

First Foods for Premature Babies

Guidelines on starting solids for caregivers of ex premature babies

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Choosing the right time to start introducing solid food has been a dilemma for centuries. This decision can be even more difficult for babies who were born prematurely.

The Window of Opportunity

There is a reasonably small window of opportunity to start your baby on solids. Too soon (before 16 weeks postnatal age) and there is an increased risk of allergy and anaemia because the gut is not ready. Most babies do not yet have enough control over their tongues and mouth muscles. Instead of swallowing the food, they push their tongues against the spoon or the food. This tongue-pushing reflex helps babies when they are breastfeeding or drinking from a bottle. Most babies lose this reflex at about 4 months of age.



Too late (after 7- 10 months postnatal age) and your baby may have developed a resistance to having anything but milk in his or her mouth. There is also a risk of anaemia with starting solids late because a baby is born with only enough iron stores to last about 6 months and after that needs to get iron from food. If your baby was born prematurely, use the following points to help you decide if he or she is ready:

Earliest time - the mid point between 16 weeks from birth and 16 weeks from the expected due date. Use the chart later in this pamphlet to help you work this out.

- Assess your baby's progress with the "Eating readiness cues for introduction of solids" chart
- Latest time - Before 7 months after birth

Developmental Cues

Introducing solids will be much easier if your baby:

- Can hold his or her head up well, sit up
- Leans towards food when it is offered and opens his or her mouth
- Appears to be able to eat from a spoon
- Doesn't immediately push food out of his or her mouth although for some preterm babies this may not be a useful indicator especially if other cues indicate the baby is ready.

Other reliable cues are increasing demands for feeds and an appetite that is clearly not satisfied with milk alone.

Baby's first solids

At first you may want to pick a time when you do not have many distractions. However, keep in mind that as your child gets older he or she will want to eat with the rest of the family.

- Give the milk feed first and offer solids as a top up
- Start solids with one new food at a time
- First try plain soft foods such as baby rice or infant cereal, pureed apple, pear, apricot, peach or mashed ripe banana
- Try one teaspoon first and gradually increase as the baby wants more
- When baby is having 3 to 4 teaspoons at a meal it is time to add a second meal at a different time of day
- Try one new food every 4 to 5 days. If they don't like it the first time, leave it for a few days and try again. Sometimes a baby will need to try a new food ten times before they will like it.
- It is important for preterm babies to be offered lumpy foods by the time they are 9 months old.

Eating readiness cues for introduction of solids – Preterm Babies

	Weight	Physical	Sensory	Mealtime	Mouth	Learning
Baby's Cues	When baby: <ul style="list-style-type: none"> • Weighs 5kg or more 	When placed on stomach, baby can: <ul style="list-style-type: none"> • Hold head up • Support weight on forearms • Push up on arms with straight elbows <p><i>NB. Some premature babies may not be able to do this well – look at other cues too.</i></p> When sitting on parent's lap, baby can: <ul style="list-style-type: none"> • Hold head up • Keep head controlled when tipped • Sit with less help • Reach out for toy 	When baby: <ul style="list-style-type: none"> • Puts hands and toys easily and frequently in the mouth • Explores fingers, thumbs and fists with great interest 	When hungry or wants more food baby: <ul style="list-style-type: none"> • Frequently cries • Leans forward as food approaches • Reaches for food or parent's hand • Opens mouth When satisfied or wants to stop eating: <ul style="list-style-type: none"> • Turns head or body away from food • Loses interest in food • Pushes food or parent's hand away • Closes mouth • Looks distressed or cries 	When baby's Mouth: <ul style="list-style-type: none"> • Opens easily when spoon touches lips or as food approaches Tongue: <ul style="list-style-type: none"> • Does not protrude • Moves gently back and forth as food enters mouth Food: <ul style="list-style-type: none"> • Stays in mouth • Can be moved to back of mouth and swallowed • Is not "recycled" 	When baby's: <ul style="list-style-type: none"> • Mouth movements steadily improve during the first week of spoon feeding
What they mean	The baby who is growing rapidly and always seems hungry may need extra calories from solids to support growth and satisfy hunger.	Baby is developing good control of head and trunk, which support mouth skills for eating.	Baby is seeking important information about texture, and is developing an acceptance of objects in the front of the mouth.	Baby knows if he or she wants to eat and how much food is needed.	Baby has developed the type of tongue pattern necessary for moving food to the back of the mouth and swallowing.	Baby is developmentally ready, both physically and emotionally, for foods in addition to breast milk or formula.
How parents can help	Look for other developmental cues of eating readiness.	When feeding, place baby in a secure, upright or slightly reclined position. This makes it easier for the child to relax and use good mouth support.	Give the baby toys that provide different mouth sensations. This prepares the child's mouth for the varying textures of solid foods and acceptance of a spoon.	Let baby be the leader in showing what he or she needs.	Use favourite mouth objects (e.g. fingers) as the first "spoon". This helps baby learn to suck and swallow food more easily.	"Tune in" and watch for eating cues that show when baby is <i>developmentally ready</i> for foods in addition to breast milk or formula.

Adapted from "Eating Readiness Cues for Supplemental Feeding", *Pediatric Basics*, Number 61, Summer 1992

Premature Babies Feeding Guide

Fill in these dates to help you decide when to start		Date
Birth date		
Due date		
16 weeks after <u>Birth date</u>		
16 weeks after <u>Due date</u>		
<i>The earliest date to start considering solids but many babies will not be ready yet. Check "Eating Readiness for Solids" chart</i>	Mid point between the two dates above	
<i>Definitely ready to start solids by this date</i>	7 months after birth date	
Your baby's start date		
<p>Breastfeed or formula first, then offer solids. Use a small teaspoon and put the food in the middle of their tongue. Pureed smooth and creamy, no lumps, lukewarm, one food at a time. Try one new food every 4 to 5 days. If they don't like it the first time, leave it for a few days and try again.</p> <p>Baby rice or infant cereal - This is a good first food because it is iron fortified. Fruits - Pureed apple, pear, ripe banana, peach, apricot Vegetables - Pureed kumara, potato, pumpkin, , marrow, carrot, avocado</p>		
<i>About one month after starting solids</i>		Date
<p>Start offering solids at three meals a day Offer drinks from a cup sometimes Begin adding some pureed or finely minced iron containing foods</p> <p>Meats - Chicken, lamb, liver, kidney, egg yolk More vegetables - Courgette, yam, parsnip, taro, puha, broccoli, cauliflower More fruits - Melon, nectarines, plums, nashi pears (remove skins and seeds)</p>		
<i>About 2 to 3 months after starting solids</i>		Date
<p><i>Offer solids before breast feed or formula</i> <i>Learning to drink from a cup instead of a bottle (about 9 months)</i> <i>Soft, cut up finely, minced or mashed and offer finger foods</i></p> <p>Around this age, babies start to learn to chew. The texture of foods can change fairly quickly from smooth to mashed with small soft lumps, e.g. finely minced meat. Learning to chew with their gums or teeth is very important as it strengthens jaw muscles, promotes healthy teeth and ensures a smooth progression to family foods.</p> <ul style="list-style-type: none"> • Bread, pasta, rusks, crackers, wheat cereals, oatmeal, semolina, junior muesli • More meats - Beef, fish, soya foods • More vegetables - Silverbeet, spinach, peas, beans, tomato, cabbage, creamed corn • More fruits - Orange, kiwifruit, pineapple, berries • Some dairy foods- Yoghurt, cottage cheese, grated cheese, custard • Other foods - White bread or plain crackers, fine porridge 		
<i>Leave until 12 months corrected age</i>		Date
<p>Introduce cows milk as a primary drink around 12 months of age Limit the total quantity of milk to 600 - 1000mls/day (600mls milk/day for a toddler is enough). This allows your child to get hungry so he/she will be more willing to eat solid foods. Muesli, honey, egg white, peanut butter, shellfish, pork</p> <p><i>If allergies run in the family delay introducing cow's milk, cheese, yoghurt, soya foods, wheat rye, oats, fish, egg white, citrus fruit, strawberries, tomato and chocolate until after 12 months.</i></p>		

Why is iron important for premature babies?

Premature babies have lower iron stores at birth than term infants and therefore a higher risk of iron deficiency. Iron is needed to make red blood cells, which carry oxygen throughout the body. It also plays an important role in immunity, brain development and growth. Babies who do not get enough iron will become tired, faint, pale, and uninterested in play. Low iron levels in the body may cause anaemia. To improve blood iron levels babies need a variety of iron containing foods everyday.

What are the best sources of iron?

Babies & Toddlers

- Red meats such as beef and lamb
- Offal meats such as liver and kidney (try pate on toast)
- Chicken
- Pork, fish and shellfish (later)
- Offer cold meats such as ham or chicken as a snack

As well as meat, try serving other foods, which contain iron:

- Iron-fortified breakfast cereals (check the label to see if iron is added)
- Leafy green vegetables eg. spinach, parsley, broccoli
- Eggs
- Dried fruit

Vitamin C helps iron to be absorbed by the body, so try to include a serve of vitamin C rich food such as fruits (especially citrus fruit, kiwifruit, strawberries, rockmelon and paw paw) and vegetables (especially tomato, broccoli and capsicum) with meals. For example serve:

- Vegetables or a salad with meals
- Serve fruit for dessert
- Add a dash of orange juice to baby's pureed vegetables

For more information about starting solids, see your Plunket Nurse or a copy of Healthy Eating for Babies and Toddlers from Birth to Two Years, PHC, Wellington April 1995. Code 6004 (available from Plunket nurse or GP).

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References

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