

# Important Information: In-Hospital Diabetes Management



## CAUTION: 4 Common Errors

Common Error	Best Practice Recommendations
<b>Timing of Blood Glucose Testing</b>	<ul style="list-style-type: none"> <li>Testing should occur <b>four</b> times daily:                             <ul style="list-style-type: none"> <li>-No more than 15-30 minutes <b>before</b> each meal (meal delivery time is unit specific)</li> <li>-Before bedtime</li> <li>-Any time hypoglycemia is suspected</li> </ul> </li> </ul>
<b>Inappropriate Holding of Insulin</b>	<ul style="list-style-type: none"> <li>When to Hold Insulin:                             <ul style="list-style-type: none"> <li>-If patient has become NPO, hold bolus dose. Continue basal and correction doses as ordered.</li> <li>-Basal and correction insulin should not be held, but doses may require adjustment. If clinically concerned, discuss with ordering provider.</li> </ul> </li> <li>Inappropriate holding of insulin often results in rebound hyperglycemia</li> <li>Holding of insulin requires a physician order</li> </ul>
<b>Overtreatment of Hypoglycemia</b>	<ul style="list-style-type: none"> <li>15g of carbohydrate is usually sufficient for treating of hypoglycemia.</li> <li>Examples of 15g of carbohydrate:                             <ul style="list-style-type: none"> <li>-4 Dextrose tabs <u>OR</u> 3/4 cup (175ml) juice or pop <u>OR</u> 2 packages honey <u>OR</u> 4 packages of white sugar dissolved in water</li> </ul> </li> </ul>
<b>Un-coordinated Timing of Insulin Administration</b>	<p>Insulin administration should be coordinated with blood glucose testing and meal delivery</p> <p>*Short acting insulin (R Humulin® R) is to be given 30 minutes before the meal</p> <p>**Rapid acting insulin (lispro Humalog® or aspart NovoRapid®) is to be given no more than 15 minutes before the meal</p>

## What is Basal Bolus Insulin Therapy (BBIT)?

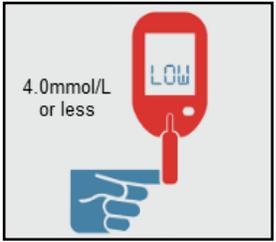
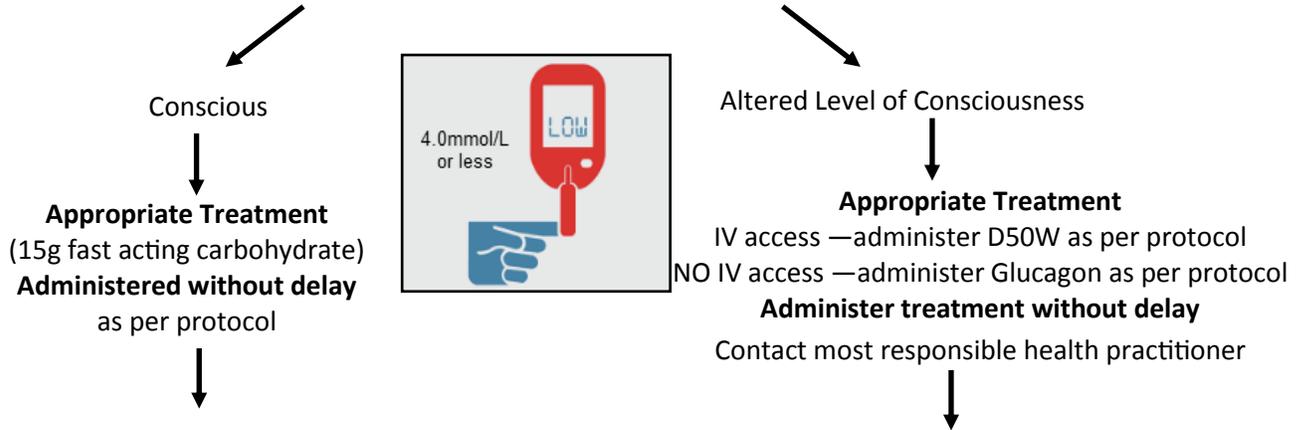
Term	Description	Formulary Products
<b>Basal Insulin</b>	<ul style="list-style-type: none"> <li>Intermediate or long acting insulin administered once or twice daily (to cover the glucose production from the liver)</li> <li>To be given when patient is NPO</li> <li>Dose can be reduced but not held</li> </ul>	<ul style="list-style-type: none"> <li>-glargine (Lantus®),</li> <li>-detemir (Levemir®),</li> <li>-N (Humulin® N)</li> </ul>
<b>Bolus Insulin</b>	<ul style="list-style-type: none"> <li>Rapid or short acting insulin administered at mealtime (to cover glucose provided from the meal)</li> </ul>	<ul style="list-style-type: none"> <li>-aspart (Novorapid®),</li> <li>-lispro (Humalog®),</li> <li>-R (Humulin®R)</li> </ul>
<b>Correction Insulin</b>	<ul style="list-style-type: none"> <li>Rapid or short acting insulin administered in response to a high blood glucose reading during the day.</li> <li>An order is required to give at bedtime or during the night</li> </ul>	<ul style="list-style-type: none"> <li>-aspart (Novorapid®),</li> <li>-lispro (Humalog®),</li> <li>-R (Humulin®R)</li> </ul>

## What about meal intake?

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

# Hypoglycemia Management

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



Reassess BG 15 minutes after treatment to ensure BG has returned to target range.  
 If patient remains below 4.0mmol/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 4.0mmol/L.

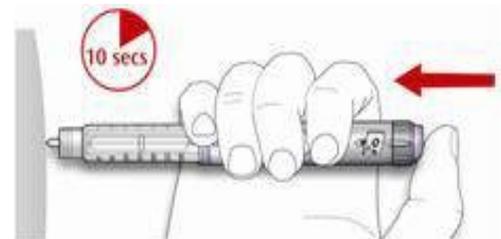
# Hyperglycemia Management

- For blood glucose greater than 18.0mmol/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 18.0mmol/L; stat ketone testing is recommended.
- If frequent hyperglycemia (BG above 10.0mmol/L) noticed over 24-48 hours, contact the most responsible health practitioner for consideration of titration of insulin doses

## Insulin Administration



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

<b>Type 1 Diabetes (T1 DM)</b>	<ul style="list-style-type: none"> <li>• Autoimmune in nature; the pancreas produces very little to no insulin</li> <li>• These patients always require basal insulin</li> <li>• At risk for Diabetic Ketoacidosis (DKA)</li> <li>• At significant risk for Hypoglycemia</li> </ul>
<b>Type 2 Diabetes (T2 DM)</b>	<ul style="list-style-type: none"> <li>• A combination of insulin resistance and insulin deficiency</li> <li>• The pancreas produces some insulin, but the body is resistant to its own insulin production</li> <li>• Most patients will benefit from insulin supplementation</li> </ul>
<b>Insulin Deficient Diabetes</b>	<ul style="list-style-type: none"> <li>• Includes people with: T1 DM, T2 DM on insulin for more than 5 years, a history of DKA, or pancreatectomy.</li> <li>• These people are prone to DKA so they MUST always receive some basal insulin, even if fasting.</li> </ul>

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