ALTITUDE EMERGENCIES IN THE PREHOSPITAL ENVIRONMENT

AMS Prevention

- Rapid ascents to 2500M or less do not require prophylaxis.
- Rapid ascents to 2500M-3500M in less than 24 hours: Use acetazolamide 125mg PO BID starting at 8 hours and 24 hours prior to ascent.
- Rapid ascents to 3500M or higher results in a 70-100% incidence of AMS. Prophylaxis with dexamethasone 4mg q6h and acetazolamide 125mg PO BID should be used starting 24 hours prior to ascent.

Mild AMS

- Score 3-5
- Consider evacuation to 300 –1,000m lower altitude to speed recovery
- Titrate SpO2 >90% if available
- Administer ibuprofen or acetaminophen to treat headache.

Moderate AMS

- Score 6-9
- Consider evacuation to 300 –1,000m lower altitude to speed recovery
- Administer acetazolamide
 - Consider dexamethasone 4mg every 6 hours, max of 2 doses
 - \circ No ascent until ≥24 hours after last dose

Severe AMS

- Score 10-12
- Evacuate 300–1,000m lower altitude
- Administer acetazolamide 250mg every 12 hours
- Administer dexamethasone 4mg every 6 hours, max of 2 doses
 - No ascent until ≥24 hours after
 - last dose



- AMS patients are prescribed acetazolamide per protocol.
- HACE patients are prescribed acetazolamide per protocol.
- HAPE patients are prescribed nifedipine or phosphodiesterase inhibitors per protocol.



STOP ASCENT IF PATIENT DISPLAYS

- Headache Fatigue
- Dyspnea
 Dizziness
- Nausea
 Sleep
- Anorexia difficulties

IF EVACUATION IS PROLONGED OR UNAVAILABLE

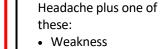
If immediate descent is not an option, individuals with severe AMS and risk of progression to HACE/HAPE should be treated with the following:

- HACE: administer dexamethasone -8mg followed by 4mg every 6 hours.
- HAPE: administer nifedipine:
 - Extended release: 30mg orally every 12 hours
 - Immediate release: 20mg orally every 8 hours

If casualty is not a candidate for nifedipine, administer phosphodiesterase inhibitor.

- Tadalafil 10mg orally every 12 hours OR
- Sildenafil 50mg orally every 8 hours

Portable hyperbaric chambers can be used in conjunction with oxygen if available. It is a temporary stopgap pending descent.



/lightheadedness

AMS DX

- Nausea/vomiting
- Anorexia
- Fatigue

HACE Dx

High-Altitude Cerebral Edema

- Ataxia
- Altered mental status OR
- No pre-existing AMS
- Onset of ataxia AND
- altered mental status

HAPE Dx

High Altitude Pulmonary Edema

2 Signs from:

- Tachycardia
- Tachypnea
- Crackles or wheezing in at least 1 lung
- Central Cyanosis

2 Symptoms from:

- Dyspnea at rest
- Cough
- Decreased exercise tolerance
- Chest tightness or congestion



This information is pulled from the evidence-based Joint Trauma System (JTS) Altitude Emergencies in the Prehospital Environment Clinical Practice Guideline (CPG). JTS CPGs can be found at the <u>JTS CPG</u> website or the JTS Deployed Medicine site.