2009 NATIONAL MINE RESCUE, BENCH, FIRST AID, AND PRESHIFT CONTEST

AUGUST 31, 2009

NASHVILLE, TN

FIRST AID

PROBLEM 02

09 DRAFT
PROBLEM 02

Carl Prussia was operating his D11 dozer on a bench 210 feet above the pit below. It's about 1130 P.M. on a dark evening about 6 hours into the shift when Jack Krinshaw saw a cloud of dust coming from the area he had last seen Carl. The dozer has rolled to the bottom of the embankment landing on it's tracks upright. Carl is unresponsive. Carl has a cervical spine injury. Carl has a seat belt on. You are the first on the scene. Please extricate, treat and transport Carl to the nearest ambulance roadway access.

MANIKIN

PATIENT
SITTING
UPRIGHT
IN SEAT

BYSTANDER

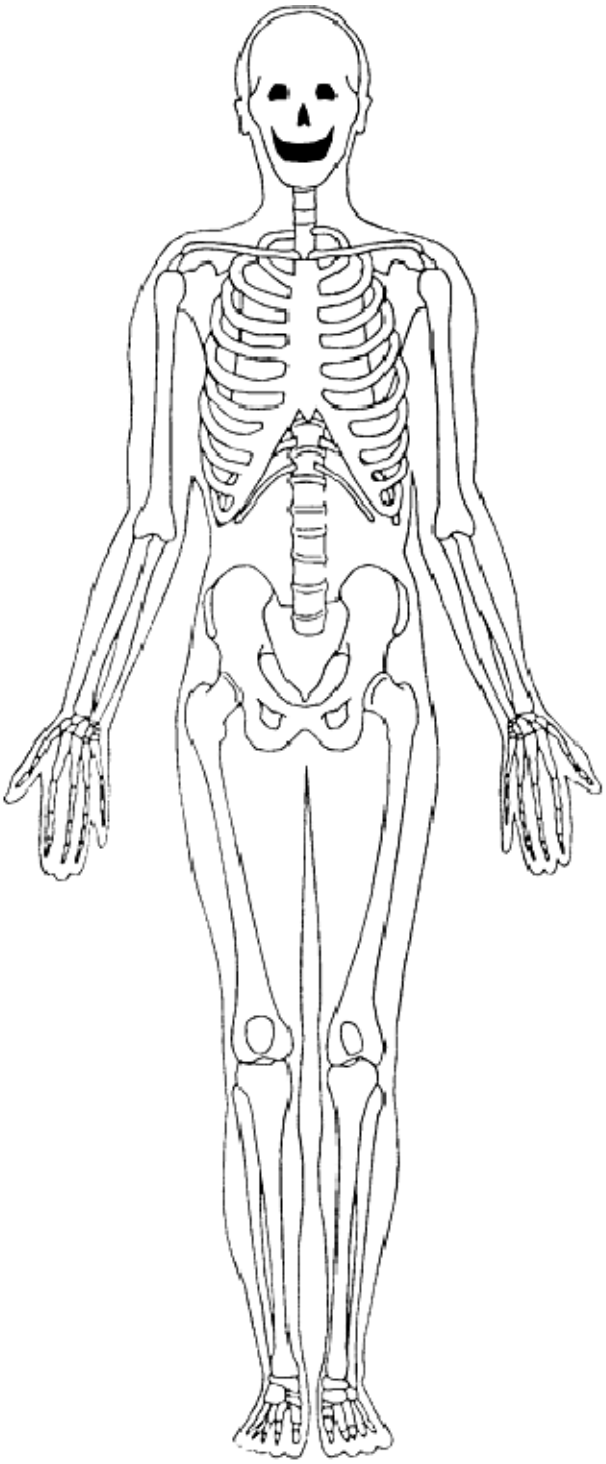
RADIO

TEAMS
MATERIAL

Cervical Spine Fracture

Dilated right eye

Contusion right elbow



4″ laceration above left ear

Fractured left forearm

LIST OF INJURIES:

4” laceration above left ear

Dilated right eye

Fractured left forearm

Contusion right elbow

C-5 Cervical spine fracture

LIST OF MATERIAL:

Cooler (ice and water)

1 Radio

INITIAL ASSESSMENT

PROCEDURES	CRITICAL SKILL
1. SCENE SIZE UP	☐ A. Observe area to ensure safety ☐ B. Call for help
2. MECHANISM OF INJURY	☐ A. Determine causes of injury, if possible ☐ B. Ask patient (if conscious) what happened
3. INITIAL ASSESSMENT	☐ A. Verbalize general impression of the patient(s) ☐ B. Determine responsiveness/level of consciousness (AVPU) Alert, Verbal, Painful, Unresponsive ☐ 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 ☐ B. Look, listen, and feel for breathing (3-5 seconds) ☐ C. If present, treat sucking chest wound

Envelope No. 1

Patient is breathing 6 times per minute

MOUTH-TO-MASK RESUSCITATION

PROCEDURES	CRITICAL SKILL
1. ESTABLISH UNRESPONSIVENESS	A. Tap or gently shake shoulders B. Shout, "Are you OK?" C. Determine unconsciousness without compromising C-spine injury 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

Envelope No. 2

Perform three minutes of mouth to mask resuscitation

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 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) B. Check for presence of carotid pulse within 10 seconds C. Verbalize presence of pulse
6. VENTILATE PATIENT	A. Place barrier device (pocket mask/shield with one-way valve on manikin

	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 B. State "Patient is breathing and has a pulse"

Envelope No. 3

Patient is not breathing and does not have a pulse.

NOTE:
TEAMS MUST EXTRICATE PATIENT TO THE GROUND OR BACKBOARD

TW0-RESCUER CPR (WITH SPINAL INJURY - MANIKIN ONLY)

PROCEDURES	CRITICAL SKILL
1. RESCUER 1 - ESTABLISH UNRESPONSIVENESS	A. Tap or gently shake shoulders B. Shout, "Are you OK?" C. Determine unconsciousness without compromising cervical spine (neck) injury D. Say aloud, "Call for help"
2. RESCUER 2 - ESTABLISH AIRWAY	A. Kneel at the patient's head B. Correctly execute jaw thrust maneuver
3. RESCUER 1 - MONITOR PATIENT FOR BREATHING	A. Look, listen, and feel for breathing (within 10 seconds)

Envelope No. 4

Perform 5 sets of CPR then patient will be breathing and have a pulse.

4. RESCUER 2 - VENTILATE PATIENT	A. Rescuer 1 should place barrier device (pocket mask/shield with one-way valve) on manikin. (OPTION 1: When spinal injury is present, Rescuer No. 2 can hold barrier device on manikin after Rescuer No. 1 correctly places the device over the mouth and nose.) (OPTION 2: Rescuer 1 can place the device on the manikin each time patient is ventilated) B. Rescuer 2 gives 2 breaths 1 second each 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 B. Check for presence of carotid pulse for 5 to 10 seconds C. Verbalize absence of pulse

6. RESCUER 1 - POSITION FOR COMPRESSIONS	A. Locate the compression point on the breastbone between the nipples B. Place the heel of one hand on sternum the compression point and the other hand on top of the first so hands are parallel C. Do not rest fingers on the chest Keep heel of your hand on chest during and between compressions
7. RESCUER 1 - DELIVER CARDIAC COMPRESSION	A. Give 30 compressions B. Compressions are at the rate of 100 per minute (30 compressions delivered within 23 seconds) C. Downstroke for compression must be on or between compression lines D. Return to baseline on upstroke of compression
8. RESCUER 2 - VENTILATIONS BETWEEN COMPRESSIONS	A. Give 2 breaths 1 second each B. Each breath - minimum of .8 (through .7 liter line on new manikins) 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 B. To check pulse, stop chest compressions for 10 seconds after the first set of CPR C. Rescuer at patient's head maintains airway and looks, listens, and feels for adequate breathing or coughing D. The rescuer giving compressions shall feel for a carotid pulse E. If no signs of circulation are detected, continue chest compressions and breaths and check for signs of circulation after each set 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 problem. Team must switch every 5 cycles in less than 5 seconds.
11. CHECK FOR RETURN OF PULSE	A. A final pulse check (3-5 seconds) will be required at the end of the last set of CPR B. State "Patient has a pulse."

RESUME ASSESSMENT

5. ASSESS FOR IMMEDIATE LIFE THREATENING CONDITIONS	☐ A. Check for presence of a carotid pulse (5-10 seconds) ☐ 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 load and go. 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

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 □ Right □	D. Check the ears for bleeding or clear fluids
	Left □ 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

NO TREATMENT NECESSARY

(2) NECK	□ A. Check the neck for DOTS □ B. Inspect for medical ID

IMMOBILIZATION OF CERVICAL SPINE

PROCEDURES	CRITICAL SKILL
1. ESTABLISH AND MAINTAIN IN-LINE IMMOBILIZATION	A. Place head in a neutral, in-line position unless patient complains of pain or the head is not easily moved into position B. Place head in alignment with spine C. Maintain constant manual in-line immobilization until the patient is properly secured to a backboard with head immobilized
2. ASSESS PMS	A. Assess PMS in all extremities: • Pulse • Motor function • Sensory function
3. ASSESS CERVICAL REGION AND NECK	A. Inspect and palpate for injuries or signs of injuries using: DOTS acronym B. Remove clothing or jewelry as necessary
4. BANDAGE ANY WOUND	A. Any neck wounds
5. APPLY CERVICAL SPINE IMMOBILIZATION	A. Apply properly sized collar or manual immobilization
	One piece C-collar A. Select proper sized collar B. Apply collar C. Ensure that patient's head is not twisted during application D. Ensure airway is open after placement Two piece C-collar A. Select proper sized collar B. Apply rear section to back of neck C. Center rigid support on spine D. Apply front section (overlaps rear section) E. Ensure chin rests in chin cavity F. Secure collar with Velcro straps G. Ensure airway is open after placement
6. SECURE HEAD TO	A. Immobilize patient to appropriate immobilization

APPROPRIATE IMMOBILIZATION DEVICE	device B. Use head set or place rolled blankets or towels on each side of head C. Tape head securely to appropriate immobilization Device
7. REASSESS	A. Reassess PMS B. Assess patient response and level of comfort

(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 buttock areas)

(6) LEGS	☐ A. Check each leg for DOTS ☐ B. Inspect legs for injury by touch ☐ C. Check legs for paralysis (pinch inner side of leg on calf) ☐ 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	☐ A. Check each arm for DOTS ☐ B. Inspect arms for injury by touch ☐ C. Check arms for paralysis (pinch inner side of wrist) ☐ D. Check arms for motion (in a conscious patient; team places fingers in each hand of patient and states "Can you squeeze my fingers?" ☐ E. Check for medical ID bracelet

NO TREATMENT NECESSARY

(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.

IMMOBILIZATION – LONG SPINE BOARD (Backboard)

PROCEDURES	CRITICAL SKILL
1. MOVE THE PATIENT ONTO THE LONG SPINE BOARD	H. One First Aid Provider at the head must maintain in-line immobilization of the head and spine I. First Aid Provider at the head directs the movement of the patient J. Other First Aid Provider control movement of the rest of body K. Other First Aid Provider position themselves on same side L. Upon command of First Aid Provider at the head, roll patient onto side toward First Aid Providers M. Quickly assess posterior body, if not already done N. Place long spine board next to the patient with top of board beyond top of head O. Place patient onto the board at command of the First Aid Provider at head while holding in-line immobilization using methods to limit spinal movement P. Slide patient into proper position using smooth coordinated moves keeping spine in alignment
2. PAD VOIDS BETWEEN PATIENT AND LONG SPINE BOARD	A. Select and use appropriate padding B. Place padding as needed under the head C. Place padding as needed under torso
3. IMMOBILIZE BODY TO THE LONG SPINE BOARD	A. Strap and secure body to board ensuring spinal immobilization, beginning at shoulder and working toward feet
4. IMMOBILIZE HEAD TO THE LONG SPINE BOARD	A. Using head set or place rolled towels on each side of head B. Tape and/or strap head securely to board, ensuring cervical spine immobilization
5. REASSESS	A. Reassess PMS (Pulse, Motor, Sensory) B. Assess patient response and level of comfort

SHOCK

PROCEDURES	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. B. Check for cool, clammy skin C. Check for weakness
2. TREATMENT	A. Keep victim lying down 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) C. Elevate according to injury 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.

TEAMS MUST SIMULATE MOVING PATIENT TO THE NEAREST ROADWAY ACCESS.

AFTER THE TEAMS STATES THAT THEY HAVE MOVED PATIENT:

JUDGE SHOULD STATE EMS PERSONEL HAVE TAKEN OVER THE PATIENT.