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Harris Outdoor Group #63

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By Lawrence E. Heiskell, MD

Extreme Cold Ops Survival

Hypothermia kills! Never underestimate the penetrating power of the cold!

During the winter months, tactical units face another enemy—the cold. This one is the killer of the unprepared. Predisposing factors include the amount of tissue exposed, nutritional status of the operator, ambient temperature, wind, humidity, and physical activity.

Wind Chill: Our bodies continually produce and lose heat. Wind increases your body's heat loss by dispersing layers of warm air trapped between layers of clothing and skin. This heat loss increases as the wind speed goes up. At low temperatures, cold injury can occur any time and wind removes body heat faster than the body can replace it. A drop in the ambient temperature or a rise in wind velocity can increase the danger of cold injury. It is astonishing that an ambient temperature of 20 F combined with a 40 mph wind is identical to that of a minus 21 degree F temperature.

Ambient Temperature and Climate: Ambient temperature, humidity, wind and the duration of exposure influence the extent of a cold injury. The only warning

symptoms may be a stinging or tingling in the affected part, followed by numbness. Frostbite occurs when body tissue freezes. The nose, ears, cheeks, fingers and toes are the most commonly affected body parts. If the frostbite is superficial, the frozen part, though obviously white and frozen on the exterior, will be soft and resilient below the surface of the skin. If deeper freezing has occurred, the tissue will appear white and will have a hard or brittle feel, with a complete lack of sensation or movement

Cold Injury Treatment: Any method of re-warming may be used as long as it does not cause burns or tissue damage. The easiest and the most practical technique for re-warming is skin-to-skin contact. Slow and inadequate re-warming of the frozen part, especially if followed by refreezing, invariably results in a severe injury. Never thaw a frostbitten limb in the field unless it can be maintained at temperatures above freezing.

Hypothermia: Hypothermia is the condition when the core body temperature is less than 35 degrees centigrade (95 F). When the human body loses more heat than it is producing, hypothermia begins. As the core temperature falls, organs such as the brain, heart, lungs and other vital

organs slow down, and survival becomes threatened. The lack of sufficient nutrition and hydration combined with overexertion diminish the body's ability to produce body heat. Wearing inadequate clothing in wet, windy or cold weather conditions accelerates the body's heat loss.

The hypothermia victim lags behind, stumbles and is not mentally sharp, and is sometimes reluctant to move on. However at the same time, the victim may be difficult to convince that there is something wrong because the symptoms of hypothermia are frequently mistaken for simple fatigue. People have died of hypothermia without even complaining of the cold. It is imperative that hypothermia be recognized and treated quickly. Remember that in a tactical situation the whole team may be affected by hypothermia in various stages, making it more difficult for everyone to recognize the symptoms.

HYPOTHERMIA SYMPTOMS: Red Flags For Field Operators

- Pale and cool skin
- Excessive urination
- Weariness, and reluctance to continue moving
- Trembling and Shivering
- Changes in personality
- Clumsiness and loss of problem-solving ability

TREATMENT FOR HYPOTHERMIA:

- Change the environment. Provide shelter for the victim by removing him from wetness and wind, thus reducing the cold challenge.
- Retain heat. Place as much insulation as you can between the victim and the ground. Place the victim in a sleeping bag with warm, dry clothing.
- Add heat. Attempt to actively re-warm the victim by methods such as drinking

Operating in frigid environments can be especially dangerous for personnel like this anti-material specialist. The hidden enemy—Hypothermia—is always ready to strike.

warm liquids, sun warming, placing him near a fire or warm bodies.

- Know your enemy: Cold can be subtle and diabolical. Never underestimate its insidious power nor overestimate the strength of yourself or your fellow teammates.

- Dress for warmth, wind and wetness. Wear layers of clothing to retain a space of warmed air close to the body.

- Fatigue, wet clothing, increasing wind speed, inactivity and the lack of adequate energy resources accelerate hypothermia. Good physical condition, a proper amount of nutritional intake, and adequate clothing all help to prevent hypothermia.

What to Wear

Avoid cotton or polyester/cotton blends next to your skin. This includes underwear and socks. Because cotton doesn't wick perspiration away from your skin, it quickly becomes moist and cold in cold weather, leading to rapid loss of body heat. The same property that makes cotton great for wearing in hot weather can contribute to hypothermia in cold conditions.

Dress in layers. Many thin garments with lots of dead air between layers to trap heat are better than a few thick ones. Always bring more layers than you think you'll need. Add or remove layers depending on air temperature, wind chill, and how much you're exerting yourself. Cold feet and hands are a symptom of a falling core-body temperature. When this happens, the brain redirects blood away from the extremities to the vital organs, and the feet and hands become cold. If your core temperature is dropping, the heaviest boots and gloves won't help you feel much warmer. Only adding layers will help. Drinking something hot will also speed recovery. An uncovered head rapidly radiates body heat away. A hood is even better, but often gets in the way.

Keep well hydrated but avoid caffeine. Caffeine is a diuretic and reduces blood volume, making it more difficult for the body to maintain a normal temperature. Chemical hand warmers are another good item to have, but aren't a substitute for wearing adequate layers of clothing. Hand warmers can also be used as eyepiece-case heaters. Loose-fitting clothing will keep you warmer because it allows for more dead air between the layers. Also avoid

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