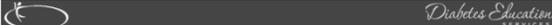




Special Boot Camp – Workshop
 Beverly Dyck Thomassian, RN, MPH, BC-ADM, CDE
 President, Diabetes Education Services

www.DiabetesEd.net



Poll Question 1

▶ Mary takes 6 units lispro (Humalog) before dinner. Which BG result reflects that it was the right dose?

- Before breakfast BG of 97
- 1 hr post dinner BG of 189
- Before dinner blood glucose of 102
- 2 hour post dinner BG of 178



Poll Question 2

▶ Calvin takes 5 units reg before breakfast and dinner and 18 units of Lantus at HS. His am BG ranges from 143 to 172. What is best action?

- Increase dinner regular insulin to 6 units
- Decrease Lantus at HS by 2 units
- Increase Lantus dose at HS
- Evaluate him for somogyi effect



Poll Question 3

- ▶ Sarah takes 15 units of lispro before breakfast and lunch and 20 units at dinner. How many days would 1 vial last?
- a. 10
- b. 20
- c. 30
- d. 22



Intensive Diabetes Therapy Insulin Dosing Strategy

50/50 Rule

- ▶ 0.5-1.0 units/kg day
(.5 units/kg most common)

- ▶ Basal = 50% of total
 - Glargine Q day
 - NPH or Detemir BID

- Bolus = 50% of total
 - usually divided into 3 meals

Example

- ▶ Wt 50kg x 0.5 = 25 units of insulin/day

- ▶ Basal dose: 13 units
 - Glargine 13 units Q day
 - NPH/Detemir 6u BID

- ▶ Bolus dose: 12 units
 - ▶ 4 units NovoLog, Apidra, Reg, Humalog each meal



Intensive Diabetes Therapy Insulin Dosing Strategy

50/50 Rule

- ▶ 0.3-1.0 units/kg day
(.5 units/kg most common)

- ▶ Basal = 50% of total
 - Glargine Q day
 - NPH or Detemir BID

- Bolus = 50% of total
 - usually divided into 3 meals

Example – You Try

- ▶ Wt 100 kg x 0.5 = ____ units of insulin/day

- ▶ Basal dose: ____ units
 - Glargine ____ units QD
 - NPH/Detemir ____ BID

- ▶ Bolus dose: ____ units
 - ____ units NovoLog, Apidra Humalog Reg each meal



Bolus Basics



- ▶ Carbohydrate/ Prandial Coverage
 - ▶ Match the insulin to the carbohydrates
 - ▶ 1 unit for 15 gms - Common starting point
- ▶ Correction Bolus - targets hyperglycemia
 - ▶ 1 unit for every 30-50 points over target
- ▶ Adjust ratios depending on sensitivity and response



Carbohydrate Ratio How does that work?

Rapid/Fast Acting Insulin

▶ Dinner (60 gms cho)

- ▶ Lemon Chicken
- ▶ 1 cup rice pilaf (45 gms cho)
- ▶ Asparagus
- ▶ Dinner Roll (15 gms cho)

Blood Glucose 165mg/dl

Serving Size	Gms CHO	Insulin
1	15 gms cho	1 unit
2	30 gms cho	2 units
3	45 gms cho	3 units
4	60 gms cho	4 units

Adjusting Bolus and Correction Doses Carbohydrate-to-Insulin Ratio

Based on three questions before meals:



1. How much carbohydrate am I going to eat?
2. What is my insulin dose for this amount of carbohydrate?
3. Should I lower the dose because I plan to be very active or have recently been active or my blood sugar is low?



Correction Bolus

Rapid/Fast Acting Insulin (1 unit:50 mg/dl>150)

Less than 70	Subtract 1 unit
70-150 mg/dl	0 units
151-200 mg/dl	1 unit
201-250 mg/dl	2 units
251-300 mg/dl	3 units
301-350 mg/dl	4 units
351-400 mg/dl	5 units

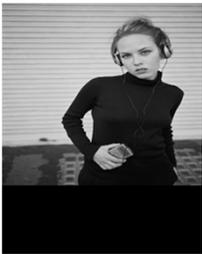
Poll Question 4

- ▶ 1 unit Humalog for 15 gms of carb. Meal 1 small potato, bbq chicken wings, 1 cup regular milk, 1 cup of jello, 1/3 cup of beans. SF ice tea. BG 118. [Diabetes Exchange List](#)
- a. 4.0 units
- b. 5.7 units
- c. 3.8 units
- d. 6.0 units



Diabetes Education SERVICES

Type 1 and a Teen



- ▶ Cindy is trying to carb count and adjust her insulin, but is still having trouble. She weighs 60kg.
- ▶ What is her daily dose of insulin?
- ▶ What is her basal dose?
- 1. Pre meal target BG is 120
- 2. Post meal goal < 180.
- 3. Carb ratio: 1 unit for every 15 gms
- 4. Hyperglycemic correction factor is one unit for every 55 above goal (she uses Humalog and 1700 rule)

1700 Rule
 $1700 / \text{TDD} = \text{insulin sensitivity}$
 $1700 / 30 = 56$
1 unit drops BG 56 points



Diabetes Education SERVICES

Correction Bolus for Cindy – Insulin Sensitivity

Analog Insulin (1 unit:55 mg/dl>120)

Less than 70 mg/dl	Subtract 1 unit
70-119 mg/dl	0 units
120-175 mg/dl	1 unit
176-230 mg/dl	2 units
231-285 mg/dl	3 units
286-340 mg/dl	4 units
341-395 mg/dl	5 units



Diabetes Education SERVICES

Poll Question 5

▶ Bob's correction scale is 1 unit for every 50 above his target of 120. His BG is 320. How much correction insulin?

- a. 4 units
- b. 5 units
- c. Needs to count carbs first
- d. Depends on his activity level



Diabetes Education SERVICES

Adjusting Cindy's Bolus Insulin With Ratios - You Try

BG before lunch 285, plans to eat 75 gms of carbohydrate.

____-120 = ____ over target, ____/55 = ____units

____gms / ____ = ____ units ins for carbs

- ____ units insulin to correct for hyperglycemia
- ____ units insulin to cover carbs in meal

Total adjusted dose: ____ units humalog insulin



Diabetes Education SERVICES

Cindy, 60kg, Carb (1u/15gms) Target 120
pre meal, Hyper 1 for 55

	Break	Lunch	Dinner	HS
Day 1	99	154	128	69
Pre meal BG	2uH	6uH	5uH	15 GI
Carb	30gms	75gms	60gms	15gm
Day 2	143 /184	122 /156	220 / 89	228
Pre/post meal BG	3uH	4uH	5uH	15 GI
Carb	45gms	60gms	45gms	0gm

How much Insulin Needed?

- ▶ Morning - BG 173
 - ▶ Breakfast – slice cold pizza, ½ c. applesauce
- ▶ Lunch BG 69
 - ▶ Menu- ham sandwich, pear, diet 7-up, mini snickers bar.
- ▶ 2 hours after lunch, BG 148 - ran track
- ▶ Before dinner - BG 98
 - ▶ Cheeseburger, small fries, chocolate chip cookie
- ▶ At bedtime, BG 173



Diabetes Education SERVICES

Poll Question 6

- ▶ Which of the following is a lifestyle indications for insulin pump use?
 - a. Stable schedule
 - b. Limited travel
 - c. Need for structure
 - d. Varied work shifts



Diabetes Education SERVICES

Thank You



► Web
www.diabetesed.net



Diabetes Education
SERVICES
