Definitions

**Insulin-deficient patient**: Patients requiring insulin therapy including type 1 diabetics, type 2 diabetics on insulin for more than 5yrs or using greater than 50 units per day, history of diabetic ketoacidosis or those with a pancreatectomy

- **Type 1 diabetes**: A disease in which the pancreas does not produce insulin.
- **Type 2 diabetes**: A disease in which the pancreas does not produce enough insulin or the body does not properly use the insulin it makes (resistance) or both.

**Point of Care Testing (POCT)**: any diagnostic laboratory test that occurs within a facility but outside the physical space of the laboratory.

**Bedside Glucose Monitoring (BGM)**: Blood is obtained from the patient and measured immediately at the point of care.

**Note**: Target glucose range

- for most in-patients this will be 5-10 mmol/L (non-critically ill);
- for the frail elderly/dependent 7-14 mmol/L;
- for critically-ill patients this will be individualized but will generally be 7-10 mmol/L.

**Frail Elderly/Dependent**: persons, who have multiple chronic illnesses and associated vulnerabilities such as dementia, functional decline, and geriatric syndrome including falls, impaired mobility and polypharmacy.

**Glucagon**: A naturally occurring hormone made in the pancreas. It is also available as an injectable hormone that raises blood glucose levels by stimulating the liver to release stored glucose

**Basal insulin**: insulin used to replace the background insulin the body makes naturally

- Maintains normal blood glucose range, covering the rise in blood glucose between meals and overnight due to glucose production by the liver.
- Long-acting or intermediate acting insulin given once or twice daily (typically every morning & at bedtime).
Basal doses are still given if the patient is NPO, but may need a reduction in dose. Insulin deficient patients must always have basal insulin; they should never receive only correction insulin.

**Prandial (bolus) insulin:** insulin used to replace natural mealtime insulin to cover rise in blood glucose due to carbohydrate intake

- Scheduled short-acting or rapid insulin given prior to or with meals, in anticipation of the spike in blood glucose due to ingestion of carbohydrates.
- It is also given when patients are receiving bolus enteral feeds or parenteral nutrition. This dose is given even when their blood glucose level is in normal range.
- Prandial insulin doses should be held if the patient is NPO or receiving continuous enteral feeds.
- Usually half of total daily insulin.

**Correction insulin:** small adjustments of short-acting insulin given at meals when preprandial blood glucose levels are above target range.

- May also be given alone as a supplemental insulin in patients not eating. May also be used a dose-finding strategy in a patient who is not insulin deficient.
- Used q6h if NPO or on parenteral nutrition to achieve target blood glucose range while establishing optimal daily basal insulin doses for patient.
- **Dosing is dependent on patient's total daily insulin dose and insulin sensitivity** (obese patients with type 2 diabetes tend to be more insulin resistant).
- May initially be used as sole insulin order in patients with type 2 diabetes not previously on insulin; after 48 hours should add basal and prandial insulin if consistently needing correction insulin doses greater than 8 units/day.
- It is important that the insulin product used for the correction dose is the same as that used for the prandial dose.
- The prandial and correction doses should be combined so that patients receive only one injection.

**Preprandial:** one half hour prior to meals and evening snack.

**Total Daily Insulin Dose:** sum of all insulins used in 24 hours. It depends largely on a person’s body weight and insulin sensitivity (people with type 1 diabetes are more sensitive to insulin than people with type 2 diabetes). It is made up of basal insulin (approximately ½ of the total daily insulin dose) and prandial insulin (approximately ½ of the total daily insulin dose divided equally amongst 3 meals)

1. **PURPOSE**

   1.1 To safely administer insulin to adult patients according to the current Canadian Diabetic Association guidelines.

   1.2 To optimize glycemic control.

   1.3 To ensure appropriate documentation of insulin administration and BGM.

2. **POLICY**

   2.1 A registered or licensed nurse will administer insulin as ordered.

       **Note:** Preparation & administration guidelines will be followed as per resource textbook *Nursing Interventions and Clinical Skills* by Elkin, Perry and Potter.

   2.2 All insulin will be independently double-checked as per High Alert Medication Region-Wide policy.
2.3 To initiate the insulin protocol the practitioner will utilize one of two order sets based on the patient’s insulin needs. (See Appendices A and B).

   **Note:** These order sets are for subcutaneous insulin administration.

2.4 Insulin order sets shall be reviewed daily by the practitioner.

   **Note:** Changes to insulin orders require a new order set to be completed by the practitioner.

2.5 Insulin vials must be refrigerated.

2.6 Bedside Glucose Monitoring (BGM) will be used to monitor glucose levels routinely.

2.7 If accuracy of BGM reading is in question, a lab specimen will be sent to confirm result.

2.8 A BGM result of less than 4 mmol/l or greater than 22 mmol/l will be reported to the practitioner. (See Appendix C - Adult Hypoglycemia Protocol in Acute Care)

3. **PROCEDURE**

3.1 The Practitioner

   3.1.1 Completes the appropriate Insulin order set.

   3.1.2 Reviews BGM records and Insulin orders daily.

3.2 The Registered or Licensed Nurse

   3.2.1 Obtains BGM preprandial unless otherwise ordered or indicated.

   3.2.2 Dates a new vial when it is first accessed.

   **Note:** Discard the vial one month after the vial was accessed.

   3.2.3 Prepares the insulin and labels the syringe with the patient name and insulin dosages.

   3.2.4 Administers the insulin as per the **original** practitioner’s order.

   **Note:** To ensure medication safety practices, copies of the order sets are not to be placed in the medication administration record binder.

   3.2.5 Reviews BGM / serum glucose levels as ordered.

3.3 **Documentation:**

   3.3.1 Record insulin dosage & BGM on the Blood Glucose Monitoring (BGM) & Insulin Administration Record. (See Appendix D)

   3.3.2 Keep Blood Glucose Monitoring (BGM) and Insulin Administration Records in the Clinical Data Base section of the chart.

   **Note:** Blood glucose readings need to be readily accessible to practitioners to ensure change in glucose levels are assessed regularly and timely adjustments to insulin therapy made.
3.3.3 Record exact time insulin administered and location of administration site on the medication administration record.

4. REFERENCES


Umpierrez GE et al. Randomized study of basal-bolus insulin therapy in the inpatient management of patients with type 2 diabetes (RABBIT 2 Trial). Diabetes Care. 2007;30(9): 2181-2186.

5. RELATED POLICIES

SHR Nursing Policy & Procedure Manual
Bedside Glucose Monitoring #1150
Medications – Multidose Vials #1068
Medication Administration # 1170

SHR Region-Wide Policy & Procedures Manual
High-Alert Medications-Identification, Double Check & Labeling #7311-60-020
Ordering of Medications # 7311-60-004
Appendix A

Policies & Procedures: Insulin Administration - Subcutaneous - Adult
I.D. # 1079

ACUTE CARE ONLY

Subcutaneous Insulin Order Set
Adult Patient Eating, NPO, on Fluid Diet or receiving PN/EN Feeds
Do not use if ordering Premix Insulin

Discontinue All Previous Insulin Orders
(Do NOT use for insulin pump, DKA, obstetrics, pediatrics)

☐ Patient weight __________ kg  ☐ A1C ordered on admission

Type of Diabetes:  ☐ Type 1  ☐ Type 2 on oral agents only  ☐ Type 2 on insulin

Bedside Glucose Monitoring (BGM)
☐ before meals/feeds and at bedtime  ☐ q4h  ☐ q6h  ☐ other ________

☐ If blood glucose less than 4 mmol/L, or less than 5 mmol/L in the frail/dependent patient, initiate Adult Hypoglycemia Protocol (on reverse of BGM-Insulin Administration record)
☐ If blood glucose greater than 22 mmol/L call MD

Scheduled Insulin (subcutaneous)  (dosing guidelines on reverse)

<table>
<thead>
<tr>
<th>BASAL Intermediate or Long-acting</th>
<th>Breakfast</th>
<th>Lunch</th>
<th>Supper OR Bedtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Insulin NPH (HumulIN N)</td>
<td>____ units</td>
<td>____ units</td>
<td>____ units</td>
</tr>
<tr>
<td>☐ Insulin NPH (NovoLIN ge NPH)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Insulin Detemir (Levemir)</td>
<td>____ units</td>
<td>____ units</td>
<td>____ units</td>
</tr>
<tr>
<td>☐ Insulin Glargine (Lantus)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Basal insulin not required</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PRANDIAL Short or Rapid-acting

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Lunch</th>
<th>Supper</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Insulin Regular (HumulIN R)</td>
<td>____ units</td>
<td>____ units</td>
</tr>
<tr>
<td>☐ Insulin Regular (NovoLIN Toronto)</td>
<td>____ units</td>
<td>____ units</td>
</tr>
<tr>
<td>☐ Insulin Aspart (NovoRapid)</td>
<td>____ units</td>
<td>____ units</td>
</tr>
<tr>
<td>☐ Insulin Glulisine (Apidra)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Insulin Lispro (Humalog)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Patient adjusts own dose; reports to nurse. Order insulin type above</td>
<td>Patient adjusts</td>
<td>Patient adjusts</td>
</tr>
<tr>
<td>☐ Prandial insulin not required</td>
<td>If NPO consider IV fluids with dextrose in Type 1 / Insulin Deficient DM</td>
<td></td>
</tr>
</tbody>
</table>

Correction Insulin (subcutaneous)  (dosing guidelines on reverse)

<table>
<thead>
<tr>
<th>Blood Glucose (BGM) mmol/L</th>
<th>☐ Low Dose if TDI less than 60 units</th>
<th>☐ Moderate Dose if TDI 60 to 100 units</th>
<th>☐ High Dose if TDI more than 100 units</th>
<th>☐ Custom Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1 – 14</td>
<td>2 units</td>
<td>3 units</td>
<td>6 units</td>
<td></td>
</tr>
<tr>
<td>14.1 – 18</td>
<td>3 units</td>
<td>4 units</td>
<td>8 units</td>
<td></td>
</tr>
<tr>
<td>18.1 – 22</td>
<td>4 units</td>
<td>5 units</td>
<td>10 units</td>
<td></td>
</tr>
<tr>
<td>Greater than 22</td>
<td>Call MD</td>
<td>Call MD</td>
<td>Call MD</td>
<td></td>
</tr>
</tbody>
</table>

ANY SINGLE CHANGE TO THESE ORDERS REQUIRES COMPLETION OF NEW ORDER SET

Practitioner Printed Name
Practitioner Signature
Date/Time

Form #: 103605 06/13 Category: Orders

Page 5 of 10
Guidelines for Completion of Subcutaneous Basal Bolus Insulin Order Set
This guide is to provide guidance and should not replace clinical judgement.

Need to consider:
1. Type of diabetes –
   a. Insulin deficient patients include: Type 1 DM, Type 2 DM on insulin for more than 5 years or using more than 50 units per day, history of DKA, or pancreatectomy. These patients MUST always receive BASAL insulin even if not eating.
   b. Type 1 DM patients tend to be more insulin sensitive; higher risk of hypoglycemia.
   c. Type 2 DM patients tend to be more insulin resistant; when NPO for prolonged periods their basal insulin requirements may decrease dramatically.
2. Nutritional status of patient - If patient is NPO or on advancing fluid diet or not eating consistently do NOT order Prandial insulin. Consider lower dose of calculated Basal insulin.
3. Target blood glucose range - BG range is 5 to 10 mmol/L for most adults (not critically ill). Higher BG range 7 to 14 mmol/L acceptable in patients with high risk of hypoglycemia (frail or dependant patients, elderly with multiple comorbidities) or with limited life expectancy.
4. Oral diabetic medications - can they be continued? If patient receiving insulin for hyperglycemia it is safest to stop all oral agents except Metformin while in hospital; they can be restarted on discharge if appropriate. Hold / discontinue Metformin if: impaired renal function (CrCl less than 30 mL/min), intravascular depletion, acute heart failure, patient undergoing contrast studies.
5. Daily review of BGM and insulin orders – adjust scheduled insulin doses based on BGM values and amount of correction insulin used.

SCHEDULED INSULIN
Total Daily Insulin dose – TDI = total number of units of insulin used in 24 hour period
Estimate by:
1. Patient’s insulin dose pre-admission – add all insulin used in 24 hour period
2. Calculate based on weight:
   a) Type 1 or slim Type 2 or elderly (greater than 70yrs): TDI = weight x 0.3 to 0.5 units/kg
   b) Type 2 overweight: TDI = weight x 0.5 to 1 units/kg (may be higher in obese patient)

Decrease in TDI - may be required in patients with reduced renal function (eGFR less than 30 mL/min), decreased oral intake, liver failure, and history of hypoglycemia
Increase in TDI - may be required if patient on steroids or if infection present.

Basal insulin dose (long or intermediate-acting insulin) – estimate at about ½ of TDI, given once or as divided dose twice daily.
Prandial/Nutritional insulin dose (rapid or short-acting insulin) – about ½ of TDI, divided equally among 3 meals if patient eating consistently. Hold if nutritional intake minimal or not consistent.

CORRECTION (supplemental) INSULIN
Rapid or short-acting insulin - given when BG higher than target range for patient
Given with scheduled prandial insulin or q4 to 6h in patients who are not eating consistently, NPO or receiving PN.
Usually not given at bedtime unless BGM very high (increases risk of nocturnal hypoglycemia).
Dose is based on patient’s insulin sensitivity and therefore TDI.
Rapid-acting insulin analogues preferred because less risk of hypoglycemia.
May be used as sole insulin in patients with Type 2 DM as dose-finding strategy. Basal insulin should be considered if patient requires more than 8 units/day of correction insulin.

NPO or Minimal nutritional intake
Basal insulin dose should be reduced by 10 to 50% depending on risk of hypoglycemia (insulin sensitivity), type of diabetes, and duration of fasting. (Greater reduction required in Type 2 DM with prolonged fasting.)
Long-acting insulin analogues preferred as less risk of hypoglycemia.
Give IV fluids containing dextrose if patient is insulin deficient. No prandial insulin.
Order Correction insulin – dose based on TDI.

Parenteral (PN) or Enteral Tube Feeds
Insulin requirements will vary depending on rate and carbohydrate content of tube feeds/PN.
When on these feeds starting TDI dose should be reduced to 60 to 70% of usual/calculated TDI. Titrate as needed.

a) Patient receiving PN: TDI usually given as regular insulin mixed in PN formulation – therefore no basal insulin, no prandial insulin. Order subcutaneous Correction insulin.
b) Patient on Bolus tube feeds: Split “reduced TDI” dose into 50% basal (dosed once daily or q12h) and 50% prandial (divided equally before each bolus feed). Regular insulin is preferred with tube feeds because of longer duration of action. Order Correction insulin.
c) Patient on Continuous tube feeds: No regimen clearly superior. Consider giving “reduced TDI” dose as basal insulin dosed once or twice daily. Order Correction insulin q6h if Regular insulin or q4h if rapid-acting insulin.
# Appendix B

## Subcutaneous Insulin Order Set

**ACUTE CARE ONLY**  
**Adult Patient Eating using Premix Insulin**

**Discontinue All Previous Insulin Orders**  
(Do NOT use for insulin pump, DKA, high intensity care, obstetrics, pediatrics)

- Patient weight _______ kg  
- A1C ordered on admission

**Type of Diabetes:**  
- [ ] Type 1  
- [ ] Type 2 on oral agents only  
- [ ] Type 2 on insulin

**Bedside Glucose Monitoring (BGM):**

- [ ] twice daily (before breakfast and supper)  
- [ ] before meals and at bedtime  
- [ ] other _______

- If blood glucose less than 4 mmol/L or less than 5 mmol/L in the frail/dependant patient, initiate Adult Hypoglycemia Protocol (on reverse of BGM-Insulin Administration record)
- If blood glucose greater than 22 mmol/L call MD

### Scheduled Premix Insulin (subcutaneous)  
(dosing guidelines on reverse)

<table>
<thead>
<tr>
<th>Premixed Basal and Prandial Regular (give 30 mins before meals)</th>
<th>Breakfast</th>
<th>Lunch</th>
<th>Supper</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Insulin Regular 30% / Insulin NPH 70% (Humulin 30/70)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Insulin Regular 30% / Insulin NPH 70%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(NovoLIN 30/70)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Premixed Basal and Prandial Analogue (give with meals)  
(patient must supply own insulin) | Breakfast | Lunch | Supper |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Insulin Lispro 25% / Lispro Protamine 75% (Humalog Mix 25)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Insulin Lispro 50% / Lispro protamine 50% (Humalog Mix 50)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Insulin Aspart 30% / Aspart protamine 70% (NovoMix 30)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Correction Insulin (subcutaneous)  
(dosing guidelines on reverse)

**Type of Insulin:**
- [ ] Insulin Regular (Humulin R)  
- [ ] Insulin Lispro (Humalog)  
- [ ] Insulin Aspart (NovoRapid)

**Times to be used:**
- [ ] before breakfast and supper ONLY  
- [ ] before meals ONLY  
- [ ] bedtime

<table>
<thead>
<tr>
<th>Blood Glucose (BGM) mmol/L</th>
<th>Low Dose if TDI less than 60 units</th>
<th>Moderate Dose if TDI 60 to 100 units</th>
<th>High Dose if TDI more than 100 units</th>
<th>Custom Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1 - 14</td>
<td>2 units</td>
<td>3 units</td>
<td>6 units</td>
<td>_______</td>
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<td>14.1 - 18</td>
<td>3 units</td>
<td>4 units</td>
<td>8 units</td>
<td>_______</td>
</tr>
<tr>
<td>18.1 - 22</td>
<td>4 units</td>
<td>5 units</td>
<td>10 units</td>
<td>_______</td>
</tr>
<tr>
<td>Greater than 22</td>
<td>Call MD</td>
<td>Call MD</td>
<td>Call MD</td>
<td>Call MD</td>
</tr>
</tbody>
</table>

**ANY SINGLE CHANGE TO THESE ORDERS REQUIRES COMPLETION OF NEW ORDER SET**

Practitioner Printed Name  
Practitioner Signature  
Date/Time

Form #: 103606  
Category: Orders  
Page 7 of 10
Guidelines for Completion of Subcutaneous Premix Insulin Order Set

This guide is to provide guidance and should not replace clinical judgement.

Premixed Insulins should only be used for patients who are metabolically stable and who are eating consistently, and for whom the premix will provide effective glycemic control.

Need to consider:
1. Type of diabetes –
   a. Insulin deficient patients include: Type 1 DM, Type 2 DM on insulin for more than 5 years or using more than 50 units per day, history of DKA, or pancreatectomy.
      These patients MUST always receive BASAL insulin even if not eating.
   b. Type 1 DM patients tend to be more insulin sensitive; higher risk of hypoglycemia.
   c. Type 2 DM patients tend to be more insulin resistant; when NPO for prolonged periods their basal insulin requirements may decrease dramatically.
2. Nutritional status of patient. If patient is NPO or on advancing fluid diet or not eating consistently do NOT use Premix Insulin.
3. Oral diabetic medications - can they be continued? If patient receiving insulin for hyperglycemia it is safest to stop all oral agents except Metformin while in hospital; they can be restarted on discharge if appropriate.
   Hold / discontinue Metformin if: impaired renal function (CrCl less than 30 mL/min), intravascular depletion, acute heart failure, patient undergoing contrast studies
4. Target blood glucose range. BG range is 5 to 10 mmol/L for most adults who are not critically ill.
   Higher glucose range 7 to 14 mmol/L is acceptable in patients with high risk of hypoglycemia (frail or dependent patients, elderly with multiple comorbidities), or with limited life expectancy.
5. Daily review of BGM and insulin orders – adjust scheduled insulin doses based on BGM values and amount of correction insulin used.

Scheduled insulin
Total Daily Insulin - TDI is the total number of units insulin used in 24 hours.
TDI depends largely on type of diabetes, patient weight, renal function, nutritional intake.

Estimate TDI:
1. Patient's insulin dose pre-admission – add all insulin used in 24 hour period, OR
2. Calculate based on weight:
   - Type 1 or slim Type 2 or elderly (greater than 70yrs): TDI = weight x 0.3 to 0.5 units/kg
   - Type 2 overweight: TDI = weight x 0.5 to 1 units/kg (may be higher in very obese)

Decrease in TDI - may be required in patients with reduced renal function (eGFR less than 30 mL/min), decreased oral intake, liver failure, and history of hypoglycemia.
Increase in TDI - may be required if patient on steroids or if infection present.

Premix insulin is most commonly split with 50 to 70% of TDI dose given with breakfast and 30 to 50% with supper.
Dosing with each meal (3 times per day) may be considered in some patients.

Correction (Supplemental) Insulin
Rapid or short-acting insulin given when blood glucose values are higher than acceptable for individual patient.
Usually is same short or rapid-acting insulin used in Premix but a rapid acting insulin may be given with 30/70 Premix.
Given with meals in addition to scheduled Premix insulin doses.
Usually not given at bedtime unless glucose very high (increases risk of nocturnal hypoglycemia).
Dose is based on patient's insulin sensitivity, and therefore TDI.
Rapid-acting insulin analogues preferred for correction insulin because lower risk of hypoglycemia.

NOTE: If patient is not eating consistently discontinue Premix insulin, and implement the insulin order set for “Adult Patient Eating, NPO, on Fluid Diet or receiving PN/EN Feeds".
## Adult Hypoglycemia Protocol in Acute Care

Treat patient with or without symptoms
If patient has symptoms and testing not possible, TREAT first. Check blood glucose AFTER.
If patient on oral antihyperglycemic agents ONLY, obtain a physician order to follow this protocol.

<table>
<thead>
<tr>
<th>MILD / MODERATE</th>
<th>SEVERE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood glucose less than 4 mmol/L or less than 5 mmol/L in the frail/elderly</td>
<td>Blood glucose typically less than 2.8 mmol/L</td>
</tr>
<tr>
<td>Treat with 15-16 grams fast-acting carbohydrate using ONE of the following options:</td>
<td>Unconsciousness may occur:</td>
</tr>
<tr>
<td></td>
<td>Check Circulation/Airway/Breathing</td>
</tr>
<tr>
<td></td>
<td>Call for appropriate help</td>
</tr>
<tr>
<td></td>
<td>Treat with 20 grams fast-acting carbohydrate using ONE of the following options:</td>
</tr>
<tr>
<td></td>
<td>If BGM is less than 2.8 mmol/L after two treatments do STAT laboratory blood glucose</td>
</tr>
</tbody>
</table>

### Oral intake allowed and able to swallow safely
- Administer ONE of the following:
  - 4 tablets Glucose 4 gram Chewable
  - OR
  - 3 teaspoons of sugar (15 mL) or 3 sugar packets dissolved in warm water
- Observe patient consuming treatment
- Repeat BGM and treatment q 15 min until BGM is greater than 4 mmol/L

### NPO or unable to swallow safely - IV access
- Administer 25 mL of 50% Dextrose IV over 1-3 minutes
- Repeat BGM and treatment q 15 min until BGM is greater than 4 mmol/L

### NPO or unable to swallow safely - No IV access
- Start IV STAT
- Administer 25 mL of 50% Dextrose IV over 1-3 minutes
- Repeat BGM and treatment q 15 min until BGM is greater than 4 mmol/L
- Administer Glucagon 1 mg subcut or IM in deltoid or anterior thigh. Turn patient on side (may cause emesis). Notify physician.
- Start IV STAT (if unable, notify physician)
- Repeat BGM in 15 min. If less than 4 mmol/L administer 50 mL of 50% Dextrose IV over 1-3 minutes.
- Repeat BGM and 50% Dextrose treatment q 15 min until BGM is greater than 4 mmol/L

### Feeding Tube in place
- Administer ONE of the following via feeding tube:
  - 3 teaspoons of sugar (15 mL) or 3 sugar packets dissolved in warm water
  - OR
  - 30 mL of 50% Dextrose and flush with warm water
- Repeat BGM and treatment q 15 min until BGM is greater than 4 mmol/L

### Feeding Tube in place
- Administer ONE of the following via feeding tube:
  - 4 teaspoons of sugar (20 mL) or 4 sugar packets dissolved in warm water
  - OR
  - 50 mL of 50% Dextrose and flush with warm water
- Repeat BGM and treatment q 15 min until BGM is greater than 4 mmol/L

### Note: Patients on Acarbose (oral diabetic drug)
- Administer glucose tablets (sugar not effective)
- OR may use 1 cup of low fat milk or 1 tablespoon (15mls) honey if available.

### Once Stable (BGM is greater than 4 mmol/L):
- If oral intake is allowed and next scheduled meal is more than 1 hour away, offer a snack containing 15 grams of carbohydrate and a protein:
  - Carbohydrate choices: 1 slice bread or 2 cookies or 6 soda crackers
  - Protein choices: 2 tablespoons peanut butter or 1 oz cheese/meat
- Document hypoglycemia and action taken in Nursing Progress Record. Identify possible cause and document (e.g. missed or late snack or meal).

---

March 2013

Page 2 of 2

Page 9 of 10
## Bedside Glucose Monitoring (BGM) and Insulin Administration Record
### Adult Hypoglycemia Protocol (see reverse)

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>BGM (mmol/L)</th>
<th>Intake</th>
<th>Insulin/Dosage (Units)</th>
<th>Reaction/Concern</th>
<th>Init</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eating Intake consistent</td>
<td>Basal: Prandial: Premix: Correction: Intravenous (units/hour)</td>
<td>☐ Progress Record - Nursing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NPQ/not eating consistently</td>
<td>Basal: Prandial: Premix: Correction: Intravenous (units/hour)</td>
<td>☐ Progress Record - Nursing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eating Intake consistent</td>
<td>Basal: Prandial: Premix: Correction: Intravenous (units/hour)</td>
<td>☐ Progress Record - Nursing</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NPQ/not eating consistently</td>
<td>Basal: Prandial: Premix: Correction: Intravenous (units/hour)</td>
<td>☐ Progress Record - Nursing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eating Intake consistent</td>
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