

Standard 2

People with diabetes should receive personalised advice on nutrition and physical activity together with smoking cessation advice and support if required.

Key practice points

- Information provided to people with diabetes should be consistent and based on contemporary guidelines.
- Information should be tailored to an individual's diagnosis (ie, type 1 or 2 diabetes) and circumstances.
- Advice can be provided on an individual basis or in a group setting.
- Nutritional and physical activity advice is most effective when delivered as a package.
- Smoking cessation and other forms of treatment should be a routine component of diabetes care and strongly and repeatedly recommended at any level of cardiovascular disease (CVD) risk.

Read this standard in conjunction with the equality and diversity section in the Introduction to the Toolkit.

What the quality statement means for each audience

Service providers ensure that staff provide access to personalised advice on nutrition and physical activity from an appropriately trained health care professional or as part of a structured educational programme.

Health care professionals ensure that personalised advice on nutrition and physical activity is provided to the person with diabetes and their carer/family/whānau when required.

Planners and funders ensure a diabetes care pathway is in place that incorporates access to personalised advice on nutrition and physical activity from an appropriately trained health care professional or as part of a structured educational programme.

People with diabetes are given advice on diet and exercise from a trained health care professional or as part of their diabetes course.

Definition

An appropriately trained health care professional is one with specific expertise and competencies in nutrition. In most instances this will be a registered dietitian who delivers nutritional advice on an individual basis or as part of a structured educational programme.



Introduction

Nutrition

All New Zealanders with type 1 diabetes should be referred for personalised dietary advice from a registered dietitian upon diagnosis and on an ongoing basis as required. People with type 2 diabetes should also have access to nutritional advice from an appropriately trained health professional in either a one-to-one or group consultation. Personalised advice on food and nutrition should be tailored and meaningful to the person with diabetes and their family/whānau, provided in a form that is sensitive to the person's needs, culture and beliefs, and sensitive to their willingness to change, and should have an effect on their quality of life (National Institute for Health and Care Excellence [NICE] CG87 2009).

Evidence is strong that diabetes-specific dietary advice (including medical nutrition therapy) provided by registered dietitians is an effective and essential therapy in the management of diabetes (Andrews et al 2011; Coppell et al 2010; Franz et al 2010). Furthermore, diabetes-specific dietary advice can improve clinical and metabolic outcomes associated with diabetes and cardiovascular risk, such as glycaemic control, dyslipidaemia, hypertension and obesity, as well as overall nutrition status (American Diabetes Association 2008; Evert et al 2013; Franz 2002; Franz et al 2010).

To support people making healthy food choices and positive changes to their diet over the long term, it is important that all health care professionals working with people with diabetes have a thorough understanding of the New Zealand cardioprotective dietary pattern. This is summarised in the Heart Foundation's 'Nine Steps for Heart Healthy Eating':

- Enjoy three meals a day, select from dishes that include plant foods and fish, and avoid dairy fat, meat fat or deep fried foods.
- Choose fruits and/or vegetables at every meal and for most snacks.
- Select whole grains, whole grain breads or high-fibre breakfast cereals in place of white bread and low-fibre varieties at most meals and snacks.
- Include fish or dried peas, beans and soy products, or a small serving of lean meat or skinned poultry, at one or two meals each day.
- Choose low-fat milk, low-fat milk products, and soy or legume products every day.
- Use nuts, seeds, avocado, oils or margarine instead of animal and coconut fats.
- Drink plenty of fluids each day, particularly water, and limit sugar-sweetened drinks and alcohol.
- Use only small amounts of sugar or salt when cooking and preparing meals, snacks or drinks (if any). Choose ready-prepared foods low in saturated fat, sugar and sodium.
- Mostly avoid, or rarely include, butter, deep-fried and fatty foods and only occasionally choose sweet bakery products or pastries.

For further information: www.heartfoundation.org.nz/shop/product_view/891/a-guide-to-heart-healthy-eating-booklet.

Details of the New Zealand cardioprotective dietary pattern are also outlined in the **New Zealand Primary Care Handbook 2012**, which gives all health care professionals a useful evidence-based guideline when offering dietary advice to people with diabetes. All people with diabetes should receive written resources to support their learning around dietary recommendations, with signposting to evidence-based dietary resources accessible via reputable websites/applications etc.

According to the **Scottish Intercollegiate Guidelines Network (SIGN) (2010)** and the **American Diabetes Association (2014)**, dietary advice as part of a comprehensive management plan is recommended to improve glycaemic control for all people with type 1 or type 2 diabetes. Furthermore, it is recommended that nutrition therapy is individualised to the person with diabetes to be most effective (Evert et al 2013; Franz et al 2014).

Achieving nutrition-related goals requires a multidisciplinary team approach, with participation by the person with diabetes in planning and agreeing on goals (see Standard 3). Nutrition management has shifted from what was previously a prescriptive one-size-fits-all approach to focus on the person with diabetes and what is pertinent to their needs in the context of their family/whānau environment. With a focus on active patient participation, it puts the person at the centre of their care and enables recommendations to be tailored to their personal preferences and encourages joint decision-making (Dyson et al 2011).

For people with type 2 diabetes, in addition to learning about the New Zealand cardioprotective dietary pattern, specific advice regarding carbohydrate and alcohol intake, meal patterns and weight management are recommended (NICE CG87 2009). In the primary care setting, diabetes specialist dietitians are involved in the following:

- supporting primary care teams
- advising individuals with pre-diabetes and newly diagnosed type 2 diabetes
- providing assessment prior to insulin transfer for people with type 2 diabetes and offering support during the process, especially with regard to glycaemic control and weight (Diabetes UK Task and Finish Group 2010).

For type 1 diabetes, specialist dietetic advice should be provided by a dietitian with expertise in type 1 diabetes (for young people, see Standard 16) (NICE CG15 2004). Diabetes specialist dietitians have additional training and skills for the following (Diabetes UK Task and Finish Group 2010):

- providing education on carbohydrate counting and supporting individuals with type 1 diabetes to adjust their insulin, manage their pump therapy and might include hypoglycaemia awareness therapy
- supporting antenatal and postnatal care
- working with young people with diabetes who may have significant eating problems or weight and glycaemic control issues
- supporting inpatient care, including complex nutritional care such as those who are enterally fed or have pancreatitis
- advising people with complex problems such as gastroparesis and renal disease
- supporting the assessment of individuals who are considering bariatric surgery and providing follow-up care if appropriate.

Children and adolescents with diabetes (type 1 or type 2) should be seen by a dietitian with specialist skills in both paediatric and diabetes management (ISPAD 2009). Young people with type 2 diabetes are at significant risk of macro- and microvascular complications (Constantino et al 2013) and should be referred to a specialist diabetes team for dietetic input.

Carbohydrate counting is an essential skill to support intensified insulin management in type 1 diabetes (DAFNE Study Group 2002), either by multiple daily injections (MDI) or continuous subcutaneous insulin infusion (CSII). To achieve this, all patients must be able to access such training locally, and ideally, at their own diabetes clinic (SIGN 2010).

Physical activity

Exercise has many positive health and psychological benefits, including physical fitness, weight management, and enhanced insulin sensitivity (Chiang et al 2014). Therefore, exercise should be a standard recommendation, as it is for people without diabetes; however, modifications may need to be made for people with diabetes, due to the presence of diabetes complications and risk of hypoglycaemia or hyperglycaemia (Chiang et al 2014). According to New Zealand guidelines, a minimum of 30 minutes of moderate intensity physical activity on most days of the week is recommended.

Smoking cessation

Smoking kills an estimated 5000 people in New Zealand every year, and smoking-related diseases are a significant cost to the health sector. Most smokers want to quit, and there are simple effective interventions that can be routinely provided in both primary and secondary care (Ministry of Health 2014). There are consistent results from both cross-sectional and prospective studies showing enhanced risk for micro- and macrovascular disease, as well as premature mortality from the combination of smoking and diabetes (Ciccolo et al 2014). New Zealand guidelines state, ‘smoking cessation has major benefits and immediate health benefits for all smokers’ (New Zealand Guidelines Group 2012, p 25). Therefore, smoking cessation and other forms of treatment should be a routine component of diabetes care (American Diabetes Association 2014) and strongly and repeatedly recommended at any level of CVD risk.

All guidelines recommend that all people who smoke should be advised to quit and offered treatment to help them stop completely. A Cochrane review (Stead et al 2008) of nicotine replacement therapy (NRT) for smoking cessation concluded that: ‘All of the commercially available forms of NRT (gum, transdermal patch, nasal spray, inhaler and sublingual tablets/lozenges) can help people who make a quit attempt to increase their chances of successfully stopping smoking. NRTs increase the rate of quitting by 50–70%, regardless of setting. The effectiveness of NRT appears to be largely independent of the intensity of additional support provided to the individual. Provision of more intense levels of support, although beneficial in facilitating the likelihood of quitting, is not essential to the success of NRT’ (Stead et al 2008, p 2).

In a more recent review of behavioural interventions to support smoking cessation, pharmacotherapy (both prescription and over-the-counter) and behavioural support were identified to aid cessation, and their combination is more effective than either alone (Ciccolo and Busch 2014).



Guidelines

The **New Zealand Primary Care Handbook 2012** provides summary guidance from a collection of guidelines and is intended as a convenient reference for health professionals and can be accessed here: www.health.govt.nz/publication/new-zealand-primary-care-handbook-2012.

The 2012 edition includes content on the management of type 2 diabetes, weight management, stroke and transient ischaemic attack, heart failure and rheumatic fever. It covers recommendations for best practice for weight management, physical activity and smoking cessation.

While the New Zealand Primary Care Handbook 2012 remains the main reference for health care practitioners, the Cardiovascular Disease Risk Assessment (updated 2013) provides updates for CVD risk assessment, management and diabetes screening advice. This guide helps support teams and practitioners to deliver more heart and diabetes checks for their patients. In addition to the guide, a quick reference sheet summarises the key updates. An online version of the handbook and the 2013 updates are available on the Ministry of Health website: www.health.govt.nz/publication/new-zealand-primary-care-handbook-2012

Weight management

Clinical Guidelines for Weight Management in New Zealand Adults (2009)
www.health.govt.nz/system/files/documents/publications/weight-management-adults-guidelines.pdf8

The aim of this guideline is to provide evidence-based guidance for weight management in adults. It is expected that this guideline will be used principally in primary care and community-based initiatives. Primary prevention of overweight and obesity, although vitally important, is outside the contracted scope of this guideline. This guideline stands alongside a guideline developed for weight management in children and young people. The guideline provides specific advice about improving weight management outcomes for Māori, Pacific and South Asian populations as a priority. It identifies that good practice that reflects the rights, needs, culture and context of priority populations can improve the uptake and impact of guideline-based interventions. The guideline emphasises the importance of involving others as appropriate (eg, spouse, family/whānau) and achieving mana-enhancing relationships through a responsive health system at all stages of the algorithm. Mana-enhancing relationships are ones where there is genuine respect for the person with weight-related risks and a sense of collaboration that connects with deeper values and beliefs to achieve behaviour change.

Smoking cessation

The New Zealand Guidelines for Helping People to Stop Smoking (2014) provides health care workers with advice they can use when dealing with people who smoke. These Guidelines replace the 2007 New Zealand Smoking Cessation Guidelines, and are based on a recent review of the effectiveness and affordability of stop-smoking interventions. The guidelines remain structured around the ABC pathway, which was introduced in the 2007 Guidelines. However, the definitions of A, B and C (see below) have been improved to emphasise the importance of making an offer of cessation support and referring people who smoke to a stop-smoking service.

The ABC pathway

- **Ask** about and document every person's smoking status.
- Give **Brief advice** to stop to every person who smokes.
- Strongly encourage every person who smokes to use **Cessation support** (a combination of behavioural support and stop-smoking medicine works best) and offer to help them access it. Refer to, or provide, cessation support to everyone who accepts your offer.

The guidelines include several important messages:

- Health care workers should give brief advice to stop smoking to all people who smoke, regardless of whether they say they are ready to stop smoking or not.
- Provide evidence-based cessation support for those who express a desire to stop smoking.
- Health care workers should only recommend smoking cessation treatments of proven effectiveness, as identified in these guidelines, to people interested in stopping smoking.

The New Zealand Guidelines for Helping People to Stop Smoking. Wellington: Ministry of Health (www.health.govt.nz/publication/new-zealand-guidelines-helping-people-stop-smoking).



Implementation advice

Nutritional advice

Diabetes services should be adequately resourced with registered dietitians who have appropriate training and experience in diabetes prevention and management. When commissioning specialist diabetes services for adults with diabetes, international recommendations state there should be at least at least four whole-time equivalent (WTE) registered dietitians with specialist skills in diabetes for a total population of 250,000 people, with an average of 5% prevalence of diabetes (Commissioning Specialist Diabetes Services for Adults with Diabetes – a Diabetes UK Task and Finish Group Report 2010). This should be upwardly adjusted based on local demographic need (eg, areas with a diabetes prevalence above the national average) and/or increasing prevalence of diabetes and obesity. Local models of care should reflect registered dietitian full-time equivalent (FTE) ratios and be integrated into clinical care pathways, (eg, Map of Medicine see MidCentral and Waikato DHBs).

- www.nursingreview.co.nz/issue/may-2012/map-of-medicine-development-at-midcentral-dhb/#.U97BPpSSwwc.
- www.waikatodhb.health.nz/about-us/news-and-events/news/midland-dhbs-join-together-with-map-of-medicine/.

As nutritional advice is different for type 1 diabetes, type 2 diabetes, diabetes in pregnancy and across the lifespan, it is important that registered dietitians have the appropriate knowledge and skills to practice competently at the level their role requires. Given the growing prevalence and complexity of diabetes referrals, it is essential that primary, secondary and specialist services are adequately resourced with dietitians who are experts in diabetes and nutritional advice, understand the broader complexities of living with diabetes and also have advanced skills in communication and adult education. With adequate resourcing, dietitians may then be available to support other providers of diabetes care to develop fundamental nutrition knowledge and skills so that, wherever people are accessing care, consistent and accurate dietary advice can be imparted. Implementation of an Integrated Knowledge, Skills and Career Pathway framework is currently being developed for New Zealand dietitians working in diabetes care.

Physical activity

Local arrangements need to be in place to ensure that people with diabetes receive personalised advice on physical activity from an appropriately trained health care professional, or as part of a structured educational programme.

Smoking cessation

Comprehensive implementation guidance is provided here:

www.health.govt.nz/publication/new-zealand-guidelines-helping-people-stop-smoking.

Implicit within the Guidelines for Helping People to Stop Smoking is an assumption that health care workers have the prerequisite knowledge, attitudes and skills to support smokers in ways that maximise the smokers' chances of stopping smoking permanently.



Implementation examples / innovations



UCOL U-Kinetics

The UCOL U-Kinetics Exercise and Wellness Centre is an innovative approach to providing specialist exercise physiology services to clients with a range of medical conditions (including type 1 and 2 diabetes) or musculo-skeletal injuries, using highly qualified clinical exercise physiologists, in conjunction with UCOL postgraduate clinical exercise physiology students.

Clients complete specialised exercise assessments and undertake personalised and highly supervised exercise programmes delivered in a safe, state-of-the-art facility. Data from the referral letter, initial consultation (including questionnaire results), and exercise assessment are essential for knowing the client's current state of health and how to safely exercise the client in the clinic through identification of their exercise symptom limits. The exercise assessment includes a range of measures, including submaximal exercise testing (with resting and exercise 12-lead ECG), blood pressure responses, body composition, balance, and for diabetics, acute blood glucose responses to exercise.

Clients are prescribed a 12-week supervised exercise programme, incorporating components of aerobic fitness, strength, balance and flexibility. At each session, the clients are checked before, during and following each session – for people with diabetes, this includes measurement of blood glucose level, heart rate, blood pressure, and other measures depending on their comorbidities (eg, 30-second ECG if cardiac problems, pulse oximetry if respiratory issues), along with utilising scales during exercise, such as perceived exertion, to ensure they are responding appropriately to their exercise workload. During their programme at U-Kinetics clients are encouraged to learn and understand 'their numbers' (glucose levels, blood pressure, exertion levels, etc) and how lifestyle changes can improve their self-management of their condition, and minimise risk of future complications.

U-Kinetics is an innovative and unique collaboration between UCOL, MidCentral District Health Board (DHB) and The Back Institute (TBI) Health, combining education and health, and collaboration between both public and private providers with a focus on achieving significant health outcomes for all clients. For diabetes, there is a close working relationship with both the MidCentral DHB Diabetes and Endocrinology Service and the diabetes services for the Central Primary Health Organisation (PHO). U-Kinetics is a demonstration site for Health Workforce NZ, showcasing the role of an exercise specialist within health and rehabilitation, and it provides an excellent learning environment for both clients and UCOL postgraduate students. The knowledge and skills that graduates of the programme have obtained will enable them to play an important role within the community, utilising exercise to help clients manage their chronic medical conditions and injuries.

For further information: www.u-kinetics.co.nz/.



The Green Prescription

The Green Prescription (GRx) initiative is a health professional’s written advice to a patient or their family to encourage and support them becoming more physically active as part of a total health plan. The scheme encourages general practitioners to target several medical conditions associated with inactivity, and has been used by over 80% of New Zealand general practitioners. The initiative consists of two components: GRx (for adults) and the GRx Active Families programme that aims to increase physical activity for children, young people and their families, and was introduced in 2004.

Information on the Green Prescription can found here:

- www.health.govt.nz/our-work/preventative-health-wellness/physical-activity/green-prescriptions/how-green-prescription-works.
- www.health.govt.nz/our-work/preventative-health-wellness/physical-activity.



Assessment tools

Nutritional advice / physical activity

Structure

Evidence of local arrangements to ensure that people with diabetes receive personalised advice on nutrition and physical activity from an appropriately trained health care professional, or as part of a structured educational programme.

Process:

- (a) The proportion of people with type 1 diabetes and youth with type 2 diabetes who receive personalised advice on nutrition at diagnosis and then ongoing review, from a registered dietitian.

Numerator	The number of people in the denominator receiving personalised advice on nutrition from a registered dietitian
Denominator	The number of people with type 1 diabetes and youth with type 2 diabetes

The proportion of people with type 2 diabetes who receive personalised advice on nutrition within one year of diagnosis and review as needed, from either a registered dietitian or an appropriately trained health care professional.

Numerator	The number of people in the denominator receiving personalised advice on nutrition from an appropriately trained health care professional
Denominator	The number of people with type 2 diabetes

- (b) The proportion of people with diabetes who receive personalised advice on physical activity.

Numerator	The number of people in the denominator receiving personalised advice on physical activity
Denominator	The number of people with diabetes



Resources

Smoking cessation

- **Ministry of Health – Health targets: Better help for smokers to quit**
 - 95% percent of hospitalised patients who smoke and are seen by a health practitioner in public hospitals and 90% of enrolled patients who smoke and are seen by a health care practitioner in general practice are offered brief advice and support to quit smoking.
 - 90% of pregnant women (who identify as smokers at the time of confirmation of pregnancy in general practice or booking with a lead maternity carer) are offered advice and support to quit.
- **Ministry of Health Food and Nutrition Guidelines**
www.health.govt.nz/our-work/preventative-health-wellness/nutrition/food-and-nutrition-guidelines
- **Heart Foundation guide to healthy heart eating**
www.heartfoundation.org.nz/shop/product_view/891/a-guide-to-heart-healthy-eating-booklet
- **Sport New Zealand**
www.sportnz.org.nz
- **Diabetes New Zealand**
www.diabetes.org.nz/living_with_diabetes/type_2_diabetes/smoking
- The **Ministry of Health** website has the following documents available to download at: www.health.govt.nz/publication/new-zealand-guidelines-helping-people-stop-smoking:
 - The New Zealand Guidelines for Helping People to Stop Smoking (docx, 218 KB)
 - The New Zealand Guidelines for Helping People to Stop Smoking (pdf, 1 MB)
 - Background and Recommendations of The New Zealand Guidelines for Helping People to Stop Smoking (pdf, 1.7 MB)
 - Background and Recommendations of The New Zealand Guidelines for Helping People to Stop Smoking (docx, 298 KB)
 - Guide to Prescribing Nicotine Replacement Therapy (docx, 388 KB)
 - Guide to Prescribing Nicotine Replacement Therapy (pdf, 867 KB)

- The ABC Pathway: Key messages for frontline health care workers (docx, 93 KB)
- The ABC Pathway: Key messages for frontline health care workers (pdf, 820 KB)
- Smokefree Nurses Aotearoa/New Zealand
www.smokefreenurses.org.nz/ABCQUIT+CARDS.html

Online learning

- **HealthEd** Health Promotion Agency and the Ministry of Health
A catalogue of health resources
<https://www.healthed.govt.nz>
- **Health Mentor Online:** For registered health care professionals
www.pro.healthmentoronline.com
- **Health Mentor Online:** For people with diabetes
www.healthmentoronline.com
- **Diabetes New Zealand**
www.diabetes.org.nz



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