UNITYPOINT HEALTH – DES MOINES

PROTOCOL and CARE GUIDELINE

Maternity Services

PROTOCOL TITLE: Well Newborn Admission Protocol

Newborn Medical Director	Executive Director/Chief Nursing Officer BCH
Date	Date

PURPOSE:
To allow rapid and timely admission of the well newborn/neonate; well newborn cares; screening and intervention based on pre-determined criteria. The nurse will mark appropriate check boxes on the Well Newborn Admission Protocol in the electronic medical record to initiate care interventions, medications, and laboratory testing. This will be used in conjunction with the Normal Newborn and Special Care Guidelines.

In EPIC:
Start Order Set:

- This is a type II protocol which the nurse initiates by placing a single order for "Initiate Well Newborn Admission Protocol" with Order mode of "Hospital Policy-Cosign required."
- Sign the protocol set using the ordering mode "Protocol Orders"

General

1. Admit to inpatient- Refer to Blank Children's Hospital Scope of Service for Maternity Services
2. Initiate late pre-term baby protocol per site- specific protocol/ policy – on newborns between 34 and 36 6/7 weeks
    a. For Newborns 35 0/7 – 36 6/7 Refer to Neonatal – Care of The Late Preterm Guidelines
    b. For Newborns 37 0/7 – 37 6/7 weeks gestational age: Discuss need to follow Neonatal Care of the Late Preterm Guideline with healthcare provider.
3. Full code
4. Vital signs per unit routine - Refer to Normal Newborn and Special Care Guidelines
5. Pulse Oximetry as needed if patient develops signs/ symptoms of respiratory distress, pre ductal placement (right arm)
6. Screening pulse oximetry after 24 hours of age, notify physician if 95% or less
    a. See Clinical Skills Pulse Oximetry (Neonatal) addendum: Critical Congenital Heart Disease Screening
7. Newborn metabolic screen- timed.
    a. Collect Newborn Dried Blood Spot Screen after 24 hours of life.
    b. Refer to Metabolic Screening (Maternal-Newborn) – CE and addendum
8. Hyperbilirubinemia Screening assess infant for risk factors of hyperbilirubinemia. Assess newborn for jaundice at routine assessments during stay.
    a. Refer to Bilirubin Meter: Transcutaneous Monitoring - (Maternal-Newborn) and addendum
9. Hearing Screen prior to discharge
10. Notify physician as part of well newborn protocol
    a. Notify physician of delivery and risk factors

11. HIV Rapid Ag/Ab if maternal HIV status unknown. Notify mother prior to performing the test.
12. CMV by PCR, Qual, non-blood (saliva) prior to discharge for newborns that refer on their hearing screen- refer to Normal Newborn and Special Care Guidelines
    a. Also collect if newborn has clinical symptoms per Normal Newborn and Special Care Guidelines.
13. Group B Strep Management Protocol
    a. Notify physician at birth if:
        i. Maternal chorioamnionitis/ triple I
        ii. Suspected maternal chorioamnionitis/ triple I or mother receiving IV antibiotics postpartum AND history of maternal fever, uterine tenderness, fetal tachycardia, foul smelling amniotic fluid, leukocytosis, or rupture of membranes greater than 18 hours
        iii. If newborn's maternal status unknown OR was group B streptococci (GBS) positive AND intrapartum IV antibiotic of penicillin GK, ampicillin, or cefazolin less than 4 hours, AND less than 37 weeks or rupture of membranes equal to/greater than 18 hours:
            1. Use Neonatal Early Onset Sepsis Calculator to identify newborns risk of sepsis
            2. Notify physician of sepsis calculator score and clinical appearance of newborn
            3. Nursing to document sepsis calculator score and discussion with physician
        iv. If maternal cesarean section prior to onset of labor and membranes remain intact, laboratory evaluation is not required.
14. Cord blood evaluation per policy, procedure, or guidelines if mother blood type
        i. If maternal blood type O and/or Rh negative obtain cord blood type and screen, group, Rh and direct coombs (DC)
        ii. If maternal Direct Antibody Test (DAT) positive (ie Anti D, Anti-K etc) obtain cord blood type and screen, group, Rh and direct coombs (DC)
        iii. If direct coombs positive obtain cord bilirubin and notify physician of results.
15. Hematocrit per policy, procedure, or guidelines- Refer to Appendix B- Polycythemia
    a. Criteria for screening
        i. Small for gestational age (SGA) (birthweight < 10%)
        ii. Intrauterine growth restriction (IUGR)
        iii. Infant of diabetic mother
        iv. Monochorionic twins
16. Bilirubin Total and Direct if patient meets hospital policy, procedure, or guidelines
17. Transcutaneous Bilirubin if patient meets hospital policy, procedure, or guidelines
    a. Refer to Bilirubin Meter: Transcutaneous Monitoring - (Maternal-Newborn) and addendum
18. POCT Glucose per policy, procedure, or guidelines- Refer to Appendix A- Neonatal Hypoglycemia Algorithm
19. Inpatient consult to Neonatal Team (ordered as part of well newborn protocol)- Refer to Normal Newborn and Special Care Guidelines
20. Neonatal Drug Screen- Refer to Maternal and Newborn Toxicology Screening Guidelines, Specimen Collection: Drug and Alcohol – CE and addendum
    a. Urine Neonatal Drug Screen- DM
    b. Cordstat Drug Analysis/ Social Services Consult Panel
21. Diet- Refer to Normal Newborn and Special Care Guidelines and Breastfeeding Guideline
    a. Breastfeed PRN within 1 hour of birth per patient care guidelines and then on demand per patient care guidelines. May give supplemental formula with mother's permission.
    b. Formula feed per maternal choice of formula within 1 hour of birth per patient care guidelines and then on demand per unit patient care guidelines

22. Vitamin K (0.15-0.3mg/kg), Intramuscular, for 1 dose for patient less than 2kg administer 0.5mg; For patient 2kg and greater administer 1mg - Refer to Normal Newborn and Special Care Guidelines
23. Glucose Protocol 40% Dextrose (Glucose) 40% oral gel 0.7g (rounded from 0.666g=0.2g/kgx3.33kg) oral as needed, neonatal hypoglycemia algorithm- Refer to Appendix A- Neonatal Hypoglycemia Algorithm
24. Erythromycin 5mg/gm ophthalmic ointment 1cm, both eyes 1 dose within 1 hour of birth- Refer to Normal Newborn and Special Care Guidelines
25. Cholecalciferol liquid 400 Units Daily
    a. Begin on day 2 of life.
26. Hepatitis B prophylaxis- Refer to Clinical Skills Hepatitis B Immunoprophylaxis (Maternal-Newborn) - CE
    a. Maternal HBsAg Positive
    b. Maternal HBsAg Negative and patient greater than 2 kg
    c. Maternal HBsAg Negative and patient less than 2 kg
    d. Maternal HBsAg Unknown
27. Prenatal Labs-
    a. If mother is missing a prenatal lab (HIV, Syphilis, Hepatitis B), notify newborn provider, obtain newborn labs/ provide care as per Maternity Infection Guideline and notify maternal provider for additional lab work

APPENDIX A: NEONATAL HYPOGLYCEMIA ALGORITHM (Page 1 of 3)

Adaptation: blood glucose may drop ***as low as 35 mg/dL*** during the first 4 hours after birth ***as long as the newborn remains asymptomatic.***

PROVIDER NOTIFICATION: notify when symptomatic and/or when glucose is less than expected for age. ***DO NOT delay treatment for serum glucose.***

Feedings

1. Feeding may be breastfeeding, supplemental nursing system (SNS), or bottle.
2. If unable to breastfeed adequately (LATCH score < 7) AND no colostrum or breastmilk is available, may give supplemental formula.
3. Feed via cues at least every 2-3 hours.

Risk Factors for Hypoglycemia

1. **Symptomatic**: respiratory distress, tremors, twitching, jitteriness, irritability, exaggerated Moro reflex, high pitched or weak cry, seizures, apnea, hypotonia, poor feeding, cyanosis, pallor, mottling, temperature instability, and diaphoresis.
2. Infant of diabetic mother (IDM)
3. Large for gestational age (LGA)
4. Small for gestational age (SGA)
5. Intrauterine growth restriction (IUGR)
6. Low birth weight (LBW) (< 2500 grams)
7. Late preterm (LPT) (34-36 6/7 weeks)
8. Premature (< 37 weeks)
9. Post asphyxia (Apgar < 5 at 5 min)
10. Maternal medications to treat preterm labor
11. Rh or ABO hemolytic disease
12. Clinically suspected sepsis
13. Polycythemia
14. Beckwith-Wiedemann Syndrome
15. Family history of infant with hypoglycemia
16. When neonatal drug withdrawal is a concern, obtain POCT glucose as a baseline, initiate or continue protocol if low or symptomatic of withdrawal, hypoglycemia, or distress

Glucose Gel Administration

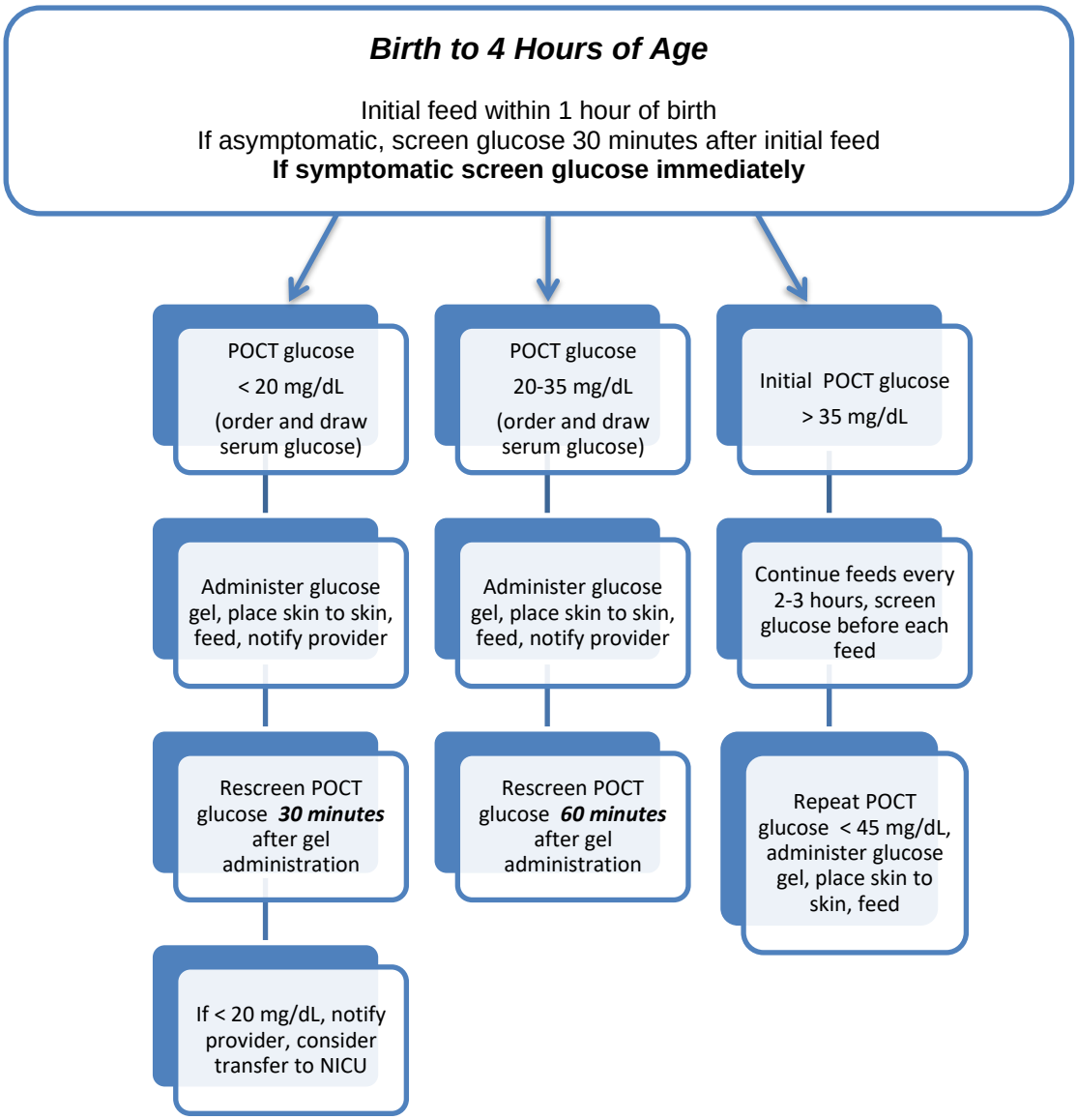
1. Notify provider when glucose gel is used.
2. Dry mouth with gauze.
3. Massage 200mg/kg (0.5ml/kg) gel into the buccal mucosa (0.5ml at a time, alternating sides).
4. Encourage skin-to-skin and feeding following treatment with glucose gel.
    a. If unable to breastfeed adequately, can give supplemental breastmilk or formula by syringe.
    b. If formula or supplemental feeding, offer 5-10 ml/kg/feeding.
5. If respiratory distress, limit to a single dose of gel. Notify provider for further orders.
6. Gel can be administered every 60 minutes.
7. May administer a total of 3 doses of gel via the algorithm.
8. Glucose gel should only be administered within the first 24 hours of life.

Glucose Gel Dosing	
Wt.	Dose
2 kg	1 ml
2.5 kg	1.25 ml
3 kg	1.5 ml
3.5 kg	1.75 ml
4 kg	2 ml
4.5 kg	2.25 ml

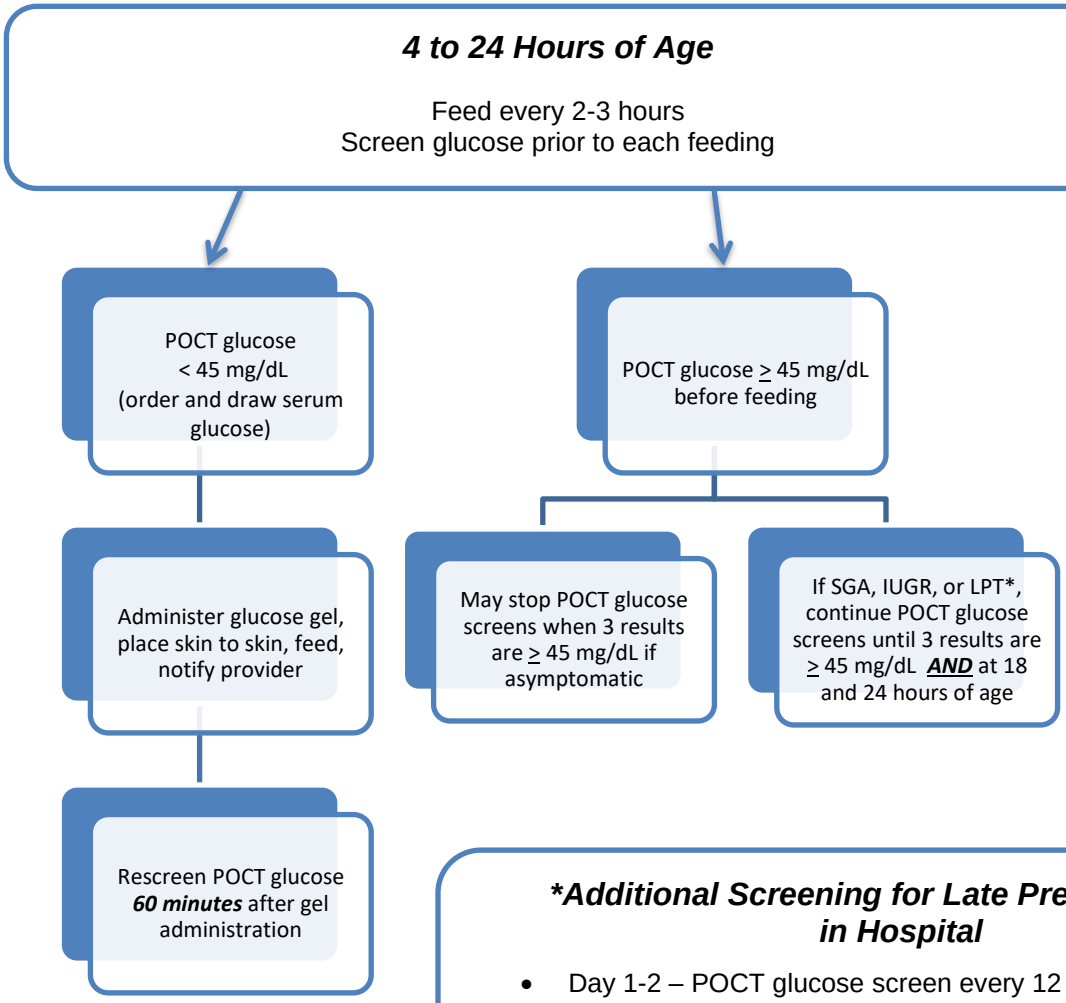
NICU Admission Criteria

1. POCT Glucose < 20 mg/dL after glucose gel.
2. POCT Glucose less than range for age after 3 doses of glucose gel.

APPENDIX A: NEONATAL HYPOGLYCEMIA ALGORITHM (Page 2 of 3)



APPENDIX A: NEONATAL HYPOGLYCEMIA ALGORITHM (Page 3 of 3)



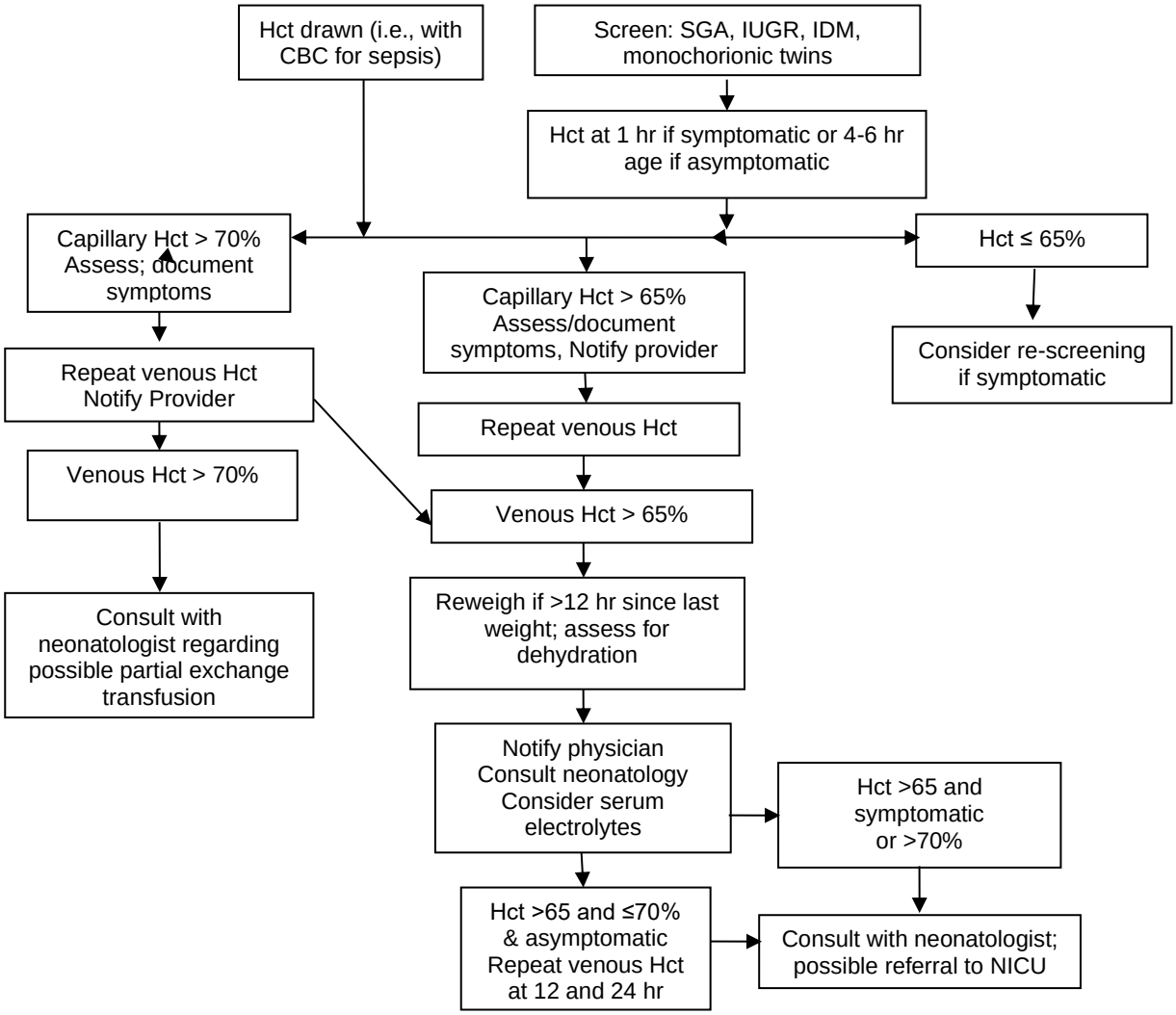
*Additional Screening for Late Preterm Infants in Hospital

- Day 1-2 – POCT glucose screen every 12 hours prior to feeding
- Day 3-7 – POCT glucose screen daily prior to feeding
- Day 8 Plus – 2 times/week until at goal feedings, then PRN

After 24 Hours of Age

- Glucose gel is not indicated
- POCT glucose should be greater than or equal to 60 mg/dL before feedings
- If less than 60 mg/dL OR symptomatic, obtain serum glucose and notify provider, consider sepsis workup or other causes for hypoglycemia
- History of hypoglycemia :
  - Symptomatic - POCT glucose until trending > 60 mg/dL prior to 3 consecutive feeds
  - Asymptomatic - POCT glucose until trending > 60 mg/dL prior to 2 consecutive feeds

APPENDIX B: POLYCYTHEMIA



APPENDIX A: Examples of Common Symptoms of Increased Viscosity

Neurologic Lethargy or sleepiness Irritability Hypotonia Tremulousness Jitteriness Seizures	**Gastrointestinal/Feeding** Poor suck Poor feeding or feeding intolerance Vomiting or regurgitation
Cardiovascular Plethora Tachycardia Decreased capillary refill time	**Hematologic** Thrombocytopenia Hepatosplenomegaly

Respiratory	**Metabolic**
Respiratory distress Central cyanosis Apnea	Hypoglycemia Hyperbilirubinemia Hypocalcemia Decreased urine output and/or dehydration