

## General Information

This guideline, based on the July, 2004 AAP Subcommittee on Hyperbilirubinemia report, provides a framework for the management of hyperbilirubinemia in infants of 35 or more weeks of gestation. The goal of the guideline is to reduce the incidence of severe hyperbilirubinemia, acute bilirubin encephalopathy or kernicterus. Recognize that kernicterus, though very rare, still occurs and is usually in a child with no underlying medical problems. **This guideline focuses on utilizing a risk assessment for severe hyperbilirubinemia, treatment with phototherapy when indicated, and recommending early follow-up based on risk.**

## Predischarge Assessment for Hyperbilirubinemia

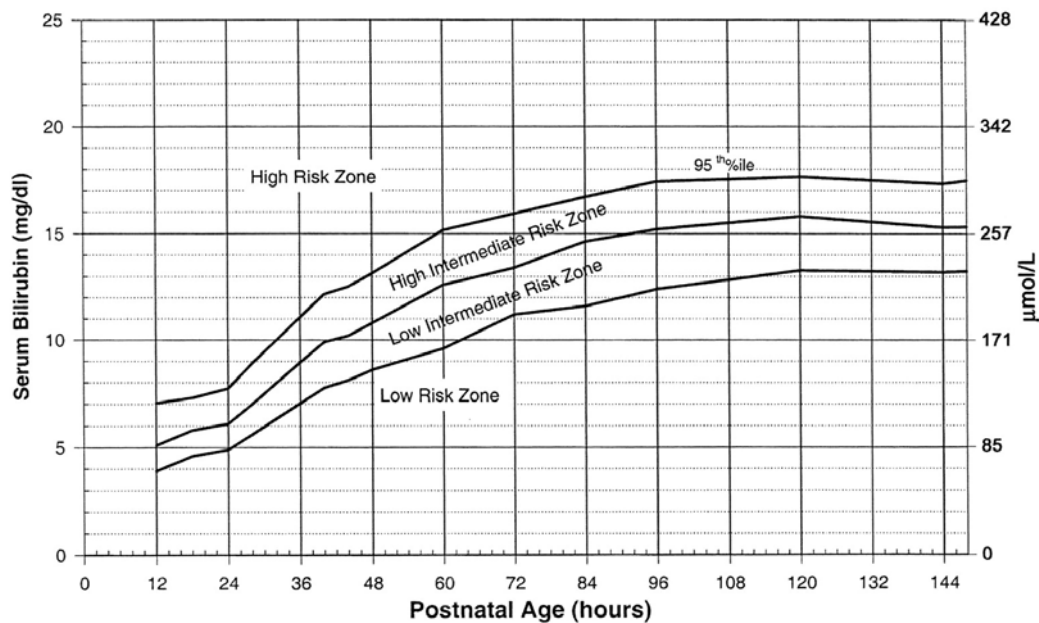
The AAP recommends assessment of jaundice at discharge either clinically or with a total serum bilirubin (TSB). We are adapting the practice of screening all babies at discharge for TSB. The predischarge TSB should then be plotted on the following nomogram (based on hours of age) for provider follow-up recommendations. Risk factors that place an infant at increased risk of hyperbilirubinemia are as follows:

- |                                                                            |                                               |
|----------------------------------------------------------------------------|-----------------------------------------------|
| Exclusively Breastfed Infant                                               | Known hemolytic disease (eg, G6PD deficiency) |
| Gestational age 35–37 6/7 weeks                                            | Infant of Diabetic Mother                     |
| Previous sibling received phototherapy                                     | Weight Loss greater than 10% of birthweight   |
| Cephalohematoma or significant bruising at birth                           | Discharge less than 24 hours of age           |
| Jaundice observed before discharge                                         |                                               |
| ABO incompatibility with positive direct antiglobulin test (Coombs or DAT) |                                               |

## Predischarge Bilirubin Nomogram to Assess Risk for Hyperbilirubinemia and to Determine Follow-up

(For newborns > 35 weeks GA and a BW > 2500 g; or > 36 weeks GA and a BW of > 2000 g)

- |                                      |                                                                  |
|--------------------------------------|------------------------------------------------------------------|
| <b>HIGH RISK ZONE -</b>              | <b>Follow up TSB within 24 hours</b>                             |
| <b>HIGH INTERMEDIATE RISK ZONE -</b> | <b>F/U with PCP, VNA, or lactation consultant in 24-48 hours</b> |
| <b>LOW INTERMEDIATE RISK ZONE -</b>  | <b>F/U recommended by 5 days of age (PCP, nurse, VNA)</b>        |
| <b>LOW RISK ZONE -</b>               | <b>F/U recommended by 5 days of age (PCP, nurse, VNA)</b>        |



This guideline is not intended to replace the physician's clinical judgement or to establish a single protocol applicable to all such newborns with hyperbilirubinemia. Some clinical problems may not be adequately addressed by this guideline which cannot be considered to represent an exclusive approach to care. As always, physicians are urged to document management strategies.

Reference: *Pediatrics*. 114 (1) July, 2004: 297-316.

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# Hyperbilirubinemia (pg 2)- Laboratory Evaluation and Phototherapy

## Laboratory Aids in the Evaluation of Neonatal Jaundice

**BILIRUBIN, total and direct** (if direct bilirubin is  $\geq 2.0$  mg/dL- exit algorithm and investigate cholestasis)

To be drawn: 1. Anytime during hospitalization for clinical jaundice at provider/nursing discretion  
2. Predischarge to assess timing of follow-up based on risk zone

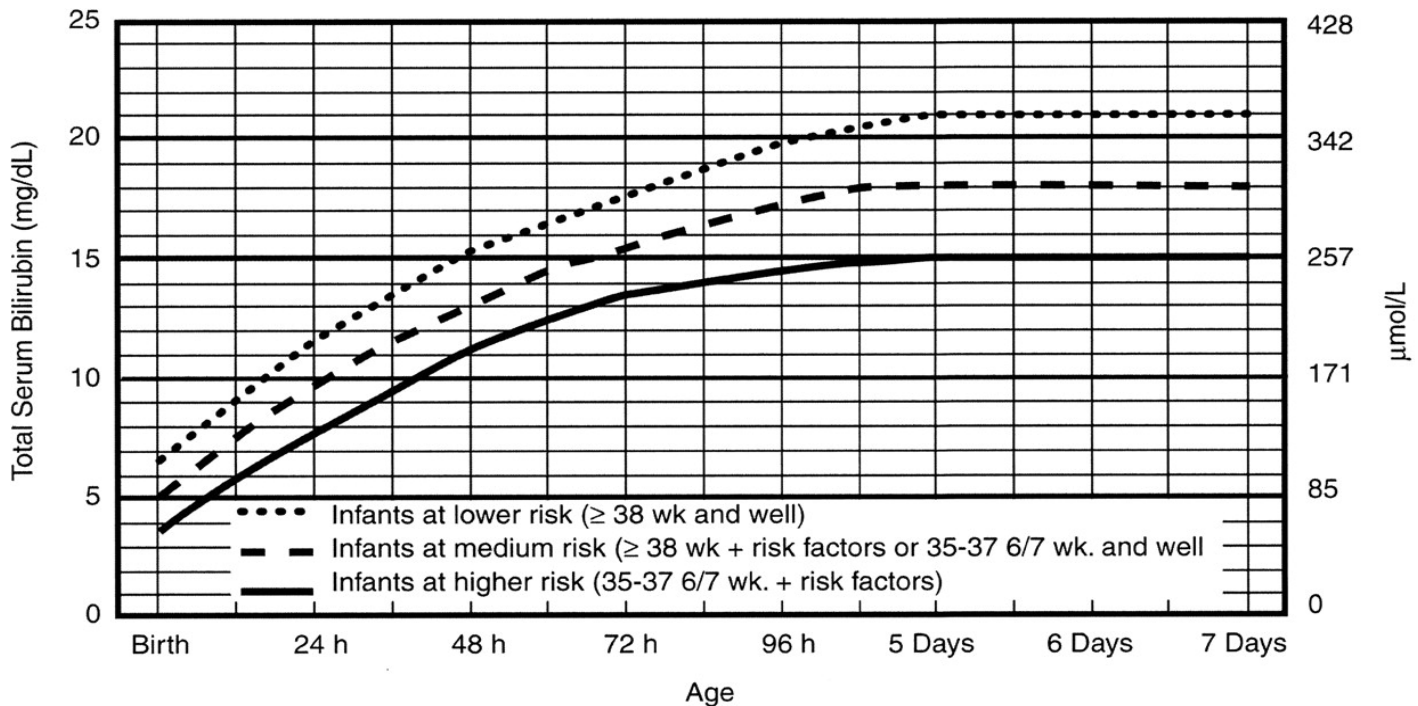
**JAUNDICE THAT PRESENTS AT LESS THAN 24 HOURS OF AGE** requires total and direct bilirubin and a check of **INFANT BLOOD TYPE** and **DAT** (automatically obtained if mother is blood type O)

**OTHER LAB STUDIES THAT MAY BE INDICATED PENDING CLINICAL COURSE:**

CBC, reticulocyte count, hemoglobin electrophoresis, G6PD level, thyroid studies,  
Urine for reducing substances (r/o galactosemia), electrolytes (to assess dehydration)

## Guideline for Phototherapy

**Using the figure below:** After risk has been determined, plot the total serum bilirubin at appropriate age in hours. If the total serum bilirubin level falls above the designated risk line, phototherapy is indicated. Recheck bilirubin 4-6 hours after starting phototherapy, then q12-24 hours pending clinical course. If bilirubin does not decrease after initiation of phototherapy, consider evaluation for other etiologies of jaundice.



### Notes:

Use total bilirubin. Do not subtract direct reacting or conjugated bilirubin.

**Risk factors**= isoimmune hemolytic disease, G6PD deficiency, asphyxia, significant lethargy, temperature instability, sepsis, acidosis, or albumin  $< 3.0$  g/dL (if measured)

For well infants 35 – 37 6/7 wk, one can adjust TSB levels for intervention around the medium risk line. It is an option to intervene at lower TSB levels for infants closer to 35 wks and at higher TSB levels for those closer to 37 6/7 wk.

The AAP discourages the interruption of breast-feeding in healthy term newborns and encourages continued and frequent breast-feeding (at least 8 to 10 times every 24 hours). Depending on the mother's preference and the physician's judgement, supplementation with formula or the temporary interruption of nursing and substitution with formula may accompany treatment.

This guideline, revised January, 2005, is based on the most recent AAP Practice Guideline.

Reference: *Pediatrics*. Vol. 114 (1) July, 2004.