



Mediterranean diet: reducing cardiovascular disease risk

Intervention

A change in overall dietary pattern to increase intake of fresh fruits, vegetables, grains, nuts and fish and decrease intake of meat and dairy, known as the Mediterranean diet.

Total energy intake is adapted to meet individual needs. There is no specific fat restriction, as long as fat is mostly derived from fatty fish and plant sources (particularly olive oils or nuts). Patients view the Mediterranean diet as tastier and more filling than low-fat diets, which leads to increased long-term compliance.

Indication

In 2010, UNESCO officially recognised the Mediterranean diet pattern to be part of the cultural heritage of Italy, Greece, Spain and Morocco.

Prevention of subsequent cardiovascular events in patients who have had myocardial infarction.

Prevention of cardiovascular events in patients who are at high risk of cardiovascular disease. According to the large PREDIMED randomised trial, patients at high risk had either type 2 diabetes or three or more of the following:

- smoker
- hypertension
- high LDL
- low HDL
- high BMI
- family history of cardiovascular disease.

Compared with a low-fat diet, patients randomised to a Mediterranean diet had a 30% reduced risk of a cardiovascular event at 5 years.

The Mediterranean diet may also be indicated to:

- lower the risk or mitigate the severity of type 2 diabetes
- reduce the risk of colorectal, breast and other cancers
- manage weight (despite high fat content).

Availability

Mediterranean diet foods and recipes are readily available in Australia.

While some traditional ingredients and recipes used in the Mediterranean diet are not commonly used in Australia (eg rabbit, offal, cuttlefish, octopus), the general principles are readily adaptable in any cuisine.

Refer to [Consumer resources](#) for a reconstructed traditional Greek-style Mediterranean diet in Australia.



Description

The Mediterranean diet comprises:

- high monounsaturated (eg olive oil) to saturated (eg fatty red meat) ratio – at least 2:1
- high intake of legumes
- high intake of fruits and vegetables
- high intake of grains and cereals
- moderate quantities of fish, white meat and low-fat dairy
- low to moderate consumption of red wine
- low intake of red meat, processed meat and eggs
- low intake of sweets, sweet desserts and sweet drinks.

Refer to the [Consumer resources](#) for food group portion guide.

Simple guidelines for implementing the MedDiet in clinical practice

- Assess adherence to a Mediterranean diet using the [PREDIMED 14-item Questionnaire](#). This tool can also be used for monitoring changes at future clinical consultations.
- Introduce simple changes to the patient's diet, such as:
 - using olive oil instead of other oils/ fats for cooking and dressing salads and cooked vegetables
 - consuming vegetables with every meal (including leafy greens and tomatoes)
 - consuming 2–3 serves of fresh fruit per day
 - consuming legumes (cooked dried beans) 3 times per week (in salads, soups, casseroles, veggie burgers, falafel)
 - having 2–3 serves of fish or seafood per week (at least one oily fish such as salmon or sardines)
 - eating at least 3 serves of nuts per week (include walnuts and almonds)
 - choosing white meat (poultry without skin or rabbit) instead of fatty processed meats (sausages, burgers) and keep red meat portions small and lean
 - choosing natural (unsweetened) yoghurt as snack on most days
 - cooking regularly (at least twice a week) with tomato, garlic and onion, and aromatic/culinary herbs as a base for pasta sauces, casseroles and baked dishes.
- Discourage consumption of:
 - cream, butter, margarine
 - processed meats (sausages, salami), fatty meats and poultry skin, deep-fried battered foods
 - carbonated and/or sugared beverages
 - pastries, cakes, sweet biscuits and lollies
 - processed savoury snacks (potato chips, savoury biscuits).
- Provide patient with a [suggested meal plan](#) to get them started.
- Suggest resources for recipe ideas (Mediterranean cookbooks, websites).
- Empower the patient to try new recipes and enjoy meals with family and friends.
- Encourage incidental activity such as gardening, walking to local shops for fresh ingredients and preparing meals at home.



Tips and challenges

An important feature of the PREDIMED dietary intervention was the intensive sessions with dietitians at regular intervals (3-monthly) who provided tailored advice.

Referral to a dietitian is recommended for tailored advice and ongoing follow-up. Refer to Dietitians Association of Australia. www.daa.asn.au/for-the-public/find-an-apd/

Despite the high percentage of fat in this diet, it is bulky and has low energy density. It is filling: followers are less likely to snack between meals, so this diet does not lead to weight gain.

Grading

NHMRC Level 1 evidence

References

de Lorgeril M, Renaud S, Mamelle N, et al. Mediterranean alpha-linolenic acid-rich diet in secondary prevention of coronary heart disease. *Lancet*, 1994;343: 1454–9.

Estruch R, Ros E, Salas-Salvado J, et al; PREDIMED Study Investigators. Primary prevention of cardiovascular disease with a Mediterranean diet. *N Engl J Med*, 2013;368: 1279–90.

Nordmann AJ, Suter-Zimmermann K, Bucher HC, et al. Meta-analysis comparing Mediterranean to low-fat diets for modification of cardiovascular risk factors. *Am J Med*, 2011;124: 841–51.e2.

Itsiopoulos C, Brazionis L, Kaimakamis M, et al. Can the Mediterranean diet lower HbA1c in type 2 diabetes? Results from a randomized cross-over study. *Nutr Metab Cardiovasc Dis*, 2011 Sep;21(9): 740–7. DOI: 10.1016/j.numecd.2010.03.005. Epub 2010 Jul 31.

Consumer resources

Australian Guide to Healthy Eating recommended portions

Food group	Women	Men
Vegetables, legumes and beans	5 serves (2½ cups or 375 g)	6 serves (3 cups or 450 g)
Fruit	2 medium pieces or 300 g	2 medium pieces or 300 g
Grain (cereal foods) – wholegrain	4 slices bread and 1 cup cooked rice or pasta	4 slices bread and 1 cup cooked rice or pasta
Meat, poultry, fish, eggs, or vegetarian alternatives (tofu, beans)	1 small steak or small breast of chicken or fillet of fish (200 g) or 2 eggs and 1 cup cooked beans	1 medium steak or breast of chicken or fillet of fish (250 g) or 2 eggs plus 1 cup cooked beans
Milk/yoghurt, cheese or alternatives	1 glass milk (250 mL) 1 tub yoghurt (200 g) 1–2 slices cheese (20–40 g)	1 glass milk (250 mL) 1 tub yoghurt (200 g) 1–2 slices cheese (20–40 g)

Adapted from: Eat for Health
www.eatforhealth.gov.au/food-essentials/five-food-groups
Greek-style Med diet in Australia



Consumer resources

Mediterranean diet: suggested meal plan

Breakfast	Sourdough bread, toasted, with chopped tomato, red onion and drizzled with olive oil and herbs OR Sourdough toast with slice of avocado, poached egg, and drizzled with olive oil and seasoned with cracked pepper Herbal tea or short black coffee
Snack	Whole orange and handful of almonds
Lunch	Thick bean and vegetable soup OR Mixed salad with beans and tuna or salmon Small bunch grapes
Snack	Small bowl Greek-style natural yoghurt topped with crushed walnuts and drizzled with honey
Dinner	Baked fish (whole snapper or fillets) with baked potato (dressed with olive oil, grated fresh tomato, crushed garlic and fresh herbs) Leafy green salad dressed with lemon juice and olive oil Glass wine (optional)

Other resources

Patient.co (UK), Mediterranean diet – summary and chart
www.patient.co.uk/health/Mediterranean-Diet-Summary-and-Chart.htm

Patient.co (UK), Mediterranean diet video (5.32)
www.patient.co.uk/video/Mediterranean-Diet.htm

Patient.co (UK), Health benefits of the Mediterranean diet
www.patient.co.uk/health/health-benefits-of-the-mediterranean-diet

Itsiopoulos C, The Mediterranean diet. Includes background research overview, weekly menus and 80 traditional recipes.
www.panmacmillan.com.au/display_title.asp?ISBN=9781742610825&Author=Catherine%20Itsiopoulos,%20Dr

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