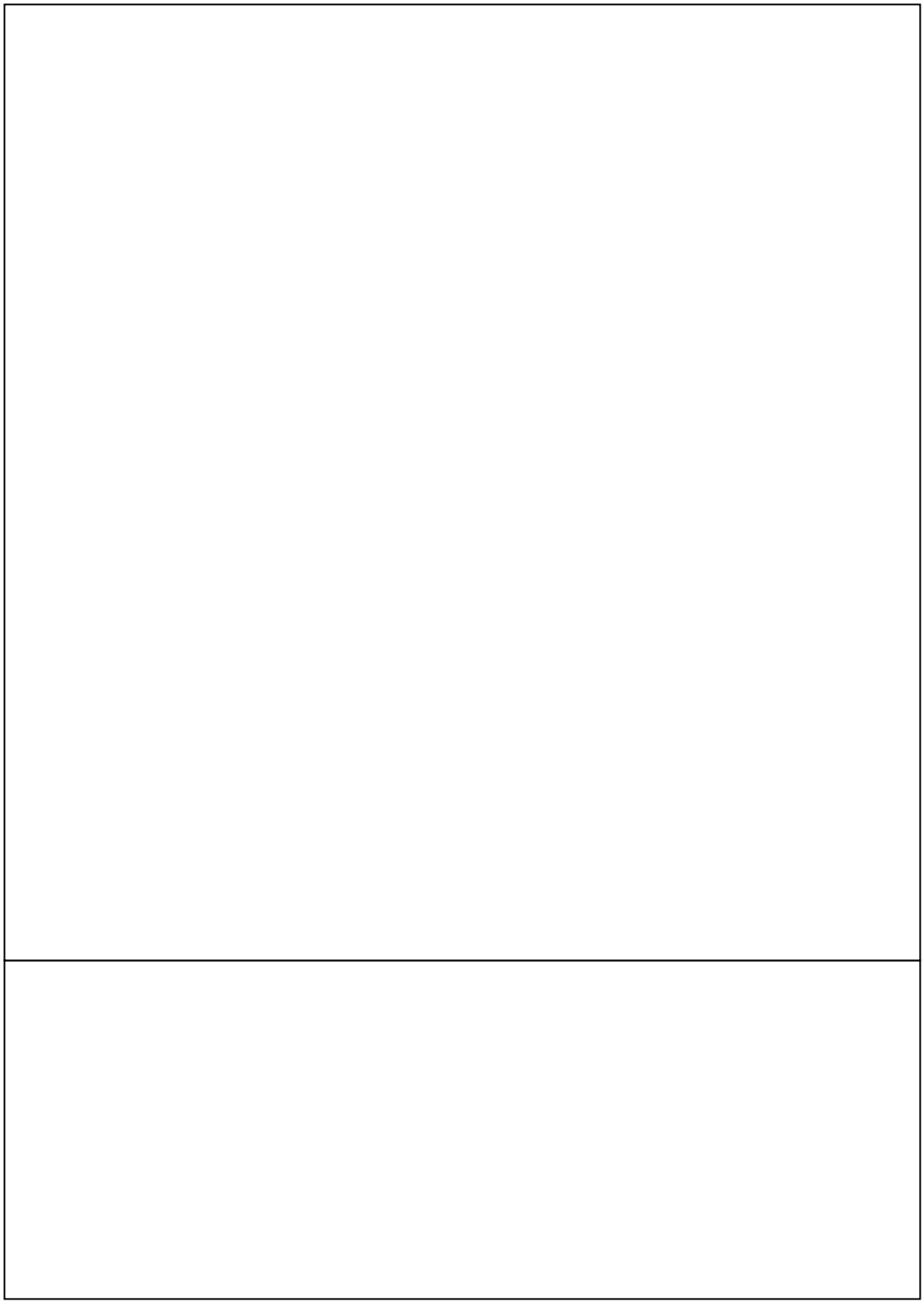

# FIRST AID CONTEST
# PROBLEM 1
# August 31, 2009

# NATIONAL COMPETITION
# Nashville, TN

# FIELD LAYOUT



# PROBLEM 1

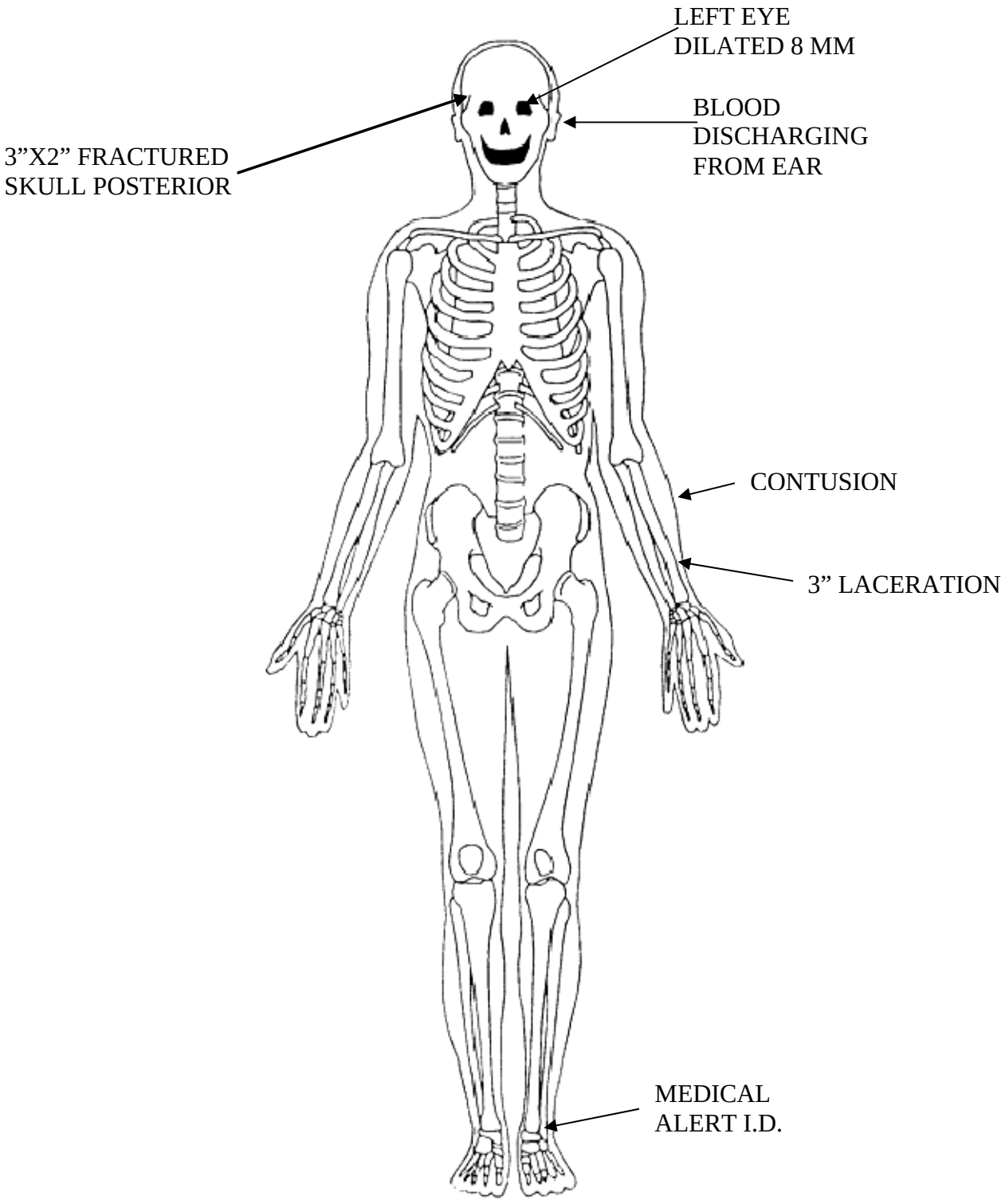
**You and your partner are taking a break in the parts supply room at 9:00 a.m. on the third floor of a large preparation plant. Jim is still working on the 7th floor of the preparation plant cleaning and servicing the belt discharge roller at the point where the raw coal belt dumps into the plant feeder. The feeder belt shuts down. The plant operator's console indicates that the emergency stop for the belt has been actuated and needs to be reset. He tries to reach Jim by phone but receives no answer. The plant operator asks you and your partner to go see what's wrong.**

# ENVELOPE NO. 1A

**It appears that while sweeping the area, Jim's broom was caught in the roller. Jim pulled violently to free his broom. The broom broke. Jim lost his balance and fell backward hitting the pull cord shutting down the belt. As Jim was falling he hit his head.**

**Jim is as you find him; unconscious and unresponsive with breathing difficulties.**

**TREAT AND TRANSPORT JIM TO THE GROUND LEVEL. REASSESS JIM AND CARE FOR LIFE THREATENING PROBLEMS UNTIL EMS ARRIVES.**


LEFT EYE
DILATED 8 MM
BLOOD
DISCHARGING
FROM EAR
3”X2” FRACTURED
SKULL POSTERIOR
CONTUSION
3” LACERATION
MEDICAL
ALERT I.D.

# LIST OF INJURIES

**2”x 3” fractured skull**

**Left eye is dilated 8 mm**

**Blood discharging from left ear**

**Contusion left forearm**

**3” laceration left forearm**

**PATIENT IS LAYING IN FETAL POSITION (right side)**

# LIST OF MATERIALS

**1 chair**

**2 brattice cloth (6’x10’)**

**1 roll electrical tape**

**1 roll duct tape**

**1 mine phone (connected)**

**1 cooler with ice, pop & sandwich in baggie**

**TEAMS MAY NOT USE THEIR MATERIALS**

**INITIAL ASSESSMENT**

| PROCEDURES | CRITICAL SKILL |
|---|---|
| 1. SCENE SIZE UP | □ A. Observe area to ensure safety<br>□ B. Call for help |
| 2. MECHANISM OF INJURY | □ A. Determine causes of injury, if possible<br>□ B. Ask patient (if conscious) what happened |
| 3. INITIAL ASSESSMENT | □ A. Verbalize general impression of the patient(s)<br>□ B. Determine responsiveness/level of consciousness (AVPU) Alert, Verbal, Painful, Unresponsive<br>□ C. Determine chief complaint/apparent life threats |
| 4. ASSESS AIRWAY AND BREATHING | □ A. Correctly execute head-tilt/chin-lift or jaw thrust maneuver, depending on the presence of cervical spine (neck) injuries<br>□ B. Look, listen, and feel for breathing (3-5 seconds)<br>□ C. If present, treat sucking chest wound |

# ENVELOPE NO. 2A

**PATIENT IS BREATHING 3 TIMES PER MINUTE.**

# ENVELOPE NO. 3A

**PERFORM 3 MINUTES ARTIFICIAL RESPERATION AND PATIENT WILL BE BREATHING 15 TIMES PER MINUTE.**

## MOUTH-TO-MASK RESUSCITATION

| PROCEDURES | CRITICAL SKILL |
|---|---|
| 1. ESTABLISH UNRESPONSIVENESS | A. Tap or gently shake shoulders<br>B. Shout, "Are you OK?"<br>C. Determine unconsciousness without compromising C-spine injury<br>D. Say aloud, "Call for help" |
| 2. ESTABLISH AIRWAY | A. Correctly execute head-tilt/chin-lift or jaw thrust maneuver depending on the presence of cervical spine (neck) injuries |
| 3. MONITOR PATIENT FOR BREATHING | A. Look, listen, and feel for breathing (within 10 seconds) |
| 4. VENTILATE PATIENT | A. Place barrier device (pocket mask/shield with one-way valve) on manikin<br>B. Ventilate patient 2 times at 1 second intervals each - minimum of .8 (through .7 liter line on new manikins) |
| 5. CHECK FOR CAROTID PULSE | A. Correctly locate the carotid pulse (on the side of the rescuer)<br>B. Check for presence of carotid pulse within 10 seconds<br>C. Verbalize presence of pulse |
| 6. VENTILATE PATIENT | A. Place barrier device (pocket mask/shield with one-way valve on manikin<br>B. Ventilate patient 10 to 12 times per minute. Each ventilation will be provided at a minimum of .8 (through .7 liter line on new manikins) |
| 7. CHECK FOR RETURN OF BREATHING AND PULSE | A. After providing the required number of breaths (outlined in problem), check for return of breathing and carotid pulse within 10 seconds<br>B. State "Patient is breathing and has a pulse" |

## RESUME INITIAL ASSESSMENT

| | |
|---|---|
| 5. ASSESS FOR IMMEDIATE LIFE THREATENING CONDITIONS | □ A. Check for presence of a carotid pulse (5-10 seconds)<br>□ B. If present, control life threatening bleeding |

| | |
|---|---|
| 6. DETERMINE PRIORITY OF PATIENT | □ A. Teams must make statement to judge, identifying whether patient is low priority or high priority<br>□ load and go.<br>B. Teams must make statement to judge, "Removing clothing, exposing and cleaning wound Surface(s)" |

HIGH PRIORITY: Rapid Patient Assessment treating all life threats, Load and Go.

LOW PRIORITY: Detailed Patient Assessment treating all injuries and conditions and prepare for transport.

# ENVELOPE NO. 4A

## TEAM CANNOT MOVE PATIENT DOWN STEPS ON A BACKBOARD. STEPS ARE TOO NARROW AT TURNS TO ALLOW SAFE EGRESS

## PATIENT ASSESSMENT

| PROCEDURES | √ | CRITICAL SKILL |
|---|---|---|
| 1. HEAD | □ | A. Check head for DOTS: Deformities, Open wounds, Tenderness and Swelling |
| | □ | B. Check and touch the scalp |
| | □ | C. Check the face |
| | Left □<br>Right □ | D. Check the ears for bleeding or clear fluids |
| | Left □<br>Right □ | E. Check the eyes for any discoloration, unequal pupils, reaction to light, foreign objects and bleeding |
| | □ | F. Check the nose for any bleeding or drainage |
| | □ | G. Check the mouth for loose or broken teeth, foreign objects, swelling or injury of tongue, unusual breath odor and discoloration |
| 2. NECK | □ | A. Check the neck for DOTS |
| | □ | B. Inspect for medical ID |
| 3. CHEST | □ | A. Check chest area for DOTS |
| | □ | B. Feel chest for equal breathing movement on both sides |
| | □ | C. Feel chest for inward movement in the rib areas during inhalations |
| 4. ABDOMEN | □ | A. Check abdomen (stomach) for DOTS |
| 5. PELVIS | □ | A. Check pelvis for DOTS |
| | □ | B. Inspect pelvis for injury by touch (Verbally state inspection of crotch and buttocks areas) |
| 6. LEGS | Left □<br>Right □ | A. Check each leg for DOTS |
| | Left □<br>Right □ | B. Inspect legs for injury by touch |
| | Left □<br>Right □ | C. Check legs for paralysis (pinch inner side of leg on calf |
| | Left □<br>Right □ | D. Check legs for motion (in a conscious patient; team places hand on bottom of each foot and states "Can you push against my hand?") |
| | □ | E. Check for medical ID bracelet |

| | | |
|---|---|---|
| 7. ARMS | Left □<br>Right □ | A. Check each arm for DOTS |
| | Left □<br>Right □ | B. Inspect arms for injury by touch |
| | Left □<br>Right □ | C. Check arms for paralysis (pinch inner side of wrist |
| | Left □<br>Right □ | D. Check arms for motion (in a conscious patient; team places fingers in each hand of patient and states "Can you squeeze my fingers?")<br>E. Check for medical ID bracelet |
| 8. BACK SURFACES | | A. Check back for DOTS |

**DOTS:** Deformities, Open Wounds, Tenderness and Swelling

****NOTE:** Each critical skill shall be clearly verbalized by the team as it is being conducted. After initially stating what DOTS stands for, the team may simply state "DOTS" when making their checks.

# PLACE PATIENT ON CHAIR FOR TRANSPORTATION DOWN STAIR

**TWO RESCUER EXTREMITY GROUND LIFT**

| PROCEDURE | CRITICAL SKILL |
|---|---|
| 1. POSITIONING | □ A. Rescuer 1 – Kneel at the head of the patient and place one hand under each of the shoulders<br>□ B. Rescuer 2 – Kneel by the patients knees and grasp the patient's wrist |
| 2. RAISING PATIENT TO A SITTING POSITION | □ A. Rescuer 1 – push patient's shoulders up and support patient's back and head with body<br>□ B. Rescuer 2 – Gently pull on patient's arms |
| 3. POSITIONING AND LIFTING | □ A. Rescuer 1 – Support patient in sitting position<br>□ B. Rescuer 2 – Slip hands under the patient's knees<br>□ C. On command, rescuers stand simultaneously, lifting patient with proper body mechanics |

**SIMULATE TRANSPORTATION DOWNSTAIRS (LIFT CHAIR AND SIT DOWN)**

# ENVELOPE NO. 5A

**PATIENT IS NOT BREATHING AND DOES NOT HAVE A PULSE**

**REMOVE PATIENT FROM CHAIR TO FLOOR**

**TW0-RESCUER CPR (NO SPINAL INJURY - MANIKIN ONLY)**

| PROCEDURES | CRITICAL SKILL |
|---|---|
| 1. RESCUER 1 - ESTABLISH UNRESPONSIVENESS | A. Tap or gently shake shoulders<br>B. Shout, "Are you OK?"<br>C. Determine unconsciousness without compromising cervical spine (neck) injury<br>D. Say aloud, "Call for help" |
| 2. RESCUER 1 - ESTABLISH AIRWAY | A. Kneel at the patient's side near the head<br>B. Correctly execute head-tilt/chin-lift maneuver |

# ENVELOPE NO. 6A

## AFTER 3 SETS OF CPR THE PATIENT WILL BE BREATHING AND HAVE A PULSE

**TW0-RESCUER CPR (continued)**

| | |
|---|---|
| 3. RESCUER 1 - MONITOR PATIENT FOR BREATHING | A. Look, listen, and feel for breathing (within 10 seconds) |
| 4. RESCUER 1 - VENTILATE PATIENT | A. Place barrier device (pocket mask/shield with one-way valve) on manikin<br>B. Give 2 breaths 1 second each<br>C. Each breath - minimum of .8 (through .7 liter line on new manikins) |
| 5. RESCUER 1 - CHECK FOR CAROTID PULSE | A. Correctly locate the carotid pulse - on the side of the rescuer, locate the patient's windpipe with your index and middle fingers and slide your fingers in the groove between the windpipe and the muscle in the neck<br>B. Check for presence of carotid pulse for 5 to 10 seconds<br>C. Verbalize absence of pulse |
| 6. RESCUER 2 - POSITION FOR COMPRESSIONS | A. Locate the compression point on the breastbone between the nipples<br>B. Place the heel of one hand on the compression point and the other hand on top of the first so hands are parallel. Do not rest fingers on the chest. Keep heel of your hand on chest during and between compressions. |

| | |
|---|---|
| 7. RESCUER 2 - DELIVER CARDIAC COMPRESSION | A. Give 30 compressions<br>B. Compressions are at the rate of 100 per minute (30 compressions delivered within 23 seconds)<br>C. Downstroke for compression must be on or between compression lines<br>D. Return to baseline on upstroke of compression |
| 8. RESCUER 1 - VENTILATIONS BETWEEN COMPRESSIONS | A. Give 2 breaths 1 second each<br>B. Each breath - minimum of .8 (through .7 liter line on new manikins)<br>C. Complete breaths and return to compressions in 4-7 seconds (This will be measured from the end of last downstroke to the start of the first downstroke of the next cycle.) |
| 9. CONTINUE CPR FOR TIME STATED IN PROBLEM | A. Provide 5 cycles of 30 chest compressions and 2 rescue breaths<br>B. To check for pulse, stop chest compressions for 5-10 seconds after the first set of CPR<br>C. Rescuer at patient's head maintains airway and looks, listens, and feels for adequate breathing or coughing<br>D. The rescuer at the patient's head shall feel for a carotid pulse<br>E. If no signs of circulation are detected, continue chest compressions and breaths and check for signs of circulation after each set<br>F. A maximum of 10 seconds will be allowed to complete ventilations and required pulse checks between sets (this will be measured from the end of the last downstroke to the start of the first downstroke of the next cycle |
| 10. CHANGING RESCUERS | A. Change of rescuers shall be made in 5 seconds or less and will be completed as outlined in the problem. Team must switch every 5 cycles in less than 5 seconds. |
| 11. CHECK FOR RETURN OF PULSE | A. After providing required CPR (outlined in problem), check for return of pulse (within 10 seconds)<br>B. State "Patient has a pulse." |

## SHOCK

| PROCEDURE | CRITICAL SKILL |
|---|---|
| 1. CHECK FOR SIGNS AND SYMPTOMS OF SHOCK | □ A. Check for pale (or bluish) skin (in victim with dark skin examine inside of mouth and nailbeds for bluish coloration.<br>□ B. Check for cool, clammy skin<br>□ C. Check for weakness |
| 2. TREATMENT | □ A. Keep victim lying down<br>□ B. Cover with blanket to prevent loss of body heat and place a blanket under the patient. (Do not try to place blanket under patient with possible spinal injuries)<br>□ C. Elevate according to injury<br>□ D. Reassure and calm the patient |

**Option 2: Lay the patient flat, face up.** This is the supine position, used for patients with serious injuries to the extremities. If the patient is placed in this position, you must constantly be prepared for vomiting.

**AMBULANCE HAS ARRIVED AND EMS PERSONNEL WILL TAKE THE PATIENT**