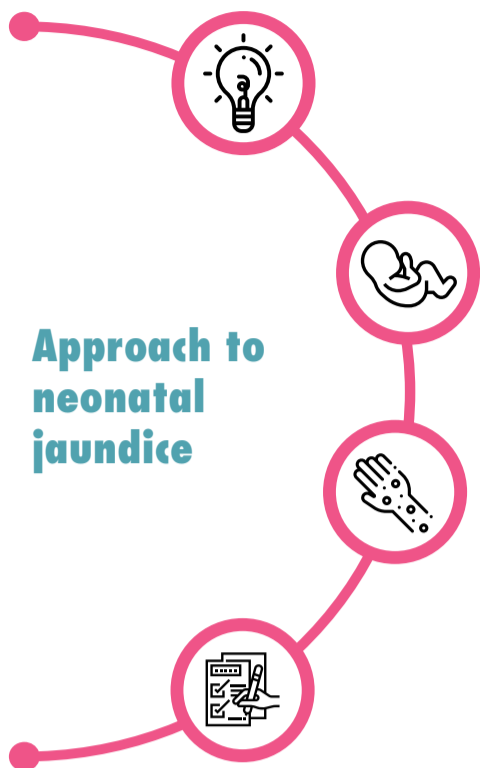




Standard Treatment Workflow (STW)

NEONATAL JAUNDICE IN INFANTS ≥ 35 WEEKS

ICD-10-P59.9



VISUAL ASSESSMENT

Examine the baby in bright natural/ white fluorescent light

Make sure the baby is naked and no yellow/ off white background

Examine blanched skin

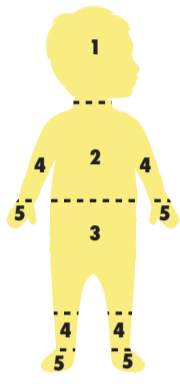
Assess severity of jaundice

LOOK FOR THESE RISK FACTORS

- Gestation < 38 weeks
- Previous sibling requiring treatment for jaundice
- Blood group incompatibility (ABO/Rh)
- High prevalence of G6PD deficiency
- Exclusively breast fed baby with weight loss >3% per day; or >10% cumulative
- Total serum bilirubin (TSB) / Transcutaneous bilirubin (TcB) value in the high/ high-intermediate risk zone

ASSESSMENT OF SEVERITY OF JAUNDICE

Clinical examination every 12 hrs during the initial 3 to 5 days of life; use TcB if available



KRAMER ZONES	APPROX SERUM BILIRUBIN
1 Face and neck	4 to 6 mg/dL
2 Chest and upper abdomen	8 to 10 mg/dL
3 Lower abdomen and thighs	12 to 14 mg/dL
4 Legs and arms/ forearms	15 to 18 mg/dL
5 Palms and soles	>15 to 20 mg/dL

ASSESS IF THE BABY HAS SERIOUS JAUNDICE?

SERIOUS JAUNDICE

- Visible jaundice in first 24 hrs OR
- Yellow palms and soles anytime OR
- Signs of acute bilirubin encephalopathy (ABE) like poor suck/feeding, lethargy, hypotonia OR
- Abnormal posturing such as arching, retrocollis, opisthotonus, convulsion, fever, high pitched cry

MANAGEMENT

Does the infant have serious jaundice?

YES

Start Intensive Phototherapy

- Document serum bilirubin simultaneously
- Prepare for exchange blood transfusion (EBT) if signs of ABE are present

As per TSB, determine if baby requires phototherapy/ EBT if TSB at/more than cut-off?

YES

Continue phototherapy/prepare for EBT and determine the cause

Investigation:

- Blood type and DCT (if mother is 'O' or Rh -ve)
- G6PD status
- Peripheral smear and reticulocyte count

Stop phototherapy

TSB falls below 13-14 mg/dL or 2 mg/dL below cut-off

ENSURING OPTIMAL PHOTOTHERAPY

- Keep the baby naked (only small nappy to cover the genitalia and eye covers)
- Place the baby close to the lights
- Phototherapy can be interrupted for feeding & clinical procedures
- Encourage frequent breastfeeding
- Monitor temperature regularly
- Maintain equipment as per manufacturer's instructions
- Frequency of repeat TSB measurement depends on cause, severity, age and gestation
 - Hemolytic jaundice : 6 to 8 hourly during initial 24 to 48 hrs
 - Non-hemolytic jaundice : 12-24 hourly

SOME IMPORTANT DO'S ✓

- Encourage frequent breastfeeding
- Avoid exposure to naphthalene balls
- Complete evaluation of newborn is important to evaluate for risk factors and underlying causes
- Do pre-discharge risk assessment

NO

Does the infant require TSB measurement ?

- Jaundice in first 24 hrs ?
- Beyond 24 hrs: more than 12-14 mg/dL on visual assessment / TcB or near PT cut-off ?
- Unsure about visual assessment ?

YES

As per TSB, determine if baby requires phototherapy/ EBT if TSB at/more than cut-off?

NO

Stop phototherapy

NO

Continue visual assessment/TcB (if available) every 12 to 24 hrs till discharge

ENSURING OPTIMAL EXCHANGE BLOOD TRANSFUSION (EBT)

- Immediate EBT is recommended if infant shows signs of ABE or if TSB is above the recommended age and risk specific cut off
- Exchange volume = Twice the estimated blood volume of 80-100 mL/kg

DISCHARGE ADVICE

- Reinforce breastfeeding at discharge
- If discharged before 72 hrs; follow up at 48 to 72 hrs after discharge

SOME IMPORTANT DON'TS ✗

- Sunlight should not be used for treatment of hyperbilirubinemia
- Do not rely on visual assessment/ TcB while the baby is under phototherapy
- Do not give phenobarbitone for treatment of hyperbilirubinemia
- Do not stop breastfeeding

ABBREVIATIONS

ABE: Acute bilirubin encephalopathy
DCT: Direct coombs test

EBT: Exchange blood transfusion
G6PD: Glucose-6-phosphate dehydrogenase

TcB: Transcutaneous bilirubin
TSB: Total serum bilirubin

REFERENCES

1. Screening, Prevention and Management of Neonatal Hyperbilirubinemia. Clinical Practice Guidelines. National Neonatology Forum India 2020. www.nnfi.org/cpg
2. Management of hyperbilirubinemia in the newborn infant 35 or more weeks of gestation. American Academy of Pediatrics Practice Guidelines. www.cdc.gov

☛ HYPERBILIRUBINEMIA IS A PREVENTABLE CAUSE OF BRAIN DAMAGE

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit the website of DHR for more information: (stw.icmr.org.in) for more information.
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