

THAPCA TRIALS

Therapeutic Hypothermia After Pediatric Cardiac Arrest

Approximately 16,000 American children suffer cardiac arrest (when the heart stops beating) each year. Approximately one fourth of these children survive and are discharged from the hospital.*

The Need

In children, cardiac arrest usually occurs as a complication of many different medical conditions. Better treatments for children resuscitated after cardiac arrest are needed to improve ultimate quality of life and to prevent long term brain injury or death.

The National Heart, Lung, and Blood Institute (NHLBI) is funding the first large scale, multi-center study in collaboration with two federally-funded pediatric research networks – PECARN** and CPCCRN*** – to help determine the best treatment for children who are successfully resuscitated after a cardiac arrest.

Therapeutic Hypothermia in Children

It is not known whether preventing elevated body temperature by keeping it in a normal range (normothermia) or a below normal range (hypothermia) results in less brain injury and greater survival.

Therapeutic hypothermia has been studied in adults after cardiac arrest and has been shown to improve survival and outcomes. Hypothermia has also been studied in newborn infants who have suffered from perinatal asphyxia, but it has not been studied in infants or children who have had cardiac arrest.

It is important that the practice of therapeutic hypothermia in children be fully studied for its effects before it is implemented in the field both in prehospital and emergency department settings.



Separate study arms are being conducted for children who arrest in the hospital (THAPCA-IH) and children who arrest out of the hospital (THAPCA-OH).

Your Role in the Out-of-Hospital Arm

You may encounter pediatric patients with out-of-hospital cardiac arrest who are eligible to participate in this study. It is important for you to stay informed regarding the study, and notify your receiving emergency department of incoming eligible patients.

The Study

In this study, children will be randomized to receive:

- therapeutic hypothermia or
- therapeutic normothermia

About 900 children will be enrolled in this study during a 6-year period at more than 30 clinical centers throughout the U.S. and Canada. Enrollment in the THAPCA trials began in September 2009.

The study will evaluate whether regulating the body temperature will improve outcomes for children after cardiac arrest. The goal of these two trials is to determine if therapeutic hypothermia improves survival with good neurobehavioral outcomes in children who have had a cardiac arrest.

Additional Information

For more information, please contact the THAPCA resource team at the University of Utah Data Coordinating Center (DCC): 801-587-7568 or www.thapca.org.

* Topjian AA, Berg RA, Nadkarni VM. Pediatric cardiopulmonary resuscitation: advances in science, techniques, and outcomes. Pediatrics. 2008 Nov;122(5):1086-98

** Pediatric Emergency Care Applied Research Network, funded by the Emergency Medical Services for Children (EMSC) Program

*** Collaborative Pediatric Critical Care Research Network, funded by the National Institute of Child Health and Human Development

Fact sheet design and production funded by a grant through the Health Resources and Services Administration, Maternal and Child Health Bureau, Emergency Medical Services for Children (EMSC) Program. Cooperative agreement number U07MC09174: EMSC National Resource Center at Children's National Medical Center, Washington, D.C.

funding by:

