

IREDELL HEALTH SYSTEM

Patient-Owned Glucose and/or Insulin Pump Device Self – Management and Usage during Radiology Exams	
Approved by: Gina Parker, BSN, RN, Director of Nursing Practice Melissa McKinney, RN, Diabetes Educator Laura Rollings, PharmD, BCPS, BCGP	Last Revised/Reviewed Date: 03/2024
Nursing Leadership Department of Medicine P&T Committee	Date: 12/2020 Date: 04/2024 Date: 04/2024

Supportive Data:

Due to numerous types of insulin pumps and CGMs (continuous glucose monitoring devices) available on the market, with highly specialized and individualized management needs, nursing staff at Iredell Memorial Hospital are not trained to manage these devices.

Policy:

This policy is to provide guidance for Adult and Pediatric Patients at Iredell Memorial Hospital to safely manage their own insulin pumps and CGMs.

When a patient with an insulin pump is admitted to Iredell Memorial Hospital due to uncontrolled diabetes, the care of the patient will be managed by the provider, with assistance from the Diabetes Educator. If a patient is admitted to the hospital for non-diabetes-related reasons, the procedures below will be followed:

Procedure:

1. The admitting provider must evaluate and place an order with the electronic medical record (EMR) indicating that the patient or their personal caregiver will manage the insulin pump/CGM. Any changes to the insulin pump settings will need to be included in the order and communicated to the individual managing the pump. **Nursing must monitor the patient's glucose level on a hospital owned monitoring device and patients must make changes to pump using these readings. Only readings from the hospital meter should be documented in the electronic medical record. CGM results are for patients own information only.**
2. The patient or caregiver must meet the following requirements: alert and oriented x 4, willing to participate in self-care and is not at risk of self-harm. If this criteria is not met upon admission, the provider should be notified immediately. If this criteria changes at any time during admission, the provider should be notified immediately.
3. General contraindications for self-management include:
 - a. Altered state of consciousness
 - b. Suicidal ideation
 - c. Prolonged unstable glucose levels/DKA diagnosis
 - d. Patient/Family refusal to participate in care
 - e. Insulin pump malfunction
 - f. Lack of appropriate pump supplies
4. A referral should be made to the Diabetes Educator to notify them that a patient with an insulin pump has been admitted.
5. If surgery is planned, the anesthesiologist and the patient will collaborate on the use of the insulin pump and CGM during the perioperative period.

6. If the patient/personal caregiver is unable to manage the insulin pump, nursing will contact the provider for further orders. If necessary, the pump will be discontinued, and orders will be obtained for administration of insulin by another route.
7. When an insulin pump/CGM is being managed by the patient/personal caregiver, nursing is responsible for documenting the following in Cerner:
 - Presence of insulin pump during shift assessments (including site and condition)
 - Name of insulin used
 - Fingerstick blood glucose monitoring results obtained by *hospital meter only* and amount of insulin administered by patient/personal caregiver via insulin pump.
 - Document when infusion site is changed by patient at least every 72 hours.
8. Patient / personal caregiver must sign the Continuous Subcutaneous Insulin Infusion Pump Therapy Agreement (see attached) and the agreement should be placed on the patient's chart.
9. Patient must use insulin from hospital pharmacy to refill pump. Obtain provider order for insulin refill. If the patient insists on using insulin from home, it must be sent to the pharmacy for identification. See "Medications Brought into the Hospital by Patients" policy.
10. Pharmacy will enter the pump order as an "as directed" order, upon receiving order from provider to continue patient's insulin pump therapy.
11. If a patient is using a non-formulary insulin in their pump, it will be auto substituted with the corresponding formulary insulin per Therapeutic Interchange list.
12. If pump is removed or dislodged, insulin therapy MUST be initiated by the provider and continued by IV or subcutaneous route or Diabetic Ketoacidosis may result.
13. Check blood glucose when pump removed and notify provider to obtain orders for basal and rapid acting insulin. Patient will need rapid acting insulin soon thereafter to prevent quick rise in blood glucose. Any time pump or CGM is removed from patient, document time and person in charge of safekeeping the pump, or secure in medication room, if patient and / or family not able to keep pump.
14. If hypoglycemia occurs, treat patient according to hospital hypoglycemia recognition treatment policy.
15. If patient needs to receive a radiologic procedure (involving Xray/fluorpscopy, CT scan, MRI), radiology shall be notified that patient is utilizing an insulin pump. Insulin pumps/CGM's should not be placed in direct lines of x-rays, MRI, and CT Scans. The Provider must place an order for pump removal and consider insulin requirements depending on amount of time the patient shall be in imaging.
 - a. Imaging < 1 hour, pump may be temporarily discontinued with no changes in insulin therapy.
 - b. Imaging > 1 hour, the provider should consider ordering an alternative delivery of insulin therapy until insulin pump management can be resumed.

INITIAL EFFECTIVE DATE: 10/2003

DATES REVISIONS EFFECTIVE: 12/2006, 02/2014, 03/2013, 03/2017, 06/2017, 01/2021, 04/2024

DATES REVIEWED (no changes):

References:

- 1) Diabetes Technology Update: Use of insulin pumps and continuous glucose monitoring in the hospital. Umpierezz, GE and Klonoff, DC. Diabetes Care 2018; 41(8): 1579-1589.
- 2) American Diabetes Association. Diabetes care in the hospital: Standards of Medical Care in Diabetes 2023; S 111-S121.

Iredell Health System

CONTINUOUS SUBCUTANEOUS INSULIN INFUSION PUMP AND DEVICE THERAPY AGREEMENT

For your safety and optimal medical care during this hospitalization, we request that you agree to the following recommendations. If you feel you cannot agree to these recommendations, we would like to treat your diabetes with insulin injections and request that you discontinue the use of your insulin pump.

During my hospital stay, I agree to:

1. Show the nurse any bolus I am administering.
2. Show the nurse my basal rates. Changes in any of my basal rates will only be made with a provider's order.
3. Change the infusion set every 48-72 hours or as needed for :
 - a. Skin problems; or
 - b. Two blood glucose readings greater than 300 mg/dL in a row, not responding to bolus doses.
4. Provide and maintain my own non-medication insulin pump supplies, (infusion sets, syringes, etc.).
5. Will only use results of hospital blood glucose monitor to dose insulin.
6. Report signs of low blood sugar or high blood sugar to the nurse.
7. Report any glucose related device issues to the nurse.
8. Ask questions that I may have about any doctor's order regarding the pump.
9. Respond to any alarms on the glucose device in a timely manner and/or take appropriate action.

If I cannot manage the pump myself, I will have a family member assist me with the operation of the insulin pump and that family member will remain in the hospital during my entire hospital stay.* If my family member cannot remain in the hospital, the insulin pump will need to be disconnected.

I understand that my pump may be discontinued and a different insulin delivery method used for any of the following reasons:

- a. Provider's order;
- b. Changes in my judgment and I don't have a family member present at all times to operate the pump;
- c. Changes in level of awareness or consciousness;
- d. Any x-ray procedure may include pump removal by tubing disconnect and/or removal of pump and tubing at the direction of a provider; and
- e. Other reasons deemed necessary by the health care providers

*I understand that Iredell Memorial Hospital is not responsible for the loss or damage of my glucose/insulin device during my hospital stay.

Patient _____ Date _____

_____ Date _____

Family Member (if patient is unable to sign)

* There are many new and different types of insulin pumps on the market today, most of which are not routinely used in a hospital setting. For this reason, nursing personnel will not have the training and experience to operate every insulin pump on the market.