First Aid Problem Price 2016

It is graveyard shift. First aid mine rescue team has arrived at the scene where Maintenance Superintendent Harry P. and Maintenance Foreman Pat C. are troubleshooting the "C" Mains belt drive controller. Harry had the cover removed on the breaker panel and when he went to adjust the breaker settings he came in contact with 220 volt energized connection. After Pat activated the emergency stop button on the controller he tripped over cables hitting his head against the controller.

Pat is conscious and has sustained multiple injuries.

Harry is unconscious and has sustained injuries due to electrical shock.

Treat and prepare for transport the wounded to the surface as quickly as possible.

Pg #1

LIST OF INJURIES Price 2016

HARRY
PERFUSION: RADIAL PULSE ABSENT
MENTAL STATUS: UNABLE TO FOLLOW COMMANDS

UNCONSCIOUS CARDIAC DISTRESS

ELECTRICAL BURN ON RIGHT HAND AND RIGHT ELBOW

PAT
RESPIRATIONS: < 30 PER MINUTE
PERFUSION: RADIAL PULSE PRESENT
MENTAL STATUS: ABLE TO FOLLOW COMMANDS

5 INCH LACERATION ON FOREHEAD

ELECTRICAL FLASH BURNS TO BOTH EYES

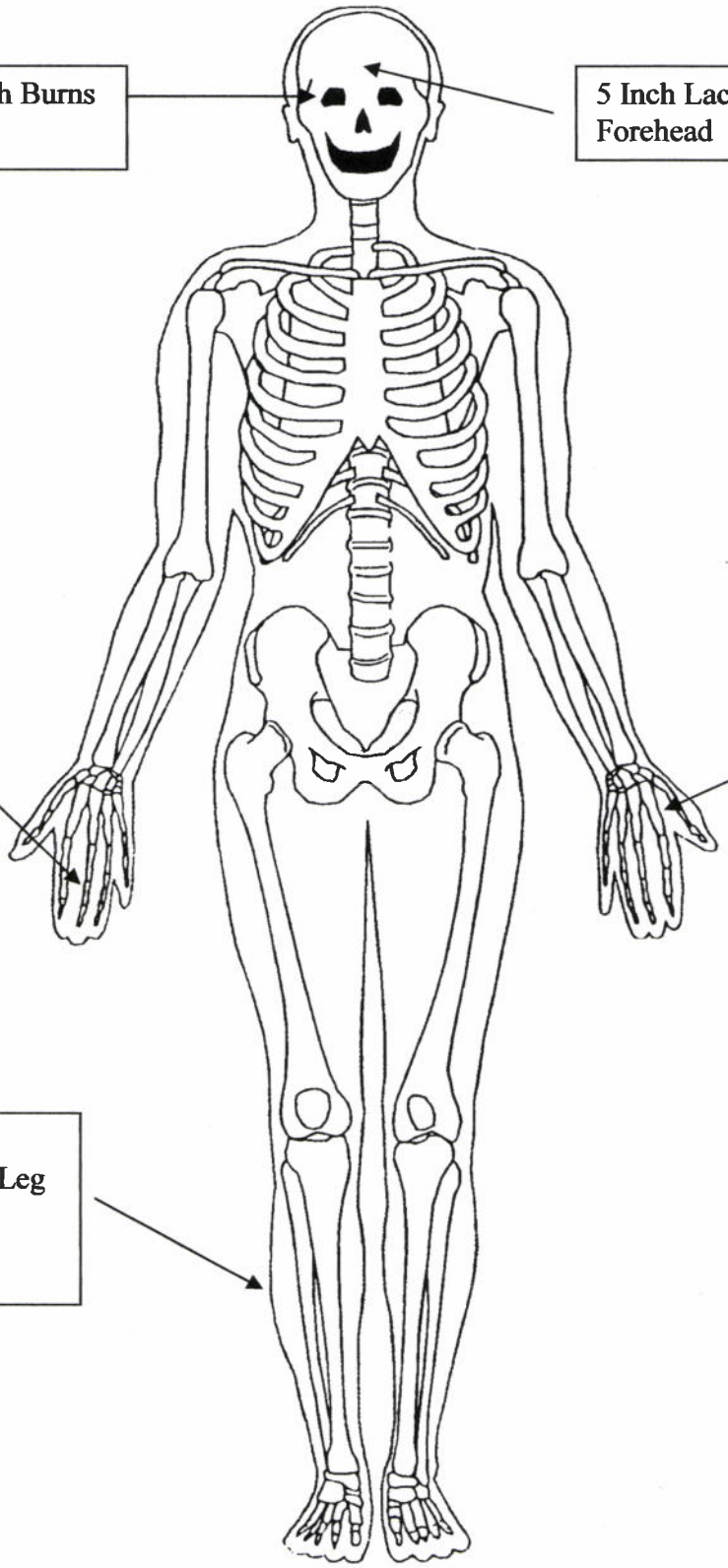
OPEN INJURY FRACTURE TO THE LOWER RIGHT FIBULA (OUTER LOWER LEG BONE)

DISLOCATED THUMB LEFT HAND

BROKEN MIDDLE FINGER RIGHT HAND

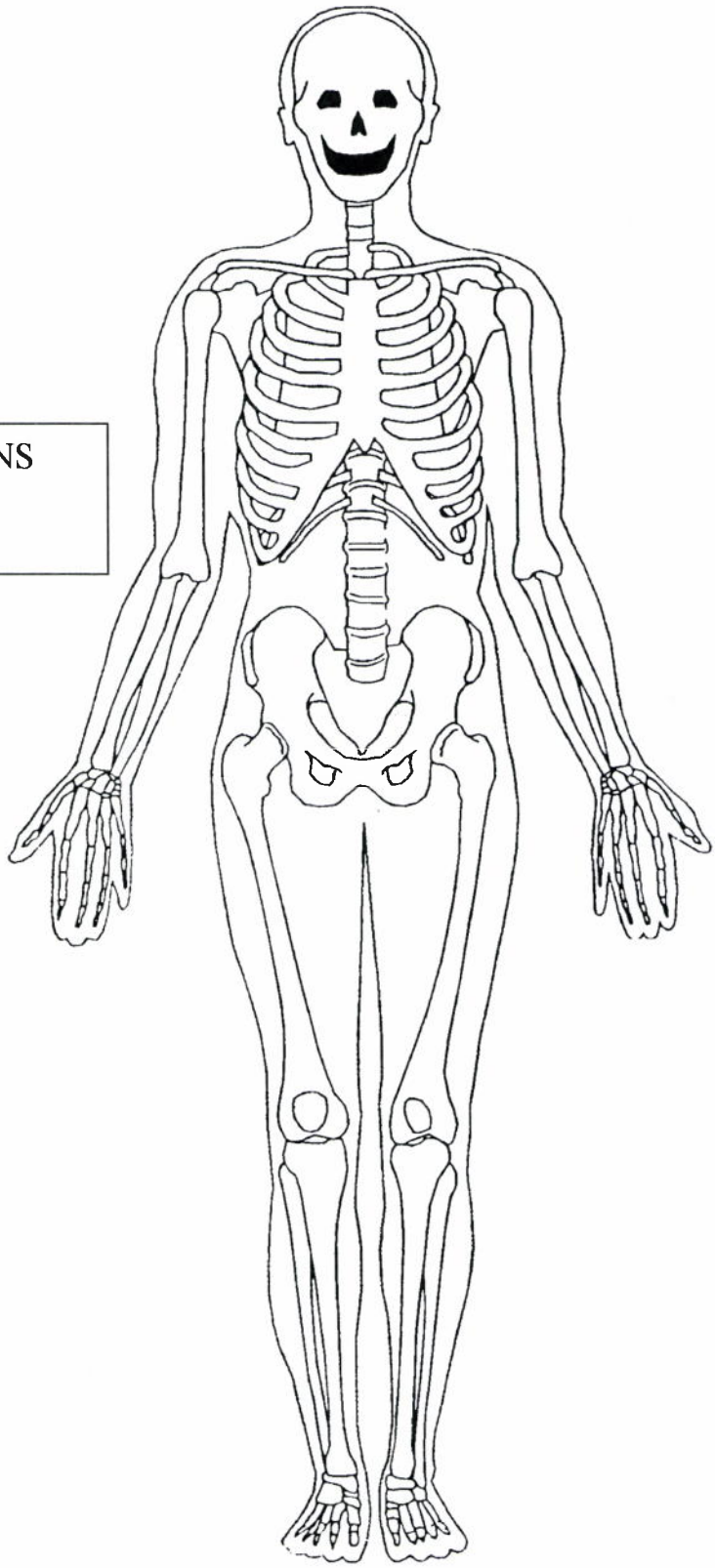
#2

PATIENT ASSESSMENT/UNCONSCIOUS



HARRY/Unconscious Cardiac Distress

ELECTRICAL BURNS
RIGHT PALM AND
RIGHT ELBOW



#4

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. Triage: Immediate, Delayed, Minor or Deceased. *C. 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 threat

NOTE: Each critical skill identified with an asterisk (*) 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.

- **Teams may use the acronym "CSM" when checking circulation, sensation, and motor function.**

HARRY

IMMEDIATE: Rapid Patient Assessment treating all life threats Load and Go. Perfusion: Radial pulse absent. Mental Status: Unable to follow commands.

PAT

DELAYED: Detailed Patient Assessment treating all injuries and conditions and prepare for transport. Respirations: < 30 per minute. Perfusion: Radial pulse present. Mental Status: Able to follow commands.

ENVELOPE #1

HARRY IS NOT BREATHING AND HAS NO PULSE. RESUSCITATE USING "AED".

MOUTH-TO-MASK RESUSCITATION

PROCEDURES		CRITICAL SKILL
1. ESTABLISH UNRESPONSIVENESS	□ □ □ □ □	A. Tap or gently shake shoulders *B. "Are you OK?" C. Determine unconsciousness without compromising C-spine injury *D. "Call for help" *E. "Get AED" (Note: If AED is used, follow local protocol)
2. MONITOR PATIENT FOR BREATHING	□	A. Look for absence of breathing (no chest rise and fall) or gasping, which are not considered adequate (within 10 seconds)
3. 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 *A. Presence of pulse
4. ESTABLISH AIRWAY	□	A. Correctly execute head tilt / chin lift or jaw thrust maneuver depending on the presence of cervical spine (neck) injuries
5. 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)
6. 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. "Patient is breathing and has a pulse"

AUTOMATED EXTERNAL DEFIBRILLATOR

	PROCEDURES			CRITICAL SKILL
1.	RESCUER 1 – ESTABLISH UNRESPONSIVENESS	□	A.	Tap or gently shake shoulders
		□	*B.	"Are you OK?"
			C.	Determine unconsciousness without compromising cervical spine (neck) injury
			*D.	"Call for help"
			*E.	"Get AED" (Note: If AED is used, follow local protocol)
2.	RESCUER 1 – MONITOR PATIENT FOR BREATHING	□	A.	Look for absence of breathing (no chest rise and fall) or gasping breaths, which are not considered adequate (within 10 seconds)
3.	RESCUER 1 – CHECK FOR CAROTID PULSE	□	A.	Correctly locate the carotid pulse – on the side of the rescuer, locate the patients' 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.	Absence of pulse
4.	GIVES HIGH-QUALITY CPR	□	A.	Correct compression hand placement
		□	B.	Adequate Rate: At least 100/min. (i.e., delivers each set of 30 chest compressions in 18 seconds or less)
		□	C.	Adequate Depth: Delivers compressions at least 2 inches in depth (at least 23 out of 30)
		□	D.	Allows complete chest recoil (at least 23 out of 30)
		□	E.	Minimizes interruptions: Gives 2 breaths with pocket mask in less than 10 seconds

#7

5.	SECOND RESCUER ARRIVES WITH AED (DURING FIFTH SET OF COMPRESSIONS)	□ A.	First rescuer continues compressions while second rescuer turns on AED and applies pads
		□ *B.	RESCUERS SWITCH - First rescuer clears victim, allowing AED to analyze (Judges shall provide an envelope indicating a shockable or non-shockable rhythm)
		□ *C.	If AED indicates a shockable rhythm, first rescuer clears victim again and delivers shock.

ENVELOPE #2
SHOCKABLE RYTHYM

6.	RESUME HIGH-QUALITY CPR	□ A.	Second rescuer gives 30 compressions immediately after shock delivery (2 cycles)
		□ B.	First rescuer successfully delivers 2 breaths

ENVELOPE #3
RESPIRATIONS: < 30 PER MINUTE. PERFUSION: RADIAL PULSE PRESENT. MENTAL STATUS: ABLE TO FOLLOW COMMANDS. TRANSPORTATION IS DELAYED.

Perform patient assessment on both Harry and Pat.
Treat all injuries.

#8

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
	☐	*D. Check the ears for bleeding or clear fluids
	☐	*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 (Visually inspect and verbally state inspection of crotch and buttocks areas)
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

#9

7. ARMS	L □ □ □ □ □	R □ □ □ □ □	*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
8. BACK SURFACES	□		*A. Check back for DOTS

BURNS

1. DETERMINE BURN TYPE	□	*A. Determine type ▪ Thermal ▪ Chemical ▪ Electrical
2. DETERMINE BODY SURFACE AREA	□	*A. Determine Body Surface Area (BSA) using rule of nines HARRY (9)
3. BURN CARE (All Types)	□ □ □ □ □ □ □ □	*A. Remove patient from source of burn and prevent further contamination *B. Consider the type of burn and stopping the burning process initially with water or saline if appropriate *C. Remove jewelry *D. Continually monitor the airway for evidence of closure *E. Cover the burned area with a dry sterile dressing *F. Do not use any type of ointment, lotion or antiseptic *G. Do not break blisters *H. Ensure patient does not get hypothermic
4. CARE FOR ELECTRICAL BURNS	□ □ □ □ □	*A. Ensure safety before removing patient from the electrical source *B. If the patient is still in contact with the electrical source or you are unsure, do not approach or touch the patient, contact power company *C. Monitor the patient closely for respiratory and cardiac arrest D. Treat the soft tissue injuries associated with the burn Cover both eyes *E. Look for both an entrance and exit wound
5. REASSESS	□	*A. Reassess level of consciousness (AVPU), respiratory status, and patient response

DRESSINGS AND BANDAGING – OPEN WOUNDS

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

Multiple wounds will be treated as per procedures listed in patient assessment.

FINGER/FINGERS

Immobilize Fracture

1. Tape injured finger to an adjacent uninjured finger; or
2. Tape injured finger to a tongue depressor, aluminum splint, or pen and pencil
3. Secure with sling and swathe

NOTE:

Slings are required for all wounds of upper extremities, including shoulder and armpit wounds. Slings will not be required for upper extremity burns. However, if a burn and wound and/or fracture/dislocation are present on the same upper extremity, a sling shall be applied.

NOTE: Do not reposition dislocations

SPLINTING (SOFT) UPPER EXTREMITY FRACTURES AND DISLOCATIONS (WRIST AND HAND)

PROCEDURES		CRITICAL SKILL
1. CARE FOR FRACTURE	☐ ☐	*A. Check for distal circulation, sensation, and motor function B. Do not attempt to reduce dislocations (if applies)
2. IMMOBILIZING FRACTURE	☐ ☐ ☐ ☐ ☐	A. Support affected limb and limit movement B. Place two cravats (triangular bandage) under wrist/hand C. Place pillow length wise under wrist/hand, on top of cravats (pillow should extend past fingertips) D. Lower limb, adjust cravats to tie E. Tie cravats distal to proximal
3. SECURING WITH SLING	☐ ☐ ☐ ☐ ☐ ☐	A. Place sling over chest and under arm B. Hold or stabilize arm C. Triangle should extend behind elbow or injured side D. Secure excess material at elbow E. Fingertips should be exposed *F. Reassess distal circulation, sensation, and motor function
4. SECURING SLING WITH SWATHE	☐ ☐ ☐	A. Use triangle cravat or factory swathe B. Swathe is tied around chest and injured arm *C. Reassess distal circulation, sensation, and motor function

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

PROCEDURES		CRITICAL SKILL
1. DETERMINE NEED FOR SPLINTING	☐	*A. Assess for: ▪ Pain ▪ Swelling ▪ Deformity
	☐	B. Determine if splinting is warranted
2. APPLY MANUAL STABILIZATION	☐	A. Support affected limb and limit movement ▪ Do not attempt to reduce dislocations
3. SELECT APPROPRIATE SPLINT	☐	A. Select appropriate splinting method depending on position of extremity and materials available
	☐	B. Select appropriate padding material
4. PREPARE FOR SPLINTING	☐	A. Remove or cut away clothing as needed
	☐	*B. Assess distal circulation, sensation, and motor function
	☐	C. Cover any open wounds with sterile dressing and bandage
	☐	D. Measure splint
	☐	E. Pad around splint for patient comfort

#13

5. SPLINT	□	A. Maintain support while splinting
		Living Splint:
	□	A. Immobilize the site of the injury
	□	B. Carefully place a pillow or folded blanket between the patients knees/legs
	□	C. Bind the legs together with wide straps or cravats
	□	D. Carefully place patient on long spine board
	□	E. Secure the patient to the long spine board (if primary splint)
	□	*F. Reassess distal circulation, sensation, and motor function
		Padded Board Splint:
	□	A. Splint with two long padded splinting boards (one should be long enough to extend from the patient's armpit to beyond the foot. The other should extend from the groin to beyond the foot.) (Lower leg requires boards to extend from knee to below the foot.)
	□	B. Cushion with padding in the armpit and groin and all voids created at the ankle and knee
	□	C. Secure the splinting boards with straps and cravats
	□	D. Carefully place the patient on long spine board
	□	E. Secure the patient to the long spine board (if primary splint)
	□	*F. Reassess distal circulation, sensation, and motor function
		Other Splints:
	□	A. Immobilize the site of the injury
	□	B. Pad as needed
	□	C. Secure to splint distal to proximal
	□	D. Carefully place patient on long spine board
	□	E. Secure the patient to the long spine board (if primary splint)
	□	*F. Reassess distal circulation, sensation, and motor function
6. REASSESS	□	*A. Assess patient response and level of comfort

NOTE: Air splints may not be used with open (protruding bones) fractures.

TWO-PERSON LOG ROLL

PROCEDURES		CRITICAL SKILL
1. STABILIZE HEAD	□	*A. Stabilize the head and neck
2. PREPARING THE PATIENT	□	A. When placing patient on board place board parallel to the patient
	□	B. Kneel at the patient's shoulders opposite the board (if used) leaving room to roll the patient toward knees Raise the patient's arm, if not injured (the one closer to the rescuer) above the patient's head
3. PREPARING THE RESCUER	□	A. Grasp the patient at the shoulder and pelvis area
	□	B. Give instructions to bystander, if used to support
4. ROLLING THE PATIENT	□	A. While stabilizing the head, roll the patient toward the rescuer by pulling steadily and evenly at the shoulder and pelvis areas
	□	B. The head and neck should remain on the same plane as the torso
	□	C. Maintain stability by holding patient with one hand and placing board (if used) with other
	□	D. Roll the body as a unit onto the board (if used) (board may be slanted or flat)
	□	E. Place the arm alongside the body

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IMMOBILIZATION – LONG SPINE BOARD (Backboard)

PROCEDURES		CRITICAL SKILL
1. MOVE THE PATIENT ONTO THE LONG SPINE BOARD	□	A. One First Aid Provider at the head must maintain in-line immobilization of the head and spine
	□	B. First Aid Provider at the head directs the movement of the patient
	□	C. Other First Aid Provider control movement of the rest of body
	□	D. Other First Aid Provider position themselves on same side
	□	E. Upon command of First Aid Provider at the head, roll patient onto side toward First Aid Providers
	□	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 First Aid Provider 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	□	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 distal circulation, sensation, and motor function
	□	*B. Assess patient response and level of comfort

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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 1: Elevate the lower extremities or foot end of the back board. This procedure is performed in most cases. Place the patient flat, face up and elevate the legs or foot end of the back board 8 to 12 inches. Do not elevate any limbs with possible fractures or pelvic injuries until they have been properly splinted. Remember to consider the mechanism of injury for every patient.

#17