

# First Foods for Preterm Babies

## *Guidelines on starting solids for caregivers of ex preterm babies*

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 preterm.

### The Window of Opportunity

There is a reasonably small window of opportunity to start your baby on solids. Too soon (before 4 months 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 preterm, use the following points to help you decide if he or she is ready:

Based on the limited evidence it has been suggested that a corrected age of 3 months (13 weeks) is the appropriate time to start introducing solids for babies who were born preterm. 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 pureed fruit
- 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 2 to 3 days
- It is important for preterm babies to be offered lumpy foods as soon as they are coping well with two meals of pureed food and definitely by 9 months after birth.

## Eating readiness cues for introduction of solids - Preterm Babies

	Weight	Physical	Sensory	Meal Time	Mouth	Learning
<b>Baby's Cues</b>	<p><b>When baby:</b></p> <ul style="list-style-type: none"> <li>• Weighs 5 kg or more</li> </ul>	<p><b>When placed on stomach, baby can:</b></p> <ul style="list-style-type: none"> <li>• Hold head up</li> <li>• Support weight on forearms</li> <li>• Push up on arms with straight elbows</li> </ul> <p><i>N.B. Some preterm babies may not be able to do this well – look at other cues too.</i></p> <p><b>When sitting on parents lap, baby can:</b></p> <ul style="list-style-type: none"> <li>• Hold head up</li> <li>• Keep head controlled when tipped</li> <li>• Sit with less help</li> <li>• Reach out for toy</li> </ul>	<p><b>When baby:</b></p> <ul style="list-style-type: none"> <li>• Puts hands and toys easily and frequently in the mouth</li> <li>• Explores fingers, thumbs and fists with great interest</li> </ul>	<p><b>When hungry or wants more food baby:</b></p> <ul style="list-style-type: none"> <li>• Frequently cries</li> <li>• Leans forward as food approaches</li> <li>• Reaches for food or parents hand</li> <li>• Opens mouth</li> </ul> <p><b>When satisfied or wants to stop eating:</b></p> <ul style="list-style-type: none"> <li>• Turns head or body away from food</li> <li>• Loses interest in food</li> <li>• Pushes food or parent's hand away</li> <li>• Closes mouth</li> <li>• Looks distressed or cries</li> </ul>	<p><b>When baby's Mouth:</b></p> <ul style="list-style-type: none"> <li>• Opens easily when spoon touches lips or as food approaches</li> </ul> <p><b>Tongue:</b></p> <ul style="list-style-type: none"> <li>• Does not protrude</li> <li>• Moves gently back and forth as food enters mouth</li> </ul> <p><b>Food:</b></p> <ul style="list-style-type: none"> <li>• Stays in mouth</li> <li>• Can be moved to back of mouth and swallowed</li> <li>• Is not "recycled"</li> </ul>	<p><b>When baby's:</b></p> <ul style="list-style-type: none"> <li>• Mouth movements steadily improve during the first week of spoon feeding</li> </ul>
<b>What they mean</b>	The baby who is growing rapidly and always seems hungry may need extra energy 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.
<b>How parents can help</b>	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</i> ready for foods in addition to breast milk or formula.

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

## Preterm Babies Feeding Guide

Based on the limited evidence it has been suggested that a corrected age of 3 months (13 weeks) is the appropriate time to start introducing solids for babies who were born preterm.

Fill in these dates to help you decide when to start		Date
<i>The earliest date to start considering solids but many babies will not be ready yet. Check "Eating Readiness for Solids" chart.</i>	<b>Corrected age of 3 months (3 months after due date)</b>	
<i>Definitely ready to start solids by this date</i>	<b>7 months after birth date</b>	
	<b>Your baby's start date</b>	
<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 2 to 3 days. If they do not enjoy 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 enjoy it.</p> <p><b>Baby rice or infant cereal</b> - This is a good first food because it is iron fortified</p> <p><b>Fruits and vegetables</b> - Pureed apple, ripe banana, pureed kumara, potato, avocado (choose 1 or 2)</p> <p><b>Pureed meat</b> - Pureed red meat, chicken, lamb, liver (10 g per week) kidney, egg, fish</p>		
Once baby is having two meals of solids		Date
<p>Begin adding some pureed or finely minced iron containing foods. Offer drinks from a cup sometimes.</p> <p><b>More vegetables</b> - Courgette, yam, parsnip, taro, puha, broccoli, cauliflower</p> <p><b>More fruits</b> - Melon, nectarines, plums, nashi pears (remove skins and seeds) Peas, beans and lentils, soy products</p> <p><b>Other</b> - Yoghurt, custard, peanut butter</p>		
About 2 months after starting solids		Date
<p>Offer solids before breast feed or formula</p> <p>Try drinking from a cup instead of a bottle (about 9 - 10 months) after birth</p> <p>Soft, cut up finely, minced or mashed and offer finger foods</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"> <li>• <b>Other foods</b> Bread, pasta, rusks, crackers, wheat cereals, oatmeal, semolina, fine porridge, junior muesli, sago, tapioca, quinoa, cassava, couscous, cottage cheese, grated cheese, shellfish</li> <li>• <b>More meats</b> Pork</li> <li>• <b>More vegetables</b> Silver beet, spinach, peas, beans, tomato, cabbage, creamed corn</li> <li>• <b>More fruits</b> Kiwifruit, pineapple, berries</li> </ul> <p>Even if food allergy runs in the family, we do not recommend avoiding any foods except on medical advice. There is some evidence that it is helpful to introduce as many different foods as possible while still breastfeeding.</p>		
Leave until 12 months corrected age		Date
<p>Introduce cow's milk as the main milk drink around 12 months of age. Limit the total quantity of milk to 500 mls/day (500 mls 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.</p>		

## Why Iron is Important for Preterm Babies

Preterm 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, 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 every day.

## The Best Sources of Iron

Include at least one of these foods daily

- ▶ Liver - cook, then grate or sieve and add to mashed vegetables
- ▶ Beef, mutton, lamb - mince to help with chewing
- ▶ Chicken, fish, sausage
- ▶ Meat, liver paste, pate



## Moderate Sources of Iron:

- ▶ Iron-fortified breakfast cereals (check the label to see if iron is added)
- ▶ Eggs
- ▶ Dried fruit
- ▶ Dark green leafy vegetables



e.g. Silverbeet  
Spinach  
Puha  
Taro leaves

Cook in only a very small amount of water to prevent loss of iron.

### Add:

These foods help the body absorb more iron -

- Meat, fish, chicken
- Toddler fruit juice
- Fruit e.g. banana
- Vegetables



### Do Not Use:

These foods stop the iron being absorbed -

- Cows milk (for infants)
- Tea or coffee



**If your baby has been prescribed iron and vitamin supplements, it is important to keep giving these supplements until their first birthday.**

For more information about starting solids, see your Plunket Nurse or "Healthy Eating for Babies and Toddlers from Birth to 2 Years Old" - (NZ Ministry of Health pamphlet 2013).  
<https://www.healthed.govt.nz/system/files/resourcefiles/HE1521%20Eating%20for%20healthy%20babies%20and%20toddlers.pdf>

## References

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