

# Fast Facts for Healthy Children



## Edition 10: Cadence Health

### Vegetarian children

Young children need to meet their nutrient requirements in the most efficient way possible, and both time and space (given the size of their stomachs) are an issue. Young children have greater nutrient needs than older children and adults per unit of weight because of their extraordinary growth rate.

So while there are many benefits of a vegetarian diet for adults, such diets are not necessarily adequate for children especially the very young. There is often concern that vegetarian diets are unable to provide adequate amounts of essential nutrients, in particular iron, B12 and protein.

Being vegetarian does not mean eating fruit and vegetables' only; in fact limiting a diet to only selected food groups increases the risk of nutrient deficiencies.

A properly constructed vegetarian diet can provide all of the nutrients required for the human body to survive and even thrive. Indeed some vegetarian communities have been shown to have health advantages over the general population. **The major issue is the construction and vigilance of the diet.**

#### HEALTH BENEFITS OF VEGETARIAN DIETS

Studies show that vegetarian diets correspond more closely with the healthy eating ideal than non-vegetarian diets because they are lower in saturated fat and higher in complex carbohydrates (including fibre) and fruit and vegetables. A vegetarian's intake of several nutrients, notably thiamin (vitamin B1), folate, vitamin C, carotene and vitamin E, tends to be higher than in non-vegetarians.

Vegetarians also appear to have a lower incidence of some chronic diseases, particularly heart disease and some cancers. Studies have shown that vegetarians suffer less from hypertension, obesity, non-insulin-dependent diabetes and gallstones.

#### TYPES OF VEGETARIAN DIETS

Being vegetarian means different things to different people and as a result, vegetarian diets do vary quite significantly in the extent to which the individual chooses to exclude animal products. Therefore, whether vegetarian diets can supply all of the nutrients necessary for health and wellbeing is dependent on the type of vegetarian diet followed.

**Vegetarians:** a blanket term that describes people who exclude meat, poultry, fish, or other animal-derived foods from their diet.

**Lacto-vegetarians:** people who include milk and milk products, but exclude meat, poultry, fish, seafood, and eggs from their diets.

**Lacto-ovo-vegetarians:** people who include milk, milk products and eggs, but exclude meat, poultry, fish, seafood.

Vegan diets (which exclude all animal-derived foods including meat, poultry, fish, eggs and dairy products) are generally not considered appropriate for infants and young children, due to the restricted variety of foods and food groups and nutrients.

#### PROBLEM NUTRIENTS IN SOME VEGETARIAN DIETS

**Iron:** both vegetarians and non-vegetarians may have difficulty in achieving the RDI for iron. In fact, it seems that vegetarians often consume more iron than many individuals who consume animal products. However, the problem with vegetarian diets is that iron from plant sources is absorbed less efficiently than from animal sources, so vegetarians are probably more at risk of iron deficiency than meat eaters. However, vegetarians usually consume plenty of vitamin C-rich foods which can enhance the absorption of iron from plant foods.

**Vitamin B12:** is found almost exclusively in animal foods. B12 plays an integral role in maintaining our nervous system and producing DNA (genetic material). Some studies show that adequate B12 can protect against genetic abnormalities. Requirements for the vitamin are very small, so vegetarians who regularly consume dairy products are unlikely to be at risk of a deficiency.

**Energy:** plant sources of food are rich in many nutrients and health-giving factors; however they tend to provide less energy than animal sources. It is important that young children gain enough energy for growth and development; they must also be given enough dietary fat for brain and eye development. Vegetarian children require foods that are rich sources of healthy fats such as avocado, nut butters, tahini, oils and spreads.

**Protein:** provided a varied diet is eaten, vegetarians and vegans should be able to gain sufficient protein from their diets. A well-balanced vegetarian diet normally exceeds the RDI for protein, although they often supply less protein than diets containing meat, poultry and fish. Vegetarians and particularly vegans should pay careful attention to the protein combining principles (see Figure 1).

**Zinc:** vegetarian and vegan diets usually contain less zinc than meat-based diets. Zinc is vital for growth, immunity and development and is currently a top concern regarding vegetarianism in children. In wealthy countries, however, this is far less pronounced.

**Calcium:** vegetarians who regularly consume dairy products are likely to achieve calcium recommendations.

**Omega-3 fatty acid:** recent research into the omega-3 fatty acid DHA has raised the possibility that low intakes may be of concern for the development of infants born to vegetarian mothers, but more research is needed.

### TIPS FOR CAREGIVERS AND PARENTS

There are some basic principles to follow to ensure that your vegetarian child gains all the nutrients he or she requires for optimal health and development:

- Combine two or more sources of protein in each meal.
- Use a variety of protein-rich foods over the day, avoiding an over-reliance on a few select protein foods – often this is cheese.
- Ensure your child has adequate amounts of iron-rich foods such as baked beans, nuts (care must be taken with giving small foods to young children due to the possibility of choking, however you can substitute them with nut pastes, butters and meals/powders), beans, dried fruits, wholegrains and dark green vegetables regularly.
- Introduce small amounts of healthy oils from nuts and seeds (not whole nuts or seeds) to make up for any loss of essential fatty acids from not consuming fish and other animal foods.
- Protein must be consumed daily by eating plant-based proteins such as lentils, pulses, grains etc.

### HOW TO PROTEIN COMPLEMENT (COMBINING PROTEINS)

Many vegetarian dietary issues relating to lowered amounts of amino acids can be overcome by protein complementation (see Figure 1). This refers to the process by which an essential amino acid which is low in one food can be made up (complemented) by consumption of another food which contains an excess of that amino acid. For example, small quantities of animal protein eaten with low quality vegetable protein will improve the overall protein quality of the diet.

### VEGETARIAN MEAL IDEAS

You do not have to be a vegetarian to enjoy the many benefits that vegetarian foods can provide. Many children enjoy vegetarian options for example try:

- Bean or falafel burrito.
- Vegetarian sausages with fresh veggies.
- Veggie burger with a tempeh, lentil or chickpea patty.
- Vegetarian nachos

- with kidney beans, cheese and nachos.
- Cheese platter and falafels (chickpea balls).
- Crackers and mezze' plate with hummus, tzatsiki, guacamole, babaganoush, falafels.
- Lebanese roll-up with cheese and Mediterranean dips.
- Vegetarian schnitzels, kebab with salad and falafels.
- Raw tofu (purchase the soft or silken tofu for this) (can be used as a dessert).
- Tapioca and ice-cream.
- Strawberry polenta and yoghurt.
- Sweet couscous and fruit.

Note: many of these ingredients can be purchased ready-made, for example vegetarian nuggets or veggie burger patties in the refrigerated health food section of the supermarket.

### SUMMARY

While there is no reason why a child on a vegetarian diet should not thrive just as other children consuming meat do, such a diet does require vigilance on the part of the caregiver.

**IF YOU ARE UNSURE ABOUT HOW TO ENSURE NUTRITIONAL ADEQUACY CONSULT YOUR NUTRITIONIST, DIETITIAN OR SUITABLY QUALIFIED HEALTH CARE PROFESSIONAL**

Figure 1 Plant protein sources for protein combining		
Nuts and seeds *	Grains	Legumes ** (beans and peas)
<ul style="list-style-type: none"> <li>▪ Almonds</li> <li>▪ Pecans</li> <li>▪ Macadamias</li> <li>▪ Cashews</li> <li>▪ Walnuts</li> <li>▪ Pistachios</li> <li>▪ Pepitas</li> <li>▪ Sesame and products such as tahini</li> </ul>	<ul style="list-style-type: none"> <li>▪ Wheat and products (e.g. breads and breakfast cereals)</li> <li>▪ Oats</li> <li>▪ Rice</li> <li>▪ Rye and products (e.g. breads)</li> <li>▪ Tapioca/sago (starch pearls from a manihot tree)</li> <li>▪ Cornmeal (polenta either from corn or maize)</li> <li>▪ Couscous</li> <li>▪ Barley</li> <li>▪ Bran</li> <li>▪ Buckwheat</li> <li>▪ Wheat germ</li> <li>▪ Millet</li> </ul>	<ul style="list-style-type: none"> <li>▪ Soybeans and products (e.g. tofu, soy milk, cheese etc.)</li> <li>▪ Chickpeas and products (e.g. hummus, falafel and chapattis)</li> <li>▪ Kidney beans</li> <li>▪ Lentils and products (e.g. lentil patties and dahl)</li> <li>▪ Lima beans</li> <li>▪ Mung beans</li> <li>▪ Black-eyed beans</li> <li>▪ Besan flour (made from chickpeas)</li> <li>▪ Peanuts *</li> </ul>
<p>* Whole nuts and seeds should not be given to young children due to the risk of choking. Nut butters, meals and pastes are suitable for young children.            ** Most legumes require preparation prior to cooking either in the form of soaking overnight or long cooking. Many can be sprouted. All this increases the nutritional value of the legume significantly (due to the plant compounds called phytates that reduce our ability to digest the legume efficiently).            Source: Adapted from Lappe' and Lappe', Diet for a Small Planet, p153.</p>		

Adapted from the **Certificate of Childhood Diet and Nutrition 2005**

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**Childhood Nutrition Courses Fresh to your Door!**

✉ PO Box 313 Manly NSW 1655 AUSTRALIA

☎ 61 02 9949 5712

☎ 61 02 9949 5712

✉ info@cadencehealth.com.au

🌐 www.cadencehealth.com.au