Introducing Solid Foods

This guide will use the term "introduction of solid foods" as the period between 6 and 12 months where infants are being introduced to foods whilst still being offered breastmilk or formula.



The Australian Infant Feeding Guidelines and the WHO Guideline for complementary feeding recommend introducing solid foods at around six months and not before four months of age.

Why are solid foods introduced at around 6 months?

By around 6 months of age breastmilk or infant formula will no longer provide enough energy and nutrition to support normal growth and development, and solid foods need to be introduced. Between 6 and 12 months of age, breast milk or formula continues to be a major source of nutrition alongside solid foods.

At around 6 months of age, most infants are ready to be introduced to different foods including different textures. At this age:

- Nutritional requirements are no longer met from breastmilk or infant formula alone. Iron is a particular concern after 6 months.
- Hunger cues will show that an infant is no longer satisfied by breast milk or infant formula on its own
- The tongue-extrusion reflex (which makes babies push food out of their mouth) has disappeared. As they also become able to sit without much support, babies can move food around in their mouth more easily before swallowing. This means they can manage thicker foods and varied textures.
- Their digestive system has matured, and they can digest starchy foods (like bread, rice, potato).
- They are interested in their environment and will be willing to accept new flavours and textures.
- Most infants are chewing by 7–9 months of age and can manage finger foods at around 8 months of age.

Problems that may occur when solid foods are introduced...

Early

- Could cause issues with breastfeeding (e.g. reduction in maternal milk production).
- Can cause digestive issues for the infant.

Late

- By around 6 months of age breast milk and infant formula is not enough to support a baby's growth, therefore growth can falter.
- Nutrient deficiency, especially iron and zinc can develop. Iron stores are likely to become depleted if iron from solid foods are not provided at this age.
- Optimal development and motor skills such as chewing may be delayed and the baby may become unwilling to accept new textures and tastes.

First foods



Prioritising iron rich foods

As long as **iron-rich foods** are included in first foods, food can be introduced in any order at a rate that suits the infant. Iron-rich foods include pureed meat, poultry, fish, iron-enriched infant cereals, iron-fortified cereals (e.g. wheat biscuits) or cooked tofu and legumes.

All solid foods introduced should be high in nutrients and include a variety of foods from each of the five food groups – meat/alternatives, fruit, vegetables, grains (including wholegrains) and dairy (e.g. cheese, yoghurt).



Safety – allergy

Systems should be in place to ensure that infants with diagnosed food allergies are offered foods and drinks (expressed breast milk, infant formula) that are suitable for their food allergies, in line with the child's allergy care plan. More information is available from the National Allergy Council Allergy Aware website (allergyaware.org.au).

Staff who are caring for infants with food allergy should complete anaphylaxis first aid training, and anyone who is making decisions about, preparing food or supervising mealtimes should complete All About Allergens for CEC food allergen management training (foodallergytraining.org.au).



Texture and consistency

Foods offered should be of an appropriate **texture and consistency** for each individual infant to suit their developmental stage, rather than their age.

It is important that infants learn to manage a range of foods of different textures, from smooth, to soft lumps, to mashed foods, to finger foods.



Continued breastfeeding or infant formula

Until 12 months of age breast milk or infant formula is still important for good nutrition. Continue to provide expressed breast milk or infant formula as often as the infant desires. This helps to avoid displacement of milk feeds by solid foods and to maximise nutrients and immunological benefits, particularly in the first 12 months. Other drinks (including cow's milk) and sugar-sweetened beverages (e.g. fruit juices, cordial) should be avoided.



Safety – choking hazards

Small, hard pieces of food should be avoided as they can cause choking. Foods should be modified to suit developmental stage: e.g., hard fruits/vegetables (such as carrots, apples and celery) are softened or grated; grapes/cherry tomatoes are quartered lengthwise; and choking-risk foods like popcorn and whole nuts are not offered.



Transition from infancy to toddler (12-24 months)

By 12 months of age toddlers should be eating a modified version of what the family are eating. It is important to ensure that toddlers are exposed to a wide variety of food from all five of the food groups. Continue to offer iron-rich foods – the iron in meat is bioavailable and meat is also a good source of zinc and vitamin B_{12}. Plant-based iron rich foods include legumes (e.g. lentils, chickpeas) and dark, leafy green vegetables (e.g. spinach).

From 12 months, pasteurised full-fat cow's milk can be offered as a drink at mealtimes. Offer cow's milk (or alternative milk if necessary, see below for more information), expressed breast milk (as often as the child desires and mother is able) and water – all in a cup rather than a feeding bottle.

Foods and beverages not suitable for infants or that should be used with care

Nuts and other hard foods

Some foods have a high risk of choking. This includes whole nuts, popcorn, corn chips, seeds, raw carrot, celery sticks, chunks of apple. These should be avoided up to age 3 years.

Honey

Honey can contain spores of Clostridium Botulinum, which can cause botulism and should not be given to infants under the age of 12 months.

Added salt

Salt should not be added to food as the kidneys of infants are immature and unable to process excess salt. When purchasing ingredients for cooking, choose low salt options (e.g. 'no added salt', 'low sodium', 'low salt').

Added sugars

Consuming added sugars is associated with increased dental caries. Avoid adding sugar and other sweeteners (e.g. honey, syrups, etc) to food when cooking. When purchasing ingredients for cooking, choose low or no added sugar options (check the ingredient label to see if sugar has been added).

Infants given salty or very sweet foods may develop lasting preferences for these tastes, which can influence food choices later in life.

Deep-fried foods

When fried in large amounts of oil, foods are changed physically, chemically, and nutritionally. Deep-fried foods (e.g. potato chips, chicken nuggets) provide little of the nutrients young children need and can displace foods from the core food groups. These foods should not be offered at ECEC.

Infant food pouches

These commercially made products are widely available and are often promoted as convenient and healthy options for young children. However, Australian research has found that many of these products, including squeeze pouches, are high in sugar, low in iron, and carry packaging claims that do not align with infant feeding guidelines.

Milk and milk substitutes

Under 12 months of age, breastmilk or infant formula are the only recommended milk drinks. Milk from other sources, such as cow's, goat's, and sheep's milk, is not suitable as a **main drink**. Plant-based milks, including soy, rice, almond and oat milks, are also not an appropriate source of nutrition as an alternative to breastfeeding or infant formula for infants under the age of 12 months. However, small quantities of milk and milk substitutes can be introduced as part of solid foods, such as on cereal or in custards.

After 12 months of age, cow's milk can provide nutrients such as protein and calcium and can be introduced. Full fat milk should be offered until 2 years of age, after which reduced-fat milk can be offered if the family chooses. Cow's milk as a drink should be limited to approximately 500 ml per day. Any milk that is offered needs to be safe and pasteurised, raw/unpasteurised milk should not be used. Calcium-enriched plant-based milk can be used after 12 months of age, as long as a full-fat variety is used, and alternative forms of protein and vitamin B_{12} are included in the diet. The use of plant-based milks as drinks are suitable when used under the supervision of a health professional as they are not nutritionally equivalent to cow's milk.

Non-milk beverages

Whilst the Australian Dietary Guidelines lists half a cup of juice as a serve of fruit, fruit juice should not be given to infants under the age of 12 months. Additionally, sugar-sweetened beverages should be avoided for all children (e.g. fruit drink, cordial, soft drink, etc).

This information has been sourced from the Best Practice Guide for Early Childhood Education and Care Food Environment.
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