The following tables and figure are included online only for “Neonatal Jaundice.”

### Table 1-E. Radiometric Quantities Used

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Dimensions</th>
<th>Usual Units of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irradiance (radiant power incident on a surface per unit area of the surface)</td>
<td>W/m²</td>
<td>W/cm²</td>
</tr>
<tr>
<td>Spectral irradiance (irradiance in a certain wavelength band)</td>
<td>W/m² per nanometer (or W/m²)</td>
<td>mcW/cm² per nanometer</td>
</tr>
</tbody>
</table>


### Table 2-E. Controlling the Dosage of Phototherapy

<table>
<thead>
<tr>
<th>Factor</th>
<th>Technical Terminology</th>
<th>Rationale</th>
<th>Clinical Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of light source</td>
<td>Spectrum of light (nanometers)</td>
<td>Blue-green spectrum is most effective at lowering total serum bilirubin (TSB); light at this wavelength penetrates skin well and is absorbed maximally by bilirubin</td>
<td>Use special blue fluorescent tubes or light-emitting diodes (LED) or another light source with output in blue-green spectrum for intensive phototherapy (PT).</td>
</tr>
<tr>
<td>Distance of light source from patient</td>
<td>Spectral irradiance (a function of both distance and light source) delivered to surface of infant</td>
<td>↑ irradiance leads to ↑ rate of decline in TSB. Standard PT units deliver 8 to 10 mcW/cm² per nanometer; intensive PT delivers ≥30 mcW/cm² per nanometer.</td>
<td>If special blue fluorescent tubes are used, bring tubes as close as possible to infant to increase irradiance. (Do NOT do this with halogen lamps because of danger of burn.) Positioning special blue tubes 10 to 15 cm above infant produces an irradiance of at least 35 mcW/cm² per nanometer.</td>
</tr>
<tr>
<td>Surface area exposed</td>
<td>Spectral power (a function of spectral irradiance and surface area)</td>
<td>↑ surface area exposed leads to ↑ rate of decline in TSB.</td>
<td>For intensive PT, expose maximum surface area of infant to PT. Place lights above and fiberoptic pad or special blue fluorescent tubes* below infant. For maximum exposure, line sides of bassinet, warmer bed, or incubator with aluminum foil.</td>
</tr>
</tbody>
</table>

Table 3-E. **Factors That Influence the Efficacy of Phototherapy**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Explanation</th>
<th>Clinical Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dosage</strong></td>
<td>See Table 2-E</td>
<td>See Table 2-E</td>
</tr>
<tr>
<td><strong>Cause of jaundice</strong></td>
<td>Phototherapy (PT) is likely to be less effective if jaundice is caused by hemolysis or if cholestasis is present (direct bilirubin is increased).</td>
<td>When hemolysis is present, start PT at a lower total serum bilirubin (TSB) concentration and use intensive PT. Failure of PT suggests hemolysis is the cause of the jaundice. When direct bilirubin is elevated, watch for bronze baby syndrome or blistering.</td>
</tr>
<tr>
<td><strong>TSB level at start of PT</strong></td>
<td>The higher the TSB, the more rapid the decline in TSB with PT.</td>
<td>Use intensive PT for higher TSB concentrations. Anticipate a more rapid decrease in TSB when TSB is &gt;20 mg/dL (342 mcmol/L).</td>
</tr>
</tbody>
</table>


Figure 1-E. Nomogram showing smoothed curves for the 5th, 25th, 50th, 75th, and 95th percentiles for transcutaneous bilirubin (TcB) measurements among healthy newborns (gestational age ≥35 weeks). A total of 9,397 TcB measurements were obtained for 3,984 newborns. The number of infants studied at each interval is shown in parentheses. Reprinted with permission from Maisels MJ, Kring E. Transcutaneous bilirubin levels in the first 96 hours in a normal newborn population of ≥35 weeks’ gestation. *Pediatrics*. 2006;117:1169–1173.