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## ■ ENGLISH SUMMARY

# Induced hypothermia in the treatment of acute brain damages

Induced hypothermia is an accepted method in the treatment of cardiac arrest patients so as to prevent brain damage. It has been demonstrated to have many effects that protect brain cells against ischemia. Therefore hypothermia has also been investigated in the treatment of brain injuries and acute brain infarcts. In this systematic literature review we assessed the results of hypothermia treatment for these three indications.

Hypothermia improved functional outcome and decreased mortality among the cardiac arrest patients. Brain injury studies had many methodological weaknesses, and despite a reasonable number of patients, reliable conclusions could not be drawn. Among brain infarct studies, the number of patients in randomized trials remained less than one hundred and any differences in the functional outcome or mortality could not be found.

Hypothermia may provoke shivering which should be prevented through drug treatment. Significant differences could not be found in other side effects. However, it was not possible to estimate the impact of different hypothermia methods or the degree or length of hypothermia on the frequency of side effects.

Until now the indication for hypothermia treatment has been limited to cardiac arrests patients. The development of hypothermia methods and increasing knowledge of proper patient selection may effect the outcome among brain-injured and brain-infarct patients.

Suomen Lääkärilehti [The Finnish Medical Journal] 2010;65:273–9.