

Six steps to a healthy lifestyle - the keystone in managing type 2 diabetes

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Setting small, gradual goals can make it easier for patients with type 2 diabetes to attain a healthy lifestyle.

People with diabetes and their health professionals accept that having a healthy lifestyle is the keystone of diabetes management. But those people who have to adapt their lifestyle so it becomes healthy can find the necessary changes hard to accept. The 'healthy' choices are often hard choices and may require significant changes to the way people structure their day, do their shopping and cooking, and interact with friends and family.

This article outlines six steps to a healthy lifestyle and suggests a monitoring scheme to keep daily eating and activity on track.

Diet and exercise - too hard

'I know I should, but ...'

A diet is often perceived as a punishment, a deprivation and something imposed by an authority. People are told not to eat many of the foods they value and enjoy and to eat foods that they despise and dislike. As one patient put it, 'diet is die with a t'.

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Exercise often conjures up thoughts of muscular men and trim women jogging, cycling, doing aerobics and lifting weights; generally huffing and puffing and sweating. After all, 'no pain, no gain'. Many people have not done more than walk from the car park to the supermarket for years, and now they are expected to 'exercise'.

No wonder people with diabetes think that stopping eating the foods they like and starting activities they will find painful and embarrassing is 'too hard'.

And they are usually right. Most people do find it 'too hard' and cannot do it. Long-term adherence to, and success in, diet, exercise and weight-loss programs are rare.¹ After 12 months, most people have slipped back into their old habits and regained any weight they lost, plus the 0.5 kg per year that the average Australian gains (Figure 1).

Healthy lifestyle - easier

The goal sounds too simple - 'eat less and walk more'. If that is all there is to it why do most Australians gain weight and get less fit each year? People really can change their lifestyle. For many, the best approach is to try a series of achievable steps that add up to a significant and

sustainable change over a one- to two-year time period.

The six steps to a healthy lifestyle

1. Aim for weight loss (or waist loss) if overweight

Most people with type 2 diabetes are either overweight or obese - that is, they have a BMI value of 25 kg/m² and over or 30 kg/m² and over, respectively.

No one likes to be told that they need to lose weight, but this is often the first advice given to patients once they have been diagnosed with diabetes. The benefits of weight loss can be great for someone with diabetes, including decreased insulin resistance, improved glycaemic control, improved blood lipids and reduced blood pressure.

The good news for patients is that even modest weight loss of about 5% of starting weight can be beneficial.² Encourage patients to set weight-loss goals. Refer them to local support programs and dietetic services. Community health centres and councils often have information about lifestyle programs in the local community.

Focusing on 'waist loss' rather than 'weight loss' is another useful approach,

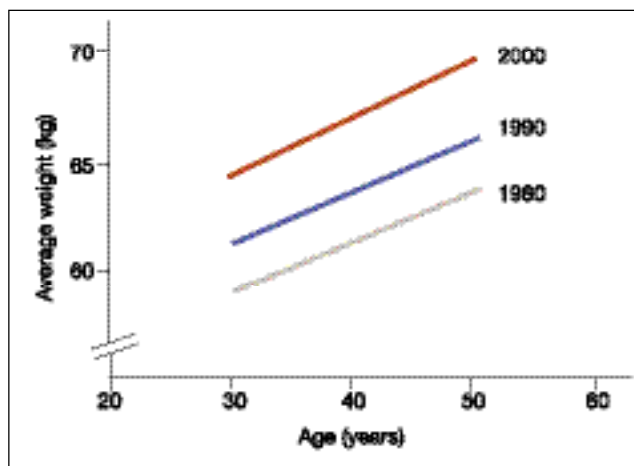


Figure 1. The increase in the average weight of Australian women aged 20 to 50 years from 1980 to 2000. As individuals we gain approximately 0.5 kg per year. As a nation the average Australian of any age gets fatter.

Waist circumference

For men

- Healthy waist: under 94 cm
- Over waist: 94 to 102 cm
- Very over waist: over 102 cm

For women

- Healthy waist: under 80 cm
- Over waist: 80 to 88 cm
- Very over waist: over 88 cm

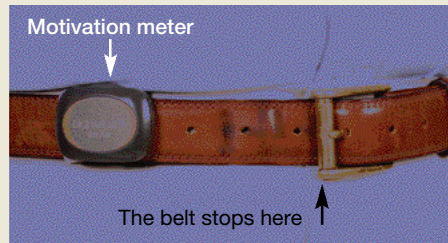


Figure 2. A 'belt lifestyle monitor'.

Tips for taking an accurate patient waist measurement

- Measure directly over the skin if possible (or over light clothing)
- Take the measurement after patient exhales normally
- The tape measure should be firm but not tight and kept parallel to the floor
- Keep the tape measure at the mid-way point from top of hip bone and bottom of lowest rib (roughly in line with the navel)

Tips for eating less

- Drink a glass of water before eating and with your meal
- Use a smaller plate
- Eat slowly
- Chew your food many times
- Put your fork down between mouthfuls
- Sit down while eating
- Eat with others and discuss the food you are eating
- Eat away from distractions (such as the television) and take time to savour your food
- Freeze left-overs straight away or only make enough food for one meal

especially for those people who are reluctant to step on the scales. Waist circumference is a valid measure of abdominal fat mass and disease risk.³ Both men and women should lose some of their waist so that their belt fastens on a few notches smaller. Ideally, men should have a waist circumference of less than 94 cm and women, less than 80 cm (see the box above).

2. Eat less food

Most people eat not because they are hungry but because it is a mealtime or snacks are easily available. There is the tendency for people to keep eating until they are full and to think it is rude not to clear the plate or to refuse seconds or dessert. They may eat large amounts of food while they are watching TV and not even wait until they have finished one mouthful before taking the next. Often they do not even enjoy their food.

Some tips for eating less food are outlined in the box on this page.

3. Less energy-dense foods and drinks

The 'big three' energy foods are fat, alcohol and added sugar (sucrose), weighing in at

approximately 36, 28 and 16 kJ/g (9, 7 and 4 kcal, respectively). Food and drink high in these three ingredients are the so-called 'empty foods' that provide energy but often not many other nutrients. Encourage people to find the fat, seek the sugar and assess the alcohol in their daily intake. All three can be easily identified and there are palatable ways to reduce fat and added sugar in foods, both during food preparation and at the table.

People with diabetes are advised to seek lean low-fat red meats as sources of iron and low-fat dairy products as sources of calcium. Soy milk products are low in calcium unless fortified.

Some fats are better than others. Saturated and trans fats are associated with increased LDL cholesterol and cardiovascular risk, while mono and polyunsaturated fats (omega-3 and omega-6 fats) improve the lipid profile and decrease cardiovascular risk.

Many animal foods and processed foods are high in saturated and trans fats, as are some vegetable oils (such as coconut and palm). Food sources of saturated and other fats are listed in Table 1.

Food labels list the ingredients of foods,

and people can learn to identify foods likely to be high in saturated or trans fat and/or high in added sugar, and then their healthier alternatives. Table 2 is a guide of what to look for on the nutrition panels of food labels.⁴

The 2008 draft NHMRC Alcohol Guidelines advises no more than two standard drinks per day (20 g) for all Australians, a reduction for men but not for women from the previous recommendations.⁵

4. Eat low-GI carbs

It is recommended that 45 to 65% of food energy be provided by carbohydrate.⁶ Carbohydrate foods with a low glycaemic index (GI) release glucose more gradually and may cause lower postprandial blood glucose values.⁷ The slow release of glucose may also reduce the risk of hypoglycaemia between meals for those on insulin or sulfonylurea therapy. Because low-GI foods are generally more filling than high-GI alternatives, people may find it easier to limit their total intake. Examples of low-GI foods include wholegrain breads, legumes and fruits such as apples and pears. Some low-, moderate- and high-GI

foods are listed in Table 3.⁸

Low-GI foods are often higher in fibre, particularly soluble fibre. Soluble fibre forms a gel that slows gastric emptying and intestinal nutrient absorption. It can increase satiety, slow the rate of starch digestion and lower LDL cholesterol. Insoluble fibre passes through the colon unchanged, increasing stool weight by its own mass and by its ability to hold water. Fibre increases bulk, softens the stool and can increase the regularity and comfort of passing stool.

Most Australians only eat one-third of the recommended fibre intake. Fibre intake can be increased by replacing nutrient-poor energy-dense foods and drinks with vegetables, fruits and wholegrain cereals.⁸

Fruit and starchy vegetables vary greatly in their GI but the national 'Go for 2&5' campaign (two fruit and five vegetables) is important regardless of GI because of the many benefits provided by fruit and vegetables. One serve of fruit is equivalent to one medium sized piece (such as an apple) or two smaller pieces (such as apricots), and one serve of vegetables is equivalent to half a cup of cooked vegetables, one medium potato or one cup of salad vegetables. More information is available on the 'Go for 2&5' website, www.gofor2and5.com.au.

There are many GI checklists to help people identify high-GI foods and their lower GI alternatives.⁷ Although the GI of a food is important, the glycaemic response depends more on the amount of carbohydrate in the food.⁹ A high carbohydrate intake, even if low GI, is likely to cause unwanted spikes in postprandial blood glucose levels. An excessive amount of carbohydrate has also been linked to elevated triglyceride levels.

In recent years, several dietary plans have emerged based on lower carbohydrate intakes than traditionally recommended. The popular and evidence-based CSIRO Total Wellbeing Diet is one such diet.¹⁰ In these diets, either protein or

Table 1. Types of fats found in foods

Unhealthy fats	Sunola (a sunflower oil high in oleic acid)*
Saturated and/or trans fats	Peanut
Fats	Vegetables
Butter, lard, cophera, cooking margarine, hydrogenated margarines, ghee, dripping, dairy blends, vegetable shortening	Avocados
Cream, sour cream	Olives
Fatty meats	Nuts
Chops, poultry skin, chicken wings, fatty mince, fatty pork	Almonds
Smallgoods (sausages, saveloys, fritz/devon, salami, bacon, mettwurst)	Peanuts, peanut paste
Paté	Cashews
Full-fat dairy products	Hazelnuts
Milk, cheese, cream cheese, yoghurt, ice cream	Macadamias
Plant sources	Pecans
Coconut oil, cream and milk	Polyunsaturated fats
Palm oil (used in many fast foods, takeaway foods, cakes and biscuits)	Oils and margarines
Toasted breakfast cereal, e.g. muesli	Sunflower
Takeaway foods	Safflower
Commercial cakes, pastries, biscuits and chocolates	Corn
Deep fried or battered foods	Soybean*
Pies, pasties, sausage rolls	Sesame
Pastries – shortcrust and puff pastry	Cottonseed
Potato crisps, hot chips	Grapeseed
Healthy fats	Linseed (also known as flaxseed oil)*
Monounsaturated fats	Nuts and seeds
Oils and margarines	Walnuts*
Canola*	Pine nuts
Olive	Brazil nuts
Macadamia	Sesame seeds
	Sunflower seeds
	Linseeds*
	Fish and other seafood
	Canned: Sardines*, salmon*, mackerel*
	Fresh: Atlantic salmon*, tuna*, mullet*, gem fish*, trevally*, snook*, flathead, calamari*

* Good sources of omega-3 fats.

monounsaturated fat replace some of the energy from carbohydrate. These diets may be an effective approach to both weight and diabetes management. People with diabetes who are following these diets and are on insulin therapy or taking insulin secretagogues may need to adjust their medication dosages to match their

carbohydrate intake. A dietitian referral might be useful in this scenario.

5. Watch the salt

A diet high in salt can contribute to hypertension, oedema, heart disease and kidney disease. Reducing sodium intake is an important dietary goal for all, but perhaps

Table 2. Healthy foods: checking the food label nutrition panel

Nutrient	Per 100 g*
Fat	
– Total	Aim for less than 10 g per 100 g For milk and yoghurt, aim for less than 2 g per 100 g Oils and margarines are all high in total fat (more than 10 g per 100 g); choose polyunsaturated and monounsaturated varieties
– Saturated	Aim for as low as possible
– Trans	Aim for as low as possible For margarines, aim for less than 1 g per 100 g
Carbohydrate	
– Sugars	Aim for less than 10 g per 100 g For foods containing fruit, aim for less than 25 g per 100 g
Dietary fibre	For breads and cereals, aim for more than 5 g per 100 g (the recommended daily intake is 30 g)
Sodium	Aim for less than 400 mg per 100 g, and if possible less than 120 mg Look for ‘no added salt’, ‘salt reduced’ and ‘low salt’ labels

* Remember to look at the ‘per 100 g’ column, not the ‘per serve’ column.

- set the basal daily target at the current level of activity (number of steps)
- each week increase the daily target by 10% (e.g. 2000 steps to 2200)
- do this for a month then review the number of steps, the possibility of further increases and the commitment to increasing activity
- repeat the increasing activity process until a desired and/or desirable daily target is reached
- maintain the activity, meeting the daily target
- each year – birthdays and New Year are good times – review activity and consider increasing current activities and/or adding new ones.

A commonly quoted target for a healthy level of activity is the 10,000 steps per day adopted by Queensland Department of Health (www.10000steps.org.au). This goal may seem ambitious to many people whose current activity equates to 1000 to 3000 steps a day (a fairly representative activity level). However, starting at 2000 steps a day and increasing 10% each week will lead to 5000 steps in four months and 10,000 steps in six months. If weekly increases are too much, increasing second-weekly will get to 10,000 steps over one year.

Encourage extra incidental activity. For example, when parking take the first space you see and walk, don't cruise and look for closer ones; cancel the milk and paper orders and walk each morning to the shop instead; take the stairs and not the lift; and walk up and down the escalator. Remind patients to think of movement as an opportunity, not an inconvenience.

Those people who may find it too dangerous, unpleasant or uncomfortable to be active outdoors can participate in a physical activity at home. They can use a walking/jogging machine or a stationary bike, and can even read a book, watch television or listen to music while doing so. Most people spend a lot of time watching television so there is

even more so for people with diabetes because they have higher rates of sodium-related medical conditions.

There is a period of adjustment when reducing sodium intake. Once again, gradual changes are usually easier. Encourage patients to focus on reducing sodium intake from processed foods, since this makes up 75% of most people's total sodium intake. Remind them that sodium is not only from salt added during cooking or at the table, but also from salt added during the manufacture of processed foods and also from other sodium-containing ingredients such as monosodium glutamate, baking powder and sodium bicarbonate. Advise people to look for food products with less than 400 mg of sodium per 100 g, and less than 120 mg per 100 g where possible.¹¹

6. Exercise regularly

‘The hardest thing is putting on my joggers’ – John training for a city fun run.

Our grandparents walked much more than we do now – the equivalent of a

marathon (42.2 km) or more each week. Our activity progressively decreases as we get older. Most Australians with type 2 diabetes are over 50 years of age and in a low-activity group in a low-activity population. As a nation, we pride ourselves on our Olympic performance; but as individuals, most of us are ‘couch potatoes’ (Figure 3).

Getting started is usually the hardest part if activity is not part of someone's daily schedule. When people do start, they may embark enthusiastically and hurt themselves. They may set unrealistic goals and then feel frustrated and disappointed. They may try and ‘fail’ several times and then give up for good.

Suggest to patients that they find something they enjoy, set an achievable goal and start slowly. Most people walk when they want to increase their activity. Some people find a pedometer helps them keep on track – it gives them a benchmark that they should try and achieve each day and build on every week. The guidelines listed below may be helpful:

Table 3. The GIs of some carbohydrate-containing foods

<p>Low-GI foods (GI, 55 or less)</p> <p>Breakfast cereals Generally rice bran, oat bran, porridge oats* Specific cereal brands: Kellogg's All-Bran (all varieties), Kellogg's Guardian, Kellogg's Guardian Oat Puffs, Burgen Muesli (Fruit and Muesli, Rye, Soy Lin), Natural Muesli, Kellogg's Komplete, Freedom Foods Hi-Lite Cereal Also: semolina (cooked)</p> <p>Breads and cereals Generally wholegrain and multigrain breads* Specific bread brands: Tip Top 9 Grain bread and muffins, Burgen Fruit and Muesli bread, Burgen Rye bread, Burgen Soy-Lin bread, Burgen Wholemeal and Grain bread, Wonder White Low GI sandwich bread, Vogel's Original Mixed Grain, Vogel's Seven Seed, Vogel's Soy and Linseed with Oats, Continental fruit loaf Also: pearl barley, pasta (white and wholemeal), cracked wheat (bulgur), buckwheat, rice noodles (fresh, boiled), Sunrice Doongara Clever Rice, Maggi 2 Minute Noodles</p> <p>Biscuits Specific biscuit brands: Ryvita crispbread (Pumpkin Seeds and Oats, Sunflower Seeds and Oats), Snack Right Fruit Slice, Freedom Foods Fruit Cookies (Apricot Temptation, Blueberry Bliss)</p> <p>Vegetables Sweet corn, sweet potato (baked), taro, yam</p> <p>Legumes and pulses Lentils, kidney beans, split peas, chick peas, baked beans</p>	<p>Dairy products Yoghurt, milk, custard – choose low-fat varieties</p> <p>Fruit Grapefruit, dried apricots, fresh and dried apples, pears, plums, peaches, oranges, grapes, banana (average size), prunes, mango, kiwifruit</p> <p>Spreads Jam (100% fruit)</p> <p>Juices Fruit juices** (apple, orange, pineapple, grapefruit)</p> <p>Moderate-GI foods (GI, 56 to 69)</p> <p>Breakfast cereals Specific cereal brands: Sanitarium Weet-Bix, Uncle Toby's Vita Brits, Kellogg's Special K, Kellogg's Just Right, Kellogg's Mini Wheats (wholewheat) Also: porridge (regular oats with water)</p> <p>Breads and cereals Light rye bread, pita bread (white), crumpet, croissant*** Specific bread brands: Helga's Classic Seed Loaf, Tip Top Multigrain Sandwich bread Also: couscous, basmati rice (white, boiled Mahatma), Ricegrowers Doongara rice (white/brown), Sunrice Arborio risotto rice (boiled), wild rice (boiled), dried rice noodles (boiled), gnocchi</p> <p>Biscuits Digestive biscuits*** Specific biscuit brands: Jatz***, Ryvita crispbread (Original Rye, Sesame Rye), Shredded Wheatmeal, Milk Arrowroot</p>	<p>Fruit Sultanas, pineapple, rockmelon, apricots, cherries, raisins</p> <p>Sugars Sugar (sucrose)</p> <p>High-GI foods (GI, 70 to 100)</p> <p>Breakfast cereals Specific cereal brands: Sanitarium Puffed Wheat, Kellogg's Rice Bubbles, Kellogg's Sultana Bran, Kellogg's Bran Flakes, Kellogg's Corn Flakes, Kellogg's Coco Pops, Kellogg's Mini Wheats Blackcurrant, Uncle Toby's Instant Porridge (made with water)</p> <p>Breads and cereals Generally white and dark-rye breads, bagels (white), baguettes, rice cakes Specific bread brands: Helga's Traditional Wholemeal bread, Tip Top Hyfibe White sandwich bread Also: tapioca, jasmine rice (Sunrice)</p> <p>Vegetables Potatoes (most white varieties), broad beans</p> <p>Biscuits Water crackers, Sao***, Morning Coffee</p> <p>Fruit Watermelon, dried dates, canned lychees</p> <p>Snack foods Pretzels</p> <p>Drinks Sports drinks, Lucozade</p> <p>Sugars Malt (maltose), glucose, jelly beans</p> <p>* Not all brands may be low GI. ** These foods are bw in fibre. *** These are foods high in fat – eat only occasionally.</p>
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plenty of opportunity to use an exercise machine.

Any extra activity is better than none, but aiming to walk 'two to three times per week' may work out to be twice a week, then once a week, then once every now and again. Adopting the approach 'you only have to take exercise regularly, not

seriously' encourages participation as it suggests that exercise should not be regarded as a special activity. Help patients make a commitment to make activity a part of every day by suggesting they establish a specific time of the day for activity so that they do not keep putting it off. Often in the morning before breakfast

and in the evening before or after the evening meal are good times. Local Councils and Community Health Centres usually have information on opportunities for enjoyable activities in the local area.

Some patients will be motivated by written instructions, and GPs may write exercise prescriptions as recommended by

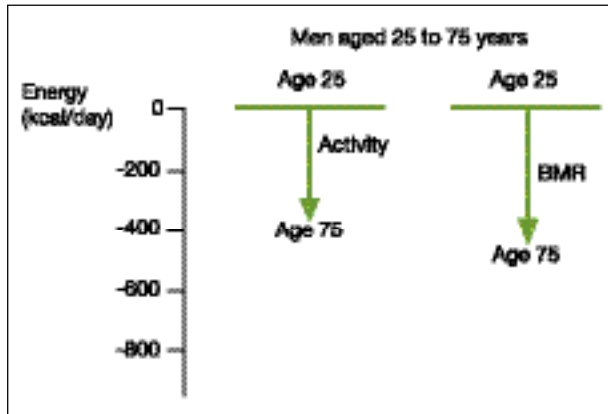


Figure 3. As we age we are less active as well as having a lower basal metabolic rate (BMR). This is equivalent to a reduction of 400 kcal/day in terms of activity and 500 kcal/day in terms of BMR.

the National Heart Foundation.¹² The RACGP provides some useful tips or health promoting behaviour as part of the SNAP framework (Smoking, Nutrition, Alcohol and Physical activity).¹³ Also, people with type 2 diabetes are entitled, under a Team Care Arrangement, to five allied health visits per year under the Medicare scheme. Referral to an exercise physiologist (accredited by the Australian Association for Exercise and Sport Science) is included within this scheme. Exercise physiologists are exercise specialists with the knowledge and skills to design and deliver general physical activity advice and clinical exercise prescriptions for healthy people and those with chronic and complex diseases.

Monitoring lifestyle

People who succeed and persist in lifestyle change are often the ones who monitor their eating, activity and weight/waist. Tools include food checklists, meal plans, calorie counters, food and activity diaries, a pedometer and a tape measure. As measures of daily activity, pedometers make it harder for people to persuade themselves that they have been 'so busy' and feel 'so tired' that they must have done enough activity. Tips on how to measure waist circumference accurately are given in the box on page 52. Motivated patients may use their belts as their lifestyle monitor – the buckle monitors waist circumference and gives a

clear indication of long-term overall energy balance, as long as the belt is positioned around the belly and not beneath it (see Figure 2 in the box on page 52). The pedometer gives them feedback in terms of their activity level.

Joining support groups and walking groups and seeing a dietitian helps patients maintain commitment to lifestyle change and maintenance of that change, as well as providing social interaction and peer support.

It is easy to change for a day or a week, but changing and maintaining change long term can be difficult. Encourage people to set goals and monitor their progress. These behaviours can help them make and maintain lifestyle change.

Summary

Changing lifestyle can be difficult for patients but setting small, gradual goals can make it easier. Encourage patients to work towards the 'six steps to a healthy lifestyle' one at a time, as described below.

- Step 1. Lose weight/waist
- Step 2. Eat less food
- Step 3. Eat less energy-dense food
- Step 4. Eat low-GI carbohydrates
- Step 5. Watch the salt
- Step 6. Walk more.

Where possible, provide support and access to resources, not just advice. Monitor how your patients are progressing with their six steps and encourage them to monitor and track their own progress. **MT**

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