### GLASGOW COMA SCALE

<table>
<thead>
<tr>
<th>Eyes Open</th>
<th>Spontaneous</th>
<th>To Speech</th>
<th>To Pain</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Best Verbal Response</th>
<th>Oriented</th>
<th>Confused</th>
<th>Inappropriate</th>
<th>Incomprehensible</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Best Motor Response</th>
<th>Obey Commands</th>
<th>Localizes to Pain</th>
<th>Withdraws from Pain</th>
<th>Abnormal Flexion to Pain</th>
<th>Abnormal Extension to Pain</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

### CLASSIFICATION OF BRAIN INJURY

<table>
<thead>
<tr>
<th>Mild</th>
<th>LOC less than 30 minutes</th>
<th>GCS 13-15</th>
<th>PTA less than 24 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate</td>
<td>LOC greater than 30 minutes, but less than 24 hours</td>
<td>GCS 9-12</td>
<td>PTA 24 hours to 7 days</td>
</tr>
<tr>
<td>Severe</td>
<td>LOC greater than 24 hours</td>
<td>GCS 8 or less</td>
<td>PTA more than 7 days</td>
</tr>
</tbody>
</table>

LOC – loss of consciousness; GCS – Glasgow Coma Score; PTA – Post-traumatic amnesia

### COMPARISON OF DISORDERS OF CONSCIOUSNESS (DOC)

<table>
<thead>
<tr>
<th>Eye Opening</th>
<th>Coma</th>
<th>Vegetative State</th>
<th>Minimally Conscious State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleep/Wake Cycles</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Visual Tracking</td>
<td>No</td>
<td>No</td>
<td>Often</td>
</tr>
<tr>
<td>Object Recognition</td>
<td>No</td>
<td>No</td>
<td>Inconsistent</td>
</tr>
<tr>
<td>Command Following</td>
<td>No</td>
<td>No</td>
<td>Inconsistent</td>
</tr>
<tr>
<td>Communication</td>
<td>No</td>
<td>No</td>
<td>Inconsistent</td>
</tr>
<tr>
<td>Contingent Emotion</td>
<td>No</td>
<td>No</td>
<td>Inconsistent</td>
</tr>
</tbody>
</table>

Source: NIDRR 2007 Consciousness Consortium

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### PUPIL REACTION

- NR - Nonreactive
- BR - Brisk
- SL - Sluggish
- CO - Constricted

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### Brain Injury Assessments

Acute Care

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**LEVEL 1** - (No Response)
Unresponsive to touch, pain, auditory or verbal stimuli.

**LEVEL 2** - (Generalized)
Inconsistent, non-purposeful responses and/or reactions to painful stimuli.

**LEVEL 3** - (Localized Response)
Inconsistent reaction directly related to type of stimulus presented (e.g., touch, pain, auditory or verbal).

**LEVEL 4** - (Confused, Agitated)
Disoriented and unaware of present events with frequent inappropriate behavior (e.g., may yell, hit or bite); attention span is short and ability to process information is significantly impaired.

**LEVEL 5** - (Confused, Inappropriate, Non-agitated)
Non-purposeful, random or fragmented responses when asked to do tasks that may be difficult; patient appears alert and responds to simple commands; performs previously learned tasks, but is unable to learn new ones.

**LEVEL 6** - (Confused, Appropriate)
Behavior is goal-directed; responses are appropriate to the situation with incorrect responses because of memory difficulties.

**LEVEL 7** - (Automatic, Appropriate)
Correct routine responses that are robot-like; appears oriented to setting, but insight, judgment and problem-solving are poor.

**LEVEL 8** - (Purposeful, Appropriate)
Correct responses, carryover of new learning; poor tolerance for stress; some abstract reasoning difficulties. Insight, judgment and problem-solving require minimum assist to supervision.

**LEVEL 9** - (Purposeful, Appropriate)
Able to shift attention and use memory aids. Insight, judgment, problem-solving and self-monitoring require standby assistance.

**LEVEL 10** - (Purposeful, Appropriate)
Independently uses strategies, if needed, for memory, attention, judgment, problem-solving and self-monitoring. Aware of strengths and weaknesses.

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**Early Interventions to Prepare Patient for Rehabilitation**

- ROM/positioning (PT, OT)
- Tone management
- Nutritional optimization
- Pulmonary optimization
- PSH (paroxysmal sympathetic hyperactivity), or dysautonomia, management
- Neuroendocrine assessment
- Swallowing/dysphagia (ST)
- Restriction of overstimulation/noise
- Limitation of narcotic/sedating medications
- Promotion of good sleep/wake cycle
- DOC assessment with CRS-R (Coma Recovery Scale-Revised)

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**MAKE A REFERRAL**

Contact Shepherd Center’s admissions team to make a referral for patients with a spinal cord injury, brain injury, stroke or neuromuscular diagnosis.

Visit shepherd.org/admissions for more information or call our admissions department at 800-743-7437.

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**FOR MORE INFORMATION, VISIT:**

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