

Weaning as a Natural Process

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The term *weaning* is derived from the Anglo-Saxon word *wenian*, which means "to become accustomed to something different." The *Concise Oxford Dictionary* says to wean is "to teach the sucking child to feed otherwise than from the breast." Weaning is often seen as the end of something; however, it is more appropriately viewed as a beginning. We misuse the word wean in the context of stopping other activities or habits; weaning is not the cessation of breastfeeding but rather the addition of new foods.

History

The influence of increasing scientific and medical knowledge and an ambivalence about breastfeeding in Western society, combined with an ignorance of normal mammary function, has led to a disregard of young children's sucking needs and an eagerness to substitute artificial foods and feeding methods for breastfeeding. However, long before the modern era some women chose not to accept their biological role as nursing mothers and societies failed to provide adequate support for nursing mothers.

In ancient times both Eastern and Western women breastfed much longer than Western women do today. The Romans believed complete weaning should not occur until a child turned three (Galen) or had all his baby teeth (Soranus).

In medieval Europe, complete weaning typically occurred between one and three years of age. Yet many noble and wealthy women hired wet nurses, as they believed breastfeeding would make them look old, prevent them from dressing fashionably, and make their breasts sag. Nursing became the lot of the poor, as poor women had no choice but to nurse their own children. Weaning was very simple for most wealthy women and calamitous for their children, who were simply taken from the wet nurse's home and returned to their family of birth.

In the sixteenth century supplemental foods were generally introduced between seven and nine months. Though medical writers recommended breastfeeding for two years, most German and Italian mothers had stopped by the thirteenth month and most English mothers by the eighteenth month. By the eighteenth century mixed feeding was promoted at two to four months and the median age of complete weaning in the English educated classes was seven to eight months. At this time in history various feeding devices and artificial foods for babies were being developed. Artificial feeding became common first in Scandinavia and northern Europe and then in the American colonies, despite an awareness that artificially fed babies were more likely to die.

Physiology of Weaning

The physiological process of weaning is complex and involves microbiological, biochemical, nutritional, immunological, and psychological adjustments for both mother and child.

During the weaning process the composition of human milk adjusts to meet the needs of the growing child so that, although the volume is decreasing, an appropriate level of nutrients remains present and immunological protection is not compromised.

Studies on the composition of human milk have shown that when milk consumption falls below 400 milliliters per day, the level of sodium and other inorganic salts increases as the volume decreases. The fat, protein, and iron also increase while the calcium levels stay the same and zinc levels decrease. Milk produced during weaning also shows a decreasing concentration of lactose; fats increasingly replace lactose as the main source of calories. The calories provided by proteins remain stable. The concentration of immunological components is maintained during gradual weaning with a slight rise in the level of IgA, secretory IgA, lysozymes, and lactoferrin. Following abrupt weaning, however, the concentration of these components rises dramatically. Lipases (enzymes essential for the digestion of fats) decrease in activity during weaning although bile salt stimulated lipase does so only slowly.

The mother may experience several physical changes after weaning. Most women find a need to adjust their diets to eliminate the calories that were supporting milk production to avoid gaining weight. Their breasts may sag at first and be soft but generally return to pre-pregnancy size after several menstrual cycles. If the mother was experiencing lactational amenorrhea, the reduction in nursing frequency will stimulate the return of fertility. The hormonal state of the mother will also change with the cessation of breastfeeding as prolactin returns to pre-reproductive levels.

When weaning is rapid the breasts may become uncomfortably full; a mother's body responds to signals to reduce milk production only gradually. The mammary glands of other mammals involute (return to pre-pregnancy size) rapidly. Humans, however, generally continue to produce milk for about 45 days after complete weaning with some women experiencing milk secretion for several months or more. It is believed that a psychological nursing stimulus contributes to this effect in humans since they continue to have contact with their young long after weaning.

Abrupt weaning may leave a baby feeling as though his mother has withdrawn her love as well as her breast. The sudden shift in hormones may cause the mother to become depressed, especially if the mother is ambivalent about weaning or if she is prone to depression. The mother may also risk developing mastitis or a breast abscess. If abrupt weaning is essential for any reason, measures should be taken to relieve any breast engorgement and to keep a careful watch for complications.

Although recent research has shown that the protective effects of breastfeeding last well into childhood, a weaned child is more susceptible to infections, not only because of the introduction of other foods but also because of the loss of the anti-infective and protective properties of human milk. In Third World countries, morbidity and mortality in infancy rise sharply at the time of weaning from human milk due to the rapid onset of infections and diarrhea-related malnutrition.

When to Wean

Ruth Lawrence has said, "If one were to determine the appropriate time for weaning to take place it would be based on nutritional needs and developmental goals. Observations among other mammals suggest that achievement of a degree of maturity that allows the young animal to forage for food is a trigger for initiating weaning by the mother."

According to anthropologist Katherine Dettwyler, "Many primates wean their offspring when they are erupting their first permanent molars. First permanent molar eruption occurs around five-and-a-half to six years in modern humans. It is interesting to note that achievement of adult immune competence in humans also occurs at approximately six years of age suggesting that throughout our recent evolutionary past the active immunities provided by breast milk were normally available to the child until about this age."

It is theorized that the six year nursing practice was probably modified by the use of fire in cooking 0.5-1 million years ago followed by the domestication and processing of grains about ten thousand years ago, providing alternatives to uncooked vegetation and raw animal foods.

Around the middle of the first year most babies show signs of wanting something other than human milk. This begins the weaning process, but the length of time before a baby is fully weaned varies from baby to baby. Some are enthusiastic and others are not. Mothers can be reminded that human milk is the most important food for their babies during the first year.

Developmentally the baby is ready to chew solids at about six months even though not all of his teeth have erupted. The sucking pads in the baby's cheeks begin to disappear at the end of the first year. The rooting reflex has also been lost by this time. The development of the chew-swallow reflex is necessary for successful introduction of solids. Some think this reflex is a learned behavior encouraged by oral stimulation after the baby reaches a certain level of neurological development. If supplemental food is introduced too early, the baby will push his tongue against a spoon to eliminate solids from his mouth.

The introduction of new foods is important both socially and nutritionally. Additional protein becomes necessary toward the end of the first year and the infant also needs bulk or roughage about this time. Eating solids and learning to drink from a cup are important social achievements. This does not mean, however, that breastfeeding should end, only that the baby's diet now includes solid foods and other liquids.

For the human baby nursing supplies comfort and emotional support. The need for comfort sucking or non-nutritive suckling may last for several years as witnessed by the use of bottles, dummies, and thumbs by many toddlers and preschoolers. The optimal approach to weaning matches the needs and requirements of a given child with the functions and capacities of his body.

Sometimes mothers are ready to wean before their babies are ready. Vague fears and irrational biases often promote early weaning from the breast. The family's needs may conflict with the baby's needs. The intensity of the breastfeeding relationship may cause others in the family to

feel ignored. Western society teaches that the only way a baby can gain independence is by being weaned and the only way mothers can "get their lives back" is by weaning their babies.

Early in the twentieth century various books emphasized control over the baby. Rossiter (1908) said, "Picking up or nursing a crying infant will cultivate self indulgence and a lack of self control." Mothers were instructed not to give their babies the breast or even pick them up when the babies cried at an "inappropriate" time. Brown (1923) suggested meeting an infant's needs would make him "a potential juvenile court case." This approach to child rearing still has advocates today. Such management of breastfeeding often ensures that the nursing period lasts for a very short time.

La Leche League encourages mothers to continue to breastfeed ideally until the baby outgrows the need. Breastfeeding is a relationship between two human beings and, as in any relationship, there is give and take. *THE WOMANLY ART OF BREASTFEEDING* does not set rules about how long to breastfeed, but it does suggest that weaning is best done "gradually, with love" for both the mother's and baby's sake. Weaning is a personal decision made by the mother with the baby's and her own needs in mind.

While mothers who are still nursing children at two, three, four, or more years are considered exceptional in many cultures, they are perhaps greater in number than most people realize because most remain purposefully invisible. Many women plan before their baby's birth to nurse their babies for three months, six months, or a year only to find their feelings, knowledge, or circumstances change after the baby arrives.

Various researchers have suggested that there are windows of opportunity for weaning. Babies sometimes exhibit lagging interest in breastfeeding as a direct or indirect result of developmental events at four to five months, seven months, and at nine to twelve months. Between 13 and 18 months, researchers have found that children experience more negative emotional reactions to weaning than any other time. As they develop mobility and communication skills they also develop intense separation anxiety. The nursing attachment to their mother is very reassuring. Sudden refusal to nurse, especially when the baby is under one year, is not an indication that the infant is ready to wean but rather that he is communicating that something is wrong. Many mothers misinterpret this message and do wean completely at this time.

Conclusion

Throughout history, culture and society have influenced the natural process of weaning. Breastfeeding is more than just a choice of milk, and weaning is more than just ending access to human milk. Today early weaning and failure to breastfeed are mainly products of social pressure and lack of knowledge and support. The last few decades of the twentieth century are probably the only time in human history when a large number of babies have been completely weaned from the breast in the first three to six months of life. Mothering through breastfeeding encourages a mother to understand and satisfy her baby's needs. Ideally, as the breastfeeding relationship develops she becomes sensitive to her baby's cues and is guided by them, considering both of their feelings and preferences before initiating weaning.

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