

Cold and Hungry

By James C. Jones, EMT/CHCM

**Being cold is bad. Being hungry is bad.
Being both at the same time is very, very bad!**

The words cold and hungry is the classic description of a survival situation. Few Americans have experienced either of these conditions, much less the combination. Oh, we may have missed a meal or gotten a chill, but for most of us true hunger and true cold have not been experienced. Cold and hungry are mutually exacerbating conditions. Cold burns more calories and this hastens starvation while lack of food reduces the body's ability to stay warm and this hastens hypothermia. This problem comes in two scenarios.

Acutely Cold and Hungry

This is the classic lot in the winter situation such as a downed pilot in Alaska. Without shelter, fire and food the victim may last only days or hours even without injuries. Someone who is dressed for the weather and was well fed prior to the incident may last for several days or a week in the cold, but will succumb to starvation much faster than under warm conditions. Inversely, someone with lots of food, but inadequate clothing may stave off hypothermia longer than someone with no food. Nevertheless, only the combination of warm clothing and/or shelter and adequate food will sustain life. The body requires at least twice the normal calories under cold conditions and even more if exercising. Not only do I always dress in winter as if I were not going to get to go inside for days, but I also have some food and fire starter in every coat pocket. Certainly bug-out-bags and survival kits should be reconfigured every winter for these conditions. More protection, more food. I will not go into detail on hypothermia and frost bite here, as these subjects have been covered extensively in previous articles.

Chronically Cold and Hungry

This kind of cold and hunger is the result of poverty or of a declining civilization. It could be more common as many predict food shortages and fuel shortages in the coming decades. During my youth I experienced this kind of challenge. There was seldom enough food around for a growing boy. Ketchup sandwiches often made up lunch. There was also no coal for the furnace so I got used to a cold house. I could gather wood on my sled, but that only took the chill away for a while. I went through one winter with only a spring jacket and street shoes, walking miles to work and school. My first full-time job was in a large food warehouse freezer. You got 25-cents an hour more for working in the freezer. I would work 10-hour days 6-7 days a week at ten-below zero and the walk home 3-miles in January. On days off I never really got warm at all. Yes, I know about cold and hungry*. As you can imagine I am never without the best warm clothing and a full pantry. This kind of situation causes fatigue and a slow deterioration of capabilities. This is particularly dangerous for the elderly or the ill. You could pretty- well predict the casualty rates in urban areas by decreasing the food and fuel supplies in the winter. A 50% shortage in food combined with a 50% reduction in heat would kill about 50% of the

population in 3-4 months. A slow progression of this affect may already be in progress and will certainly be notable in the next few years. You just have to consider that an emergency may happen in the middle of winter and that your fuel (including gas) and food supplies will be cut off for the entire time.

Both the acute and chronic versions of cold and hungry are real possibilities for everyone in the not-to-distant future if they are not prepared. A family driven to evacuate in winter with limited supplies could quickly eat up survival food they thought would last longer and normal winter clothing would prove woefully inadequate for long-term exposure. An unheated home with limited food supplies and inadequate preparations would slowly drain life from its inhabitants.

The Effects of Semistarvation

An American study of semistarvation conducted in the 1960s where the participants had adequate water but no food revealed the effects of starvation on previously healthy men.

- Participants lost 2-3 pounds daily at the beginning as the body consumed fat. Blood volume and blood plasma, red blood cells and serum electrolytes necessary for muscle function all decreased.
- Within a week the body began to breakdown muscle protein to keep vital organs operating.
- Sever cramps developed as body salt levels declined.
- As the study reached its tenth day, participants began to lose mental alertness, memory. Apathy and even stupor set in.
- While slim physiques are generally healthier, those with more body mass lasted a bit longer

So while you can love three-weeks without food in theory you physical and mental capabilities to survive decline after only a few days. Under cold conditions the above changes would occur much faster,

The Effects of Prolonged Cold Exposure

The effects of prolonged cold exposure are well documented. While the military was able to provide adequate nutrition and warm clothing to soldier during both world wars they could not provide heated trenches and foxholes. Soldiers were subjected to weeks without truly warm and dry conditions. They were able to stave of true hypothermia and frostbite, but suffered a number of slow developing degenerative conditions.

As the outer layers of skin cool, the body shuts of circulation to the skin in order to keep this cooled blood away from vital organs. If this situation persists too long the nerve synapses shut down and stop functioning and ice crystals begin to form between the cells. This may lead directly to deep frostbite or the outer skin may begin to die and slough off. The skin is now easily broken and subject to infection. The blood thickens and may lead to organ failures or clots. If the cold is accompanied by moisture, chilblains or emersion foot may develop. The skin on the feet, hands, and ears becomes blanched and pale.

Generally gentle rewarming and drying corrects this condition, but when prolonged as in the World War One trenches it can lead to infection and even gangrene.

Conclusion

Cold and hunger are mutually reinforcing conditions that kill much faster in combination. Even moderate malnutrition combined with chilly conditions can be a serious survival hazard when prolonged without relief. If you are short of food you must conserve energy and stay as warm as possible. If you are unable to find warm shelter you must conserve energy and eat as well as possible. Alaska's natives will simply hunker down and eat food they carry with them if caught in a storm. They do not burn up energy trying to get somewhere. Lots of high calorie foods and good quality clothing are a must to avoid the deadly combination of cold and hungry.

** I never thought about this as being a hardship at the time. You just do what you have to do under the conditions you have. It probably did make me a natural survivalist in life.*