

DECOMPRESSION ILLNESS (Dysbarism)

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DATE: February 2013

Information Needed:

- Length of time patient submerged (total dive time)
- Number of dives made
- Duration of and time since descent/ascent (total surface interval)
- Were decompression dives made and at what interval?
- Depth of deepest submersion and depth of last dive
- Any loss of consciousness
- Temperature of the water
- Mechanism of injury suggestive of head/neck injury
- Did the diver perform an emergency ascent? If so, from what depth?
- Was the dive made with compressed air or mixed gases?
- Was there any air flight in last 24 hours?

Objective Findings:

- Joint pain (location)
- Pulmonary exam: rales or signs of pulmonary edema, respiratory distress
- Neurologic exam: monitor continuously for evolution of focal deficits
- Cardiac rhythm
- Resolution of symptoms with O₂

Treatment:

- Routine medical care
- 100% oxygen by non-rebreather mask
- Place patient in left lateral position, have suction ready
- Immediate transport to appropriate local hospital
- IV access, treat for dehydration

For joint pain:

- Consider morphine sulfate 2 - 5 mg slow IVP for discomfort. May repeat morphine in 2-5 mg increments q 5 minutes or more up to 20 mg.
- If unable to establish an IV up to 5 mg of morphine sulfate may be administered IM. May repeat in up to 5 mg increments q 10 minutes to a max of 20 mg.
- Prior to the administration of morphine sulfate, and prior to each repeat dose, the patients pain and vital signs should be reassessed. The patient must have a SBP>90 mmHg, respirations>12, and awake to report pain.

Precautions and Comments:

- Shock position is contraindicated (this position does not affect circulatory system, emboli, and it may increase cerebral edema)
- Keep patient supine/left lateral recumbent position if possible to reduce risk of cerebral air embolism
- Focal deficits and neurologic changes indicate need for rapid transport to a hyperbaric chamber after stabilization at a local emergency department
- Low altitude, rapid air medical evacuation if necessary to the nearest decompression chamber
- Rapid ascent or breath-holding during ascent may cause central air embolism or ruptured tympanic membrane(s)
- Be alert for recurring hypoxia
- O₂ may resolve symptoms but is not a substitute for definitive care
- As much as 50% of dive injuries occur at depths not needing recompression
- Dysbarism may also occur in workers conducting operations in a pressurized air environment, e.g. bridge caisson workers. Consult on-scene work supervisors
- DAN (Divers Alert Network) Diving Emergency Hotline 919-684-9111 (24 hours/day)