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COLD STORAGE WORKERS

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The purpose of this study is to compare the recovery time of core temperature and skin temperature at finger, hand, shin, neck, scapula and toe of workers working in cold storage by using forced warm air and not using forced warm air.

The quasi - experimental research design was conducted with thirteen male workers from the Canned Food Industry as the subjects. Each subject was asked to work in cold storage for 45 minutes then leave cold storage to rest in a rest area. Warm air supply was provided for the experimental group until the temperature recovered. In each group, the subjects had to work in the same cold storage and then leave the cold storage to rest. One group had to warm their hands with forced warm air; whereas, the other group did not.

The result of this study showed that the core temperature and skin temperature at hand, finger, shin, neck, scapula and toe in the forced warm air group could recover more quickly than the that of the group without using forced warm air. The recovery time for both group was less than 15 minutes (rest period.) Moreover, the results revealed significant differences in heart rate between the group with forced warm air and group without forced warm air.

The heat exchange rates between the air and hands of worker were 582.78 kcal/m²hr with the forced warm air group, and 33.71 kcal/m²hr with the group not using forced warm air. Forced warm air at the temperature of 45 degrees celcius should be used while the workers turn both hands up and down alternatively. Workers should be allowed to remove their hands if the heat be comes unbearable, but then they should try again. This method can reduce the side effects of chapped skin or burning.