



Estimated Insulin Calculator for a New Diabetic

Created by David I. Crowley, MD, Pediatrics Residency Class of 2007

Edited by Ryan T. Donohue, MD, Pediatrics Residency Class of 2020

Instructions:

- 1. Pink indicates **required fields**. Physician must enter value in order to proceed to calculated results.**
- 2. Review the **calculated results** marked in yellow.**
- 3. After verifying the calculated results, you must enter your **final values** in the green boxes in order to proceed.**
- 4. Print only the "road maps", with copies for the attending, all residents, nursing staff, and patient's family.**

Click tabs below to begin

Estimated Insulin Calculator for a New Diabetic

Pink = Physician must enter a value for new diabetic

Yellow = Physician must review the calculated value

Green = Physician must enter the confirmed value

Hints

To print out a new road map (e.g. for insulin names, and all green boxes are map"

Patient Information:

Name: Test Test
 Wt: 60 kg
 Age: 6 yrs
 Short-acting insulin: Humalog (lispro)
 Long-acting insulin: Lantus (glargine) Dosed 1 time(s)/day
 Total insulin dose: 0.8 U/kg/day

Age	Units/kg/day
<5 years	0.3-0.8
5-11 years	0.5-1.0
12+ years	0.8-1.5

Actual insulin

Total daily insulin given: 48.0 units/day

	Estimated	Actual
Long-acting dose (40%):	19.2 units/day	10 units/day
Short-acting dose (60%):	28.8 units/day	
Breakfast (short) (40%):	11.5	(calculated, not used)
Lunch (short) (30%):	8.6	(calculated, not used)

Nutrition

Calories in ADA diet: 1600 kcals
 Calories from carbs: 800 kcals
 Grams of carbs: 200 grams
 Grams of carbs/meal: 50 grams/meal

Calories = 1000 + 100*age
 (1/2 of total carbs)
 (4 cal / 1 gm carbs)
 (25% per meal)

Carbohydrate coverage

	Estimated	Actual
carbs/unit (breakfast):	4.3	12 carbs/unit
carbs/unit (lunch):	5.8	15 carbs/unit
carbs/unit (dinner):	5.8	15 carbs/unit
carbs/unit (other snack):	5.8	15 carbs/unit

(i.e. 1 Unit / X carbs)

(Calculated "base doses" above / Units insulin per meal above)

+15gm free with certain snacks

Blood sugar correction scale

Estimated: 1 Unit per 31 mg/dL
 Actual: 1 Unit per 40 mg/dL

Blood Glucose Target Range

	Est	Low	to	High
Daytime	80	80		180
Bedtime / 2-3 AM / AM snack	80	80		230
Treat hypoglycemia below:		70		60

1500/Total insulin per day
 (minimum 1U / 25)

Age	Low	High*
<3 years old	100	>200
3-7 yrs old	80	>180
8+ yrs old	80	>150

Glucagon dose: 1 mg 1 mg IM

Additional Comments:

(use only if unarousable or seizing)
 <20 kg 0.5 mg

Test Test's Insulin Road Map

8/1/19 21:24

My **long-acting** insulin is: **Lantus (glargine)**

I take 10 units Lantus (glargine) at the same time every evening

My **rapid** insulin is: **Humalog (lispro)**

I take Humalog (lispro) before meals and snacks to cover carbs. I also use Humalog (lispro) when I need a correction for high blood sugar and I use the scale below to help me decide how much to take

If my blood sugar is ever under 80, I use the hypoglycemia road map instead.

Insulin for Carbohydrate Coverage (insulin to carb ratio).

Breakfast	1 unit for every 12 grams	Snacks: 1 unit for every 15 grams
Lunch	1 unit for every 15 grams	
Dinner	1 unit for every 15 grams	

Daytime Full Correction Scale

Use only if at least 3 hours since last rapid insulin injection

Daytime Rule = 1 Unit per 40 >140

Blood Glucose	Humalog (lispro)
Below 80	See hypoglycemia road map
80 to 139	Carb coverage dose only
140 to 179	+1 unit
180 to 219	+2 unit
220 to 259	+3 unit
260 to 299	+4 unit
300 to 339	+5 unit
340 to 379	+6 unit
380 to 419	+7 unit
420 to 459	+8 unit
460 to 499	+9 unit
500 +	CALL MD

Bed/Nighttime Adjusted Correction Scale

Use only if more than 2-3 hours since last rapid insulin injection or at bed/nighttime

Nighttime Rule = 1 Unit per 40 >180

Blood Glucose	Humalog (lispro)
Below 80	See hypoglycemia road map
80 to 179	Carb coverage dose only
180 to 219	+1 unit
220 to 259	+2 unit
260 to 299	+3 unit
300 to 339	+4 unit
340 to 379	+5 unit
380 to 419	+6 unit
420 to 459	+7 unit
460 to 499	+8 unit
500 +	CALL MD

Additional comments:

Time to Wait Between Shot and Eating

Under 100	0 minutes
100 - 149	5 minutes
150 - 199	10 minutes
200 - 249	15 minutes
250 - 299	20 minutes
300 or OVER	25 minutes

Check Urine for Ketones when:

1. Blood sugar above 240
 2. Every time your child goes to bathroom when sick
 3. Any vomiting or upset stomach
- For urine ketones, call the Diabetes Center with moderate to large ketones. (207) 662-5522
- If using a Precision Blood Ketone Meter, call if blood ketones are more than 1.0.

Prepared by:

Test Test's Hypoglycemia (low blood sugar) Road Map

8/1/19 21:24

Blood Sugar	Time of Test	Grams of carbs to eat	Retest Blood sugar in 15 minutes	What to do next
Borderline Low	Before a meal or snack	No extra needed	No	Eat and give shot. Subtract 1 unit insulin for carb coverage.
61 - 80	Between meals, before bedtime snack, or overnight	8 gm complex carbs	No	Nothing more needed.
Low Sugar	Before a meal or snack	15 gm fast-acting carbs	Yes	If blood sugar greater than 60, give shot for carb coverage and eat meal.
46 - 60				If blood sugar less than 60, repeat 15 gm fast-acting carbs and retest in another 15 minutes. Once blood sugar is more than 60, give shot for carb coverage and eat meal.
	Between meals, before bedtime snack, or overnight	15 gm fast-acting carbs	Yes	If blood sugar greater than 60, give 8 gm complex carbs. If blood sugar less than 60, give another 15 gm fast-acting carbs, then retest in 15 minutes.
Severe Low	Before a meal or snack	22 gm fast-acting carbs	Yes	If blood sugar greater than 60, give shot for carb coverage and eat meal.
0 - 45				If blood sugar less than 60, give another 15-22 gm fast-acting carbs, then retest in 15 minutes. Once blood sugar greater than 60, give shot for carb coverage and eat meal.
	Between meals, before bedtime snack, or overnight	22 gm fast-acting carbs	Yes	If blood sugar greater than 60, give 8 gm complex carbs. If blood sugar less than 60, give another 15-22 gm fast-acting carbs, then retest in 15 minutes.
Emergency Low	If will not wake up, cannot eat or drink, or having a seizure, give glucagon/glucagen kit			Dose = 1 mg GLUCAGON Turn on side and check blood sugar

Examples of <u>fast-acting carbs</u> to treat low blood sugar		Examples of <u>complex carbs</u>
15 Grams	22 Grams	8 gm (1/2 Carb)
1/2 C (4 oz) juice	3/4 C (6 oz) juice	4 oz milk
3/4 C (5-6 oz) regular soda	1 C (7-8 oz) regular soda	4 Ritz crackers
4 teaspoons sugar	6 teaspoons sugar	4 saltines
1 tablespoon or packet of honey	1 and 1/2 tablespoon of honey	2 oz ice cream
3-4 glucose tabs	4-7 glucose tabs	2 tablespoons raisins
1 tablespoon regular chocolate syrup or maple syrup	1 and 1/2 tablespoons regular chocolate syrup or maple syrup	5 oz plain Greek yogurt
1 tablespoon or tube of frosting	1 and 1/2 tablespoons or tube of frosting	2 tablespoons peanut butter
3 smartie rolls	5 smartie rolls	1/3 C peanuts
15 jelly beans or Skittles	22-25 jelly beans or Skittles	