)
  - (c) Do not give stimulants (fractured skull).
  
6. Fracture of nose (compound).
  - (a) Wound of nose dressing will also take care of the fractured nose.
  
7. Fractured left forearm.
  - (a) Support hand above and below fracture until medium or narrow cravat sling is applied.
  - (b) Straighten forearm to near normal position.
  - (c) Apply padded L-splint and bandages for fracture of forearm.
  - (d) Place extra padding under wrist.
  
8. Fracture of ribs on right side.
  - (a) Apply bandages as for fractured ribs.
  - (b) All 3 bandages tie on pad on left side.
  
9. Dislocation of right hip.
  - (a) Support hip one hand under thigh and the other hand at bend of knee or calf of leg.
  - (b) Apply tested, padded splint and bandages as for dislocation of hip.
  - (c) Apply extra padding under ankles, bend of knees and small of back, and extra padding under right knee to conform with the line of deformity, and a small pad between feet.
  - (d) Three men lift from left side and raise patient just high enough to slide board under him.
  - (e) Tie bandage around head and board (unconscious).
  - (f) Patient's arms must be placed in basket sling (unconscious).
  
10. Dislocation of right shoulder.
  - (a) Support the shoulder at elbow and arm until triangular bandage sling is applied.
  - (b) Apply bandages as for dislocation of shoulder.
  - (c) Wedge-shaped padding under right armpit and a pad under knot of cravat bandage.
  
11. Transportation.
  - (a) Test stretcher.
  - (b) Three men lift from left side and place patient on stretcher.
  - (c) Elevate the head of patient, but do not elevate foot end of stretcher.

Problem No. 6

A workman fell from a scaffold and upon being examined sustained the following injuries: Fracture of the neck; a dislocation of the right wrist; a 3-inch wound in the crotch; a simple fracture of the middle joint of the index finger of the left hand and the finger is out of line from normal position, and arterial bleeding from extensive wounds of the right foot. He is conscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. Working time - 9 minutes.

## List of injuries:

1. Arterial bleeding, extensive wounds of right foot.
2. Physical shock.
3. Extensive wounds of right foot.
4. Wound of crotch.
5. Fracture of middle joint of index finger of left hand.
6. Fracture of neck.
7. Dislocation of right wrist.
8. Transportation.

## Outline for Working Problem

1. Arterial bleeding, extensive wounds of right foot.
  - (a) Apply digital pressure at bend of knee, thigh or groin pressure points.
  - (b) Apply tourniquet at thigh pressure point.
2. Physical shock.
  - (a) Head level with body.
  - (b) Remove foreign material from mouth and see that tongue is forward.
  - (c) Loosen tight clothing at neck, chest and waist.
  - (d) Apply at least two tested, heated objects.
  - (e) Give tested stimulant by inhalation (must be given twice during problem).
  - (f) Must cover patient with blanket upon completion of problem (can be done at any time before team returns to base).
3. Extensive wounds of right foot.
  - (a) Apply gauze and open triangular bandage (snowshoe) as for extensive wounds of foot.
4. Wound of crotch.
  - (a) Apply gauze or bandage compress and outer bandages as for wound of crotch.

Problem No. 6 (Con.)

5. Fracture of middle joint of index finger of left hand.
  - (a) Support above and below fracture until basket sling is applied.
  - (b) Straighten finger to near normal position.
  - (c) Apply a narrow padded splint under broken finger and palm of hand, and apply 3 narrow strips of cloth to secure splint to fractured finger and dress as for fracture of finger.
  - (d) All three knots tie on splint.
  
6. Fracture of neck.
  - (a) Support fractured neck until fifth bandage is tied.
  - (b) Place patient on a tested, broken-back splint, lifting from left side only high enough to place splint under patient.
  - (c) Apply (15) bandages as for fractured neck.
  - (d) Place extra padding under small of back, bend of knees, and ankles, and extra padding around head and neck to prevent movement or turning of head.
  
7. Dislocation of right wrist.
  - (a) Support above and below dislocation until basket sling is applied.
  - (b) Apply padded splint and bandages as for dislocation of wrist.
  - (c) Apply extra padding under wrist.
  
8. Transportation.
  - (a) Test stretcher.
  - (b) Patient's arms must be in basket sling (broken neck and unconscious).
  - (c) Three men lift from left side and place patient on stretcher.
  - (d) Elevate foot end of stretcher at least 6 inches.

Problem No. 7

A surface employee falls from a ladder and when found he was lying on his back with the following injuries: A broken back; a dislocated lower jaw; a 2-inch wound on the left eyelid; arterial bleeding from a 3-inch wound on the outside of the right ankle; a 3-inch wound on the right knee; a 2-inch wound in the right groin and a wound on the center of the chest between the shoulders. He is conscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. Working time - 9 minutes.

## List of injuries:

1. Arterial bleeding, wound on outside of right ankle.
2. Physical shock.
3. Wound of left eyelid.
4. Wound of right groin.
5. Wound on center of chest between shoulders.
6. Wound of right knee.
7. Wound of right ankle.
8. Dislocation of lower jaw.
9. Fracture of back.
10. Transportation.

## Outline for Working Problem

1. Arterial bleeding, outside of right ankle.
  - (a) Apply digital pressure at thigh pressure point.
  - (b) Apply tourniquet at thigh pressure point.
2. Physical shock.
  - (a) Head level with body.
 

(Note: Upper part of chest and lower extremities will be elevated later with folded blankets when splint is applied for broken back.)
  - (b) Remove foreign material from mouth and see that tongue is forward.
  - (c) Loosen tight clothing at neck, chest and waist.
  - (d) Apply at least two tested, heated objects.
  - (e) Give tested stimulant by inhalation (must be given twice during problem).
  - (f) Must cover patient with blanket upon completion of problem (can be done at any time before team returns to base).
3. Wound of left eyelid.
  - (a) Apply compress bandage as for injury of eye.
  - (b) Knot of compress ties on top of head.

Problem No. 7 (Con.)

4. Wound of right groin.
  - (a) Apply bandages as for wound of groin.
  - (b) No specific location to tie knot of outer bandages but knot of compress ties on opposite side of body.
5. Wound on center of chest between shoulders.
  - (a) Apply bandages as for wound of chest between shoulders.
  - (b) Compress knot ties on pad, cover with triangular bandage.
6. Wound of right knee.
  - (a) Apply bandages as for wound of knee.
  - (b) Manual states only for compress to be tied firmly in place but outer bandage knot must be tied above the knee.
7. Wound on outside of right ankle.
  - (a) Apply bandages as for wound of ankle.
  - (b) Knots of compress and outer bandage tie on pad of compress.
8. Dislocation of lower jaw.
  - (a) Simulate reducing dislocation with wrapped thumbs.
  - (b) Apply bandages as for dislocation of lower jaw.
  - (c) Wedge must be placed between teeth before second bandage is applied and wedge must be removed after dressing is completed.
9. Fracture of back.
  - (a) Prepare a well-padded broken-back splint with extra padding for chest and lower extremities.
  - (b) Test splint.
  - (c) Apply splint to the front of the body (on top of patient).
  - (d) Tie bandages in regular order except anchor bandages around the shoulders and tie arms to sides of body.
  - (e) Lift and turn patient and splint from left side to face-down position and then tie shoulder anchor bandages.
10. Transportation.
  - (a) Test stretcher.
  - (b) Three men lift from left side and place patient on stretcher.
  - (c) Elevate foot end of stretcher at least 6 inches.

Problem No. 8

A driller received an electric shock from a bare spot on a cable. He is knocked free of the electrical conductor and is lying on his abdominal cavity (face down), unconscious and apparently not breathing. He also has the following injuries: A simple fracture of the right wrist and the wrist is out of line from normal position; a 2-inch wound on the center of the forehead; a 3-inch wound in the left armpit and burns 2 inches wide extending from bend of the right knee to and including the bottom of the right heel. Resuscitate by all team members (except patient) performing artificial respiration for one (1) minute each. The change of operators to be made without breaking rhythm. Patient regains consciousness at the end of artificial respiration but suffers from physical shock throughout the problem. Treat and prepare for transportation. Working time - 7 minutes.

## List of injuries:

1. Artificial respiration (Schafer, prone-pressure method).
2. Physical shock.
3. Wound on center of forehead.
4. Wound in left armpit.
5. Burns of right knee, leg, and heel.
6. Fracture of right wrist.
7. Transportation.

## Outline for Working Problem

1. Artificial respiration (Schafer, prone-pressure method).
  - (a) Remove foreign material from mouth and see that tongue is forward.
  - (b) Loosen tight clothing at neck, chest and waist.
  - (c) Each team member (except patient) must give 12 to 15 strokes of the Schafer, prone-pressure method.
  - (d) Change of operators to be made without breaking rhythm.
2. Physical shock.
  - (a) Head as near level as possible (head placed on back of left hand or forearm for artificial respiration).
  - (b) Apply at least two tested, heated objects.
  - (c) Give one tested stimulant by inhalation while patient is unconscious and one tested stimulant by mouth when patient is later turned on his back or face up.
  - (d) Must cover patient with blanket upon completion of problem (can be done at any time before team returns to base).

Problem No. 8 (Con.)

3. Wound on center of forehead.
  - (a) Apply bandages as for wound of forehead.
4. Wound in left armpit.
  - (a) Apply bandages as for wound of armpit.
  - (b) Knots of compress and outer bandage tie under armpit on opposite side.
  - (c) Apply second cravat bandage and sling after patient regains consciousness.
5. Burns of right knee, leg, and heel.
  - (a) Simulate removing clothing from burned area.
  - (b) Apply moistened picric-acid gauze over burned area.
  - (c) Apply outer bandages as for burns of knee, leg and foot.
6. Fracture of right wrist.
  - (a) Support wrist above and below fracture until narrow or medium cravat sling is applied.
  - (b) Straighten wrist to near normal position.
  - (c) Apply padded splint and bandages as for fracture of wrist.
  - (d) Apply extra padding under wrist.
7. Transportation.
  - (a) Test stretcher.
  - (b) Three men lift from left side.
  - (c) Elevate foot end of stretcher at least 6 inches.

Problem No. 9

An air receiver exploded injuring a repairman who was working on a piece of machinery adjacent to the air receiver. He was found with the following injuries: A 3-inch wound on right cheek; a 3-inch wound on right elbow; a compound fracture of the left thigh with bright red blood spurting from a 3-inch wound on the inside of the left thigh 6 inches above the knee, and the left thigh is out of line from normal position; a compound fracture of the left forearm with bright red blood spurting from a 3-inch wound on the inside of the left forearm 3 inches above the wrist, the ends of the forearm bones are protruding through the wound and the forearm is out of line from normal position; a 2-inch wound on the left side of the neck; a 3-inch wound in the right groin and arterial bleeding from extensive wounds of the right hand but the fingers are not injured. The patient is conscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. Working time - 9 minutes.

## List of injuries:

1. Arterial bleeding, extensive wounds of right hand.
2. Arterial bleeding, left thigh.
3. Arterial bleeding, left forearm.
4. Physical shock.
5. Wound of left forearm.
6. Wound of left thigh.
7. Wound of left side of neck.
8. Wound of right groin.
9. Wound of right hand (extensive).
10. Wound of right cheek.
11. Wound of right elbow.
12. Fracture of left forearm.
13. Fracture of left thigh.
14. Prepare for transportation.

## Outline for Working Problem

1. Arterial bleeding, extensive wounds of right hand.
  - (a) Apply digital pressure at arm or armpit pressure points.
  - (b) Apply tourniquet at arm pressure point.
2. Arterial bleeding, left thigh.
  - (a) Apply digital pressure at thigh or groin pressure points.
  - (b) Apply tourniquet at thigh pressure point.
3. Arterial bleeding, left forearm.
  - (a) Apply digital pressure at bend of elbow, arm or armpit pressure points.
  - (b) Can apply temporary tourniquet at arm pressure point and later must change to improvised tourniquet placed in armpit.

Problem No. 9 (Con.)

4. Physical shock.
  - (a) Head level with body.
  - (b) Remove foreign material from mouth and see that tongue is forward.
  - (c) Loosen tight clothing at neck, chest and waist.
  - (d) Apply at least two tested, heated objects.
  - (e) Give tested stimulant by mouth.
  - (f) Must cover patient with blanket upon completion of problem (can be done at any time before team returns to base).
5. Wound of left forearm.
  - (a) Apply bandages as for wound of forearm.
  - (b) Knots of compress and outer bandage tie away from wound (compound fracture).
6. Wound of left thigh.
  - (a) Apply bandages as for wound of thigh.
  - (b) Knots of compress and outer bandage tie away from wound (compound fracture).
7. Wound of left side of neck.
  - (a) Apply bandages as for wound of left side of neck.
  - (b) Knots of compress and outer bandage tie on pad of compress.
8. Wound of right groin.
  - (a) Apply bandages as for wound of groin.
9. Wound of right hand (extensive).
  - (a) Apply gauze or large bandage compress and triangular bandage (snowshoe) as for extensive wound of hand.
10. Wound of right cheek.
  - (a) Apply bandages as for wound of cheek (face).
  - (b) Compress and cravat bandage cross behind left ear.
11. Wound of right elbow.
  - (a) Apply bandages as for wound of elbow.
  - (b) Knots of compress and outer bandage tie below elbow.
12. Fracture of left forearm (compound).
  - (a) Support above and below fracture until narrow or medium cravat sling is applied.
  - (b) Straighten forearm to near normal position.
  - (c) Apply padded splint and bandages as for fracture of forearm.
  - (d) Apply padding above and below fracture to prevent protruding bones from contacting splint.
13. Fracture of left thigh (compound).
  - (a) Support the under part of leg above and below fracture.
  - (b) Straighten leg to near normal position.
  - (c) Apply padded splint and bandages as for fracture of thigh.
  - (d) Apply extra padding under small of back, bend of knee and ankle.
14. Transportation.
  - (a) Test stretcher.
  - (b) Three men lift from right side.
  - (c) Elevate foot end of stretcher at least 6 inches.

Problem No. 10

A loading-machine operator was squeezed and rolled between the rib and the loading machine and when found he was lying on his abdominal cavity (face down) with the following injuries: Fracture of the pelvis; a fracture of the lower jaw; slight bleeding from a 2-inch wound of the chin; a 3-inch wound on the left shoulder; a 3-inch wound at the center of the back located 6 inches below armpits; a dislocation of the right elbow with the right arm in a straight position; a compound fracture of the right foot with the foot out of line from normal position and bright red blood spurting from a 3-inch wound on top of the foot, and a dislocation of the second joint of the little finger of the left hand. The patient is conscious and is suffering from physical shock throughout the problem. Treat and prepare for transportation. Working time - 9 minutes.

## List of injuries:

1. Arterial bleeding on top of right foot.
2. Physical shock.
3. Wound of right foot.
4. Wound of chin
5. Wound of left shoulder.
6. Wound on center of the back, 6 inches below armpits.
7. Fracture of lower jaw.
8. Fracture of right foot (compound).
9. Dislocation of second joint of little finger of left hand.
10. Dislocation of right elbow (straight position).
11. Fracture of pelvis
12. Transportation.

## Outline for Working Problem

1. Arterial bleeding on top of right foot.
  - (a) Apply digital pressure at bend of knee or thigh pressure points.
  - (b) Apply tourniquet at thigh pressure point.
2. Physical shock.
  - (a) Head level with body.
  - (b) Remove foreign material from mouth and see that tongue is forward.
  - (c) Loosen tight clothing at neck, chest and waist.
  - (d) Apply at least two tested, heated objects.
  - (e) Give tested stimulant by inhalation (must be given twice during problem).
  - (f) Must cover patient with blanket upon completion of problem (can be done at any time before team returns to base).
3. Wound on top of right foot (compound fracture).
  - (a) Apply compress bandage as for wound of foot. Outer dressing not required.
  - (b) Tie compress knot away from wound.

Problem No. 10 (Con.)

4. Wound on chin.
  - (a) Apply split-tailed compress bandage as for wound of chin.
5. Wound of left shoulder.
  - (a) Apply bandages as for wound of shoulder.
6. Wound on center of back.
  - (a) Apply bandages as for wound of back.
  - (b) Knots of compress and outer bandage can tie on either side of body.
7. Fracture of lower jaw.
  - (a) Apply bandages as for fracture of lower jaw.
8. Fracture of right foot (compound).
  - (a) Support foot at heel and toes.
  - (b) Straighten foot to near normal position.
  - (c) Apply padded splint and bandages as for fracture of foot.
9. Dislocation of second joint of little finger of left hand.
  - (a) Simulate reducing dislocated finger.
10. Dislocation of right elbow (straight position).
  - (a) Support above and below dislocation until fourth bandage is tied.
  - (b) Apply bandages as for dislocation of elbow.
  - (c) Tie fifth bandage around splint, limb, and body before loading patient on stretcher.
11. Fracture of pelvis (lying on abdominal cavity).
  - (a) Support pelvis until two wide bandages applied.
  - (b) Pad required only under knot of first wide bandage.
  - (c) Apply tested, well-padded board or broken-back splint on top of patient and tie with required number of bandages before turning him to face-up position.
  - (d) Padding required between legs, if board is used.
  - (e) Extra padding required at ankles, knees, and small of back.
  - (f) Three men lift and turn from patient's left side.
12. Prepare for transportation.
  - (a) Test stretcher.
  - (b) Three men lift from the left side and place patient on stretcher.
  - (c) Elevate foot end of stretcher at least 6 inches.
  - (d) No basket sling required (patient is conscious).
  - (e) Left arm must be tied to side of body.

Problem No. 11

A workman while walking along the haulage road was injured by a runaway trip of cars and when found, he was lying on his back and had the following injuries: A fracture of the right hip; a fracture of the right shoulder blade; a simple fracture of the right cheekbone; a dislocation of the right knee; a fracture of ribs on the right side; a simple fracture of the left hand and the hand is out of line from normal position; extensive wounds of the scalp and extensive wounds of the left foot but the toes of the foot are not injured. The patient is unconscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. Working time - 9 minutes.

List of injuries:

1. Physical shock.
2. Wounds of scalp (extensive).
3. Wounds of left foot (extensive).
4. Fracture of left hand.
5. Fracture of right shoulder blade.
6. Fracture of right cheekbone.
7. Fracture of ribs on right side.
8. Fracture of right hip.
9. Dislocation of right knee.
10. Transportation.

Outline for Working Problem

1. Physical shock.
  - (a) Head level with body.
  - (b) Remove foreign material from mouth and see that tongue is forward.
  - (c) Loosen tight clothing at neck, chest, and waist.
  - (d) Apply at least two tested, heated objects.
  - (e) Give tested stimulant by inhalation (must be given twice during problem).
  - (f) Must cover patient with blanket upon completion of problem (can be done at any time before team returns to base).
2. Wounds of scalp (extensive).
  - (a) Apply gauze and outer bandage as for extensive wounds and bleeding of scalp.
3. Wounds of left foot (extensive).
  - (a) Apply gauze and open triangular bandage (snowshoe) as for extensive wounds of foot.
4. Fracture of left hand.
  - (a) Support hand above and below fracture until medium or narrow cravat sling is applied.
  - (b) Straighten hand to near normal position.
  - (c) Apply padded splint and bandages as for fracture of hand.
  - (d) Apply extra padding under wrist.

Problem No. 11 (Con.)

5. Fracture of right shoulder blade.
  - (a) No support required for shoulder blade.
  - (b) Apply bandages as for fracture of shoulder blade.
  - (c) Apply sling first, then bind arm to side with wide bandage.
  - (d) Knot of wide bandage ties on pad on opposite side.
6. Fracture of right cheekbone.
  - (a) No dressing required.
7. Fracture of ribs on right side.
  - (a) Apply bandages as for fractured ribs.
  - (b) All 3 bandages tie on pad on left side.
8. Fracture of right hip.
  - (a) Support hip until 2 wide bandages applied.
  - (b) Pad required only under knot of first wide bandage.
  - (c) Apply tested, well-padded board or broken-back splint, and tie with required number of bandages.
  - (d) Padding required between legs if board is used.
  - (e) Extra padding required under ankles, knees, and small of back.
  - (f) Tie bandage around head and board or broken-back splint (unconscious).
  - (g) Patient's arms must be placed in basket sling (unconscious).
  - (h) Three men lift from left side and raise patient just high enough to slide board or broken-back splint under him.
  - (i) See Note at end of outline.
9. Dislocation of right knee.
  - (a) Support above and below dislocated knee.
  - (b) Apply padded splint and bandages as for fracture of thigh.
  - (c) Extra padding under ankle, bend of knee, and small of back.
  - (d) See Note at end of outline.
10. Transportation.
  - (a) Test stretcher.
  - (b) Three men lift from left side.
  - (c) Elevate foot end of stretcher at least 6 inches.

Note:

- (a) A broken-back splint can be used for the dislocated knee and fractured pelvis.
- (b) Two bandages (one around splint and upper part of chest and the other around splint and lower part of chest) will only be required on the upper part of body. However, if a third bandage is used around splint and hips, do not discount team for using this extra bandage over the fractured hip.
- (c) Four bandages shall be required on the right leg (two above knee and two below knee) for the dislocated knee.
- (d) Three bandages will only be required on left leg (one above knee and two below knee).
- (e) The two or three bandages used to secure body to the splint shall be tied on the right side.

Problem No. 12

A gob-truck driver struck an abutment and was found lying on his back with the following injuries: A dislocation of the left elbow with forearm at a right angle to the arm (L-position); a 3-inch wound on the right buttock; a 2-inch wound on back between shoulders; a fracture of the upper third of the right arm, and the arm is out of line from normal position; a 2-inch wound on the back of the right hand; a compound fracture of the right leg with bright red blood spurting from a 3-inch wound on top of the leg midway between the knee and ankle, and the leg is out of line from normal position; a sprained left ankle and a compound fracture of the skull with blood oozing from a 2-inch wound on the center of the forehead which is also the location of the compound fracture. The patient is unconscious and is in a state of physical shock. Treat and prepare for transportation. Working time - 9 minutes.

## List of injuries:

1. Arterial bleeding, wound on top of right leg.
2. Physical shock.
3. Wound of right leg.
4. Wound of right buttock.
5. Wound of back between shoulders.
6. Wound on back of right hand.
7. Wound on center of forehead.
8. Sprain of left ankle.
9. Dislocation of left elbow (L-position).
10. Fracture of upper third of right arm.
11. Fracture of skull (compound).
12. Fracture of right leg (compound).
13. Transportation.

## Outline for Working Problem

1. Arterial bleeding wound of right leg.
  - (a) Apply digital pressure at bend of knee, thigh or groin pressure points.
  - (b) Apply tourniquet at thigh pressure point.
2. Physical shock.
  - (a) Head raised with a pad under head (fractured skull).
  - (b) Remove all foreign material from mouth and see that tongue is forward.
  - (c) Loosen tight clothing at neck, chest and waist.
  - (d) Apply at least two tested, heated objects.
  - (e) Do not give stimulants (fractured skull).
  - (f) Must cover patient with blanket upon completion of problem (can be done at anytime before team returns to base).
3. Wound of right leg (compound fracture).
  - (a) Apply bandages as for wound of leg.
  - (b) Tie knots of compress and outer bandage away from wound.
4. Wound of right buttock.
  - (a) Apply compress and outer bandages as for wound of buttocks.

Problem No. 12 (Con.)

5. Wound of back between shoulders.
  - (a) Apply bandages as for wound of back between shoulders.
6. Wound on back of right hand.
  - (a) Apply bandages as for wound of back of hand.
  - (b) Knot of compress ties on pad, outer bandage ties at back of wrist.
7. Wound on the center of forehead (compound fracture).
  - (a) Apply bandages as for wound of forehead.
  - (b) Knots of compress and outer bandage tie away from wound.
8. Sprain of left ankle.
  - (a) Elevate ankle.
  - (b) Loosen shoe lace.
  - (c) Apply cold applications.
  - (d) Sprained ankle dressing not required.
9. Dislocation of left elbow (L-position).
  - (a) Support above and below dislocated elbow until narrow or medium cravat sling is applied.
  - (b) Apply bandages as for dislocated elbow.
  - (c) Apply extra padding under wrist.
10. Fracture of upper third of right arm.
  - (a) Support arm above and below fracture until triangular bandage sling is applied.
  - (b) Straighten arm to near normal position.
  - (c) Apply bandages as for fracture of upper third of arm.
  - (d) Apply wide bandage first, then put arm in sling.
  - (e) Knot of wide bandage ties on pad on opposite side.
11. Fracture of skull (compound).
  - (a) Elevate head.
  - (b) Cold applications must be used. (See discount sheet 7d, after gauze is placed on wound or after wound is dressed.)
  - (c) Do not give stimulants (fractured skull).
12. Fracture of right leg (compound).
  - (a) Support the under part of leg, above and below fracture.
  - (b) Straighten leg to near normal position.
  - (c) Apply padded splint and bandages as for fracture of leg. (Note: Extra or eighth bandage not necessary.)
  - (d) Extra padding under ankle, knee and small of back.
13. Transportation.
  - (a) Test stretcher.
  - (b) Three men lift from left side.
  - (c) Do not elevate foot end of stretcher.