

Dietary interventions in management of adults with overweight and obesity

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Any weight management plan should be structured to include both an active weight loss phase and a weight maintenance phase. Although a negative energy balance is essential for weight loss, how such an energy deficit is achieved is dependent on the individual. There are numerous dietary approaches for weight loss, including low fat, low carbohydrate, high protein and low glycaemic index diets. However, many of these approaches may be too complex or too time consuming to implement in a very time limited consultation. A more practical approach is to use the latest government dietary guidelines, the Eat for Health Program (www.eatforhealth.gov.au). The Eat for Health Program includes a range of resources for providing dietary advice based on the best scientific evidence. They focus on the quality (types of foods) and quantity (amounts of foods) of food people should eat to get the nutrients essential for good health and reduce the risk of chronic diseases. After all, the *types* of foods that patients should be eating to lose weight are the same as those that are recommended for the general healthy population.

The benefit of using the Eat for Health program to provide dietary advice for weight management is that it is flexible and can be used for patients of different cultural, economic and social backgrounds. Further, they will be of relevance and benefit to the whole family, not just the individual trying to manage their weight.

The latest National Health and Medical Research Council (NHMRC) clinical practice guidelines for the management of overweight and obesity recommends that, for adults with overweight or obesity, clinicians design dietary interventions that produce a 2500 kilojoule per day energy deficit and tailor programs to the dietary preferences of the individual. This topic summary will show you how to achieve this using the Eat for Health program.

Using the *Eat for Health* program to provide weight management advice

The Eat for Health website provides a calculator for estimating patient's daily energy requirements: <https://www.eatforhealth.gov.au/node/add/calculator-energy>. Minus 2500kJ from this number to work out a daily energy intake target. Note: To convert from kJ's to Calories, divide by 4.18.

The Healthy Eating for Adults brochure: is an excellent resource for providing dietary advice for weight management. It contains the Australian Dietary Guidelines (ADG) and the Australian Guide to Healthy Eating (AGHE) and is available

at https://www.eatforhealth.gov.au/sites/default/files/files/the_guidelines/n55g_adult_brochure.pdf

Australian Dietary Guidelines

The ADG provides qualitative statements that are applicable to all healthy adults. Guidelines 2 and 3 can be used to educate patients on the types of foods to eat.

Guideline 2

Enjoy a wide variety of nutritious foods from these five food groups every day:

- Plenty of vegetables **of different types and colours**, and legumes/beans
- Fruit
- Grain (cereal) foods, **mostly wholegrain** and/or **high cereal fibre** varieties, such as breads, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa and barley
- **Lean** meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans
- Milk, yoghurt, cheese and/or their alternatives, mostly **reduced fat**

And drink plenty of water.

Guideline 3

Limit intake of foods containing saturated fat, added salt, added sugars and alcohol

- a. Limit intake of foods high in **saturated fat** such as many biscuits, cakes, pastries, pies, processed meats, commercial burgers, pizza, fried foods, potato chips, crisps and other savoury snacks.
 - Replace high fat foods which contain predominately saturated fats such as butter, cream, cooking margarine, coconut and palm oil with foods which contain predominately polyunsaturated and monounsaturated fats such as oils, spreads, nut butters/pastes and avocado.
 - Low fat diets are not suitable for children under the age of 2 years.
- b. Limit intake of foods and drinks containing added **salt**
 - Read labels to choose lower sodium options among similar foods.
 - Do not add salt to foods in cooking or at the table.
- c. Limit intake of foods and drinks containing added **sugars** such as confectionary, sugar-sweetened soft drinks and cordials, fruit drinks, vitamin waters, energy and sports drinks.
- d. If you choose to drink **alcohol**, limit intake. For women who are pregnant, planning a pregnancy or breastfeeding, not drinking alcohol is the safest option.

This can be in the form of simple changes they can make to the foods they are already eating to make it a healthier choice. For example:

- Exchange refined cereal foods (white bread, white rice, Rice Bubbles) to wholegrain or higher fibre varieties (wholegrain bread, brown rice, oats).
- Trimming fat off meat and removing skin from chicken.
- Choosing reduced fat or no fat dairy foods.

The Australian Guide to Healthy Eating

The AGHE provides quantitative recommendations on the number of serves from the five core food groups to eat based on a person's age and sex. 'Serves' are energy equivalents within a food group. As the recommended number of serves are based on those with the lowest energy requirements within each age and gender group (i.e. smaller and less active), following the guidelines should inevitably result in an energy deficit for larger persons (see example below).

The following table provides an approximation of the energy content of the AGHE recommendations for each age and sex group.

Table 1. Average energy content of AGHE recommendations for each age and sex category.

Food group	Energy/serve (kJ)		AGHE recommended number of serves					
	low	high	Male (19-50)	Male (51-70)	Male 70+	Female (19-50)	Female (51-70)	Female 70+
Vegetables *	100	350	6	5.5	5	5	5	5
Fruit	350	350	2	2	2	2	2	2
Grains (cereals)	500	500	6	6	4.5	6	4	3
Meat & alternatives	500	600	3	2.5	2.5	2.5	2	2
Dairy	500	600	2.5	2.5	3.5	2.5	4	4
Healthy fats (males) (28-40g/day)	1036	1480	1	1	-	-	-	-
Healthy fats (females) (14-20g/day)	518	740	-	-	1	1	1	1
Total range (kJ/day)			8086-9330	7786-8980	6968-8040	7218-8190	6718-7790	6218-7290

*High refers to starchy vegetables. Calculation based on 1 serve of high and the rest of low. E.g. For male 19-50, 1x 350kJ and 5 x 100kJ.

All Eat for Health resources are free to order and are ideal for use in consultations as well as display in patient waiting rooms. The website also contains lots of useful information to direct patient to, such as meal planning, eating out, cooking and shopping.

Example

55 year old female who weighs 100kg, is 1.65m tall (BMI 36.7kg/m²) and sedentary- has an estimated daily energy requirements of 9713kJ. If this lady was advised to follow the recommended number of serves, this would provide a daily energy deficit of 1923-2995 per day, or an average of ~2500kJ. This does not include any discretionary choices (non-core foods that are high in sugar, fat, salt or alcohol). A discretionary food could be accommodated into this patient’s dietary regime by choosing lower energy alternatives within food groups. For example, the energy content of the dairy food group is based on reduced fat dairy. By switching to no fat dairy (i.e. skim milk, diet yoghurt), the patient could save an extra 120kJ per serve. Similarly, they could consume all vegetable options as non-starchy (100kJ) instead of starchy (350kJ); if they wished to have starchy vegetable this could be substituted for a grain (cereals) serve.

Based on a patient’s food preferences a basic meal plan structure can be formed. For example:

Meal	Grains/cereals	Dairy	Fruit	Vegetable	Meat/alternatives	Oils/spreads	Example
Breakfast	1	1	1				2 Weetabix, 1 cup reduced fat milk, 1 medium banana
Lunch	2	1		1	1	1	Tuna sandwich (2 slices of wholegrain bread, small 95g can of tuna, 1 cup salad, 2 slices -40g- of reduced fat cheese, 2 tsp of mayonnaise)
Dinner	1			3	1	1	Chicken stir fry (65g cooked chicken breast-100g raw, 1.5 cups vegetables, 0.5 cups brown rice, 2 tsp oil)
Snacks		2	1	1			Carrot sticks Small skim latte 200g reduced fat yoghurt
Daily total	4	4	2	5	2	2	

A note on macronutrients

Whilst the debate about the optimal macronutrient composition of a weight loss diet continues; what is well established is the importance of consuming adequate protein. Protein affects the composition of body weight loss during energy restriction as it has a fat free mass (FFM) sparing effect. As FFM is the primary determinant of resting metabolic rate this helps to sustain basal energy expenditure post weight loss (which in turn helps with weight maintenance). Hence, the popularity of high protein weight loss diets. However, it is important to note that a high protein weight loss diet only needs to be *relatively* high in protein. This is because the amount of protein in the diet can be expressed in *absolute* (grams/day) or *relative* (percentage of energy) terms. The literature suggests that the level of protein for weight loss should be between 0.8-1.2g/kg¹⁻⁴. Normal protein intake in energy balance is usually between 10% and 20% of energy or around 1.2g/kg. Therefore, sustaining a normal protein intake (in absolute terms) results in a high protein weight loss diet (in relative terms).

By following the dietary guidelines and reducing discretionary foods which are high in refined carbohydrates, alcohol or fat- by default increases the relative proportion of protein in the diet. The following table provides an approximation of the protein content of the AGHE recommendations for each age and sex group. Multiply a patients weight by 0.8 and check that the number falls within the range indicated to ensure they are getting at least the minimum required.

Table 2. Average protein content of AGHE recommendations for each age and sex category.

Food group	Protein/serve (g)		Male (19-50)	Male (51-70)	Male 70+	Female (19-50)	Female (51-70)	Female 70+
Vegetables	1		6	5.5	5	5	5	5
Fruit	1		2	2	2	2	2	2
Grains/cereals	3		6	6	4.5	6	4	3
Meat/alternatives*	15	20	3	2.5	2.5	2.5	2	2
Dairy	9		2.5	2.5	3.5	2.5	4	4
Average daily total protein (g)			93.5-109	86- 98	90-102	85-98	85-95	82-92

*Lower value represent average alternative (vegetarian) serves (1 cup legumes = 13g, 170g tofu = 28g, 2 eggs = 13g, 30g mixed nuts and seeds = 6g)

References

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