

CARBOHYDRATE COUNTING ASSESSMENT: ANSWER KEY

Before you begin multiple daily injections (MDI) or insulin pump therapy, you need to become familiar with advanced carbohydrate counting. For MDI and pump therapy, you will be calculating an insulin dosage based on an insulin-to-carbohydrate ratio; therefore, you must have an accurate estimate of the "available carbohydrates" in the meal you will be eating.

Please email the completed assessment to dcnurse@cw.bc.ca

To complete this assessment you can use different tools:

- ✓ Apps and or websites, e.g. *Calorie King®*, *myfitnesspal™*, or *Carbs & Cals*
 - ✓ *BCCH Diabetes Clinic Food & Nutrition* handouts
 - ✓ Handouts
 - ✓ Food Labels
 - ✓ *Beyond the Basics* poster
 - ✓ Calculator
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(1) Basal insulin is (choose all that apply):

- A. Given with meals
 - B. Background insulin
 - C. Given to correct high glucose levels
 - D. Starts working within 10-15 minutes
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(2) Bolus insulin is (choose all that apply):

- A. Given with meals
 - B. Background insulin
 - C. Given to correct high glucose levels
 - D. Starts working within 10-15 minutes
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(3) Which of the follow is an appropriate way to treat a low blood sugar (using a 15-g treatment option)? (Choose all that apply.)

- A. 3-4 Dex4® glucose tablets
 - B. A fun-sized bag of Skittles® (15 pieces)
 - C. $\frac{1}{2}$ of a regular-sized chocolate bar
 - D. $\frac{1}{2}$ cup (4 ounces, 120 mL) of orange or apple juice
 - E. 1 scoop of vanilla ice cream ($\frac{1}{2}$ cup, 135 mL)
 - F. 1 tablespoon or 15 mL of honey
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(4) Which of the following vegetables would be less than 15 grams of carbohydrates if you eat 1 cup or less? (Choose all that apply.)

- A. Carrots
- B. Celery
- C. Peas
- D. Broccoli
- E. Tomatoes

(5) Which of the following foods, if consumed without any other foods, will raise the blood sugar the SLOWEST?

- A. White rice
- B. Regular pop
- C. White spaghetti, al dente
- D. White bread
- E. Whole wheat spaghetti, al dente

(6) Which of the following foods, if consumed without any other food, will raise the blood sugar the FASTEST?

- A. White rice
- B. Regular pop
- C. White spaghetti, al dente
- D. White bread
- E. Whole wheat spaghetti, al dente

(7) Calculate the carbohydrate amount/count for the following foods (please show your work).

- A. 2 cups of strawberries: $11 \text{ g carb} - 3 \text{ g fibre per 1 cup} = 8 \text{ g per 1 cup}$; 2 cups: $8 \times 2 = 16 \text{ g}$ (acceptable range: 15-20 g)
 - B. 1 bottle (16 ounces, 480 mL) Snapple® Lemon Ice Tea: 37 g (as per the website July 2021, acceptable range: 35-40 g)
 - C. 3 Oreo® cookies: 24 g (acceptable range (20-25g))
 - D. $1\frac{1}{2}$ cups (375 mL) glass of 2% milk: 12 g per 1 cup ; $1\frac{1}{2}$ cups: $12 \text{ g} + 6 \text{ g} = 18 \text{ g}$ (acceptable range: 15-20 g)
 - E. 4 medium pieces of California Roll sushi: 2 pieces: $19.1 \text{ g carbs} - 2.8 \text{ g fibre} = 16.3 \text{ g} \times 2 = 32.6 \text{ g}$ (acceptable range: 30-35 g)
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(8) Approximately how many grams of carbohydrates are in the following meal?
 2 scrambled eggs, 2 sausages, 2 slices of whole-wheat toast, 1 cup of 2% milk, 2
 tablespoons of blueberry jam

- A. 15 g
- B. 30 g
- C. 45 g
- D. 60 g
- E. 75 g: 2 toast (30 g) + 1 cup milk (12-15 g) + 2 tablespoons jam (30 g) = total 72-75 g

(9) Looking at the following label, how many grams of carbohydrates are in 6 crackers?

- A. 12 g
- B. 15 g
- C. 18 g
- D. 20 g
- E. 23 g

Nutrition Facts	
Per 4 crackers (20 g)	
Amount	% Daily Value
Calories 90	
Fat 2 g	3 %
Saturated 0.3 g + Trans 0 g	2 %
Cholesterol 0 mg	
Sodium 90 mg	4 %
Carbohydrate 15 g	5 %
Fibre 3 g	12 %
Sugars 1 g	
Protein 2 g	
Vitamin A 0 %	Vitamin C 0 %
Calcium 2 %	Iron 8 %

(10) Using the following label, how many grams of carbohydrates are in 1½ cups of cereal only? (Choose the closest answer.)

- A. 39 g
- B. 41 g
- C. 47 g
- D. 52 g
- E. 62 g

Nutrition Facts		Valeur nutritive	
Per 1 cup (250 mL)			
pour 1 tasse (250 mL)			
Amount	% Daily Value*	Amount	% valeur quotidienne*
Calories 110			
Fat / Lipides 0 g	0 %		
Saturated / saturés 0 g + Trans / trans 0 g	0 %		
Carbohydrate / Glucides 26 g			
Fibre / Fibres 0 g	0 %		
Sugars / Sucres 22 g	22 %		
Protein / Protéines 2 g			
Cholesterol / Cholestérol 0 mg			
Sodium 0 mg	0 %		
Potassium 450 mg	10 %		
Calcium 30 mg	2 %		
Iron / Fer 0 mg	0 %		

*5% or less is a little, 15% or more is a lot
 *5% ou moins c'est peu, 15% ou plus c'est beaucoup

(11) Part 1: Approximately how many grams of carbohydrates are in $1\frac{1}{2}$ cups of cooked, long-grain white rice? (Choose the closest answer.)

- A. 45-50 g
- B. 40-44 g
- C. 30-35 g
- D. 60-65 g
- E. 65-70 g

Part 2: The insulin-to-carbohydrate ratio is 9. How many units of rapid-acting insulin for the rice?

- A. 4.5 units
- B. 5 units
- C. 7.5 units ($66-67 \text{ g carb} / 9 = 7.3-7.4 = 7.5 \text{ units}$)
- D. 6 units
- E. 6.5 units

(12) A lemon loaf recipe (which makes 12 servings or slices) calls for 1 cup of white sugar and $1\frac{1}{2}$ cups of white flour (as well as eggs, oil and other non-carb-containing ingredients).

Part 1: Calculate the grams of carbohydrate in 1 slice of lemon loaf.

- A. 12 g
- B. 18 g
- C. 29 g
- D. 37 g
- E. 45 g

Part 2: The insulin-to-carbohydrate ratio is 10. How many units of rapid-acting insulin for 1 slice?

- A. 2.5 units
 - B. 3 units
 - C. 3.5 units
 - D. 4 units
 - E. 4.5 units
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