

Exercise Carbohydrates (Ex-carbs)

Information for patients with type 1 diabetes

What are Ex-carbs?

Exercise carbohydrates or “Ex-carbs” is a system that can help you decide how much extra carbohydrate you need to prevent hypoglycemia during activity.

How do I use the Ex-carbs chart?

On the last page of this handout is the Ex-carbs chart. Follow the steps below to estimate how much extra carbohydrate you need for the type of physical activity you are planning to do.

1. Find the row that contains the type and intensity of physical activity you are going to do.
2. Find the column that is closest to your body weight.
3. Find where the row and column meet. This is the amount of carbohydrate you need for **1 hour of activity**.
4. Eat that amount of carbohydrate spread out before, during and right after your activity.

For example:

If you weigh about 150 pounds (68 kilograms) and you are going to do slow swimming for 1 hour, you need to have 56 grams of carbohydrate.

If you are going to do slow swimming for 30 minutes, divide 56 in half and have 28 grams of carbohydrate.

Is eating more carbohydrate my only option?

No. If you are going to be active less than two hours after a meal, you can subtract insulin from your mealtime dose instead. To do this, you will need to know your insulin-to-carbohydrate ratio (ICR). Talk to your diabetes team if you do not know your ICR or you do not have an ICR.

1. Use the Ex-carbs chart to find the amount of extra carbohydrate for your activity.
2. Divide the grams of carbohydrate by your ICR.
3. This is the amount of insulin to subtract from your meal.

Let's do an example together

1. For 1 hour of _____ (enter activity),
I need _____ grams of carbohydrate.
2. I divide this by _____ (enter ICR) = _____ units of
insulin to subtract from my meal.
3. If my mealtime dose is: _____
I subtract: _____
= Adjusted dose: _____

Trial and Error

Physical activity affects everyone differently. Learning how to prevent hypoglycemia is trial and error. Test your blood sugar before, during and after to see how your blood sugar responds to activity. Try using a logbook to keep track.

If your blood sugar is high after activity and you want to correct, reduce your correction dose to prevent hypoglycemia.

Blood sugar log for physical activity

Activity	How long?	Adjustment?	Blood Sugar				Low overnight?
			Before	During	2 hours after	4 hours after	
Example: Running	1 hour	None	8.5 mmol/L	7.3 mmol/L	5.6 mmol/L	4.6 mmol/L	Yes

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This information is not intended as a substitute for professional medical care. Ask your healthcare provider about this information if you have questions.

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Ex-Carbs Table

Activity	Grams of Carbs used per hour by weight		
	100lb (45kg)	150lb (68kg)	200lb (91kg)
Basketball			
Moderate	35	53	70
Vigorous	59	89	118
Bicycling			
6 mph (10 km/h)	20	27	34
10 mph (16 km/h)	35	48	61
14 mph (22 km/h)	60	83	105
18 mph (29 km/h)	95	130	165
20 mph (32 km/h)	122	168	214
Dancing			
Moderate	17	25	33
Vigorous	28	43	57
Golfing (pull cart)	23	35	46
Jump rope (80/min)	73	109	145
Running			
5 mph (8 km/h)	45	68	90
8 mph (13 km/h)	96	145	190
10 mph (16 km/h)	126	189	252
Skating			
Moderate	25	34	43
Vigorous	67	92	117
Skiing			
Cross-Country (8 km/h)	76	105	133
Downhill	52	72	92
Water	42	58	74
Soccer	45	67	89
Swimming			
Slow crawl	41	56	71
Fast crawl	69	95	121
Tennis			
Moderate	28	41	55
Vigorous	59	88	117
Volleyball			
Moderate	23	34	45
Vigorous	59	88	117
Walking			
3 mph (5 km/h)	15	22	29