

## **Diet, Lifestyle and Obesity Management**

Healthy behaviours and interventions remain the cornerstone of chronic disease management and prevention. They should be universally applied to all of those with chronic disease including those with cardiovascular disease, obesity, Type 2 diabetes, chronic kidney disease and many other chronic conditions.

### **Motivational interviewing**

The most successful and long-lasting interventions are those that are practical, appeal to patients on an emotional level and are reinforced by positive social interactions. (1) To achieve long-term changes, patients should be encouraged to make small steps progressively towards healthy lifestyle changes. (1)

Behavioural stages of change have been well documented. Patients progress through a series of steps before adopting a new behaviour. Motivational interviewing is a technique that allows a patient to explore and resolve their ambivalent feelings and then decide to make a change or not. (1) It assumes a patient's involvement will lead to relatedness (need to interact and care for others), that structure will lead to competence (need to control the outcome and experience mastery) and that autonomy support will lead to autonomy (ability to make decisions for oneself). (1)

The following four basic skills are essential for successful motivational interviewing: ask open-ended questions, provide affirmation, practice reflective listening and periodically provide summary statements to the patient. It is extremely important that the interviewer expresses empathy, develops the patient's recognition of discrepancy between what they believe to be true and reality, avoids argumentation, rolls with resistance and always supports the patient's ability to make change.

In motivational interviewing, the patient is actively involved in the process and as they explore their ambivalence to change this will lead to a desire for change. With encouragement and structure, the

patient gains confidence that they have the ability to change. They have to determine the personal reasons why a change is important to them and recognize that change is necessary. Through supporting the patient to explore options, the patient can make a commitment to change. It is important for the patient to develop SMART goals. These are specific, measurable, achievable, realistic and timely. For example a patient may say “I will reduce my smoking to 5 cigarettes per day starting tomorrow and completely quit smoking in two weeks on June 12/2013 using nicotine patches”. In contrast, a goal such as “I will exercise more” is not a SMART goal. Although this goal may be realistic and achievable, it is too general, not measurable and has no timeline. Such goals are not useful for moving the patient through the stages of change.

Examples of motivational interviewing questions include: (2)

1. What would you think about ... ?
  - a. Assesses patient’s readiness to change
2. How would it benefit you if you decided to ... ?
  - a. Assesses patient’s conviction and confirms patient’s readiness
    - i. Looking for personalized benefits not just textbook answers
    - ii. Provide medical information if required
    - iii. Ask how the change would benefit their family life, work life, daily activities, future aspirations/plans/dreams
3. If you really decided to ... how confident would you be on a scale of 1 to 10?
  - a. Assesses patient’s confidence
    - i. Identify barriers
    - ii. Identify strategies that will work for each individual patient
    - iii. Have patient formulate SMART goals

## **Treating Lifestyle, Diet and Obesity Management**

Initial treatment should focus on reducing the cardiovascular risk factors that have the most effect on altering the course of the patient's disease. (3) All risk factors need to be treated to target, but each risk factor has a different temporal effect on altering cardiovascular risk. (3) For example, reducing blood pressure in the short term will be a higher priority, whereas diet and exercise are more important in the long term. (3)

### **Smoking cessation**

All smokers should receive nonjudgmental, clear and unambiguous advice to consider making a quit attempt using a clear, personalized message. (3) Provide brief advice and support and consider pharmacological therapy where necessary. Refer to the smoking cessation education materials for more information.

### **Physical activity**

All adults aged 18–64 years should accumulate at least 150 min of moderate-to-vigorous-intensity aerobic physical activity per week, in bouts of 10 min or more. (3) It is also recommended to add muscle- and bone-strengthening activities that use major muscle groups such as weight lifting, at least two days per week. (3) Increasing the amount of physical activity above the baseline guidelines may provide greater health benefits. (3)

### **Dietary Recommendations**

All adults should maintain a healthy balanced diet that is high in fresh fruits, vegetables, low-fat dairy products, dietary and soluble fibre, whole grains and protein from plant sources and low in saturated fat, cholesterol and sodium, in accordance with Canada's Food Guide to Healthy Eating ([http://www.hc-sc.gc.ca/fn-an/alt\\_formats/hpfb-dgpsa/pdf/food-guide-aliment/print\\_eatwell\\_bienmang-eng.pdf](http://www.hc-sc.gc.ca/fn-an/alt_formats/hpfb-dgpsa/pdf/food-guide-aliment/print_eatwell_bienmang-eng.pdf)).

*In hypertension:*

Patients with hypertension should follow the DASH diet (<http://dashdiet.org>) since it was shown to reduce systolic blood pressure by 11.4 mmHg and diastolic blood pressure by 5.5 mmHg. (4) The DASH diet is rich in fruits, vegetables and low-fat dairy foods and had reduced amounts of saturated fat, total fat and cholesterol. (5) It provided potassium, magnesium, and calcium at levels close to the 75th percentile of U.S. consumption, along with high amounts of fibre and protein. (5) The sodium content was approximately 3 grams per day. (5) The DASH diet incorporates whole grain products, fish, poultry, and nuts. It is reduced in lean red meat, sweets, added sugars, and sugar-containing beverages. Blood pressure reductions occurred within the first 2 weeks and were maintained during the 11 week study. (4) A second DASH diet study specifically tested low sodium diets. The results indicated that sodium consumption less than 2300mg per day resulted in a decrease in blood pressure, but diets with less than 1500mg per day resulted in the greatest decrease in blood pressure. (6) Dietary sodium intake should be limited to less than 1.5 grams per day for adults 50 years or younger, 1.3 grams per day if age 51-70 and 1.2 grams per day if older than 71 years. (3)

*In diabetes:*

Following an appropriate nutrition plan can reduce HgB A1C by 1-2 %. (7) Adults with diabetes should consume no more than 7% of total daily energy from saturated fats and should limit intake of trans fatty acids to a minimum. (3, 7) An optimal dietary plan for achieving healthy body weight and dietary counselling for adults should be developed with a qualified and experienced health professional (preferably a registered dietician) together with the individual and family to meet their needs. (3, 7) A nutritionally balanced diet (designed to reduce energy intake) should be combined with other supportive interventions to achieve a healthy body weight in overweight and obese people of all ages. (3, 7) A high-protein or a low-fat diet (within acceptable macronutrient distribution ranges indicated in the dietary reference intakes) is suggested as a reasonable short-term (6–12 months) treatment option

for obese adults as part of a weight-loss program. (3) Meal replacements may be considered as a component of an energy-reduced diet for selected adults interested in commencing a dietary weight-loss program. (3)

*In chronic kidney disease:*

Patients should maintain adequate fluid intake (6-8 glasses or 1.5-2 L per day) as fluid restriction is not required for most patients. (8) Excessive dietary protein may lead to accumulation of uremic toxins but insufficient protein intake may lead to loss of body mass and malnutrition. (8) The recommended daily protein intake is 0.8 g/kg/day for patients with GFR less than 30 mL/min. (8) Referral to a dietician may be helpful for many patients because as renal function declines, diets that avoid high amounts of phosphate, and potassium may need to be undertaken.

**Sodium Intake**

Adequate intake of sodium from all sources by age: (3)

9–50 years	1500 mg (65 mmol) per day
50–70 years	1300 mg (57 mmol) per day
Greater than 70 years	1200 mg (52 mmol) per day
Daily upper limit	2300 mg per day

*In hypertension:*

Maximum dietary sodium intake recommendations for hypertensive adults: (3)

50 years or less	1500 mg (65 mmol) per day
51 to 70 years	1300 mg (57 mmol) per day
Greater than 70 years	1200 mg (52 mmol) per day



### **Calcium Intake**

The recommended intake of calcium is 1200mg of elemental for adults over the age of 50 years. (9)

### **Vitamin D Intake**

For healthy adults, the recommended amount of cholecalciferol (vitamin D3) is 400-1000units PO daily.

(9) The recommended amount of cholecalciferol in those who are older than 50 years of age and are at moderate risk of deficiency is 800-1000units PO daily; daily doses up to 2000 units are considered safe and do not require any additional monitoring. (9)

### **Alcohol Consumption**

Excessive alcohol intake has been associated with adverse health outcomes. (10) The health benefits are the greatest when patients consume less than 1 standard drink/day. (10) The size of a standard drink is often significantly smaller than the size of the manufactured beverage container. Standard drink sizes are as follows: (10)

- One regular beer (341 mL / 12 oz, 5% alcohol)
- One glass of wine (142 mL / 5 oz, 12% alcohol)
- One glass of fortified wine (86 mL / 3 oz, 20% alcohol)
- One glass of spirits (43 mL / 1.5 oz, 40% alcohol)

The recommended maximum for males is 0-3 standard drinks per day with a weekly maximum of 15 standard drinks per week. (10) The maximum for females is 0-2 standard drinks per day with a weekly maximum of 10 standard drinks per week. (10)

### **Obesity/ Weight Reduction**

It is important to maintain a healthy body weight (BMI 18.5-24.9kg/m<sup>2</sup>) and a waist circumference of less than 102cm for men and less than 88cm for women. (3) The initial weight loss goal in obese

individuals should be 5% to 10% of baseline body weight or weight loss at a rate of 0.5-1 kg (1-2 pounds) per week. (3)

Adults with class III obesity (BMI  $\geq 40$  kg/m<sup>2</sup>) or class II obesity (BMI 35 to 39.9 kg/m<sup>2</sup>) with other co-morbidities may be considered for bariatric surgery when other lifestyle interventions are inadequate.

(3) It is vital to create a nonjudgmental atmosphere when discussing weight management and consider the barriers patients might have concerning obesity and its management. (3)

A comprehensive healthy lifestyle intervention is recommended for overweight and obese people. This includes increasing physical activity, nutrition, reduced energy intake (500-1000 Kcal/day), and cognitive behavioural therapy to change the way patients think and to change their environment to help weight loss. (3) All patients considering initiating a vigorous exercise program are encouraged to consult their physician or health care team professional. (3) Physical activity and exercise should be sustainable and tailored to the individual since long-term, regular physical activity is associated with maintenance of body weight or a modest reduction in body weight. (3) The total duration should be increased gradually to maximize the weight-loss benefits. (3)

### **Stress Management**

Stress increases the release of hormones that can cause blood vessel constriction and other cardio-metabolic effects. (11) Mechanisms that link stress and other psychosocial factors to increased CVD risk include unhealthy lifestyle, increased healthcare utilization, and low adherence to behaviour-change recommendations or cardiac medications. (12) Stress encourages unhealthy behaviours as patients may seek relief through short term fixes such as more frequent smoking and unhealthy food choices; stress also discourages healthy behaviours such as relaxation and physical activity. (12) Therefore, it is important to identify the causes of stress and try to reduce them. (12)

**Follow-up**

Ask about progress with health behaviour choices at every health care encounter using motivational interviewing techniques. Encourage patients to take small steps progressively towards healthy lifestyle changes in order to achieve long-term changes. (1)

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