

Healthy vegan kids

Why vegan diets are the healthiest and safest option for children

Plant-based diets offer the perfect opportunity for promoting healthy eating patterns in childhood, helping reduce the risk of disease later in life.

Vegan diets are healthful

All children, vegan or not, need to be well-nourished to grow and develop properly. With a bit of meal-planning, a vegan diet can offer the best start to a healthy life, providing all the essential and many extra health-protective nutrients.

“It is the position of the Academy of Nutrition and Dietetics that appropriately planned vegetarian, including vegan, diets are healthful, nutritionally adequate, and may provide health benefits for the prevention and treatment of certain diseases. These diets are appropriate for all stages of the life cycle, including pregnancy, lactation, infancy, childhood, adolescence, older adulthood, and for athletes” (Melina et al., 2016).

Many experts and health organisations agree that vegan diets are suitable for everyone, including children and pregnant and breastfeeding women – for example: British Nutrition Foundation, British Dietetic Association, Italian Society of Human Nutrition, American Academy of Nutrition and Dietetics and Canadian Paediatric Society (Amit, 2010; Agnoli et al., 2017; BDA, 2021; BNF, 2018; Melina et al., 2016). All of them highlight that parents need to include good sources of all the main nutrients and use vitamin B12 and D supplements but that in general, a vegan diet gets their stamp of approval.

Vegan children thrive and develop healthy habits that can last a lifetime (Weder et al., 2019). They have a lower risk of developing obesity, diabetes and heart disease, are less exposed to veterinary antibiotics found in animal-based foods and have lower levels of inflammation markers in their blood compared to meat-eating children (Agnoli et al., 2017; Ambroszkiewicz et al., 2018; Baroni et al., 2018; Lemale et al., 2019).

Why animal products harm

Animal products promote disease. They are rich in blood vessel clogging saturated fats, contain too much animal protein, have no fibre, no starchy carbohydrates and little or no vitamins C, E or beta-carotene (the precursor to vitamin A). A lack of these vitamins and fibre, and an excess of saturated fat, animal protein and cholesterol are risk factors for many types of cancer, heart disease, stroke, high blood pressure, diabetes, obesity, gallstones and several other diseases. On top of that, cooking meat and fish at high temperatures also creates some new and dangerous cancer-causing compounds. Hormones in dairy products can pose a health risk too. A meat or cheese-based lunchbox is not the healthiest by any stretch of the imagination.

What foods do children eat?

There is an ongoing survey by the UK government’s Public Health England, called the National Diet and Nutrition Survey Rolling Programme. In 2020, they published the results of the eating habits of young people aged 1.5 to 18 years in Great Britain, collected between 2016 and 2019 (PHE, 2020). These are some of the main findings of the survey:

- All children eat too much saturated fat (bad for the heart)
- Children eat more than twice as much sugar as they should. That means sweets of all kind, sweetened drinks, biscuits and chocolate
- Most children eat too little fibre (important to keep the digestive system healthy)
- Only 12 per cent meet the recommended 5 A DAY fruit and vegetable intake
- Around half of all children don’t get enough iron and folate
- About a fifth of children over 11 years of age lack vitamin D
- And around 15 per cent lack sufficient calcium



This goes to show that any diet needs to be well-planned to provide all that children need – meat-eating children don't automatically get enough vital nutrients.

What should a vegan child eat daily?

Preparing healthy vegan meals for kids is easier than you might think! Just follow the simple template below – that way you'll include all the basic food groups and the meals will be balanced.

Each healthy main meal should consist of:

- Grains/Wholegrains (cereal products) or Root Vegetables
- Pulses or Nuts/Seeds (or both)
- Fruit or Veg

Here's why and what each food group includes:

Grains/Wholegrains (cereal products) and Root Vegetables are great sources of healthy carbohydrates, some vitamins and minerals – the best choices are wholegrains (wholemeal bread, whole wheat pasta, brown rice, oats, quinoa), other grain products (breakfast cereals, regular pasta, white rice, baked goods), potatoes, sweet potatoes and other root vegetables. Wholegrains are also good sources of protein.

Pulses and Nuts/Seeds are excellent sources of protein, healthy fats, some vitamins and minerals – the best choices are lentils, beans, bean burgers, soya/edamame, soya burgers, tofu and tofu sausages, tempeh, chickpeas, hummus, falafel, nuts and seeds (and butters made from them).

Fruit and Vegetables are fantastic sources of healthy carbohydrates, vitamins, minerals and antioxidants – the best choices are fresh fruit and vegetables, dried unsweetened fruit and lightly cooked vegetables.

Snacks

Children need to eat at least five or six times a day because their tummies are small so can't hold a lot of food. They get the best nutrition if their snacks follow the structure of main meals, just on a smaller scale. Examples of nutritious snacks include oat cakes with nut butter and fruit, energy balls made from nuts, oats and dried fruit and a fresh smoothie, rice cakes with tahini and fruit slices, plant yoghurt with cereals and fruit or fruit smoothie with nuts and oats blended in.

Supplements for vegan kids

A vegan diet can give your child the healthiest start to life and thousands of thriving vegan babies, children and teenagers are proving it. Vegan children who eat a varied, healthy diet get almost all of the essential nutrients from foods alone. However, all health experts and organisations agree that it's absolutely necessary to give vitamin D and vitamin B12 supplements to vegan children of all ages.

Vitamin B12 – recommended daily supplement doses:

Babies and children up to three years – 5 micrograms

Children from four to ten years – 25 micrograms

Children older than ten years – 50 micrograms

These amounts are higher than the recommended daily intakes because we don't absorb all the B12 from supplements, so the higher doses ensure a sufficient intake.

Vitamin D – recommended daily supplement doses:

Breastfed babies – 8.5-10 micrograms (10 micrograms = 400 IU – units often used on supplements)

Formula-fed babies – none as infant formulas have to contain vitamin D

Toddlers and older children, including teenagers – 10 micrograms

Nutrients to watch

There are a few other nutrients to watch and, depending on what and how your child eats, it's up to you to decide whether they need a supplement.

Iodine – found mainly in seaweed, can be tricky – children and adults alike can get too little or too much of it so it may be best to use either iodised salt or a kelp supplement a few times a week. Children up to four years need 75 micrograms, older ones and teenagers need 150 micrograms. If you use iodised salt, you most likely don't need supplements.

Iron, zinc and calcium – this trio of minerals often pops up in debates about vegan children. However, children who eat enough in general and have a healthy diet should have a sufficient supply. Research shows that vegan children usually get enough of iron and zinc, while calcium intake may be lower than optimal so it's important to make sure your child gets enough (Alexy *et al.*, 2021). Give them calcium-fortified plant drinks (such as calcium-fortified oat or soya milks) and fortified cereal products, include leafy green veggies, tofu, almonds, dried figs and tahini in their daily diet. If your child is so picky that you worry about their nutrient intake, it may be best to give them a children's multivitamin/mineral supplement with all the above nutrients.

Omega-3 fats – these are essential to every child's development and health. Rich sources are flaxseed, hempseed, chia seeds and walnuts – and oils made from them (always use these cold because their omega-3s are destroyed by heat). The best oil to use for cooking is rapeseed oil – it withstands higher temperatures better and is a good source of omega-3s. If you have a baby under 12 months but already eating some solids, give them a teaspoon of flaxseed oil daily to top up their omega-3s. Toddlers, aged 1-3, have higher needs so they should get a supplement containing 100 mg of DHA omega-3 fat daily. Make sure it's a supplement made from algae and not fish oil!

Older children don't need a supplement if they receive their daily omega-3 dose from one teaspoon of flaxseed oil, one tablespoon of ground flaxseed or chia seeds, two tablespoons of hempseed or ten walnut halves. If your child doesn't eat these foods, they will need a supplement!

Do vegan children eat well?

Research shows that vegan children typically have higher quality diets compared with their peers, with a healthier intake of fat – less saturated and more of polyunsaturated 'good' fats, plenty of protein, more of healthy carbohydrates and fibre but less sugar, more fruit and vegetables, less junk food, salt and fizzy drinks and their diets contain much fewer harmful substances usually found in animal-based foods (Amit, 2010; Melina *et al.*, 2016; Alexy *et al.*, 2021). According to these studies, vegan children also have the highest intake of vitamin E, vitamin C, folate, magnesium, iron and zinc among all children.

Chronic diseases and diet

Heart disease

The research is clear – diets high in meat, saturated fat, sugar, junk foods and salt, and lacking in fruit and vegetables, wholegrains, nuts and seeds damage the heart and blood vessels (Micha *et al.*, 2017; Korakas *et al.*, 2018). These diets increase the amount of cholesterol in the blood, which can start sticking to blood vessel walls, forming plaques that limit the blood flow and can eventually even clog them. The term for this artery narrowing is atherosclerosis.

Research revealed that children as young as three years may already have fatty patches in their blood vessels. When these children grow up, the fatty patches develop into atherosclerotic plaques, which is why people in their early twenties can have extensive atherosclerosis (Desmond *et al.*, 2018). Children growing up on unhealthy diets full of meat, fat and sugar are more likely to have higher cholesterol, fat and sugar levels in their blood and higher than healthy body weight (Shang *et al.*, 2020). On the other hand, healthy childhood diets not

only lower heart disease risk in adulthood but vegan children also have lower cholesterol levels and more antioxidants in the blood – this helps to protect their blood vessels and hearts even more (Desmond *et al.*, 2018 and 2021; Alexy *et al.*, 2021).

Obesity

It's perfectly normal and healthy for children to not be too slim. They're growing fast so they need a lot of food and energy. However, if a child carries so much excess weight that it undermines their health, it's a problem. Childhood obesity does not have one definition, rather it is based on age- and sex-specific BMI (body mass index, calculated from height and weight) and is often referred to as BMI-for-age. Scientific studies show that childhood obesity makes the child or teenager likely to be obese also in adulthood (Simmonds *et al.*, 2015; Desmond *et al.*, 2018). And while in children, obesity brings an increased risk of high blood pressure, type 2 diabetes and breathing problems, in adulthood, it also increases the risk of heart disease, some types of cancer and infections. Vegan and vegetarian children are usually within healthy weight ranges and have lower rates of obesity which gives them a healthy start to life (Desmond *et al.*, 2018 and 2021).

Diabetes

When babies and young children with a specific genetic makeup are given cow's milk, it may inadvertently trigger type 1 diabetes by destroying the body's ability to produce insulin (sugar-regulating hormone) in the pancreas (Chia *et al.*, 2017). For more information, see viva.org.uk/health/diabetes.

Type 2 diabetes used to develop later in life, typically following many years of a diet rich in fat, sugar, animal products and processed foods. Not anymore. There are growing numbers of children developing this disease, teenagers in particular, and suffering poor health as a result (Nadeau *et al.*, 2016).

In adults and children alike, too much fat in the body is one of the major risk factors for developing insulin resistance and type 2 diabetes – it changes how cells work and disrupts blood sugar regulation (Serbis *et al.*, 2021). Unhealthy diets are a major risk factor with research showing that a bad diet in childhood increases the risk of type 2 diabetes in later teenage years and adulthood (Desmond *et al.*, 2018). What makes things worse is that when type 2 diabetes develops in adolescents, it progresses faster than in adults, leading to other health issues (Serbis *et al.*, 2021). The good news is that a wholesome vegan diet can prevent this from happening – in fact, vegans have up to 50 per cent lower risk of type 2 diabetes (Appleby and Key, 2016; Salas-Salvadó *et al.*, 2019).

Cancer

One of the best things we can do to reduce our children's risk of several cancers is to teach them how to eat well. Cancer usually starts developing years, even decades, before it's diagnosed. Childhood diet and lifestyle can either increase the risk of cancer or decrease it.

A large-scale review of data on cancer risk in childhood and adulthood concluded that the biggest diet-related risk factors are obesity and a diet high in meat, especially processed meat, fat, salt and alcohol (Mosby *et al.*, 2012). On the other hand, the study revealed that people consuming a plant-based diet are at a lower risk of cancer. These results have been supported by many other studies showing that vegans had 15-19 per cent lower cancer rates (Huang *et al.*, 2012; Tantamango-Bartley *et al.*, 2013; Key *et al.*, 2014; Dinu *et al.*, 2017; Segovia-Siapco and Sabaté, 2019).

In 2015, the World Health Organisation (WHO) classified processed meat as carcinogenic (causing cancer) and red meat as probably carcinogenic (Bouvard *et al.*, 2015). Even small amounts of red and processed meat have been shown to increase the risk of colon, breast and prostate cancer (Wolk, 2017).

Allergies

The word allergy describes a bad reaction to something – it is the body's defence (immune) system leaping to protect you against what it believes

is a foreign invader. Asthma (breathlessness with wheezing), eczema (red, itchy and flaky skin), rhinitis (constant runny or congested nose), hay fever and urticaria (skin rashes) are classical allergies.

The most common food allergies are to cow's milk, eggs, shellfish, fish, nuts and peanuts, wheat and soya. A reaction to the main protein in cow's milk (casein) is the most common allergy in childhood. When a baby swallows cow's milk, bits of this protein get into his or her immune system and can trigger a reaction. Excessive mucus production resulting in a constant runny nose, blocked ears or a persistent sore throat are often the first signs of a problem with cow's milk. More serious problems such as eczema, colic, diarrhoea, asthma and vomiting are the body's way of trying to get rid of the invader. In fact, research discovered a link between cow's milk allergy and asthma so by avoiding dairy products, susceptible children may also be avoiding the risk of asthma (Jansen *et al.*, 2018).

Bone health

Calcium

We need calcium for good bone health and that's where children are at an advantage – in infancy and early childhood, children absorb up to 60 per cent of the calcium they consume (Fomon and Nelson, 1993; Institutes of Medicine, 2011). By adulthood it decreases to about 30 per cent (Jackman *et al.*, 1997; Bronner and Abrams, 1998).

The best plant sources of calcium are: kale, collard/spring/mustard greens, broccoli, cabbage, sesame seeds and tahini (sesame seed paste), almonds, tofu, tempeh, beans, dried figs, plant-based milks fortified with calcium, fortified vegan breakfast cereal (eg Ready Brek), wholemeal bread and butternut squash.

Toddlers need 350 milligrams of calcium daily, children over three 450 milligrams, children over six 550 milligrams, younger teenagers 800-1,000 milligrams and older teenagers and adults 700 milligrams.

While a sufficient intake of calcium is a must for healthy bones and teeth, the intake of cow's milk (or other dairy products) is not. As comprehensive studies on dairy and bone health have revealed, dairy doesn't seem to offer any advantages for children's bone health (Lanou *et al.*, 2005; Allison *et al.*, 2020; Wallace *et al.*, 2020).

Building strong bones

Calcium as well as vitamin D are important for healthy bones but it's the overall diet that matters because some foods are better for the bones than others. Studies show that a diet rich in fruit and vegetables, calcium-fortified milk alternatives, nuts and grains is excellent for bone health (Movassagh *et al.*, 2018). This is because these foods naturally contain nutrients important for bones – protein, calcium, potassium, magnesium, vitamins A, C, K and folate.

Research on diets and bone health shows that a well-balanced vegan diet can ensure strong, healthy bones and may even be superior to the Western one (Knurick *et al.*, 2015; Hsu, 2020). According to a major review by the US National Osteoporosis Foundation (Weaver *et al.*, 2016), bones need a good protein supply and plant protein does the job better than animal protein, which produces more acid in the body. The authors also concluded that fruit and vegetables have a positive effect on the bones, while carbonated (fizzy) drinks may have a negative effect. Lastly, they highlighted how important physical activity is for bone health, growth and development – bones need to be stimulated in order to grow and become stronger. Children should be physically active for at least an hour every day.

Rest assured that a well-planned vegan diet gives your child the best start in life. We have a lot more information, including practical tips for how to make kids eat healthily, detailed nutrient information and more on our website – go to viva.org.uk/health/children to learn more.

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