In TERM infants most cases of Kernicterus occur when SBR greater than 425umol/l.
SBR > 425umol/l or SBR at exchange transfusion level is a medical EMERGENCY.

Immediate Exchange Transfusion recommended if signs of acute bilirubin encephalopathy or if SBR above exchange transfusion line and unresponsive to phototherapy.

Contraindications to Phototherapy:
Congenital porphyria or a family history of porphyria, use of drugs that are photosensitisers.

Plot Serum Bilirubin(SBR) level on Phototherapy Chart-AAP or NICE
If above treatment line start Phototherapy.

Re-check Serum Bilirubin(SBR) within 2-6 Hours
If SBR > 425umol/l re-check SBR within 3 hours.

Continue Phototherapy until SBR at least 50umol/l below the phototherapy treatment line level as per AAP or NICE guidelines.

If Direct Coombes Test (DCT) negative: Repeat clinical assessment within 48 hours.
If DCT Positive: Repeat clinical assessment, including SBR, within 24 hours.

If DCT positive the infant needs review and Hb check within 2 weeks.

Transcutaneous Bilirubin (TCB) should NOT be used to guide phototherapy.
If SBR continues to rise despite intensive photopherapy this suggests haemolysis.
Longer Phototherapy will usually be necessary if DCT Positive.
If SBR is rising rapidly or SBR within 50umol/l of exchange transfusion level, consider IVIG 0.5-1g/kg, this can be repeated in 12 hours.
Consider multiple lights and fibre optic blanket if level approaching exchange transfusion level, Fluid requirements may increase because of insensible losses.
For infants less than 35 weeks gestation, and for exchange transfusion graphs we recommend use of NICE Guidelines Neonatal Jaundice Treatment Threshold Graphs http://guidance.nice.org.uk/CG98/treatmentthresholdgraph/xls/English

References:

This care pathway has been produced by the National Paediatric and Neonatology Clinical Programme. It is aimed at medical, nursing and allied health professionals working in Irish neonatal units.