

How much sugar is too much?

There's a hard line which says don't add, or eat anything with added sugar, which we would endorse as a principle, but it isn't just the amount of sugar, but the effect of what you're eating on your blood sugar that counts. You can eat extremely high sugar foods that all say 'no added sugar' but pile in the sugar from dates, raisins, grape juice concentrate and other sugars that are no better than adding sugar itself.

If you want to be accurate about it it is the 'glycemic load' or GL of what you eat that counts. The GL is a calculation that factors in both the amount of carbs (QUANTITY) in a food and how fast that carb raises your blood sugar level, which is the GI (QUALITY). GL is by far the best measure because it also predicts how much insulin you'll release, and keeping insulin down is a fundamental key to good health.

To some degree you can get these two figures – quantity of carb and quality – from the label of a food. Have a look at the label below, for Nairns rough oatcakes. What

Ingredients: Wholegrain **Oats** (88%), Sunflower Oil, Sustainable Palm Fruit Oil, Sea Salt, Raising Agent: Sodium Bicarbonate.

Nutritional Information

Typical Values

	Per Oatcake	Per 100g
Energy	205kJ	1828kJ
	49kcal	436kcal
Fat	1.9g	17g
of which saturates	0.4g	3.9g
Carbohydrate	6.2g	55.6g
of which sugars	0.1g	0.8g
Fibre	1.1g	10.1g
Protein	1.2g	10.3g
Salt	0.17g	1.47g
Phosphorus**	39.2mg	350mg
	6% RI	50% RI
Manganese**	0.41mg	3.64mg
	21% RI	182% RI

Reference Intake (RI) of an average adult
(8400kJ/2000kcal)

you'll see is that one oatcake delivers 6.2g of carbs, but only 0.1g is sugar. Now, a teaspoon of sugar is 4.2 grams in weight, so there's very little actual sugar. So, there's a bit more than a teaspoon of carbs, of which a tiny fraction is fast-releasing sugar.

The non-sugar carbs will raise your blood sugar, but not so much. You know by how much from the GL. This oatcake actually has a GL of 2. (You can see the GL of foods in a free online GL counter [link to <http://gl.patrickholford.com/>].)] here [You don't want a snack with more than 5 GLs, if you're trying to lose weight, or 6 GLs if you're not. So, three oatcakes with something made of fat and/or protein, such as hummus, taramasalata, smoked salmon or peanut butter (no added sugar) would be OK.

Let's use this 5 or 6 GLs, which is about the equivalent of two teaspoons of actual white sugar, as our cut off point. To make this more real fructose, that is fruit sugar, takes time to be converted in the liver to glucose, and this slows down its release. But once you've overloaded the liver's ability to convert it it's a really bad sugar. That happens above 6 teaspoons spread out over a day. So watch out for foods sweetened with fructose, and also dates, grape juice concentrate or raisins, which are high sugar foods. So are bananas. One banana has the equivalent of 6 teaspoons of sugar, so that's you're allowance for the day!

A teaspoon of sugar is about 2.7 GLs. This would apply to honey too. Agave is better. A tablespoon of agave is equivalent to a teaspoon of honey. The best of all is xylitol, the crystallised version of xylose, which is the main sugar found in berries. Three tablespoons has the same GL as one teaspoon of sugar. So, if you feel you need a sprinkle a little on your cereal, or in a dessert or cake, that's OK. Xylitol is a 'sugar alcohol', as is erythritol. They are both very low GL. The only caution is that too much can give you loose bowels. So don't have too much. The other warning is that dogs can't process sugar alcohols so xylitol is dangerous for dogs. Don't feed your dog anything with xylitol.

You can see the GLs of different sugars below.

Item ▲	Serving Size Looks Like ⇅	Serving Size ⇅	GL ⇅	5 GL Serving Size ⇅
Blue agave cactus syrup	1 tbsp	20.0g	2	50 ml
Fructose	1 tbsp	20.0g	4	5 teaspoons
Glucose	1 tbsp	20.0g	20	1 teaspoon
Honey	1 tbsp	20.0g	16	1 teaspoon
Maltose(malt)	1 tbsp	20.0g	22	1 teaspoon
Sucrose	1 tbsp	20.0g	14	1½ teaspoons
Xylitol	1 tbsp	20.0g	2	3 tablespoons

Most honey is heat treated, which makes the sugars faster releasing, so if you can get local unheated honey, spun by the bee keeper, it's a bit better.

There are also two non sugars not shown on this list that don't have a GL at all – stevia and inulin, which is from chicory root. These are fine. I use inulin in my Get Up & Go breakfast shake formula so you don't have to add it. That, plus a handful of berries, is sweet enough. Stevia is OK but it has a strange taste, not to many people's liking.

My rules of thumbs are:

- Avoid foods sweetened with sugar, dates or raisins, unless they are low down on the list of ingredients. Stevia, inulin, xylitol or erythritol as an added sweetener, is OK.
- Don't eat foods clocking up much more than 5g of sugars a serving, and even then only as a treat
- Sweeten things that need sweetening with berries or fruit.
- Then, if more sweetener is needed drizzle a tiny amount of agave syrup, or possibly raw honey, as in my low GL oat pancakes
- If you're making a cake use xylitol.

A favourite 'fast' desserts is this 5 minute crumble. Take the fruit – either berries or plums, and get them stewing in a little bit of water and a teaspoon of either CherryActive or BlueberryActive. Meanwhile 'roast' oats, with some nuts such as pecan pieces, in some coconut butter, add in some xylitol and keep stirring. Then put the fruit in a bowl and add on the crumble top. You make a delicious cashew cream with cashews and water. That's about 11GLs. You don't want to do this everyday but, as a treat now and again, that's fine. (The GL allowance for weight loss is 10 GLs for a main meal and 5 GLs for a drink or dessert.) Multiply up these quantities if there's four people.

Food	GI	GL	Carbs per serving
Oats	50	5	10g per 13g – quarter cup
Plums	29	6	20g per 24g – 3 plums
Xylitol	7	0.5	5g – 1 teaspoon
Total		11.5	35g

A great low GL cake is Carrot and Walnut Cake as a tea-time treat that you can enjoy without feeling guilty. The walnuts, carrots and eggs in this cake lower the GL score and provide plenty of varied nutrients. Delicious with a cup of peppermint tea at the end of a long day. This comes from the Low GL Diet Cookbook [xxxxlink] which has lots of other delicious cakes and desserts.

If you're using the walnut topping, this cake will keep in an airtight tin for up to 2 days. If you opt for the cream cheese frosting, cover the cake and store in the fridge for the same amount of time.

Serves 4

For the cake

50g (2oz) coconut oil or butter (at room temperature)

50g (2oz) xylitol

50g (2oz) organic soya flour (available from health food stores)

½ tsp baking powder

50g (2oz) ground walnuts

50g (2oz) chopped walnuts

1 medium carrot (approximately 75g/3oz) peeled and finely grated
2 medium eggs

For the topping

either

Walnut topping

2 tbsp chopped walnuts

or

Cream cheese frosting

50g (2oz) low fat cream cheese

$\frac{1}{4}$ tsp vanilla extract

1 tsp xylitol

1 Preheat the oven to 180C/350F/Gas mark 4. Grease and line a miniature 10cm/4” cake tin with non-stick paper.

2 Cream the coconut oil or butter and xylitol together until soft and smooth.

3 Stir in the flour, baking powder and ground walnuts until the mixture resembles bread crumbs.

4 Mix in the chopped walnuts and carrot, then stir in the eggs without beating them.

5 Spoon into the prepared cake tin and sprinkle the chopped walnuts on top if using.

Bake for 35 minutes or until the top is risen and golden. Remove from the oven and cover the top with tin foil, then bake for a further 20 minutes or until the cake is cooked (Tip: insert a skewer into the middle – if it comes out fairly clean then the cake is cooked, if it is still runny then it needs a bit longer). Allow to cool before icing with the cream cheese frosting, if using.

6 To make the cream cheese frosting, mix all the frosting ingredients together well. Spread on top of the cooled cake.

GLs per serving: 5