

Safely Transition Patients Using an Insulin Pump

You'll see **more insulin pumps continued on admission**...due to increased outpatient use and growing comfort during hospitalization.

Ensure your hospital has a policy and order set to optimize safety...and that inpatients using their own pumps sign a waiver.

When should pumps be continued in the hospital? Advocate to continue if patients are willing...and can demonstrate competence.

But stop pumps in confused patients or if glucose could widely fluctuate...such as with critical illness or diabetic ketoacidosis.

If pumps are stopped, generally start a long-acting insulin (glargine, etc) at a dose equal to the pump's 24-hour basal amount.

But consider reducing the dose in some patients...those who are NPO, have tight glucose control or frequent lows, etc.

Guide pump use during procedures. Advise removing the pump for an MRI. But cover it with a lead apron in some cases, such as an X-ray, CT, or cardiac cath.

See our chart, *Perioperative Management of Diabetes*, for guidance on managing insulin pumps during surgery.

What should a pump protocol include? Ensure pumps are ordered in the EHR and appear on the MAR. Add hypoglycemia treatment orders.

Specify pump settings in the order. These often include a basal rate that changes a few times each day...a bolus for meals based on a carb ratio...and correction dose based on a sensitivity factor.

Document which insulin is in the pump...it's usually rapid-acting.

Check that patients have their pump tubing and other supplies. Verify that the protocol includes changing the infusion set every 2 to 3 days.

Record the pump manufacturer, model, and support number.

How should patients be monitored? Expect many patients to use a continuous glucose monitor (CGM)...*Dexcom G6, FreeStyle Libre 2*, etc.

If patients continue their CGM in-house, consider requiring fingersticks to confirm the glucose before bolus doses or rate changes.

Look for new pumps with CGM integration (*Medtronic MiniMed 770G, Tandem t:slim X2*, etc) that automatically adjust rates and give boluses.

Verify your policy is updated to address these pumps. Some hospitals may require switching them from auto to manual mode.

Use our chart, *Insulin Pump Use and Transitions of Care*, when educating your colleagues...and for more ways to avoid errors.

Key References:

-J Diabetes Sci Technol 2020;14(6):1035-64

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-J Diabetes Sci Technol 2018;12(4):880-9

-Diabetes Care 2018;41(8):1579-89

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