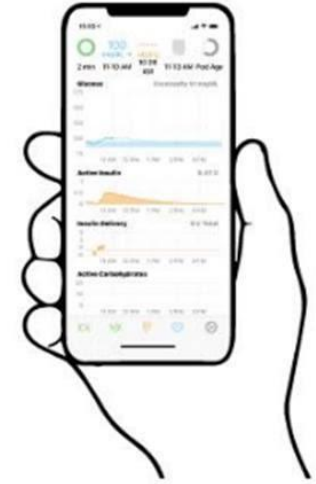


Loop AND Learn

Master Your DIY Closed-Loop Insulin Delivery System



Bolusing for Meals

Popular Challenging Meals

May 2021

[Part 3: Popular Challenging Meals](#)

Disclaimer

The Loop app is a do-it-yourself closed-loop algorithm.

This presentation is provided to assist you in making your own decisions, in consultation with your health care professionals, regarding your own diabetes self-management.

You take full responsibility for building and running this system and do so at your own risk.

 **Please remember that the Loop app is not FDA-approved for therapy.** 

What are challenging meals?

Here's a list of foods that we love but that don't always love us or our Loop.
Learn to bolus like the Pros!!!

- | | |
|---|---|
| <ul style="list-style-type: none">● Pizza● Ice Cream (in a dish, cone or sundae)● French Fries● Extended meals (thanksgiving, events)● Chocolate bars● Waffle house● County fair food (sugary, fried, beer, bacon-wrapped food, etc.) | <ul style="list-style-type: none">● Asian foods (sauces, sticky rice)● Mexican● Steak, potatoes and veggies● Carol's Low Carb Quiche● Low Carb/veggie dinner● Cheesecake● Pudding Shots |
|---|---|

Pizza With Prebolus



Calculate the “carbs” (carbs, proteins and fats)

- **Prebolus:** for a portion of the carbs, 15 minutes in advance
- **Entry 1:** Fast carbs (“sugars” in the sauce and dough), starting now, for 1 hour
- **Entry 2:** Rest of the carbs, starting now, for 3-4 hours
- **Entry 3:** Protein and Fat, starting at about 1.5 hours in the future, for 5-8 hours.

Pizza Without Prebolus



Calculate the “carbs”

- **No Prebolus** (2 entries)
- **Entry 1:** For slightly less than $\frac{1}{2}$ of the carbs, starting now, for 3-4 hours
- **Entry 2:** For the rest of the “carbs”, starting about an hour in the future, to last over 6 hours

Usually, pizza is about 45-65 grams of “carbs” PER SLICE!

Ice cream, plain, in a dish or cone



Calculate the “carbs”

- **Prebolus:** 15 minutes
- **Entry 1:** starting now, for 2-3 hours

Pro tip: Superbolus by adding one hour's worth of basal to your bolus

Ice cream sundae, all the toppings



Calculate the “carbs”, including an honest count of the number of ice cream scoops

- **Prebolus:** 15-30 minutes
- **Entry 1:** starting now, for 2-3 hours, to cover the syrup, cherry, toppings
- **Entry 2:** about 30 minutes after eating, check the carbohydrates screen to see how well you guessed on the number of carbs and edit your entry if needed

Pro tip: add one hour’s worth of basal to your bolus

French fries/chips

Calculate the “carbs”. Be sure to include the ketchup, cheese, chili, etc.

- **Prebolus:** 15-20 minutes
- **Entry 1:** Carbs starting now, for 3 hours.
- **Entry 2:** Protein and Fat, starting ~1.5h in the future, for 5 hours



Plain Fries with Ketchup



Cheese Fries, probably with Ketchup



Chili Cheese Fries

Panda Express



Calculate the “carbs”

- **Prebolus:** 30 min for 50% of total insulin required
- **Entry 1:** 30% of total insulin required, about 5 min before eating
- **Entry 2:** 20% of total insulin required, when finished eating

Katie Disimone on eating at Panda Express Chinese food:

<https://seemycgm.com/2017/05/12/openaps-smb-and-panda-express/>

Mexican food



Taco's Los Reyes, Orange, California - from top to bottom
1) Chips (shared with my wife)
2) Her meal a Carne Asada Sope
My meal - A hard shell taco with beans

Calculate the “carbs”

- **Prebolus:** With most eat out food, I do not prebolus (I do not know when it will arrive)
- **Entry 1:** About 80% of “carbs” at first bite. Taco plate plus a portion of the chips = 65-75g, 5 hr absorption
- **Entry 2:** Remaining “carbs” starting at 1.5 hours, for 5 hours.

Mexican food: Pro Tip



From Loop and Learn admin Glenn: “Mexican food falls into a category that I generally call ‘Eat Out Food’. I generally do not make it at home and I don’t really know the exact components of the meal. In general, I do not consider the nutritional disclosures, even at a national chain, to be very accurate. I rely heavily on food logging and prior experience to get it right.

For a first time meal at a place I might return, I log the meal items in the Tidepool comments and search for it when I eat at the same place again.”

Chocolate Bar



Calculate the “carbs”

- **Prebolus:** Minimize or eliminate pre-bolus
- **Entry 1:** 3 to 5 hour absorption time. Four hours is most common.

Pro tips:

- Do not use the default absorption time of 2 hours, when utilizing the emojis.
- The darker and more fat in the chocolate, the longer the absorption time.

Chocolate + More!



The higher the fat content, and the more chocolate involved, the more it will slow down the carb impact of whatever you are eating with it.

A pretzel drizzled with chocolate will hit like a pretzel. A pretzel coated in chocolate will be longer, slower, and have more carbs absorbed in Loop.

Chocolate, the Easier Way

Low Carb Dark Chocolate with high cacao and low added sugar

Hachez bar is naturally low carb ... it does NOT have any alcohol sugars that lead to an upset stomach. It follows the normal rules of bolusing for high fat:

Calculate the “carbs”

- Entry: 4-5 hours, when you start eating



Nutrition Facts			
Serving Size 8 pieces (40g) Serv. Per Container about 3 Calories 260 Calories from Fat 210 Percent Daily Values (DV) are based on a 2500-calorie diet. *Cholel not included any Trans Fat.			
Amount/serving	% DV*	Amount/serving	% DV*
Total Fat 23g	36%	Total Carb. 6g	2%
Saturated Fat 15g**	74%	Dietary Fiber 4g	16%
Cholesterol 0mg	0%	Sugar 4g	
Sodium 0mg	0%	Protein 4g	
Vitamin A 0% · Vitamin C 0% · Calcium 2% · Iron 0%			

** The more chocolate you eat, the longer the absorption time. If you have to go for 6 hours, you are going to get fat! 🏃

Diabetes and chocolate by Clara Huet on mySugr:

<https://www.mysugr.com/en/blog/diabetic-chocolate-befriending-the-chocolate-monster/>

Steak dinner with baked potato & veggies



Calculate the “carbs”

		Carbs	Protein	Fat	Total "carbs"
NY Strip Steak	8 oz	0	33	28	
Potatoes with skin	9 oz	47	5	0	
Butter	1 TBSP	0	0	12	
Sour Cream	1 TBSP	0	1	3	
Caesar Salad	1 cup	4	2	5	
		51	41	48	
%		100%	25%	10%	
"carbs"	rounded	51	10	5	66

- **Prebolus:** 15-20 minutes for some portion of the baked potato and veggies
- **Record your entries**

66 g COB at 2:00 PM 66 g Total since 12:00 PM

- Entry 3** 10 g: protein: steak 2:00 PM + 6h
0 g absorbed 9h
- Entry 2** 5 g: fat: steak, butter, sour cr... 1:00 PM + 5h
0 g absorbed 7h 30m
- Entry 1** 51 g: potato & salad 12:00 PM + 3h
0 g absorbed 4h 30m

LOW carb dinner with veggies



Calculate the “carbs”

		Carbs	Protein	Fat	Total "carbs"
Chicken Breast	6 oz	0	19	1	
Olive Oil	1 TBSP	0	0	13.5	
Garlic	1 TBSP	2.5	0.5	4.5	
Broccoli	1 cup	3.5	2	0	
		6	21.5	19	
%		100%	25%	10%	
"carbs"	rounded	6	5.5	2	13.5

- **PreBolus** 15-20 min for part of the broccoli
- **Entry 1:** 6g Carbs starting now, for 3 hours.
- **Entry 2:** 7.5g Protein and Fat, starting ~1.5h in the future, for 5 hours

Pro tip: especially when eating out, do your best to estimate what's in your meal, but don't forget to add in cooking fat. Depending upon your Protein and Fat %, the fat in a meal can really add up.

Carol's Low Carb Quiche



Carolyn Kethum's Keto Flour Crust*

<https://alldayidreamaboutfood.com/easy-low-carb-press-in-pie-crust/>

*Omit the sweetener in pie crust

Miss in the Kitchen's Sausage Spinach Quiche**

<https://www.missinthekitchen.com/sausage-spinach-quiche/>

**Use cream rather than milk, and 4 eggs rather than 3

Calculate the "carbs"

1	-	Serving	Update	
Calories	Total Fat	32.1g	Carb.	7.6g
593	Sat. Fat	11.3g	Fiber	2.1g
	Cholest.	167.2mg	Sugars	1g
	Sodium	124.1mg	Protein	38.1g

- **Prebolus:** None
- **Entry 1:** 7.5g, starting now, for 3 hours
- **Entry 2:** 13g, starting in ~1.5 hours for 5 hours

Pudding Shots (adults only!)



Calculate for your portion

- 1 (3- to 4-ounce) package instant pudding (Hint: Try using Sugar Free Jello Pudding)
- 1 cup milk
- 1 cup liquor
- Optional: 8 ounces whipped cream

Prebolus for liqueur being used. Vodka, tequila or rum = no prebolus. Kahlua, Baileys, or Amaretto require 15-20 min.

Entry 1: For milk (2 hours) and carbs in pudding and liqueur.

You can have fun and experiment, to see if you need additional insulin for the delayed effect of liquor.

Resources

LoopDocs: <https://loopkit.github.io/loopdocs/operation/features/carbs/>

Loop Basal & ISF: <https://youtu.be/AgSZp7juPc4>

ISF & Carb Absorption: <https://youtu.be/fZx1VRKj9fY>

Facebook LoopandLearn: <https://www.facebook.com/groups/LOOPandLEARN>

YouTube LoopandLearn Channel: <https://www.youtube.com/c/LOOPandLEARN>

Loop and Learn website: www.LoopandLearn.org

Facebook Looped: <https://www.facebook.com/groups/TheLoopedGroup>

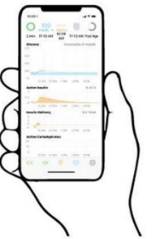
Thank You for Looping with Us!

Visit us at

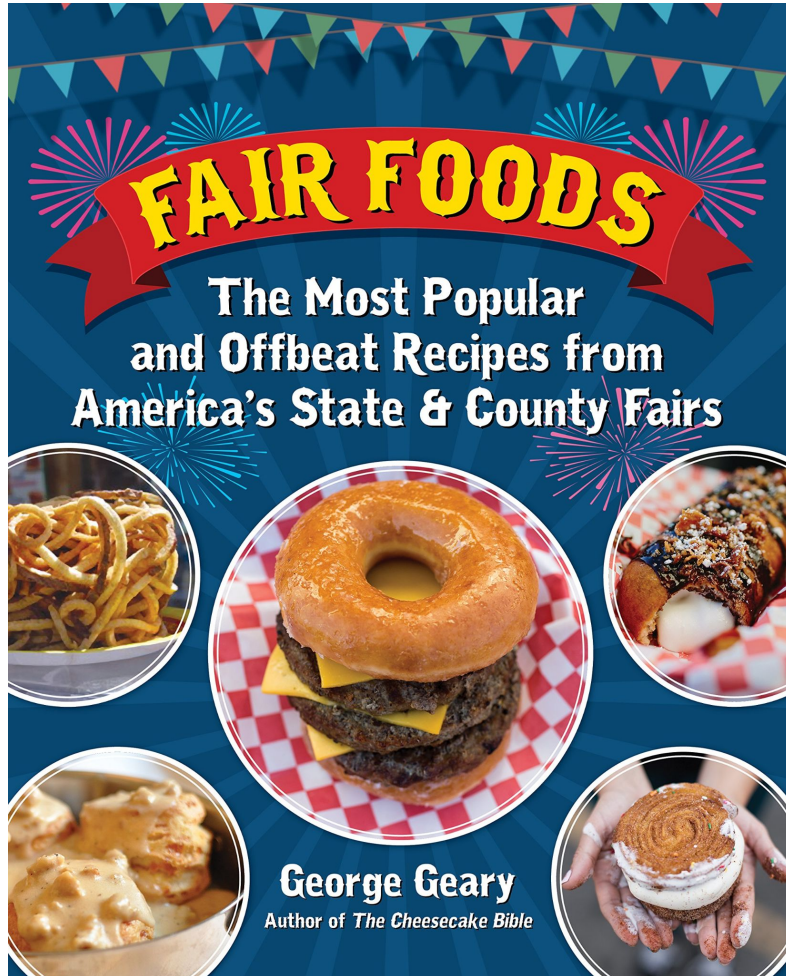
- www.LoopandLearn.org
- Facebook Loop and Learn
- YouTube Loop and Learn



Master Your DIY Closed-Loop Insulin Delivery System



County Fair Food



Calculate the “carbs”, including sauces, condiments, powdered sugar, etc.

- **Prebolus:** 15-20 minutes
- **Entry 1:** Carbs starting now, for 3 hours.
- **Entry 2:** Protein and Fat, starting ~1.5h in the future, for 5 hours
- **Entry 3:** ~ 30 minutes after eating, check the carbohydrates screen to see how well you guessed on the number of carbs, and edit your entry if needed

Long, extended meals

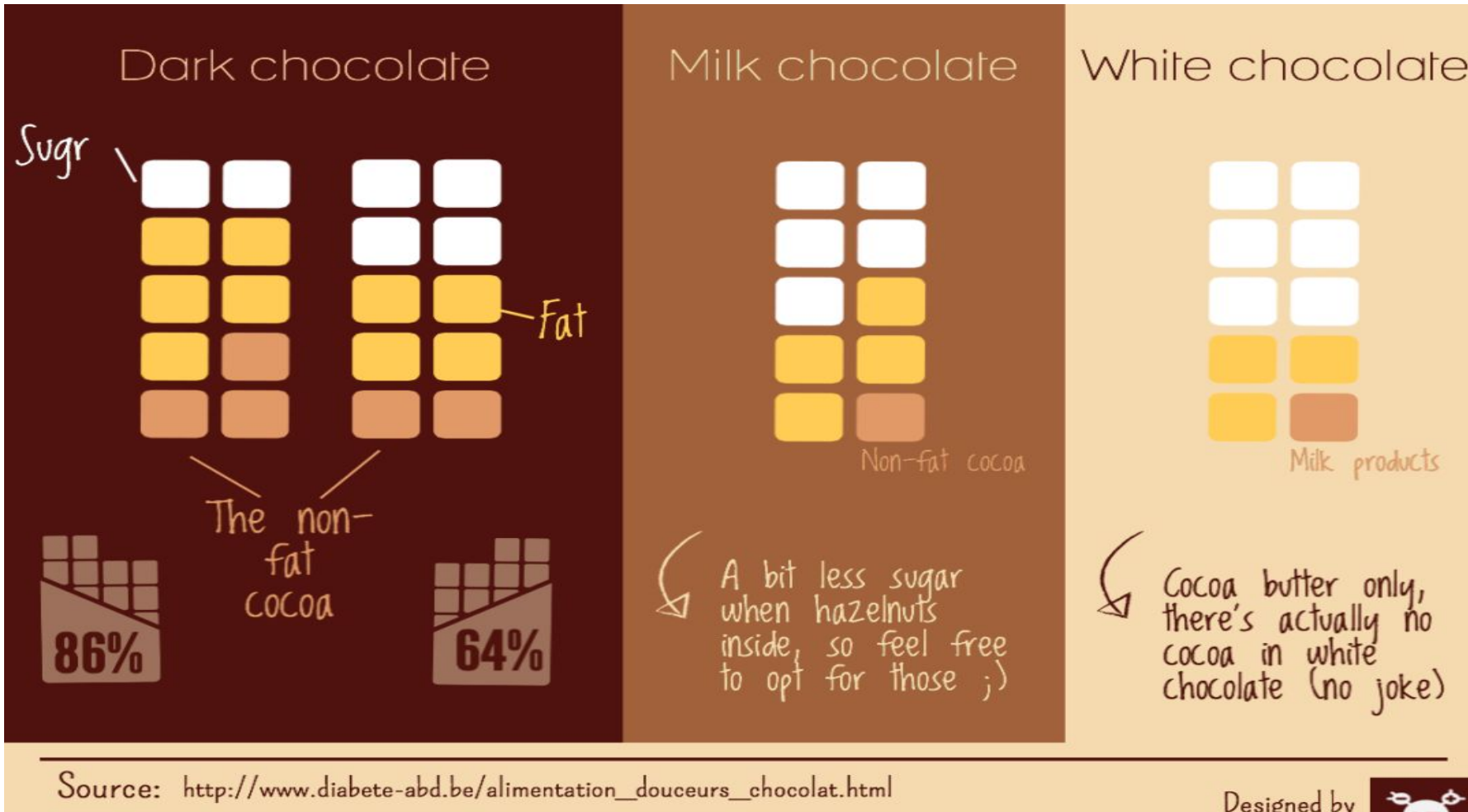


Calculate the “carbs”

- **Prebolus:** for what you expect to eat within the next 1-2 hours
- **Entry 1:** Record carbs, fats and proteins as eaten, starting when eaten, for 5 hours
- **Entries 2-6:** Continue to record carbs, fats and proteins as eaten, starting when eaten, for 5 hours

Pro tip: Be careful not to “stack” boluses, resulting in an unwanted low blood sugar

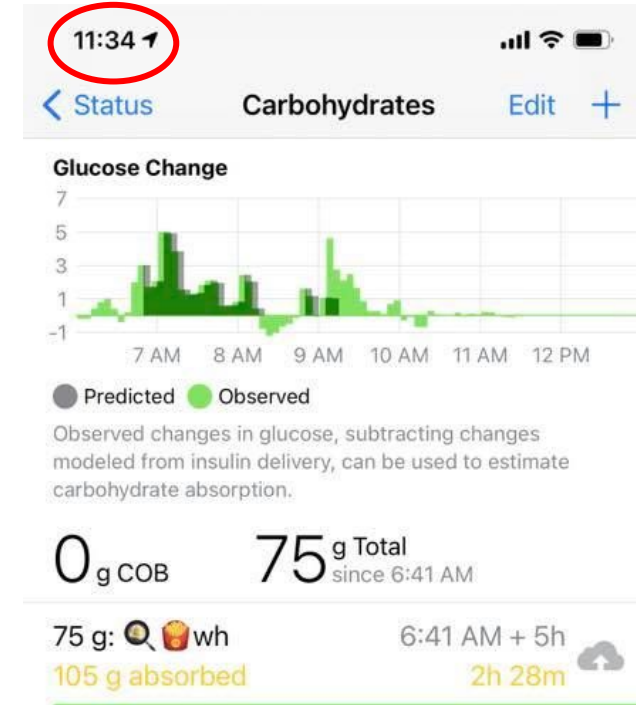
More on Chocolate



Waffle House



The “MEAL” comprised of eggs, bacon, hash browns, toast with butter. Estimated carbs = 75



Waffle House analysis



According to Kenny, Loop ran out of carbs super fast and used ISF to get you in range. It worked so that's good.

Possibly:

- Carb ratio is a little weak. Maybe go down to an even 5? Might even be able to come down lower based on the last few days
- **Probably under-counted the fats/proteins**
- ISF didn't look too bad. But maybe it could be 1 to 5 points higher during the day (eating hours)

All those changes should make it look better.



Cheesecake



Photo from website



as made by Brian and Collin (4)



Basque Burnt Cheese Cake - Nutrition Facts

1 Serving



Calorie Breakdown



Protein

7 gr.
8% of Cals

Fat

35 gr.
88% of Cals

Carbs

4 gr.
4% of Cals

Net Carbs ☐

Cheesecake- no crust (not low carb)

<https://www.bonappetit.com/recipe/basque-burnt-cheesecake>

REVIEW: Until you are getting the success you'd like ...

1. Reflect on your Carbohydrates screen **after meals and make adjustments.**
2. **Repeat meals** until you get to know how foods are to be entered successfully.
3. **Be consistent on entering carbs, fats, proteins and absorption times** and check absorption in Loop afterwards.
4. If you're unsure of portion size, or not getting the results you hope for, use a food scale and review carb counting basics.
5. For meals that don't have nutrition labels, enter the recipes or food components into an app like MyFitnessPal or LoseIt for a breakdown of carbs/fats/proteins.

Meal Basics - Before you begin

Accurate settings are important, but so are Meal Entries!

- Review Carb Counting knowledge and skills
- Double check portion sizes from time to time, using a food scale and measuring tools
- Tips:
 - Food tracking apps like MyFitnessPal, LoseIt, MyNetDiary and CarbManager can help calculations be more accurate
 - Save your favorite meals (i.e., in app or screen shots)
 - If you use a food scale, this chart may be helpful in calculating grams of Carbs to enter per gram of cooked or prepared food:

<https://www.ouhealth.com/documents/content/Counting-Carbs-with-a-Scale-and-Carb-Factors.pdf>