Altitude Illness
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• **What is altitude illness?**
  - Acute Mountain Sickness (AMS)
  - High Altitude Cerebral Edema (HACE)
  - High Altitude Pulmonary Edema (HAPE)

• **What is a WRMC and 1st aid approach?**
Acute Mountain Sickness (AMS)

- **Symptoms**
  - Headache
  - Nausea/vomiting
  - Loss of appetite
  - Lethargy/fatigue
  - Dizziness/weakness
  - Sleep disturbance
  - Ataxia (advanced symptom bordering on HACE)
Acute Mountain Sickness (AMS)

- **TREATMENT**
  - *Descent is the best treatment.*
  - *Rest at current altitude*
  - *Rehydration, Food intake*
  - *Use of acetazolamide, antiemetics, oxygen*
  - *Portable hyperbaric chamber (Gamow)*
  - *In extreme cases, consider dexamethasone*
Acute Mountain Sickness (AMS)

• PREVENTION
  – Ascend Slowly
  – Prophylactic acetazolamide
  – Proper hydration and nutrition
  – Awareness vs Denial
# Acute Mountain Sickness (AMS)

<table>
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<tr>
<th>Risk Category</th>
<th>Description</th>
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| Low           | Individuals with no prior history of altitude illness and ascending to <2800 m (9186 feet)  
Individually taking >2 days to arrive at 2500-3000 m (8202-9843 feet) with subsequent increases in sleeping elevation <500 m (1640 ft)/day and an extra day for acclimatization every 1000 m (3281 feet) |
| Moderate      | Individuals with prior history of AMS and ascending to 2500-2800 m (8202-9186 feet) in 1 day  
No history of AMS and ascending to >2800 m (9186 feet) in 1 day  
All individuals ascending >500 m (1640 ft)/day (increase in sleeping elevation) at altitudes above 3000 m (9843 feet) with an extra day for acclimatization every 1000 m (3281 feet) |
| High          | History of AMS and ascending to >2800 m (3281 feet) in 1 day  
All individuals with a prior history of HAPE or HACE  
All individuals ascending to >3500 m (11,483 feet) in 1 day  
All individuals ascending >500 m (1640 ft)/day (increase in sleeping elevation) above >3000 m (9843 feet) without extra days for acclimatization  
Very rapid ascents (e.g., <7-day ascents of Mt. Kilimanjaro) |

AMS, Acute mountain sickness; HACE, high-altitude cerebral edema; HAPE, high-altitude pulmonary edema.  
**Notes:**  
Altitudes listed in the table refer to the altitude at which the person sleeps.  
Ascent is assumed to start from elevations <1200 m (3937 feet).  
The risk categories described above pertain to unacclimatized individuals.
High Altitude Cerebral Edema (HACE)

- **Symptoms**
  - Severe headache
  - Loss of appetite. Nausea, Vomiting
  - Lethargy, Fatigue, Weakness
  - Sleep Disturbance
  - Dizziness, Ataxia
  - Behavioral changes, Confusion
  - Neurologic deficits
  - Advanced stages: coma
High Altitude Cerebral Edema (HACE)

• TREATMENT
  – *Descend! Descend! Descend!*
  – Oxygen
  – *Dexamethasone*
  – *Hyperbaric Chamber*
  – *Acetazolamide*
High Altitude Cerebral Edema (HACE)

- **Prevention**
  - *Ascend Slowly*
  - *Prophylactic Acetazolamide*
High Altitude Pulmonary Edema (HAPE)

- **Symptoms**
  - *Dyspnea*
  - *Reduced exercise tolerance*
  - *Dry cough that progresses...*
  - *Acrocyanosis*
  - *Other symptoms often include: nausea, insomnia, headache, dizziness, confusion, orthopnea, chest pain*
High Altitude Pulmonary Edema (HAPE)

• Treatment
  – *Descend! Descend! Descend!*
  – *Oxygen*
  – *Semi Fowlers position*
  – *Nifedipine*
  – *Hyperbaric Chamber*
  – *With AMS/HACE? Consider dexamethasone*
High Altitude Pulmonary Edema (HAPE)

- **Prevention**
  - *Ascend Slowly*
  - *Prophylactic use of nifedipine with prior history*
PREVENTION BEATS TREATMENT OR RESCUE

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