STANDARD TREATMENT WORKFLOW (STW)

Neonatal Hypoglycemia


1All India Institute Of Medical Science, New Delhi; 2Postgraduate Institute of Medical Education and Research, Chandigarh; 3Jawaharlal Institute of Postgraduate Medical Education & Research, Puducherry; 4All India Institute Of Medical Science, New Delhi; 5Maulana Azad Medical College (MAMC), New Delhi; 6ANCC, Ahmedabad; 7Nil Ratna Sircar Medical College and Hospital, Kolkata; 8Govt Hospital Nalgonda.Mother And Child Health Center, Nalgonda; 9Government Medical College & Hospital, Chandigarh; 10Pandit Bhagwat Dayal Sharma Post Graduate Institute of Medical Sciences, Rohtak; 11CH, Gurgaon; 12Stanley Medical College, Chennai; 13NITI Ayog, New Delhi; 14All India Institute Of Medical Science, New Delhi; 15Madras Medical College, Chennai; 16SH, Mumbai; 17Sir Ganga Ram Hospital, New Delhi; 18All India Institute Of Medical Science, Jodhpur; 19Jawaharlal Institute of Postgraduate Medical Education & Research, Puducherry; 20Gandhi Medical College, Bhopal; 21All India Institute Of Medical Science, New Delhi; 22NCH, Aurangabad; 23KEM, Mumbai; 24Chettinad Hospital And Research Institute, Chennai; 25KEM Hospital, Pune; 26Tata Institute of Social Sciences, Mumbai; 27Postgraduate Institute of Medical Education and Research, Chandigarh; 28Maulana Azad Medical College (MAMC), New Delhi; 29Jawaharlal Institute of Postgraduate Medical Education & Research, Puducherry; 30Christian Medical College, Vellore; 31PCH, Hyderabad; 32Sri Ramakrishna Hospital, Coimbatore; 33Government Medical College & Hospital, Chandigarh; 34St John’s Medical College Hospital, Bengaluru; 35Lady Hardinge Medical College, New Delhi; 36All India Institute of Medical Sciences, Bhubaneswar; 37Postgraduate Institute of Medical Education and Research, Chandigarh

CORRESPONDING AUTHOR
Dr. Ashok K Deorari, Department of Neonatology, All India Institute of Medical Science, New Delhi
Email: ashokdeorari_56@hotmail.com

CITATION
This work is licensed under a Creative Commons Attribution 4.0 International License.
©The Author(s). 2024 Open Access

DISCLAIMER
This article/STW, was originally published by Indian Council of Medical Research (ICMR) under Standard Treatment Workflow. The reprinting of this article in Journal of the Epidemiology Foundation of India (JEFI) is done with the permission of ICMR. The content of this article is presented as it was published, with no modifications or alterations. The views and opinions expressed in the article are those of the authors and do not necessarily reflect the official policy or position of JEFI or its editorial board. This initiative of JEFI to reprint STW is to disseminate these workflows among Health Care Professionals for wider adoption and guiding path for Patient Care.
Deorari AK, et al.: Neonatal Hypoglycemia

**Standard Treatment Workflow (STW)**

**NEONATAL HYPOLYCEMIA**

**ICD-10-P70.4**

**HOW TO SCREEN FOR HYPOLYCEMIA?**
- Preterm infants (< 37 weeks gestational age)
- Low birth weight infants (< 2500 g)
- Small for gestation age (SGA); birth weight < 10th percentile
- Large for gestation age (LGA); birth weight > 90th percentile
- Infant of diabetic mother (IDM)
- Sack infants (mg. sepsi, asphyxia, respiratory distress, shock, polycythemia, seizure)
- Post exchange blood transfusion
- Infants on intravenous fluids and parenteral nutrition

**DO NOT MONITOR BLOOD GLUCOSE ROUTINELY IN TERM HEALTHY AGA INFANTS**

**SCHEDULE OF BLOOD GLUCOSE (BG) MONITORING (PREFERRED)**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>TIME SCHEDULE</th>
</tr>
</thead>
<tbody>
<tr>
<td>At-risk infants</td>
<td>At 2, 6, 12, 24, 48, 72 hours of life</td>
</tr>
<tr>
<td>Infants on IV fluids/ parenteral nutrition</td>
<td>Every 6-8 hours</td>
</tr>
</tbody>
</table>

**HOW TO MONITOR BLOOD GLUCOSE (BG)?**
- Use Glucose reagent strips along with a glucometer
- Low values (< 45 mg/dL) - Send a blood sample to the lab for confirmation
- Do not delay treatment

**BLOOD GLUCOSE <45 mg/dL**

**ASYMPTOMATIC**
- Immediate supervised feeding
- Breathing and a measured volume of expressed breast milk (formula milk if EBM not available) by syringe or gavage

**SYMPTOMATIC OR BG <30 mg/dL**
- IV bolus 2 mL/kg 10% dextrose
- Start IV infusion of dextrose at a glucose infusion rate (GIR) of 6 mg/kg/min

**RE-CHECK BG AFTER 1 HOUR**
- If BG < 45 mg/dL - Continue feeds
- If BG ≥ 45 mg/dL - Administer nursing

**PREVENTION OF HYPOGLYCEMIA**
- Support mother for early initiation and regular breastfeeding
- Maintain continuity
- Do not feed 5%, 10% or 2% dextrose as a substitute for breastfeeding

**PRACTICAL POINTS**
- Avoid 12:30-15:30% dextrose infusion through a peripheral vein
- Use a syringe pump to deliver glucose
- Avoid frequent dextrose boluses
- Send blood in fluoride or oxalate vac for laboratory glucose estimation
- Always search for an underlying cause - polyhydramnios, sepsis, meningitis, hypothyroidism, iUGR
- Do not give antacids if no sepsis is suspected refer to STW on sepsis

**SYMPTOMATIC OR BG <30 mg/dL**
- IV bolus 2 mL/kg 10% dextrose
- Start IV infusion of dextrose at a glucose infusion rate (GIR) of 6 mg/kg/min

**SYMPTOMATIC OR BG <30 mg/dL**
- Increase G4 to 2 mg/kg/min till max GIR of 12 mg/kg/min
- Monitor IV fluid every 6 hours
- Increase oral feeds
- Stop IV fluids when euglycemic on G4 <1 mg/kg/min

**RE-CHECK BG every 30 mins till 2 values ≥ 45 mg/dL & then every 6 hrs**

**AGA**: Appropriate for Gestational Age

**IV**: Intravenous

**IM**: Intramuscular

**PO**: Percutaneous

**SC**: Subcutaneous

**Abbreviations**

© 2024 JEFI