Maine Medical Center
Institutional Policy Manual

Policy Title: Inpatient Use of Insulin Infusion Pumps- Adult and Pediatric

Policy Statement: It is the policy of Maine Medical Center (MMC) to ensure safe care of patients who are deemed appropriate to self manage blood glucose utilizing their home continuous subcutaneous insulin infusion pump (CSII).

Policies:

1. The following criteria must be met in order for a patient to continue use of their insulin pump while admitted to Maine Medical Center

    a. Patient must be alert, orientated, have no distracting acute medical injury or illness that would make pump use unsafe (such as significant trauma), not be actively or passively suicidal unless deemed safe after a psychiatric evaluation, and not be critically ill.

    b. Patient must demonstrate the ability to self-manage their pump.

    c. Patient has a suitable infusion site available.

    d. If it is determined the patient is unable to operate and manage their insulin pump, a parent or caregiver of the patient may accept the responsibility. In taking this responsibility the designee must demonstrate knowledge and basic competency of the pump and glucose management and must be physically present around the clock.

    e. The clinical care team, including provider and nursing, deems that the patient is appropriate for continued use of the pump. For **pediatric patients** of any age, pediatric endocrinology should be contacted to determine if patient is appropriate to stay on pump and if patient is able to self-manage or if parent/caregiver should be managing.

    f. Patient or designee must be able to maintain adequate pump supplies to maintain an uninterrupted insulin pump therapy.

    g. Endocrinology consult must be requested.

    h. Patient must change the infusion site, reservoir and tubing at a minimum of every 72 hours or more often as clinically indicated. Refer to Insulin Pump Clinical Decision Support Tool (CDST) for further information.

    i. Patient or caregiver designee must sign the Insulin Pump Patient Agreement form. (Appendix A)

j. Patient or designee must agree to have all ordered blood glucose tests done by MMC staff using MMC glucometers and understand that dosing and treatment decisions will be made from those results.

2. If any of the following contraindications occur, the insulin pump must be discontinued and pump removed. An alternative glucose control strategy must be initiated providing basal, prandial and correctional subcutaneous (SC) therapy or intravenous insulin infusion (IV). Refer to Insulin Pump CDST. (Appendix C)

   a. Patient's level of consciousness becomes impaired, including suicidality, and no designated caregiver is available.

   b. Patient cannot provide the pump supplies (insulin cartridge, tubing, infusion set, inserter, batteries, dressings).

   c. Patient has or develops diabetic ketoacidosis (DKA), hyperosmolar hyperglycemic state (HHS), critical illness or any of the other conditions outlined in section 1a above.

   d. Patient's pump has a mechanical failure.

   e. The clinical team no longer deems the patient safe or appropriate for continued pump use during their hospitalization.

   The provider caring for the patient must be notified if the patient is no longer an appropriate candidate for insulin pump therapy.

   *Note: Patients with type 1 diabetes should not be without insulin for longer than 2 hours.

3. Management of pumps during radiologic tests

   a. The insulin pump must never be exposed directly to external radiation, x-ray beams, MRI, or CT scans

   b. The patient will temporarily suspend the pump's operation and disconnect the pump at the insertion site. Patient (or caregiver) managing the pump should disconnect the pump prior to the procedure.

      1. Some insertion sets contain metal and should also be removed prior to any procedure.
      2. Any pumps that cannot be disconnected (such as Omnipod insulin pumps) must be removed for the procedure and replaced afterwards.

c. If the insulin pump is disconnected or suspended for greater than 2 hours, a blood glucose (BG) check must be performed to assess the need for SC or IV insulin. An interruption in insulin delivery for more than 2 hours can lead to severe hyperglycemia and DKA.

4. Management of pump during procedures requiring sedation

    a. Decision to continue or remove pump should take into consideration the patient's expected degree of cognitive impairment post procedurally.

5. Management of pumps during surgery
   Insulin pump should be removed prior to transport.

    a. For adult patients, the primary team should order an insulin infusion to be started prior to transport.

    b. For patients less than 18 years old or those patients still followed by the pediatric endocrinology practice, contact pediatric endocrinology for management options.

    c. Once patient is able to meet criteria as listed on page 1 or the designee is available and with the patient, the patient's primary team will need to transition patient back to pump use.

    d. Exceptions may be made for C-sections at discretion of the Ob-Gyn surgeon.

Procedure: Patient is currently using and requesting to continue CSII therapy

1. RN and medical provider document that patient meets criteria to continue using the insulin pump.

2. Patient or designated caregiver signs Insulin Pump Patient agreement (Appendix A)

3. Provider service must enter the insulin pump order set.

4. An insulin infusion site assessment is to be done a minimum of once every shift.

5. Encourage the patient or designee to record basal rates, all bolus doses and blood glucose readings on the Insulin Pump Worksheet (Appendix B)

References:

1. American Association of Clinical Endocrinologists (AACE) Consensus Panel on Insulin Pump Management, (2010), AACE Consensus Statement, Endocrine Practice, 16 (5)

2. Boyle, ME et al, Guidelines for application of continuous subcutaneous insulin infusion (insulin pump) therapy in the perioperative period, J Diabetes Sci Technol (2012), 6(1), 184-190

3. Cook et al, Use of Continuous Subcutaneous Insulin Infusion (Insulin Pump) Therapy in the Hospital Setting: Proposed Guidelines and Outcome Measures, The Diabetes Educator, (2005), 31 (6), 849-857

4. ECRI Institute, (2007), Patient-Supplied Equipment, Health Devices, 3

5. MMC Insulin Pump Clinical Decision Support Tool (CDST) https://my.mainehealth.org/mmc/Departments/AMSL/GCP/default.aspx

Committee(s) Approval Date(s):
Pharmacy and Therapeutics Committee: 8/15
Institutional Policy Review Committee: 9/14/15

Author(s): Jon Bourque, PharmD, BCPS; Irwin Brodsky, MD; Erin Corica, PharmD, BCNSP; Sarah Dennison, BSN, RN**;** Marilyn Flanders, RNC, BSN**;** Nicole Manchester MSN, RN, CNL; Daniel Meyer, MD; Justin Michaud, RN; Alan Morris, MD**;** Jeanne Parker, RN, CPN; Stacey Starbird-Richmond, RN, CDE; Cindy Young, BSN, RN, CDE;

Sponsoring Director: _____ Date: _____
Senior Director of Pharmacy

Approval: _____ Date: _____
SVP Patient Care Services, CNO