




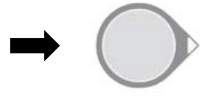



Continuous Glucose Monitoring (CGM) Dexcom Trend Arrows

Preventing high and low glucose readings by adjusting mmol/L (CONSERVATIVE)

CGM devices show current glucose readings and trend arrows. Arrows give information about how glucose levels may change. This handout reviews a conservative or starter method for using arrows to prevent high or low glucose levels. Talk with your educator about other methods.



Pre-Meal Suggestions

- “Up Arrows” mean you ADD mmol/L to your sensor reading BEFORE calculating correction.
- “Down Arrows” mean you SUBTRACT mmol/L from sensor reading BEFORE calculating correction.
- Total pre-meal insulin dose = meal dose + correction (using sensor reading +/- mmol/L for arrows)

DEXCOM ARROW Pre-meal Receiver / App	PREDICTED GLUCOSE CHANGE	WHAT TO DO (CONSERVATIVE)*: Sensor Reading +/- Arrow Adjustment Add or subtract numbers (mmol/L) to your sensor reading before calculating your insulin dose.
	Rise of more than 5.0 mmol/L in 30 minutes.	Add 3 mmol/L to your glucose reading
	Rise of 5.0 mmol/L or less in 30 minutes	Add 2 mmol/L to your glucose reading
	Rise of 3.4 mmol/L or less in 30 minutes	Add 1 mmol/L to your glucose reading
	No significant change in glucose	No adjustment
<p>*Notes: If you have <u>any</u> down arrows and are 5.5 mmol/L or less before eating, consider if you need to:</p> <ul style="list-style-type: none"> ○ do a finger stick test. You may already be low and need glucose. ○ eat 15g glucose (or more if you have insulin on board or ↓↓). ○ confirm with finger stick check every 15 minutes if sensor reading continues dropping or hasn't responded as you'd expect. 		
	Drop of 3.4 mmol/L or less in 30 minutes	Subtract 1 mmol/L from your glucose reading. See notes above*
	Drop of 5.0 mmol/L or less in 30 minutes	Subtract 2 mmol/L from your glucose reading. See notes above*
	Drop of more than 5.0 mmol/L in 30 minutes	Subtract 3 mmol/L from your glucose reading. See notes above*

Before Meal Example (Conservative):




Here's how Susan planned for supper insulin on two occasions. In each case, she waited 15 minutes to see if her Dexcom trend arrows changed. They did not. She did not have exercise planned after these meals. Susan has an insulin-to-carbohydrate ratio of 1 unit for 10 grams and an insulin sensitivity factor (ISF or Correction Factor) of 2. Her target glucose is 6 mmol/L.





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Your Turn Before Meals: Sensor Reading +/- Arrow Adjustment




- Before lunch, your reading is 10.0 mmol/L ↓↓. According to the chart on page one, you would subtract ____ mmol/L from your 10.0 mmol/L reading. You would now do your usual calculations for meal and correction insulin using the glucose reading of ____ mmol/L.
- Before breakfast, your glucose level is 10.0 mmol/L →. According to the chart above, would you add or subtract any mmol/L to your reading? How would you calculate your meal bolus?
- Before supper, your glucose level is 5.0 mmol/L ↑. Calculate your supper insulin.
- Before supper, your glucose level is 5.0 mmol/L ↓↓. What would you do?

After Meal Suggestions (2 - 4 hours after a meal):

Hyperglycemia Prevention Using Trend Arrows 2-4 hours After Meal	
Avoid corrections the first 2 hours after a meal bolus to prevent insulin stacking.	
Glucose reading 2-4 hours after eating	WHAT TO DO: If arrow  or 
8.3 -13.9 mmol/L	<ul style="list-style-type: none"> • Take your usual correction dose. Do not add mmol/L for arrow adjustment • Consider correcting to 10.0 mmol/L if it's only 2 hr after eating. • Avoid correcting again for at least another 2 hours.
14.0 mmol/L and greater	<ul style="list-style-type: none"> • Confirm with finger stick test. • Check for ketones if 14.0 mmol or higher. If ketones are present, follow guidelines for preventing DKA. • Take usual correction dose. Do not add mmol/L to your reading. • If  one hour after this correction <ul style="list-style-type: none"> ○ Confirm with finger stick ○ Follow guidelines for preventing DKA if ketones are present. ○ Take additional correction insulin. Do not add mmol/L to your reading. ○ Change infusion site if on an insulin pump.

Hypoglycemia Prevention Using Trend Arrows 2-4 hours After Meal	
Glucose reading 2-4 hours after eating	WHAT TO DO: If arrow:  or  or 
Near 8.3 mmol/L	<ul style="list-style-type: none"> • Recheck in 15 minutes
Near 5.5 mmol/L or lower	<ul style="list-style-type: none"> • Take 15 g fast-acting carbohydrate (30 g if ) • Check glucose level again in 15 minutes. If CGM reading is less than 4.0 mmol/L with arrows down, confirm with finger stick blood glucose test and take another 15 g glucose. • Check CGM every 15 minutes. If CGM continues to show arrows down, confirm with finger stick blood glucose test.

After meal (2-4 hours) examples:

1. Your blood sugar 2 hours after eating is 13.5 mmol/L . What could you do?
2. Your blood sugar 3 hours after eating is 5.2 mmol/L . Do you need to add a snack?
3. Your blood sugar 2 hours after eating is 5.2 mmol/L . Do you need glucose?

Adapted from:

1. Dexcom G5 Treatment Decisions: Advanced Arrow Adjustment 2018
2. Aleppo G, Laffel LM, Ahmann AJ et al. A Practical Approach to Using Trend Arrows on the Dexcom G5 CGM System for the Management of Adults With Diabetes. *Journal of the Endocrine Society* 2017; 1 (12): 1445–1460.
<https://doi.org/10.1210/je.2017-00388>

*The arrow adjustments for mmol/L were reduced as a conservative trial for patients uncomfortable using the full mmol/L arrow adjustment recommendations.