

Whole Grains for Kids Health

What is a wholegrain?

A 'whole grain' refers to an intact grain. It must contain all three components of a grain - the bran layer, endosperm, and germ. Each component has unique nutrients that fuel and support positive health¹. Examples of whole grain food sources include oats, brown rice, whole wheat, quinoa and more.

Why should children and adolescents be eating more whole grain foods?

Wholegrain intake in Australia is below recommendations in all age groups² therefore increasing whole grain consumption would be beneficial to individuals of all ages.

There are many health benefits of consuming whole grains which can support Australian children.

Fuel for the Body

Wholegrains, which are a great source of energy is essential in supporting the growth and development of children and adolescents. The high fibre content and vitamins and minerals from wholegrains provides a steady stream of fuel to both the brain and muscles to support performance in the classroom and outdoor activities³.

Fuel for the Mind

Due to whole grains high fibre, vitamins and antioxidant properties, consumption has been associated with improved cognition⁴. This can support children and adolescents' focus, concentration, and creativity in the classroom. The healthy fatty acids found in whole grain foods have been seen to support improved mental health and assist emotional regulation, an important dietary factor for this group⁵.

Early Disease Prevention

It is crucial for school-aged children to meet the Recommended Daily Intake (RDI) of wholegrain foods as they play a foundational role in establishing healthy dietary patterns and can protect the long-term health of young Australian children by reducing the risk of developing chronic disease such as Cardiovascular disease, Cancer and Type 2 Diabetes⁶.

What is the recommended daily intake of whole grain food sources?

The Australian Dietary Guidelines recommends the below number of standard serves per day⁷:

Age	Australian recommended daily grain intake for boys	Australian recommended daily grain intake for girls
4 to 8-year-old	4 serves per day	4 serves per day
9 to 11-year-old	5 serves per day	4 serves per day
12 to 13-year-old	6 serves per day	5 serves per day
14 to 18-year-old	7 serves per day	7 serves per day

A standard serve is:

- 1 slice (40g) wholegrain bread
- ½ medium (40g) wholegrain roll or flat bread
- ½ cup (75–120g) cooked brown rice or wholegrain pasta/noodles
- ½ cup (120g) cooked porridge
- ¼ cup (30g) muesli
- 3 (35g) crispbreads/whole grain crackers
- 1 (60g) wholegrain crumpet or 1 small (35g) wholegrain English muffin or scone

Strategies for your school canteen that can help increase student whole grain intake

Replace or supplement refined grain food choices with a whole grain choice

For example, when adding sandwiches, wraps, burgers or pizza options to the menu, opt for a whole grain carbohydrate base.

Offer whole grain snack varieties

To maximise whole grain intake at both recess and lunch, include a variety of both sweet and savoury snacks on the canteen menu. Examples can be found below .



Lightly salted popcorn



Granola and plain yoghurt pots with fruit



Whole grain cracker and hummus pots



Fruit muffins made with wholemeal flour



Brown rice crackers



Oat-based muesli bars

Increase the cultural diversity of your canteen menu

Studies have revealed Australia's knowledge and ability to identify whole grains is subpar for several reasons. Generally, whole grain food products are not a prominent feature in popular Westernised Australian cuisine. However, this is not the case in many countries across the globe. Therefore, ensuring your canteen menu reflects the modern day multicultural Australian landscape serves the additional benefit of increasing student's whole grain intake. Examples can be found below .



Curry served with whole wheat chapati and brown rice



Stir fry with brown rice



Wholegrain wrap with meat & vege



Sushi with brown rice



Whole grain spaghetti Bolognese

¹Grains and Legumes Nutrition Council. (n.d.) Retrieved January 2023 .<https://www.glnc.org.au/resource/wholegrains/>

²Galea, L., Beck, E., Probst, Y., & Cashman, C. (2017). Whole grain intake of Australians estimated from a cross-sectional analysis of dietary intake data from the 2011-13 Australian Health Survey. *Public Health Nutrition*, 20(12), 2166-2172.

³Okarter, N., & Liu, R. (2010). Health benefits of whole grains phytochemicals. *Critical Reviews in Food Science and Nutrition*, 50(3), 193-208, <https://doi.org/10.1080/10408390802248734>

⁴Parletta, N., Milte, C., & Meyer, B. (2013). Nutrition modulation of cognitive function and mental health. *The Journal of Nutritional Biochemistry*, 24(5), 725-743, <https://doi.org/10.1016/j.jnutbio.2013.01.002>

⁵Oddy, W. H., Robinson, M., Ambrosini, G. L., O Sullivan, T. A., de Klerk, N. H., Beilin, L. J., Silburn, S. R., Zubrick, S. R., & Stanley, F. J. (2009). The association between dietary patterns and mental health in early adolescence. *Preventive Medicine*, 49(1), 39-44. <https://doi.org/10.1016/j.ypmed.2009.05.009>

⁶Okarter, N., & Liu, R. (2010). Health benefits of whole grains phytochemicals. *Critical Reviews in Food Science and Nutrition*, 50(3), 193-208, <https://doi.org/10.1080/10408390802248734>

⁷National Health and Medical Research Council. (2013). Eat for health: Australian dietary guidelines. Retrieved from <https://www.eatforhealth.gov.au/guidelines>