Eating for Heart Health

Position Statement

This position statement provides recommendations on the characteristics of a heart healthy eating pattern to maintain cardiovascular health (CVH) and reduce cardiovascular disease (CVD) risk.

Healthy eating for your heart includes:

1. Plenty of vegetables, fruits and wholegrains
2. Variety of healthy protein sources including fish and seafood, lean meat and poultry, legumes, nuts and seeds
3. Reduced fat dairy such as unflavoured milk, yoghurt and cheese
4. Healthy fat choices with nuts, seeds, avocados, olives and their oils for cooking
5. Herbs and spices to flavour foods, instead of adding salt

* Water as the drink of choice

This style of eating is naturally low in saturated and trans fats, salt and added sugar and rich in wholegrains, fibre, antioxidants and unsaturated fats (omega-3 and omega-6). Eating this way will improve the heart health of all Australians by reducing CVD risk factors such as high blood pressure and blood lipids and decreasing the risk of CVD events and mortality.

BACKGROUND

Historically, nutrition science has focused on the isolation of individual nutrients in foods and the study of their effects on the incidence of diseases. While this provided the opportunity to make important advances in our knowledge of food and nutrition, it is at odds with the way individuals and populations eat. Moreover, it is an inadequate representation of the relationship between food and health. Foods are consumed in many combinations that are likely to be complex, with nutrient intakes often highly correlated, and certain nutrients having interactive and synergistic effects.1-4

Over the past decades the food environment has remarkably changed. There has been an increase in the availability and consumption of discretionary foods and drinks, a rise in the availability of processed foods* replacing core foods, and an increase in the promotion of “healthier” versions of highly processed or discretionary foods by focusing on single nutrients such as ‘low-fat’ or ‘low-sugar’.

Given these changes, along with the need to address the poor diet quality of Australians, the implementation of a dietary pattern approach to communicating food messages is urgently required.

* In this document, the term ‘processed’ refers to highly processed and/or discretionary foods such as chips, biscuits, pastries, take-away style foods, confectionary, and sugary drinks.
The Heart Foundation has commissioned a review of the scientific evidence behind healthy eating patterns for a healthy heart. This evidence along with consideration of the cultural experiences of Australians, the Australian food supply and the political and policy contexts form the basis of this position statement.

**Australians need to significantly change their current eating patterns to improve their heart health.**

Poor diet* is the leading risk factor for deaths and disability in Australia, contributing to an estimated 29,414 deaths (18%) and over 443,300 disability adjusted life years (eight per cent of total DALYS) in 2015.5 Together poor diet and high blood pressure, the second biggest risk factor for deaths, were responsible for over a third (35.2%) of all deaths in 2015.5 For heart disease in Australia, poor diet is also the leading risk factor for deaths and disability, accounting for over 53% of deaths and over five per cent of the total DALYs.5

Poor diet also directly contributes to overweight and obesity. High body mass index (BMI) is a significant risk factor for disease burden in Australia.5,6 Rates of overweight and obesity have been steadily on the rise, with the proportion of obese males and females increasing by over 52 and 45% respectively from 1995 to 2014-15.6,7 Despite these high rates, most Australians have a false perception of their current weight and health status. The proportion of Australians with a BMI in the obese ranges is 4.4 times more than the proportion who perceive themselves to be obese.8 Additionally, changes in food and nutrient intakes, food environments and access to nutrition information have resulted in changes in the dietary behaviours of Australians. For instance, there is a widespread misconception that most Australians follow a healthy diet and lifestyle when in reality, most adults are not meeting the Australian Dietary Guidelines’ recommendations for any of the five Food Groups.9

Of particular concern is the vegetable and legumes/beans food group which has the lowest proportion of Australians meeting the daily recommendations, with only one in 14 Australian adults (seven per cent) consuming the recommended daily serves.9 Trends indicate that the proportion of Australian adults not meeting the recommended daily intake (RDI) for fruits and vegetables has increased significantly since 2001.7 Alarmingly, low vegetable consumption is one of the dietary factors with the greatest risk for death and disability in Australia and responsible for over nine per cent of all heart disease deaths and over 12% of total DALYs.5

Food environments are also rapidly changing. Australians are eating more of their meals outside of the home than ever before. Spending on fast foods and eating out grew by 50% between 2003-04 to 2009-10.10 It is estimated that over $15 billion, or a third of an average Australian’s weekly food budget, is spent annually on take away foods.11

While Australia’s consumption of fresh foods has decreased, the intake of discretionary or convenience foods has been on the rise. These foods are high in saturated fats, sugar and sodium and may be associated with an increased risk of obesity and heart disease. Discretionary foods are estimated to account for 35% of the average Australian adult’s daily energy intake.12 In 2010, Australian households spent, on average, considerably less each week on fruits ($9.60) and vegetables ($13.70) than on discretionary foods, such as take away ($30.50) and confectionary ($11.77).13

In addition to the quality of foods consumed, their quantity is also an important determinant of a heart healthy eating pattern, as it can lead to weight gain and in turn, heart disease. Internationally, research has demonstrated a trend for increasing portion sizes over the past few decades.14 A recent Australian study has also shown that the portion size of many discretionary foods has increased over time.15 There appears to be differences in the portions of food eaten depending on the age and gender of the individual, the type of food and the way in which it is eaten.15 For example, Zheng et al. found that some core foods like dairy, fruit and vegetables were consistently smaller than recommended amounts, while some discretionary foods (but not all) were consistently larger.16

* Poor diet is defined as the combination of dietary risks which include low vegetables, nuts and seed, fruits, wholegrains, fibre, omega3 and PUFA sources; high sodium, processed and red meats, trans fat and sweetened beverages; and low milk and suboptimal calcium.3
Consumers today have access to more health and nutrition information than ever before, however they are faced with an overwhelming amount of non-evidence based nutrition information and products. Much of this information has been responsible for the rise in ‘fad diets’ that focus on the exclusion of single nutrients or foods, conflicting with expert advice and contributing to consumer’s confusion around healthy eating.

**Socio-economic distribution of dietary intake**

Diet quality is unequally distributed in Australia. Aboriginal and Torres Strait Islander Peoples, vulnerable cultural groups and those living in remote communities or of relative disadvantage are less likely than other Australians to buy healthy food and consume a healthy diet. CVD also disproportionally affects these population groups with Indigenous Australians, people living in rural and remote areas and those with lower socioeconomic status having increased hospitalisation rates for CVD.

The proportion of Aboriginal and Torres Strait Islander people consuming foods from each of the five food groups is lower than non-Indigenous people. Only 4.4% of Aboriginal and Torres Strait Islander people aged 19 and over met the daily recommendations for vegetables compared to 6.8% of non-Indigenous people. Also discretionary foods accounted for 41% of Aboriginal and Torres Strait Islander people's daily energy intake, compared to 35% for non-Indigenous people. People living in rural and remote Australia have overall poorer health outcomes and lower incomes than those living in major cities, yet pay a higher price for foods, with a healthy food basket costing 20-43% more than in metropolitan areas. Due to the interplay of issues surrounding the low availability and accessibility of fresh foods along with higher food prices and greatest level of disadvantage, food insecurity can be a significant problem in both Aboriginal and Torres Strait Islander peoples and rural and regional communities.

Lower socio-economic position (as measured by area-level disadvantage, education level and household income) is also associated with poorer diet quality in Australian adults.

When measuring key foods and nutrients, greater area level disadvantage is associated with higher carbohydrate and total sugars intake. Living in lower income households was associated with lower total energy intake and higher trans fat and carbohydrate intake compared to people from higher income households. Similarly, lower education level (incomplete high school or less) among Australians was associated with a higher intake of trans fat, carbohydrates, and total sugars, lower poly-unsaturated fat and fibre intake and consume fewer servings of vegetables compared to Australians with a higher education level. Furthermore, among low socio-economic groups, poor cooking skills is associated with lower vegetable and fruit intake.

These relationships between healthy eating patterns and socio-economic position highlight the importance of social determinants in the nutrition status and health of all Australians. Structural interventions are required to support healthy dietary behaviours across all socio-economic groups. Importantly, these must work across sectors and address the underlying physical, economic, social and commercial determinants of health.

**Policy context**

Poor diet is the leading risk factor for death and disability worldwide. The World Health Organisation has recommended investment in improving healthy eating patterns to address the double burden of malnutrition. Specific to chronic diseases, the Rome Declaration on Nutrition and the United Nation's Decade of Action on Nutrition and the World Health Organisation's Global Non-Communicable Disease Targets, all set forth the essential role healthy food plays in a nation’s health.

Australian governments have implemented many programs and initiatives towards improving Australians' dietary habits and the food environment. For instance, at the Commonwealth level, the Healthy Food Partnership, previously the Food and Health Dialogue, and the voluntary front of pack labelling scheme (Health Star Rating system) aim to make the food supply healthier and raise awareness of better food choices. Other best practice policies include the GST exemption on basic foods, regulation of health claims and regular monitoring of the population's body weight through the National Health Survey.
Despite these initiatives, Australia is behind other developed nations in their efforts to address the population’s unhealthy eating patterns. A lack of investment in coordination and evaluation results in many initiatives being implemented in isolation or without adequate, long-term support. There is no comprehensive action towards addressing the current obesity crisis, and a nationally coordinated nutrition strategy and implementation plan is urgently required. Regular funding also needs to be committed for a National Nutrition Survey to be conducted every five years. Restrictions on unhealthy food advertising to children, mandatory front of pack labelling and food reformulation targets should also be implemented and monitored.

Current evidence on the impact of specific nutrients on heart health

The scientific evidence around food and nutrition and heart health to date primarily focuses on the correlation between specific nutrients and risk of heart disease.

For instance, hypertension is the leading risk factor for heart disease and second-leading risk factor for death and disability in Australia and worldwide. High sodium intake has an established causal link to hypertension and is associated with an increased risk of vascular diseases, accounting for around nine per cent of the fatal and non-fatal burden for heart disease in Australia. According to the Australian Health Survey 2011-12 the average daily intake of sodium from foods is 2,404mg (six grams of salt). However, actual intake is likely to be higher as this estimate excludes salt added on foods at the table or when cooking and under-reporting was noted as a limitation in the survey. Most Australian studies suggest people are consuming around 3,600mg of sodium per day (nine grams of salt), which reflects population’s current eating patterns. This level of sodium intake is in line with international estimates and represents almost double the World Health Organisation’s recommendations of less than 2,000mg of sodium per day (five grams of salt).

Saturated and trans fat intakes are also associated with increased risk of CVD, reducing these types of fats and replacing them with unsaturated fats and wholegrains can decrease the risk of coronary events; with polyunsaturated fats demonstrating a greater risk reduction. Poor quality carbohydrates may confer a similar amount of cardiovascular risk as saturated fats. Free sugars (those not including fruit and dairy) are associated with an increased risk of weight gain, and in turn, heart disease. In practice, this suggests that people should eat less discretionary foods – which are the leading contributors to saturated fat, trans fat, sodium and free sugar intakes - and replace them with a mix of fruit and vegetables, wholegrains, lean meat, poultry and seafood, nuts and seeds, and healthy oils.

EVIDENCE FOR DIETARY PATTERNS AND HEART HEALTH

The Heart Foundation commissioned an evidence review to look at foods and dietary patterns and their impact on heart health, rather than specific nutrients. Collins et al. evaluated information on dietary patterns and cardiovascular health from 33 systematic reviews published since January 2010 using the National Health and Medical Research (NHMRC) framework. Using this framework, 16 evidence statements on the effectiveness of dietary patterns for heart health have been established. That review informs the Heart Foundation’s position on eating for heart health and represents a shift from previous dietary recommendations which focused on single food components and their impact on heart health.

Of the dietary patterns identified in the review, the Dietary Approaches to Stop Hypertension (DASH) had the strongest evidence base for the primary prevention of cardiovascular disease, reflecting the investment in this area and the time period for publications (2010 – 2016). DASH was found to significantly decrease the risk of mortality and incidence from CVD, heart disease, heart failure and stroke in healthy adults as well as reducing multiple risk factors for CVD. For people with existing CVD, the Portfolio dietary pattern had the strongest evidence for the reduction in risk factors for CVD, followed by the DASH diet. Other dietary patterns such as the Mediterranean and prudent patterns also had a notable evidence base for lowering the risk of cardiovascular events. Depending on risk factors, the Mediterranean, Portfolio, DASH, low fat, calorie restricted and vegetarian dietary patterns were also associated with lower risk. Appendix 1 outlines the main characteristics of these dietary patterns.

While the Collins et al. review focused on ‘whole diet’ approaches, the dietary patterns identified as beneficial for heart health align with the existing single-nutrient guidelines: these healthy patterns are likely to be naturally low in saturated and trans fats, sodium and added sugar and rich in wholegrains, fibre, antioxidants, phytonutrients and unsaturated fats (omega-3 and omega-6).
Irrespective of a particular dietary approach, the similarities between them suggest that it is the quality of the foods included in the diet, as well as their combination and quantity, that is associated with greater health benefits, rather than the consumption of individual nutrients, or specific foods in isolation.

These common features around heart healthy eating patterns enabled the development of the Heart Foundation eating pattern, which is characterised by:

1. Plenty of fruit, vegetables and wholegrains
2. Variety of healthy protein sources including fish and seafood, lean meat and poultry, legumes, nuts and seeds
3. Reduced fat dairy such as unflavoured milk, yoghurt and cheese
4. Healthy fat choices with nuts, seeds, avocados, olives and their oils for cooking
5. Herbs and spices to flavour foods, instead of adding salt
6. **Water as the drink of choice**

THE HEART HEALTHY EATING PRINCIPLES

Plenty of fruit, vegetables and wholegrain cereals

These foods are high in fibre, vitamins and minerals, nutrients that are associated with a reduced CVD risk. For instance, increased vegetable consumption is associated with reduced coronary heart disease and stroke risk.49 The fibre, potassium and other micronutrients contained in fruits and vegetables have shown to reduce the risk of high blood pressure and cholesterol, therefore providing a protective effect towards CVD.49,50

There is also evidence of a significant association between wholegrain consumption and reduced risk of heart disease. Eating patterns high in fibre from wholegrains have been linked to reduced LDL-cholesterol levels, and reduced CVD risk.50 Foods high in soluble fibre are particularly beneficial to lower total cholesterol levels such as oats, barley and legumes.50 In addition, most fruits, vegetables and wholegrains have a low glycaemic load, which assists in lowering serum triglyceride levels and consequently reducing the risk of CVD.50

Variety of healthy protein sources including fish and seafood, lean meat and poultry, legumes, nuts and seeds

These foods are good sources of macro and micronutrients such as proteins, iron, zinc and vitamins, particularly those of the vitamin B group. Lean meats are also one of the main sources of vitamin B12. Some meat can be high in saturated fats, which are associated with high cholesterol and increased risk of heart disease. Choosing lean cuts of meat and poultry and avoiding processed and deli meats like sausages and salami can help reduce the total saturated fat content in the diet.

Fish and seafood are good sources of omega 3 fatty acids, and their regular consumption is associated with a reduced risk of CHD incidence and mortality.51

Legumes, nuts and seeds are good sources of plant proteins, fibre, healthy fats and micronutrients. They are also inversely associated with risk of heart disease.
Reduced fat dairy such as unflavoured milk, yoghurt and cheese
Dairy foods are good sources of protein and calcium and are part of a healthy eating pattern. Reduced fat dairy has been associated with a reduced risk for some, but not all, cardiovascular risk factors, such as high blood pressure and LDL Cholesterol. In addition, replacing saturated fat from dairy with unsaturated fat (PUFA and MUFA) is likely to be associated with a reduced risk of heart disease. This, combined with the evidence from Collins et al., suggests reduced fat unflavoured dairy is preferred over full fat dairy, as part of a heart healthy eating pattern.

Healthy fat choices with nuts, seeds, avocados, olives and their oils for cooking
Healthier fats include monounsaturated and polyunsaturated (omega-3 and omega-6) fat choices. These types of fats have been associated with reductions in LDL cholesterol and increases in HDL cholesterol, reducing the risk of heart disease. Sources of these fats include unsalted nuts, seeds such as linseed, chia or tahini, avocados, and cooking oils made from plants or seeds like olive, canola, peanut, sunflower, soybean, rice bran, sesame and safflower.

Herbs and spices to flavour foods, instead of adding salt
*Water as the drink of choice

Following the Heart Foundation eating pattern means that discretionary foods are naturally excluded and are not part of a heart healthy eating pattern. This eating pattern will also contribute to a reduced risk of CVD events and mortality, as well as improvements to CVD risk factors such as high blood pressure and blood lipids.

This approach is supported by a global shift in research and guidelines to recognise that foods and dietary patterns hold the key to healthier hearts and healthier and sustainable lives. Specifically, Mozaffarian identifies that focusing on overall dietary patterns, rather than individual nutrients or foods, can also facilitate individual diet counselling and population dietary recommendations.

Whilst acknowledging the limitations of undertaking a rapid review, Collins et al. have evaluated evidence in a systematic way and utilised frameworks to assign levels of evidence to inform practice. This evidence review also aligns with the general direction of dietary pattern and food-based advice issued by the US Dietary Guidelines Advisory Committee and the Australian Dietary Guidelines.
1. The key to eating for your heart health is to enjoy a combination of foods, chosen regularly, over time, making fresh food the basis of the diet. Rather than focusing on individual nutrients, we encourage Australians to follow the Heart Foundation eating pattern which includes:
   1. Plenty of vegetables, fruits and wholegrains
   2. Variety of healthy protein sources including fish and seafood, lean meat and poultry, legumes, nuts and seeds
   3. Reduced fat dairy such as unflavoured milk, yoghurt and cheese
   4. Healthy fat choices with nuts, seeds, avocados, olives and their oils for cooking
   5. Herbs and spices to flavour foods, instead of adding salt
   **Water as the drink of choice

2. Government and food industry need to recognise and take responsibility for improving the population’s eating patterns and improving the heart health of all Australians. Food reformulation, clear nutrition labelling to help consumers make healthier choices and equitable and affordable access to fresh fruits and vegetables for all Australians should be prioritised in the national agenda.

3. Promote policy interventions that create healthier food environments such as the use of healthier oils in food service, reducing portion sizes on unhealthy foods, incentivising consumption of healthier products and implementing marketing and education campaigns aiming to raise awareness of healthy behaviours, including healthy eating and food skills.

4. Commit to policy recommendations outlined by the WHO and other international bodies to improve population’s eating patterns such as the implementation of a national nutrition plan, nutrition deliverables that address food insecurity and initiatives that help close the health gap between Indigenous and non-Indigenous Australians.

5. An adequately skilled nutrition and health workforce, such as Dietitians, General Practitioners, nurses and cardiac rehabilitation workers, can identify and support people at high risk or with existing heart disease to make healthy eating changes
ACKNOWLEDGEMENTS

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- Garry Jennings
- Data and Evaluation Unit of the National Heart Foundation of Australia

RELATED DOCUMENTS


### APPENDIX 1

Characteristics of the different dietary patterns

<table>
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<tr>
<th>Dietary Pattern</th>
<th>DASH</th>
<th>Mediterranean†</th>
<th>Portfolio</th>
<th>Prudent</th>
<th>Low Fat</th>
<th>Vegetarian</th>
<th>Calorie restricted</th>
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<td>High consumption of fruit and vegetables, grains and legumes; Little to no consumption of meat.</td>
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α Characterised by ≤10% of an individual’s total daily energy intake from fat.
† Two similar versions of the Mediterranean diet were identified in the literature.
Foods highlighted with * indicate that this component was only included in one version.
# These include barley, rye, oats, wheat, corn and rice.
α Potassium, magnesium and calcium.
REFERENCES


