Patient Management

Assessment

Assessment should target the signs and symptoms of altitude illness but should also consider alternate causes of these symptoms

Treatment and Interventions

1. Ensure scene safety for rescuers
2. Stop ascent
   a. Patients with acute mountain sickness only may remain at their current altitude and initiate symptomatic therapy
   b. Patients with HACE or HAPE should initiate descent
3. Perform **ABC**s (**A**irway, **B**reathing, **C**irculation) and manage airway as necessary
4. Administer supplemental oxygen, if available, with goal to keep oxygen saturations 90%
5. Descend to lower altitude. Descent is the mainstay of therapy and is the definitive therapy for all altitude related illnesses. Descent should be initiated as soon as scene conditions permit
   a. If severe respiratory distress is present and pulmonary edema is found on exam, clinician should start positive pressure ventilation
   b. Establish IV and perform fluid bolus with goal to maintain systolic BP greater than 90 mmHg
   c. Monitor cardiac rhythm
6. Descent should always be the primary treatment strategy for patients suffering from altitude illness, especially patients suffering from HACE and HAPE. If decent is not possible, or if medical direction permits, the EMS clinician may consider the following possible therapies — portable hyperbaric chambers are effective for the management of severe altitude illness. However, they should not be used in lieu of decent, only as an alternative should descent be unfeasible.
   a. Acute mountain sickness
      i. Ibuprofen or acetaminophen for pain [See Pain Management Guideline]
      ii. Ondansetron 4 mg IV, PO, or sublingual every 6 hours for vomiting [See Nausea-Vomiting Guideline]
      iii. Acetazolamide: up to 250 mg PO twice a day
         1. **Pediatric** dosing is 2.5 mg/kg to a maximum of 125 mg, given twice a day
         2. Acetazolamide speeds acclimatization and therefore helps in treating acute mountain sickness
      iv. Dexamethasone 4 mg IM, IV, or PO q 6 hours until symptoms resolve
         1. **Pediatric** dosing is 0.15 mg/kg IM, IV, or PO q 6 hours; maximum single dose is 4 mg.
         2. Dexamethasone helps treat the symptoms of acute mountain sickness and may be used as an adjunctive therapy in severe acute mountain sickness when the above measures alone do not ameliorate the symptoms. In these circumstances, patients should also initiate descent, as dexamethasone does not facilitate acclimatization
   b. HACE: All therapies listed below should be considered as adjunctive to descent. Descent should always be the primary treatment modality
      i. Dexamethasone: 8 mg IM, IV, or PO once followed by 4 mg q 6 hours
         1. **Pediatric** dosing: 0.15 mg/kg/dose every 6 hours