

## Nutrition and Dietetics

# Diabetes - Reducing carbohydrates

**This dietary advice sheet is for people with Type 2 Diabetes who would like to lose weight or improve the management of their diabetes by reducing the amount of carbohydrate in the diet.**

### Controlling blood glucose

After eating or drinking anything containing carbohydrate, your blood glucose levels will rise. Reducing your carbohydrate intake can lead to better blood glucose control and potentially reduced doses of medication or insulin. Replacing carbohydrate-rich foods with lower calorie foods such as vegetables and salad can also help you lose weight.

### How to reduce carbohydrates

This section talks about the different foods which contain carbohydrates.

<b>Reduce these as much as possible:</b>
Sugary foods and drinks like cakes, biscuits, sweets, chocolate, jam, honey, syrup, puddings, dessert, ice cream, processed and sugar-sweetened breakfast cereals, most cereal bars, instant coffee with sugar, fizzy drinks and fruit juices



## Patient Information

<b>Include only small amounts of:</b>
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Processed or refined starchy foods like white bread, pies, pastries, white rice, white pasta, regular potatoes, chapattis made with medium flour, and anything made of white flour
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<b>Include in moderate amounts:</b>
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Whole fruit, especially lower carbohydrate fruit like berries and melon
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Milk and natural yoghurt
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Vegetables with higher carbohydrate content like parsnip, butternut squash, mushy peas, sweetcorn, yam, plantain, and sweet potatoes
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High fibre or wholegrain foods such as wholegrain breakfast cereals like All-Bran™ or Shredded Wheat™, oats, wholegrain or rye bread, whole-wheat pasta, brown rice, millet, barley, quinoa
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<b>Eat plenty of:</b>
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All beans, chickpeas, lentils, split peas
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## **Foods that contain very little carbohydrates and don't directly affect blood glucose levels**

Vegetables and salads, such as broccoli, cauliflower, cabbage, cucumber, lettuce, Brussel sprouts, peppers, leeks

Have lots of them, especially if you are trying to lose weight. A few vegetables contain a higher carbohydrate (as listed above) so try to have only a small portion of them.

### **Protein**

Include one portion (about the size of your palm) with each meal

Animal protein: chicken, pork, beef, mutton, turkey, fish, eggs

Choose lean meats and take the skin and fat off meat. Aim to have at least 2 days every week when you do not eat meat, fish, eggs or dairy and your protein comes from plant sources.

Plant protein: beans, chickpeas, lentils, tofu and vegetarian meat alternatives

Try to include plant protein in your diet at least 2-3 times per week

### **Fats**

Use only a small amount of these as they are high in calories, which can lead to extra weight. Suggested portion size is 1 teaspoon. Having a lot of fat or oil also makes it more difficult for your insulin to work well.

Olive oil, rapeseed oil, avocado, flaxseeds, nuts

Use these as your preferred source of fats

Margarine, vegetable oil, sunflower oil

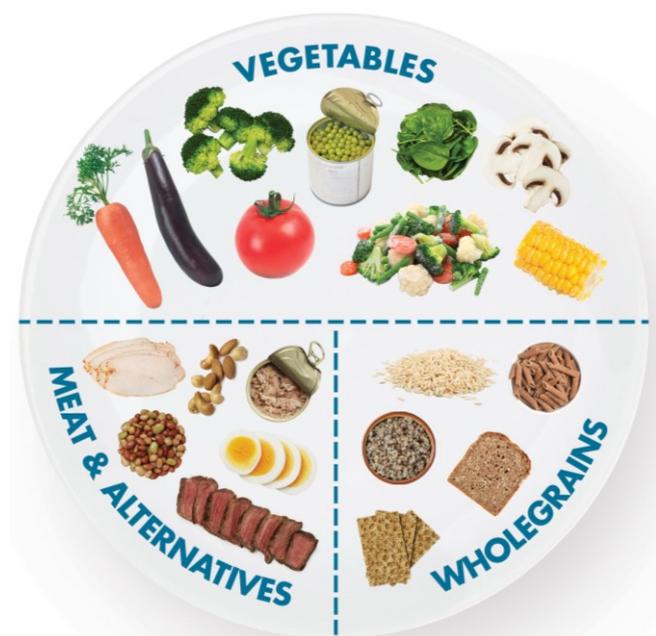
Have only small amounts of these

Butter, cream, cheese, fatty meat, coconut and palm oil

Try to reduce your intake of these foods as much as possible

## How much carbohydrate?

Reducing your portion sizes of carbohydrates can have a significant effect on your blood glucose levels. If you want a more specific guide, you should aim to have only ¼ plate of starchy carbohydrates at a mealtime, which is about 30g of carbohydrates, and 15 to 20g of carbohydrates for snacks. If you do not have snacks, aim for 50 to 60g carbohydrates at mealtimes.



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Food	Amount which supplies 30g of carbohydrate
Bread	2 medium cut slices from a large loaf 1½ thick slices from a large loaf 1 wrap or tortilla, approx 26cm / 10inches 1 medium pitta bread (60g) 1 mini size naan bread (round, 60g) 1½ x 10 inch cooked chapatti (65g)
Potatoes	3 egg-sized boiled potatoes, or the equivalent mashed or roast (180g) 1 small jacket potato (150g cooked) 10-12 oven chips (100g)
Rice (cooked)	3 serving spoons or 100g cooked
Pasta (cooked)	3 serving spoons or 100g cooked
Noodles (cooked)	3 serving spoons or 80g cooked
Cereals	3 heaped dessert spoons (25g) porridge oats Small bowl (220g) porridge made with milk Large bowl (365g) porridge made with water 40g or 4 tbsp Bran Flakes, All bran, fruit & fibre 2 shredded wheat, Weetabix or Oatibix

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### Food labels

These can be useful if choosing a ready prepared or packaged food. Look at the carbohydrate content for the serving size you are going to eat. This could be very different from the suggested serving size on the packet. Make sure you look at 'carbohydrate' or 'total carbohydrate' rather than 'of which sugars'.

#### Nutrition

	Per 100g of product	Per average slice (45.8g)
Energy - kJ	1263 kJ	578 kJ
- kcal (Calories)	300 kcal	137 kcal
Protein	12.3g	5.6g
<b>Carbohydrate</b>	<b>39.7g</b>	<b>18.2g</b>
of which sugars	3.2g	1.5g
Fat	8.9g	4.1g
of which saturates	1.9g	0.9g

## Examples of breakfast, light meals, and main meals

### Breakfast

Carbohydrate	Protein	Vegetables, salad or fruit
25g porridge oats or 40g Bran Flakes	1/3 pint semi-skimmed milk or milk alternative	Fresh or frozen berries
2 medium slices wholegrain bread from a large loaf	1-2 eggs	Tinned or fresh tomatoes and mushrooms

### Lunch

Carbohydrate	Protein	Vegetables, salad or fruit
2 medium slices of wholegrain bread from a large loaf	Ham or meat alternative	Lots of salad
1 wholemeal tortilla wrap or 3 tbsp wholegrain couscous	Tuna or hummus	Salad and/or coleslaw

### Dinner

Carbohydrate	Protein	Vegetables, salad or fruit
3 egg-sized potatoes (180g)	Grilled chicken, fish or meat	Large serving of boiled or steamed vegetables
3 serving spoons of rice (100g cooked) or 1-2 chapattis (65g)	Beans chilli, chickpea curry or dahl	Salad or vegetables

**Snacks** – choosing lower carbohydrate snacks can be beneficial to your blood glucose levels. Aim for no more than 15 to 20g per snack.

## Patient Information

### **Lower carbohydrate alternatives for starchy foods**

Carrot and swede or turnip mash

Celeriac – Cut into wedges or 1 cm cubes and roast in a little oil, or boil and then mash

Cauliflower rice – blitz a cauliflower in a food processor (or chop it into rice-sized pieces with a knife), then microwave or steam until tender

Vegetable noodles – use a spiralizer with courgette, carrot or other vegetables

### **Beware of Hypos**

If you are on insulin injections, or a medication called gliclazide or glimepiride, you may need to reduce the dose of your diabetes medication when you reduce your carbohydrate intake. You should test your blood glucose levels regularly.

Please contact your dietitian, diabetes specialist nurse or GP if you have frequent hypos (a blood glucose reading less than 4 mmol/l), or an increasing number of blood sugar readings which are less than 5 mmol/l.

### **Listeriosis risk: foods to avoid**

Avoid ready-to-eat cold smoked or cured fish products such as smoked salmon or gravlax due to an increased risk from listeriosis. Listeriosis is an infection caused by bacteria called listeria. People with diabetes are at higher risk of serious illness from listeriosis. Further information on how to reduce the risk of listeriosis can be found at:

- NHS [www.nhs.uk/conditions/listeriosis](http://www.nhs.uk/conditions/listeriosis)
- Food Standards Agency [www.food.gov.uk/listeria](http://www.food.gov.uk/listeria)

## Patient Information

### Alcohol

**Drink alcohol in moderation only.** Alcoholic drinks contain varying amounts of carbohydrate. Sweet ciders, fortified sweet wines, and alcopops are high in carbohydrate and best avoided.

The maximum alcohol intake recommended for health is 14 units of alcohol per week. 1 unit = a pub measure (25ml) of spirit, half a pint of normal strength beer or a small glass (125mls) of wine.

### Your action plan

List below any changes you can make to improve your blood glucose control:



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### Useful sources of information

- ‘Carbs and Cals’ by Chris Cheyette and Yello Balolia is available as a book and as an app on the [www.carbsandcals.com](http://www.carbsandcals.com) website, on Amazon and from Diabetes UK. This shows photographs of foods and the carbohydrate and calorie content of different portion sizes.
- Myfitnesspal.com is a free app for your smartphone to help in calculating carbohydrate intake and to help you increase physical activity.
- Carbohydrate reference tables are available from your Dietitian, or from Diabetes UK as a free download from their website ([www.diabetes.org.uk](http://www.diabetes.org.uk)).

### Useful contacts

#### Diabetes UK

Careline: 0345 123 2399

Email: [helpline@diabetes.org.uk](mailto:helpline@diabetes.org.uk)

Website: <http://www.diabetes.org.uk>

## Patient Information

Diabetes UK is a useful source of additional information about diabetes which you can read, order or download. They also have books to buy, details of local diabetes groups and general news/articles about diabetes.

This information was produced by Coventry and Rugby Dietitians, University Hospitals Coventry & Warwickshire NHS Trust. Contact number: 024 7696 6161

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