

NCT Briefing: Solid foods for babies

There should be consistent, evidenced based information available to parents about the introduction of solid foods. For healthy babies born at term the current recommended practice is to introduce solids foods from six months of age. Parents should not be encouraged, or feel pressurised, to introduce solids before this time. In some cases premature, low birth weight or sick babies may need specialised feeding before this age.

The timing and process of introducing babies to solid foods can be fraught with anxiety for parents and it is a significant time in relation to babies' future health. This policy briefing addresses some of the key issues in relation to starting on solid foods. It begins by setting out policy recommendations and the available evidence on which those policies are based. It describes current practice in the UK, touches on different approaches to introducing new foods and the theory to support them. Finally, the importance of parents' knowledge of their baby and parental concerns about weaning are considered.

Although we often use the word 'weaning' to mean starting to take solid foods, it can also mean the cessation of breastfeeding. As these processes may be a long while apart we are cautious about using the word weaning without clear definition. In this briefing weaning refers only to the process of starting on solid foods.

Global policy

Following a systematic review of the evidence on the optimal duration of exclusive breastfeeding which fed into an expert consultation organised by WHO, the World Health Assembly (WHA) in 2002 recommended at a population level: *"exclusive breastfeeding for the first six months of life, with nutritionally adequate complementary feeding through introduction of ...local foods while breastfeeding continues up to the age of two years and beyond"*.¹

In parallel with this process, detailed reviews of babies' developmental readiness were conducted by an international expert group under the auspices of Wellstart International and the LINKAGES project in the USA. They concluded that the probable age of readiness for most full term babies to begin complementary foods "appears to be near six months or perhaps a little beyond."² They also felt that there is probable convergence of such readiness across the several developmental processes.

UK policy

The NCT endorsed the WHO global recommendation that six months is the appropriate age for introduction of solid foods for most healthy babies. In 2003, this policy was accepted by governments in England, Wales and Northern Ireland, who changed their recommendation from starting from 'four and six months' to 'at six months'.

The policy in Scotland has not yet changed, but is under review in the next year.

Evidence for the recommendation

Studies have demonstrated that breastfeeding mothers produce sufficient milk to meet their baby's energy needs for at least the first six months provided mothers do not restrict feeds^{3,4}. There is displacement of breastmilk when solids are introduced earlier, and as the solids are nutritionally less complete there is likely to be a net loss of nutrients, even though energy intake is adequate.^{3,5} Health outcomes are better for babies who are breastfed exclusively for about 6 months, compared with starting solid foods earlier.^{4,2}

There is some evidence that continuing to breastfeed while solid foods are introduced reduces the risk of coeliac disease and potentially other intolerances.⁶ The NCT aims to encourage and enable women to breastfeed for as long as they wish to do so, and to ensure that they do not feel under pressure to introduce solids earlier than 6 months.

Published data indicates that iron supplementation for breastfed babies born at term, is not necessary at six months but that between 10 and 30% will require it by 9 months and therefore prudence indicates recommending iron rich solid food from 7 - 8 months.^{7,8}

For formula fed babies there is also no evidence that solid foods are needed before six months. The few studies that have compared outcomes for formula fed babies given solids from six months, compared with those given solids earlier, showed no difference in growth, activity or morbidity.⁹

Development and maturation

Newborn babies' capacity to digest proteins, lipids and starches is limited as they have lower levels of enzymes to digest these nutrients. Their immature intestine also means babies are more susceptible to intestinal infections and allergies. Developmental and anatomical changes after about 6 months mean that babies are usually ready to start taking solid foods. Their mouth and lower jaw grows proportionately bigger, and there is more room in the mouth as the fatty cheek pads reduce. This means the tongue is able to move around and chewing can be organised successfully.

The rooting and sucking reflexes disappear towards the middle of the first year. It becomes possible for babies to take solid foods without reflexively pushing these foods out, to move food about in their mouths, and to swallow it without choking. There are simultaneous changes in the muscles of the body, neck and shoulders that enable babies to control their heads, and to sit up. Fine coordination of their muscles improves in preparation for picking up and swallowing foods at or after six months.

In summary, there is evidence that, under normal circumstances, babies are developmentally ready for the introduction of foods after about six months of age. While babies are often offered foods at an earlier age, their anatomy, responses and muscle function indicate that this may increase the risk of choking.²

Current practice in the UK

In 2005, 51% of babies in the UK had started on solid foods by four months, 82% by 5 months and 98% by 6 months. This is appreciably later than found in the 2000 survey, showing that the change in government recommendation has had some effect. However, 10% of babies were given solid foods before 3 months (down from 24% in 2000) and this was more likely to happen among younger mothers.

Mothers who gave solid foods earlier were more likely to say that their baby was not satisfied on milk alone or they were going on experience with an older sibling, whereas mothers who started later were more likely to have taken advice from a health professional or leaflets.

Introducing solid foods earlier seems to be due to mothers' impression that foods are necessary to 'satisfy' their baby, as well as the pressure for babies to 'grow up' quickly, adopting behaviours appropriate for older babies and thereby demonstrating that they are advanced in some way.

There appears to be little awareness of the possible health implications, such as an increased risk of eczema and other atopic diseases, gastroenteritis,⁴ overweight and obesity in childhood.

Some health professionals still believe that babies need solid foods before 6 months, possibly through lack of confidence in breastfeeding. However, further research released since the systematic review found an increase in respiratory infections in breastfed babies who were started on solid foods at 4 months compared to a group who did not start until 6 months.¹⁰

Parental concerns

The process of introducing solid foods can be a time of great anxiety, particularly for first time parents. Stress about how much and which foods they eat can be communicated to babies, with the potential to alter their relationships with their carers, their enjoyment of eating and thereby increase concerns. There is little research to throw light on which foods to start with, how often, how much, and whether this should be before, during or after milk feeds or at a different time altogether. This can lead to inconsistent advice from health professionals, relatives and friends. The NCT is keen to see more relevant research on which foods are most appropriate, and at what stage when weaning.

The NCT values parents' observations of their own children and we support parents in making their own decisions once they have the information they need. All babies are individuals and families may decide to offer foods before or after 6 months of age. NCT workers should provide non-judgemental support, relevant information and understanding for parents whatever their decision.

Manufacturers provide a wide range of foods which parents may believe are more appropriate. Relying on these is not recommended, it can be expensive and may lead to a double weaning situation where babies learn to take a limited range of ready made foods and then have to learn to take family foods.

Babies need to be introduced to a wide range of reasonably healthy foods. However, low fat diets are not appropriate as babies have high energy needs in relation to their size. However, highly processed fast foods and foods with added sugar and salt should be avoided.

Baby-led weaning

Some parents are now rethinking the process of giving their baby their first foods. In the same way that we support a baby who is learning to crawl or to walk, but we do not do it for them, this school of thought recognises that babies can direct their own progression on to solid foods.¹¹ They have found that if babies are offered a variety of suitable foods, they can feed themselves when they are developmentally ready. This leads to a more rapid transition to family foods, without the need to puree, strain, and spoon feed most foods. One important factor is that babies eat as little or as much as they like, another is that it can be very messy when the baby is learning by exploring different foods.

Research has not considered whether the baby led method is appropriate for formula fed babies, but the same theories apply as long as they are able to regulate their own food and fluid intakes. Parents should discuss the process and their individual baby with their health visitors. Feeding a baby who is lying down actually increases the chance they will choke and can be dangerous. Sitting up is a sign that a baby is ready to take solid foods and is a much safer position as food can fall out of the babies' mouth if he does not swallow it. Parents report that babies who are allowed to feed themselves tend to accept a wide range of foods and enjoy eating.

Drinks

Breastmilk or formula should continue to be the main part of babies' diets for at least the first year. Breastfed babies do not need other drinks, formula fed babies can be offered cooled, boiled water

if they seem thirsty, and when they start to take solid foods. Water is the best drink in addition to milk. Fruit juice is not necessary as long as babies are eating other vegetables and fruits.

Labelling of baby foods

The average age when babies start taking solid foods has increased over the last fifteen years but many babies are still given foods before 6 months of age. There must be clear labelling e.g. of foods containing gluten, egg, dairy products for parents who want to avoid these.

The NCT does not accept advertisements for baby foods or drinks labelled as suitable before 6 months, or for breastmilk substitutes such as follow-on milks. We lobby the UK governments to clarify recommendations to health professionals and parents and ensure foods are not labelled as suitable for babies younger than 6 months.

References and further information:

Further sources of information:

NCT Briefing: Breastfeeding BF4

NCT Briefing: Health inequalities related to baby feeding BF6

NCT Briefing: Regulations on infant formula BF7

NCT Briefing: Breastfeeding in public places BF9

NCT Briefing: WHO Global Strategy on Infant and Young Child Feeding BF10

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10. Chantry CJ, Howard CR, Auinger P. Full breastfeeding duration and associated decrease in respiratory tract infection in US children. *Pediatrics* 2006;117(2):425-32.
11. Rapley G. Baby-led weaning. *Essence* 2008;44(1):14-5.

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