Important Information:
In-Hospital Diabetes Management

CAUTION: 4 Common Errors

Common Error	Best Practice Recommendations
Timing of Blood Glucose Testing	• Testing should occur **four** times daily: -No more than 15-30 minutes **before** each meal (meal delivery time is unit specific) -Before bedtime -Any time hypoglycemia is suspected
Inappropriate Holding of Insulin	• When to Hold Insulin: -If patient has become NPO, hold bolus dose. Continue basal and correction doses as ordered. -Basal and correction insulin should not be held, but doses may require adjustment. If clinically concerned, discuss with ordering provider. • Inappropriate holding of insulin often results in rebound hyperglycemia • Holding of insulin requires a physician order
Overtreatment of Hypoglycemia	• 15g of carbohydrate is usually sufficient for treating of hypoglycemia. Examples of 15g of carbohydrate: -4 Dextrose tabs OR 3/4 cup (175 mL) juice or pop OR 2 packages honey OR 4 packages of white sugar dissolved in water
Un-coordinated Timing of Insulin Administration	Insulin administration should be coordinated with blood glucose testing and meal delivery *Short acting insulin (insulin Regular HumuLIN® R) is to be given 30 minutes before the meal **Rapid acting insulin (lispro HumaLOG® or aspart NovoRapid®) is to be given no more than 15 minutes before the meal

What is Basal Bolus Insulin Therapy (BBIT)?

Term	Description	Formulary Products
Basal Insulin	• Intermediate or long acting insulin administered once or twice daily (to cover the glucose production from the liver) • To be given when patient is NPO • Dose can be reduced but not held	-glargine (Lantus®), -glargine (Basaglar®), -detemir (Levemir®), -insulin NPH (HumuLIN® N)
Bolus Insulin	• Rapid or short acting insulin administered at mealtime (to cover glucose provided from the meal)	-aspart (NovoRapid®), -lispro (HumaLOG®), -insulin Regular (HumuLIN®R)
Correction Insulin	• Rapid or short acting insulin administered in response to a high blood glucose reading during the day • An order is required to give at bedtime or during the night	-aspart (NovoRapid®), -lispro (HumaLOG®), -insulin Regular (HumuLIN®R)

What about meal intake?

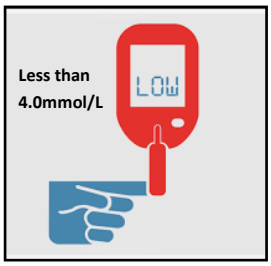
Diet	Definition	Adjustment to Bolus Insulin
Consistent	At least 75% of the tray is consumed by the patient at mealtime	Continue scheduled bolus insulin
Reduced	No more than 50% of the tray is consumed by patient at mealtime	Notify MD/NP within 24 hours to **consider** reducing bolus (meal) insulin by ~50%
NPO	Patient is receiving no oral nutrition	Hold bolus insulin and give correction insulin as per orders

Hypoglycemia Management

Early Recognition of Hypoglycemia (BG below 4.0 mmol/L)

Conscious

Appropriate Treatment
(15g fast acting carbohydrate)
Administered without delay
as per protocol



Altered Level of Consciousness

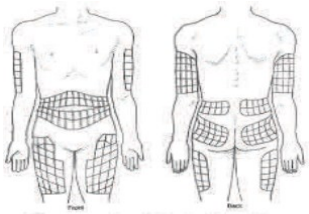
Appropriate Treatment
IV access —administer D50W as per protocol
NO IV access —administer Glucagon as per protocol
Administer treatment without delay
Contact most responsible health practitioner

Reassess BG 15 minutes after treatment to ensure BG has returned to target range.
If patient remains below 4.0 mmol/L, repeat above treatment and retest BG 15 minutes after treatment;
Contact most responsible health practitioner for further treatment if patient's BG remains below 4.0 mmol/L.

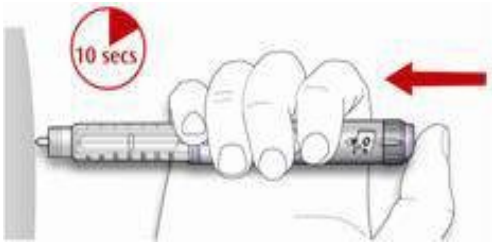
Hyperglycemia Management

- For blood glucose greater than 18.0 mmol/L; contact most responsible health practitioner for further orders and do not send patient off unit for physical activity
- If patient has Type 1 Diabetes and blood glucose is greater than 18.0 mmol/L; stat ketone testing is recommended
- If frequent hyperglycemia (BG above 10.0 mmol/L) noticed over 24-48 hours, contact the most responsible health practitioner for consideration of titration of insulin doses

Insulin Administration


Common insulin injection sites

Prime pen (2 units before each injection)
Administer to subcutaneous tissue
Count for 10 seconds after pressing button
to ensure full delivery of insulin dose
1 Pen, 1 Patient



Types of Diabetes

Type 1 Diabetes (T1 DM)	• Autoimmune in nature; the pancreas produces very little to no insulin • These patients always require basal insulin • At risk for Diabetic Ketoacidosis (DKA) • At significant risk for Hypoglycemia
Type 2 Diabetes (T2 DM)	• A combination of insulin resistance and insulin deficiency • The pancreas produces some insulin, but the body is resistant to it's own insulin production • Most patients will benefit from insulin supplementation
Insulin Deficient Diabetes	• Includes people with: T1 DM, T2 DM on insulin for more than 5 years, a history of DKA, or pancreatectomy. • These people are prone to DKA so they MUST always receive some basal insulin, even if fasting.

Illness, infections, and medications such as steroids can cause or worsen hyperglycemia