
Australasian
Society of
Lifestyle
Medicine

Dietary guidelines

Unit: 3.2.1

Presenters:

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Version: 1.0

About us

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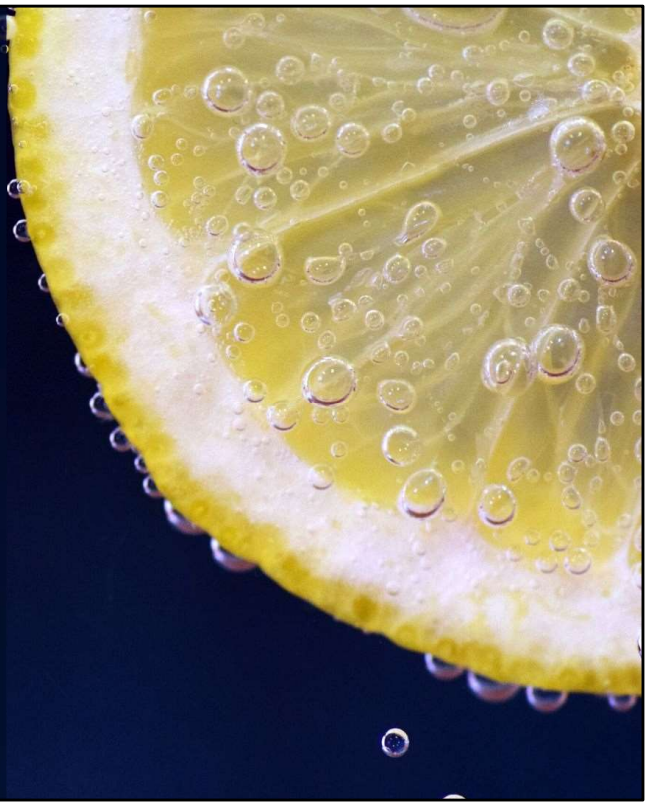
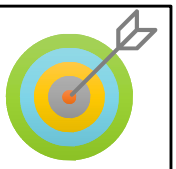
Declarations

- Joanna is a nutrition consultant to Boundary Bend Olives (producers of extra virgin olive oil) and is on their scientific advisory board
- Flavia is a founding board member of the Australasian Society of Lifestyle Medicine, the Director of Operations for Nutrigenomix Australia and the Olive Wellness Institute Advisory Panel member



Learning outcomes



By the end of this topic, you will:

1. Describe why it is important to have dietary guidelines and what they are used for
2. Describe how the Australian Dietary Guidelines are developed and the evidence-base underpinning the guidelines
3. Summarise the five guidelines in the Australian Dietary Guidelines
4. Give an example of what a total diet for an Australian is composed of
5. Describe the food groups and the key macronutrients and micronutrients obtained from each of the food groups
6. Summarise the recommended acceptable macronutrient distribution ranges (AMDR) for the macronutrients

Readings

Recommended reading

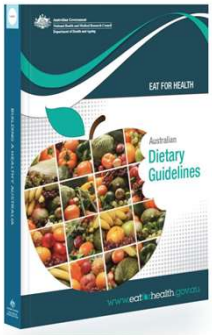
- NHMRC Australian Dietary Guideline https://www.nhmrc.gov.au/about-us/publications/australian-dietary-guidelines

- Eat for Health https://www.eatforhealth.gov.au
  - The Guidelines
  - Australian Guide to Healthy Eating
  - Eating Well
  - Healthy Recipes
  - Food Essentials
  - Nutrition Calculators

- Healthy Eating Quiz https://healthyeatingquiz.com.au

Describe why it is important to have dietary guidelines and what they are used for

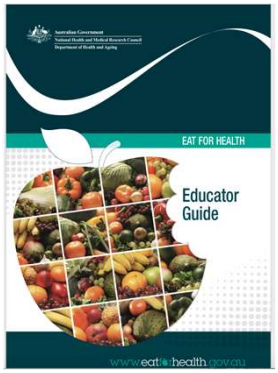
Australian Dietary Guidelines (ADG)



Also available: Infants, children, Aboriginal & Torres Strait Islander, Older Australians
www.eatforhealth.gov.au

- To ensure we can make healthy food choices, we need dietary advice based on the best scientific evidence
- This Guideline seeks to offer the best advice on *dietary patterns* that promote optimal health and wellbeing for the **generally healthy** Australian population

Components underpinning the ADG



Why have dietary guidelines?

Ultimately to help in the prevention of diet-related chronic diseases and improve the health and wellbeing of the Australian community

WHY?

It's a guidance document

(National Health and Medical Research Council (NHMRC), 2015a)

Would be cautious about using the health star rating from the dietary guidelines. The star rating doesn't always reflect how healthy a product is. It's a bit of a controversial topic.

Diet is arguably the single most important lifestyle-related risk factor for chronic disease prevention
Poor nutrition is associated with increased risk

- CVD, diabetes, cancer, poor mental health, low immunity, cognitive decline and obesity, low quality of life

Public Health – drives programs and initiatives (i.e. school canteen, nursing homes, hospitals)
Helps guide government policy
Develop healthier food products (food labelling, Health Star Rating)
Health care professional guidance
Educational tool for consumers

What are the dietary guidelines for?

Scientific evidence

General population

KNOWLEDGE

Synthesis of the best available scientific evidence

Practical information on type and amounts of foods and drinks **to meet nutrients** by:

Guidelines are based on scientific evidence (human feeding studies and trials) and present recommendations using whole foods.

Based on scientific evidence

The guidelines are for the general population, to protect against chronic disease and promote optimal health and wellbeing by the provison of required nutrients.

The general population, including those with diet-related risk factors such as being overweight or obese
Provide practical information on type and amount foods and beverages to meet nutrient needs by:

- Age
- Sex
- Physical activity level
- Pregnancy/breastfeeding

What are dietary guidelines NOT for?

Prescriptive diets – the word *guidelines* gives that clue!

Do not apply to people with medical conditions that require **specialised dietary advice** (medical nutrition therapy)

Do not apply to **vulnerable groups**
i.e. the frail elderly at risk of malnutrition

NOT PRESCRIPTIVE

Modelling to meet nutrient needs among the healthy

Accredited Practising Dietitian APD

An Accredited Practising Dietitian has the specific clinical training required to prescribe dietary advice in such instances
(medical nutrition therapy)

Prescriptive diets – the word *guidelines* gives that clue!
Do not apply to people with medical conditions that require specialised dietary advice (medical nutrition therapy)
Do not apply to vulnerable groups
i.e. the frail elderly at risk of malnutrition
An Accredited Practising Dietitian has the specific clinical training required to prescribe dietary advice in such instances (medical nutrition therapy)

Describe how the Australian Dietary Guidelines are developed and the evidence-base underpinning the guidelines

How were the guidelines developed?

- Systematic literature reviews with **50,000 papers** to inform the guideline
- Expert steering committee
- Last reviewed and updated in 2013 (previous version 2003)

Graded evidence statements

A – convincing association
B – probable association
C – suggestive association
D – body of evidence weak

(NHMRC, 2011b)

What information was used for the Australian Dietary Guidelines?
The Guidelines were developed using the following sources of scientific information:

- The previous 2003 Dietary Guidelines for Australians series;
- The *Nutrient Reference Values for Australia and New Zealand 2006*, which identify daily nutrient requirements;
- The report *Modelling System to Inform the Revision of the Australian Guide to Healthy Eating 2011,*which details the serve sizes and minimum number of serves required to meet nutritional needs;

The report *A Review of the Evidence to Address Targeted Questions to Inform the Revision of the Australian Dietary Guidelines 2011*, which is a review of the evidence on the links between foods/nutrients and health outcomes;
A review *Nutritional Requirements and Dietary Advice Targeted for Pregnant and Breastfeeding Women 2013*; and
Other key authoritative reports, such as the World Cancer Research Fund report.

The goal of the Modelling System is to translate the NRVs (2006) into food consumption patterns that concurrently:

- deliver the nutrient requirements for people of varying age/gender, activity levels and life-stages
- are culturally acceptable and reflect the diets of different socio-economic groups
- take into account the current Australian food supply and food consumption patterns
- provide some flexibility in food choice
- promote health and wellbeing.

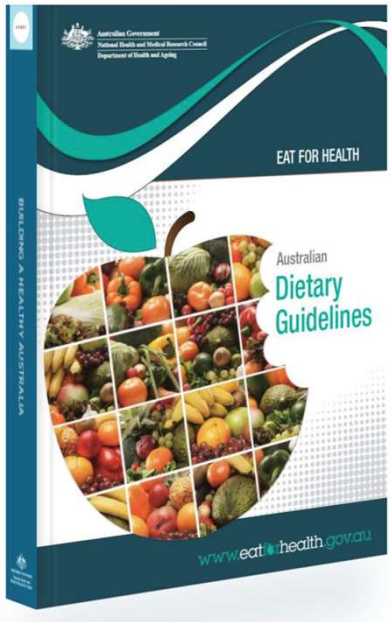
Example of evidence statement

2.1 VEGETABLES and CORONARY HEART DISEASE

Does a particular intake of vegetables affect the risk of coronary heart disease?		
Evidence Statement		Consumption of each additional daily serve of vegetables is associated with a reduced risk of coronary heart disease.
Grade		B
Component	**Rating**	**Notes**
Evidence Base	Good	Level III evidence from two meta analyses each with 9 cohort studies (with most studies in common and medium risk bias and 2 cohort (low risk bias) and 1 case control and one RCT (medium risk bias).
Consistency	Good	Meta analyses and case control and RCT protective (and in each study) but cohort studies show no effect.
Clinical impact	Good	15 to 25% reduction with additional serve.
Generalisability	Good	US, Europe.
Applicability	Excellent	Australian adults of both sexes.

(NHMRC, 2011b)

Summarise the five guidelines in the Australian Dietary Guidelines



To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs

Enjoy a wide variety of nutritious foods from the(se) five food groups every day… and drink plenty of water

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

Encourage, support and promote breastfeeding

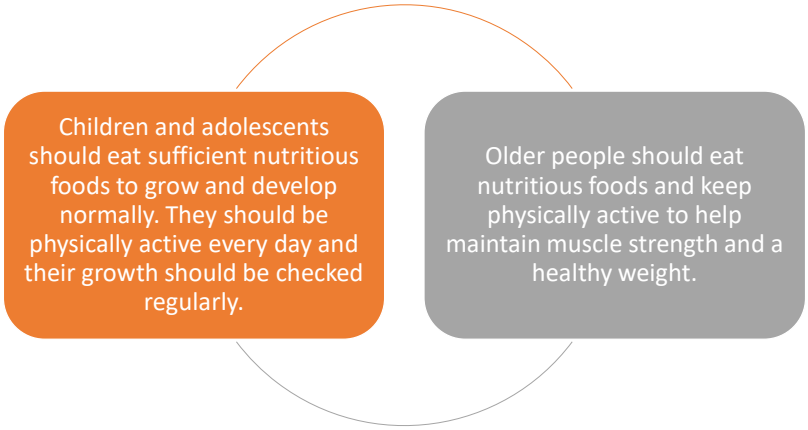
Care for your food; prepare and store it safely

(NHMRC, 2013a)

Point out that guidelines 1-3 are expanded upon – download the ADG to read fully

ALL EQUALLY IMPORTANT

1. To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs



Children and adolescents should eat sufficient nutritious foods to grow and develop normally. They should be physically active every day and their growth should be checked regularly.

Older people should eat nutritious foods and keep physically active to help maintain muscle strength and a healthy weight.

2. Enjoy a wide variety of nutritious foods from the **five food groups** every day

… and drink plenty of water

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

a. Limit intake of **foods high in saturated fat**

- Replace high fat foods which contain predominantly saturated fats with foods which contain predominantly polyunsaturated and monounsaturated fats
- 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

Moved on from 'fat'.
Even the original dietary guidelines included limit of these foods.

Generally fit in the ultra processed food category

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 predominantly saturated fats such as butter, cream, cooking margarine, coconut and palm oil with foods which contain predominantly 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.

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

c. Limit intake of foods and drinks containing **added sugars**

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

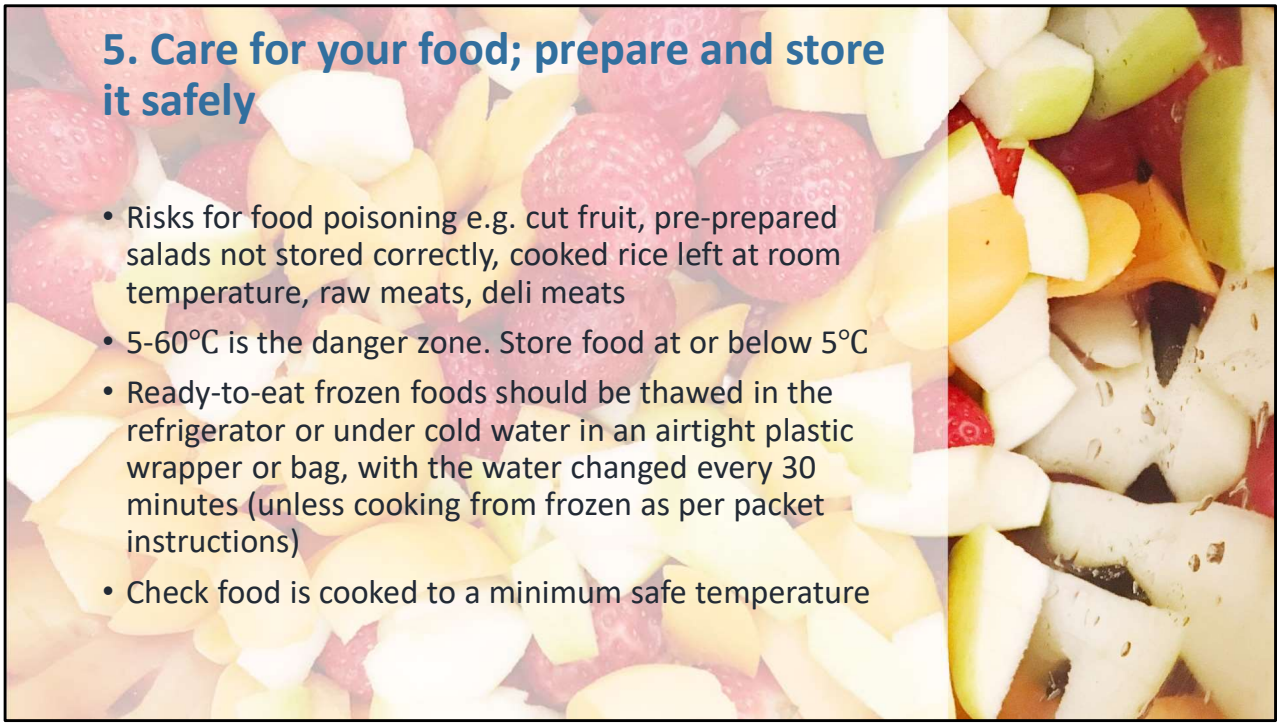
c. Limit intake of foods and drinks containing **added sugars** such as confectionary, sugar-sweetened soft drinks and cordials, fruit drinks, vitamin waters, energy and sports drinks.

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.

4. Encourage, support and promote breastfeeding

There is also an infant feeding guideline

(NHMRC, 2013c)



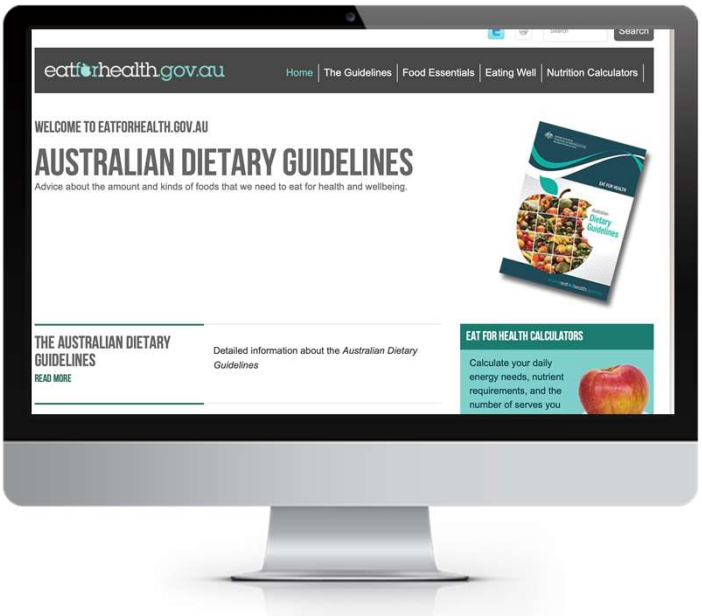
- Risks for food poisoning e.g. cut fruit, pre-prepared salads not stored correctly, cooked rice left at room temperature, raw meats, deli meats
- 5-60℃ is the danger zone. Store food at or below 5℃
- Ready-to-eat frozen foods should be thawed in the refrigerator or under cold water in an airtight plastic wrapper or bag, with the water changed every 30 minutes (unless cooking from frozen as per packet instructions)
- Check food is cooked to a minimum safe temperature

How do you apply the ADG?

The Australian Guide to Healthy Eating is a food selection guide which visually represents the proportion of the five food groups recommended for consumption each day.

(NHMRC, 2011a)

The Eat for Health website – for consumers



www.eatforhealth.gov.au

Consumer friendly information How to understand and apply the dietary guidelines
Serve size information available for all age groups from 6 months of age
Calculator to work out your daily energy needs, nutrient requirements, and number of serves from each of the five food groups
Food balance game for children
Tips for eating well and how to apply the guidelines into everyday eating
Meal planning and recipes
Healthy eating through life
Frequently asked questions

Eating and Activity Guidelines for New Zealand Adults

Eating statements

1. Enjoy a variety of nutritious foods every day including
2. Choose and prepare foods and drinks with unsaturated fats instead of saturated fats; low in salt (use iodised if cooking); with little or no added sugar; that are mostly whole and less 'processed'
3. Make plain water your first choice over drinks
4. If you drink alcohol keep your intake low
5. Buy or gather, prepare, cook and store food in ways that keep it safe to eat

https://www.health.govt.nz/publication/eating-and-activity-guidelines-new-zealand-adults

(Ministry of Health, 2018)

Mostly wholegrain and those naturally high in fibre); some milk and milk products, mostly low and reduced fat;
Body weight statements
Physical Activity Statements
(in Aus physical activity is separate guideline)

Canadian Dietary Guidelines

1. **Nutritious foods are the foundation for healthy eating.**

   - Vegetables, fruit, whole grains, and protein foods should be consumed regularly. Among protein foods, consume plant-based more often.
   - Protein foods include legumes, nuts, seeds, tofu, fortified soy beverage, fish, shellfish, eggs, poultry, lean red meat including wild game, lower fat milk, lower fat yogurts, lower fat kefir, and cheeses lower in fat and sodium.
   - Foods that contain mostly unsaturated fat should replace foods that contain mostly saturated fat.
   - Water should be the beverage of choice.

(Health Canada, 2019)

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- Water should be the beverage of choice.

Canadian Dietary Guidelines (cont.)

2. **Processed or prepared foods and beverages that contribute to excess sodium, free sugars, or saturated fat undermine healthy eating and should not be consumed regularly.**

3. **Food skills are needed to navigate the complex food environment and support healthy eating.**
   - Cooking and food preparation using nutritious foods should be promoted as a practical way to support healthy eating.
   - Food labels should be promoted as a tool to help Canadians make informed food choices.

(Health Canada, 2019)

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Canada's Food Guide

(Government of Canada, 2020)

Much simpler than Aus version! No mention here of healthy fats though there is the broader guidelines – emphasis on choosing more unsaturated fat

Brazilian Dietary Guidelines

"Brazil's latest food-based dietary guidelines (2014) take a novel approach to nutrition recommendations and are unlike any other official in the importance of making natural and minimally processed foods the building blocks of a healthy diet, while limiting the use of processed foods and avoiding ultra-processed foods altogether—or as much as possible."

Pan American Health Organization (PAHO)

(PAHO, 2014)

Ten Steps to Healthy Diets

1. Make natural or minimally processed foods the basis of your diet
2. Use oils, fats, salt, and sugar in small amounts when seasoning and cooking natural or minimally processed foods and to create culinary preparations
3. Limit consumption of processed foods
4. Avoid consumption of ultra-processed foods
5. Eat regularly and carefully in appropriate environments, and whenever possible, in company
6. Shop in places that offer a variety of natural or minimally processed foods
7. Develop, exercise and share cooking skills
8. Plan your time to make food and eating important in your life
9. Out of home, prefer places that serve freshly made meals
10. Be wary of food advertising and marketing

(PAHO, 2014)

Brazilian group

4 5 steps all on processing

5 Eating environment considered- specific mention of out of home

6 Specific mention of advertising

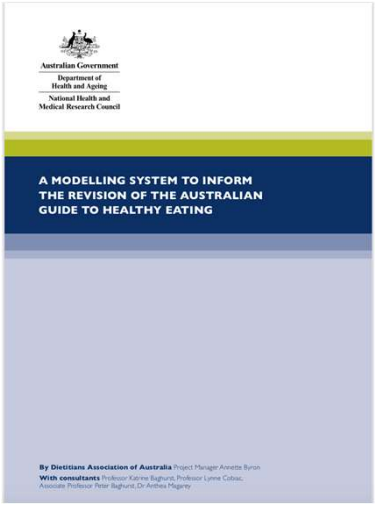
7 Developing cooking skills.

Describe nutrition basics - foundation diet, total diet, energy and nutrient requirements, basal metabolic rate and physical activity levels

The modelling underpinning recommendations

- The goal of the **Modelling System** is to translate the NRVs (2006) into food consumption patterns that concurrently:

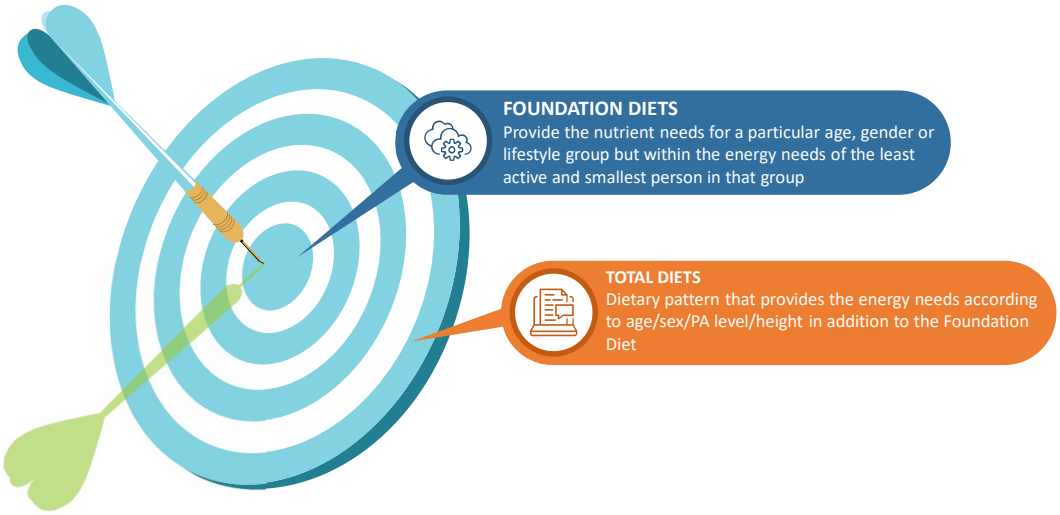
  ✓Nutrient requirements
  ✓Culturally acceptable
  ✓Australian food supply & food patterns
  ✓Flexibility in food choice
  ✓Promote health and wellbeing



(NHMRC, 2011a)

- The goal of the **Modelling System** is to translate the NRVs (2006) into food consumption patterns that concurrently:
  - deliver the nutrient requirements for people of varying age/gender, activity levels and life-stages
  - are culturally acceptable and reflect the diets of different socio-economic groups
  - consider the current Australian food supply and food consumption patterns
  - provide some flexibility in food choice
  - promote health and wellbeing

ADG Modelling – Foundation Diets & Total Diets



The aim is to achieve dietary patterns that are practical, realistic and achievable.
Factors including food availability and affordability are considered.
Many people clearly need more food to meet their energy needs. 2. – that's what Total Diets comes in

EXAMPLE: Total Diets for Adults

MEN & WOMEN

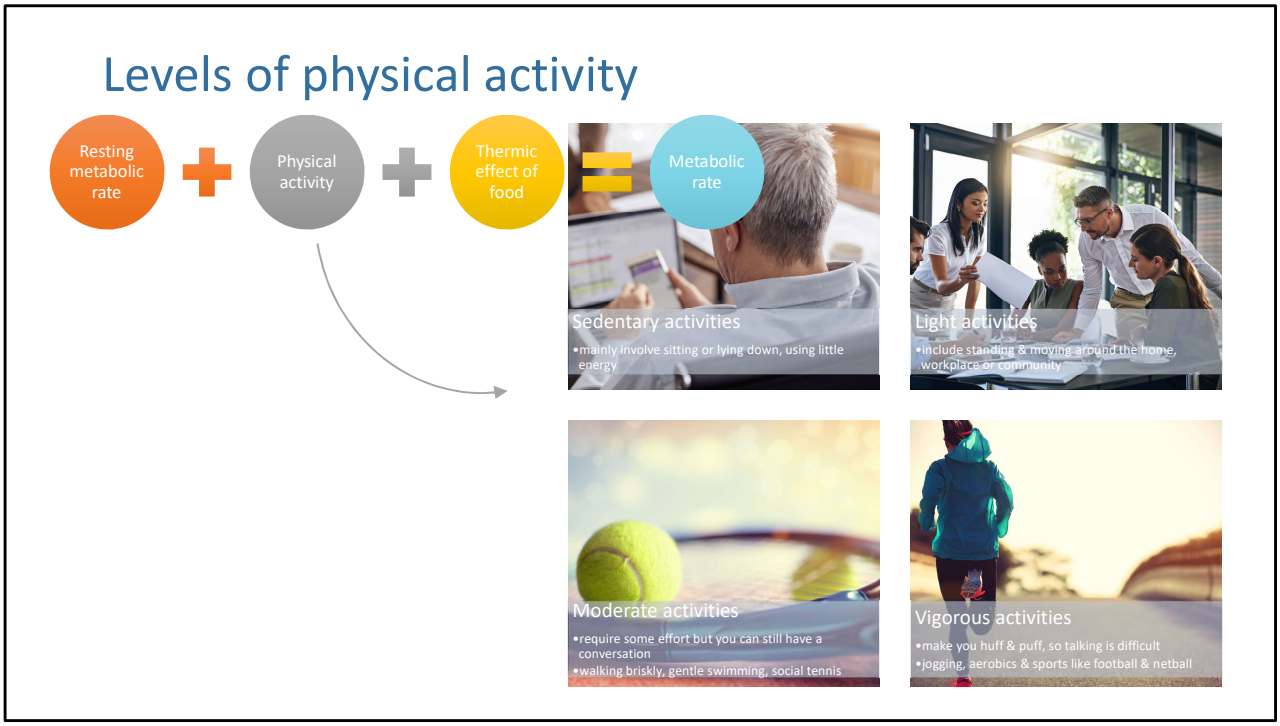
AVERAGE HEIGHT

SEDENTARY TO MODERATE ACTIVITY

Recommended average daily number of serves from each of the Five Food Groups*							Additional serves for taller or more active men and women
	Age	Vegetables and legumes/ beans	Fruit	Grain (cereal) foods, mostly wholegrain and/or high fibre cereal varieties	Lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans	Milk, yoghurt, cheese and/or alternatives, mostly reduced fat	Approx. number of additional serves from the Five Food Groups or unsaturated spreads and oils or discretionary choices
Men	19–50	6	2	6	3	2½	0–3
	51–70	5½	2	6	2½	2½	0–2½
	70+	5	2	4½	2½	3½	0–2½
Women	19–50	5	2	6	2½	2½	0–2½
	51–70	5	2	4	2	4	0–2½
	70+	5	2	3	2	4	0–2
Pregnant	(19–50)	5	2	8½	3½	2½	0–2½
Breastfeeding	(19–50)	7½	2	9	2½	2½	0–2½

* *Includes an allowance for unsaturated spreads or oils and nuts or seeds: 4 serves [28–40g] per day for men less than 70 years of age; 2 serves [14–20g] per day for women and older men.*

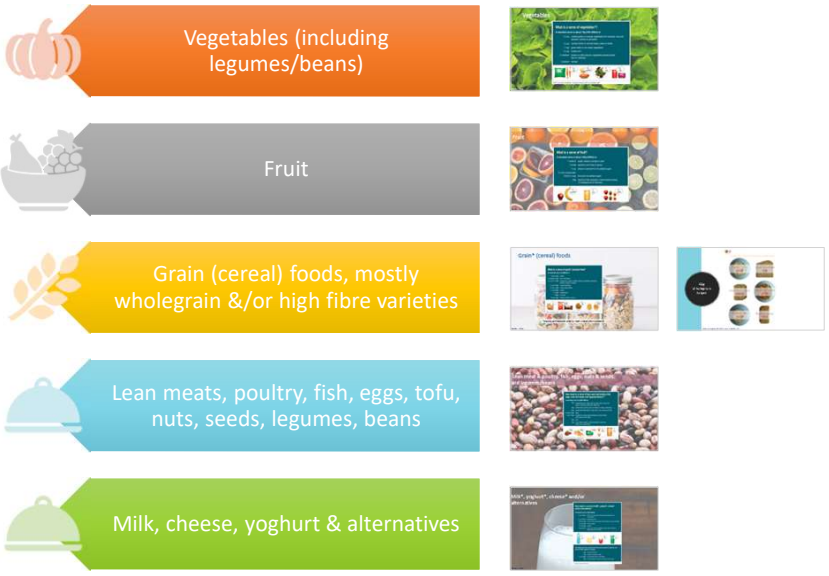
(NHMRC, 2013b)



- Sedentary activities = mainly involve sitting or lying down, using little energy
- Light activities = include standing and moving around the home, workplace or community
- Moderate activities – require some effort but you can still have a conversation. E.g. walking briskly, gentle swimming, social tennis.
- Vigorous activities = make you huff and puff, so talking is difficult. E.g. jogging, aerobics and sports like football and netball.

Important: what's in a Food Group and what's a 'serve'?

A serve is NOT a portion size



(NHMRC, 2015b)

- Vegetables = approx. 75g or ½ cup cooked, 1 cup leafy or raw salad vegies, 1 tomato
- Fruit = 150g or 1 medium fruit, 2 small fruit, 1 cup diced, 30g dried fruit, 125ml fruit juice
- Grains = 1 slice bread, ½ roll/flat bread, ½ cup cooked pasta/rice/quinoa/noodles/porridge, ¼ cup muesli, 2/3 cup wheat cereal flakes, 3 crispbreads
- Meat group = 65g cooked meat (90-100g raw), 80g cooked poultry (100g raw), 100g cooked fish (115g raw), 2 large eggs, 1 cup cooked legumes 170g tofu, 30g nuts/seeds
- Dairy & alt. = 1 cup milk/soy or other calcium-fortified plant-based milk, 2 slices (40g) cheese, ½ cup ricotta, ¾ cup (200g) yoghurt

Describe the food groups and the key macronutrients and micronutrients obtained from each of the food groups

The Five Food Groups – nutrient contribution

Note group names

Food Group name	Grain (cereal) foods, mostly wholegrain and/or high cereal fibre varieties	Vegetables and legumes/beans	Fruit	Milk, yoghurt, cheese and/or alternatives, mostly reduced fat	Lean meat and poultry, fish, eggs, tofu, nuts and seeds, legumes/beans
Main distinguishing nutrients	carbohydrate protein iron dietary fibre thiamin folate iodine	beta-carotene and other carotenoids vitamin C folate dietary fibre	vitamin C dietary fibre	calcium protein riboflavin vitamin B_{12}	protein iron zinc vitamin B_{12} (animal foods only) long chain omega 3 fatty acids
Other significant nutrients*	energy magnesium zinc riboflavin niacin vitamin E	Carbohydrate (potato, sweet potato, sweet corn, legumes) magnesium iron potassium	carbohydrate folate beta-carotene potassium	energy fat carbohydrate magnesium zinc potassium	dietary fibre (plant foods only) energy essential fatty acids niacin vitamin E (seeds, nuts)

** Some foods from the Five Food Groups (such as some bread, breakfast cereal and most cheese) can also contribute significant amounts of sodium*

(NHMRC, 2013b)

Foods are grouped in this way in part to reflect foods commonly consumed in Australia – be affordable – and be consistent with the recommendations for fibre, sat fat, minimal added salt and sugar etc.

Vegetables

What is a serve of vegetables*?

A standard serve is about 75g (100–350kJ) or:

½ cup	cooked green or orange vegetables (for example, broccoli, spinach, carrots or pumpkin)
½ cup	cooked dried or canned beans, peas or lentils
1 cup	green leafy or raw salad vegetables
½ cup	sweet corn
½ medium	potato or other starchy vegetables (sweet potato, taro or cassava)
1 medium	tomato

*With canned varieties, choose those with no added salt

(NHMRC, 2015b)

Fruit

What is a serve of fruit?

A standard serve is about 150g (350kJ) or:

1 medium	apple, banana, orange or pear
2 small	apricots, kiwi fruits or plums
1 cup	diced or canned fruit (no added sugar)
Or only occasionally:	
125ml (½ cup)	fruit juice (no added sugar)
30g	dried fruit (for example, 4 dried apricot halves, 1½ tablespoons of sultanas)

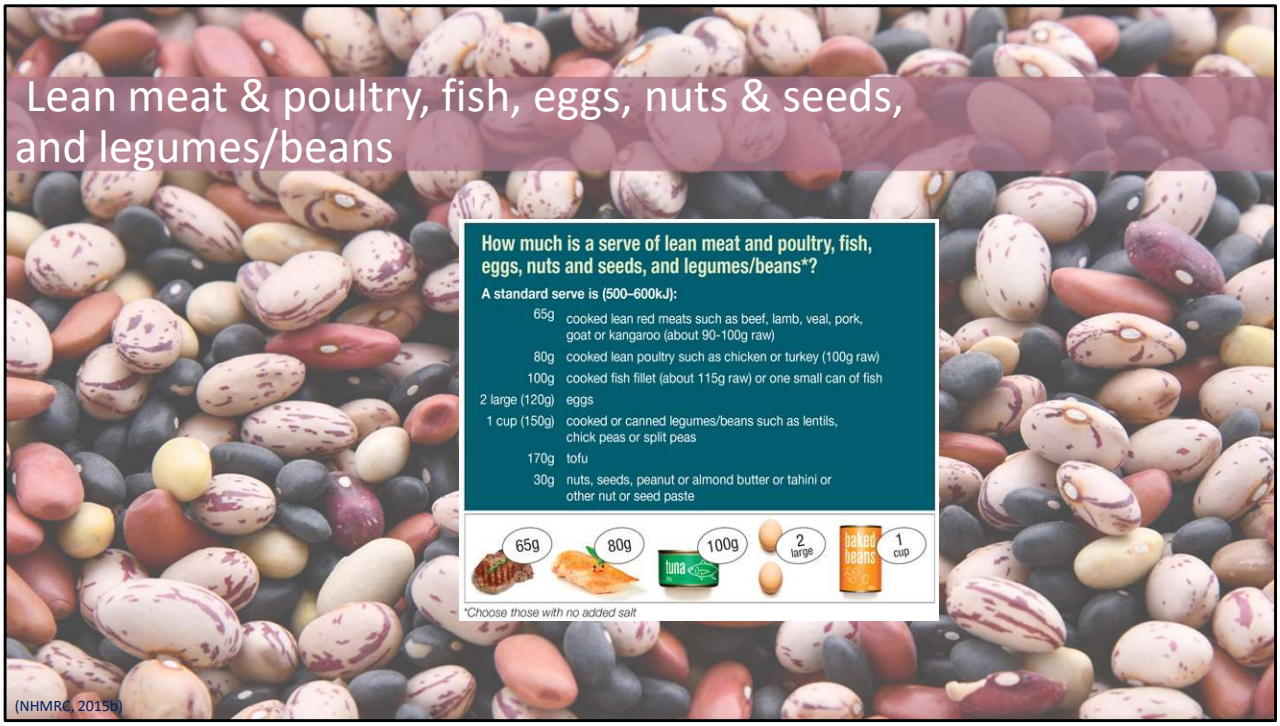
(NHMRC, 2015b)

Grain* (cereal) foods

mostly wholegrain and/or high cereal fibre varieties

(NHMRC, 2015b)

Lean meat & poultry, fish, eggs, nuts & seeds, and legumes/beans



(NHMRC, 2015b)

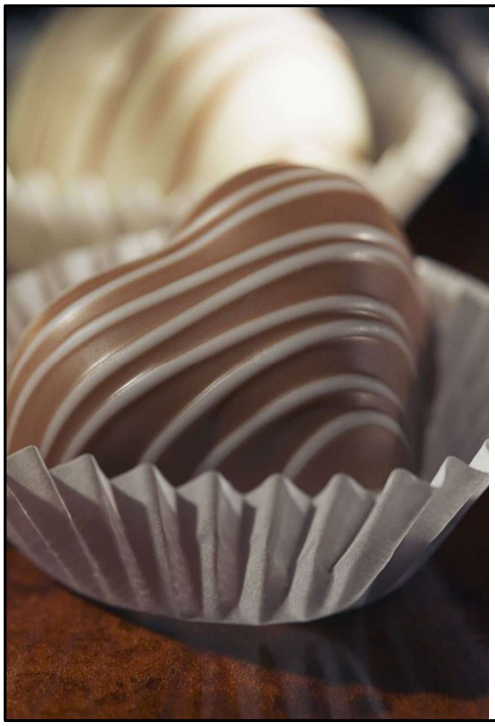
Milk*, yoghurt*, cheese* and/or alternatives

(NHMRC, 2015b)

48g Wholegrain target

(Grains & Legumes Nutrition Council (GLNC), n.d.)

Not necessary but the comment I always get is that all the grain serves seems a lot – not really when you see the visual of what constitutes a serve.
Key thing to point out is that a serve is not a PORTION. Serves are used in the modelling for the Foundation Diets



What are discretionary foods?

- Foods that are not essential or a necessary part of the diet
- High in saturated fat, added sugars, salt and/or alcohol
- May displace more healthful foods in the diet
- Associated with increased risk of obesity and chronic disease
- Australian adults get ~36% and children ~41% of their energy from these foods – clearly the major issue!
- They can of course be included in small amounts on occasion if they are an enjoyable part of a person's diet

(Fayet-Moore et al., 2019; NHMRC, 2017a)

What is a serve of a discretionary food?

- 2 scoops ice cream, 2 tablespoons cream, 1 tablespoon butter
- 2 slices (50-60g) processed meats, salami
- 30g salty crackers or crisps
- 1 (40g) doughnut or slice of cake
- 2-3 (35g) sweet biscuits
- 40g lollies
- ½ small bar (25g) chocolate
- 200ml wine, 400ml beer, 60ml spirits
- 12 (60g) hot chips
- 1 can soft drink
- 1 tablespoon jam/honey
- ¼ (60g) commercial meat pie or pastie

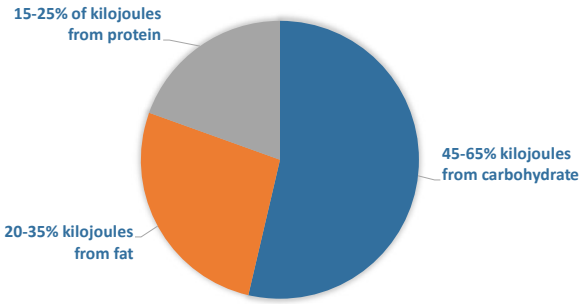
(NHMRC, 2017a)

Summarise nutrient reference values (NRVs) and the recommended acceptable macronutrient distribution ranges (AMDR)

Acceptable Macronutrient Distribution Ranges (AMDR)

Ranges NOT absolutes

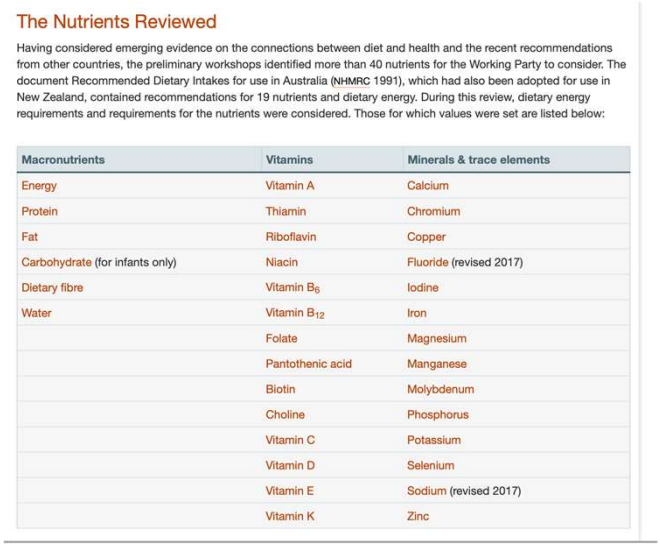
NRV Working Party determined the the composition of a diet that provides adequate energy and nutrients, maintains current weight and reduces the risk of chronic diseases is:



Note these are ranges – not absolutes

Nutrient Reference Values (NRVs) for Australia and New Zealand

- Set of recommendations for nutritional intake based on currently available scientific knowledge
- Quick access online if you want to know more



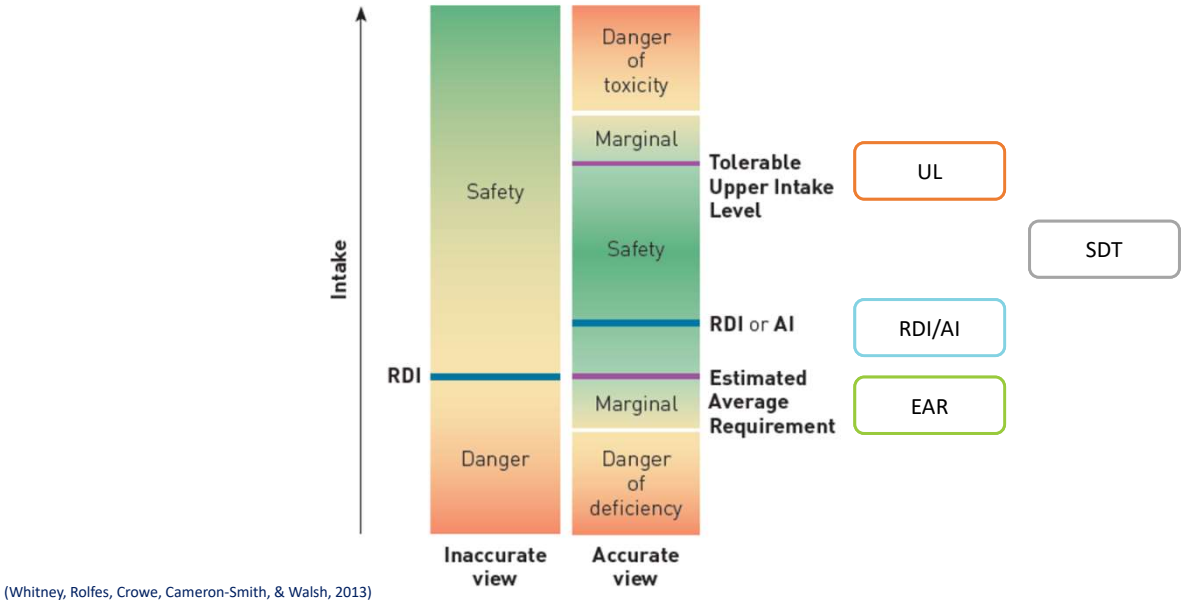
The Nutrients Reviewed

Having considered emerging evidence on the connections between diet and health and the recent recommendations from other countries, the preliminary workshops identified more than 40 nutrients for the Working Party to consider. The document Recommended Dietary Intakes for use in Australia (NHMRC 1991), which had also been adopted for use in New Zealand, contained recommendations for 19 nutrients and dietary energy. During this review, dietary energy requirements and requirements for the nutrients were considered. Those for which values were set are listed below:

Macronutrients	Vitamins	Minerals & trace elements
Energy	Vitamin A	Calcium
Protein	Thiamin	Chromium
Fat	Riboflavin	Copper
Carbohydrate (for infants only)	Niacin	Fluoride (revised 2017)
Dietary fibre	Vitamin B_6	Iodine
Water	Vitamin B_{12}	Iron
	Folate	Magnesium
	Pantothenic acid	Manganese
	Biotin	Molybdenum
	Choline	Phosphorus
	Vitamin C	Potassium
	Vitamin D	Selenium
	Vitamin E	Sodium (revised 2017)
	Vitamin K	Zinc

(NHMRC, 2017c)

NRVs – What they mean



(Whitney, Rolfes, Crowe, Cameron-Smith, & Walsh, 2013)

- **EAR** = Estimated Average Requirement (covers ~ 50% of the population)
  - Used for population estimates of meeting/not meeting
- **RDI =** Recommended Dietary Intake (set well above the EAR to cover ~98% of population)
  - Used at the individual level
- **AI** = Adequate Intake (where there is insufficient evidence to set an EAR & therefore an RDI)
- **UL** = Upper Level of Intake (beyond this a nutrient may become toxic – more is not always better!)
- **SDT** = suggested dietary target (A daily average intake that may help in prevention of chronic disease)

- Note: not all nutrients have RDI's set (i.e. not enough evidence to set one).

Personalised nutrition

- AMDR & NRV are for the healthy general population
- Genetics, epigenetics, microbiome testing & other factors may influence an individual's optimal diet
- We are on the cusp of a more personalised approach to nutrition
  - E.g. Nutrigenomix tests for specific diet and lifestyle related gene variants and can hone more specific dietary recommendations
  - E.g. Microba use advanced gene sequencing techniques to measure an individual's microbiome & produce an insights report
- Be aware of companies jumping the gun and prescribing diets before we know enough

Specify that it's important to consider the scientific advisory group in the company, be able to access the studies that underpin their recommendations, etc.

See comment below: Some people really resist to personalised nutrition even though we've been doing it for years based on observational evidence (not RCT evidence!).

Personalised health? What it means, areas relevant, practical ways to assess (based on conditions e.g. IBS, DM etc.), BUT also that it sometimes doesn't matter e.g. RCTs comparing low carb vs low fat (Gardner et al., 2018)

References (1/3)

Australian Bureau of Statistics (ABS). (2014). *Australian Health Survey: Nutrition first results – food and nutrients, 2011-12* (4364.0.55.007). Australian Bureau of Statistics (ABS). http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4364.0.55.0072011-12?OpenDocument

EAT-Lancet Commission. (n.d.). *EAT-Lancet Commission Brief for Healthcare Professionals*. https://eatforum.org/lancet-commission/healthcare-professionals/

European Food Information Council (EUFIC). (2019). *How to measure portion sizes with your hands (infographic)*. https://www.eufic.org/en/healthy-living/article/how-to-measure-portion-sizes-with-your-hands-infographic

Fayet-Moore, F., McConnell, A., Cassettari, T., Tuck, K., Petocz, P., & Kim, J. (2019). Discretionary intake among Australian adults: Prevalence of intake, top food groups, time of consumption and its association with sociodemographic, lifestyle and adiposity measures. *Public Health Nutrition, 22*(9), 1576-1589. https://doi.org/10.1017/S1368980018003361

Food and Agriculture Organization of the United Nations (FAO). (n.d.). *Food-based dietary guidelines*. http://www.fao.org/nutrition/nutrition-education/food-dietary-guidelines/en/

Gardner, C. D., Trepanowski, J. F., Del Gobbo, L. C., Hauser, M. E., Rigdon, J., Ioannidis, J. P. A., Desai, M., & King, A. C. (2018). Effect of low-fat vs low-carbohydrate diet on 12-month weight loss in overweight adults and the association with genotype pattern on insulin secretion: The DIETFITS clinical trial. *JAMA, 319*(7), 667-679. https://doi.org/10.1001/jama.2018.0245

Government of Canada. (2020). *Canada's food guide*. https://food-guide.canada.ca/en/

Grains & Legumes Nutrition Council (GLNC). (n.d.). *How to meet your 48g daily whole grain target*. https://www.glnc.org.au/wp-content/uploads/2018/09/Whole-Grain-Serve-Sizes_.pdf

Health Canada. (2019). *Canada's Dietary Guidelines for health professionals and policy makers* (ISBN: 978-0-660-25310-7). H. Canada. https://food-guide.canada.ca/en/guidelines/

References (2/3)

McMillan-Price, J., & Egger, G. J. (2017). Chapter 8 - Nutrition for the nondietitian. In G. J. Egger, A. F. Binns, S. R. Rössner, & M. Sagner (Eds.), *Lifestyle Medicine: Lifestyle, the Environment and Preventive Medicine in Health and Disease* (3rd ed., pp. 135-152). Elsevier Science & Technology.

Ministry of Health. (2015). *Current food and nutrition guidelines: This series of four population-specific food and nutrition guidelines background papers provide the Ministry's evidence base for nutrition advice*. New Zealand Government. https://www.health.govt.nz/our-work/eating-and-activity-guidelines/current-food-and-nutrition-guidelines

Ministry of Health. (2018). *Eating and activity guidelines: Guideline statements for New Zealand adults*. New Zealand Government. https://www.health.govt.nz/our-work/eating-and-activity-guidelines

National Health and Medical Research Council (NHMRC). (2011a). *A modelling system to inform the revision of the Australian Guide to Healthy Eating* (N55c). National Health and Medical Research Council (NHMRC). https://www.eatforhealth.gov.au/file/modelling-system-inform-revision-australian-guide-healthy-eating-fms

National Health and Medical Research Council (NHMRC). (2011b). *A review of the evidence to address targeted questions to inform the revision of the Australian Dietary Guidelines* (N55b). https://www.eatforhealth.gov.au/sites/default/files/content/The%20Guidelines/n55d_dietary_guidelines_evidence_report_2011.pdf

National Health and Medical Research Council (NHMRC). (2013a). *Australian dietary guidelines* (N55). https://www.nhmrc.gov.au/guidelines-publications/n55

National Health and Medical Research Council (NHMRC). (2013b). *Australian Dietary Guidelines Educator Guide: Information for nutrition educators* (N55b). https://www.eatforhealth.gov.au/sites/default/files/content/The%20Guidelines/n55b_educator_guide_140321_1.pdf

National Health and Medical Research Council (NHMRC). (2013c). *Eat for health: Infant feeding guidelines - Information for health workers - Summary*. National Health and Medical Research Council (NHMRC). www.nhmrc.gov.au/guidelines-publications/n56b

References (3/3)

National Health and Medical Research Council (NHMRC). (2015a). *Australian Dietary Guidelines: Advice about the amount and kinds of foods that we need to eat for health and wellbeing*. https://www.eatforhealth.gov.au/

National Health and Medical Research Council (NHMRC). (2015b). Serve sizes. https://www.eatforhealth.gov.au/food-essentials/how-much-do-we-need-each-day/serve-sizes

National Health and Medical Research Council (NHMRC). (2017a). Discretionary food and drink choices. https://www.eatforhealth.gov.au/food-essentials/discretionary-food-and-drink-choices

National Health and Medical Research Council (NHMRC). (2017b). *Introduction: What are Nutrient Reference Values?* https://www.nrv.gov.au/introduction

National Health and Medical Research Council (NHMRC). (2017c). *Nutrients: The nutrients reviewed*. https://www.nrv.gov.au/nutrients

Pan American Health Organization (PAHO). (2014). *A New Approach to a Healthy Diet - Brazil's Dietary Guidelines*. https://www.paho.org/hq/index.php?option=com_content&view=article&id=11437:new-approach-healthy-diet&Itemid=42409&lang=en

Whitney, E., Rolfes, S. R., Crowe, T. C., Cameron-Smith, D., & Walsh, A. (2013). *Understanding Nutrition* (2nd ed.). Cengage Learning Australia.

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