



BREAST MILK: PRODUCTION THROUGH MATURE MILK

Understanding the process of milk production will help you know what to expect during the first days of breastfeeding and will make it easier to solve any problems you may encounter. Milk production works on the basic principle of supply and demand. After your baby extracts the milk from your breasts at each feeding, it is replaced by a fresh supply. The amount of milk removed at each feeding, as well as the frequency of feedings, is what stimulates milk production. The more often your baby nurses and the more milk he takes, the more milk your body will produce. While establishing your milk supply, offering your baby anything other than breast milk will interfere with the delicate balance of supply and demand. If you fill up your baby's tummy with formula or water, he will demand less breast milk from you. With the lowered demand, your body will produce less milk, causing you to supplement even more. This vicious cycle will eventually result in a diminished milk supply and an early end to breastfeeding. During the early days, even substituting bottles of expressed breast milk for feedings at the breast may interfere with the balance of supply and demand, since pumping does not stimulate your breasts as effectively as your nursing baby. Offering a pacifier should also be avoided for the first three to four weeks, or until your milk supply is well established and your baby is latching on without difficulty. In the early weeks, all of your baby's sucking should take place at the breast. Remember, frequent and exclusive breastfeeding is what creates an abundant milk supply.

LET-DOWN REFLEX

During a nursing session, as your baby rhythmically sucks your breast, the nerves inside your nipple are stimulated to send a message to your brain. As your brain receives the message it signals the pituitary gland to release two hormones, prolactin and oxytocin. Prolactin causes the milk producing cells in your breasts to make milk, and oxytocin causes the muscle fibers around your milk glands to contract, forcing the milk down into the milk ducts and to the milk sinuses under the areola tissue. This sudden release of milk is called the let-down reflex. As your baby sucks your breast, he compresses the milk sinuses releasing the milk through the openings in your nipple and into the back of his mouth. Once lactation is well established, your baby's hunger cry, or just thinking about him, may cause a let-down. During a let-down you may feel a tingling warm rush toward your nipple, or you may feel nothing at all. However, you will notice that your baby swallows more quickly following a let-down, which may occur several times during a feeding.

COLOSTRUM

Colostrum is the first milk that your body produces and is available to your baby immediately after birth. It is yellow in color and has a thick consistency. Colostrum is high in protein and low in fat and is produced in small amounts. Because your

baby is born with extra fat and fluids to help sustain him during the first two to three days of life, he doesn't require anything other than colostrum--the perfect starter food for your baby. Smaller more frequent meals are easier for your baby to digest and encourage him to nurse more often. Nursing frequently also helps bring in a good milk supply by the third or fourth day when colostrum begins to change into mature milk. Colostrum also acts as a natural laxative, cleaning out your baby's bowels of meconium, your baby's first stools. Frequent bowel movements also help to eliminate the build-up of bilirubin, the cause of jaundice. Colostrum is sometimes referred to as liquid gold because it contains a high concentration of antibodies, which have important immune boosting qualities--protecting your baby from disease and infection.

MATURE MILK

Your milk will begin to change from colostrum to mature milk approximately three to four days after delivery. The time when your milk 'comes in' will vary, depending on how frequently and effectively your baby has been nursing, as well as on your body's own reaction to the birth. Mature milk is greater in quantity than colostrum, and your breasts will suddenly become fuller. It is pale white or bluish in color and may look watery and thin. The composition of mature milk changes as your baby nurses. The milk your baby receives at the beginning of a feeding is different from the milk he receives towards the end of the feeding. During a feeding, as your baby extracts milk from your breast, it gradually increases in calories and fat content. Foremilk is the milk your baby receives immediately, as soon as he latches on. This first milk has a high lactose content and is composed largely of water, which satisfies your baby's thirst. After a few minutes of sucking, hindmilk is released. Hindmilk has a higher concentration of fat and is similar in consistency to cream. Hindmilk is important to satisfy your baby's hunger and provide him with the calories needed to gain sufficient weight. Once your mature milk comes in, allow your baby to nurse for at least 10 minutes on each breast to ensure that he is receiving the calorie rich hindmilk. Let him decide when he is finished with the first breast and is ready to switch. The longer he nurses, the more rich hindmilk and calories he receives. Another added benefit of mature milk is the natural relaxing effect it has on your baby.

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