SPECIAL SITUATIONS

Only in the nursery……..

BILIRUBIN TESTING

Only in the nursery……..

All babies will have a bilirubin tested on day 2 of life

(can be serum or transdermal)

Go to http://bilitool.org/ and enter age in hours and bili level. The tool will guide you the rest of the way.

Note that the transdermal value may be off by 2-3 points

BiliTool™

An ounce of technology. A pound of prevention

option one

Date and time of **birth** to closest hour:

2016 | November | 21 | 12 am - midnight

Date and time of **blood sampling** to closest hour:

2016 | November | 22 | 12 am - midnight

Total Bilirubin*: mg/dl (US) Submit

option two

Age (hours): 48 (12-146 hours)

Total Bilirubin*: 10 mg/dl (US) Submit

*Note: The default *unit of measure* for total bilirubin is **mg/dl**. Please select **µmol/L** if your bilirubin values are captured in the global standard SI metric units. Bilirubin conversion from US to SI units is 17.1.

Results are based on the Hour-Specific Nomogram for Risk Stratification published in "Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation" (2004) by the AAP journal.

Use

BiliTool is designed to help clinicians assess the risks toward the development of hyperbilirubinemia or "jaundice" in newborns over 35 weeks gestational age.

Required values include the age of the child in **hours** (between 12-146 hours) and the **total bilirubin** in either US (mg/dl) or SI (µmol/L) units.

Two entry options are available.

Hour-Specific Nomogram for Risk Stratification

Infant age	48 hours	
Total bilirubin	10 mg/dl	
Risk zone	Low Intermediate Risk	

Risk zone is one of several risk factors for developing severe hyperbilirubinemia.

Recommended Follow-up

Hyperbili Risk Level	Interval
Lower Risk (>= 38 weeks and well)	If discharge age <72 hours, follow-up according to age and other clinical concerns
Medium Risk (>=38 weeks + hyperbili risk factors OR 35 to 37 6/7 weeks and well)	If discharge age <72 hours, follow-up within 48 hours
Higher Risk (35 to 37 6/7 weeks and hyperbili risk factors)	If discharge age <72 hours, follow-up within 48 hours, consider TcB/TSB at follow-up

AAP Phototherapy Guidelines (2004)

Neurotoxicity Risk Level	Start phototherapy?	Approximate threshold at 48 hours of age
Lower Risk (>= 38 weeks and well)	No	15.3 mg/dl
Medium Risk		

Links

Hour-specific nomogram
Phototherapy nomogram
Exchange nomogram

Hyperbilirubinemia Risk Factors

- TSB/TcB in high-risk zone
- Jaundice in first 24 hours
- ABO incompatibility with positive direct Coombs, known hemolytic disease, or elevated ETCO
- Gestational age 35-36 weeks
- Prior sibling had phototherapy
- Cephalohematoma or bruising
- Exclusive breastfeeding, esp. with poor feeding or weight loss
- East Asian Race

Neurotoxicity Risk Factors

- Isoimmune Hemolytic Disease
- G6PD deficiency
- Asphyxia
- Significant lethargy
- Temperature instability
- Sepsis
- Acidosis
- Albumin < 3.0 g/dL

Check out the hyperbili risk factors to identify the level of risk for the baby.

Higher risk means faster/higher rise.

Higher Risk (35 to 37 6/7 weeks and hyperbili risk factors)	If discharge age <72 hours, follow-up within 48 hours, consider TcB/TSB at follow-up	

AAP Phototherapy Guidelines (2004)

Neurotoxicity Risk Level	Start phototherapy?	Approximate threshold at 48 hours of age
Lower Risk (>= 38 weeks and well)	No	15.3 mg/dl
Medium Risk (>=38 weeks + neurotoxicity risk factors OR 35 to 37 6/7 weeks and well)	No	13.1 mg/dl
Higher Risk (35 to 37 6/7 weeks and neurotoxicity risk factors)	No	11.4 mg/dl

It is an option to provide conventional phototherapy in the hospital or at home at TSB levels 2-3 mg/dl (35-50 µmol/L) below those shown. Home phototherapy should not be used in infants with risk factors.

If phototherapy threshold is exceeded, please also review AAP Guidelines for Exchange Transfusion.

Neurotoxicity Risk Factors

- Isoimmune Hemolytic Disea
- G6PD deficiency
- Asphyxia
- Significant lethargy
- Temperature instability
- Sepsis
- Acidosis
- Albumin < 3.0 g/dL

Next check the neurotoxicity risk factors and the bili level

In this example, the baby has a bili of 10 – If in a higher risk category I would repeat the level in 4hrs.

IF PHOTOTHERAPY IS INDICATED

OK to continue breastfeeding

Order triple set up for lights

Baby goes to mini-nursery

Repeat bili and get cbc, retic, blood type and coombs (if not already done)

Check bili level q6hrs

Consult neonatology with any concerns.

CCHD SCREENING

CCHD screening – pulse oximetry screening for congenital heart defects

>3 pt difference between hand and foot is abnormal

Performed on all babies after 24 hrs of age

HEARING SCREENING

Performed on all babies

Initial fail is common

Repeat fail, outpatient testing is scheduled by the technician

COOMBS POSITIVE

A Coombs positive result is significant

This implies some maternal-fetal blood incompatibility

Much higher risk for hyperbilirubinemia

Incites fear of Kernicterus

Order q6hr bilis on the Coombs positive babies.

When drawing the first bili check for cbc/retic/ABO if not already done.

If the baby is anemic and reticing it is at higher risk for jaundice.

If these babies look sick, formal consult to neonatology