



Breastfeeding & Starting Solids

Your milk provides adequate nutrition for the first months of your baby's life. As your baby grows, you might start thinking about introducing solids: When is the best time for my baby to be introduced to solid foods? How do I start? What foods do I start with? What is the best way to offer foods to the baby? Are there any foods I should avoid? How do I combine breastfeeding with solids? Read this handout to discover more about this topic.

When to Start

"The World Health Organization (WHO) recommends mothers to exclusively breastfeed for the first six months of life to achieve optimal growth, development and health. Thereafter, to meet their evolving nutritional requirements, infants should receive nutritionally adequate and safe complementary foods while breastfeeding continues for up to two years or beyond".

Exclusive breastfeeding (baby only gets breast milk and no other food or drink) will provide your baby with all the nutrition he needs for the first six months of his life. At around six months breast milk alone is no longer sufficient to meet the nutritional needs of the baby. Around this age the baby is physically and developmentally ready for solids. **Starting solids at around six months of age, no earlier than four months of age, and when the baby shows signs of readiness** seem good guidelines to follow.

Not before the age of four months:

There is widespread agreement that solids should not be introduced before the age of four months. Why?

- Your baby's intestines are still immature and not ready for solids.
- Your baby's immune system is not ready to handle foods and protect against pathogens and allergens.
- Your baby is developmentally not yet ready for solids:
 - Young babies have a tongue-thrust reflex: he will automatically push solids out of his mouth and is unable to push food to the back of his mouth. Between four and six months this reflex gradually diminishes.
 - Prior to four months, the baby's swallowing system is designed to suck, not to chew and swallow.
 - It is best to feed solids when your baby is in an upright, sitting position. Most babies develop the skill to sit up between five and seven months.
 - Around six months of age, babies like to imitate the people around them. As you sit around the table together, he will want to do what you do. This is a great time to introduce solids.



Between four and six months?

With regard to allergies, some health authorities now recommend to start offering small amounts of solids between the ages of four and six months. There is clear evidence that the risk of celiac disease and allergies is reduced if the child is still being breastfed at the time that gluten and other foods are introduced. Early introduction of gluten (between four and six months) seems to have a positive effect in reducing celiac disease. **This does not mean that all babies should start solids at four months!** There is no evidence that introducing solids at four, versus five, versus six months is any different in terms of allergy risk. Not only that, we should not only consider allergies when we decide what's the best time to start solids. Nutritional issues, risk of illness, risk of the baby receiving too little breast milk and developmental readiness are factors that all need to be taken into consideration. Hence the guidelines as stated above: Start solids at around six months of age, no earlier than four months of age, and when the baby shows signs of readiness.

When your baby is ready: watch the baby, not only the calendar:

Each baby develops at different rates. Whether your baby is ready for solids depends not only on his age, but also on his own development. The best guide as to when to start solids is not only looking at the calendar, but also watching for the baby's cues. These tend to occur at around six months of age, with some a little earlier and others a little later:

- Your baby can sit up well without support.
- Baby has lost his tongue-thrust reflex and no longer pushes solids automatically out of his mouth.
- Baby is developing a "pincer grasp." (He picks up food and objects between thumb and forefinger.)
- Baby can pick up food from a plate, chew and swallow it.
- Baby shows interest in what you are eating and perhaps tries to grab it.

How to Start

Solids are add-ons, they don't replace breast milk.

Introduction of solids during the second half of the first year is only meant to **complement** breast milk, not replace it. By the time your baby is one year old, breast milk will provide 75% of his nutritional needs, whereas solids only provide 25%. Therefore, start solids slowly, so that they don't become a substitute for the more nutritious breast milk and continue to breastfeed on demand. In the second year of life, solids will become a more substantial part of your baby's diet whilst breastfeeding continues to provide 35-40% of his nutritional needs.

Start with small amounts.

As your baby shows readiness for solids, start with offering small amounts: a teaspoon full is enough at first. This will gradually increase over the next few months.



But don't get hung up on numbers! Follow your baby's cues about when to increase the amount of solids, and take care to ensure that breast milk remains baby's primary source of nutrition for the first year.

Different methods to feed the baby:

Spoon or finger: You can use a plastic spoon with smooth, rounded edges to feed your baby or you can use your clean finger. Your finger is soft, at the right temperature, your finger also knows if food is too hot. Place a fingertip full of food on the baby's lips while letting him suck on the tip of your finger. Next, advance the fingertip full of food to the tip of your baby's tongue. If this is swallowed, try placing the next portion toward the middle of baby's tongue. If your baby eagerly accepts the first fingertip full of food, offer a little more next time.

Offer pieces of food, baby eats himself: Another method of introducing solids is the Rapley method where you offer pieces of food, and your baby decides what and how much he chooses to eat. The best way to do this is by eating together at the family table. Baby sits in his own high chair. Make sure he sits upright. (Possibly with a little support.) You offer pieces of food that are about the size of his fist, as this is a good size for him to grab. Vegetables should be boiled briefly. (It should be done, but still firm.) Let baby experiment with the food. Some of the food will end up in his mouth, but you'll also find that quite a bit ends up elsewhere. A piece of plastic under the high chair will save a lot of trouble. Remember that the initial goal is to introduce your baby to new tastes and textures of solid foods, not to fill him up on solids. Watch your child cues that he has had enough to eat. Do not overfeed!

Introduce one new food at a time:

Give your baby one new food at a time (not mixtures), and wait at least two to three days before starting another. After each new food, watch for allergic reactions such as diarrhea, rash, or vomiting. If any of these occur, stop using the new food and consult with your baby's doctor.

Time of day:

Offer new foods in the morning. Just in case your baby doesn't respond well to a certain food, offering the new food in the morning has the advantage that the intestinal upset would wear off by the end of the day. Beginning a new food in the evening runs the risk of painful night waking.

When you're not in a hurry. When the baby is learning to eat solids, you can expect a mess. Forget fast-feeding. Meals are not only meant for the delivery of food, but also a social experience. Take your time, and enjoy this new stage of your baby's development.

Feeding solids in the evening won't help with sleeping through the night. Many parents start with giving cereal in the evening because some parents wrongly believe or have been told that feeding solids to the baby help him sleep through the night. However, according to well-controlled studies, babies who receive solids before bedtime have the same sleep patterns as do babies who are not given solids.



Do not put cereal in a bottle because the baby can choke. It also may increase the amount of food your baby eats and can cause your baby to gain too much weight. However, thickening the baby's feed might be recommended if your baby has reflux. In this case, check with your baby's doctor.

What Foods to Offer

Offer a good variety of foods. Type and order do not matter.

Older guidelines recommended delaying introduction of certain foods such as wheat, soy, egg and fish, which was thought to reduce the risk of allergy to these foods by allowing the baby's system to mature. However, recent studies have disproved this. It is now thought that once solids are introduced, **a good variety of foods should be given and the type and order do not matter.**

In case of food allergies.

If a baby or child already has a food allergy, he and his breastfeeding mother usually need to avoid those foods. In this case it is best to ask advice from a health professional about introducing solids.

Offer meats.

Iron and zinc are two minerals needed from solids from about six months onward, but this varies between babies. The best foods for these two minerals are meats and their vegetarian alternatives.

Offer fruit and vegetables.

Some doctors may recommend starting vegetables before fruits. However, there is no evidence that your baby will develop a dislike for vegetables if fruit is given first. Babies are born with a preference for sweets, and the order of introducing foods does not change this. The main goal of early solid food for baby is for your baby to learn how to swallow foods of different texture. You're likely to have more success with fruits than with vegetables. When introducing veggies, try the sweet ones first: carrots and sweet potatoes. But don't give too much carrots during baby's first year, because carrots are high in nitrates.

Cereals and whole grains.

At 8 or 9 months, try rice or barley cereal. Don't serve a mixed cereal until you've tried each of the ingredients separately to be sure baby is not allergic to any of them. Mix the cereal with breast milk or formula (up until one year of age). Avoid white rice cereal. Give the baby whole foods and whole grains, rather than processed white flour products.

Breast milk, formula and fruit juices.

Up until one year of age a baby should be given breast milk or infant formula. After one year of age either breast milk and/or cow's milk can be given. With the introduction of solids, you can offer baby some water or breast milk from a cup. Limit water to sips from a cup with meals. Don't give juice to infants younger than six months. Juice is not necessary for baby's nutrition. Children can become addicted to



consuming fruit juices at the expense of eating other foods. If you choose to offer juice after the baby is six months old, limit to sips from a cup with meals and introduce it gradually just like any other new food. Use pasteurized, 100% fruit juices (without added sugar) and dilute it with water. Limit total juice intake to no more than 100-150 ml per day. (Up until your child is six years of age.)

Preparing Baby Food

Maintain high standards of hygiene.

Foods prepared at home are not only more wholesome and nutritious, but cost less than do commercially prepared baby foods. When preparing food for your baby, make sure you maintain high standards of hygiene. An increase in diarrheal disease is common among 6-12 months old babies due to poor hygiene with introducing solids. It is therefore important to make sure you use clean equipment and wash your hands prior to preparing baby food. Refrigerate any food you do not use, and look for any signs of spoilage before giving it to your baby.

Don't use spices, salt and sugar when preparing baby food.

Offer in fist size pieces or mash with a fork.

If you wait until baby is ready for solids, you do not need to puree food, mashing with a fork is usually ok. You may also offer foods in pieces the size of your baby's fist. (As long as your baby can sit up and bring his hands and other objects to his mouth.)

Cook until tender.

Your baby can eat raw bananas and ripe avocados, but most other fruit and vegetables should be washed, peeled, pits and seeds removed, and cooked until they are tender. For example:

Carrots: Peel, slice and steam carrots until tender.

Sweet potatoes: wash, cooked for seven or eight minutes in the microwave, open and serve. (Make sure you test for "hot spots", since microwave food may heat unevenly.) Or wash and peel sweet potatoes, cooking in a small amount of water, or steam until tender. Mash with a small amount of liquid.

Squash: Cut the squash in half, remove the seeds and bake or steam it.

Pears & apples: Serve as a sauce. Pieces of raw, peeled apples and pear can be given to the older infant (over one year of age).

Other good food choices for your baby are:

Well-cooked peas, corn, potato, toasted whole wheat bread, orange sections, peaches, pieces of cooked chicken leg or wing (skin removed), scrambled eggs, soft-boiled or hard-boiled eggs, well-cooked pasta, fish with bones and skin removed.





Foods to Avoid

Avoid choke-able foods until your child is age 3 or 4: nuts & seeds, raisins, popcorn, raw vegetables, unpeeled fruits, hot dogs, sausages, whole grapes or cherries, hard or sticky candy (like marshmallow and gum), chunks of peanut butter.

Don't give honey to a baby under a year of age because there is a highly unlikely but possible chance of contracting botulism from honey.

Foods that are high in nitrates (for example beets, spinach, green beans, lettuce, and carrots) may cause an unusual type of anemia in young babies. Limit these foods during baby's first year.

Feeding Time = Family Time

The best place to feed a baby is at the family table at mealtime. Research suggests that eating together as a family on a regular basis has positive effects on the development of children. Young children love to be considered one of the family and sit at the same height as the rest of the family. Eat together, talk to each other, model good manners. However, don't expect too much from your baby or toddler, plan for a mess, allow your child to eat with his hands, to squeeze, smear, and crush his foods. These are all good learning experiences. Always supervise your baby when he is eating or drinking!

Starting Solids and Continuing Breastfeeding – What it Could Look Like

Babies differ so much in their preferences and their readiness for solids that it's difficult to make hard and fast rules about when to start with what. Below some suggestions as to how this may develop:

Birth – 2,3 weeks: Breastfeeding 8-12x/day

Until around six months: Breastfeeding on demand (5-8x/day)

Not before four months, around six months of age, when baby shows signs of readiness: start solids

Age	Food	Beverages
6 months	Offer solids once a day	Breastfeeding on demand (5-8x/day) Breastfeed first, then solids
7 months	Offer solids once or twice a day	Breastfeeding on demand (4-7x/day) Breastfeed first, then solids Sips of water or diluted fruit juice from a cup with meals
8-9 months	Offer solids twice or three times a day	Breastfeeding on demand (4-7x/day) Breastfeed first, then solids



10-12 months	Offer solids three times a day	Sips of water or diluted fruit juice from a cup Breastfeed after solids and any other time requested Water or diluted fruit juice from a cup
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References:

Broekhuijsen, Mary, Kleintjes, Stefan, *Borstvoeding*. 1:st., 231-237, Het Spectrum BV, 2008.

Riordan, Jan, Wambach, Karen, *Breastfeeding and Human Lactation*. 4th ed., 601-605, Jones and Bartlett Publishers, 2010.

Anderson, Joy, Australian Breastfeeding Association. Jan. 2014. *Confused about introducing solids?* <http://www.breastfeeding.asn.au/bf-info/weaning-and-introducing-solids/solidsconfusion> (Accessed 2015-4-7)

Johns Hopkins Medicine. *Feeding Guide for the First Year*. www.hopkinsmedicine.org/healthlibrary/conditions/adult/pediatrics/feeding_guide_for_the_first_year_90,p02209/ (Accessed 2015-4-7)

Kleintjes, Stefan. Kenniscentrum van borstvoeding. *Borstvoeding en de introductie van bijvoeding. Klaar voor bijvoeding? Durf je kindje de leiding te geven.* <https://www.borstvoeding.com/bijvoeding/blw/bijvoeding.html> (Accessed 2015-4-7)

Kellymom. August 2, 2011. *How do we get started with solids?* <http://kellymom.com/nutrition/starting-solids/solids-how/> (Accessed 2015-4-7)

Healthychildren.org. American Academy of Pediatrics. *Switching To Solid Foods*. 7/9/2014. <http://www.healthychildren.org/English/ages-stages/baby/feeding-nutrition/Pages/Switching-To-Solid-Foods.aspx> (Accessed 2015-4-7)

Ask Dr. Sears. *Introducing Solid Foods*. <http://www.askdrsears.com/topics/feeding-eating/feeding-infants-toddlers/starting-solids/introducing-solid-foods> (Accessed 2015-4-7)

Kist-van Holthe, Joana, Bulk-Bunschoten, Anneke, Wensing-Souren, Carry, Vlieg-Boerstra, Berber, Kneepkens, Frank, Kuijpers, Ton, De Kroon, Marlou, Sprikkelman, Aline, HiraSing, Remy. Nieuwe adviezen voor preventieve van voedselovergevoeligheid. *Tijdschrift voor Verloskundigen*, no. 3 (2014):19-21.

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