Middle East Journal of Family Medicine, 2004; **Vol**. **6** (6)

EAT LESS, WALK MORE - ENJOYABLE EATING FOR TYPE 2 DIABETES

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Background
Lifestyle management is the basis of diabetes treatment. In most cases, healthy eating, activity and weight loss can result in significant improvements in blood glucose, lipids and overall health. General practitioners have a key role in encouraging and supporting patients with diabetes to make lifestyle changes.

Objective
This article outlines the general lifestyle nutritional recommendations of type 2 diabetes and provides practical ideas for GPs to help patients achieve lifestyle goals.

Discussion
Although lifestyle is the cornerstone of diabetes management, it is the most difficult part of management to implement. Adherence to recommended eating and activity schedules is low. A complete dietary assessment requires input from a dietitian and support from the GP.

Healthy eating and activity schedules are the basis of diabetes management. In most cases, healthy eating and activity are associated with weight loss and significant improvements in control of blood glucose, lipids, blood pressure and improved quality of life.

It is now clear that lifestyle change can slow the progression from normal to impaired glucose tolerance and then to clinical diabetes. The primary lifestyle goals for type 2 diabetes are simple – 'eat less, walk more'.

Although simple they will help patients achieve targets for weight loss, glycaemic, blood pressure and lipid control. The overall goal is to shift from the unhealthy eating patterns which are the norm for Australians, to those recommended (Figure 1).

Eat less

Watch the weight

Most people with type 2 diabetes are overweight or obese (Figure 2). For many people, even the thought of trying to lose weight is overwhelming. However, it is important to emphasise to patients that even a small loss of weight can largely influence health. Even a modest weight reduction of approximately 10% of body weight improves glycaemic control, lipids, blood pressure and quality of life.

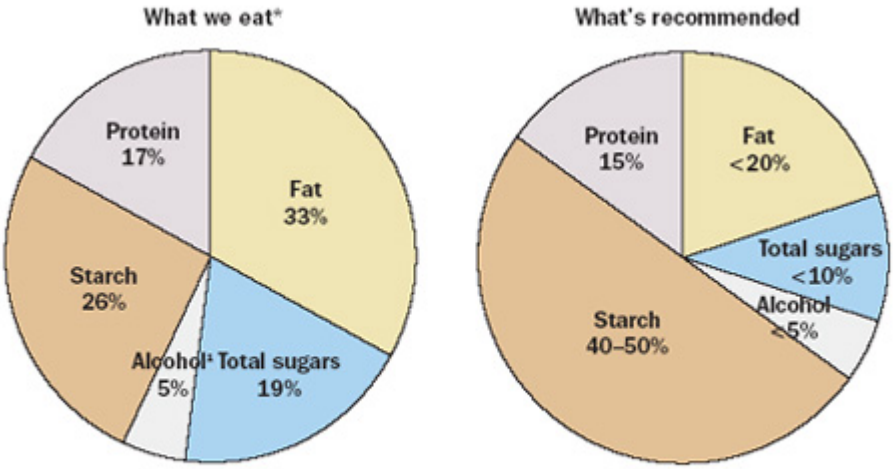
Rather than focussing on an unrealistic 'ideal' weight that falls within a body mass index (BMI) of 20–25, set small but specific weight loss goals with the patient. For example, an overall weight loss goal of 12 kg could be broken down into smaller monthly goals of one kg per month for 12 months.

Discourage patients from weighing too frequently, as losing weight is a slow process. For most people, weighing on a weekly basis is adequate. Weight should be checked on the same day each week, preferably in the morning. Light clothing and shoes should be worn. Monitoring waist measurements is an effective way of monitoring change in body shape. Change in body shape often decreases more quickly in response to lifestyle change and shifts the focus from the dreaded scales. Generally an individual's healthy weight(kg) is approximately height (cm) minus 100.

Cut the calories

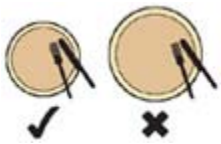
Suggest patients keep a diet diary to track what they eat. Patients commonly under report their food intake to themselves and may tell GPs and health workers what they want to hear. Recommend moderate energy restriction together with increased physical activity. Tips to reduce calorie intake are shown in Table 1.

Figure 1. Unhealthy vs recommended eating patterns



*Contribution to energy input. National Nutrition Survey, 1995.
1. Men 5%, women 2.6%
2. Approximately 60% of energy comes from fat, sugar and alcohol

Table 1. Cutting calories
Simple tips for eating less



- Eat slowly and think about what you are eating
- Try using a smaller plate
- Do not shop for groceries when you are hungry
- Prepare just enough for food for one meal
- Avoid distractions while eating, eg. turn off TV
- Fill plate once only and do not have 'seconds'

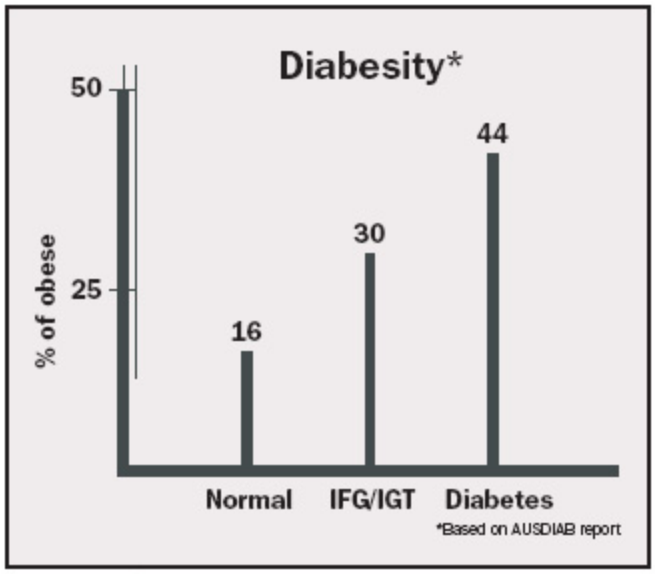


Figure 2. % of diabetes patients who are obese

Find the fats

Fat in foods provides more calories than either carbohydrate or protein, i.e. approximately 37 kilojoules, 9 calories, per gram compared to 16 and 17 kilojoules, 4 calories, per gram respectively. Reducing fat intake is often an easier way to reduce total energy intake than restricting total amount of food. A low fat diet not only helps weight loss but also improves blood lipid profile. Fat should contribute no more than 30% of the total energy intake and saturated fats should be replaced with poly- or mono unsaturated fats wherever possible.

Fat counting is an effective weight loss strategy that can usually be easily adopted. Fat intake can be calculated at the end of a day by keeping a diet history and by using a fat counter, such as Allan Borushek's Fat and Calorie Counter. Patients can choose foods from the fat counter to fit within their fat 'budget'. For example, an individual may have a fat budget of 40 g of fat per day. A fat checklist (Table 2) can help patients make low fat food choices.

Seek the sugar

Foods high in added sugars are generally more energy dense and less satiating than healthier alternatives. Patients can use a sugar checklist to help them choose foods low in added sugar (Table 3). For some individuals, modest amounts of refined sugars may be acceptable. For example, it would be silly to insist that patients stop adding a teaspoon of sugar to their coffee when they are achieving glycaemic and weight loss goals.

Table 2. Fat checklist

No or low fat	*High in Fat*
Low in fat mayonnaise, low joule dressings, vinegar, lemon juice, low joule Gravox, plain yoghurt, fish sauces, soy sauce, homemade stock	Reduced fat cheese, ricotta and cottage cheese, low fat cream cheese
Ordinary mayonnaise, oily dressings, cream sauces, fatty gravies, sour cream	Full fat cheese, cream cheese
Lean cuts of meat, eg. ham, beef, chicken/turkey breast. Trim off fat and remove chicken skin	Fat on meat, duck and chicken skin. Fatty meats, eg. sausages, bacon, fritz, salami
Foods cooked without fat, or with a minimal amount of poly/mono-unsaturated vegetable oil, eg. grilled fish or meat, rotisserie chicken (no skin), dry fried meats	Deep fried/battered foods, fried dim sims, spring rolls, pies/pasties
Fruit, vegetables (raw, steamed, roasted with oil spray) plain popcorn, low fat cracker biscuits, oven baked chips	Crisps, hot chips, prawn crackers
Limit oil or margarine to one tablespoon per day. Preferably poly- or mono-unsaturated varieties. Limit nuts to 1/3 cup	Large amounts of margarine, butter, oil, cream, peanut butter, dripping, lard, ghee, coconut cream, nuts and seeds

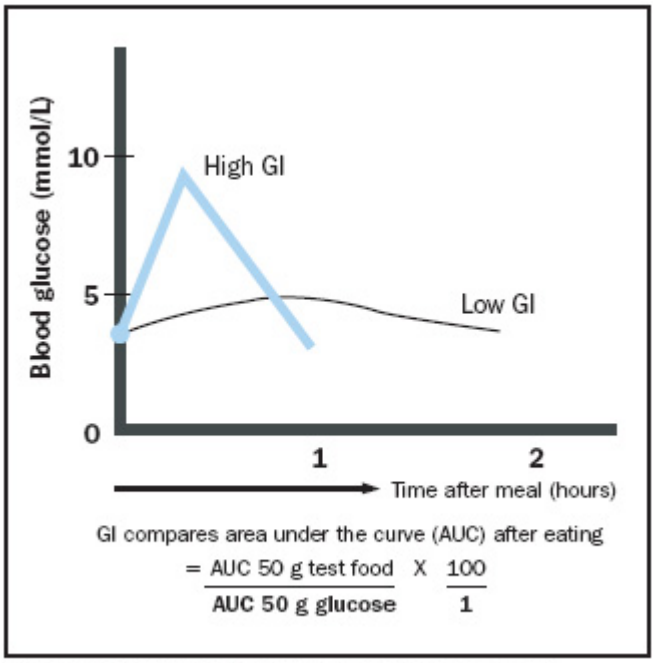


Figure 3. High and low glycaemic index foods

Table 3. Sugar checklist

No or low Sugar	*High in Sugar*
Tablet, liquid or powdered artificial sweeteners	Sugar (brown, raw, white), syrups
Low joule jam/marmalade. Promite, Vegemite, meat/fish paste, 100% fruit spreads	Jam, marmalade, syrups, Nutella
Low joule cordial/soft drinks, plain mineral/soda water, pure fruit juice – limit to 120 mL per day, low fat milk, low fat artificially sweetened flavoured milk, dry wines or spirits - limit to one to two drinks/day with two alcohol free days per week	Ordinary cordial, soft drinks, flavoured mineral water, eg. Spritz, Lucozade, tonic water, fruit juice drinks, ordinary flavoured milk Alcoholic drinks high in sugar, e.g. sweet wine/sherry, port, liqueurs, ordinary beer
Sugar free lollies sweetened with Splenda or acesulfamane K, e.g. sugar free Kaiser, Double D, Ricci drops, Lido glace drops	Confectionery: lollies, cough lollies, chocolate(ordinary/diabetic/carob) diabetic sweets sweetened with sorbitol or mannitol, muesli/health bars, e.g. sesame bars

(Continued) No or low Sugar	*High in Sugar*
Wholegrain crispbreads/crackers, shredded wheatmeal or Milk Arrowroot biscuits, wholemeal low fat scones, fruit loaf	Sweet biscuits, e.g. cream, chocolate, shortbread. Cakes, doughnuts, iced buns, sweet pastries
Low joule jelly, fresh or tinned stewed fruit without sugar drained, custard or junket made with sweetener and low fat milk, 'no added sugar' low fat instant desserts, low fat plain and fruit yoghurt, Dairy Belle Lite icecream or Vitari (one to two scoops or light ice cream one scoop), low joule ice cream topping	Sweet desserts, ordinary jelly, fruit in sugar syrup, fruit pies, cheesecake, puddings Ordinary yoghurt or icecream Icecream toppings
Low sugar, low fat, high fibre cereals, e.g. porridge, Vitabrits, Weetbix, Ready Wheats, Allbran, Weeties, Guardian, Mini-wheats	Sweet cereals, e.g. Nutrigrain, Honeysmacks, Sugar Frosties

Table 4. Sample meal plan

Breakfast

• One serve breakfast cereal – with low fat milk, eg. 3/4 cup cooked ***porridge*** and half to one cup skim ***milk***

and/or

• One slice ***wholemeal toast***, thinly spread with margarine, Vegemite, 100% fruit spread, cottage cheese, tomato or 1/2 cup ***baked beans***
• Fruit, eg. one fresh ***peach*** or 3/4 cup drained no added sugar canned or stewed fruit
• Tea, coffee, water

Light meal

• One bowl homemade vegetable soup made with fat free stock (if desired)
• One ***wholegrain sandwich*** or roll filled with one slice or 30 g lean meat, skinless chicken, fish or fat reduced cheese and salad

or

• One slice or 30 g lean meat, skinless chicken, fish, reduced fat cheese or one egg plus one ***wholegrain roll***, one to two slices ***wholegrain bread*** or 2-4 ***wholegrain crispbreads***
• One ***apple***
• Tea, coffee, water

Main meal

• One bowl homemade soup made with fat free stock (if desired)
• 60–100 g lean meat, skinless chicken, fish or 2/3 cup ***cooked dried beans or lentils***
• Half cup ***sweet potato*** or one cup cooked ***Basmati rice or pasta*** or one ***corn cob***, or two slices ***wholegrain bread*** and vegetables or salad (without butter, margarine or oil)
• 20–30 ***grapes*** or 200 g low fat ***yoghurt*** and low joule jelly
• Tea, coffee, water

Between meal snacks can be included especially if there is a long period between meals (more than four hours)

Foods in bold italic have a low glycaemic index (GI)

Concentrate on carbohydrates

Regular meals spaced through the day spread carbohydrate intake and help control and stabilise blood glucose. A regular eating pattern is of particular importance for people on insulin or taking insulin secretagogues (sulphonylureas or repaglinide) to reduce the incidence of hypoglycaemia. The current recommended carbohydrate intake is 50–55% of total daily energy. Carbohydrate foods should form the basis of each meal or snack.

Studies in people with type 2 diabetes have shown that high carbohydrate diets reduce cholesterol concentration, improve glycaemic control and enhance insulin sensitivity.

Some researchers have suggested that the levels of carbohydrate recommended should be reduced and there should be higher protein or mono-unsaturated fat intake. Until more evidence is available, the authors suggest we stick with the currently accepted recommended levels for carbohydrate intake.

A sample meal plan (Table 4) can help patients develop a regular eating pattern. Some patients will require a midmeal snack, e.g. some of those on insulin, but snacking should not be encouraged for those who are overweight or obese.

The glycaemic index (GI) of foods should be considered if blood glucose before meals are on target, but with hyperglycaemia after meals or hypoglycaemia between meals. Carbohydrate foods that break down slowly release glucose gradually into the blood and have a low GI.

Carbohydrate foods that produce a faster and higher rise in blood glucose levels have a high GI (Figure 3). A GI checklist (Table 5) may assist individuals to identify high GI foods in their diets and substitute lower GI alternatives.

Table 5. GI checklist

	Low or moderate GI	**High GI (limit) (include regularly)**
Breakfast cereals	Porridge, oats, All-bran, Guardian	Rice Bubbles, Corn Flakes, Puffed Wheat
Bread	Wholegrain, multigrain bread	White bread, bagels, baguettes
Rice and pasta	White pasta/spaghetti, Basmati or Doongara rice	White rice
Vegetables and legumes	Sweet corn, sweet potato, beans (kidney, baked)	Potato, mashed potato

Assess alcohol

Assessing alcohol intake is important for all individuals with diabetes but is especially important for those with hypertriglyceridaemia. Excess alcohol contributes to obesity, hypertension, heart and liver disease and some cancers. The same cautions regarding the use of alcohol that apply to the general public apply to those with diabetes. The message

is to limit alcohol to: 'four for men and women two'. Lower calorie drinks such as dry wines and spirits are the best choice. Individuals treated with insulin or oral hypoglycaemic agents should be warned about the risk of hypoglycaemia with alcohol. Alcohol is not metabolised to glucose and inhibits gluconeogenesis. Consuming alcohol without food increases the risk of hypoglycaemia.

Table 6. Skipping salt

Hints to reduce salt intake:
• Avoid adding salt to dishes while cooking
• Avoid putting the salt shaker on the table
• Use dried or fresh herbs and spices to flavour food instead of salt or salty sauces
• Choose 'no added salt', 'low salt' or 'salt reduced' products, eg. margarine or tinned baked beans
• Steam, microwave or bake vegetables instead of boiling to retain flavour

Skip the salt

Skipping salt is particularly important to consider for patients with hypertension or who are taking diuretic agents. The recommended intake of sodium is 920–2300 mg/day (40–100 mmoL/day) however, the average Australian consumes up to double this amount.

Walk more

Get going

Getting started is usually the hardest part of exercise, especially for people who do not exercise regularly. If someone is not regularly exercising, suggest they start with short five minute walks each day and build up gradually. Encourage patients to find an exercise that they enjoy – if not walking, try gardening, dancing or tennis. Regular exercise not only improves health, it can also improve mood, confidence and wellbeing.

Pace the pavement

Most people walk when they want to increase activity. As a rough guide energy expenditure (cals) = distance covered (km) x weight (kg). For example, an 85 kg man walking 5 km expends (5 x 85) = 425 cals, the equivalent of 11 teaspoons of fat (53 g) or 21 teaspoons of sugar (106g).
Some people find they can exercise at home when it is too dangerous, unpleasant or uncomfortable to exercise outdoors. While using a walking/jogging machine or stationery bike they can read a book, watch television or listen to music. Many adults and children spend over 10 hours per week watching television so there is plenty of time to use an exercise machine.

Table 7. Activity checklist

- Walk or ride a bicycle to work
- Park your car further away from the shop
- Walk to the shop to buy your daily newspaper
- Take the stairs, not the lift
- Do some gardening or mow the lawns
- Get off the bus before the final stop

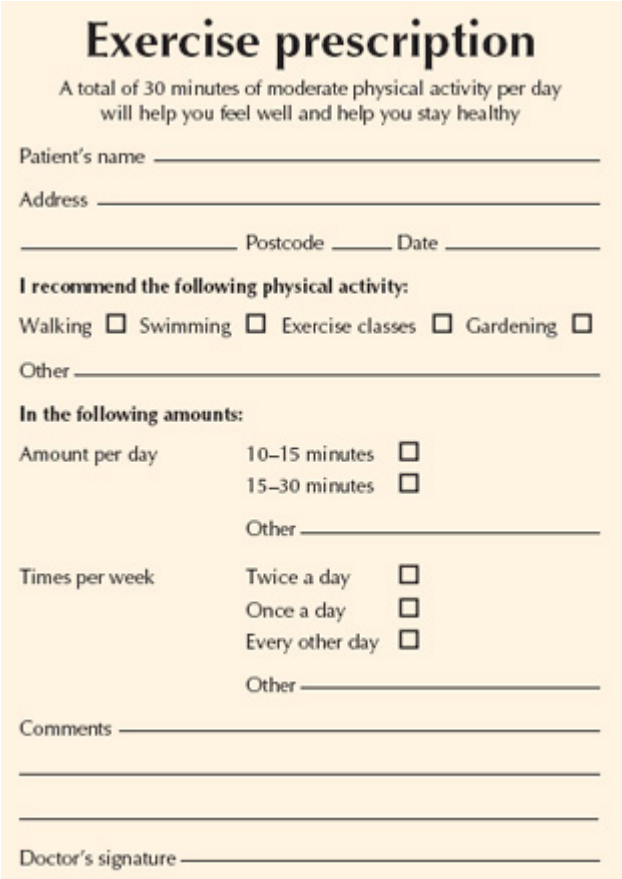
Every day and every way...

'Take exercise regularly not seriously' implies that people should not regard exercise as a special activity. Suggest patients make a commitment to make activity part of their day. Help patients establish a specific time of each day for exercise to stop them from continually putting it off. For example, a patient may schedule in a 30 minute walk each morning before breakfast. Write an exercise prescription that will emphasise the importance of increasing activity in overall diabetes management (Figure 4).

Remove the remote

Patient's should also be encouraged to include as much 'incidental' activity as possible. Reverse the trend toward labour saving devices (e.g. remote controls, escalators, lifts, cars). Suggest they walk or ride the long way rather than the shortest way to their destinations, walk the dog, take the stairs instead of using the lift and take a brisk walk at lunch time. Introduce them to a pedometer – a small device that attaches to clothing and measures the number of steps taken. Patients can wear the pedometer and check the 'mileage' each day and gradually increase daily targets. Aim for 8000–10 000 steps per day instead of an average of only 3000–4000 steps.

Figure 4. Exercise prescription



Exercise prescription

A total of 30 minutes of moderate physical activity per day will help you feel well and help you stay healthy

Patient's name _____

Address _____

_____ Postcode _____ Date _____

I recommend the following physical activity:

Walking ☐ Swimming ☐ Exercise classes ☐ Gardening ☐

Other _____

In the following amounts:

Amount per day
- 10–15 minutes ☐
- 15–30 minutes ☐
- Other _____

Times per week
- Twice a day ☐
- Once a day ☐
- Every other day ☐
- Other _____

Comments _____

_____

_____

Doctor's signature _____

Table 8. Steps to a healthy lifestyle

Eat less	Walk more
• Watch the weight	• Get going
• Count the calories	• Every day and every way
• Find the fat	• Remove the remote
• Seek the sugar	• Pace the pavements
• Count carbohydrates	• Find a friend or get in a group
Assess alcohol	
Skip the salt	

Find a friend or get in a group

Many people find that walking with a partner or group gives them extra motivation due to the social activity. Partners, family, friends and pets can make the difference between a new year's resolution and regular activity as part of the day. There are many community groups that promote safe, enjoyable activities in a social and supportive atmosphere (eg. mall walks, over 50s). The local council or community health centre should have a list and contact details for exercise opportunities in the local area.

The aim is to reverse the trend of decreasing activity levels in Australia.15 Whatever form the increased activity takes, stress that patients should 'take exercise regularly not seriously'. There are many ways people can increase their daily activity levels (Table 7).

Conclusion

General practitioners have a key role in encouraging patients with diabetes to make nutritional and lifestyle changes (Table 8). Keep lifestyle recommendations simple - eat less and walk more. Encourage patients to be involved in setting their own goals and time frames for achieving each goal. Encourage them to start with small short term goals rather than large goals and slowly build on those. Give patients a written prescription of each goal for reinforcement. Provide patients with lifestyle 'tools' such as dietary checklists and sample meal plans. Ask patients to keep a diet diary and use it to monitor their progress. Goals need to be realistic and achievable and adjusted if needed according to patient acceptance and compliance.

Acknowledgments

We thank Carol Smith and Diane Cross for their valuable input.Conflict of interest: none declared.

Summary of Important Points:

• Set small, specific weight loss goals.

• Ask patients to keep a diet diary.

•Use a fat and sugar checklist to identify high fat/sugar foods in a patient's diet and the healthier alternatives.

• Provide a sample meal plan for patients.

• Write an exercise prescription which includes 'incidental' daily activities.

• Review and encourage progress regularly.

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