

Profound hypothermia best avoided in initial reperfusion

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(HealthDay)—For hearts donated after circulatory death (DCD),

avoidance of profound hypothermia during initial reperfusion (IR) improves functional recovery, according to a study published online Jan. 18 in the *American Journal of Transplantation*.

C.W. White, from the University of Manitoba in Winnipeg, Canada, and colleagues examined the impact of IR temperature on the [recovery](#) of myocardial function during ex vivo heart perfusion (EVHP). They anesthetized 18 pigs and discontinued mechanical ventilation, resulting in cardiac arrest. The [hearts](#) were reperfused for three minutes at three different temperatures (5, 25, and 35 degrees Celsius) after a 15-minute stand-off period. Hearts then underwent normothermic EVHP for six hours, during which myocardial function was assessed.

The researchers found that the treatment groups differed significantly in IR coronary blood flow. Less myocardial injury and greater preservation of endothelial cell integrity were seen during subsequent EVHP in hearts initially reperfused at warmer temperatures. Recovery of myocardial function during EVHP was impaired with IR under profoundly hypothermic temperatures.

"We conclude that the avoidance of profound hypothermia during IR minimizes injury and improves the [functional recovery](#) of DCD hearts," the authors write.

Medical equipment was provided by medical device companies.

More information: [Abstract](#)
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