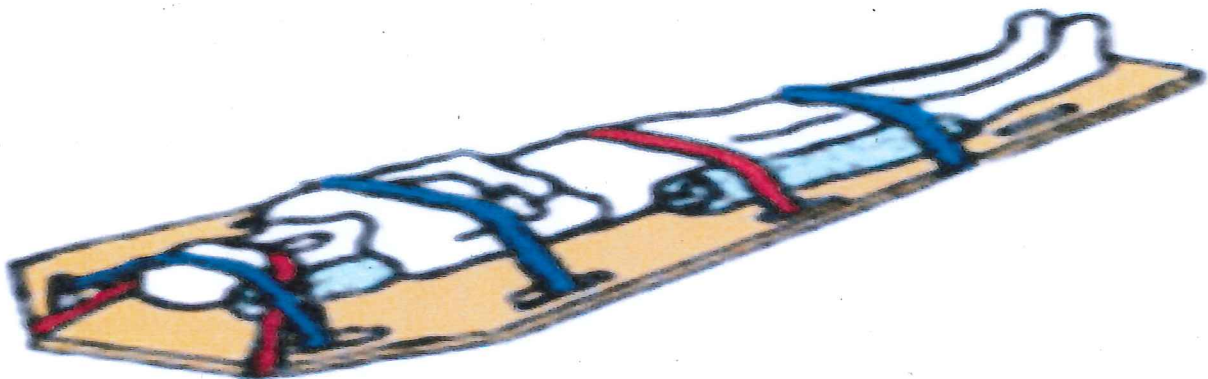


**STATE OF ALABAMA
MINE RESCUE CONTEST**



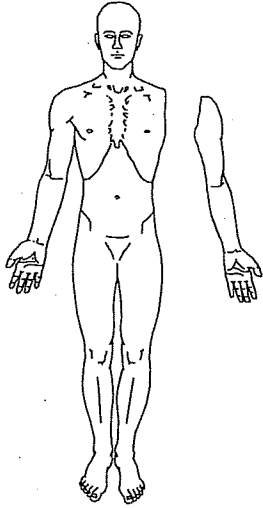
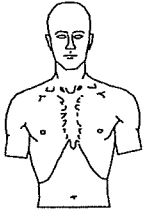
FIRST AID PROBLEM



2019

YOU AND YOUR PARTNER HAVE BEEN DISPATCHED TO THE #3 BELTDRIVE TO CHECK ON JOE. ACCORDING TO THE TRACKING INFORMATION THAT WAS HIS LAST KNOWN LOCATION BUT HE WILL NOT ANSWER HIS RADIO OR THE MINE PHONE. YOU WALK TO THE #3 BELTDRIVE AND FIND JOE LAYING ON THE MINE FLOOR ADJACENT TO THE DRIVE ROLLERS. JOE APPEARS TO BE SERIOUSLY INJURED AND YOU NOTIFY THE DISPATCHER THAT AN ACCIDENT HAS OCCURRED. THE DISPATCHER INFORMS YOU THAT HE HAS CALLED FOR AN AMBULANCE BUT THERE IS NO TRANSPORTATION AVAILABLE FOR YOU TO BRING HIM TO THE SURFACE AT THIS TIME. PLEASE HELP JOE.

FIELD LAYOUT



15'

RADIO

3'

TEAMS
MATERIAL

15'

JOE

1 INCH LACERATION LEFT CHEEK

**LEFT ARM AMPUTATED AT
SHOULDER WITH
LIFE THREATENING BLEEDING**

**FRACTURED
RIGHT WRIST**

**3 INCH LACERATION
LEFT THIGH**

**FRACTURED RIGHT
ANKLE**

RESPIRATIONS: 10

PULSE: 112

PERFUSION: >2 SECONDS

**MENTAL STATUS: UNABLE TO
FOLLOW COMMANDS**

LIST OF INJURIES

1 INCH LACERATION LEFT CHEEK

**LEFT ARM AMPUTATED AT SHOULDER
WITH LIFE THREATENING BLEEDING**

FRACTURED RIGHT WRIST

3 INCH LACERATION LEFT THIGH

FRACTURED RIGHT ANKLE

INITIAL ASSESSMENT

PROCEDURES		CRITICAL SKILL
1. SCENE SIZE UP	<input type="checkbox"/> <input type="checkbox"/>	*A. Observe area to ensure safety *B. Call for help
2. MECHANISM OF INJURY	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	*A. Determine causes of injury, if possible *B. Triage: Immediate, Delayed, Minor or Deceased. *C. Ask patient (if conscious) what happened
3. INITIAL ASSESSMENT	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	*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 threat
4. ASSESS AIRWAY AND BREATHING	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	A. Correctly execute head-tilt/chin-lift or jaw thrust maneuver, depending on the presence of cervical spine (neck) injuries B. Look for absence of breathing (no chest rise and fall) or gasping, which are not considered adequate (within 10 seconds) C. If present, treat sucking chest wound
5. ASSESS FOR CIRCULATION	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	A. Check for presence of a carotid pulse (5-10 seconds) B. If present, control life threatening bleeding C. Start treatment for all other life threatening injuries/conditions (reference Rule 2).

IMMEDIATE: Rapid Patient Assessment treating all life threats Load and Go. If the treatment interrupts the rapid trauma assessment, the **assessment** will be completed at the end of the **treatment**.

TRANSPORTATION IS DELAYED SO TEAM WILL HAVE TO PERFORM FULL ASSESSMENT AND TREAT ALL INJURIES (RULE 13) .

LEFT ARM AMPUTATED AT LEFT SHOULDER WITH LIFE THREATENING BLEEDING

LIFE-THREATENING BLEEDING

PROCEDURES	CRITICAL SKILL
1. DIRECT PRESSURE AND ELEVATION	<input type="checkbox"/> *A. Apply direct pressure with a gloved hand <input type="checkbox"/> *B. Apply a dressing to wound (cover entire wound) and continue to apply direct pressure <input type="checkbox"/> *C. Elevate the extremity except when spinal injury exists <input type="checkbox"/> *D. Bleeding has been controlled <input type="checkbox"/> *E. If controlled, bandage dressing in place

JUDGES INFORM TEAM THAT BLEEDING HAS BEEN CONTROLLED!

TEAM SHOULD START PATIENT ASSESSMENT!

PATIENT ASSESSMENT

PROCEDURES	CRITICAL SKILL
1. HEAD	<input type="checkbox"/> *A. Check head for DOTS: Deformities, Open wounds, Tenderness and Swelling <input type="checkbox"/> *B. Check and touch the scalp <input type="checkbox"/> *C. Check the face <input type="checkbox"/> *D. Check the ears for bleeding or clear fluids <input type="checkbox"/> *E. Check the eyes for any discoloration, unequal pupils, reaction to light, foreign objects and bleeding <input type="checkbox"/> *F. Check the nose for any bleeding or drainage <input type="checkbox"/> *G. Check the mouth for loose or broken teeth, foreign objects, swelling or injury of tongue, unusual breath odor and discoloration

1 INCH LACERATION LEFT CHEEK

DRESSINGS AND BANDAGING - OPEN WOUNDS

PROCEDURES	CRITICAL SKILL
1. EMERGENCY CARE FOR AN OPEN WOUND	<input type="checkbox"/> *A. Control bleeding <input type="checkbox"/> *B. Prevent further contamination <input type="checkbox"/> *C. Bandage dressing in place after bleeding has been controlled <input type="checkbox"/> *D. Keep patient lying still
2. APPLY DRESSING	<input type="checkbox"/> A. Use sterile dressing <input type="checkbox"/> B. Cover entire wound <input type="checkbox"/> C. Control bleeding <input type="checkbox"/> D. Do not remove dressing
3. APPLY BANDAGE	<input type="checkbox"/> A. Do not bandage too tightly. <input type="checkbox"/> B. Do not bandage too loosely. <input type="checkbox"/> C. Do not leave loose ends. <input type="checkbox"/> D. Cover all edges of dressing. <input type="checkbox"/> E. Do not cover tips of fingers and toes, unless they are injured. <input type="checkbox"/> F. Bandage from the bottom of the limb to the top (distal to proximal) if applicable.

CONTINUE PATIENT ASSESSMENT

2. NECK	<input type="checkbox"/> <input type="checkbox"/>	*A. Check the neck for DOTS *B. Inspect for medical ID
3. CHEST	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	*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	<input type="checkbox"/>	*A. Check abdomen (stomach) for DOTS
5. PELVIS	<input type="checkbox"/> <input type="checkbox"/>	*A. Check pelvis for DOTS *B. Inspect pelvis for injury by touch (Visually inspect and verbally state inspection of crotch and buttocks areas)

GIVE TEAM ENVELOPE #1

JOE HAS STOPPED BREATHING AND DOES NOT HAVE A PULSE!

TWO-RESCUER CPR WITH AED (NO SPINAL INJURY - MANIKIN ONLY)

PROCEDURES	CRITICAL SKILL
1. RESCUER ESTABLISH UNRESPONSIVENESS	<input type="checkbox"/> A. Tap or gently shake shoulders <input type="checkbox"/> *B. "Are you OK?" <input type="checkbox"/> C. Determine unconsciousness without compromising cervical spine (neck) injury <input type="checkbox"/> *D. "Call for help" <input type="checkbox"/> *E. "Get AED" (Note: If AED is used, follow local protocol)
2. RESCUER MONITOR PATIENT FOR BREATHING	<input type="checkbox"/> A. Look for absence of breathing (no chest rise and fall) or gasping breaths, which are not considered adequate (within 10 seconds)
3. RESCUER CHECK FOR CAROTID PULSE	<input type="checkbox"/> 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 <input type="checkbox"/> B. Check for presence of carotid pulse for 5 to 10 Seconds <input type="checkbox"/> *C. Absence of pulse <input type="checkbox"/> *D. Immediately starts CPR if no pulse
4. RESCUER POSITION FOR COMPRESSIONS	<input type="checkbox"/> A. Locate the compression point on the breastbone between the nipples <input type="checkbox"/> B. Place the heel of one hand on the compression point and the other hand on top of the first so hands are parallel. <input type="checkbox"/> C. Do not intentionally rest fingers on the chest. Keep heel of your hand on chest during and between compressions.
5. RESCUER DELIVER CARDIAC COMPRESSION	<input type="checkbox"/> A. Give 30 compressions <input type="checkbox"/> B. Compressions are at the rate of 100 to 120 per minute (30 compressions delivered within 18 seconds) <input type="checkbox"/> C. Down stroke for compression must be on or through compression line <input type="checkbox"/> D. Return to baseline on upstroke of compression
6. RESCUER ESTABLISH AIRWAY	<input type="checkbox"/> A. Kneel at the patient's side near the head <input type="checkbox"/> B. Correctly execute head-tilt/ chin-lift maneuver

7. RESCUER VENTILATIONS BETWEEN COMPRESSIONS	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>A. Place barrier device (pocket mask / shield with one way valve) on manikin</p> <p>B. Give 2 breaths 1 second each</p> <p>C. Each breath - minimum of .8 (through .7 liter line on new manikins)</p> <p>D. Complete breaths and return to compressions in less than 10 seconds (This will be measured from the end of last down stroke to the start of the first down stroke of the next cycle.)</p>
8. CONTINUE CPR FOR TIME STATED IN PROBLEM	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>A. Provide 5 cycles of 30 chest compressions and 2 rescue breaths</p> <p>B. To check for pulse, stop chest compressions for no more than 10 seconds after the first set of CPR</p> <p>C. Rescuer at patient's head maintains airway and checks for adequate breathing or coughing</p> <p>D. The rescuer at the patient's head shall feel for a carotid pulse</p> <p>E. If no signs of circulation are detected, continue chest compressions and breaths and check for signs of circulation after each set</p> <p>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 down stroke to the start of the first down stroke of the next cycle)</p>
9. RESCUER APPLIES THE AED (DURING THE FIFTH CYCLE OF COMPRESSIONS)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>A. Rescuer continues compressions while other rescuer turns (simulated) on AED and applies pads.</p> <p>B. RESCUERS SWITCH rescuer clears victim, allowing AED to analyze. (Judges shall provide an envelope indicating a shockable or non-shockable rhythm)(<u>ENVELOPE #2, SHOCK ADVISED</u>)</p> <p>C. If AED indicates a shockable rhythm, rescuer clears victim again and delivers shock. *verbalize shock given</p>
10. RESUME HIGH-QUALITY CPR	<input type="checkbox"/> <input type="checkbox"/>	<p>A. Rescuer gives 30 compressions immediately after shock delivery (2 cycles).</p> <p>B. Other rescuer successfully delivers 2 breaths.</p>
11. CHANGING RESCUERS	<input type="checkbox"/>	<p>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.</p>

GIVE TEAM ENVELOPE #3

AFTER 2 SETS OF TWO PERSON CPR JOE IS BREATHING AND HAS A PULSE!

12. CHECK FOR RETURN OF PULSE	<input type="checkbox"/> <input type="checkbox"/>	A. After providing required CPR (outlined in problem), check for return of pulse (within 10 seconds) *B. "Patient has a pulse."
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CONTINUE PATIENT ASSESSMENT

6. LEGS	L	R	*A. Check each leg for DOTS B. Inspect legs for injury by touch C. Unresponsive: Check legs for paralysis (pinch inner side of leg on calf) *D. Responsive: Check legs for motion; places hand on bottom of each foot and states "Can you push against my hand?" *E. Check for medical ID bracelet
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	

3 INCH LACERATION LEFT THIGH

FRACTURED RIGHT ANKLE

TEAM CAN EXAMINE AND TREAT EITHER LEG FIRST

DRESSINGS AND BANDAGING - OPEN WOUNDS

PROCEDURES	CRITICAL SKILL
4. EMERGENCY CARE FOR AN OPEN WOUND	<input type="checkbox"/> *E. Control bleeding <input type="checkbox"/> *F. Prevent further contamination <input type="checkbox"/> *G. Bandage dressing in place after bleeding has been controlled <input type="checkbox"/> *H. Keep patient lying still
5. APPLY DRESSING	<input type="checkbox"/> E. Use sterile dressing <input type="checkbox"/> F. Cover entire wound <input type="checkbox"/> G. Control bleeding <input type="checkbox"/> H. Do not remove dressing
6. APPLY BANDAGE	<input type="checkbox"/> G. Do not bandage too tightly. <input type="checkbox"/> H. Do not bandage too loosely. <input type="checkbox"/> I. Do not leave loose ends. <input type="checkbox"/> J. Cover all edges of dressing. <input type="checkbox"/> K. Do not cover tips of fingers and toes, unless they are injured. <input type="checkbox"/> L. Bandage from the bottom of the limb to the top (distal to proximal) if applicable.

TEAM CAN USE RIGID SPLINT OR SOFT SPLINT!

SPLINTING (RIGID OR SOFT) PELVIC GIRDLE, THIGH, KNEE, AND LOWER LEG

PROCEDURE	CRITICAL SKILL
1. DETERMINE NEED FOR SPLINTING	<input type="checkbox"/> *A. Assess for: <ul style="list-style-type: none"> ▪ Pain ▪ Swelling ▪ Deformity <input type="checkbox"/> B. Determine if splinting is warranted
2. APPLY MANUAL STABILIZATION	<input type="checkbox"/> A. Support affected limb and limit movement <ul style="list-style-type: none"> ▪ Do not attempt to reduce dislocations
3. SELECT APPROPRIATE SPLINT	<input type="checkbox"/> A. Select appropriate splinting method depending on position of extremity and materials available <input type="checkbox"/> B. Select appropriate padding material
4. PREPARE FOR SPLINTING	<input type="checkbox"/> A. Remove or cut away clothing as needed <input type="checkbox"/> *B. Assess distal circulation, sensation, and motor function <input type="checkbox"/> C. Cover any open wounds with sterile dressing and bandage <input type="checkbox"/> D. Measure splint <input type="checkbox"/> E. Pad around splint for patient comfort

SPLINTING (SOFT) LOWER EXTREMITY FRACTURES AND DISLOCATIONS (ANKLE AND FOOT)

PROCEDURES	CRITICAL SKILL	
1. CARE FOR FRACTURE	<input type="checkbox"/> <input type="checkbox"/>	*A. Assess for distal circulation, sensation, and motor function B. Do not attempt to reduce dislocations (if applies)
2. IMMOBILIZING FRACTURE	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	A. Support affected limb and limit movement B. Place three cravats (triangular bandage) under ankle/foot C. Place pillow length wise under ankle/foot, on top of cravats (pillow should extend 6 inches beyond foot) D. Lower limb, adjust cravats to tie E. Tie cravats distal to proximal F. Elevate with blanket or pillow *G. Reassess distal circulation, sensation, and motor function

CONTINUE PATIENT ASSESSMENT

	L	R	
7. ARMS	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	*A. Check each arm for DOTS B. Inspect arms for injury by touch C. Unresponsive: Check arms for paralysis (pinch inner side of wrist) *D. Responsive: 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

FRACTURED RIGHT WRIST

THERE IS A MEDICAL ID ON WRIST OF LEFT ARM THAT IS AMPUTATED. IF TEAM DOES NOT IDENTIFY IT PRIOR TO STOPPING CLOCK THEN DOCK THEM CRITICAL SKILL ITEM 7 E

SPLINTING (RIGID) UPPER EXTREMITY FRACTURES AND DISLOCATIONS

PROCEDURES	CRITICAL SKILL
1. CARE FOR FRACTURE	<input type="checkbox"/> *A. Check for distal circulation, sensation, and motor function <ul style="list-style-type: none"> ▪ Do not attempt to reduce dislocations (if applies)
2. IMMOBILIZING FRACTURE	<input type="checkbox"/> A. Selection of appropriate rigid splint of proper length <input type="checkbox"/> B. Support affected limb and limit movement <input type="checkbox"/> C. Apply appropriate padded rigid splint against injured extremity <input type="checkbox"/> D. Place appropriate roller bandage in hand to ensure the position of function <input type="checkbox"/> E. Secure splint to patient with roller bandage, handkerchiefs, cravats, or cloth strips <input type="checkbox"/> F. Apply wrap distal to proximal <input type="checkbox"/> *H. Reassess distal circulation, sensation, and motor function
3. SECURING WITH SLING	<input type="checkbox"/> A. Place sling over chest and under arm <input type="checkbox"/> B. Hold or stabilize arm <input type="checkbox"/> C. Triangle should extend behind elbow on injured side <input type="checkbox"/> D. Pull sling around neck and tie on uninjured side <input type="checkbox"/> E. Pad at the neck (except when C-Collar is present) <input type="checkbox"/> F. Secure excess material at elbow <input type="checkbox"/> G. Fingertips should be exposed <input type="checkbox"/> *H. Reassess distal circulation, sensation, and motor function
4. SECURING SLING WITH SWATHE	<input type="checkbox"/> A. Use triangle cravat or factory swathe <input type="checkbox"/> B. Swathe is tied around chest and injured arm <input type="checkbox"/> *C. Reassess distal circulation, sensation, and motor function

AMPUTATED LEFT ARM

Amputations

- *1. Wrap in slightly moistened sterile dressing
- 2. Place in plastic bag or wrap in plastic
- *3. Keep part cool avoid freezing
- *4. Do not place in water or direct contact with ice
- *5. Transport with patient
- 6. Label with patients name

CONTINUE PATIENT ASSESSMENT

8. BACK SURFACES	<input type="checkbox"/>	*A. Check back for DOTS
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GIVE TEAM ENVELOPE #4

TRANSPORTATION IS AVAILABLE!

IMMOBILIZATION - LONG SPINE BOARD (Backboard)

PROCEDURES		CRITICAL SKILL
1. MOVE THE PATIENT ONTO THE LONG SPINE BOARD	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	A. Rescuer One at the head must maintain in-line immobilization of the head and spine B. Rescuer One at the head directs the movement of the patient C. Other-Rescuers control movement of the rest of body D. Rescuer Two position themselves on same side E. Upon command of Rescuer One at the head, roll patient onto side toward Rescuer Two. F. Quickly assess posterior body, if not already done G. Place long spine board next to the patient with top of board beyond top of head H. Place patient onto the board at command of the Rescuer at head while holding in-line immobilization using methods to limit spinal movement I. Slide patient into proper position using smooth coordinated moves keeping spine in alignment
2. PAD VOIDS BETWEEN PATIENT AND LONG SPINE BOARD	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	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	<input type="checkbox"/>	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	<input type="checkbox"/> <input type="checkbox"/>	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	<input type="checkbox"/> <input type="checkbox"/>	*A. Reassess distal circulation, sensation, and motor function *B. Assess patient response and level of comfort

SHOCK

PROCEDURES	CRITICAL SKILL
1. CHECK FOR SIGNS AND SYMPTOMS OF SHOCK	<ul style="list-style-type: none"> <input type="checkbox"/> *A. Check restlessness; anxiety; altered mental status; increased heart rate; normal to slightly low blood pressure; mildly increased breathing rate; pale (or bluish) skin (in victim with dark skin examine inside of mouth and nailbeds for bluish coloration. <input type="checkbox"/> *B. Check for cool, moist skin; sluggish pupils; and nausea and vomiting. <input type="checkbox"/> *C. Check for weakness
2. TREATMENT	<ul style="list-style-type: none"> <input type="checkbox"/> A. Ensure the ABCs are properly supported. <input type="checkbox"/> B. Control external bleeding. <input type="checkbox"/> C. Keep the patient in a supine position. <input type="checkbox"/> *D. Calm and reassure the patient, and maintain a normal body temperature. <input type="checkbox"/> E. 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) <input type="checkbox"/> F. Continue to monitor and support ABCs <input type="checkbox"/> G. Do not give the patient anything by mouth. Do not give any fluids or food, and be alert for vomiting. <input type="checkbox"/> *H. Monitor the patient's ABCs at least every five minutes. <input type="checkbox"/> *I. Reassure and calm the patient

TEAM SHOULD LIFT BACKBOARD AND STATE "TRANSPORTING PATIENT". (RULE 13)

TEAM SHOULD REASSESS THE PATIENTS LEVEL OF CONSCIOUSOUS, RESPIRATORY STATUS AND PATIENT RESPONSE (RULE 10). THEN CLEAN THE FIELD AND STOP THE CLOCK.