



**IPAN**  
INSTITUTE FOR PHYSICAL  
ACTIVITY AND NUTRITION



Thursday, 29 September 2022

## **Institute for Physical Activity and Nutrition (IPAN), Deakin University: Feedback on the Guideline for assessing and managing cardiovascular disease risk and Australian cardiovascular disease risk calculator.**

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### **About the Institute for Physical Activity and Nutrition, Deakin University**

The Institute for Physical Activity and Nutrition (IPAN), welcomes the opportunity to have input to the **Guideline for assessing and managing cardiovascular disease risk and Australian cardiovascular disease risk calculator**. At IPAN, we conduct world-leading research into all aspects of physical activity and nutrition across the lifespan, from conception to old age.

Our research is ranked well above world standard\*. It spans from the lab to real-world settings, including studying the biological mechanisms behind exercise and nutrition; using technology and exercise to prevent and manage chronic conditions; innovative solutions to improve nutrition; increase physical activity and reduce sedentary behaviour in our community; and develop evidence-based food policy.

Through our research, we strive to improve health outcomes in populations all over the world. Our team collaborates nationally and internationally, as well as across disciplines. We're also committed to nurturing a new generation of leading researchers, through a supportive and dynamic research environment.

IPAN's comments on the **Guideline for assessing and managing cardiovascular disease risk and Australian cardiovascular disease risk calculator**, are included in the table below, referencing the corresponding Section/Page from the Discussion Paper and an evidence-based rationale for our feedback.

\* Australian Research Council (2019). State of Australian University Research 2018–19: ERA National Report. Australian Research Council, Canberra.

Nearest section heading	Page number	Comments/amendment suggestion (max 100 words)	Rationale (max 100 words)
Overview	7	Table 1. Management column for High and Intermediate risk. Add: "Consider referral to an Accredited Exercise Physiologist and Accredited Practicing Dietitian".	Accredited Exercise Physiologists and Accredited practicing dietitians are skilled in behaviour change principles and can individualise treatment to patients with complex needs and high risk groups. This is recognised within the guideline body, however, we believe this should be highlighted in Table 1: "Overview of CVD risk management according to risk category" given the importance of multidisciplinary practice for lifestyle modification interventions.
Overview	64	Table 1. Management column for High and Intermediate risk. Add: "Consider referral to an Accredited Exercise Physiologist and Accredited Practicing Dietitian".	Accredited Exercise Physiologists and Accredited practicing dietitians are skilled in behaviour change principles and can individualise treatment to patients with complex needs and high risk groups. This is recognised within the guideline body, however we believe should be highlighted in Table 1: "Overview of CVD risk management according to risk category" given the importance of multidisciplinary practice for lifestyle modification interventions.
Use calculator to assess CVD risk	27	Include physical inactivity as a variable in the CVD risk calculator.	There is a large body of evidence that shows physical inactivity is a risk factor in the development of cardiovascular disease (PMID: 28943267; PMID: 32842915; PMID: 30157685) however, it is still viewed only as a risk management tool.

<p>Manage CVD risk – Lifestyle approaches</p> <p>Physical activity - Recommendation</p>	74	<p>Change: “Encourage, support and advise people to do regular physical activity, such as exercise programs to reduce their risk of CVD” to “Encourage, support and advise people to do regular physical activity, including exercise programs, and limit time spent in sedentary behaviour, to reduce their risk of CVD”.</p>	<p>This would provide alignment with the 2020 WHO Guidelines on Physical Activity and Sedentary Behaviour (PMID: 33239350) whereby the evidence review informing the guidelines concluded that: “In adults, physical activity confers benefits for cardiovascular disease mortality, incident hypertension, incident type 2 diabetes” AND “In adults, higher amounts of sedentary behaviour are associated with detrimental effects on cardiovascular disease mortality and incident cardiovascular disease, type 2 diabetes...”. Both recommendations were classified as ‘Strong Recommendation’ by the WHO.</p>
<p>Manage CVD risk – Lifestyle approaches</p> <p>Physical Activity – General Considerations</p>	74	<p>Change: “Increasing physical activity above sedentary levels improves lipid and metabolic profiles” to “Increasing physical activity among the least active improves lipid and metabolic profiles”.</p>	<p>Use of the term ‘above sedentary levels’ is an outdated term in light of the now well accepted definition of sedentary behaviour – Any waking behaviour characterised by an energy expenditure of 1.5 METS or lower while sitting, reclining or lying (2020 WHO Guidelines).</p>
<p>Manage CVD risk – Lifestyle approaches</p> <p>Physical Activity – General Considerations</p>	74	<p>Change: “A reduction of 1-5 mmHg is likely to reduce the risk of CVD...” to “A reduction of 1-5 mmHg resulting from regular physical activity...”</p>	<p>As stated, it is unclear that the 1-5 mmHg is the potential change arising from regular physical activity.</p>
<p>Manage CVD risk – Lifestyle approaches</p> <p>Physical Activity – General Considerations</p>	74	<p>Point 3 starting with “Although exercise-based cardiac rehabilitation....”</p> <p>The 2020 WHO physical activity and sedentary behaviour guidelines summarised the evidence in the following manner:</p>	<p>This statement does not align with the conclusions reached from the most comprehensive and contemporary evidence review undertaken by the WHO for the 2020 guidelines.</p>

		<p>“In adults, physical activity confers benefits for the following health outcomes: all-cause mortality, CVD mortality, incident hypertension, incident type 2 diabetes, incident site-specific cancers, mental health (reduced symptoms of anxiety and depression), cognitive health and sleep; measures of adiposity may also improve”.</p> <p>Also: “In adults, higher amounts of sedentary behaviour are associated with detrimental effects on the following health outcomes: all-cause mortality, CVD mortality and cancer mortality and incidence of CVD, type 2 diabetes and cancer.”</p>	
<p>Manage CVD risk – Lifestyle approaches</p> <p>Physical Activity – General Considerations</p>	74	<p>Change: “Physical activity and exercise....” to “Physical activity (including exercise programs) and limiting the amount of time spent being sedentary are unlikely to cause significant harm”.</p>	<p>This would bring this statement into alignment with the 2020 WHO physical activity and sedentary behaviour guidelines and provides consistency with the current Australian Physical Activity and Exercise Guidelines for all Australians.</p>
<p>Manage CVD risk – Lifestyle approaches</p> <p>Practice Points – dot point 1</p>	74	<p>Practice Points – dot point 1.</p> <p>Note: the RACGP 5A’s model (Resource 1 – SNAP guidelines) explicitly refers to the following (page 30):</p> <p>Table 14. Physical activity: when, how and who to assess.</p> <p>What should be done?</p> <p>For both those with Average Risk and those Increased Risk, the SNAP guidelines recommend:</p>	<p>The evidence-informed SIT-ACT risk matrix utilises two simple behavioural risk assessment questions:</p> <ol style="list-style-type: none"> <li>1. During a usual 24-hour day, approximately how much time (minutes) do you spend doing physical activity?</li> <li>2. During a usual 24-hour day, approximately how many hours do you spend sitting?</li> </ol> <p>The answers provided to these two questions can then be</p>

		<p>“Ask questions regarding current level of physical activity and sedentary behaviour and assess against current guidelines”.</p> <p>Researchers from the Baker and Deakin University have developed an evidence-informed risk matrix (PMID: 34017139) that provides a simple tool for assessing the interacting influences of sedentary behaviour and physical activity on all-cause mortality.</p>	<p>applied to the risk matrix to characterise risk level as ‘Low, Low-medium, Medium, Medium-High and High Risk’.</p> <p>The risk matrix approach is familiar to health practitioners and provides a more contemporary and comprehensive assessment of risk than what presently exists.</p>
<p>Manage CVD risk – Lifestyle approaches</p> <p>Practice Points – dot point 3</p>	74	<p>Practice Points – dot point 3.</p> <p>Change: “Many different types of exercise programs....” to “Many different types of physical activity programs....”</p>	<p>This reflects the need to have consistency with the use of the term ‘physical activity’ throughout this section titled “Physical Activity”. The term physical activity is more all-encompassing than the term ‘exercise’ which is a subset of the former.</p>
<p>Manage CVD risk – Lifestyle approaches</p> <p>Practice Points – dot point 4</p>	74	<p>Practice Points – dot point 4.</p> <p>Change: “If an exercise program....” to “If a physical activity program is not suitable or available....”</p>	<p>As per above, this reflects the need to have consistency with the use of the term ‘physical activity’ throughout this section titled “Physical Activity”. The term physical activity is more all-encompassing than the term ‘exercise’.</p>
<p>Manage CVD risk – Lifestyle approaches</p> <p>Practice Points – dot point 3</p>	74	<p>Practice Points – dot point 3.</p> <p>Change: “Many different types of exercise programs are available; programs can be tailored to meet individual needs, accounting for factors including comorbidity or cultural values” to “Physical activity advice should be individualised and take a person-centred approach including other comorbidities or cultural values”.</p>	<p>Regardless of who the individual is, all physical activity advice should be person-centred. The term ‘person-centred’ encompasses cultural values, other co-morbidities, personal barriers, fitness level and current physical activity levels.</p>
<p>Manage CVD risk – Lifestyle approaches</p> <p>Practice Points</p>	74	<p>More clarity is needed on the modes, intensity and duration of physical activity that may be important to identify those at risk of CVD and</p>	<p>Currently, the practice points are vague and do not provide constructive information on the mode, intensity and duration of physical activity that is beneficial</p>

		providing tailored physical activity advice.	for people at high risk of CVD based on the Heart Foundation evidence synthesis report. This makes it difficult for clinicians to provide specific and tailored advice to individuals. The WHO guidelines specify for adults and those with chronic conditions to complete 150-300 minutes of aerobic physical activity per week at a moderate-intensity or 75-150 minutes of vigorous-intensity aerobic activity or an equivalent combination. It is also recommended that muscle strengthening exercises are completed 2 or more days per week at a moderate or greater exercise intensity.
Manage CVD risk – Lifestyle approaches Nutrition – General Considerations	69	General Considerations.  We are supportive of the focus on healthy dietary patterns as a whole – rather than on individual nutrients or foods in isolation.	Overall dietary patterns are a better predictor of CVD disease risk than intake of individual nutrients or foods (PMID: 34791367, PMID: 29898951).
Manage CVD risk – Lifestyle approaches Nutrition – General Considerations	69	General Considerations.  To ensure consistent language is used throughout this document, we suggest the use of “added sugars” rather than “added sugar”.	The Australian Dietary Guidelines refer to “added sugars”, which is consistent with the use of “added sugars” on page 70.
Manage CVD risk – Lifestyle approaches Nutrition - Recommendations	69	Recommendations.  We are supportive of the recommendation to follow a DASH diet to reduce blood pressure and a Mediterranean diet to reduce CVD risk.	These are two dietary patterns associated with disease risk reduction, and whilst they emphasise some different foods, they both include key components of a healthy diet suitable for most people and align well with the Australian Dietary Guidelines.
Manage CVD risk – Lifestyle approaches Nutrition - Recommendations	70	General Considerations.  To be consistent with the Australian Dietary Guidelines, “sweets” could be replaced with “confectionary”.	The Australian Dietary Guidelines refer to “confectionery” in their definition of discretionary foods and beverages.

Manage CVD risk – Lifestyle approaches  Nutrition – Practice points	71	Practice points.  “Include a variety of healthy protein-rich foods” could be clearer, particularly given the popularity of plant-based diets. This point refers to animal and plant sources of protein, so this should be clarified, and examples of whole foods listed, such as beans and chickpeas.	The healthy eating guidelines that are being referred to here describe plant and animal sources of protein, which is an important message.
Manage CVD risk – Lifestyle approaches  Nutrition – Practice points	71	Practice points.  “Include healthy fat and oils”. The messaging here could be clearer by including ideal food sources of healthy fats and oils. We propose emphasising good plant sources - extra virgin olive oil, nuts and seeds and animal sources – fish.	The unsaturated fat intake of most Australians comes from meat sources and from highly processed unhealthy/discretionary foods which contain vegetable oils. There is an opportunity to improve messaging around fats and oils to improve general understanding (Lee et al).  Ref: Lee et al. Fats and Oils: dietary recommendations, messaging and consumer understanding in Australia. A rapid review of evidence. The University of Queensland, 2020.
Manage CVD risk – Lifestyle approaches  Nutrition – Practice points	71	Practice points could also consider avoidance practices related to the consumption of unhealthy fats. These include avoiding unhealthy fats and oils as foods (e.g. palm oils, coconut oil, cream), avoiding unhealthy highly processed foods such as biscuits, cakes, pastries, fried foods, potato chips, and processed meats etc. and trimming visible fat off meat.	Messaging on practice points should be food-based, rather than nutrient-based (Lee et al). Including practice points on avoidance behaviours provides clarity around the general considerations on p69 and each of the dietary pattern recommendations.  Ref: Lee et al. Fats and Oils: dietary recommendations, messaging and consumer understanding in Australia. A rapid review of evidence. The University of Queensland, 2020.

Manage CVD risk – Lifestyle approaches  Nutrition – Practice points	71	Practice points.  Consider including a statement about limiting intake of alcoholic beverages.	Whilst the CVD guidelines contain a separate section on alcohol, many people consume alcoholic beverages on a daily or weekly basis as part of their dietary pattern. Both the Mediterranean and DASH Diets allow alcohol but only in moderation and there is an opportunity to reinforce the practice of avoiding or limiting alcohol intake as part of a heart healthy dietary pattern.
Manage CVD risk – Lifestyle approaches  Nutrition – Dietary salt reduction	70	General Considerations.  Change “avoiding processed/discretionary foods that have high salt content” to “avoiding processed/discretionary foods that have a high salt content (e.g. processed meats, take-away pizza and burgers, sauces and condiments, salty snacks).”	There is an opportunity to improve messaging by providing examples of specific high salt discretionary foods. These foods were important dietary sources of sodium in the most recent 2011-12 National Nutrition and Physical Activity Survey.
Manage CVD risk – Lifestyle approaches  Nutrition – Dietary salt reduction	70	Dietary salt reduction.  Under existing 2 bullet points add <ul style="list-style-type: none"> <li>“Where available, buy products labelled as ‘no added salt’ or ‘reduced salt’ (e.g. canned vegetables or fish)”.</li> </ul>	This is an additional practical strategy to reduce salt in the diet and is consistent with the messaging used in the Australian Dietary Guidelines to limit salt intake and links in with bullet points 6 & 7 on page 71 e.g. “the cost and limited availability of some fresh foods.....”.

### Supporting references:

- 1 Bull, F. C. *et al.* World Health Organization 2020 guidelines on physical activity and sedentary behaviour. *Br J Sports Med* **54**, 1451-1462, (2020).
- 2 Dunstan, D. W., Dogra, S., Carter, S. E. & Owen, N. Sit less and move more for cardiovascular health: emerging insights and opportunities. *Nat Rev Cardiol* **18**, 637-648, (2021).
- 3 Lee A, Harrison M, and Herron L. Fats and Oils: dietary recommendations, messaging and consumer understanding in Australia. A rapid review of evidence. The University of Queensland, 2020.