



The first thousand days of life are thought to be critical in the health of a child and may even determine their risk of disease in adulthood.¹ Avocado can help optimise nutrition in the key life stages of pregnancy and infancy.

AVOCADO IS A NUTRIENT-RICH FOOD THAT SUPPORTS MATERNAL AND CHILD HEALTH

AVOCADO FOR HEALTHY PREGNANCY

Pregnant women have increased nutrient needs and avocado is a nutrient-rich plant food with a range of vitamins, minerals, healthy fats and fibre.

The Australian Dietary Guidelines² recommend an increase in fruit and vegetables serves during breastfeeding:

Pregnancy: 5 serves vegetables & 2 serves of fruit

Breastfeeding: 7 ½ serves of vegetables & 2 serves of fruit

Australian research suggests only 7% of pregnant women meet recommended vegetable intake and 13% meet recommended fruit intake.³

Nutrient boosting

Avocado is not only nutrient-rich but the healthy fats in avocado help enhance the absorption of antioxidants from other foods eaten with it.⁴

Fatigue-fighting

Pregnancy and breastfeeding can be tiring, and avocado contains energy boosting nutrients niacin, pantothenic acid, folate & vitamin C to fight fatigue.

Folate

Avocados are a source of the B group vitamin folate that is important for a healthy pregnancy. It is an essential nutrient for cell division and blood and tissue formation and folate needs are higher during pregnancy and in the peri-conceptual period. A quarter of an avocado (50g) contributes 30ug of folate.

Unfortunately, research has found that most women of child-bearing age do not get nearly enough folate in their diets⁵ (AIHW 2011).

The Recommended Dietary Intake (RDI) for women is 400µg of folate per day and the RDI during pregnancy is 600µg per day (NH&MRC 2006). This RDI is for dietary folate and does not include folic acid supplements required to prevent neural tube defects.

A daily folic acid supplement is recommended at least one month before and three months after conception to prevent neural tube defects such as spina bifida. The recommended dose is 400ug daily.⁶

Folate or folic acid?

Folate is the nutrient found naturally in foods. Folic acid is the term used for this nutrient when added to foods and in supplements.⁷

5 WAYS WITH AVOCADO FOR MUMS

1. For a nutrient-rich breakfast, avo on wholegrain toast with egg.
2. For a smart snack, wholegrain crispbread with avocado and tomato.
3. Green smoothie with fruit, green veg and avo for a sustaining snack or breakfast on the go.
4. Brown rice or noodle bowl with salmon/tuna/chicken, avocado and veggies.
5. Lift meat & 3 veg from good to great with avo salsa.

AVOCADO FOR HEALTHY BABIES

Avocado is a nutrient-rich whole food that contains energy, healthy fats, vitamins and minerals babies need for growth and development.

The NH&MRC Infant Feeding Guidelines⁸ underline the importance of exclusive breastfeeding for 6 months and the introduction of nutritious solid foods of appropriate texture at around 6 months of age. The Guidelines say sugar or salt should not be added to foods during the transitional period. Avocado is an ideal first food for babies because it is soft, nutrient rich, mild in flavour and naturally low in sodium and sugars.

MASHED AVO IS AN IDEAL FIRST FOOD FOR BABIES

The information below describes the nutrients in 2 heaped tablespoons of avocado (50g) and what they do to help a baby's growth and development.⁹

Energy

Avocado helps babies on the move. It contains nutrients that help release energy from food such as B group vitamins B1, B2, B3 and B6, pantothenic acid, vitamin C, magnesium, manganese and biotin.

Brain development

Avocado contains nutrients needed for brain development such as niacin, vitamin B6, biotin, pantothenic acid, folate, vitamin C, magnesium and copper.

At around 6 months of age babies need more iron for brain development and avocado contains iron as well vitamins B2, B6, C and copper which help absorb and transport iron.

Gut health

Avocado provides fibre needed for a healthy gut.

Muscle and bone

Avocado contains potassium and magnesium needed for muscle development and movement, and vitamin K for bone building. Each 50g serve (2 heaped tablespoons) contains 100% of the infant RDI for bone-building vitamin K.

Immune system

Avocado contains a range of immune-supportive nutrients for babies such as vitamins B6 & C, folate and copper.

Skin and hair

Avocado contains important nutrients for healthy skin including healthy fats, B group vitamins, vitamin C and copper. Avocado also contains biotin and copper for healthy hair.

Eye health

Lutein protects the retinal cells required for vision and must be obtained from the diet.¹⁰ Lutein levels in breastmilk are high and serum lutein levels are higher in breastfed vs formula fed infants.¹ It follows that lutein-rich foods such as avocado are important. Avocado also contains riboflavin that assists with normal vision development.

LATEST RESEARCH

Avocados in maternal and infant nutrition were the topic of two articles in the same issue of the journal *Nutrients*. The first was on avocados in the maternal diet.¹² The authors concluded avocados are unique among fruits and vegetables because they contain much higher amounts of key nutrients folate and potassium, which are under-consumed in maternal diets. Avocados also contain higher amounts of fibre, monounsaturated fats, and fat-soluble antioxidants, which have all been linked to improvements in maternal health, birth outcomes and/or breast milk quality.

The second article focused on avocado in the infant diet.¹³ They conclude that unsaturated oil-containing fruits such as avocados are nutritionally unique among fruits in that they are lower in sugar and higher in fiber and monounsaturated fatty acids than most other fruits, and they have the proper texture for first foods and a neutral flavour. They say avocados can help meet the dietary needs of infants and toddlers and should be recommended for complementary and transitional feeding.

The transitional period from exclusive breastfeeding to mostly solid foods is a nutritionally critical time to support rapid growth and development and to encourage the acceptance of a wide variety of nutritious foods.

5 TIPS ON AVOCADO FOR BUBS

1. When introducing solids at around 6 months, mash plain avocado with a fork until smooth.
2. Use mashed avocado to smooth the texture of other dry foods such as pureed meat, fish, chicken, egg or legumes.
3. Mix a little lemon juice into avocado for a change in flavour and to help iron absorption.
4. When baby has progressed to lumpy texture, smash or chop avocado roughly.
5. When baby is eating finger food by themselves, give them a quarter of an avocado (flesh only), or smashed avo on toast fingers – be prepared for a happy, healthy mess.

Check out more delicious recipes at australianavocados.com.au

NUTRITION INFORMATION

Servings per package: 4 serves per avocado
 Serving size: 50g or 1/4 avocado

	Average Quantity per Serving	Average Quantity per 100g
Energy	430kJ (102Cal)	860kJ (205Cal)
Protein, total	1.0g	2.0g
Fat, total	10.7g	21.4g
– saturated	2.4g	4.8g
– trans	0g	0g
– polyunsaturated	1.4g	2.7g
– monounsaturated	7.4g	12.8g
Carbohydrate	<1g	<1g
– sugars	<1g	<1g
Dietary fibre, total	2.5g	5.0g
Sodium	2mg	4mg
Potassium	255mg	509mg
Thiamin	0.04mg (11% RDI)	0.08mg
Riboflavin	0.07mg (12% RDI)	0.14mg
Niacin	1.2mg eq (40% RDI)	2.4mg eq
Vitamin B6	0.06mg (13% RDI)	0.12mg
Biotin	2.5ug (42% RDI)	5.0ug
Pantothenic acid	0.7mg (39% RDI)	1.39mg
Folate	30ug DFE (40% RDI)	59ug DFE
Vitamin C	5.5mg (18% RDI)	11mg
Vitamin E	1mg (25% RDI)	2mg
Vitamin K	11ug (110% RDI)	21ug
Copper	0.14mg (22% RDI)	0.28mg
Iron	0.32mg (11% RDI)	0.64mg
Magnesium	14mg (23% RDI)	28mg
Manganese	0.12mg (15% RDI)	0.24mg
Boron	0.72mg	1.43mg
Polyphenols	71mg GAE	142mg GAE
Beta carotene	14ug	27ug
Cryptoxanthin	59ug	117ug
Lutein & zeaxanthin	136ug	271ug
Gluten	0mg	0mg

REFERENCES

- Langley-Evans SC. Nutrition in early life and the programming of adult disease: a review. *J Hum Nutr Diet*. 2015 Jan;28 Suppl 1:1-14. doi: 10.1111/jhn.12212. Epub 2014 Jan 31 <https://www.ncbi.nlm.nih.gov/pubmed/24479490>
- National Health & Medical Research Council (NH&MRC) (2013) Educator Guide. Canberra. NH&MRC. <https://www.eatforhealth.gov.au/guidelines>
- Wen LM, Flood VM, Simpson JM, Rissel C, Baur LA. Dietary behaviours during pregnancy: findings from first-time mothers in southwest Sydney, Australia. *Int J Behav Nutr Phys Act*. 2010;7:13. Published 2010 Feb 3. doi:10.1186/1479-5868-7-13
- Unlu NZ et al. Carotenoid absorption from salad and salsa by humans is enhanced by the addition of avocado or avocado oil. *J Nutr*. 2005 Mar;135(3):431-6. <https://www.ncbi.nlm.nih.gov/pubmed/15735074>
- Australian Institute of Health and Welfare 2011. Mandatory folic acid and iodine fortification in Australia and New Zealand: baseline report for monitoring. Cat. no. PHE 139 Canberra: AIHW. <http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=10737418918&libID=10737418917>
- Royal Australian and New Zealand College of Obstetricians and Gynaecologists. Vitamin and Mineral Supplementation and Pregnancy (May 2015). Available at URL [https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical-Obstetrics/Vitamin-and-mineral-supplementation-in-pregnancy-\(C-Obs-25\)-Review-Nov-2014,-Amended-May-2015.pdf?ext=.pdf](https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical-Obstetrics/Vitamin-and-mineral-supplementation-in-pregnancy-(C-Obs-25)-Review-Nov-2014,-Amended-May-2015.pdf?ext=.pdf)
- Food Standards Australia and New Zealand. Folic acid/folate in pregnancy. <http://www.foodstandards.gov.au/consumer/generalissues/pregnancy/folic/Pages/default.aspx>
- National Health & Medical Research Council (NH&MRC) (2013) Infant Feeding Guidelines- Information for health workers. Canberra. NH&MRC. <https://www.eatforhealth.gov.au/guidelines>
- FSANZ Australian New Zealand Food Standards Code. Standard 1.2.7 Nutrition, health and related claims standard <https://www.legislation.gov.au/Details/F2017C01048> and Schedule 4 <https://www.legislation.gov.au/Details/F2017C00711> and regulatory RDIs for infants found in Schedule 1 <https://www.legislation.gov.au/Details/F2017C00315>
- Landrum JT, Bone RA (2001) Lutein, zeaxanthin, and the macular pigment. *Arch Biochem Biophys* 385:28–40
- Bettler J et al Serum lutein concentrations in healthy term infants fed human milk or infant formula with lutein. *Eur J Nutr*. 2010 Feb;49(1):45-51 <https://www.ncbi.nlm.nih.gov/pubmed/19672550>
- Comerford KB, Ayoub KT, Murray RD et al. The Role of Avocados in Maternal Diets during the Periconceptional Period, Pregnancy, and Lactation. *Nutrients*. 2016 May 21; 8(5). Epub 2016 May 21.
- Comerford KB, Ayoub KT, Murray RD, Atkinson SA. The Role of Avocados in Complementary and Transitional Feeding. *Nutrients*. 2016 May 21;8(5). pii: E316. doi: 10.3390/nu8050316. <https://www.ncbi.nlm.nih.gov/pubmed/27213450>