

**Innovations in Inpatient Diabetes Care:  
It Takes A Diabetes Specialist**



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- Notice of Requirements For Successful Completion
  - Please refer to learning goals and objectives
  - Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours
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**Objectives**

- Discuss several ways to improve insulin safety in the hospital setting
- List some key hospital policies that can improve quality & safety
- Describe several transitional care strategies that help prevent readmission



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### Improving Insulin Safety



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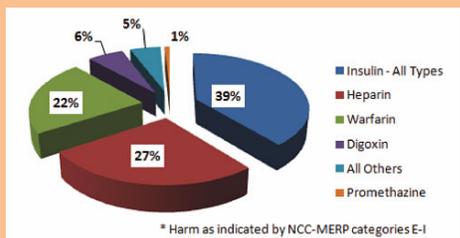
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### Preventing Insulin Errors



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<https://www.pdq.org/analysis/data-trends-july-august-2009/>

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### Types of Insulin Errors

**Table. Predominant Medication Error Event Types Associated with the Use of Insulin (N = 2,057, 76.6%), January 2008 to June 6, 2009**

EVENT TYPE	NUMBER	% OF TOTAL REPORTS (N = 2,685)*
Dose omission ←	662	24.7%
Wrong drug	374	13.9%
Wrong dose/overdosage ←	348	13%
Other (specify)	309	11.5%
Extra dose	227	8.5%
Wrong dose/underdosage ←	137	5.1%

\* Sum of percentages exceeds 76.6% due to rounding.

Pa Patient Safety Authority. Medication Errors with the Dosing of Insulin: Problems across the Continuum. Pa Patient Saf Advis 2010;Mar;7(1):9-17  
[http://patientstudies.psa.gov/NOV0508ES/Pages/020000\\_00.aspx](http://patientstudies.psa.gov/NOV0508ES/Pages/020000_00.aspx)

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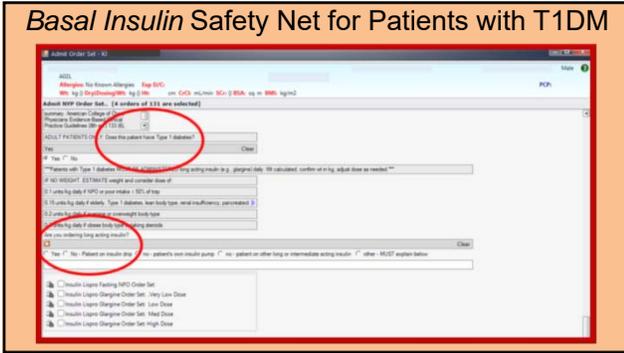
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### Basal Insulin Safety Net for Patients with T1DM




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### Insulin Administration: Reducing Common Errors Huddle Message

**Topic: Diabetes and Hypoglycemia Management - Adult (Non-Pregnant) Patient**  
**Insulin Administration - RN Role and Responsibility**

**Practitioner:** Review administration of insulin. Be alert for patient's patients with diabetes under hypoglycemia, has been identified. A review of the process requirements is indicated.

**Why is this important?**  
Hypoglycemia is a life-threatening condition with serious morbidity and mortality. Hypoglycemia is a common complication of diabetes. Hypoglycemia is a common complication of diabetes. Hypoglycemia is a common complication of diabetes.

**Key messages/patients:**

- Do not hold insulin doses without a prescriber order. If you think the dose is too high or is not needed when a patient is NPO, not eating or BG is <100 mg/dL, consult the primary team to consider a dose change and get an order.
- Do not hold insulin doses with patient with T1DM with the exception of a patient who is unable to eat, is unable to swallow, or is unable to take oral medications. Do not hold insulin doses with patient who is unable to eat, is unable to swallow, or is unable to take oral medications.
- When an insulin dose is being administered to a patient with T1DM, insulin glargine should be given 1-2 hours before the start of the meal or snack.
- In urgent situations, the glucose team should be consulted to determine the correct order when the following conditions are met:

**Do not hold insulin dose without a prescriber order.**

If you think the dose is *too high* or is *not needed* when a patient is NPO, not eating or BG is <100 mg/dL, consult the primary team to consider a dose change and get an order.

**RN: Do NOT adjust or hold any insulin doses without an order. This is out of scope for nursing practice.**

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### Juggling - BGs, Insulin & Room Service Meals



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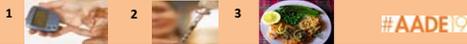
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### NYP Policy: Coordinating BG, Insulin & Meals

- Check BG 30 mins before meal (Must be < 60 mins)
- Administer prandial insulin +/- 15 mins of first bite
- Monitor carb intake: Controlled carb menu lists grams of carb to assist with insulin dosing & meal substitutions. Contact primary team if pt is eating more/less than ordered
- Download calorie king APP to assist with carb counting outside food or available on infonet




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### RN Survey: Best Practices for Room Service

- 1) When caring for patients with orders for BG monitoring, would it be easier for you to coordinate the timing of the BG check & insulin with the meal if:
- meals were delivered at fixed times (current state)
  - meal times were flexible and staggered throughout the day based on patient preference (? future state)
  - doesn't matter, either can work
- 2) a) When your unit has (had) flexible meal times, were you receiving alerts that the tray was on the unit for patients with BGM orders? *Yes/ No*  
 b) If yes, were the alerts through (Circle yes or no):  
 mobile heartbeat (MHB)? *yes/ no*    Verbal? *yes/ no*  
 sometimes MHB, sometimes verbal? *Yes/ no*  
 c) What do you think is the best way to communicate to the RN that the tray is on the unit?
- 3) Would bundling care by performing BGM and administering insulin (if needed) at the same time:  
 a) improve the coordinated timing of BGM, insulin administration and start of meal? *yes/ no*  
 b) be helpful to your workflow? *yes/ no*

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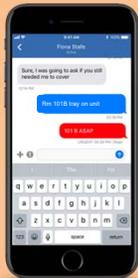
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### Room Service Communication Process




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**“Wait 4 Lispro” Huddle Message**

**BACKGROUND:**

- Coordinating the timing of glucose monitoring, insulin administration and meal delivery is always a challenge in the inpatient setting. To minimize the risk of hypoglycemia around meals in patients taking insulin, the Inpatient Glycemic Management Team at Weill Cornell *in partnership* with the Departments of Nursing and Food and Nutrition are recommending the following best practices:
- RNs should administer prandial insulin (lispro) +/- 15 minutes of the start of the meal
- Before administering lispro, the RN will check what time the prior dose was given. If it is less than 4 hours, RN will contact the primary team to ask for a dose reduction OR change in administration time to prevent insulin “stacking”.

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**“Wait 4 Lispro” Huddle Message**

**ACTION PLAN:**

- Before administering lispro, RN checks time of prior dose
- If  $\geq 4$  hours, RN should proceed with dose
- If  $< 4$  hours, RN should contact the primary team to ask for an order for a dose reduction OR change in administration time




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**Audience Question**

- Edna, 72 y.o., is admitted with chest pain & has T2DM taking 2 oral agents at home. Her current BG is 183 mg/dL and she is about to eat lunch (60 gm CHO). She has a poor appetite and does not like what she received on her tray. Her bolus insulin order is: 4 units, intended to cover the meal & to correct hyperglycemia.

**The RN should:**

1. Hold the dose
2. Administer  $\frac{1}{2}$  the dose
3. Administer the full dose
4. Consult with the primary team




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### Preventing Diabetes Medication Errors & Improving Quality of Care

#### KEY STRATEGIES For Diabetes Educators

- Establish Unit Based Diabetes Champions
- Review Unit BG DATA from POCT Lab Database (RALS)
- Review Med Error Reports from Pharmacy
- Provide targeted education based on unit rates of hypo/hyperglycemia & insulin error data



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### Diabetes Educator Role in Discharge Planning

- Diabetes Survival Skills Education for Complex Patients
- Individualize Diabetes Discharge Regimen with primary Team
- Medication Reconciliation & Checking RXs



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### Bedside Clinician Role in Diabetes Self-Management Education

#### Promote **EARLY** Diabetes Education

- Educate *high-risk* patients as soon as patient is ready to learn to allow time for practice: e.g. patients with high A1c, elderly, public insurance, going home on insulin or more complex regimen for 1<sup>st</sup> time
- Use scheduled BG monitoring, insulin administration & meal trays as teachable moments
- Provide access to diabetes self-management tools such as teaching guides, practice pens, home blood glucose meters

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### Diabetes Teaching Resources at NYP/ Weill Cornell Campuses

**Teaching Kits**

**Practice Pens**

**Handouts in Multiple Languages**

**Teaching Checklist In EMR**

**Free Meters**

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### Transitioning Diabetes Medication Regimens at Time of Discharge

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### Promoting *Revised* Discharge Insulin Algorithm

Choose a Discharge Regimen  
Based On A1c

A1C < 8%	A1C 8%-10%	A1C >10%
Re-start outpatient treatment regimen (oral agents and/or insulin)	Re-start outpatient oral agents and keep glargine once daily at 50% of hospital dose	D/C on basal/bolus at same hospital dose. <i>Alternative:</i> Re-start oral agents, keep glargine once daily at 80% of hospital dose

Umpierrez et al. Diabetes Care. 2014 Nov;37(11):2934-9.

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### IN CONCLUSION

- Diabetes Educators play key role in identifying & preventing insulin errors and malglycemia
- Bedside RN/RD/RPhs are in the best position to teach Diabetes Survival Skills Education and practice skills with patient. *The diabetes educator should be reserved for pts with barriers to self care and to assist with glycemic management & discharge planning*
- Unit & service line based *Diabetes Champions* can be influential in leading diabetes education and management strategies and mentoring colleagues
- Patient & clinician resources for ongoing diabetes education and support should be readily available

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### Weill Cornell Diabetes Educators & Champions *Working Together*



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