



# Victim Assessment

## Scene size up - is it safe?

Reasons for not helping a victim are called “barriers to action.” Common barriers to action include:

<b>1:</b> I'm #1 – am I safe right now? (physical dangers such as fire, avalanche, traffic)	<b>2:</b> What happened to you? (mechanism of injury, how to care in that circumstance)	<b>3:</b> Don't get it on me! (consider and improvise personal protective equipment)	<b>4:</b> Are there more? (account for all victims)	<b>5:</b> Dead or alive? (if multiple victims, focus efforts appropriately)
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As a general rule, especially when dealing with possible injuries to the spinal column, perform first aid on the victim where they lie. However, if circumstances exist where there is potential for further injury, move the victim only as far as necessary, making efforts to maintain spine alignment. Use good judgment, and do not endanger yourself unnecessarily.



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# Primary Survey – M, A, R, C, H

## M – MASSIVE HEMORRHAGE

- 1) Rapidly assess for pulsatile arterial or brisk venous bleeds, limb amputation.
- 2) Apply tourniquet proximal to the wound, remembering that blood vessels are very elastic and often retract some distance when severed. Placement of the tourniquet should be at least one palm-width above the injury. If there is any question, place the tourniquet high and tight, being sure to mark the time of application.
- 3) With proper tourniquet application, all visible hemorrhaging from the wound should cease and there should be no distal pulses palpable. If a pulse still exists, tighten the tourniquet, or apply a second one, to avoid compartment syndrome.

## A – AIRWAY WITH C-SPINE

- 1) If the victim responds, he or she is breathing and has a pulse.
- 2) Place your ear close to the victim's mouth, listen and feel for air movement, and watch to see if the victim's chest and abdomen rise and fall from the act of breathing. If the victim is lying face down, roll them onto their back as a single unit, paying special attention not to twist or jerk the spine or neck.
- 3) If the victim is not breathing, visualize and remove any foreign objects from the mouth, then open the airway by placing one hand on the forehead while lifting the chin with the other hand. With the head in this position, the victim's relaxed tongue will be less likely to block the airway.
- 4) If you suspect that the victim has head, neck, or back injuries, or if you come upon someone who is unconscious, use the jaw-thrust technique to open the airway. This technique minimizes neck movement. The jaw-thrust technique is performed by kneeling with your knees on either side of the victim's head, placing your hands on the victim's jawbone, and pushing the base of the jaw up and forward.
- 5) Cervical spine immobilization at this stage of assessment is rapidly accomplished by provider hands on the side of the head or forehead, with the victim's head between a provider's knees, or by quickly padding the head with clothing. This is not the time for definitive stabilization as the provider must progress with MARCH to identify all immediate life threats.

## R – RESPIRATION

- 1) If the victim does not start breathing on their own after their airway has been opened, begin mouth-to-mouth rescue breathing.
- 2) With the airway open, pinch the victim's nostrils shut with your thumb and forefinger. Place your mouth over the victim's mouth, creating a seal with your lips. Blow air into the victim, and then wait for the victim to exhale. Give two of these initial breaths; making sure that air is entering the victim's lungs by watching their chest rise and fall. If air is not moving easily, reposition the victim's head farther back and re-attempt your rescue breaths.

- 3) If the victim's airway is still blocked, you may perform the Heimlich maneuver while kneeling down and straddling the victim's thighs. Start by placing the heel of one hand midway between the victim's navel and sternum. Place your other hand on top of the first, and give a few quick thrusts inward and upward, forcing bursts of air to dislodge the object. Periodically, assess the victim's mouth to see if the object has been, or can be, dislodged.
- 4) Once the airway is patent (air moving easily), continue with MARCH. Once completed, if the patient has a pulse but remains apneic (such as lightning strike victim), provide one breath every five seconds until the victim starts to breathe on their own, professional medical help arrives, or you no longer have the strength to continue.
- 5) At times, while performing rescue breathing, the victim may vomit due to air in their stomach. If vomiting occurs, "logroll" the victim to one side while maintaining spine alignment. This should be done on the count of the person holding the head. Clear the airway and resume rescue breathing.

### Rescue breathing for a child

Use the head-tilt method, give two slow 1 to 1-1/2 second breaths, with a two second pause between breaths. Gently breathe in enough air to make the child's chest rise. Blind finger sweeps are not recommended in children under the age of 8 as their upper airways are too small.

## C - CIRCULATION

**CARTS** – mnemonic to ensure assessment of all potential major areas of bleeding

**Chest:** A very common source of bleeding, particularly in high-speed trauma. Look for shortness of breath, coughing up blood, flail chest, crackling noises over the chest wall, and/or tenderness over the heart and lungs.

**Abdomen:** Abdominal bleeding should be assumed to be present in trauma until proven otherwise. Examine the victim for a tender, rigid, or distended abdomen.

**Renal (kidneys):** Look for blood in the urine if you can get a sample. Usually the bleeding is from the kidneys. Frank blood may indicate a bladder rupture. Assess for tenderness or bruising of the flank/back areas at the level of the lowest ribs.

**Thigh:** This usually occurs only if there is a proximal or mid-shaft femur fracture. A thigh that is tender, deformed, and enlarging is a sign of serious bleeding into the thigh muscles. Compare to the normal, unaffected limb if possible.

**Street / skin:** The street or ground is often the only place that people look for bleeding because it is the most obvious. Keep in mind certain surfaces and fabrics are more absorbent than others. Don't forget to remove clothing and assess at the skin level.

## Primary survey – M, A, R, C, H *cont.*

### H – HYPO/HYPEROTHERMIA AND HIKE/HELO

- 1) Ensure the victim is protected from current environmental conditions, including ground temperature/moisture. In the injured state, the body is far less able to thermoregulate. Mitigate this stress so the body can focus on handling the stressors of injury. Rescuers often forget this as they are generally healthy and charged with adrenaline.
- 2) Begin to plan for further care and extrication, if necessary. Are there key items or resources that could mean life or death? Can the patient wait for safer ground transport or must the risks of air evacuation be taken? Time is both an abundant commodity and formidable enemy. Wherever possible, perform tasks in parallel to maximize efficiency and decrease time to definitive care.

## Secondary Survey

The secondary survey is an abbreviated history of the injured victim.

<b>S</b>	Signs/Symptoms - what are the patient complaints and problems?
<b>A</b>	Allergies - medications, environmental, foods
<b>M</b>	Medications / Medical alert tags
<b>P</b>	Past medical history, surgeries, injuries, and illnesses
<b>L</b>	Last oral intake (when and what)
<b>E</b>	Events leading up to and causing the accident / injury

If the victim is in pain, the following mnemonic will help to gather more information.

<b>C</b>	Character. What does the pain feel like?
<b>O</b>	Onset. When did the pain start?
<b>L</b>	Location. Where is the pain located?
<b>D</b>	Duration. How long did the pain last?
<b>E</b>	Exacerbation. What makes the pain worse?
<b>R</b>	Relief. What makes the pain better?
<b>R</b>	Radiation. Does the pain move anywhere?

## Secondary Survey *cont.*

If an unconscious victim is encountered, the following mnemonic is a helpful tool to assist in remembering the broad differential of causes for the patient's state. Search for medical alert tags, look for information in any pockets or backpacks, ask for information from bystanders, etc.

<b>A</b>	Allergies / Altitude
<b>E</b>	Epilepsy / Environment
<b>I</b>	Infection
<b>O</b>	Overdose (drugs, alcohol, medicine)
<b>U</b>	Underdose (medicines)
<b>T</b>	Trauma / Toxins
<b>I</b>	Insulin (diabetes)
<b>P</b>	Psychological disorder
<b>S</b>	Stroke / Seizure

## CPR- Cardiopulmonary Resuscitation

Check for a pulse by placing your index and middle fingers on the victim's throat over the Adam's apple, and then slide your fingers to the side of the neck to the space between the Adam's apple and the neck muscle to feel the carotid pulse. Apply light pressure, and wait for at least 10 seconds to feel for a pulse (You may need to wait a little longer if the victim is cold or hypothermic). If you do not detect a pulse, begin chest compressions and mouth-to-mouth rescue breathing.

- 1) With the victim on their back, kneel at one side. Place the heel of one of your hands on the victim's sternum on a line even with the victim's breast nipples, two fingers above the xyphoid process. Place your other hand on top of the first, then interlock your fingers.
- 2) Your shoulders should be directly over your hands with elbows locked.
- 3) Using your body and not your arms, compress the breastbone 1.5 to 2 inches, and then release. Do this in an up and down motion. Don't rock back and forth while compressing, and do not remove your hands in between compressions. Compressions should be given at a rate of 100-200 per minute. It is normal to hear and feel bones and cartilage crack and pop while giving chest compressions. If you experience this, continue with compressions.
- 4) If working alone, perform repeating cycles of 30 compressions, followed by 2 rescue breaths. Check for a return of pulse periodically. Continue until you feel a pulse, professional medical help arrives, or you no longer have the strength to continue.
- 5) If two rescuers are working together, one should be positioned at the head for mouth-to-mouth breathing, while the other is at the torso for chest compressions. After every thirty compression, the first rescuer pauses to allow the second rescuer to give two rescue breaths. When the rescuers begin to tire, they may trade positions. The person performing compressions should call for the change.

### Chest compressions on a child

Place the heel of one hand on the child's sternum, then, with less force, compress the child's chest 1 to 1½ inches. Give about 100-200 compressions per minute with two rescue breaths after every thirty compressions if alone or 15 compressions if two rescuers.

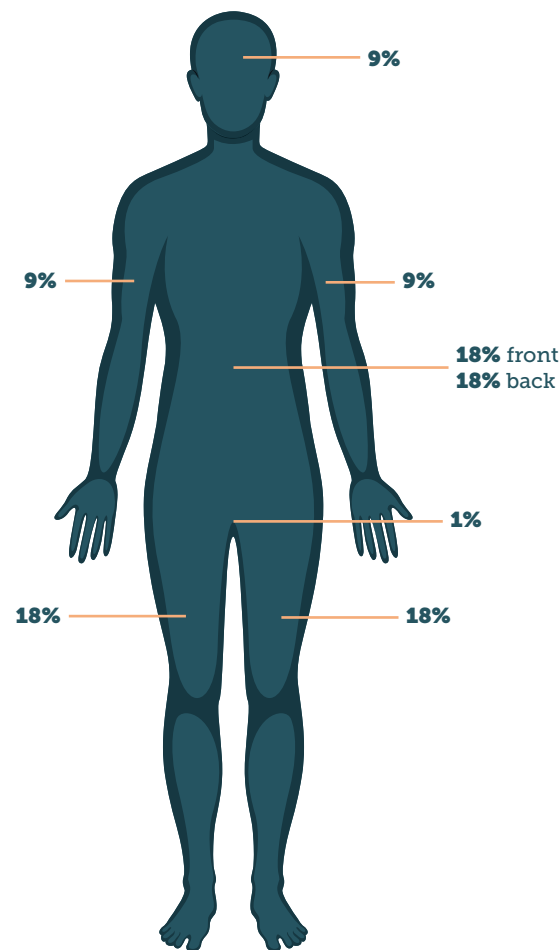
## The Glasgow Coma Score

The Glasgow Coma Score (GCS) is a standardized tool to evaluate brain injuries. It rates three categories of patient responses; eye opening, best verbal response, and best motor response. Healthy persons should always have a Glasgow Coma Score (GCS) of 15. Anything less indicates injury to the brain. Be aware that a victim's GCS may change over time. These changes have great value in determining whether a patient is improving or declining. An improving GCS over time is a positive sign. A GCS that is worsening is indication of a deteriorating mental status and worsening of the brain injury.

	ADULTS	INFANTS/CHILDREN
<b>Eye Opening</b>		
4	spontaneous	spontaneous
3	to voice	to voice
2	to pain	to pain
1	none	none
<b>Verbal Response</b>		
5	oriented	alert
4	confused	cries
3	inappropriate words	irritable
2	incomprehensible words	restless, moaning
1	none	none
<b>Motor Response</b>		
6	obeys commands	spontaneous
5	localizes pain	localizes pain
4	withdraws	withdraws
3	abnormal flexion	abnormal flexion
2	abnormal extension	abnormal extension
1	none	none

## Rule of Nines

The "rule of nines" is used to determine the percentage of the total body surface area (TBSA) that has been burned. The area of an individual's palm represents about 1% of his or her TBSA.



- » Each arm represents about 9% of TBSA
- » Each leg represents about 18% of TBSA
- » Front of trunk represents about 18% of TBSA
- » Back of trunk represents about 18% of TBSA
- » Head and neck represent about 9% of TBSA
- » Groin represents about 1% of TBSA

# Evacuation Guidelines

The following is a list of situations that present the necessity of evacuation.

## ABDOMINAL PROBLEMS

- When victims receive serious abdominal injuries, they need to be evacuated immediately.
- General evacuation guidelines:
  - The pain is associated with the signs and symptoms of shock.
  - The pain persists for longer than 24 hours
  - The pain localizes and there is guarding, rigidity or extreme tenderness.
  - Blood appears in the vomit, feces or urine.
  - The pain is associated with a fever greater than 102 degrees F.
  - The pain is associated with pregnancy.
  - The victim is unable to drink or eat.

## ALTITUDE SICKNESS

- Any victim suffering from a lack of control of motor function, HAPE, and/or HACE due to altitude must descend to a lower elevation immediately.
- No immediate evacuation is necessary if the victim recovers by descending to a lower elevation.

## ALLERGY PROBLEMS

- Victims treated for anaphylaxis should be evacuated for further medical evaluation.
- Victims should be kept on an oral antihistamine during evacuation.

## ANIMAL BITES AND STINGS

- Victims that are bitten or stung by an animal known to be venomous should be evacuated to receive definitive care.
- Large bite wounds, or any wounds suspected of being infected should lead to victim evacuation.

## ATHLETIC INJURIES

- Evacuation necessity is determined by the victim's ability to use the injured body part. If a limb is not usable, the victim should be evacuated, but rapid evacuation is not always necessary unless there is no pulse or sensation.

## BLEEDING

- A victim with signs and symptoms of a rapid decrease in blood pressure, or one who has not quickly improved following treatment of shock, should be evacuated.

## BURNS

- In the wilderness, any burn that meets the following criteria should be evacuated:
  - 1) Partial thickness (2nd degree) burn greater than 10% of TBSA.
  - 2) Full thickness (3rd degree) burn that is greater than 1% of TBSA.
  - 3) Major burn of the hand, face, feet or genitals.
  - 4) Burn with inhalation injury.
  - 5) Electrical burn.
  - 6) Burn in a medically ill victim.

## CARDIAC

- Victims with suspected myocardial infarction and/or congestive heart failure should be evacuated promptly. Take care not to exacerbate disease (avoid exertion).

## CHEST INJURIES

- Evacuate for any serious chest injury.
- Prompt evacuation if victim has increasing difficulty breathing and increasing anxiety.

## CPR

- Anyone resuscitated by CPR should be evacuated and receive definitive medical care immediately

## DERMATOLOGY

- If a large body surface area is involved with a severe rash, one should consider evacuation.
- If serious systemic symptoms, such as moderate fever, chills, and headache, are present or if pain cannot be controlled, then the victim should be evacuated to definitive care.

## DIABETIC EMERGENCIES

- Hyperglycemic victims should be evacuated if treatment is not working.
- Hypoglycemic victims should be evaluated for evacuation based on effectiveness of treatment and the victim's wishes.

## DISLOCATIONS

- Due to the possibility of underlying damage, all dislocations should be evacuated and receive further medical evaluation.
- Prompt evacuation for victims that resist reduction attempts.
- Evacuation is not necessary for dislocation of the fingers, or for chronic dislocations if the victim still has use of the joint after relocation.

## Evacuation Guidelines *cont.*

### DIVING

- Immediate evacuation is required for any victim with decompression sickness or suspected air embolism.
- Sudden unconsciousness or increasing difficulty breathing should lead to prompt evacuation.

### EYE INJURIES

- Evacuate immediately if the eye has been punctured.
- Evacuate immediately if there is a sudden loss of vision in a quiet eye.
- Evacuate as soon as possible if there is a complex lid laceration, hyphema, corneal foreign body, or the cornea turns opaque in any area.
- If pain and/or redness persists in the eye for more than a few days, it is appropriate to evacuate.

### FRACTURES

- Evacuate any victim with suspected fractures.
- Expediency is necessary with open fractures, fractures of the pelvis or femur, or fractures with decreased function further from the injury, which might indicate a more extensive injury, or neurovascular problem.

### HEAD INJURIES

- With a suspected skull fracture or penetrating head wound, the victim should be rapidly evacuated.

### HEAT RELATED PROBLEMS

- Any victim treated for heat stroke should be evacuated.
- Recovery from heat cramps or heat exhaustion does not necessitate evacuation.

### HYPOTHERMIA AND FROSTBITE

- A victim recovering from mild or moderate hypothermia does not need to be evacuated
- Victims with severe hypothermia should be quickly and carefully evacuated.
- Evacuate any victim with frostbite that results in blisters and/or dusky or blue-gray skin.
- Evacuate if the victim has full-thickness frostbite.

### INFECTION

- If the victim does not show prompt improvement after treatment of an infection, then they should be quickly evacuated.

### LIGHTNING

- Any victim of a lightning strike should be evacuated as soon as possible. Even if the individual does not have any overt evidence of damage, there is a high likelihood of a significant injury.

### NEUROLOGICAL EMERGENCIES

- Evacuate any victim suffering a stroke, a TIA (transient ischemic attack, which is a warning for an impending stroke), or a new seizure.
- A significant change in mental status should lead to victim evacuation.

### POISONS

- Victims with a change in level of consciousness or respiratory drive should be rapidly evacuated.
- A known lethal dose of a poison should lead to immediate evacuation.

### PREGNANCY

- Any possibility of pregnancy complication should lead to victim evacuation.
- If a baby is delivered in the wilderness, both the mother and baby should be evacuated.

### PSYCHIATRIC

- Any group member who is a danger to himself or herself or to anyone else must be evacuated immediately. Victims who are psychotic or who appear manic should be evacuated immediately. Victims who appear anxious or depressed should be evacuated. Persons whom you fear are at risk for PTSD after an accident or event should be evacuated as soon as time permits in order to seek professional help.

### PULMONARY

- Victims treated for medical emergencies that involve difficulty breathing should be evacuated immediately.
- Victims with mild to moderate asthma or hyperventilation syndrome that is successfully treated do not need to be evacuated. Victims who are asymptomatic with no respiratory distress may be observed for a period of at least six hours for development of new respiratory symptoms. If they are asymptomatic for this entire period, then they do not require evacuation.

### WOUNDS

- Evacuation of wounds should occur when necessary to preserve life, limb, and function, and when spread of infection cannot be controlled.