INSULIN (REGULAR) CONTINUOUS INFUSION – L&D

PURPOSE: To outline the care and management of the obstetric patient with Diabetes Mellitus who requires continuous injection of low-dose insulin.

SUPPORTIVE DATA: Maintenance of intrapartum metabolic homeostasis is essential to avoid fetal hypoxemia and promote a smooth postnatal infant transition.

Insulin infusion indications:

- Intrapartum patients with a known diagnosis of diabetes of any type (requiring or non-requiring insulin) if blood glucose is persistently above120 mg/dL.
- Intrapartum patients who are not known to have diabetes routinely do not begin insulin unless blood glucose is above 180mg/dL.

Insulin infusion is contraindicated if:

- Blood glucose level < 120 mg/dL for known diabetics
- Blood glucose level < 180 mg/dL for not known diabetics
- Imminent delivery previously untreated.

The expected outcome is to maintain blood glucose at 80 –120 mg/dL.

ASSESSMENT:

1. Verify insulin concentration and dosage within one hour of assuming care for the patient and with every rate change.
2. Assess the following prior to starting infusion:
   - Vital signs
   - Fetal heart rate
3. Monitor for signs/symptoms of hypogycemia a minimum of q2h including:
   - Diaphoresis
   - Pallor
   - Tachycardia
   - Irritability
   - Deterioration of LOC
   - Seizures
4. Monitor blood glucose a minimum of q2h while on infusion or as prescribed by physician.

ADMINISTRATION:

5. Verify physician's orders
6. Administer insulin as ordered. Order to include:
   - Initial dose
   - Titration parameters
7. Mix solution to be infused using Regular Human Insulin according to the following formula (must be verified with another R.N. to check insulin dosage. 2nd R.N. to sign verification by initials on I & O record):
   - 100 units Regular insulin in 100 mL of 0.9% NaCl

   Yields 1 unit per mL (1 unit = 1 mL)
8. Begin insulin as prescribed by physician. Initial rate usually begins at 1 unit/hr (1mL/hr). Dose may vary based on glucose level.

TITRATION:

9. Titrate per physician's orders
   - Increase/decrease dose no more that 2 units/hr (Blood glucose change should not be greater than 100 mg/dL/hour)

HYPOGLYCEMIA:

10. Perform the following if blood glucose < 60 mg/dL:
    - Discontinue insulin infusion
    - Notify physician
    - Increase maintenance I.V. solution (D_5 .45NaCl or D_5NaCl) per physician's order.
    - If patient is <u>not</u> NPO or <u>not</u> unconscious, give 4 oz. of orange juice.
    - Administer D_{50} or glucagon as ordered.
    - Obtain capillary blood glucose level after 15 min x 2, then 30 min x 2

DISCONTINUE INFUSION:

11. Discontinue infusion for the following:
    - Blood glucose levels < 60 mg/dL.
    - As soon as patient delivers

SAFETY:

12. Do not administer medications into the same line with the continuous insulin infusion.
13. Infuse maintenance fluid at a constant rate.
14. Administer insulin via infusion pump using guardrails.
15. Ensure that D_{50} or glucagon immediately available.

REPORTABLE CONDITIONS:

16. Notify physician immediately for:
    - Hypoglycemia (< 60 mg/dL)
    - Deterioration of LOC
    - Diaphoresis, pallor
    - Tachycardia
    - Seizures

PATIENT/FAMILY TEACHING:

17. Instruct on the following:
    - Indications for treatment

18. Instruct to report:
    - Discomfort/pain at IV site
    - Any S/S of hypoglycemia

ADDITIONAL PROTOCOLS:

19. Implement the following:
    - Intravenous Therapy

DOCUMENTATION:

20. Document in accordance with "documentation standards".

DATE APPROVED: 02/05
APPROVED BY: Nurse Executive Committee
REVISION: 07/08