



RACGP General Practice Management of Type 2 Diabetes

April 2016

The Dietitians Association of Australia (DAA) is the national association of the dietetic profession with over 5800 members, and branches in each state and territory. DAA is a leader in nutrition and advocates for food and nutrition for healthier people and healthier nations. DAA appreciates the opportunity to provide feedback on the General Practice Management of Type 2 Diabetes by the Royal Australian College of General Practitioners.

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DAA interest in this consultation

DAA is the peak professional body for dietitians in Australia. DAA is concerned about the prevalence of lifestyle related diseases, including diabetes, amongst Australians. DAA is interested in policy and guidelines for effective care in Type 2 Diabetes management.

Accredited Practising Dietitians (APDs) provide medical nutrition therapy to people with Type 2 Diabetes to assist in the management of the disease. DAA recognise the essential nature of a multidisciplinary team, including an APD, in achieving better health outcomes for people with Type 2 Diabetes.

Recommendations

DAA are very appreciative of the inclusion of feedback provided on the 2014-2015 guidelines in this new edition. DAA continue to support the publication of the updated RACGP General Practice Management of Type 2 Diabetes with the following broad recommendations:

- The document should clearly state that the Australian Dietary Guidelines¹ are the key resource for general healthy eating recommendations. The Australian Dietary Guidelines and Australian Guide to Healthy Eating include practical nutrition information which can be provided to patients. Information is available at www.eatforhealth.gov.au.
- It is pleasing to see Accredited Practising Dietitians (APD) included in the document. At present the recommendation to General Practitioners (GPs) is that referral to an APD be considered for patients. Evidence supports the inclusion of medical nutrition therapy from a qualified dietitian for people with diabetes. Therefore, it should be recommended that all patients with type 2 diabetes be referred to an APD.

Specific comments on Section 6 ‘Lifestyle Modification’ are provided in the discussion below.

Discussion

6. Lifestyle Modification

- It should be stated in this section that people with diabetes should receive nutrition counselling by an APD. Evidence shows that dietetic intervention leads to lower HbA1c levels for those with Type 2 Diabetes (grade B, level 2 for those with type 2 diabetes) and reduced hospitalisation rates (grade C, level 3)².

6.1 Physical Activity

- The recommendations box for physical activity should include more detail about the specific recommendations, i.e. that both aerobic and resistance exercise are recommended, and the duration and timing of each as described in the 'In Practice' section. The box should include recommendations on resistance training and supporting grade of evidence.
- Stress management can be included as an additional benefit of physical activity.
- General physical activity safety advice for people with diabetes
 - The first point should specify that hypoglycaemia can be delayed and can occur up to 24 hours after exercise. Patients should be advised to check their BGLs before, during and after physical activity if using insulin or sulphonylureas. Additional carbohydrate foods and medications adjustments may be required depending on the patients BGLs.
 - The statement to 'advise patients that if their pre-existing BGL is <5mmol/L they should eat...' needs a reference. The individual should discuss their requirements with an APD and Credentialed Diabetes Educator (CDE).
 - Recommend the last point read 'advise patients to check their feet daily and immediately after physical activity for blisters, warm areas or redness'.
 - Recommend adding that exercise should not be performed when blood glucose levels are above 15mmol/L or when ketones are present³
- Referral to an Accredited Exercise Physiologist should be recommended for all people with Type 2 Diabetes.
- Further advice on physical activity and diabetes management should be sought from Exercise and Sports Science Australia.

6.2 Diet

- DAA are very pleased to see that APDs are included in this section. Accredited Practising Dietitian (APD) is a trademarked credential of the Dietitians Association of Australia. The correct presentation is with capital letters and this should be used throughout the document. Throughout the document the acronym APD can be used after the first mention of Accredited Practising Dietitian (APD).
- Recommendations table. Additional high quality systematic literature reviews, such as the one from Diabetes UK include further information on diabetes prevention. Recommend adding the major recommendations for

diabetes prevention from page 9 of the Diabetes UK Evidenced Based Nutrition Guidelines for the Prevention and Management of Diabetes (<https://www.diabetes.org.uk/Documents/Reports/nutritional-guidelines-2013-amendment-0413.pdf>). A recommendation for lifestyle change, including dietary change, for overweight and obesity should be included as this is effective in reducing risk of Type 2 Diabetes⁴.

- The two recommendations in the table are about prevention rather than management of Type 2 Diabetes. DAA recommend that the content outlined in Table 1 be included as further recommendations.

Table 1. Recommendations for inclusion in the Dietary section of the document.

Recommendations	Reference	Grade
People with diabetes should receive individualised medical nutrition therapy to achieve treatment goals (e.g. glycaemic, blood pressure, and lipid and weight goals) and to prevent or delay complications of diabetes from an APD.	a. Evert, Boucher, Cypress, Dunbar, Franz, Mayer-Davis, Neumiller, Nwankwo, Verdi, Urbanski, 2014, “Nutrition Therapy Recommendations for the Management of Adults with Diabetes”. <i>Diabetes Care</i> , vol. 37, sup. 1 b. Canadian Diabetes Association Clinical Practice Guidelines Expert Committee. Canadian Diabetes Association 2013 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. <i>Can J Diabetes</i> 2013; 37(sup 1):S1-S212.	A
Nutrition therapy is recommended for all people with Type 2 Diabetes as an effective component of the overall treatment plan.	Evert, Boucher, Cypress, Dunbar, Franz, Mayer-Davis, Neumiller, Nwankwo, Verdi, Urbanski, 2014, “Nutrition Therapy Recommendations for the Management of Adults with Diabetes”. <i>Diabetes Care</i> , vol. 37, sup. 1	A
The amount of carbohydrate eaten and the available insulin may be the most important factor that influences the glycaemic response after eating.	a. Evert, Boucher, Cypress, Dunbar, Franz, Mayer-Davis, Neumiller, Nwankwo, Verdi, Urbanski, 2014, “Nutrition Therapy Recommendations for the Management of Adults with Diabetes”. <i>Diabetes Care</i> , vol. 37, sup. 1 b. Canadian Diabetes Association Clinical Practice Guidelines Expert Committee. Canadian Diabetes Association 2013 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. <i>Can J Diabetes</i> 2013; 37(sup 1):S1-S212.	A
Consumption of oily fish at least twice a week is recommended	Evert, Boucher, Cypress, Dunbar, Franz, Mayer-Davis, Neumiller, Nwankwo, Verdi,	B

<p>less than 7% of daily energy, dietary cholesterol less than 200 mg daily, and a daily fat intake of 25-35%) can reduce total cholesterol by 7-21%, low density lipoprotein (LDL)- cholesterol by 7-22%, and triglycerides by 11-31% (20). Energy from saturated or trans fatty acids may be replaced by energy from unsaturated fatty acids. If a reduced energy intake is a goal, reduction rather than replacement of saturated fat energy is recommended. Pharmacological therapy should be considered if goals are not achieved between 3 and 6 months after initiating MNT.”</p>	<p>Guideline for Type 2 Diabetes (Page 33). http://www.idf.org/sites/default/files/IDF-Guideline-for-Type-2-Diabetes.pdf. Reference 20 is located in this document.</p>	
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Evidence for Prevention of Type 2 diabetes – important considerations for inclusion

<p>Sugar-sweetened drinks may increase the risk of developing Type 2 Diabetes</p>	<p>Malik VS, Popkin BM, Bray GA, Despres JP, Willett WC, Hu FB. Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: a meta-analysis. <i>Diabetes Care</i> 2010; 33(11):2477–83. Esposito K, Kastorini CM, Panagiotakos DB, Giugliano D. Prevention of type 2 diabetes by dietary patterns: A systematic review of prospective studies and meta-analysis. <i>Metabolic Syndrome Related Disorders</i> 2010; 8(6):471–6.</p>	
<p>High dietary fibre has been linked to lower rates of Type 2 Diabetes. Diets high in fibre and specific complex carbohydrates such as non-starch polysaccharides have been used with modest success by people with Type 2 Diabetes attempting to lose weight. The small effects seen in these experimental situations might relate to a satiating effect due to the prolongation of food absorption and a smoothing of the blood glucose response after meals.</p>	<p>National Health and Medical Research Council (2013) <i>Australian Dietary Guidelines</i>. Canberra: National Health and Medical Research Council.</p>	

Consumption of fruit is not associated with risk of Type 2 Diabetes.	National Health and Medical Research Council (2013) Australian Dietary Guidelines. Canberra: National Health and Medical Research Council.	C
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For full list of nutrition therapy recommendations in the management of type 2 diabetes from the American Diabetes Association, see http://care.diabetesjournals.org/content/37/Supplement_1/S120.full.pdf

Eating for Cardiovascular Protection

- This section should read “One such dietary choice...” when describing the Mediterranean diet. The Mediterranean diet is only one diet pattern that is appropriate for managing Type 2 Diabetes and its comorbidities⁵. Focussing on one specific dietary pattern is misleading used in this way. The focus of this section should be on the Australian Dietary Guidelines¹ which provide guidelines for healthy eating. The Australian Dietary Guidelines¹ includes advice on fats and salt which are important for cardiovascular protection. DAA support the referral to an APD for individual advice.

Glycaemic Management and Meal Planning

- Recommend changing the first sentence ‘dietary evaluation and optimisation’ to ‘individualised assessment of current eating patterns and advice by an APD should be recommended in all people to support the management of Type 2 Diabetes’
- The amount of carbohydrate eaten and the available insulin may be the most important factor that influences the glycaemic response after eating⁸. Recent systematic literature reviews continue to support that the amount of carbohydrate consumed is important⁶ and also highlight the importance of the type of carbohydrate in achieving optimum blood glucose levels⁷.
- Recommend including definitions of glycaemic load and glycaemic index in this section and how these impact on blood glucose levels. Key statements on Glycaemic Index from the American Diabetes Association Guidelines should be included in the document⁸.
- Suggest changing list of Low GI foods to ‘low GI foods include dense wholegrain breads, steel-cut oats, lower-fat milk and yoghurt, minimally processed (e.g. wholegrain Low GI) breakfast cereals, pasta, Doongara rice, legumes and most fruits’. People with diabetes should be encouraged to check the up-to-date lists of the GI of foods on the GI website- <http://www.gisymbol.com>

- Cakes and soft drinks do not necessarily have a high GI. Recommend changing to ‘intake of high carbohydrate, low nutrient dense foods such as soft drinks, cakes and lollies should be less frequent and in small amounts to...’
- Recommend removing the final sentence of paragraph 2 in glycaemic management and meal planning. The effect of total amount of carbohydrate has already been mentioned at the start of that paragraph.
- ‘Evidence that additional dietary information is required for people with Type 2 Diabetes on insulin’ should be amended to ‘evidence that additional nutrition education is required for people with Type 2 Diabetes on insulin or an oral hypoglycaemic agent capable of inducing hypoglycaemia (e.g. sulphonylureas)’
- The wording ‘may help control blood glucose’ should be amended to meet the language suggested by Diabetes Australia (<https://static.diabetesaustralia.com.au/s/fileassets/diabetes-australia/9864613f-6bc0-4773-9337-751e953777cd.pdf>)
- In the final paragraph of this section, the inclusion of snacks should be balanced against the risk of both ‘weight gain’ and ‘hypoglycaemic events’.

In Practice

- A line space should be included before the title of this section.
- Page 38 paragraph 1, recommend differentiating between total versus added sugar. Suggest ‘All sugars do not need to be eliminated. A small amount of added sugar, as part of a mixed meal or food (e.g. 1 teaspoon of sugar/honey added to breakfast cereal), will not adversely affect blood glucose levels. Including small amounts of added sugar as part of a high-fibre, modified-fat meal plan increases the choice of food available and may aid adherence. Foods naturally high in sugar such as fruit and dairy do not need to be avoided.’
- The NHRMC Healthy Eating for Adults specifically excluded people with existing diabetes from the systematic literature review. This paragraph should also include links to the UK, Canadian or American Diabetes Associations Guidelines for healthy eating for people with diabetes.
- Final point in the ‘in practice’ section. Referral to an APD is required to provide medical nutrition therapy to people with Type 2 Diabetes. To find an APD visit www.daa.asn.au.

6.3 Weight

- In the table recommend including that for BMI above 35, waist circumference has little predictive power of disease risk. It is therefore not

necessary to measure waist circumference in individuals with a BMI greater than 35⁹.

- In the final sentence of the bariatric surgery paragraph, there is a double inverted comma used at the end. An inverted comma should be placed at the start of the quote, if appropriate, or the one at the end should be removed.

Clinical Context

- Paragraph 1- recommend moving the last sentence regarding benefits of exercise regardless of weight loss to the physical activity section. The benefits of physical activity independent of weight changes or dietary intake are also highlighted in Jeon et al. (2007)¹⁰.
- Consider removing the last paragraph of this section as this information is based solely on one trial or at least indicate the weakness of this evidence. This paragraph should instead highlight the important of a multi-disciplinary approach to lifestyle modification^{11, 12, 13, 14}.

In practice

- The age for older adults should be specified. Recommend that older adults includes those who are aged 65 and over (reference 22 in the document).

Weight Management

- The statement ‘sustained weight reduction of approximately 5kg is associated with a reduction of HbA1c of approximately 0.5-1%’ needs a reference.
- A multi-component lifestyle intervention should be listed in the ‘in practice’ section before Very Low Energy Diets. In overweight or obese people with diabetes a nutritionally balanced, energy reduced diet should be followed to achieve and maintain a lower, healthier body weight (grade A evidence)⁸. There is no clear evidence that one eating pattern or macronutrient distribution is ideal for weight loss and this should be individualised for the patient with the assistance of an APD.
- The paragraph on Very Low Energy Diets needs to be referenced. The current reference 15 in the document could be used for this paragraph.

6.5 Alcohol Consumption

- Recommend specifying ‘20g alcohol’ per day. Suggest including examples of a standard drink and amount of alcohol in each standard drink.

References

1. National Health and Medical Research Council (2013) Australian Dietary Guidelines. Canberra: National Health and Medical Research Council.
2. Canadian Diabetes Association Clinical Practice Guidelines Expert Committee. Canadian Diabetes Association 2013 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. *Can J Diabetes*. 2013; **37**: S1-S212
3. Sports Dietitians Australia. Diabetes and Exercise Factsheet. Available from <https://www.sportsdietitians.com.au/factsheets/diets-intolerances/diabetes-and-exercise-2/>.
4. Tuomilehto J, Lindstrom J, Eriksson JG *et al*. Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance. *N Eng J Med*. 2001; **344**: 1343-50
5. Ajala O, English P, Pikney J. Systematic review and meta-analysis of different dietary approaches to the management of type 2 diabetes. *Am J Clin Nutr*. 2013; **97**: 505-16
6. Bell KJ, Barclay AW, Petocz P *et al*. Efficacy of carbohydrate counting in type 1 diabetes: a systematic review and meta-analysis. *Lancet Diabetes Endocrinol*. 2014; **2**: 133-40.
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8. Evert, Boucher, Cypress *et al*. Nutrition Therapy Recommendations for the Management of Adults with Diabetes. Position statement of American Diabetes Association. *Diabetes Care*. 2014; **37**: supplement 1.
9. National Institute of Health, National Heart Lung and Blood Institute. The Practical Guide, Identification, Evaluation and Treatment of Overweight and Obesity in Adults. 2000. Available Online http://www.nhlbi.nih.gov/files/docs/guidelines/prctgd_c.pdf
10. Jeon CY, Lokken RP, Hu FB *et al*. Physical Activity of Moderate Intensity and risk of Type 2 Diabetes: A systematic review. In *Diabetes Care*, 2007; **30**: 744-52
11. Klein S, Sheard NF, Pi-Sunyer X *et al*. Weight Management Through Lifestyle Modification for the Prevention and Management of Type 2 Diabetes: Rationale and strategies. *Diabetes Care*. 2004; **27**: 2067-73.
12. Lindström J, Ilanne-Parikka P, Peltonen M *et al*. Sustained reduction in the incidence of type 2 diabetes by lifestyle intervention: follow-up of the Finnish Diabetes Prevention Study. *The Lancet*. 2006; **368**: 1673-79.
13. Mishra GD, Carrigan G, Brown WJ *et al*. Short-term Weight Change and the Incidence of Diabetes in Midlife. *Diabetes Care*. 2007; **30**: 1418-24.
14. Norris SL, Zhang X, Avenell A. *et al*. Long-term non-pharmacological weight loss interventions for adults with prediabetes. *Cochrane Database of Systematic Reviews*, 2005; **2**.