

SECTION 9

Maintaining a healthy lifestyle

It is important for health professionals to appreciate that altering one's lifestyle on a permanent basis is usually very difficult.

People need encouragement and support to accept responsibility and recognise the importance and consequences of their own lifestyle behaviour. It is extremely difficult for an individual if they do not have adequate support from health care professionals, family and friends. Healthy lifestyle changes need to be maintained over a long period of time and therefore people will need continual support.

In discussing lifestyle changes it is important to consider the individual's history, culture, gender, where they live and their access to services, religious beliefs, financial status and psychological state.

Stress

Stress is made up of many things and is caused by a range of different events or circumstances. Different people experience different aspects and identify with different definitions. The current consensus on accepted definition of stress is 'a condition or feeling experienced when a person perceives that demands exceed the personal and social resources the individual is able to mobilize'. If a person feels that at this point in time there is simply too much to handle, they will experience stress. How much an individual can manage will vary at different times.

Stress occurs when the body automatically reacts to a difficult situation which may be physical (eg illness or injury), or psychological (eg financial or relationship problems). Underpinning this reaction is 'fight or flight' and the release of a range of hormones, such as adrenalin. The autonomic nervous system is activated and it is important that the person is able to counteract the potential damage caused by too much stress, through regular activity, rest and relaxation to achieve balance.

Health care professionals should ensure that assessment of stress is an integral part of the assessment process and that stress management strategies are part of the education plan. The reaction to stress can be very individual and what affects one person may not affect another. Similarly what one individual can handle will vary from time to time.

Potential emotional / psychological stressors may include:

- health problems
- personal trauma
- financial problems
- marital problems
- family problems
- pressure from study / work
- life crises, eg death, accident.

Some people experience stress in relation to things that have not and may *never*, happen. We call this 'worrying'. Worry can lead to high levels of stress and in such cases, assessment of these issues and appropriate referral for counselling is important.

The person with any lifelong condition such as diabetes has additional stressors to deal with.

For example:

- simply coping with diagnosis: the person may feel anger, denial or grief following the diagnosis of diabetes – this can come and go over time and is not necessarily a linear process
- coping with the difficulty of changing lifestyle
- coping with new information and learning new skills
- the need, in many cases, to decrease weight, especially when some find eating a way of coping with stress
- the need for lifelong daily care
- pain inflicted by prescribed treatments (eg blood glucose monitoring)
- the expense of equipment
- the impact on relationships
- diabetes specific stress, such as hypoglycaemia and needle phobia
- managing social situations
- worry about complications
- coping with understanding the health system.

How stress affects diabetes¹

In people with diabetes, stress can alter blood glucose levels. It can do this in two ways. First, people under stress may not take good care of themselves and their diabetes as this is not their priority at that time. Second, stress hormones such as adrenalin, cortisol and those produced when the person is unwell, may alter blood glucose levels directly.

While most people's glucose levels go up with emotional / psychological stress, others may notice their glucose levels can go down. For some people with diabetes, managing stress with relaxation therapy seems to help. It can be helpful for the person to become aware of what happens to their diabetes when under stress and how to manage the stress in order to have less impact. Physical stress, such as illness or injury, can cause blood glucose levels to go up and down in people with either type of diabetes.

Dealing with stress²

People deal with stress in different ways.

Stress is usually caused by the reaction people have to what happens to them. Often the reactions are out of proportion to the event, such as in 'road rage' for example. If they are able to change their thinking and how they react to certain situations, then these problems may become less stressful.

Some people however may react with damaging behaviour to cope with stress. For example they may:

- eat more
- turn to taking drugs, alcohol and / or cigarettes
- stop taking responsibility for their own care
- cause added stress for their loved ones.

Healthy eating is a part of managing stress. A healthy diet can assist the body to function at an optimum level and better handle stress. Refer to Section 8 for information on healthy eating for people with diabetes. Exercise is also critical in stress management.

Reducing and managing stress

It is not within the scope of this manual to deal adequately with suggestions for reducing stress, however the following may assist:

- encourage regular exercise – this is the body's natural way of reducing stress as it uses up excess adrenalin and other stress hormones and encourages rest and relaxation response in the body
- encourage the use of relaxation techniques – guided CD's can be very helpful, particularly if the person has not practised relaxation before and finds it hard to relax
- encourage the person to find something that assists them in relaxation – it might be walking, singing, swimming, talking to a friend, listening to music
- encourage the use of community resources, eg to stop smoking and / or reduce alcohol intake
- encourage the person to make connections with other people with diabetes and someone in their personal network, a family member or friend
- if necessary, consult with the health service social worker/counsellor, clinical psychologist or general practitioner
- discuss with the medical officer a referral for professional counselling / treatment – cognitive behavioural therapy (CBT) techniques such as 'thought stopping' and 'positive visualisation' can be helpful
- if a person shows signs of depression, discuss the option of referral for follow-up with GP and referral for counselling.

Screening tools

There are a number of diabetes specific tools that can be helpful in gauging a person's stress levels and mental health status. For example:

The WHO-5 Wellbeing scale

This scale is a measure of general well being. (See Appendix 1).³

WHO (Five) score of below 50 indicates low mood but not necessarily depression. A score of 28 or below indicates likely depression and warrants further assessment eg a diagnostic interview with appropriate health professional.

The Problem Areas In Diabetes (PAID) scale⁴

The PAID scale was originally developed by the Joslin Diabetes Centre in 1995 (see Appendix 2). The PAID scale can be used to identify areas that are causing the person distress and help focus problem solving activities so they reflect the particular area causing concern. The person and the health professional can then explore options for overcoming the problem.

To calculate a score you need to add them up and then multiply by 1.25 (score range is from 0 – 100). People scoring 40 or more on the PAID scale may be experiencing 'emotional burn out' and warrant further individual assessment and possible intervention. An extremely low score (0 – 10) combined with poor glycaemic control may indicate denial. Denial is a normal part of life for many people with diabetes at times, but persistent denial can be detrimental and needs addressing.

Diabetes Distress Scale (DDS)⁵

The authors of the PAID scale have recognised that the scale has some limitations eg some items may have been covered too briefly. Given their concerns, they have developed and validated an additional measure called the DDS. The scale has 17 items. You can use the DDS2 as an initial screener (see Appendix 3). If this is positive (score ≥ 6 or average ≥ 3) you can then proceed to DDS17 (see Appendix 4). Any items scoring ≥ 3 indicates an area of distress and the responses can be used to begin a conversation about specific areas of their diabetes care.

The DDS and the PAID scale are **not** substitutes for depression screening.

Kessler Psychological Scale (K10)⁶

The Kessler psychological scale consists of 10 questions that can detect depression and other related psychological disorders.

You can go to http://www.beyondblue.org.au/index.aspx?link_id=89.678 and fill out the form online. Once the person has submitted their answers the program will generate a score. This screening tool only provides a rough guide and further steps are required to obtain a full diagnosis of depression.

Alternatively or in addition to the scales, you can use a series of open ended questions to determine the person's general wellbeing and concerns. Examples are:

- How are you feeling about your diabetes at the moment?
- Do you feel diabetes is a comfortable part of your life, or not? Maybe it is a bit of both?
- What has been helpful for you in managing your diabetes?
- Do you ever feel sad, low or blue?
- Do you ever feel diabetes is overwhelming?
- Do you think you have the right amount of focus on your diabetes, or not? If not, do you need to focus more or less on it?
- Are there any other problems or concerns in your life that make it difficult to manage your diabetes?
- Do you have any support?
- What would you like to see change about your diabetes management at the moment – anything at all?

These are just *suggestions*. Simply asking a person how they are feeling and what is on their mind can unearth a lot of useful information – you just need to listen and allow them the space to be heard. Questionnaires from the book 'Diabetes Burnout' by William Polonsky contain a number of exercises around identifying stress and the impact on diabetes; looking at areas of diabetes that are causing stress; and assessing diabetes burnout.

Consider referral to medical practitioner, psychologist, social worker if signs of psychological distress. It is critical that you do not leave a person with a low score on a scale without appropriate discussion and follow up. Aim to leave them with some hope in regards to seeking support, rather than a low score which leaves them feeling hopeless.

Helpful websites

Australian Psychological Society
Australian Association of Social Workers
Diabetes Counselling Online
Beyond Blue
Black Dog Institute

www.psychology.org.au
www.aasw.asn.au
www.diabetescounselling.com.au
www.beyondblue.org.au
www.blackdoginstitute.org.au

Exercise

Exercise and physical fitness are an essential part of good health for everyone, not only for people with diabetes. The diabetes health care team needs to assess and clearly articulate each individual's risks and benefits of an exercise program. These benefits and risks will depend on the type of diabetes, presence of existing diabetes complications or any other co morbid conditions that could affect the person's ability to exercise comfortably and safely. The person needs to understand the recommended levels of intensity that is safe for their level of fitness and risk profile. Where appropriate management plans / action plans should be provided which details symptoms that could indicate cardiac problems.⁷

Benefits

- assisting in the utilisation of glucose, thereby enhancing glycaemic control
- regulating appetite and aiding in weight control
- improving cardiovascular fitness
- increasing 'feel good' chemicals in the brain
- helping to reduce stress.

Risks

Overall the benefits of exercise outweigh the risks.⁷ There is a low prevalence of musculoskeletal injuries in people who are walking, gardening or cycling. The risk of a major cardiovascular event has been cited as 1 for every 117,000 hours of activity for people with cardiovascular disease.⁷

Hypoglycaemia in people with diabetes who are on some oral hypoglycaemic agents and / or insulin can occur during and post exercise. It is important for people to be aware of what precautions they need to take to avoid hypoglycaemia when exercising. They also need a hypoglycaemia action plan which details strategies for treating hypoglycaemia when exercising.

Assessment

Before increasing usual activity or exercise levels it is recommended that the person undergoes a medical assessment.⁸ The medical history and physical examination should include signs and symptoms of:

- cardiovascular disease
- eye disease
- kidney disease
- foot problems
- nervous system.

Those most at risk include:⁸

- age > 35 years
- age > 25 years and
 - type 2 diabetes > 10 years' duration
 - type 1 diabetes > 15 years' duration
- presence of any additional risk factor for coronary heart disease eg family history, smoking, hypertension, hyperlipidaemia
- presence of microvascular disease eg proliferative retinopathy or nephropathy
- peripheral vascular disease
- autonomic neuropathy.

Preparing for exercise

Advise people to:^{7, 8}

- Include a proper warm up and cool down component.
- Aim for 30 minutes or more of moderate intensity physical activity (see below) on most days of the week. This can be accumulated in short bouts eg 10 minutes at a time.
- Wear well fitting, comfortable footwear. Lace-up jogger shoes are recommended.
- Limit weight bearing exercise if they have peripheral neuropathy as this could lead to ulceration and fractures (see *Footcare* – Section 6).
- Be aware of the effect of exercise in poorly controlled diabetes (BGLs >15mmol/L) as it may further increase the blood glucose level. Special measures should be taken to ensure blood glucose levels are controlled before the increased activity. This should be discussed with the GP / MO.
- Use a medic alert system eg bracelet or shoe tag.
- Ensure proper hydration as dehydration can adversely affect BGL and heart function.
- Consider low to moderate weight training using light weights and high repetitions.
- Avoid high resistance exercise using weights if they are an older person or have long standing diabetes.

Levels of intensity of physical activity⁷

Low intensity physical activity elicits a slight increase in breathing rate and is relative for a given person (eg strolling < 3km/h on level firm ground, tidying the house, leisurely stationary cycling < 50 watts and social lawn bowls).

Moderate intensity physical activity elicits a moderate noticeable increase in depth and rate of breathing, while still allowing comfortable talking and is relative for a given person (eg purposeful walking 3-6km/h on level firm ground, water aerobics, cycling for pleasure < 16km/h and cleaning the house).

Specific issues for people with type 2 diabetes

A Cochrane review on the benefits of exercise for people with diabetes identified that exercise improves blood glucose control and that this effect is evident even without weight loss.⁹ A regular exercise program is therefore as important for the person with diabetes as healthy eating and medication.

A high percentage of people with type 2 diabetes are overweight and this may often be due to lack of activity.² People should be encouraged to undertake regular daily exercise and to manage weight.

Education should include the risks and benefits of exercising, and some of the following behaviours can be encouraged.

- Walking to the shops, or a friend's house etc instead of driving.
- Using the stairs instead of elevators.
- Setting aside a special time each day to walk the dog, walk around the neighbourhood.
- Performing daily household activities with vigour!

Choose active hobbies, eg bowls, tennis, swimming.

For people on OHAs or insulin the following points are made:

- If any planned exercise is vigorous and prolonged, it may be necessary to reduce hypoglycaemic medication or insulin, or increase carbohydrate (such as fruit juice or glucose) intake prior to the activity to prevent hypoglycaemia.
- It is advisable to monitor blood glucose levels both before, during and after prolonged exercise.
- For people treated with insulin whose diabetes is stable, some extra carbohydrate can be taken before exercising. Alternatively, exercise should be undertaken after a meal.
- During particularly strenuous and prolonged exercise such as squash, football, swimming or cycling, it is advisable to take extra carbohydrate during the exercise.
- For some individuals on insulin, particularly before prolonged strenuous exercise, the insulin dose may also need to be reduced, eg by 2 to 4 units. Since individual requirements vary, this should be discussed with the GP or diabetes educator.

Specific issues for people with type 1 diabetes

In type 1 diabetes vigorous exercise can cause major disturbances in blood glucose including hypoglycaemia and hyperglycaemia.¹⁰ In type 1 diabetes the pancreas does not produce insulin and therefore can not regulate insulin levels in response to exercise. There may also be deficiencies in the release of counterregulatory hormones. These hormones are responsible for facilitating the release of glucose from the liver. The glycaemic response will depend on the type, intensity and duration of the activity. It is also dependent on how much insulin is circulating and glucose counter regulatory hormone levels.¹⁰ Individuals with type 1 diabetes need to carefully plan exercise programs in conjunction with their health care team. It is important for them to understand how to balance their exercise, diet and insulin.

General guidelines are:^{8, 10}

1. Check BGL before exercising
 - a. avoid exercise if BGL > 15mmol/L and ketones are present
 - b. use caution if exercising and levels are above 15mmol/L and no ketones present
 - c. eat carbohydrate food if levels are less than 5mmol/L.
2. Monitor blood glucose before and after exercise (depending on duration may need to monitor during)
 - a. identify when changes in insulin or carbohydrate intake are required
 - b. learn about the glycaemic responses to different types of exercise
 - c. monitor BGL after exercise and if necessary check overnight (hypoglycaemia can occur many hours after the exercise is finished.)
3. Food intake
 - a. eat extra carbohydrate as required
 - b. ensure that fast and long acting carbohydrates are easily accessible during and after exercise.

Managing intense or prolonged exercise in people with type 1 diabetes is complex and requires specialist advice. For further information refer to the article by Riddell.¹⁰

Activity for the person in hospital

If possible and depending on the reason for admission, encourage the person to walk around the ward and hospital grounds.

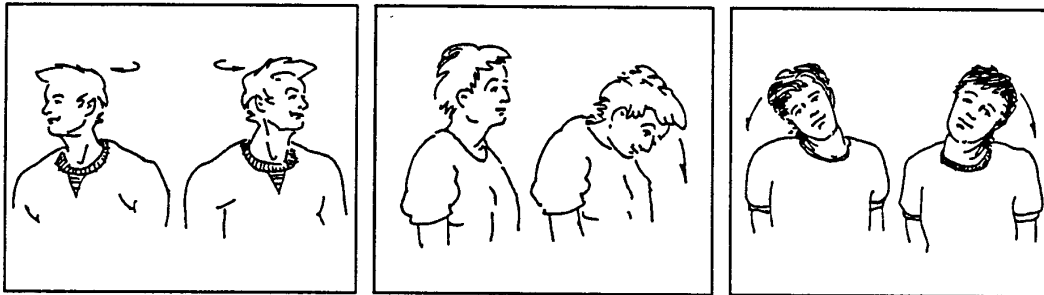
If the person has limited mobility, encourage circulation and breathing exercises. These should be performed once or twice daily for 5 to 10 minutes (if appropriate).

- Consult with GP / MO prior to commencing any exercise program.
- Consult with physiotherapist for appropriate exercises.
- Teach patient the exercises and evaluate progress.

Suggested exercise for people with limited mobility

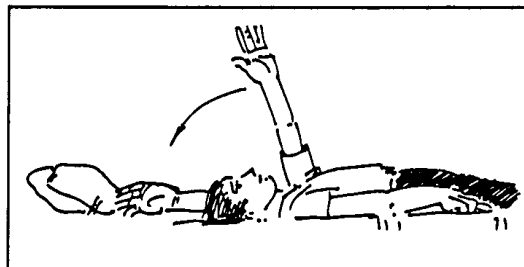
Head exercises

- Turn head from side to side as far as possible.
- Tilt head forward as far as possible.
- Tilt head as far as possible towards shoulder keeping shoulder still.



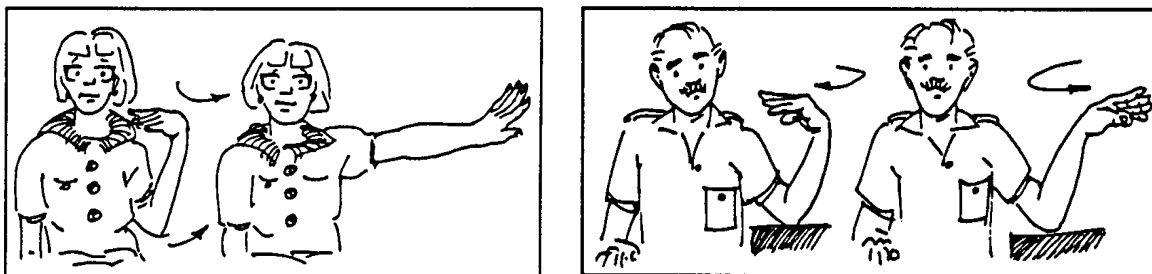
Shoulder exercises

- Lie flat on back, arm at side, palm facing body.
- Keep elbow straight and lift arm until hand points to the ceiling.
- Continue to move the arm back until it rests on the bed next to the head. The arm may be bent at the elbow if the headboard or the bed will not permit the arm to be carried all the way back.
- Return to the starting position, rest, then repeat the exercise.



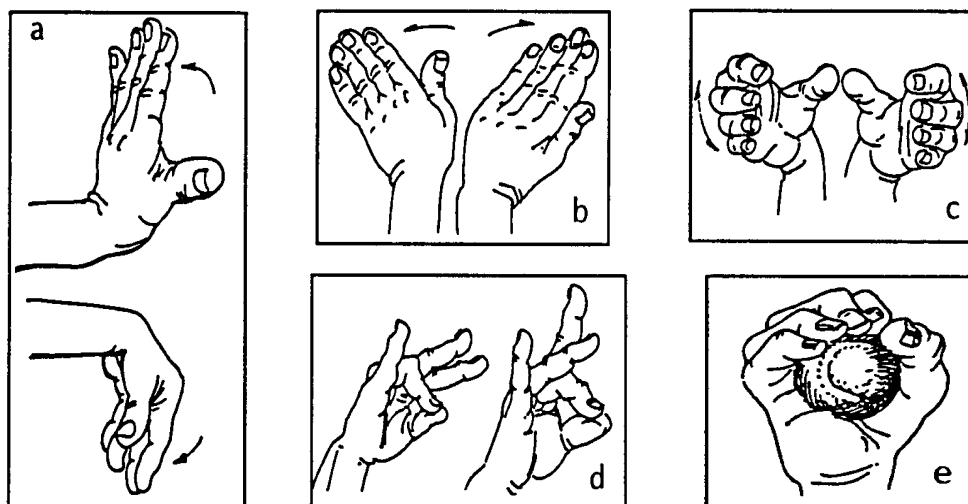
Elbow exercises

- Bend elbow so that palm reaches towards the shoulder.
- Straighten elbow turning palm away from shoulder.
- Rest the elbow on a table and turn the palm to face the shoulder, then away from the shoulder.
- Your exercises can be extended by adding a light weight (held in your hand) to provide some resistance.



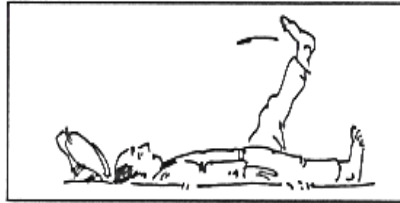
Hand and wrist exercises

- (a) Bend the hand at the wrist forward and back as far as possible.
- (b) Holding arm still, move hand to the right, then to the left.
- (c) With elbows at their side and arm bent, turn hand as though turning a door knob.
- Spread fingers apart. Start with fingers straight. Close fingers into a fist and straighten again.
- (d) Touch tip of thumb with each finger in turn.
- (e) Grip hand sized piece of sponge or small ball and squeeze. Open, grip and repeat.



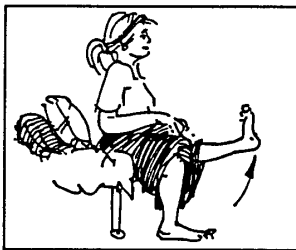
Hip exercises

- Lying flat on back, with legs straight, move foot as far as possible to the side, return leg to original position.
- Lying on back with legs straight, raise and lower legs one at a time slowly, first straight and then with knee bent.



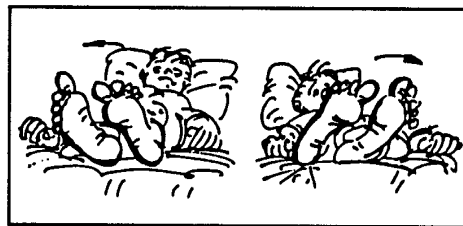
Knee exercises

- Over the edge slowly straighten the leg at the knee and then slowly return to original position.
- Sitting upright on a bed with legs straight and back well supported slide foot as far as possible back toward buttocks, bending at the knee. Then slide foot back to original position. Repeat with other leg.



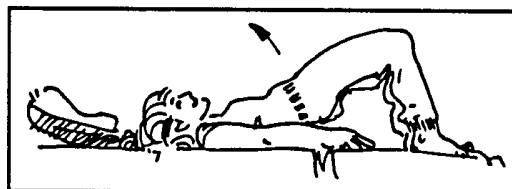
Ankle exercises

- Slowly bend foot up and down at the ankle.
- Slowly turn feet inwards and then outwards.
- Sitting on the edge of bed, move ankle or foot through circular motion.



Back exercises

- Lying with knees bent, lift hips up from the bed.
- Roll both knees from side to side, but keep shoulders flat on the bed.
- Sit on a chair, feet on the floor. Turn head and shoulders taking arms first round to the left and then round to the right.



Alcohol

People with diabetes need to be aware of the effects of alcohol on blood glucose levels and weight. The types and amounts of alcohol suitable should also be discussed. Precautions to take when consuming alcohol are also considered important topics to cover.

People are advised to discuss the use of alcohol with their GP or diabetes educator. Alcohol can react adversely with medication.

Excessive alcohol contributes to weight gain, increasing triglycerides and increasing blood pressure.

Alcohol can cause fluctuations in blood glucose levels. The intake of alcohol may also affect the behaviour and mental state of the individual. The person may fail to recognise and treat the early symptoms of hypoglycaemia. There may also be some confusion as to whether excessive alcohol has been consumed, or whether in fact the person is hypoglycaemic as the symptoms are often similar.

Effect of alcohol on blood glucose concentration

Alcohol can initially increase blood glucose, however there is damage in the over-consumption of alcohol as it can significantly lower the blood glucose concentration. Alcohol hinders the activity of the liver in producing and releasing glucose into the blood and may therefore increase the risk of hypoglycaemia.

Alcohol taken without food can induce hypoglycaemia therefore it is recommended that alcohol always be taken in moderation and with food.

The carbohydrate in sweet wine and beer tends to initially raise blood glucose levels. Dry wines and spirits, are preferable to liqueurs, port and sweet wines. If a mixer is consumed with spirits, a low calorie mixer or soda water should be used.

The following advice should be given to people with diabetes regarding the use of alcohol.

It is best to limit alcohol, but if alcohol is consumed don't forget to:

- check with your doctor first (discuss any interaction with medications)
- don't drink on an empty stomach
- avoid drinking in excess (no more than 2 standard serves [20 grams] is recommended each day)
- choose low alcohol drinks
- choose dry wines and spirits
- choose light beer
- choose sugar-free mixers such as soda or low joule mixers
- avoid or limit all alcohol if you are trying to lose weight
- pregnant women should not drink alcohol because of the risks to the foetus
- it is not advisable to drive after drinking alcohol
- wear diabetes identification.

Smoking

The damaging effects of smoking on blood vessels are well-known. The increased tendency for blood vessels to become damaged in people with diabetes is also known. A person with diabetes who smokes will **greatly increase the risk** of blood vessel damage and the complications of diabetes.¹¹

The resulting vascular disease, particularly in the legs, kidneys and eyes and cardiac disease, reduce the quality of life for the individual and may even be fatal. Cigarette smoking is the most important modifiable cause of premature death.¹¹

Health professionals must be aware of the difficulty encountered in giving up smoking. Assist, support and encourage the person in their decision to stop smoking.

A useful framework might be:¹¹

- Ask – ensure that every person is asked if they smoke. Those who do smoke can be asked at each visit.
- Assess – for current smokers assess their interest in quitting.
- Advise – provide information about how important it is for them to quit.
- Assist – help people set a ‘quit date’ and provide information and resources about how to prepare. Some people may like to seek specific counselling, others may want medication to assist them.
- Arrange – ensure adequate follow up is arranged eg phone call or appointment

For further information and resources go to www.quitsa.org.au

Insurance and legal obligations

Travel insurance

Some insurance companies may not provide overseas travel insurance for people with a pre-existing chronic illness or have very strict acceptance criteria. Diabetes is classified as a pre-existing, chronic illness in insurance terms.

If a person with diabetes is planning to travel overseas it will be important for them to seek advice about insurance before purchasing their tickets. It may be helpful to discuss the best options for travel insurance with Diabetes Australia or their travel agent.

Life insurance or superannuation

It is important that the person also inform their life insurance company or superannuation fund that they have diabetes. An insurance broker or Diabetes Australia could assist if further information is required. The Insurance Ombudsman can also provide advice. Visit www.insuranceombudsman.com.au or phone 1300 780 808.

Motor vehicle licences

All people with diabetes are required to notify the Registrar of Motor Vehicles that they have diabetes if they need either oral medication or insulin.

It is an offence to drive without such notification and heavy penalties could be incurred. In addition insurance cover may be invalidated due to lack of notification.



WHO (Five) Well-Being Index (1998 version)

Please indicate for each of the five statements which is closest to how you have been feeling over the last two weeks.

Notice that higher numbers mean better well-being.

Example: If you have felt cheerful and in good spirits more than half of the time during the last two weeks, put a tick in the box with the number 3 in the upper right corner.

	<i>Over the last two weeks</i>	All of the time	Most of the time	More than half of the time	Less than half of the time	Some of the time	At no time
1	I have felt cheerful and in good spirits	5	4	3	2	1	0
2	I have felt calm and relaxed	5	4	3	2	1	0
3	I have felt active and vigorous	5	4	3	2	1	0
4	I woke up feeling fresh and rested	5	4	3	2	1	0
5	My daily life has been filled with things that interest me	5	4	3	2	1	0

Scoring:

The raw score is calculated by totalling the figures of the five answers. The raw score ranges from 0 to 25, 0 representing worst possible and 25 representing best possible quality of life.

To obtain a percentage score ranging from 0 to 100, the raw score is multiplied by 4. A percentage score of 0 represents worst possible, whereas a score of 100 represents best possible quality of life.

Interpretation:

It is recommended to administer the Major Depression (ICD-10) Inventory if the raw score is below 13 or if the patient has answered 0 to 1 to any of the five items. A score below 13 indicates poor wellbeing and is an indication for testing for depression under ICD-10.

Monitoring change:

In order to monitor possible changes in wellbeing, the percentage score is used. A 10% difference indicates a significant change.

(ref. John Ware, 1995).

Problem Areas In Diabetes (PAID) Questionnaire

INSTRUCTIONS: Which of the following diabetes issues are currently a problem for you?

Circle the number that gives the best answer for you. Please provide an answer for each question.

	Not a problem 0	Minor problem 1	Moderate problem 2	Somewhat serious problem 3	Serious problem 4
1. Not having clear and concrete goals for your diabetes care?	0	1	2	3	4
2. Feeling discouraged with your diabetes treatment plan?	0	1	2	3	4
3. Feeling scared when you think about living with diabetes?	0	1	2	3	4
4. Uncomfortable social situations related to your diabetes care (e.g., people telling you what to eat)?	0	1	2	3	4
5. Feelings of deprivation regarding food and meals?	0	1	2	3	4
6. Feeling depressed when you think about living with diabetes?	0	1	2	3	4
7. Not knowing if your mood or feelings are related to your diabetes?	0	1	2	3	4
8. Feeling overwhelmed by your diabetes?	0	1	2	3	4
9. Worrying about low blood sugar reactions?	0	1	2	3	4
10. Feeling angry when you think about living with diabetes?	0	1	2	3	4
11. Feeling constantly concerned about food and eating?	0	1	2	3	4
12. Worrying about the future and the possibility of serious complications?	0	1	2	3	4
13. Feelings of guilt or anxiety when you get off track with your diabetes management?	0	1	2	3	4
14. Not "accepting" your diabetes?	0	1	2	3	4
15. Feeling unsatisfied with your diabetes physician?	0	1	2	3	4
16. Feeling that diabetes is taking up too much of your mental and physical energy every day?	0	1	2	3	4
17. Feeling alone with your diabetes?	0	1	2	3	4
18. Feeling that your friends and family are not supportive of your diabetes management efforts?	0	1	2	3	4
19. Coping with complications of diabetes?	0	1	2	3	4
20. Feeling "burned out" by the constant effort needed to manage diabetes?	0	1	2	3	4

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The 2-item Diabetes Distress Scale (DDS2)

Directions. Living with diabetes can sometimes be tough. There may be many problems and hassles concerning diabetes and they can vary greatly in severity. Problems may range from minor hassles to major life difficulties. Listed below are 17 potential problems that people with diabetes may experience. Consider the degree to which each of the items may have distressed or bothered you DURING THE PAST MONTH and circle the appropriate number.

Please note that we are asking you to indicate the degree to which each item may be bothering you in your life, NOT whether the item is merely true for you. If you feel that a particular item is not a bother or a problem for you, you would circle "1." If it is very bothersome to you, you might circle "6."

Problems	Not a problem		Moderate problem		Serious problem	
	1	2	3	4	5	6
1. Feeling overwhelmed by the demands of living with diabetes.	1	2	3	4	5	6
2. Feeling that I am often failing with my diabetes regimen.	1	2	3	4	5	6

Fisher L, Glasgow R E, Mullan J T, Skaff M M, and Polonsky W H (2008) Development of a brief diabetes distress screening instrument. *Annals of Family Medicine*, 6(3): p246-252.

Diabetes Distress Scale (DDS17)

Directions. Living with diabetes can sometimes be tough. There may be many problems and hassles concerning diabetes and they can vary greatly in severity. Problems may range from minor hassles to major life difficulties. Listed below are 17 potential problems that people with diabetes may experience. Consider the degree to which each of the items may have distressed or bothered you DURING THE PAST MONTH and circle the appropriate number.

Please note that we are asking you to indicate the degree to which each item may be bothering you in your life, NOT whether the item is merely true for you. If you feel that a particular item is not a bother or a problem for you, you would circle “1.” If it is very bothersome to you, you might circle “6.”

Problems	Not a problem		Moderate problem		Serious problem		Office use only
	1	2	3	4	5	6	
1. Feeling that diabetes is taking up too much of my mental and physical energy every day	1	2	3	4	5	6	[A]
2. Feeling that my doctor doesn't know enough about diabetes and diabetes care.	1	2	3	4	5	6	[B]
3. Feeling angry, scared and / or depressed when I think about living with diabetes.	1	2	3	4	5	6	[A]
4. Feeling that my doctor doesn't give me clear enough directions on how to manage my diabetes.	1	2	3	4	5	6	[B]
5. Feeling that I am not testing my blood sugars frequently enough.	1	2	3	4	5	6	[C]
6. Feeling that I am often failing with my diabetes regimen.	1	2	3	4	5	6	[C]
7. Feeling that friends or family are not supportive enough of my self-care efforts (eg planning activities that conflict with my schedule, encouraging me to eat the “wrong” foods).	1	2	3	4	5	6	[D]
8. Feeling that diabetes controls my life.	1	2	3	4	5	6	[A]
9. Feeling that my doctor doesn't take my concerns seriously enough.	1	2	3	4	5	6	[B]
10. Not feeling confident in my day-to-day ability to manage diabetes.	1	2	3	4	5	6	[C]
11. Feeling that I will end up with serious long-term complications, no matter what I do.	1	2	3	4	5	6	[A]
12. Feeling that I am not sticking closely enough to a good meal plan.	1	2	3	4	5	6	[C]
13. Feeling that friends or family don't appreciate how difficult living with diabetes can be.	1	2	3	4	5	6	[D]
14. Feeling overwhelmed by the demands of living with diabetes.	1	2	3	4	5	6	[A]
15. Feeling that I don't have a doctor who I can see regularly about diabetes.	1	2	3	4	5	6	[B]
16. Not feeling motivated to keep up with my diabetes self-management.	1	2	3	4	5	6	[C]
17. Feeling that friends or family don't give me the emotional support that I would like.	1	2	3	4	5	6	[D]

Fisher L, Glasgow R E, Mullan J T, Skaff M M, and Polonsky W H (2008) Development of a brief diabetes distress screening instrument. *Annals of Family Medicine*, 6(3): p246-252.

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