

Managing diabetes



What is diabetes?

Anti-rejection medications put you at higher risk of diabetes, which is a condition where your body is unable to maintain the glucose in your blood at normal levels. The right food and lifestyle choices will help you manage your diabetes and control your blood glucose levels. Good blood glucose control can help prevent serious complications of diabetes, such as damage to your new kidney and problems with your heart, eyes and feet.

Normal blood glucose range

In a normal situation, blood glucose levels are kept within a tight range: 4 to 8 mmol/L. In diabetes, your body is unable to maintain this tight control. By making changes to your diet and lifestyle, and taking the diabetes medication you are prescribed, you can control your blood glucose levels. Your dietitian, diabetes educator and doctor will help you manage your diabetes.

Carbohydrates After a meal, carbohydrate-containing foods (eg. bread, pasta, rice, fruit, milk or yoghurt) are broken down to glucose. The aim in diabetes management is to keep your blood glucose levels within the normal range (or in the range recommended by your doctor). It is useful to check your blood glucose levels two hours after you eat a meal as blood glucose levels peak around this time.

Healthy eating and lifestyle tips

▪ Spread your carbohydrate foods out over the day.

Foods containing carbohydrate include:

- Bread, cereal, pasta, rice, chapatti, roti
- Fruit and fruit juice
- Starchy vegetables: potato, sweet potato, sweet corn, taro, cassava, yams, green banana
- Milk and yoghurt
- Legumes (lentils, dried beans, split peas)
- Sugary foods, eg. biscuits, sugar, jam, honey

If carbohydrate is eaten at regular intervals throughout the day, your body will better handle the rise in blood glucose after each meal. Choose wholegrain breads and cereals which are high in fibre. Limit foods which are high in sugar such as sweet biscuits, honey or sugar syrups as they offer little in the way of other nutrients. Nutritious foods containing small amounts of added sugar are acceptable.

- **Take medications as prescribed.**
- **Lose weight if you are overweight and/or minimise post-transplant weight gain.** Carrying excess body fat makes it hard for your body to control your blood glucose levels.
- **Be physically active most, if not all, days.** Any type of physical activity will help you control your blood glucose levels, as well as your weight.

'Free Foods'

Most vegetables, with the exception of excluding starchy vegetables, (eg. potato, sweet potato and sweet corn, taro, yam) contain little or minimal carbohydrate. They are useful for filling up your plate.

Modifying recipes

You can adapt virtually any recipe to make it a suitable healthy option.

- Choose wholegrain breads and cereals.
- Use whole meal flour in place of white.
- Reduce the sugar.
- Substitute polyunsaturated or monounsaturated oils for saturated fat (eg. rice bran oil spray to replace butter).
- Trim all visible fat before cooking.
- Add beans or lentils to stews, casseroles and sauces.
- Use reduced fat dairy products.
- Add vegetables wherever possible (frozen is fine).
- Use herbs and spices to flavour your food.

This fact sheet is based on the *Evidence-based Guidelines for the Nutritional Management of Adult Kidney Transplant Recipients*, developed with funding from the NSW Agency for Clinical Innovation (formerly GMCT). The information has been independently reviewed by the Dietitians Association of Australia. For expert nutrition and dietary advice contact an Accredited Practising Dietitian. Visit 'Find an Accredited Practising Dietitian' at www.daa.asn.au or call 1800 812 942.

Managing diabetes continued

Other factors to consider:

Having diabetes puts you at higher risk of heart and blood vessel disease so it will be important to control your blood pressure and blood cholesterol levels if they are too high. Again, physical activity and healthy food choices will help you do this.

Good food choices – getting started

- **Eat one serving of high fibre, carbohydrate food at each meal;** this includes wholegrain bread, rolled oats, low fat/low sugar breakfast cereal (eg. wheat biscuits, rolled oats), pasta, legumes (beans, lentils), fruit. To help you control your blood glucose levels you may find it useful to choose foods with a lower **glycaemic index**, see below.
- Eat 2-3 pieces of **fruit** and at least 5 different **vegetables** each day.
- **Avoid fat-laden foods**, eg, fried foods, chips, crackers, biscuits, pastries, cakes, pies.
Tip: Use low fat cooking methods, such as dry-frying, grilling and steaming.
- **Include foods rich in monounsaturated and polyunsaturated fats in moderation:** nuts, seeds, olive oil, rice bran oil, avocado, eggs, seafood and fish (particularly deep sea varieties, salmon, tuna, sardines, which are rich in omega-3 fats).
- **Eat less saturated fat.** Foods which are high in saturated fats include full fat dairy foods, meat and poultry, coconut milk, copha, palm oil, cocoa butter, lard and dripping.
Tips: Choose reduced or low fat milk, yoghurt and cheese. Do not use butter or cream. Remove the fat from meat and chicken.
- **Avoid trans fats** which are found in hydrogenated vegetable oils used in commercial deep frying oils, pastry dough, pastries, cakes, biscuits and some take-away meals.
- **Limit alcohol.** Alcohol is high in kilojoules and contributes no nutritional value. Limit to 1-2 standard drinks per day.
- **Limit salt** and use foods labeled 'no added salt' or 'reduced salt'.

The glycaemic index

Glycaemic index (GI) refers to the rate at which carbohydrate is broken down to glucose. The lower the GI of a food, the slower the release of glucose. So, eating a lower GI food at each meal may help you control your blood glucose levels. The GI of some common foods are shown in the table below*. Many nutritious foods with a moderate-high GI are fine to include as part of a meal and in smaller amounts.

LOW GI FOODS (55 or less)	MODERATE GI FOODS (56-69)	HIGH GI FOODS (70 or more)
Apples, banana (firm/under-ripe), grapes, orange, pear	Apricot, mango, pineapple, raisins	Watermelon, dried dates
Barley, pasta, buckwheat, bulgar wheat	Basmati, Doongara rice, couscous, polenta	Calrose, Jasmine rice
Mixed grain bread	Rye bread	Wholemeal, white bread
Lentils and most legumes	Baked beans in sauce	
Oats (muesli, porridge), semolina,	Weet-bix	Puffed wheat, cornflakes
Taro, yam	Sweetcorn, sweet potato	Potato

*Brand-Miller J, Foster-Powell K, Colagiuri S. *The New Glucose Revolution*, 3rd ed. Hodder, 2002.

If you are interested in learning more about the GI of foods, you may like to have a look at *The Official Website of the Glycemic Index and GI Database* at: <http://www.glycemicindex.com>.

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