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Owner:	Todd Numan	Approval:	Michael Labosky

Fact Sheet: Strenuous Physical Activity

Hiking, lifting, and other field work activities can be stressful on your body. The hazard of these activities can depend on the scope of activities, climate, and your own physical condition. Exhaustion can increase the potential for falls and other accidents. Potential injuries include:

- **Musculoskeletal injury**
- **[Dehydration](#) / Hyponatremia (low electrolyte levels)**
- **[Heat exhaustion / stroke](#)**
- **[Hypothermia](#)**

Personal Protective Equipment

- Weather appropriate clothing
- Appropriate footwear
- Salt tabs or electrolyte beverages

Preparation and Training

- Consider consulting your primary care physician as to your physical fitness capabilities with the expected level of exertion. Physical stresses like illness, injury, and adjusting to new altitude can affect your stamina and ability to perform certain activities safely.
- Make sure you carry ample supply of water to drink.
- When planning treks in areas without an established trail, try to minimize elevation change and adjust your routes to avoid undue stress. Use saddles, if present, when traveling between two topographic highs.
- Train for levels of expected exertion prior to the trip. If you are carrying a pack, carry it with full weight during the training so you know how it affects your balance.
- It is recommended you take courses in: [Basic First Aid](#) and [Wilderness First Aid](#) (depending on location).

General Safety

- Do not push yourself beyond your abilities.
- If you feel unable to continue, stop and rest until you are able to continue. Schedule regular breaks for food, water, and rest. Duration and frequency of breaks will depend on level of exertion and field conditions.
- Perspiration and urination can deplete your body of electrolytes. Drink water to replace the lost fluids and periodically eat a salty snack to replace the salt you have lost. In dry climates, you may not notice perspiration.

- Pay attention to “hotspots”, areas where clothing may rub against skin. This friction can cause blistering. As soon as you notice discomfort, apply a barrier (e.g., moleskin) to prevent further abrasion.
- Watch for members of your team who appear to be struggling.
- In high heat areas, schedule strenuous activities for morning or evening when heat is less intense.
- In cold areas, schedule or stagger work to avoid perspiration. Wet clothes can hasten the onset of hypothermia.

Emergency Response

- Assess the severity of the injury or situation. Analyze the situation before helping, if you cannot access the victim safely, call for help. If you can get to the person safely and the injury is minor, you may administer supportive first aid.
- If they are unconscious, are unable to move, suffering from a major injury, or the situation is beyond your ability to address, call emergency services for guidance and possibly rescue.
- If you cannot call for help from your location, you may have to go for help. If possible, have someone stay with the victim, keep them warm, and have another pair of people go for help.
- Hyponatremia symptoms mimic early stage heat exhaustion and include nausea, vomiting, confusion, and frequent urination. The victim may appear intoxicated. To treat this, have the victim eat salty foods, slowly drink sports drinks with electrolytes, and rest in the shade. If mental alertness decreases, or they start to have seizures, call for emergency services.

References and Additional Resources

- Mayo Clinic: [Hyponatremia](#)
- National Outdoor Leadership School: [Fitness Guidelines to Get Expedition-Ready](#)
- Adapted from *Strenuous Physical Activity Fact Sheet*, by University of Maryland: Department of Environmental Safety, Sustainability & Risk (<https://essr.umd.edu/about/research-safety/field-research-safety/planning>) with permission.