

Even the Occasional Bottle of Formula Has Its Risks: The Case of the Virgin Gut

by Ann Calandro, RNC, IBCLC

I have been a mother for 26 years. When my first daughter was born, I knew little about breastfeeding except that I wanted to "try" to be successful. I knew it was best. I planned on nursing for six weeks to give her a good start.

She was born in Riverview Hospital in New Jersey in 1976. I waited impatiently to be allowed to see her every four hours for nursing. She arrived in my room with a little bottle of glucose water on board in her crib. The nurses encouraged me to fill her up with sugar water after each nursing, because my milk was not enough. Between nursings, she received formula in the nursery, because she was hungry and the hospital would only bring her out at certain times. During visiting hours, no babies came out.



Even though I am a nurse, I did not know enough about breastfeeding to object to this practice. My baby became jaundiced (which I know now is prolonged by giving water), and we stayed in the hospital for five long days. This was after a totally unmedicated birth. When we went home, I was gifted with cases of water and formula to feed her ad lib. Fortunately, my pediatrician advised me not to give either to her if I wanted to be successful with breastfeeding. Good advice. I let it all expire in my kitchen pantry and later threw it away. (Thank you Dr. David Ohmart, wherever you are!)

After she was a few months old, I was talking to another breastfeeding mother at a La Leche League meeting. She proudly stated that her son still had his "virgin gut." I asked her what that meant. She said he had never had anything in his stomach besides breast milk. She said that because of that, he would be healthier and less likely to have allergies. I was confused and a little doubtful, but her words stuck with me.

Since my baby had received lots in her stomach besides breast milk, her little gut was not virginal. What did this mean? Had the hospital nurses inadvertently done some kind of damage to her? Had I? What was going on inside my little girl? I wasn't sure, but just in case my friend was right, I made sure that my next three children had "virgin guts" until starting solid foods around 6 months of age.

In the Beginning

Many babies who are breastfed begin their lives in hospitals that routinely supplement with artificial formulas. Sometimes babies are given artificial milk for medical reasons such as low blood sugars or because their mother is very ill. More often, they are given artificial milk for non-medical reasons, because nurses offer it to keep them quiet, or because mothers are concerned that their babies are hungry because they are nursing so often. Some mothers want to sleep and leave their baby in the nursery all night, so they ask the nurses to feed the baby formula. Innocent enough reasons – and common. So common, in fact, that very few babies leave the hospital with their virginal guts. But what happens when breast milk is not the only food in that little gut? The truth is very interesting and also very scary. Turns out, my friend was right.

When babies are born, they have sterile gastrointestinal tracts. If babies are exclusively breastfed, they develop a natural healthy gut flora. (When I speak of the gut, I mean Baby's insides where the food goes until it hits the diaper.) This means that the

major flora in breastfed babies has reduced numbers of bad types of bacteria and increased numbers of good bacteria. Formula-fed babies have increased numbers of bad bacteria, leaving them at more risk for illness.

The Introduction of Formula

Breastfed babies who are fed formula in the first week of life have a delay in the development of a healthy gut flora. Their gut flora is more like formula-fed infants. This description appears in [Lactation: Physiology, Nutrition, and Breast-Feeding](#) by Margaret C. Neville and Marianne R. Neifert: "The effect of breastfeeding on the infants' gut flora was abolished by cow's milk supplementation. However, in the same study, infants fed on breast milk with supplementation of humanized cow's milk established a low stool pH and a dominant flora of bifidobacteria (the good stuff) with a two- to six-week delay. At present, it is not known to what extent supplementation can be practiced without destroying the characteristic intestinal flora of the breast-fed baby."



Colostrum helps to build a mucosal barrier, which protects babies against infection and is anti-inflammatory. Breastmilk is living protection against all kinds of germs. Mother Nature sure knew what she was doing.

It takes many weeks for the baby's gut to close up the leaks in order to seal off germs and to develop the ability to shut out allergenic proteins. If given formula in the early weeks, this closing up is delayed and the risk of allergies and illness increases. The type of bacteria in the gut becomes less protective. In other words, Baby is more at risk for illness.

Just one bottle of formula - given for any reason - can sensitize babies who may be allergic to cow's milk protein or soy protein. This is especially important to know if you have allergies in your family. Some studies have indicated that giving cow's milk formulas early may also increase the risk of some children for developing insulin dependent diabetes.

The Real Risks

A breastfeeding mother I worked with recently found out that offering formula early can cause severe problems for some babies. She found this out the hard way. Her baby had early sucking problems and was given formula for a few days in the hospital. This mom worked hard to establish her breastfeeding and soon was successful. Things were going very well until she decided to go shopping one day and leave formula behind for her husband to feed her 6-week-old son. She was not concerned because he had already had formula and shown no adverse affects.

When her husband fed her son, the baby began having severe reactions and was rushed to the hospital. Hospital staff did not think that the problems were related to the formula. This little guy was subjected to thousands of dollars in tests - all negative. He went home exclusively breastfeeding. A few weeks later when his daddy gave him another bottle of formula, he turned blue, almost stopped breathing and was once again rushed to the hospital. It was determined at last that he was allergic to formula. His allergies began with the early formula sensitization in the hospital nursery. Needless to say, he never got formula again. Formula is not so innocent for some babies.



Alternatives to Formula

Sometimes the addition of artificial formulas to infant diets is unavoidable for a variety of reasons. If this is the case, there is very little that can be done to remedy the situation and save the virginal gut. Some hospitals provide banked human milk for babies that must be given supplemental food until mother's milk is available. The majority of hospitals do not. Recent studies have shown that giving hydrolyzed formula to a baby born in a family with a history of allergies may be the best alternative if formula must be given.

Having knowledge of the importance of what is normal for newborns inside may help some mothers in making a decision about whether or not to supplement their babies for convenience in the early weeks. Very few mothers know how totally different babies are on the inside when artificial food is added to their diets. Some mothers add the formula in the hopes that their babies will sleep longer at night. Knowing that only one bottle a day can totally change the protective environment of their baby's gastrointestinal tract may give them pause to reconsider before instituting this practice.

The case for the virgin gut is a valid one. There is much research to support avoiding supplementation if at all possible. A huge increase in diarrheal diseases occurs in babies who do not have optimal "intestinal fortitude," which is only possible with guts that have never been exposed to infant formula. To preserve your baby's virgin gut, be proactive:

- Let your pediatrician know that you do not want the baby to have any formula. Ask him or her to write it as an order in your baby's chart.
- If the baby has a medical need for more milk, express some colostrum to feed to the baby with a cup or spoon.
- Place a small card in your baby's crib notifying staff that you do not want your baby to have any formula, and if there is a medical need, staff must get written permission from you before it is given, so that alternatives can be explored.

If Baby has lost his virginal gut don't despair. Exclusive breastfeeding for many weeks will hopefully restore the gut to a normal healthy state.

<http://www.breastfeed.com/articles/issues-for-mom/even-the-occasional-bottle-of-formula-has-its-risks-3451/>