

Feeding for the future

FOR HEALTHCARE PROFESSIONAL AND PARENT USE

BREAST IS BEST

We all know that breastfeeding is the best possible start to a baby's life.

Breastmilk is a living fluid providing perfect nutrition, changing according to a baby's needs and strengthening the developing immune system. The protective elements in breastmilk help babies fight common infections. Breastmilk varies from mother to mother, from day to day and even during the feed the composition will change in line with a baby's needs.

The advantages of breastmilk are clear:

- It provides all the nutrients for a growing infant
- It provides non nutritional factors:
 - Antibodies
 - Prebiotics
 - Enzymes
 - Hormones
 - Nucleotides
- It's always delivered at the right temperature
- It's convenient and free



COLOSTRUM

Colostrum is produced during the first few days after birth. It is important to breastfeed if possible, even for just these early days as colostrum has a higher protein content than mature breastmilk. Much of the protein is present as antibodies which help to protect against infection. Colostrum has a lower fat content, which means that it has less calories than mature breastmilk. Colostrum is also rich in minerals and vitamins A, D and B₁₂.

The transition to mature breastmilk is gradual and is stimulated by frequent sucking. Breastmilk is delivered on a demand basis – the more the baby sucks, the more milk is produced.



ENERGY

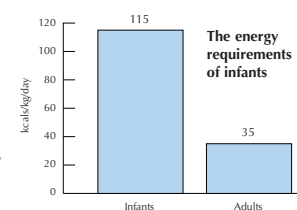
The energy requirements of babies reflects the amount needed to promote health, growth, optimal body composition and levels of physical activity appropriate for their developmental age. Babies require three to four times more energy than adults per kg body weight.

After about a week, your breasts will start to produce "mature" milk. The composition of this milk changes whilst your baby feeds. The milk that

is produced at the start of each breastfeed is called "fore milk." This is generally thin and low in fat content, satisfying a baby's thirst and liquid needs.

"Hind milk" is the milk which follows "fore milk" during a feed. It is richer in fat content and is high in calories, satisfying your baby's hunger. This high fat and calorie content is important for your baby's health and continuing growth.

Because it is impossible to tell exactly when the composition of your milk changes, it is important that you let your baby empty one breast before moving on to another. This will ensure that your baby receives all the benefits of both fore and hind milk.



PROTEIN

Protein is essential for a baby's healthy growth and development. Breastmilk contains two types of protein: whey and casein.

Whey protein forms soft, yoghurt-like curd in the stomach. As well as providing protein for growth and development, whey protein also provides:

- Lactoferrin – an iron binding protein
- Digestive enzymes
- Hormones
- Antibodies

Whey protein is easily digested and promotes rapid gastric emptying which is why babies need to be fed on demand. Casein protein forms a firmer curd in the stomach, similar to cottage cheese. Casein provides protein for growth and development. Casein is more slowly digested than whey resulting in slower gastric emptying.





For more information and advice, speak to your Midwife or Health Visitor.

Alternatively, call the Milupa Aptamil Careline on 08457 623 628 or visit the web site at www.milupa-aptamil.co.uk

IMPORTANT NOTICE

Breastfeeding is best for babies and provides many benefits. Milupa Aptamil First and Milupa Aptamil Extra are intended to replace breastmilk when mothers do not breastfeed. It is recommended that infant milks be used only on the advice of an independent doctor, midwife, health visitor, public health nurse, dietitian or pharmacist. Breastfeeding is best begun immediately after birth and the decision not to breastfeed is difficult to reverse. Combined breast and bottlefeeding in the first weeks of life may reduce the supply of your own breastmilk. It is important that, in preparation for and during breastfeeding, you eat a healthy, balanced diet. If you use an infant milk, you should follow the manufacturer's instructions for use carefully. Improper use of an infant milk or inappropriate foods may present a health hazard. The social and financial implications of using an infant milk should be taken into consideration.

FATS

Although infants grow rapidly, they have a limited capacity for food. Mother nature produces nutrition, in the form of breastmilk, in a concentrated form which is energy rich to satisfy these needs.

Approximately 50% of the energy in breastmilk comes from fat. This high concentration is essential to ensure that protein is used for growth and not used as energy.

As well as providing energy, fat provides the infant with a source of essential fatty acids and long chain polyunsaturated fatty acids (LCPs). It is also necessary for the absorption of the fat-soluble vitamins A, D, E and K.

The fat content of breastmilk, however, is highly variable; the composition varies with both maternal diet and the length of time spent feeding. Hind milk contains more fat than fore milk and the amount of fat in breastmilk differs during the day, with the early morning feed offering the lowest amount of fat.

It is also worth remembering that 60% of the brain is fat, most of which is laid down in the last trimester of pregnancy and first weeks of life.

LCPs

Long chain polyunsaturated fatty acids, or LCPs for short, are important for the development of a baby's brain, eyes and nervous system. Recent research also suggests that LCPs fed during early infancy are associated with lower blood pressure in later childhood.

The build up of LCPs in an infant occurs mainly during the last trimester of pregnancy and in the first two years of life.

Essential fatty acids are taken into the body through the diet, and the body then converts them into LCPs. However, research has shown that in the first 6 months of life, a baby may not be able to make enough LCPs to meet their needs – so it is important to ensure an adequate supply of preformed LCPs during this time. Fortunately, breastmilk naturally provides the preformed LCPs "DHA" and "AA", as do some infant milks.



PREBIOTICS

Prebiotics are non-digestible food ingredients that stimulate the growth of friendly bacteria in a baby's gut.

Prebiotics are not to be confused with Probiotics; Probiotics are the live, friendly bacteria which are often added to foods such as yoghurt to help reduce the numbers of potentially harmful bacteria for a more healthy digestive system. Prebiotics are the *food* for these friendly bacteria.

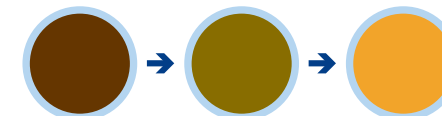
Prebiotics are an important feature of breastmilk – they actually occur in a similar amount to protein. Prebiotics help promote friendly bacteria in the gut, thereby aiding digestion as well as supporting a baby's natural immune system. A healthy immune system helps protect against potentially harmful bacteria that can cause infections. Prebiotics have also been added to some infant milks.

THE BOTTOM LINE

It is well known that breastfed babies often have softer stools than babies fed some formula milk. Reasons for this include the fact that fatty acids in breastmilk are better absorbed than those in cows' milk. As a result, infant milk companies often use mixtures of vegetable oils, making them easier to absorb, as poorly absorbed fatty acids can bind with calcium in the intestine giving rise to harder stools.

Another reason why breastfed babies have softer stools is because breastmilk contains prebiotics that aid the growth of friendly bacteria in the gut and encourage healthy digestion. Breastfed babies are known to have a different gut flora when compared to formula fed babies, as well as softer stools, as a result of this healthy gut flora.

It is normal for the colour and frequency of a breastfed baby's stools to change and, whilst it is quite normal for a breastfed baby to only have a dirty nappy once a week, it is equally normal for them to have one during or after every feed. Don't worry about the frequency so long as the stool is soft and easy to pass.



DAY 1 DAY 2-3 DAY 4

COLOUR CHART

Guide for a breastfed baby's stools for the first few days.
Use as a guide only.