

HEALTHY EATING FOR TODDLERS

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A varied and nutritious diet and good eating habits are essential for toddlers' health, growth and development.

This factsheet is the first in a series on toddler nutrition and development, that aims to give a general overview on healthy eating for toddlers aged between one and three years. Subsequent factsheets will explore specific topics in more detail, such as combining food for a balanced diet, how to deal with picky eaters and, food allergies and intolerances.

LEARNING POINTS

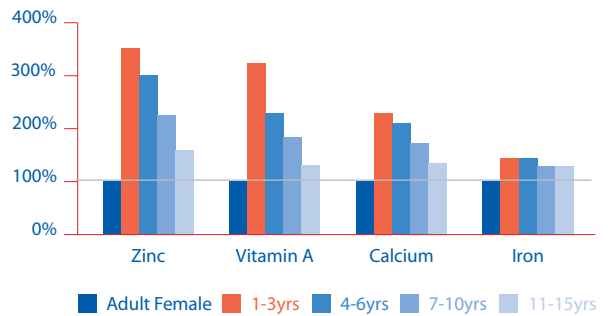
- 1** Toddlers need a nutritious diet which is higher in fat and lower in fibre than that recommended for adults and children over five years.
- 2** A healthy balance of nutrients will be supplied by combining foods as shown in factsheet 1.2.
- 3** Three meals of toddler-sized portions and two to three nutritious snacks per day should provide all the nutrients and energy they need.
- 4** Toddlers should have six to eight drinks per day to ensure adequate hydration.
- 5** Toddlers benefit from a daily routine of meals and snacks based around their sleeping pattern.
- 6** Foods to avoid are: large quantities of salty foods, sugary and acidic drinks, drinks with sweeteners, raw eggs, raw shellfish, some large fish and whole nuts.
- 7** A vitamin A and D supplement each day is recommended especially for fussy eaters, toddlers of Asian, African and Middle Eastern origin and those living in the northern areas of the UK.
- 8** Eating in social groups and praising toddlers when they eat well will encourage them to enjoy their meals.

HEALTHY EATING FOR TODDLERS

Toddlers' nutritional requirements

Toddlers' nutritional requirements differ quite markedly from those of older children and adults. Rapidly growing and extremely active, toddlers require more calories and nutrients in each mouthful of food than adults. A toddler's daily energy requirement is around three times that of an adult (95 Kcalories per kilogramme (kg) of bodyweight compared to 30-35 Kcalories per kg of body weight). Similarly toddlers need higher amounts of nutrients per kg of their body weight than adults (see figure 1).

Fig. 1 Nutrients needed per kg body weight as percentage of adult female requirements (RNI)*

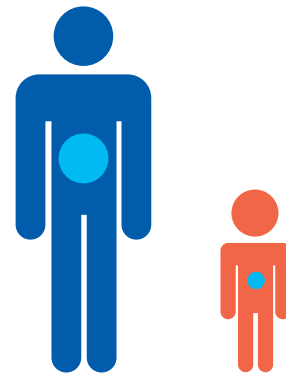


*RNI = Reference Nutrient Intake

Calories (Energy)

To consume these relatively large amounts of calories it is important not to rely on the low-fat, high-fibre foods that are recommended for adults and older children because toddlers' stomachs are only about one third the size of an adult stomach (see figure 2)^{1,2}. A toddler's diet should therefore include some foods that are high in fat and low in fibre.

Fig. 2 The difference in stomach volumes between an adult and toddler



Nutrients

By making up meals and snacks with nutritious foods the high nutrient needs of toddlers can easily be met. Three balanced meals a day of toddler-sized portions, plus two or three nutritious snacks should be sufficient.



MILK

Toddlers need less milk than they did in their first year of life. About three drinks of 120mls (4oz) per day are enough³. More than this may suppress appetite and so decrease their intake of other foods, especially those higher in iron.

Milk from baby bottles should be discontinued by the age of one year. Thereafter milk and other drinks should be given in beakers or cups, because continued bottle sucking can become a difficult habit to break⁴.

Although all types of cows' milk contain the same amounts of protein, calcium and other nutrients, semi-skimmed milk has less fat, calories and vitamin A than whole milk. Therefore all toddlers should drink whole (full fat) milk until they are two years old. A follow-on formula can be considered for toddlers who are nutritionally vulnerable as this provides more iron and toddlers are at risk of iron deficiency anaemia in their second year.

After two toddlers that are eating well can change to semi-skimmed milk.⁴ Skimmed milk should not be given to children under five years old^{3,4}.



OTHER DRINKS

Toddlers should be offered around six to eight drinks per day from a beaker or cup (more may be needed in very hot weather or when they are very active). This will prevent dehydration and reduce the occurrence of constipation. Milk and water are the best drinks to give between meals and snacks as they do not harm teeth when taken from a beaker or cup.

See factsheet 1.5

Fruit juices should be diluted one part juice to ten parts water and given with meals or snacks. They are acidic and dissolve tooth enamel when given on their own. Squashes with sugar or sweeteners are also acidic and should be well diluted.

Bottles and reservoir feeding cups should not be used because they bathe the gums and sensitive milk teeth in acid for longer which increases the risk of dental caries and enamel erosion.

Tea and coffee reduce iron absorption and should not be given to toddlers⁴.

EATING IN SOCIAL GROUPS WITH PARENTS AND OTHER CHILDREN

Toddlers learn by copying other children and adults, so eating in a social group can be an important part of learning to like new foods. Families should eat together as often as possible and parents should eat the foods that they want their children to eat. Toddlers may also learn to eat new foods at nursery or in extended family groups.

Not only do toddlers copy other people's eating behaviour, they also respond to others' reactions to them at a mealtime. Praising toddlers when they eat well will encourage them to enjoy their food. Attending to toddlers only when they are refusing food may increase problem eating behaviour.

See factsheet 2.1 and 2.2



REGULAR PATTERN OF MEALS & SNACKS

Toddlers benefit from a routine of regular meals and snacks around their daytime sleeps. Toddlers do not eat well if they are tired or over-hungry. Snacks evenly spaced between meals will help to avoid the frustrations of being over-hungry.

Toddlers should be given both a savoury and sweet course at meals. This gives two opportunities for sufficient nutrients to be consumed and increases the variety of foods the toddler is eating. Puddings are a valuable part of the meal and should not be used only as a reward for eating the savoury course.



TEXTURES AND FLAVOURS

Toddlers have individual tastes regarding the flavour and texture of foods. Some like their food bathed in sauces while others prefer it dry. Some like each food kept separate from the others on the plate. Many do not like stringy meat or foods that are difficult to chew. It is important to respect a child's tastes and, where necessary, to offer alternative foods from the same food group.

Tastes often change overtime, so it is important to keep offering a toddler all the foods the family eats.

NUTRIENTS FOR HEALTH, GROWTH AND DEVELOPMENT

A wide variety of nutrients ensures the body grows, develops normally and continues to function well. Because toddlers are particularly prone to respiratory infections it is important to provide the full range of nutrients, which will help to maintain their immune system. [See factsheet 1.2](#) These include:

- Water
- Protein
- Fat including omega 3 and 6 fatty acids
- Carbohydrates
- Fat soluble vitamins A, D, E and K
- Water soluble vitamin C and the B vitamins
- Minerals: calcium, copper, fluoride, iodine, iron, potassium, selenium, sodium, zinc
- Fibre including prebiotics
- Other phytochemicals which are also antioxidants

[Factsheet 1.1i](#) explains the functions of these nutrients and which foods provide them. A diet containing foods from each of the five food groups, in the correct combinations, will automatically provide sufficient amounts of each nutrient. [See factsheet 1.2](#)

However there are two exceptions to this: vitamins A and D - a supplement of these two vitamins is recommended for children under five years to prevent rickets and ensure normal growth and development³. This is especially important for fussy eaters, toddlers of Asian, African and Middle Eastern origin and those living in the northern areas of the UK.

Most vitamin drops include vitamin C which helps with iron absorption.

FOODS THAT MAY HARM

Salt intake should be kept to a minimum. Limiting sodium, which is part of salt, will help to minimise any health problems due to salt later in life, and may help prevent a rise in blood pressure with age⁵. It is better to flavour foods with herbs and spices than with salt. Processed foods, which are high in sodium and salt should also be avoided [See factsheet 1.9](#) and salty snacks such as crisps should be given only occasionally.

Additives and sweeteners used in food are all tested for safety. However large amounts of sweeteners, often found in drinks, should be avoided if possible. Drinks containing sweeteners should be well diluted.

Eggs and shellfish should be well cooked as they can cause food poisoning in toddlers if eaten raw or partially cooked.

Large fish that live for many years, such as shark, swordfish and marlin, may contain high levels of mercury and should be avoided⁶.

Whole nuts should not be given to toddlers and young children under five because of the risk of choking on them⁴.

Peanut allergy advice changed in 2009. The Department of Health and Food Standards Agency recommends that toddlers with allergies (including eczema and asthma) which are thought to be due to food or other allergens, OR who also have immediate members of family (parents or siblings) with a food allergy or allergy (including eczema, asthma and hayfever) may be at higher risk of developing peanut allergy. Such children should be reviewed by their GP, health visitor or a medical allergy specialist before starting to eat peanuts or foods containing peanuts⁷. Ground walnuts, almonds, cashews and other tree nuts are acceptable and are a good source of protein and nutrients especially for vegetarian toddlers.

References and Further Reading

1. Janet MacGregor: *Introduction to the Anatomy and Physiology of Children*. London: Routledge; 2000.
2. Richard S. Snell: *Clinical Anatomy for Medical Students*. 4th edition. London: Little Brown; 1992.
3. Department of Health: *Weaning and The Weaning Diet. Report of the Working Group On The Weaning Diet of the Committee on Medical Aspects of Food Policy. Report on Health and Social Subjects 45*. London: HMSO; 1994.
4. Department of Health: *Birth to five. Your complete guide to parenthood and the first five years of your child's life*. London: Department of Health Publications; 2004.
5. Consensus Action on Salt & Health (2005) http://www.hyp.ac.uk/cash/information/salt_intake.htm
6. Food Standards Agency (2005) <http://www.eatwell.gov.uk/agesandstages/children/yrtdodder>
7. Food Standards Agency (2009) <http://www.food.gov.uk/safereating/allergyintol/peanutspregnancy>

Other Sources of Information

1. Wardley B & More J: *365 Recipes for Babies, Toddlers and Children. From first foods to starting school*. London: Duncan Baird Publishers; 2004
2. Health Education Board for Scotland (2001) http://www.hebs.com/researchcentre/pdf/infant_nutrition_evidence_into_action.pdf
3. Scottish Executive (2005) <http://www.scotland.gov.uk/Publications/2005/03/20897/55165>
4. The Caroline Walker Trust (2005) <http://www.cwt.org.uk/>

HEALTHY EATING FOR TODDLERS GUIDANCE & TIPS FOR PARENTS



A healthy diet for a toddler is different to that for an older child or an adult because toddlers need more fat and less fibre than that recommended for others

- Use some butter, margarine and oils in cooking.
- Give a mixture of white and some wholemeal/wholegrain breads and cereals because just wholegrain foods are too filling for toddlers.
- Give toddlers small servings of cake and biscuits with fruit for some puddings.



Toddlers will get adequate amounts of all the nutrients and energy they need if their diet is based on combining foods from the five food groups

- The nutrients in a healthy, balanced diet are protein, fat, carbohydrate, vitamins, minerals, omega 3 and 6 fats, and other protective plant compounds, fibre and fluid.



Toddlers will eat best when they have a routine of three meals and two to three snacks per day planned around their sleeping pattern

- Eat with your toddlers and praise them when they eat well, as this will encourage them to enjoy their meals.



Give your toddler between six and eight drinks per day to ensure adequate hydration- that is, a drink with each meal and snack

- More may be needed in very hot weather or if they are particularly active.
- Use beakers and cups instead of bottles.
- The best drinks to give between meals and snacks are water or milk.
- Dilute drinks containing sweeteners with a lot of water.
- Large quantities of juices may reduce your toddlers' appetite or cause loose stools.
- Do not give tea, coffee or fizzy drinks to toddlers.



Foods that may cause harm

- Keep very salty foods to a minimum. This includes crisps and other salty snacks.
- Sugary, acidic drinks such as squashes and 'fruit juice' drinks can cause tooth decay if drunk frequently between meals.
- Do not give raw eggs or raw shellfish to toddlers as they may cause food poisoning. Make sure eggs are well cooked right through.
- Do not give shark, swordfish and marlin to toddlers, as they may contain high levels of mercury. Limit smaller oily fish to twice a week for girls and four times a week for boys. e.g. sardines, mackerel, salmon, trout, eel.



Do not give toddlers whole nuts due to risk of choking

- Toddlers with allergies (including eczema and asthma) which are thought to be due to food or other allergens, OR who also have immediate members of family (parents or siblings) with a food allergy or allergy (including eczema, asthma and hayfever) may be at higher risk of developing peanut allergy. Such children should be reviewed by their GP, health visitor or a medical allergy specialist before starting to eat peanuts or foods containing peanuts.



Give toddlers a vitamin A & D supplement each day

- This is for normal growth and development and to prevent rickets.
- It is especially important for fussy eaters, toddlers of Asian, African and Middle Eastern origin and those living in the northern areas of the UK.
- Vitamin drops usually include vitamin C which helps with iron absorption.