

**BRAIN DIFFUSIVITY IN INFANTS WITH HYPOXIC ISCHEMIC ENCEPHALOPATHY
FOLLOWING WHOLE BODY HYPOTHERMIA: PRELIMINARY RESULTS**

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Hypoxic ischemic encephalopathy is an important cause of neuropsychological deficits. Little is known about brain diffusivity in these infants following cooling and its potential in predicting outcome. Diffusion tensor imaging was applied to three groups:

- 1) three infants with hypoxic ischemic encephalopathy: cooled
- 2) three infants with hypoxic ischemic encephalopathy: non-cooled and
- 3) four controls. Diffusivity values at the corticospinal tract, thalamus and putamen were correlated with Apgar scores and early neurodevelopmental outcome.

While cooled infants exhibited lower Apgar scores than non-cooled infants, their developmental scores at a mean age of 8 months were higher.

All groups differed in their diffusivity values with the cooled infants showing better values compared to the non-cooled, correlating with early neurodevelopmental outcome.

These preliminary results indicate that diffusion tensor imaging performed at an early age in infants without outcome and hypoxic ischemic encephalopathy may forecast and support the neuroprotective effect of hypothermia treatment.