**Plagiocephaly Severity Scale**

<table>
<thead>
<tr>
<th>Level</th>
<th>Clinical presentation</th>
<th>Recommendation*</th>
<th>CVAI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All symmetry within normal limits</td>
<td>No treatment required</td>
<td>&lt; 3.5</td>
</tr>
</tbody>
</table>
| 2     | • Minimal asymmetry in one posterior quadrant  
• No secondary changes | Repositioning program | 3.5 to 6.25 |
| 3     | • Two quadrant involvement  
• Moderate to severe posterior quadrant flattening  
• Minimal ear shift and/or anterior involvement | Conservative treatment:  
• Repositioning  
• Cranial remolding orthosis (based on age and history) | 6.25 to 8.75 |
| 4     | • Two or three quadrant involvement  
• Severe posterior quadrant flattening  
• Moderate ear shift  
• Anterior involvement including noticeable orbit asymmetry | Conservative treatment:  
• Cranial remolding orthosis | 8.75 to 11.0 |
| 5     | • Three or four quadrant involvement  
• Severe posterior quadrant flattening  
• Severe ear shift  
• Anterior involvement including orbit and cheek asymmetry | Conservative treatment:  
• Cranial remolding orthosis | > 11.0 |

*This evaluation tool is provided to assist medical professionals in determining the appropriate course of treatment for their patients. Individual cases may vary. Recommendations are included as examples and should not be considered a substitute for individual evaluation, diagnosis and treatment decisions made by a medical professional.

Age: birth to 4 months

- A documented two-month period of repositioning is highly recommended prior to referring patient for cranial remolding orthosis evaluation. This conservative step is typically required by third-party payors before authorizing a cranial remolding orthosis.
- Tummy Time Tools is a parent handout that provides repositioning activities.
  - Visit choa.org/tummytimetools to download.
- If torticollis is suspected, early referral to physical therapy is recommended.

Age: 4 months and older

Assess for further treatment when any of these secondary skull characteristics are observed:

**PLAGIOCEPHALY**

<table>
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<tr>
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<tbody>
<tr>
<td>Ipsilateral ear shift</td>
<td>Measure the longest and shortest diagonal from the forehead to the posterior skull using calipers</td>
</tr>
<tr>
<td>Ipsilateral frontal bossing</td>
<td>Calculate CVAI</td>
</tr>
<tr>
<td>Contralateral frontal flattening</td>
<td></td>
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</tbody>
</table>

**Clinical presentation**

- Ipsilateral ear shift
- Ipsilateral frontal bossing
- Contralateral frontal flattening

**Clinical documentation**

- Measure the longest and shortest diagonal from the forehead to the posterior skull using calipers
- Calculate CVAI

**Cranial vault asymmetry index (CVAI)**

- Measure in millimeters (mm) at 30° from center of nose (outer edge of eyebrow).

\[
CVAI = \frac{|A-B| \times 100}{A \text{ or } B} \quad \text{(whichever is greater)}
\]

**BRACHYCEPHALY**

<table>
<thead>
<tr>
<th>Clinical presentation</th>
<th>Clinical documentation</th>
</tr>
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<tbody>
<tr>
<td>Bilateral forehead bossing</td>
<td>Measure the M/L and A/P lengths of the skull using calipers</td>
</tr>
<tr>
<td>Increased posterior vault</td>
<td>Calculate Cephalic Ratio (CR)</td>
</tr>
<tr>
<td>Bilateral protrusion of parietal bone above ears</td>
<td>If CR &gt; 90, orthotic evaluation recommended</td>
</tr>
</tbody>
</table>

**Cephalic ratio (CR)**

\[
CR = \frac{M/L}{A/P} \times 100
\]

Visit choa.org/cranialremolding or call 404-785-3229 for more information about our services for plagiocephaly.