

2018 NATIONAL MINE RESCUE SKILLS
FIRST AID PROBLEM
SEPTEMBER 19TH 2018



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Your Mine Rescue Team is exploring under oxygen the 001-0 working section at the Fly-By-Night Mining Company when you discover a person that received injuries when he fell into a pile of belt structure:

LIST OF INJURIES:

LIFE THREATENING INJURIES ARE IN RED:

- LIFE THREATENING BLEEDING ON LEFT FEMUR(BONE IS STICKING OUT + WILL TAKE A TOURNIQUET TO CONTROL)
- PATIENT IS COMPLAINING OF BREATHING DIFFICULTIES
 - SUCKING CHEST WOUND
- AFTER TREATMENT OF THE LIFE THREATENING BLEEDING OF THE LEFT FEMUR THE PATIENT STOPS BREATHING AND HAS NO HEARTBEAT AND WILL REQUIRE 2 SETS OF CPR

NON-LIFE THREATENING INJURIES

- FRACTURED FEMUR ON LEFT LEG WITH BONE STICKING OUT
 - 2" OPEN WOUND ON RIGHT FOREARM
 - 3" OPEN WOUND ON LEFT HAND
 - FRACTURED RIGHT FOREARM
 - FRACTURED RIGHT LOWER LEG (TIBIA)

**TEAM SHALL TREAT THE LIFE THREATENING INJURIES IN BY THE FRESH AIR BASE.
THOSE INJURIES ARE AS FOLLOWS:**

- OPEN FRACTURE OF LEFT FEMUR WITH LIFE THREATENING BLEEDING (BONE IS STICKING OUT + WILL TAKE A TOURNIQUET TO CONTROL)
 - PATIENT IS COMPLAINING OF BREATHING DIFFICULTIES
 - SUCKING CHEST WOUND
- AFTER TREATMENT OF THE LIFE THREATENING BLEEDING OF THE LEFT FEMUR THE PATIENT STOPS BREATHING AND HAS NO HEARTBEAT AND WILL REQUIRE 2 SETS OF CPR

SCENE SIZE-UP

STEP	ACTION	DISCOUNT
Scene Safety	Observe the area to ensure team and patient safety * (Captain Verbalizes Area is Safe)	1
Team protection	Don protective gloves and/or any other protection if needed to protect against blood borne pathogens. (BSI)	1
Mechanism of Injury	If possible, determine what forces caused the injury or evidence of a medical problem. * Ask patient (if conscious) what happened	1
Communication	Notify the Briefing Officer/Command Center of the location of the injured person.	1

INITIAL ASSESSMENT

STEP	ACTION	DISCOUNT
Stabilization of Spine	<p>During the assessment avoid unnecessary movement or rough handling of patient</p> <p>(Apply manual immobilization to neck if suspected spine injury)</p>	1
Assess mental status	<p>Determine if patient is alert and responsive or nonresponsive*</p> <p>* (Verbally describe the level of consciousness)</p>	1
Assess airway	<p>Look for absence of breathing (no chest rise and fall), or breathing less than 6 or more than 24 breaths per minute. <i>Unconscious Patient: Ensure airway is open by feeling air from nose or mouth or failure of chest or abdomen to rise and fall or skin is blue or gray</i></p> <p><i>Conscious Patient: * Verbalize that airway has been assessed</i></p> <p>Correctly execute head-tilt/chin-lift or jaw thrust maneuver, depending on the presence of cervical spine (neck) injuries</p> <p><u>If present, treat sucking chest wound Card will be given to team when checking the chest area for breathing.(refer to skill sheet)</u></p>	1
Assess circulation	<p>Unconscious Patient: Check carotid pulse* (5 - 10 seconds)</p> <p>Note: If no pulse perform CPR (refer to skill sheet)</p> <p>Conscious Patient: * Verbalize circulation has been assessed</p>	1
Check for Bleeding	<p>Visual examination of patient (rapid head to toe visual assessment)</p> <p><i>Judges must identify life threatening bleeding on placard (will be at least ¼ inch and in RED)</i></p> <p><u>Note: Stop and Treat serious bleeding if found (refer to skill sheet)</u></p>	1

SUCKING CHEST WOUND:

SUCKING CHEST WOUND

STEP	ACTION	DISCOUNT
Expose wound	Expose entire wound	1
Seal wound and control bleeding	Apply direct pressure "gloved hand" as needed to stop the bleeding	1
Apply an occlusive dressing	Place occlusive dressing over wound Ensure dressing is large enough not to be sucked into the wound	1
	Seal on three sides - Affix dressing with tape	1
Monitor Patient	"Monitor patient closely for increasing difficulty breathing" if breathing becomes difficult "shallow or rapid" release dressing and have patient exhale - reseal	1
	Place the patient on the injured side to allow expansion room for the uninjured lung if there is no spinal injury or other injuries would prohibit	1
Transport	Transport to fresh air base as soon as possible	1

LIFE THREATENING BLEEDING

FRACTURE OF LEFT FEMUR WITH LIFE THREATENING BLEEDING (BONE IS STICKING OUT + WILL TAKE A TOURNIQUET TO CONTROL)

External

STEP	ACTION	DISCOUNT
Direct pressure	Takes appropriate body substance isolation	1
	Cover wound with a clean cloth or your gloved hand and apply direct pressure on the wound <i>If controlled, bandage dressing in place, if not controlled continue skill</i>	1
NOTE: If not controlled, Judge must now inform the person that the wound continues to bleed		
Elevation	If wound is on an arm or leg and there is no fracture, elevate extremity above heart level as you apply pressure unless spine injury is suspected.	1
NOTE: If not controlled, Judge must now inform the person that the wound continues to bleed		
Tourniquets	Apply between the wound and the heart as close to the wound as possible (Approximately 1 inch above the wound) but never over a joint. Tighten till bleeding is controlled. Do not loosen. Make note of time applied. Mark T or TK on forehead. <u>Improvised Tourniquet:</u> Apply a bandage around the extremity above the wound (one inch above but not on a joint) and tie a half knot in the bandage.	1

	<p>Place a stick or pencil on top of the knot and tie the ends of the bandage over the stick in a square knot.</p> <p>Twist the stick until the bleeding is controlled, secure the stick in position.</p> <p><u>Factory Tourniquet:</u></p> <p>Apply per manufacturer recommendation above the wound (one inch above but not on a joint)</p>	
Shock	Verbally state that person will be treated for shock (refer to shock skill sheet)	

NOTE TO JUDGES: AFTER TREATMENT OF THE LIFE THREATENING BLEEDING OF THE LEFT FEMUR GIVE THE TEAM THE STATEMENT THAT READS: THE PATIENT STOPS BREATHING AND HAS NO HEARTBEAT AND WILL REQUIRE 2 SETS OF CPR

CARE-VENT - Manual ventilation and cardiac compressions

STEP	ACTION	DISCOUNT
Preparing Patient	Allow the device to cycle once and then apply the full face mask or attach the Care Vent DRA to the patient's full face mask. A tilt action is used to hyper-extend the neck and move the jaw forward. This helps displace the tongue away from the back of the throat and maintain an open airway.	1
	If the patient's chest does not rise or the gas escapes around the mask or the pressure relief system operator, reposition the patient's head and adjust your hand position to obtain an effective mask and an open airway.	1
	If mask indicates signs of vomit, remove immediately and clear the airway. Ensure the mask and valve is free from obstruction. Restart ventilation immediately after cleaning airway.	1

Ventilation	If manual ventilation is to be used, depress the manual button and observe the rise of the patient's chest. Release the button when the chest rise is adequate.	1
Evaluation	If no respiratory effort is observed, position yourself above the patient's head. Turn on the gas supply. Monitor the patient's skin, nail bed and lip color.	1 1

CARE-VENT - Automatic ventilation

STEP	ACTION	DISCOUNT
Preparing Patient	Allow the device to cycle once and then apply the full face mask or attach the Care Vent DRA to patient's full face mask. A tilt action is used to hyper extend the neck and move the jaw forward. This helps displace the tongue away from the back of the throat and maintains an open airway.	1
Ventilation	Continue ventilation at an appropriate rate until relieved or spontaneous breathing returns. If mask indicates signs of vomit, remove immediately and clear the airway. Ensure the mask and valve is free from obstruction. Restart ventilation immediately after cleaning airway.	1 1
Evaluation	If no respiratory effort is observed, position yourself above the patient's head. Turn on the gas.	1

CPR

STEP	ACTION	DISCOUNT
Establish Unresponsiveness	Tap or gently shake shoulders "Are you OK?" *	1
Determine Patient is not breathing	Determine unconsciousness without compromising possible cervical spine (neck) injury	1
	Look , listen, feel for absence of breathing (no chest rise and fall) or gasping, which are not considered adequate	1
Checks for Pulse	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 muscle in the neck	1
Start Chest Compressions	Locate the compression point on the breastbone between the nipples	1
Start Chest Compressions	Place the heel of one hand on the compression point and the other hand on top of the first so hands are parallel	1
	Do not intentionally rest fingers on the chest	1
	Keep heel of your hand on chest during and between compressions	1
	Give 30 compressions	1
	Compressions are at the rate of at least 100 per minute (30 compressions delivered within 18 seconds)	1
	Compression depth. at least 2 inched for an adult	1
Ventilations Between Compressions	Kneel at the patient's side near the head	1
Ventilations Between Compressions	Correctly execute head-tilt/ chin-lift or jaw thrust maneuver depending on the presence of cervical spine injuries	1
	Place barrier device (pocket mask/shield with one way valve/Care-Vent) on manikin	1

	Give 2 breaths 1 second each	1
	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.)	1
	Provide 5 cycles of 30 chest compressions and 2 rescue breaths	1
Continue Chest Compressions	To check for pulse, stop chest compressions for no more than 10 seconds after the first set of CPR	1
Continue Chest Compressions	If no signs of circulation are detected, continue chest compressions and breaths and check for signs of circulation after each set	1
Continue Chest Compressions	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)	1

PATIENT CAN NOW BE TRANSPORTED TO THE FRESH AIR BASE TO CONTINUE TREATMENTS

THE FOLLOWING INJURIES MUST BE COMPLETED AT THE FRESH AIR BASE:

NON-LIFE THREATENING INJURIES

- 2" OPEN WOUND ON RIGHT FOREARM
 - 3" OPEN WOUND ON LEFT HAND
 - FRACTURED RIGHT FOREARM
- FRACTURED FEMUR ON LEFT LEG WITH BONE STICKING OUT
 - FRACTURED RIGHT LOWER LEG (TIBIA)

Fracture of Left Femur

STEP	ACTION	DISCOUNT
Assess Injured Area	Examine possible injured site for signs and symptoms of fracture:	1
	Assess for circulation and movement below the fractured site	1
Immobilize suspected fracture	Splint in position found - Do not attempt to straighten any painful, swollen, deformed extremity.	1
	Provide manual immobilization - immobilize the limb and apply splint	1
	Check that splints are long enough to support joints above and below suspected fracture	1
	Pad improvised splints to ensure even contact and pressure between the limb and the splint.	1
	Secure fractured area to splint by applying bandaging material above and below the fractured site	1
	Secure all splinted/fractured limbs for transport	1
	Re-Assess for circulation and movement below the fractured site	1

FRACTURED RIGHT LOWER LEG (TIBIA)

Fractures

STEP	ACTION	DISCOUNT
Assess Injured Area	Examine possible injured site for signs and symptoms of fracture:	1
	Assess for circulation and movement below the fractured site	1
Immobilize suspected fracture	Splint in position found - Do not attempt to straighten any painful, swollen, deformed extremity.	1
	Provide manual immobilization - immobilize the limb and apply splint	1
	Check that splints are long enough to support joints above and below suspected fracture	1
	Pad improvised splints to ensure even contact and pressure between the limb and the splint.	1
	Secure fractured area to splint by applying bandaging material above and below the fractured site	1
	Secure all splinted/fractured limbs for transport	1
	Re-Assess for circulation and movement below the fractured site	1

2" OPEN WOUND ON RIGHT FOREARM

OPEN WOUNDS

STEP	ACTION	DISCOUNT
Control Bleeding	Use direct pressure to control bleeding	1
Dressing	Apply sterile dressing over entire wound	1
	Do not remove dressing, if bleeding continues apply additional dressings directly over first dressing	1
Bandaging	Cover all edges of dressing (dressings completely covered)	1
	Do not bandage too tightly.	1
	Do not bandage too loosely.	1
	Do not cover tips of fingers and toes, unless they are injured.	1

FRACTURED RIGHT FOREARM

Fractures

STEP	ACTION	DISCOUNT
Assess Injured Area	Examine possible injured site for signs and symptoms of fracture:	1
	Assess for circulation and movement below the fractured site	1
Immobilize suspected fracture	Splint in position found - Do not attempt to straighten any painful, swollen, deformed extremity.	1
	Provide manual immobilization - immobilize the limb and apply splint	1
	Check that splints are long enough to support joints above and below suspected fracture	1
	Pad improvised splints to ensure even contact and pressure between the limb and the splint.	1
	Secure fractured area to splint by applying bandaging material above and below the fractured site	1
	Secure all splinted/fractured limbs for transport	1
	Re-Assess for circulation and movement below the fractured site	1

3" OPEN WOUND ON LEFT HAND

OPEN WOUNDS

STEP	ACTION	DISCOUNT
Control Bleeding	Use direct pressure to control bleeding	1
Dressing	Apply sterile dressing over entire wound	1
	Do not remove dressing, if bleeding continues apply additional dressings directly over first dressing	1
Bandaging	Cover all edges of dressing (dressings completely covered)	1
	Do not bandage too tightly.	1
	Do not bandage too loosely.	1
	Do not cover tips of fingers and toes, unless they are injured.	1

RAPID ASSESSMENT/FINAL ASSESSMENT

A Rapid Patient Assessment will be performed after the initial assessment has been performed and before the patient is transported to the Fresh Air Base (FAB). This assessment is to determine any life threatening injuries. Treatment must start immediately on life threatening injuries as they are located.

A Final Assessment must be performed at the Fresh Air Base before the clock stops.

The Skill Sheet below is for Rapid and Final Assessment.

STEP	ACTION	DISCOUNT
Examine for life threatening injuries	Check Head	1
	Check Neck	1
	Check Chest	1
	Check Abdomen	1
Verbalize each area examined	Check Pelvis	1
	Check Legs	1
	Check Arms	1
	Check Back Surface	1

FOUR MAN LOG ROLL

STEP	ACTION	DISCOUNT
Prepare for the Roll	Stabilize the neck and head and open airway by modified jaw-thrust	1
	Place spine board parallel to the patient	1
	Position one person at the shoulder, one at waist and one at the knee	1
	Shoulder rescuer extends patient's arm over the head on the side the patient will be rolled	1
	Rescuers will place hands under patient's shoulder, upper arm, waist, buttocks, knees and mid-calf	1
Roll	Roll patient in unison on side toward the rescuers	1
	Waist rescuer pulls spine board against patient	1
	On command roll patient as a unit onto board	1

SHOCK

STEP	ACTION	DISCOUNT
Assess for Shock	Assess for shock and verbally state treatment for shock	1
Treatment	Keep victim lying down	1
	Cover with blanket to prevent loss of body heat	1
	Elevate according to injury	1
	<i>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 and/or placed on a spinal board. Remember to consider the mechanism of injury for every patient.</i>	
	<i>Do not elevate feet if you are treating a person with: head injury, heart attack, stroke, or chest injuries</i>	
	Reassure and calm the patient	1