

MOPP-Induced Heat Injuries

— tips on prevention

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by the CML Staff*

Training in MOPP (mission-oriented protective posture) gear increases heat stress and reduces efficiency—especially during hot summer months.

A 1920 study estimates that an Army forced to wear protective masks at all times suffers at least a 25 percent loss of vigor and efficiency. This remains true today, even with improved equipment. And today, we must wear not only a mask but also a protective garment and accessories.

MOPP is not a rigid procedure that puts everyone into lockstep. It is the *flexible* use of protective clothing and equipment that balances protection with performance degradation during training. The higher the MOPP level, the more protection it provides. But at the same time, the higher the MOPP level, the more it degrades performance and the more susceptible it makes the soldier to heat injury.

Leaders use MOPP as a tool, based on the threat, the temperature, the work rate, and the mission. Leaders must prevent NBC casualties on the one hand while reducing heat and fatigue casualties on the other.

The leader weighs needs of individual protection against unit efficiency. If the mission is so urgent and essential that it becomes a clear choice of one or the other, then there's no question: heat casualties will recover faster than chemical casualties. Nevertheless, commanders and leaders must guard against heat casualties when soldiers are in MOPP gear performing hard, physical work.

The body of a soldier in full MOPP4 gear loses its ability to cool down. Body

temperature increases and keeps increasing rapidly as the ambient temperature and humidity rise. This can lead to dehydration. To prevent it, soldiers must take in enough water to replace body fluids lost in perspiration. The amount of fluid necessary is discussed in FM 3-4, NBC Protection.

Proper training reduces heat-related MOPP injuries. Soldiers can adapt to wearing the protective gear through realistic training.

The Army's goal for training in MOPP4 gear is six hours a day. But commanders should not expect their units to go from no MOPP training to six hours a day in a short time. The heat acclimation program outlined in TB Med 507 calls for daily, gradual

increases in time of exposure to work load in the stress situation—in this case, wear of the overgarments and mask. Only after troops *fully* acclimate and properly train should they wear full protection for six hours.

The concept of "train as you will fight" now dictates how we conduct the majority of our training. Just as we would not create conditions that would reduce our capability to perform in war, we must not do so in training.

While it is unrealistic to expect to prevent every heat-related casualty, leaders can certainly take steps to minimize them. Understanding the equipment, its purpose, and its physiological effects on soldiers goes a long way toward reducing the number of heat injuries when conducting MOPP training. ●●

To prevent dehydration soldiers must drink enough water to replace fluids lost in perspiration.

