Critical Interventions

When you are doing the primary survey and you find something wrong, you need to stop and do critical intervention.

d-Spine

(ALERT 52-54, CLSM 5-13)

d-spine stands for "delicate" spine and refers to the critical intervention for a patient who potentially has a spinal injury. If the patient is in the water, there are three main types of rollovers to be familiar with for use in different situations:

1. Vice Clamp
2. Log Roll
3. Modified Body Roll

For patients who are in the water, we have procedures for dealing with this on a spineboard. The two common procedures that are used here are called:

1. Slantboard Procedure
2. Flatboard Procedure

For potential spinal injuries out of the water, we generally use sandbags to keep the head in place. There are also several clamps that we can use both in and out of the water to keep the patient is place, to roll them on the side, or from a prone position. It is important to familiar with all these clamps, so that you can adapt to any situation.

1. Long-Short Clamp
2. Trap Clamp
3. Vice Clamp
4. Log Roll

Airway

(CLSM 7:6-9)

Conscious partial obstruction	-"keep coughing"
Conscious complete obstruction	-abdominal thrusts
Unconscious partial obstruction	-roll & sweep
Unconscious complete obstruction	-chest compressions, hook & look

Airway management is especially important in an aquatic environment where it is more likely for your patient to have fluid in their throat. You must keep your patient on their side at all times and monitor the airway carefully.

If your patient is breathing, it is important to still monitor their airway (keep it open) to ensure that your patient can continue to breathe.

Breathing

(CLSM 7:10-12)

No breathing -Rescue Breathing (aka Artificial Respiration)
Inadequate breathing -Assisted Ventilations (see separate handout)

If your patient's breathing is not effective, this requires critical intervention. This applies to both conscious and unconscious patients. In particular, a spinal patient may be conscious and non-breathing due to paralysis.
Once you start rescue breathing, it is important to maintain breaths as consistently as possible. Do not forget about breaths while trying to do other things. You should have one lifeguard focusing just on giving breaths if at all possible.
Ensure that you constantly monitor both airway and circulation when giving rescue breathing to look for any changes in the patient's condition.

Gastric Distention

A common problem in rescue breathing is air entering both the lungs and the stomach, causing the stomach to balloon our (gastric distention). This can happen when rescue breathing is performed too fast or with too much air. If you notice the stomach ballooning out, reposition the head to ensure the airway is opened adequately, give slower rescue breaths, and breathe only enough to see the chest rise visibly.
Note: Even if the stomach is distended, never press on the abdomen as it may cause vomiting or even force stomach fluids to enter the lungs.

Circulation

(CLSM 7:13-17)

No pulse -Cardio Pulmonary Resuscitation (CPR)
Poor circulation -Treat for shock

Late stages of pregnancy
When cardiac arrest occurs in a pregnant woman, start CPR as soon as possible. Put a pillow or some other wedge-shaped object under the right side of the woman's abdomen to shift the uterus to the left side. This will help blood return to the woman's heart.

Skills Summary

	Adult	Child	Infant
Rescue Breathing			
Volume	Breathe slowly until the chest visibly rises – about 2 seconds per breath	Breathe slowly until the chest visibly rises – about 1 to 1½ seconds per breath	Breathe slowly until the chest visibly rises – about 1 to 1½ seconds per breath
Rate	1 breath every 5 seconds, or about 12 breaths per minute	1 breath every 3 seconds, or about 20 breaths per minute	1 breath every 3 seconds, or about 20 breaths per minute
Compressions			
Hand Position	Place both hands on the lower half of the breastbone	Place one hand on the lower half of the breastbone	Place two fingers on the lower half of the breastbone (one finger width below the nipple line)
Depth	4 to 5 cm 1.5 to 2 inches	2.5 to 4 cm 1 to 1.5 inches	1 to 2.5 cm 0.5 to 1 inches
Rate	About 100 per minute	About 100 per minute	At least 100 per minute
CPR			
Ratio	15 compressions: 2 rescue breaths	5 compressions: 1 rescue breaths	5 compressions: 1 rescue breaths
Sets per Minute	4	About 20	About 20

Rapid Body Survey

(CLSM 8:8-9)

Deadly Bleeding

A patient has to be losing a large quantity of blood for it to be considered "deadly." (the body can usually cope with losing up to about a quarter of it's blood supply or almost 2 litres) However, you want to stop the bleeding before it gets to that point.

To control bleeding, get a hand covering the wound at first, and then apply direct pressure using a tightly secured bandage. Then add some ice and elevation. If this does not work to control the bleeding, you must use ***indirect pressure***.

There are two locations where indirect pressure can be applied. For a bleeding leg, you put one hand along the crease of the groin (karate-chop style) and the other hand over top pushing down. This is the femoral pressure point. For a bleeding arm, simply squeeze the soft area midway between the elbow and armpit on the inner using your fingers to push the artery against the bone. This is the brachial pressure point.

Apply this indirect pressure for five minutes, giving your other lifeguard a chance to apply a better bandage directly on the wound. After five minutes, *slowly* release the indirect pressure.

Escaping Air

Fully expose the area, cover the hole with your gloved hand, and look for an exit wound. Your initial goal is just to ensure that the wound is sealed. Once you are done the primary survey and have your first aid kit, you will properly treat the injury. (see separate handout)

major Fracture

If you noticed any major unstable fractures during your rapid body survey (such as a compound femur or humorous fracture), you should take some care not to move the patient unless necessary. You can put some sandbags or blankets around the injury initially until you have time to properly bandage it later.

Medical condition

Depending on the medical condition that your patient is suffering from, you will react accordingly. You might have to get them their medication, or help them in other ways. The important thing is to realize when this is a necessary critical intervention.