



Helping preterm babies meeting their nutritional needs: Information for parents

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Babies born prematurely (born before 37 weeks gestation) need special care. Due to their immaturity they are not ready to adjust to the new world outside the womb. A preterm baby wants feeding and nourishment like any other baby, but they need to be fed in different ways until they are mature enough to drink their milk from the breast, bottle or cup^{2, 10}. It is at this stage where the role of a dietician is important in the management of the preterm baby. A dietician ensures that the nutritional needs of preterm babies are met, in order for them to grow at the same rate as they would have if they were still inside the womb.

How a dietician decides what to feed a preterm baby

There are a few factors that need to be taken into consideration when deciding what and how to feed a preterm baby. Firstly, a preterm baby's digestive system and enzymes (that are responsible for processing food) are not fully developed^{1, 10}. Secondly, a preterm baby's stomach is very small and for this reason will not be able to tolerate oral feeds in large quantities^{2, 10}, and lastly, a preterm baby will also find it difficult to coordinate sucking, swallowing and breathing activities, depending on baby's maturity^{1, 3}.

A dietician and a speech therapist need to be consulted, and together with the neonatologist / pediatrician they will evaluate the baby's clinical condition according to the above mentioned factors. After the evaluation, they should be able to prescribe a suitable feeding method for the preterm baby.



Nutrition support consists of 3 phases.

Nutrition support for preterm babies can be divided into 3 phases where nutrition is provided by different feeding methods. The 3 phases are as follows: Phase 1: Parenteral nutrition; Phase 2: Enteral nutrition/ tube feeding with positive oral stimulation and Phase 3: Oral feeding^{1, 10}.

Phase 1: Parenteral nutrition

Parenteral nutrition is liquid consisting of water, sugar, proteins, fats, vitamins and minerals which run from a bag through a thin tube directly into the baby's blood stream^{1, 6, and 10}. This will usually be initiated within 2 hours after birth.

Phase 2: Enteral nutrition/ tube feeding and non-nutritive sucking

Enteral nutrition/tube feeding is a feeding method where a feeding tube is inserted through the baby's nose or mouth directly into the baby's stomach^{1, 2}. The preferred enteral feeding is expressed breast milk. Preterm formula can be used when breast milk is not available. The dietician will help the mother to express breast milk or mix preterm formula and assist her by giving small quantities to the baby every two to three hours through the tube¹. If the baby is not gaining sufficient weight the dietician will fortify the expressed breast milk with suitable fortifiers to ensure the baby get all the calories they need in a specific feed^{1, 10}. Parenteral nutrition is normally provided in conjunction with minimal enteral nutrition / tube feeding¹⁰. During the first few days preterm babies mainly receive nutrition from parenteral nutrition. As the baby's gut mature, the baby will receives more enteral nutrition and less parenteral nutrition until baby tolerates 90% of enteral feeding. Parenteral feeding will then be stopped and the baby will receives exclusive enteral feeding^{1, 10}.

During this time a speech therapist will also give preterm babies oral stimulation that will help coordinate their suck, swallow and breathing synchrony^{4, 5, 7}. For oral stimulation a pacifier / dummy, a finger / thumb or expressed breast (if baby is stable enough) will be



given to the baby. This method, also known as non-nutritive sucking, needs to be used five to ten minutes before and after feeds, or when baby makes sucking movements ⁴. The appropriate size dummy and teats must be used for optimal feeding and speech development⁹. Consult a dietician or speech therapist to help in making the right choice.

Phase 3: Oral feeding

Once the baby's suck, swallow and breathing synchrony is coordinated and baby is stable the dietician will then continue feeding the preterm baby either breast milk or formula milk but through a cup or nipple (if baby's sucking reflex is strong enough for breastfeeding) ^{1, 8}. The baby's weight will be monitored daily to make sure that baby is gaining sufficient weight.

The preterm baby will be discharge from hospital when (1) feeding has been successfully established; (2) baby gaining efficient weight; and (3) when baby is clinical stable ².

As a parent of a preterm baby feel free to consult your nearest dietician for any kind of assistance regarding your baby.



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