

Suspected Severe Traumatic Brain Injury (TBI)

CT Scan and Clinical Evaluation\*

Indications for Primary Decompressive Craniectomy<sup>1</sup>

Primary Decompressive Craniectomy

Indications for ICP monitor placement<sup>2</sup>

Supportive Care & Avoidance of Secondary Brain Injury.<sup>3</sup> Repeat CT scan in 6-8 hrs<sup>4</sup>

Continue Supportive Care and Avoidance of Secondary Brain Injury

ICP Adequately Controlled (<22 mmHg)

Place ICP monitor + Supportive Care and Avoidance of Secondary Brain Injury

Continue Tier 1 interventions

Tier 1 Interventions<sup>5</sup>

ICP adequately Controlled

Continue Tier 1&2 Interventions

Tier 2 Interventions<sup>6</sup>

ICP Adequately Controlled

Continue Tier 1-3 Interventions

Tier 3 Interventions<sup>7</sup>

ICP Adequately Controlled

Rescue Interventions<sup>8</sup>

Repeat CT Scan Based Upon Clinical Judgement<sup>9</sup>

Expanding Intracranial Lesion with Mass Effect

Consider Decompressive Craniectomy

Table 1

Categories	Interventions
<b>Supportive Care and Measures to Avoid Secondary Brain Injury</b>	<ul style="list-style-type: none"> <li>• Standard Trauma Care</li> <li>• Hemorrhage control</li> <li>• Adequate Resuscitation and Administration of Blood Products</li> <li>• Elevation of the head of bed</li> <li>• Analgesics/Sedatives</li> <li>• Fluid and Electrolyte Management</li> <li>• Avoidance of Hyponatremia</li> <li>• Prevention of Hyperpyrexia</li> <li>• Treatment for Hyper/Hypoglycemia</li> <li>• Supplemental Oxygen to Maintain Oxygen Saturation &gt;90% and pO<sub>2</sub> &gt; 60 mmHg</li> <li>• Normocarbic Ventilation (pCO<sub>2</sub> 35-40 mm Hg)</li> <li>• Correction of Coagulopathy</li> <li>• Early Delivery of Nutrition (Preferentially Enteral)</li> <li>• Treatment of Infections</li> </ul>
<b>Tier 1</b>	<ul style="list-style-type: none"> <li>• Additional Analgesia/Sedation</li> <li>• Cerebrospinal Fluid Drainage</li> </ul>
<b>Tier 2</b>	<ul style="list-style-type: none"> <li>• Hyperosmolar Therapy</li> <li>• Neuromuscular Paralysis</li> </ul>
<b>Tier 3</b>	<ul style="list-style-type: none"> <li>• High Dose Barbiturates</li> <li>• High Dose Propofol</li> </ul>
<b>Rescue Strategies</b>	<ul style="list-style-type: none"> <li>• Decompressive Craniectomy</li> <li>• Experimental Therapies</li> </ul>