## Women and Babies: Neonatal Hypoglycaemia- Prevention and Management

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<td>Policy Reference</td>
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</tr>
<tr>
<td>Related MOH/SLHD Policy</td>
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</tr>
<tr>
<td>Keywords</td>
<td>Newborn, blood glucose monitoring, hypoglycaemia</td>
</tr>
<tr>
<td>Applies to</td>
<td>All newborns in RPA Newborn Care, birthing and postnatal areas</td>
</tr>
<tr>
<td>Clinical Stream(s)</td>
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</tr>
<tr>
<td>Date approved GM, RPA</td>
<td>May 2016</td>
</tr>
<tr>
<td>Date approved by RPA Policy Committee</td>
<td>May 2021</td>
</tr>
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</tr>
<tr>
<td>Status</td>
<td>Active</td>
</tr>
<tr>
<td>Review Date</td>
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<tr>
<td>Risk Rating (At time of publication)</td>
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### Version History

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<td>• Revision of neonatal blood glucose levels, appropriate management and escalation of babies at risk of neonatal hypoglycaemia in Birthing and Postnatal Areas</td>
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<td></td>
<td>• BGL to be recorded in the Newborn Care Plan (not on the SNOC).</td>
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• Introduction of dextrose gel for babies >35 weeks gestation, which is shown to be effective in keeping mothers and infants together and improves the rate of full breast feeding after discharge from hospital.

Women and Babies: Neonatal Hypoglycaemia- Prevention and Management

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Compliance with this Guideline is recommended
1. **Introduction**

This guideline provides guidance on indications for the screening and prevention of neonatal hypoglycaemia and the management of babies with diagnosed hypoglycaemia.

**SLHD - RPA Women and Babies: Neonatal Hypoglycaemia-Prevention and Management**
2. The Aims / Expected Outcome of this Policy/Procedure/Guideline
   - Detection and prevention of neonatal hypoglycaemia

3. Risk Statement
   SLHD Enterprise Risk Management System (ERMS) Risk # 106 Recognising and responding to clinical deterioration in acute health care.
   - Risk of neonatal hypoglycaemia

4. Scope
   - Neonatal medical staff
   - Nursing and midwifery staff

5. Implementation
   - Notification and distribution of this Guideline to neonatal and midwifery staff via intranet / email notification / staff meetings / ward meetings.
   - Educational support provided via departmental education and training programs.

6. Key Performance Indicators and Service Measures
   - Incidence of symptomatic neonatal hypoglycaemia
   - Audit of use of glucose gel in increased risk babies in birthing and postnatal areas.

7. Guidelines

7.1 Background
   Glucose is an essential nutrient for the brain. Abnormally low levels can cause encephalopathy and have the potential to produce long term neurological injury. Definitions of hypoglycaemia were originally set by the studies of Cornblath et al as <1.1mmol/l in growth restricted and preterm babies and <1.7mmol/l in term babies.

   Term Babies
   There is still considerable uncertainty as to the level of blood glucose (BGL) below which there is a risk of brain injury in a term baby. The situation is confused by the normal postnatal fall in BGL in healthy term infants – the lower range of the 95% confidence intervals of this nadir at 1-2 hours was a BGL 1.4mmol, a level that could be defined as pathological. By 24 hours, the lower 95% CI were 2.4mmol/L. The controversy was fuelled by the study of Koh et al who showed reversible disturbance in evoked potentials at glucose levels below 2.6mmol/l in a small cohort of asymptomatic term babies. It was suggested that this finding indicated a need to keep BGLs above this level however this neurophysiological outcome does not equate to permanent neurological injury.

   In newborn animal models, hypoglycaemia has to be both severe and prolonged to produce brain injury. Human data also points hypoglycaemic brain injury in term babies usually being the result of prolonged very low BGLs. In the retrospective series of Montassir et al, many of the babies had recorded BGL below 0.9mmol/l and in that of Burns et al, 86% had levels below 1.5mmol/l. In the series of Montassir et al, babies with brain injury were exposed to low blood glucose for significantly longer than those without, 14 hrs vs 1.7 hrs.

   However none of the proposed pathological levels are clear cut and there is probably considerable inter-individual variation in vulnerability to low blood glucose. Absolute blood glucose level is only one of the factors which defines that vulnerability. Other factors will include duration of exposure and perinatal risk factors such as intra-partum hypoxia, prematurity and symptoms. Any baby with blood glucose ≤ 2.5mmol/l who has symptoms that might be due to hypoglycaemia should be considered vulnerable.
Preterm babies

Preterm babies have an impaired ability to produce ketones (an alternative brain fuel) in response to low glucose levels, so are more vulnerable than term babies. Lucas et al found glucose levels below 2.5mmol/l were associated with worse neurodevelopmental outcome. Duvanel et al reported that preterm growth restricted infants with recurrent moderate hypoglycaemia (5 episodes with plasma glucose levels >0.6 and <2.6mmol/L) or a single severe hypoglycaemic episode (0 to 0.6mmol/L) had lower psychomotor development scores at 3.5 and 5 years age.

**Intervention threshold vs pathological threshold**

Authorities in neonatal hypoglycaemia highlight the importance of differentiating between an interventional threshold and a pathological threshold. An interventional threshold indicates a range where low BGL would not usually be injurious but, because of the uncertainty, intervention is indicated to lift the BGL above this range. A pathological threshold reflects a level below which BGL is likely to be injurious if left untreated. These arbitrary thresholds for newborn blood glucose have been selected to strike a balance between the rare but serious risk of under-treatment (hypoglycaemic neurological injury) and the everyday risks of over-treatment e.g. separation of mother and baby, interruption of establishing breast feeding etc.

Notwithstanding the uncertainty as to safe blood glucose levels, the therapeutic goal should be to not tolerate BGLs between intervention and pathological thresholds for longer than the effect of one feed, and to increase BGLs below pathological levels as a matter of urgency with intravenous glucose.

**Intervention Threshold**

- During the first 24 hours in well babies born after 34 weeks: < 2.1mmol/l.
- After 24 hrs in well babies born after 34 weeks: < 2.6mmol/l.
- Any unwell baby, term or preterm: < 2.6mmol/l. These babies will usually be in the nursery.

**Pathological Threshold**

Blood glucose should be considered to require urgent intervention in any baby with a BGL <1.6mmol/l or any baby with a BGL <2.6mmol/l with symptoms that might be due to hypoglycaemia...see 8.3 Symptoms of Hypoglycaemia.

### 7.2 Incidence

The true incidence will vary depending on the definition applied by an individual unit. In general terms, the higher the interventional threshold and the earlier after birth the screening starts, the higher will be the incidence of hypoglycaemia. The study of Harris et al described prospective screening BGL (SBGL) measures from early after birth in 514 ‘at risk’ babies. Fifty per cent of these babies had an SBGL <2.6mmol and 20% had a measure less than 2.0mmol/l. Fifty per cent of these low measures occurred in the first 6 hours when there is a natural nadir in blood glucose levels. None of the babies were reported as symptomatic and the authors emphasise that the significance of asymptomatic hypoglycaemia in terms of long term outcomes remains unclear.

### 7.3 Symptoms of Hypoglycaemia

Most infants with a low blood glucose level will be asymptomatic. But a SBGL should always be measured in any baby with possible symptoms of hypoglycaemia. If that SBGL is < 2.6mmol/l, it should be considered that those symptoms may be due to hypoglycaemia. Symptoms of hypoglycaemia may include:

- Poor feeding: This is often the first, albeit non-specific, symptom of neonatal hypoglycaemia. Infants who do not demand feed or who fail to have a nutritive feed may have hypoglycaemia or develop hypoglycaemia. This may be a sleepy baby not...
showing active feeding behaviour or an unsettled baby who doesn’t feed when put to the breast. On the postnatal ward, infants should normally have at least one code 5 or 6 feed (nutritive feed) within the first 6 hours and two code 5 or 6 feeds within the first 12 hours. A screening blood glucose should be performed:
  o At 6 hours, if a baby has not had at least one code 5 or 6 breast feed including the initial skin to skin feed.
  o At 12 hours, if a baby has not had at least two code 5 or 6 breast feeds including the initial skin to skin feed.

These babies should have a SBGL to ensure the poor feeding is not secondary to hypoglycaemia. If the SBGL is within normal range, evaluate feeding with senior midwife. Consider referral to the lactation team.

- Jitteriness and irritability.
- Apnoea and cyanosis.
- Hypotonia and lethargy.
- Seizures.

7.4 Blood Glucose Measurement

**Screening BGL (SBGL)**

- Screening for hypoglycaemia is performed with a blood reagent strip. Currently available BGL screening meters were shown to estimate laboratory BGL +/- 0.95mmol/L Laboratory BGL averaged 0.17 to 0.56mmol/L below the screening BGL. The difference may be due to glycolysis despite the use of NaFK2 oxalate tubes, making laboratory formal BGL an unreliable measure without additional efforts to prevent glycolysis (e.g. ice or immediate analysis).

- It is important that before any intravenous treatment is commenced, a formal BGL is performed to validate low SBGL.

**Formal BGL (FBGL)**

Performed for confirmation of hypoglycaemia though do not delay intravenous treatment waiting for this result if SBGL <1.6mmol/l.

- **On postnatal wards:** place blood sample in a lithium heparin tube and transport immediately to biochemistry. Phone the laboratory (58279 / 58442) to ensure immediate spinning down of sample and analysis. Undue delay will result in falsely low BGL and inappropriate management.

- **In RPA Newborn Care:** Use the i-Stat glucose cartridge located in NICU or the ABL 90 Flex blood gas analyser. This guideline will refer to:
  o SBGLs – performed as per the flowcharts for all infants at risk of hypoglycaemia.
  o Risk Determining BGL – performed at 2 hours of age for infants of diabetic mothers with good control, in order to determine whether they will follow the high risk or increased risk flowchart.
  o FBGL – performed to confirm a low SBGL by sending a sample to the lab, as described above.

8. Prevention of Hypoglycaemia

Prevention of hypoglycaemia must be the primary goal. When babies are admitted to the NICU for other reasons such as prematurity, the routine is glucose screening and there should be a low threshold for instituting IV therapy. It is the babies who would not otherwise be admitted to NICU who present the challenge in terms of prevention. Any baby at risk of hypoglycaemia needs attention paid to early establishment of breast feeding and screening blood glucose level (SBGL) with a cot-side screening device.

**Classification of risk:** Babies are classified into two groups: 1) High risk babies and 2) Increased risk babies, depending on their likelihood of neonatal hypoglycaemia. These groups are summarised in appendix 1. In addition to the criteria below for defining control of
maternal diabetes, consider reading the recent diabetes clinic notes, click on 'diabetes progress notes' in the diagnostic results section in Powerchart.

8.1 High risk babies

Infants of high risk are to be admitted to Newborn Care and have a SBGL by 1 hour of age or before the procedure, if umbilical catheters are to be inserted.

High risk babies include:

(i) Babies of any diabetic mother with evidence of poor recent control:
   - Most recent HbA1c >6g% and/or recent daily BGL mainly more than 8mmol/L
   - Or birth weight above the 95th centile (see Appendix 1: Quick reference tables for 5th and 95th centiles).
   - Or SBGL after first feed in birthing area / Recovery is < 2.1mmol/L

(ii) Preterm babies born before 35 weeks

(iii) Very low birth weight babies less than 2200g as per admission policy.

(iv) Macrosomic baby: i.e. physical appearance of an infant of a diabetic mother in the absence of a history of maternal diabetes. These babies are large, have increased subcutaneous fat, increased muscle mass and are plethoric. Their head circumference will plot on a lower centile than their weight (see photograph). If unsure, these babies need an early neonatal clinical review and a SBGL within 2 hours of birth.

(v) Any baby with symptoms which may be due to hypoglycaemia: If the SBGL is low (< 2.6mmol/L) in a symptomatic baby then urgent intravenous glucose is indicated. Confirm BGL with a formal blood glucose (FBGL) when inserting the IV line. Subsequent SBGL are not indicated in "jittery" babies who have a SBGL 2.6mmol/L or more and are feeding well.

8.2 Increased risk babies

These infants may be transferred to the postnatal wards if otherwise well and undergo monitoring as per the 'increased risk' management and flow chart below.

Infants of diabetic mothers with good recent control should have an additional Risk Determining-BGL after the first ‘skin to skin’ breast feed in the delivery/recovery suite.

(i) Babies of any diabetic mother with evidence of good recent control:
   - HbA1c ≤6g% and/or the large majority of recent BGL measures are less than 8mmol/L.
   - And birth weight less than 95th centile. (see Appendix 1: Quick reference tables for 5th and 95th centiles.)
9. Management of High Risk Babies Admitted to Newborn Care

See Appendix 3: Procedure for high risk babies flow chart

9.1 General Principles

- In high risk babies born after 34 weeks including otherwise well infants of poorly controlled diabetic mothers, blood glucose levels should be maintained at 2.1mmol/L or more in 1st 24 hours and 2.6mmol/L or more after 24 hours.
- In preterm babies born before 35 weeks OR sick term babies, blood glucose levels should be maintained at 2.6mmol/l or more.

9.2 Feeding management.

- In high risk babies including otherwise well infants of poorly controlled diabetic mothers- breastfeed where possible. If the mother is unable to attend the nursery or if breast feed less than code 5, feed to 60mls/kg/day using expressed breast milk or formula for the first 24 hours provided the blood glucose level is at 2.1mmol/L or more. **Supplementation with volumes less than 60mls/kg/day can be considered with Senior Medical approval.** Follow the Newborn Care Management Flow Chart for high risk babies see appendix 3.
• In preterm babies born before 35 weeks OR sick term babies- see enteral feeding protocol. Blood sugar levels should be maintained at 2.6mmol or more.

9.3 When to perform glucose screening
• All high risk babies admitted to the nursery should have a SBGL by 1 hour of age or pre-procedure if umbilical catheter insertion is planned.
• Thereafter, SBGL should be performed 30 minutes after each feed.

9.4 How long to perform blood glucose screening
• Babies admitted only for SBGL monitoring can be transferred to the postnatal ward if SBGLs are at 2.1mmol/L or more for the first 12 hours. SBGL monitoring after each feed should continue for a further 24 hours on the postnatal wards.

10. Management of Increased Risk Babies in the Birthing and Postnatal Areas
See Appendix 4: Procedure for increased risk babies flow chart

10.1 General principles
• All blood glucose levels should be documented in the Newborn Care Plan (MR 504) in the 'Assessment' column.
• Blood glucose levels 2.1 to 2.5mmol/L on day 1 should be managed with frequent feeds and continued SBGL monitoring.
• If feeding poorly or SBGL is persistently <2.6mmol/l after 24 hours call a Neonatal Clinical Review.
• If blood glucose levels between 1.6 and 2mmol/L, give glucose gel (see Glucose gel) in conjunction with feeding support and repeat SBGL after 30 minutes.
• If SBGL persists below 2.1mmol/L, call a Neonatal Clinical Review and admit to Newborn Care for further management.
• If blood glucose levels <1.6mmol/L, call a Neonatal Assist and baby to be admitted to Newborn Care. Glucose gel and a feed can be given as an interim measure.
• If admitted to Newborn Care and blood glucose remains <1.6 (following administration of glucose gel), start IV treatment. Administer a further dose of glucose gel and an intragastric tube feed if there is a delay in IV treatment. Send a laboratory Formal BGL (for confirmation), insulin, cortisol, growth hormone before commencing glucose infusion.
• If admitted to Newborn Care and blood glucose has risen to 1.6 or more (following administration of glucose gel), but remains <2.1, a further dose of glucose gel and a feed can be given before repeating the SBGL after 30 minutes. If there is any doubt, or the baby appears symptomatic IV treatment should be commenced as above.

10.2 Feeding management
• It is essential that all ‘increased risk’ babies have their first feed as soon as possible after birth in the birthing area or Recovery. Document this first feed on the RPA Newborn Care Plan (MR504)
• The second feed should occur within 6 hours of birth and then regularly thereafter, aiming for a minimum of five feeds within the first 24 hours.

10.3 Glucose gel
There is increasing evidence to suggest glucose gel is useful in treating neonatal hypoglycaemia, preventing mother-infant separation, and promoting breastfeeding.20-23 The Harris study20 was a randomised, double-blind, placebo-controlled trial of dextrose gel versus placebo in babies aged 35–42 weeks’ gestation, younger than 48-h-old, and at risk of hypoglycaemia at a tertiary centre in New Zealand between Dec 1, 2008, and Nov 31, 2010.
Babies were randomised to receive 40% dextrose gel 200 mg/kg or placebo gel. Randomisation was stratified by maternal diabetes and birthweight. The primary outcome was treatment failure, (blood glucose concentration of less than 2.6 mmol/L) after two treatment attempts. Of 514 enrolled babies, 47% became hypoglycaemic and were randomised. Dextrose gel reduced the frequency of treatment failure compared with placebo (16 [14%] vs 29 [24%]; relative risk 0.57, 95% CI 0.33–0.98; p=0.04). There were no serious adverse events. Three (3%) babies in the placebo group each had one blood glucose concentration of 0.9 mmol/L. No other adverse events took place.

The most recent Cochrane review included two trials comprising 312 infants (Harris study was one of the two). Results suggest that dextrose gel is effective in keeping mothers and infants together and improving the rate of full breast feeding after discharge from hospital. Researchers reported no adverse effects when dextrose gel was given to infants and no effects on development at two years of age. The review was limited by the moderate to low quality of the studies and lack of data for the outcomes of effectiveness of treatment for individual episodes of low blood glucose levels and effects on brain injury.

**How to use glucose gel.**

- Glucose gel is cheap, easy to administer and is in many cases an effective treatment. Glucose gel can be used in increased risk babies on delivery ward and the postnatal ward according to the principles above, and as per the steps in the flow-diagram.

- Oral glucose gel is given by standing order: *Oral glucose in neonatal hypoglycaemia standing order* is to be documented on the neonatal medication record in the once only medications section. The nurse/midwife must also complete dose, route date and time of administration. A medical officer must sign the order within 24 hours:

  - To administer wipe away excess oral secretions with dry gauze, and massage 0.5mL/kg 40% glucose gel into buccal mucosa with a gloved finger.

  - Glucose gel should be used in conjunction with feeding. Breastfeed, or give EBM if the baby is not attaching. In those babies whose mothers decide to formula feed, give 4mL/kg formula per feed.

  - If glucose gel does not increase the blood sugar to >2.1 mmol/L or more after the first treatment, a second treatment should be given as an interim measure whilst awaiting Neonatal Clinical Review.

  - For any baby with a blood glucose <1.6 mmol call a Neonatal Assist and give glucose gel and support feeding whilst waiting. If the baby is not attaching or EBM is not available a supplementary feed of 4mL/Kg per feed may be appropriate.

  - If more than 6 doses are required within a 48 hour period, a Neonatal Clinical Review should be sought.

  - Note the dosage is 0.5mL/kg of 40% Glucose gel (equivalent to 200mg/kg of Glucose). The dosage in mls will be half the baby’s weight.

  - Glucose gel should not be used in babies < 35 weeks due to lack of evidence for use in babies of this gestation

**10.4 When to perform blood glucose screening**

- Infants of diabetic mothers with good recent control and < 95th centile for birth weight should have their Risk Determining-BGL after the first ‘skin to skin’ breast feed or no later than two hours of age.

- In other increased risk babies, the first SBGL should occur no later than 6 hours and should preferably be performed after the baby is given their second feed. The timing is more important than the relationship to feed. So if the baby is late taking his/her second feed or that feed is prolonged, this SBGL should still occur no later than 6 hours.

- Thereafter, SBGLs should occur 30 minutes after each feed ensuring the baby receives regular good feeds during the first 24 hours.
10.5 How long to perform blood glucose screening?

- Cease SBGL, if subsequent readings are 2.6mmol/L or more for 3 consecutive measurements (excluding the risk determining BGL for infants of diabetic mothers) and the baby appears and is feeding well.
- If any of the three SBGLs are 2.1 to 2.5mmol/L, continue SBGL monitoring for additional 24 hours (see below for persistent SBGL < 2.6mmol/L).
- After 24 hours of age: Normal SBGL should be 2.6mmol/L or more for well term babies and well preterm babies born after 34 weeks. If SBGLs are < 2.6mmol/L beyond 24 hours the infant should be reviewed by a senior Neonatal doctor (either consultant or fellow).

11. Consultation

- Senior nurses and midwives RPA Women and Babies
- Pharmacy Department

12. Links and tools

- Neonatal Early Assessment Program (NEAP) RPAH_PD2016_025.pdf
- Newborn Observations RPAH_PD2016_002.pdf

13. References


Compliance with this Guideline is recommended


13.1 National Standard

Standard 1: Governance for Safety and Quality in Health Service Organisations

Standard 4: Medication Safety

Standard 9: Recognising and responding to clinical deterioration in acute health care.

Compliance with this Guideline is recommended
Appendix 1: Quick reference tables for 5th and 95th centiles

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### Appendix 2: Summary Table of High Risk and Increased Risk Babies

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<td><strong>Infant of any diabetic mother with good recent control:</strong></td>
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<td>- Maternal HbA1C &gt; 6% and/or BGLs &gt; 8mmol/l or</td>
<td>- Maternal HbA1C &lt; 6% and/or BGLs &lt; 8mmol/l and</td>
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<tr>
<td>- Infant SBGL &lt; 2.1 mmol/l after first feed or</td>
<td>- Infant SBGL 2.1 mmol/l or more after first feed and</td>
</tr>
<tr>
<td>- Birth weight &gt; 95th centile (see appendix 2)</td>
<td>- Birth weight &lt; 95th centile (see appendix 2)</td>
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<td><strong>Preterm babies born at 35 or 36 weeks</strong></td>
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<td><strong>Babies with low percent body fat:</strong></td>
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<td>- Girls &lt; 5.8%</td>
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<td>- Boys &lt; 4.2%</td>
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<td><strong>Baby with macrosomic appearance.</strong></td>
<td><strong>Baby with wasted appearance in spite of normal percent body fat measurement</strong></td>
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<td><strong>Baby with possible hypoglycaemic symptoms and SBGL &lt; 2.6 mmol/l.</strong></td>
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Appendix 3: Procedure for high risk babies flow chart

Infants at high risk born at or over 35 weeks should have skin to skin and a breastfeed provided there are no medical contraindications. They are to be admitted to the nursery and have a SBGL by 1 hour of age or pre-procedure if umbilical catheterisation is planned.

**First SBGL 2.1mmol/L or more**
- Check SBGL 30 mins after feeds for 12 hours.
- Continue to establish early regular breast feeding.
- At least 5 feeds in 1st 24 hours

**If SBGL 2.1mmol/L or more & feeding well, after 12 hours in SCN**
- Transfer to Postnatal ward
- Continue to do SBGL after feeds for another 24 hours
- If SBGL above 2.6mmol/L or more & feeding well, cease SBGL after 36 hours

**Any SBGL 1.6-2.0mmol/L**
- Give buccal 40% glucose (0.5mL/kg)
- Breastfeed / give EBM
- SBGL 30 min after buccal glucose

**SBGL remains < 2.1mmol/L**
- Repeat glucose gel and contact neonatal RMO/NNP urgently

**Any SBGL <1.6mmol/L or SBGL <2.6mmol/L with possible symptoms.**
- Contact neonatal RMO/NNP.
- Give buccal 40% glucose gel (0.5mL/kg) as interim measure (if immediate IV treatment not possible).
- Immediate IV treatment.
- With IV insertion, send FBGL, insulin, cortisol, growth hormone before commencing glucose infusion.

**Rapid stepwise approach to low BGL:**

**BGL 1.6 – 2.0mmol/L**
- Give buccal 40% glucose gel (0.5mL/kg)
- Continue breast feeding
- Aim to give EBM or formula supplementary feed (bottle or tube feeds) to 4 mL/kg/feed or appropriate volume to day of life.
- Commence IV 10% glucose at 60 - 90 mL/kg/day, if SBGL not increased or maintained at 2.1mmol/L or more
- With IV insertion, send FBGL, insulin, cortisol, growth hormone before commencing glucose infusion.

**BGL < 1.6mmol/L**
- Give 40% glucose gel (0.5mL/kg) as interim measure if immediate IV treatment not possible.
- IV bolus of 10% glucose at 2.5mL/kg. Consider 5.0mL/kg if BGL less than 1.0mmol/L.
- Ensure within 15 minutes of the bolus that BGL has increased to 2.1mmol/L or more
- Monitor BGL closely and continue IV 10% glucose at 60 to 90 mL/kg/day to maintain normal blood glucose.
- If SBGL not maintained, increase glucose concentration to 12.5% or 15%.
- If SBGL not maintained, consider glucagon infusion starting at 5μg/kg/hr titrating up according to SBGL.

**NB glucose gel should not be used in preterm infants <35/40**
Appendix 4: Procedure for increased risk babies flow chart

In all babies: encourage and support breastfeeding* at all times:
- Encourage skin to skin contact
- Offer breastfeeding
- If not feeding effectively - teach mother to hand express and give colostrum to baby 8-10 times in 24 hours.
- Use dextrose gel as indicated below

At any time - utilise Neonatal CERS if a baby develops clinical signs that may be suggestive of hypoglycaemia:
- Poor feeding (particularly after period of feeding well)
- Jitteriness/irritability, high pitched cry, altered consciousness or seizures
- Apnoea, cyanosis, hypotonia and lethargy
- Hypothermia

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Risk Determining BGL 30 minutes after first skin to skin feed or no later than 2 hours

- Blood glucose no later than 6 hrs.
- Preferably after the baby is given his/her 2nd feed but timing no later than 6 hours is more important than relationship to feed.

If 2.1mmol or more

- If < 2.1 mmol/l, give buccal glucose gel (0.5ml/kg) and support feeding as interim measure
- Transfer to newborn care and commence high-risk flow chart on arrival.

SBGL 2.1mmol/L or more

- Check SBGL 30 mins after feeds.
- Aim for a minimum 5 feeds in 1st 24 hrs.
- Cease SBGL monitoring if BGLs are 2.6mmol/L or more for 3 consecutive readings & baby is feeding well

- If first or subsequent SBGL 2.1 to 2.5mmol/L continue SBGLs for another 24 hours.
- Beyond 24 hours senior paediatric review needed if SBGLs remain < 2.6mmol/l

Any SBGL 1.6 - 2.0mmol/L

- Give buccal 40% glucose gel (0.5mL/kg) and support breastfeeding* or give EBM if not attaching
- Repeat SBGL 30 min after buccal glucose given

Any SBGL < 1.6mmol/L

- Call a Neonatal Assist as per Neonatal CERS
- Give buccal 40% glucose gel (0.5mL/kg) and support feeding as interim measure**
- Admit to Newborn Care
- See high risk flow chart

Infant of diabetic mother?

Yes

- Call a Neonatal Clinical Review

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*If mother choosing to formula feed give formula feed of at least 4mL/kg per feed
**A supplementary formula feed of 4mL/kg may be appropriate for these infants if they are not attaching or EBM is not available. Discuss with RMO/NNP

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