

## **Guidelines for Traumatic Brain Injury in Adults, 2016**

Brain Trauma Foundation (BTF), American Association of Neurological Surgeons and the Congress of Neurological Surgeons (2016): **Guidelines for the Management of Severe Traumatic Brain Injury. 4th Edition, 2016**

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**Hyperthermia treatment:** Topic not addressed in the 3<sup>rd</sup> edition of the guidelines.

### **Prophylactic hypothermia**

Hypothermia can be administered either early after injury and prior to intracranial pressure elevation, in which case it is termed "prophylactic."

#### **Recommendations**

##### **Prophylactic Hypothermia**

- **Level IIB** - Early (within 2.5 h), short-term (48 h post-injury), prophylactic hypothermia is not recommended to improve outcomes in patients with diffuse injury.

##### *Changes from Prior Edition*

In the 3rd Edition, the studies that compared hypothermia to normothermia were summarized in a meta-analysis. For this 4th Edition we re-examined the underlying assumptions of our prior work, in the light of the current standards for meta-analysis and decided not to repeat the meta-analysis because the hypothermia interventions in the higher-quality studies (Class 2 or better) differed across the studies in clinically important ways.

### **Intracranial pressure thresholds**

Mass lesions such as tumors, hemorrhagic lesions, cerebral edema, or obstruction of venous and or CSF return can increase ICP. Compensatory measures include displacement of CSF and venous blood downward into the spinal spaces and decrease in blood volume. These compensatory measures allow for ICP to be maintained within the normal range of 0-10 mm Hg.

A critical threshold is reached when space-occupying lesions can no longer expand without neuronal injury, herniation, and brain death.

#### **Recommendations**

- **Level IIB** - Treating ICP >22 mm Hg is recommended because values above this level are being associated with increased mortality.
- **Level III** - A combination of ICP values and clinical and brain CT findings may be used to make management decisions.  
\*The committee is aware that the results of the RESCUEicp trial<sup>2</sup> were released after the completion of these Guidelines. The results of this trial may affect these recommendations and may need to be considered by treating physicians and other users of these Guidelines. We intend to update these recommendations if needed. Updates will be available at <https://braintrauma.org/coma/guidelines>.

**Hypothermia** can be administered as a **treatment for refractory intracranial pressure elevation**, typically referred to as "therapeutic."

For full version please click here:

[http://www.emcools.com/fileadmin/daten/Guidelines/Brain\\_Trauma\\_Foundation\\_TBI\\_Guidelines\\_2016.pdf](http://www.emcools.com/fileadmin/daten/Guidelines/Brain_Trauma_Foundation_TBI_Guidelines_2016.pdf)