BOTTLES OR BUST!

(A series of letters on breastfeeding from
Dr. Maxine Reiff to her daughter-in-law.)

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Edited and Updated

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Fourth Edition 2016

The authors in 1950

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The love between a mother and daughter is one that lasts!

FOREWORD

My mother was always "ahead of her time." Born in 1916, she was the third child (and only girl) of a family in which the early death of the father caused the mother to become a breadwinner in the lean 1930's Oklahoma. That stalwart Kentuckian, Emma Sue Dean Hoffer, survived by becoming postmistress of their little town (Elgin) and running a boarding house. No wonder Mom grew up thinking women could do anything if they wanted to (or had to!).

So when Maxine graduated Phi Beta Kappa from the University of Oklahoma in 1938 literally, working her way through, it perhaps surprised few that she chose to attend Oklahoma University Medical School, graduating in 1941. It was at medical school she met my father, William Henry Reiff. He also had a mother in the professions - she had earned a Master's Degree in Greek in 1903, and had met his father when she was a Principal of a school in Indiana, and he was a teacher there. Reluctantly giving up her career to raise children, they had moved to Oklahoma where he eventually became Superintendent of Schools for the Oklahoma City School District.

My parents married February 20, 1942, while each was an intern; Mom at Oak Park Hospital, Oak Park, Illinois and Dad at the University of Michigan. After one year's internship, my father (an Army Reserve Officer) was called to duty and mom joined him. My brother arrived on the scene on April Fool's Day, 1943 when they were at Fort Benning, Georgia. Except for a stint for the Kay County (OK) Health Department during World War II, she never practiced medicine full time (except on us children). Yet Mom could never be described as "just a housewife!" Mom used her medical skills in many other ways, lecturing in medical schools and high schools about breastfeeding and family life, and helping Dad design his medical office building.

Mom's interests were not limited to medicine, however. Her lively mind thought up the idea for a toaster-oven, which she sent to General Electric three years before they came out with the appliance. (Based on her idea? We don't know - they never acknowledged her letter!) Similarly, she sent a diagram of a wheeled tea-cart to Kosco, and they manufactured it as well. One idea she had that was acknowledged was to put inexpensive two-way radios in cars and trucks as a safety feature. Sent to the President of Ford Motor Company in the 1950's, this idea was rejected with a nice letter from him stating that "people couldn't want to spend the extra $200 that it would cost." And he was right - the CB didn't become popular until the transistor made it considerably cheaper to own.

Mom's interest in breast feeding arose when a 1943 train mishap caused my older brother Bill to go without his formula for twenty-four hours (described in Chapter 2). She swore she would nurse all the rest of her children, and she did! Her subsequent medical investigations of the benefits of nursing (coupled with her considerable common sense) led to her series of lectures on breastfeeding. She was shocked that a medical journal suggested using a "stiff bristle brush" to toughen up their nipples before birth. "My vines have tender grapes!" she declared, swearing that she'd put together a rational piece. Therefore, she compiled her knowledge on breastfeeding in a series of "Letters to Judy," (my brother's wife). These were actually sent to Judy during her pregnancy (their son William Radley was born February 21, 1964 and is now in Austin, TX.) Mom submitted an abridged version of these letters to a *Ladies Home Journal* and they paid her for them, but never published them (they released it back to her so that she could find another publisher). The manuscript languished, being copied

from time to time as family and friends had their children, and a well-worn typewritten copy was passed on to me when I was pregnant with my first (Andrea in 1985).

Although I bought several books on nursing while I was pregnant, this manuscript had many tips that I wasn't able to find elsewhere, including the fact that the milk becomes richer as a nursing session progresses, and that "schedule" feeding can actually *damage* the breast. So, when several of *my* friends became pregnant, I decided to dust off the old manuscript and have it retyped in a legible form. I decided not to make major revisions to the text to update it, but rather to keep the tenor of the 60's (to show how much easier it is to nurse now than then). My minor revisions and comments are shown as *Editor's Notes*, in italics. I did decide, however, to add chapters on Working Mothers, Traveling, and Nursing Twins, chapters from my own experience that weren't necessary in my Mother's day.

So this book is a compendium of over forty years of breastfeeding experience, with two of my Mother's children nursed (my sister Kaethe and I), both of my brother Bill's children nursed (Rad in 1964 and Susan from his present wife Carroll in 1978), all three of my sister Kaethe's children nursed (Dante in 1973, David in 1978, and Ciara in 1980), and all of my three (Andrea born in 1985 and my twins, Amelia and Adam, born in April 1987). Since I'm still nursing them, this information is as up to date as I can get it!

Enjoy the book and successful nursing!

Patricia H. Reiff, Ph.D.

February 1988

Note for fourth edition: My own daughter Andrea Palermo is now nursing her daughter Zia, so this book has now spanned four generations and over fifty years! - *August 2016*

(Note - this version has occasional blank pages and mirrored margins to allow for double-sided printing – save trees!)

CHAPTER 1: (ALMOST) ANYONE CAN NURSE!

Dear Judy:

I can't tell you how pleased I am that you want to nurse your baby. Certainly this desire in a woman is a definite sign of emotional maturity, because it reveals the ability to love someone outside one's own self. I enjoyed our talk about nursing, but since the human memory is limited, I thought perhaps I should repeat some of the important aspects in a series of letters to you. For years I have toyed with the idea of writing a booklet for mothers as a little primer or guide book, and now your pregnancy has provided a reason to complete it.

I'll write a letter on each phase of nursing, so that each letter can become a chapter in a book. Please answer each letter so I can know just what ideas I have failed to get across or what particular topic needs better development.

Nursing is *not difficult!* In fact, it is very easy, so easy that some rather startling incidents have occurred in human history. Perhaps the most peculiar "nurser" known in medical literature was "Chengwayo," a Zulu chief who took great pride in the fact that he helped his forty wives nurse his offspring. Chengwayo was not ill-equipped for nursing; his picture shows that he had super-drooper type breasts, yet I doubt that he lacked the masculine traits necessary for his elevation to chieftainship. In other words, I imagine he was all man, and not selected because of his prize milk production.

Some men feel that manifestations of love are signs of masculine weakness. This is certainly *not* the case! Love of infants and concern for mothers truly shows mature strength of the male partner, that God has placed in his heart for the protection of the family.

Chengwayo is not the only male nurser in history. He was just a bit better at mass production. There is the story of an old Chippewa Indian, whose wife died in childbirth, and who prayed that he could nurse the newborn child. He put the baby to his own breast and eventually had enough milk to nourish it. There is another story of a South American peasant who nourished his child after his wife died in childbirth. Another case exists of a man who was so emotionally upset by his wife's pain in childbirth that he experienced filling of the breasts and began to secrete milk.

In French medical literature there is the account of a teenage girl who was "baby-sitting" (of course they did not call it that in those days) and found that she could use her breast as a pacifier to quiet her crying charge. Continued use of her breast as a pacifier produced milk in her breast, and she is remembered now as "Mamelle" or little mother. It was an unusual case, because she had not borne a baby and was never pregnant.

Then there are cases of old women nursing babies - one woman, 68 years old, put an orphaned infant to her breast and before long had enough milk to nourish the infant. Another woman, 60 years of age, who offered her breast as a pacifier, was surprised to find after only three weeks that she was secreting more milk than the baby's mother. Other women of 65 and 70 years of age have nursed babies. But since these were all people of foreign countries, let us discuss some American nursers.

An elderly friend of mine told me a story about her aunts, one married, one maiden. When the married aunt died in childbirth leaving a large motherless family, the maiden aunt took the baby home with her and discovered that when she tried to hold the baby, it rooted around in

her arms, wanting to nurse. In desperation she offered her breast as a pacifier and found it to be a successful one. Continued use of the breast as a pacifier resulted in her secreting milk, and she was able to feed the baby. My friend, who told me the story, said although it was true she was reluctant to tell it, for she feared that it would sound too incredible.

I told her that indeed I thought it could, after reading about "Mamelle" and after reading in a dairy book about how heifers (teenage cows) often start sucking one another in a herd and start producing milk although they never gave birth to a calf. Not too long ago someone wrote to Abigail Van Buren and asked if cows could give milk before they had borne a calf. She replied that they could not, but later had to retract her statement when an Illinois professor corrected her. I am sure she must have had many writers set her straight.

> *Editor's Note: The ability of women to start milk production by nipple stimulation has now been exploited by a unique device, the "lact-aid." [http://www.lact-aid.com]. This is a contraption worn by a new adoptive mother to allow the adopted infant to receive formula while sucking on the mother's breast. In many cases the new mom can eventually give enough milk to nurse normally! Contact the La Leche League for details.*

In Hollis, Oklahoma, over 40 years ago, A Mrs. Alma Curry Keys gave birth to four baby girls. This was in the days before bottle feeding was practiced in small towns or among the countryfolk. She accepted her four daughters with good grace and said, "If God gave me four babies, He will give me the milk to feed them." He did, and she did. She nursed all four for nine months, and she never gave them any additional milk during this time. One baby she nursed for ten months. Mrs. Keys explained that she did not get much *else* done during this time except, of course, caring for her four *other* children, but she did completely feed her babies. Those daughters are now fine and talented women, each a credit to their wonderful mother.

Mrs. Keys told me that when her son was born, prior to the multiple births, a neighbor was unable to nurse her infant, and Mrs. Keys nursed both her son and her neighbor's. This, Judy, is what is known as the "Milk of Human Kindness." It is an act of human concern and charity that has so rapidly disappeared in the past generation. Many mothers haven't the time or the love to nurse even their own baby, much less someone else's. Perhaps it is because so many mothers are immature themselves and are too busy trying to fulfill their own wants and desires.

Alma Keys incidentally was later chosen Mother of the Year from Oklahoma in 1953, but she did not attend the National competition; it came at the time of her own church convention. Her children were disappointed that she did not go to New York, but as one daughter said, "If mother had been more interested in her own glory, I guess she would not have deserved to be nominated Mother of the Year in the first place."

Judy, there are other women without children of their own who nurse other babies, the Mundugumor women of New Guinea and some peasant women of Sicily, but I think these two American women are the best examples for American mothers. I see no reason for any mother to feel that nursing is difficult. Self-confidence plays an important part, and her faith in God, I am sure, helped Mrs. Keys.

Love, Mother

CHAPTER 2: A "LOST ART"

Dear Judy:

I am happy that you and Bill have consented to have this little book assembled in your honor. I appreciate your suggestions on the first chapter, and I shall try to correct those parts you mentioned in editing the original letter. You asked why I want to put these letters together in a book. There is a real need for such a book, since the material in here would take a physician about three hours to explain to a mother, and it costs about $30.00 - $40.00 an hour for a doctor's time and office overhead. A three hour lecture containing this information would thus cost the patient about $100.00. Even after a physician had told a patient these things, the patient would wonder later if she remembered all the important things she had been told. This booklet will not only let the mother read the information, it will permit re-reading as she needs.

Breastfeeding has been considered a "lost art." Perhaps it isn't "lost" so much as it is "misplaced." Or perhaps it has merely been mis-filed under the wrong heading. Most of us relegate breastfeeding to the "horse and buggy" days and feel that while it was good in its day, it is a little out of date now.

There are those who would be horrified to see a mother nurse a baby in public, yet think nothing of seeing a mother tipsy with alcohol. In many fashion periods low necklines and high or revealing hemlines have left little to the imagination. For years women's breasts have been publicized by sweaters, bathing suits, evening dresses, and bra-less fashions, yet the very function they should perform is ignored. Rather incongruent, don't you think?

Is breastfeeding really out of date? Has it really no place in the twentieth century's hustle and bustle? Can it fit into a world of ulcers, neuroses, women's lib, chain smoking, and self expression? Well, it for sure can *try*. I think you will be surprised how well it will measure up in an atomic age.

For instance, let us consider the "horse and buggy" days. Can you imagine the pioneer mothers who pressed westward in the wagon trains? Consider the trouble they would have experienced on the trail as they prepared formula daily, as they tried to keep it sterile, as they tried to warm it for each feeding (of course lazy mothers do not bother to warm the formula anyway). There would have been more "milk breaks" in that wagon train than there are commercials on a modern TV program. The Pilgrims probably would have come over as bachelors if bottle feeding had been the vogue in 1620!

Can you imagine what added horror there would be for bottle babies if a disaster forces mass evacuation of the population? Can you imagine a mother in a shelter or refuge with a bottle baby for several days? Think of all the supplies she needs: sterile water, powdered formula, sterile bottles, vitamins, etc., etc., etc. What if she found herself suddenly taking refuge in an unstocked shelter?

What if the baby is born in the shelter? A breastfed baby could survive. The mother would merely eat for herself and then feed the baby by nursing him whenever he was hungry.

I have always considered formula laboratories and canned milk factories prime targets in any great war. It was bad enough in World War II when we were issued ration coupons and

many times we would go to the grocer's to find no canned milk on the shelves. At least that was the way it was in several cities where we lived. We would ask when the next shipment was expected; then try to be at the store shortly after the supply arrived. Quantities were limited, and we could only buy enough for a week's supply at a time.

In fact it was in June, 1943, that I first decided that I would never have a bottle baby again. My sister-in-law, Margaret Ann, and I were returning to Oklahoma City with your husband, Bill, when he was only two and a half months old. Mom and Dad Reiff were driving our little Ford to Oklahoma, and your father was being sent to Tennessee for summer maneuvers. It was only a 24 hour train trip from Columbus, Georgia, to Oklahoma City, and we had a Pullman all the way. In Memphis we were to change to a "streamliner," ride all night, and arrive in Oklahoma City early the next morning. It wasn't to be a difficult trip at all. The train from Columbus was air-conditioned, and we were supposed to get into our bedroom in Memphis and awaken in Oklahoma the next morning.

I had prepared enough formula to last the twenty-four hours, plus a few extra bottles. Margaret Ann, the baby and I were enjoying the trip until we neared Birmingham, Alabama. The train seemed to be crawling. About noon the engine and the first few sections left the track, but there were no casualties. We were in the last car, and felt only a decided jolt. The wreck disabled the air-conditioning and refrigeration system, and it forced us to back-track through what seemed to be all of Alabama and Georgia. We *finally* arrived back in Birmingham at seven o'clock that night. By then the unrefrigerated formula had soured, and I could not convince a two-and-a-half month old baby boy that it was still edible and preferable to starving. The transfer at Birmingham to the train for Memphis was immediate with no opportunity to purchase new formula. There was no diner on this substitute train. We were able to get one upper berth and Margaret Ann chose to sleep in a chair car with all the young soldiers and give me the privilege of sleeping with Bill who was now a screaming, hungry baby. During the night the rest of the formula clabbered in the bottle and would not pass through the nipple.

We finally arrived in Memphis the next morning with an exhausted, colicky infant. I was faced with the problem of trying to find a hotel where we could rest and make formula. The next train to Oklahoma City was at eight o'clock that night. By telephoning I finally located a hotel which assured me that they could prepare formula for the baby. After we had checked in, I was directed to the kitchen where I was told, "No, they didn't make formula - Who ever told me that? Yes, I could make it in their kitchen. No, they did not have any canned milk or dark Karo! Of course not!"

Shortly before eight a.m., clutching my ration books, I started hunting for a grocery store in downtown Memphis. Successful, finally, I returned to the kitchen with the necessary ingredients. (Now that I am more experienced, I would have fed the baby any kind of milk to quiet him, but I was a perfectionist with my first one.) The pots and pans the cook offered me were about the size of tin washtubs and obviously greasy. After a second stab at cleaning the pan, I finally made formula -- upsetting the entire kitchen routine.

What must have seemed hours later (and I suppose it actually was), I returned to the room with the formula. Poor Margaret Ann! She had just succeeded in quieting Bill. He had finally gone to sleep completely starved and exhausted. It seemed almost shameful to awaken him to feed him, but we did. Then and there I vowed that that was the last time I was ever going to find myself in that sort of situation again. Of course, a little prior planning on my part would

have eased the situation, and now we have plastic dispensers, powdered milk, and new gadgets, but even today, similar situations can arise. People still freeze to death in heated cars stalled in snowbanks, and people still die in the desert from thirst when the unexpected occurs.

Editor's Note: Today's formulas are certainly better and more convenient than they were in mom's day, coming in both economical powders and ready-to-pour or concentrated liquids. Microwaves make sterilizing bottles and nipples a snap, and can boil water in minutes. But nothing still is more convenient than nursing!

Most of us are delighted to receive sample packs of formula in the hospital - the cans of formula that they give you are perfect for traveling. However, a few years ago formula companies gave away samples to new mothers in developing countries who had neither the resources to buy additional formula or even the means to sterilize water to make it with. The sad result is that their own milk supply dried up during the "free sample" formula feeding, and many babies were seriously undernourished as a result (or made sick from formula made with unsterile water). Except in rare circumstances, a nursing mother should resist her infant getting any formula until her milk routine is well established (6-8 weeks).

When Kaethe was born, the nurse advised me, "Dr. ..... thinks that a baby need not be nursed after two months of age." We were planning a month's vacation when she was to be five months old, and I decided against making formulae in motels, hotels, etc. She was nursed until she was ten months of age.

Traveling with a breast-fed baby is a delight. She rode in the car bed, and I fed her enroute. I warmed her canned food with the heater in the car and would nurse her just before we stopped to eat. We could enjoy a peaceful meal with a happy, contented infant beside us in the portable car bed.

Editor's Note: Although babies may still travel in "car beds" on airplanes (bulkhead seats), it is no longer legal for babies to travel that way in cars! ***Only*** *approved infant seats should be used in cars, and* ***only*** *in a rear seat – airbags can kill children in the front seat! This makes it quite difficult to nurse enroute as Mom suggests, although it can be done. (In Texas, it's not illegal for an adult to be unbuckled in the back seat). For an infant in a reclining (rear facing) car seat, a mom sitting next to her can lean over and nurse while the baby is belted in: "isometric nursing" we call it. If that's uncomfortable, it's better to stop the car and nurse in a rest area or parking lot rather than unbuckle the child with the car in motion. Obviously isometric nursing is out of the question if Mom is driving! See Appendix B for more travel tips.*

When Patricia was five months of age, we were traveling with the family (the five of us) to St. Louis. Just east of Joplin we ran into a blinding rain and fog. It was early in the afternoon and Highway 66 was not the improved four-lane highway it is today (and Interstates were unheard of!) Parts of the road were mountainous, narrow, and winding. Driving with three small children confined in a car was a little nerve wracking. During the afternoon and early evening I must have nursed Patty five or six times. She remained happy and rested. We arrived at our friend's home about eight o'clock that night. Patty was happy, and her father and I remarked how perfectly nightmarish it could have been, cooped up for seven hours of treacherous driving if we had had a fretful baby to add to the confusion.

You can appreciate that breast milk is the most modern *instant* food there has ever created. It provides its own mixing fluid, and adds it automatically. Not only does it require no refrigeration, there are no bowls to wash, no beaters to clean, no oven to heat, no containers to return or to dispose of, and nothing to clutter the pantry shelf. The ecological aspect of breastfeeding is perfect! (non pareil!)

The only hindrance to its popularity is its lack of Madison Avenue publicity. Discovered ages ago, it has never had its fair share of advertising. No billboards extol its virtues. No contests publicize its excellence. It isn't mass produced or sold in discount stores. No wonder breastfeeding isn't popular in the twentieth century.

Love to you both,

Mother

CHAPTER 3: THE BREAST AND ITS FUNCTIONS

Dear Judy:

Actually I suppose the art of breastfeeding was lost when the male physician accepted the responsibility of the care of the mother and the infant and thus displaced the female midwife. No one in his right mind would like to go back to those old days, for it was not unusual then for a person's mother, aunt, sister, or daughter to die in childbirth. Death in childbirth now, happily, is quite rare. In this generally beneficial exchange of responsibility, breast feeding was an unfortunate casualty.

As doctors replaced midwives everything went fine for a time; the doctor's own wife had nursed her babies and he had some firsthand intimate experience regarding breast feeding. Now few doctors have nursing wives; most of the female physicians hurry back to their practices. Formula feeding is so common that breastfed mothers are almost as rare as cases of typhoid fever to demonstrate to medical students.

> *Editor's Note: Thank God the number of doctors and hospitals that encourage breast feeding is much larger than it was forty (or even twenty-five) years ago and that the use of midwives and birthing rooms is becoming more common in straightforward ("low-risk") pregnancies. My daughter Andrea had her daughter Zia at home and has breastfed now more than 19 months!*

For a time doctors saw so few breastfed babies that they forgot or perhaps they never realized how superior breastfeeding is to formula. Breast fed babies are seldom ill, and they recover so quickly that doctors soon forget them.

No, we cannot truthfully say that when the male physician took over from the midwife that "the *baby* was thrown out with the bathwater," but we did lose a very *fine washrag*!

I read just yesterday in the **Saturday Evening Post** about the quintuplets of Argentina, and the story of their birth. A midwife delivered them, and the mother nursed the three stronger babies and sent mother's milk to the weaker two who remained in the home of the midwife. These two were bottle babies fortified with mother's milk. The mother was, incidentally, the wife of a rich man, and it was refreshing to read about a mother like this who put the needs of her babies above her social affairs.

I earnestly believe that the "art" was lost when "scheduling" of feedings was found. Perhaps much of the current mis-information originates from the wrong definition of the breast itself. It has been defined as the female organ that secretes and stores milk. It is true that the breast secretes milk, but considering it as an organ for *storage* is a serious mistake and can damage it. Most of the difficulties encountered in nursing are due to this misconception of function and the resulting treatment of the breast as a storage chamber. Some typical results are insufficient milk, pendulous breasts, caked breasts, and breast abscesses.

Milk is only one of the many products manufactured by the breast. Like many corporations today, the breast is quite diversified in its production. Unlike them, the main

factory (or really the two factories, since there are two breasts) manufactures all the products, and when it shuts down production, all products decrease in like amount.

In order to understand a little more about the breast, a slight knowledge of its anatomy is helpful. The secretion of milk in the breast occurs in one-storied, cuboidal cells that line glovelike pockets. These pockets are really grapelike clusters in shape and are called "alveoli." The secretion forms in these pockets something like the accumulation of water in "natural springs." However, only a small amount of the secretion is formed constantly as with a spring; the bulk of the liquid is formed on "cue." The secretions from the pockets (lumen of the alveoli) escape by tubelike conduits called ductules (little ducts) which could be compared to the rivulets emerging from springs. As a river is formed and flows to the sea, the ductules join other ductules to form a large duct, (actually sixteen to twenty such ducts in each breast).

Between the main channels of each duct and the nipple is a large bulblike structure called a lacteriferous sinus. These sinuses are found just under the edge of the areola (the circular dark portion surrounding the nipple).

When we were medical students, we studied about the lactiferous sinuses very briefly, and I forgot they were there. Years later, when I would compress my breast to see if the baby had nursed the breast dry, milk would actually squirt across the room. I knew that there had to be a bulblike structure to make squirting such a distance possible, and surely enough, when I checked with the histology books, there was not one such bulb, but there were 16 to 20 of them!

Before pregnancy occurs, the secreting cells and ducts are few in number in comparison to the fat cells in the breast. The secreting cell framework resembles a bare bush in the dead of winter. When pregnancy begins, these cells increase and buds form on the main stems; there is branching and more branching, so that when the baby is born, there is plenty of milk. After weaning (or if the baby is not nursed), the secreting cells decrease in number, and the fat cells

gradually increase in quantity. With nature's marvelous provisions for nursing, it seems ridiculous to ignore them.

One hears strange excuses (rationalizations) for not nursing. I have heard the excuse that nursing ruins the shape of the breast. Once I was discussing this subject with a young couple. The husband said to the wife, "Your sister surely has the droopiest bosom I have ever seen." His wife answered, "But she never nursed any of her babies." As we mentioned before, the fat cells leave the breast *during pregnancy*, and of course return earlier to the breast if the baby is not nursed. Good brassieres during pregnancy can protect the shape of the breast. (It is *care* that is important, not whether or not the infant is nursed.)

Certainly during nursing, the mother should wear a good supporting brassiere. This need not be expensive but should be well shaped to lift and support the breast. Actually, if milk is not stored in the breasts, they will not sag or bag after nursing. My own breast is the same size and almost the same shape before and after nursing. However, my mother nursed three children and had huge pendulous breasts. But so did my mother-in-law, and she nursed none of her children. There just were no good brassieres in their day; they wore brassieres that bound and flattened their breasts.

As for beautifully shaped breasts, even the half nude lovelies in Las Vegas have to wear heavy, ornate headdresses so that they will have a legitimate excuse for holding their hands about their heads (presumably to hold on their headdresses) but really to improve the appearance of their breasts!

To return to the lactiferous sinuses or bulbs in the breast: as we mentioned, these are found under the edge of the dark circular area surrounding the nipple, and they allow the baby to nurse almost the entire feeding time without energetic "sucking." He has the entire nipple in his mouth, and with his tongue and mouth he "squirts" rather than "sucks" the milk from its adjacent reservoir. This is very gentle action and does not traumatize either the nipple or the breast.

Actually there are only two times when the baby actually "sucks" on the nipple. These are at the very beginning and at the end of each nursing session. When beginning, he sucks to empty the reservoir (sinuses and ducts). This acts like a float valve, turning on a physiological switch that causes the secreting cells to start rapidly filtering and formulating the milk. The secreting cells start the flow of milk into the ducts to replace the vacuum caused by the sucking and thus refill the reservoirs. After the baby initially sucks out the milk in the sinuses, he stops sucking and waits for the milk to reappear. When the reservoir is then full, he gently squeezes on the bulbs, fills his mouth and swallows. The secreting cells keep the reservoir full. This action is so gentle that he can nurse while he is almost asleep.

The same kind of action takes place when a farmer milks a cow. The farmer starts the milking process by a stripping action, emptying the teats and udder of the residual milk. Then hesitates, momentarily, for the cow to "give down" her milk. During the wait the farmer washes off the teats and udder, and when the "milk is down," he milks bossy by gently squeezing her teats. He may also treat the barnyard cat across the room by squirting a stream of milk into her mouth with remarkable accuracy. At the end of the milking he again "strips" the teats to literally pull the fat globules from the udder. A dairy farmer would go broke rather quickly if he did not "strip" the cow - completely empty the udder - because here the richest milk is to be found, and it is the fatty milk that increases the average butterfat percentage of

the entire milking. In addition, if a cow is not milked completely empty each time, she will soon stop giving milk.

The same thing happens in a mother's breast. During a feeding, the hungry baby will nurse down until he empties the mother's breast, and then he will actually "suck" the fat globules from the milk producing cells as one could pull an egg from a small hole drilled in the eggshell. This "sucked" milk is much richer in fat content than that which was received in the earlier part of the nursing.

> *Editor's Note: Mom correctly identified the rush of new milk as being similar to the "give down" in dairy cattle when she nursed forty years ago. This rush of production is now generally described as (guess what) the "let down reflex"; I'll use that term when she describes this event in this and later chapters.*

Around the normal feeding time of the baby, there are three means of stimulating the breasts to fill. The first, as we have already mentioned, is that of the baby's emptying the sinuses; the second, is the stimulation of the nipples; and the third, is the mother's conscious anticipation of nursing the baby.

One of the most common examples of stimulation of the nipple occurs when a mother is taking a shower bath, and the spray touches her nipples. The breast may suddenly fill, and some of the milk may leak from the nipple. A similar thing happens in dairy cows. The farmer may wash the teats and udders of several cows, and they will immediately give down their milk, some of which may leak or even squirt onto the barn floor before they are milked. Of course, the ideal manner is for the baby to initiate the flow of milk, and for the cow to give down her milk after the milking process has begun.

> *Editor's Note: A warm shower is an ideal way to increase production. On occasion, while nursing my twins, my milk would "run out." Often a warm shower would result in another "let down."*

Many times a mother may be gone from home (and away from the baby) for three or four hours and have no milk in her breast. When she returns home, puts the key in the door lock, and is consciously anticipating the act of nursing the baby, she will suddenly feel her breast become full. This arrangement allows the breasts to be almost empty between feedings. A breast that leaks and drips is being used as a storage container and will result in droopy, saggy, baggy breasts after weaning. Nature did not intend that nursing should be a handicap for a mother. Her empty breasts give her freedom of movement, and ensure nicely shaped breasts after the baby is weaned. She has this conscious control of the breasts to a great extent; however, if the feeding time is long overdue, her breast will fill without her willing it, and she will be reminded of her motherly duties. (Again, if the farmer is very late in milking Bossy, her udder will be overly distended, and she will be uncomfortable and complaining.)

Let us talk a little about the nipple. You might be surprised to know that the nipple is an

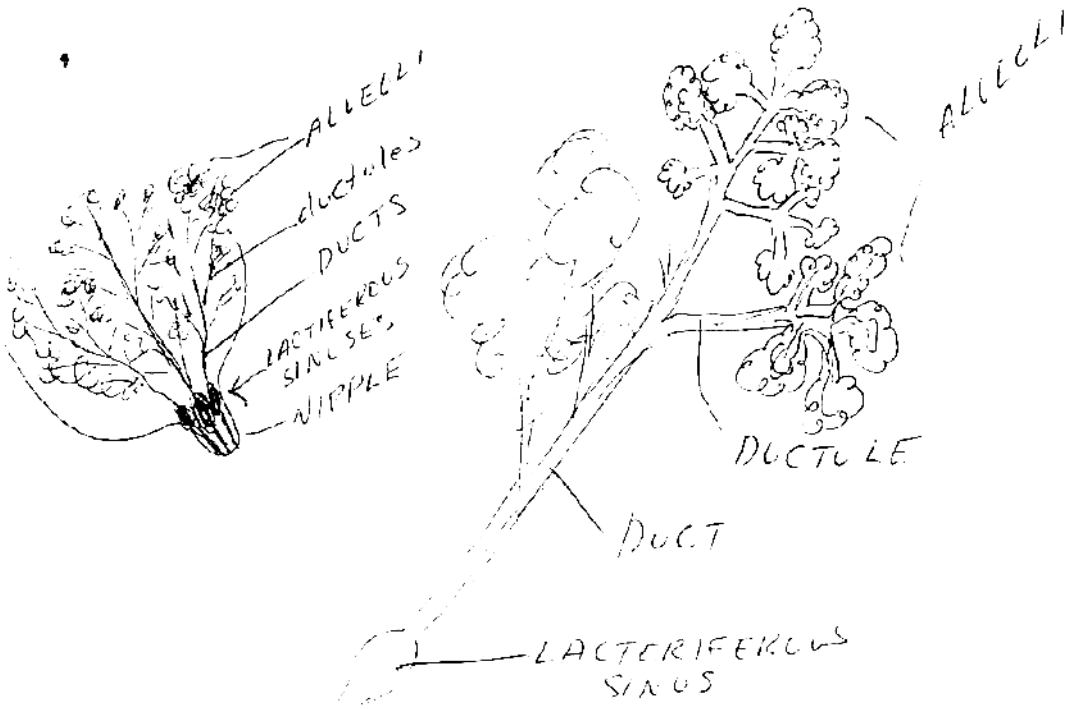
erectile organ, made so by smooth muscle cells and nerve endings. If the nipple were not erectile in order for it to be easily grasped by the baby, it would have to have a certain amount of rigidity. If it were rigid all the time, it would stick out like a small antenna, and would continually be injured by being brushed by clothes, etc. The fact that the nipple is flaccid and compressed most of the time is a protective device that Mother Nature has incorporated into her miracles of creation. The nipple, however, is quite responsive to the emotions. If a mother likes the idea of nursing, the nipple will be erect and easy for the baby to grasp; if, on the other hand, the idea of nursing is really distasteful to her, the nipple will be flaccid and flip-floppy. The baby will have difficulty getting it into his mouth and getting control of it. If you can imagine sucking on a soda straw versus sucking through cooked spaghetti you might conceive of the difficulty the baby might have. The baby in turn may become very frustrated trying to control the nipple and he may react with extreme aggressiveness, a sort of "do or die" attitude. The resulting pain can be excruciating for the mother. On the other hand, the baby may reject the nipple entirely with an "it's not worth the struggle" attitude and have nothing at all to do with it. We shall discuss this a little later in another letter.

When the nipple is erect, and the reservoir is full (and the breast is not), the baby can nurse with very little conscious effort either on the part of the mother or the baby. On the other hand, when the breast has been used as a storage container and is full of milk or is even caked, the nipple is shortened and the baby is unable to utilize these bulbs to squirt milk from the interior of the breasts. This nursing is painful to the mother and exasperating to the infant. The baby can actually pull red blood cells into his milk. (Remember as a child you could suck your forearm to pull red blood cells from the capillaries and make a red spot on your arm.)

I believe (and this is just my theory) that the baby can suck hard enough to ingest blood by breaking down the tender spongelike tissues of the breast and causing small hemorrhages to occur in the breast. When a baby ingests blood, it is irritating to his stomach (perhaps the iron in the red blood cells?), and he has severe stomach distress. It is intensely painful for the mother when the baby is trying to suck the nipple but does not have it completely in his mouth.

In summary, too many mothers have bloody milk for two reasons. First, that the baby is allowed to get ravenously hungry before he is fed, and secondly, the breasts are allowed to store milk in them. **Even though the breast contains milk in abundance, when the baby is put to the breast, more milk is automatically secreted into the breasts, causing over-engorgement.** Both conditions *regularly* occur when babies are fed on a regular 4 hour schedule.

When the baby is too hungry, he attacks the nipple as a leech, or even attacks an area near the nipple, as though he has no confidence that he will ever be fed again, and that he does not risk being separated from the breast again. The nipple, as we mentioned, is well supplied with nerve endings, and the mother feels intense pain. She is more than ready to turn to bottle feeding if *this* is breast feeding! This is poor management, and poor care of baby and mother. Few mothers can survive many episodes like this.



On the other hand, if the mother puts the baby to the breast before he has to cry for a feeding, the breast is empty, the nipple is long, and the baby grasps the entire nipple in his mouth. He gently sucks, feels the milk respond gently to his bidding, and he waits while the reservoir is refilling. Then he can nurse with pleasure and with the satisfaction of a gourmet. The mother experiences no pain, and she relaxes and sometimes must consciously try to stay awake as she nurses the baby; she is fearful that she will fall asleep and he might fall off the high hospital bed.

Just remember, nature did not mean for an infant to have to cry for his meals. Consider what would happen if animals in nature had to cry for their feedings. Other predatory animals would hear the noise and devour the babies in their hiding places. A human baby should not have to cry for food either. A good mother will feed a baby before he is too hungry, and will put him to sleep before he is too sleepy. A good mother anticipates the needs of her baby and a mother should attend to the baby immediately when she notices that he is becoming uncomfortable. Adults can wait. Babies cannot reason, so they cannot be reasonable. You do not "spoil" a baby if you anticipate his wishes; making him demand attention is another thing, however, and is a bad habit.

Our new dog, Baron, is surely growing by leaps and bounds. He is twice as big as when we brought him home. He is just like a baby except he does not wear diapers. We bought some liquid that is supposed to help "spot train" him, but Patty says that was foolish, for he already knows how to make spots very well. I am gradually shampooing our rugs, a few circles at a time.

Affectionately,

Mother

CHAPTER 4: COLOSTRUM: THE BABY'S FIRST IMMUNIZATION

Dear Judy,

I am really getting enthusiastic about writing these letters. I am glad that you find them interesting as well as enlightening. Mother Nature is quite a gal, and it is marvelous how she has thought of just about everything for the good of the offspring.

The last month of pregnancy for the first baby seems to drag. Most new mothers-to-be are eager beavers like you and have the layette finished and waiting. Your mother surely has helped you out on that problem; she sews so beautifully, and I know you are eager to start dressing the little one in all of its pretty new clothes. The curtains for the baby's room sound exciting, and your mother just told me that you have bought a second-hand bed for the baby. The new baby beds are very nice and have the plastic railing for the baby to chew on; long ago babies used to chew on painted bed rails and sometimes were injured by the poisonous lead base of the paint. Margaret Ann gave me the six-month-old bed for you, but we'll just keep it here for the baby when you come to visit.

> *Editor's Note: be careful about using old baby beds - the new law requires that the railings are close together so that the baby's head won't get caught! Also, don't buy used car seats – they also may not be up to code!*

Since I do not sew very well, least of all on dainty things, my contribution will have to do with the feeding of the baby. In the last letter we mentioned that the breast is capable of providing just about everything the baby needs besides clothing and shelter. Clean diapers can be classified with clothing. When I was in grade school, we learned by rote that the necessities of life were food, clothing, and shelter. Now, of course, we have learned that those three things are not sufficient. One needs love as well, and this, of course, is usually supplied to the baby along with the food. Not always, but usually.

The first secretion of the breast, colostrum, is present at birth. Colostrum is a yellow liquid which is present in the breast before the breast milk makes its appearance. Colostrum is like a doctor's prescription for the baby and cannot be substituted by any known drug available. It forms in the breast at about four and one half months of pregnancy; it, like milk, has many functions to perform. Nature regards this first secretion from the breast to be so important that it is made ready for the baby long before the baby is ready for it. In the event that the baby arrives prematurely, the secretion is already prepared, so that any newborn with the slightest chance of survival can have this wonderful prescription. In prematures, who are too weak to nurse, the colostrum is removed from the breast and fed to them.

Colostrum contains some large "colostrum corpuscles" or phagocytic cells. That is pronounced fag-o-sit-ik and merely means that these cells devour other cells and bacteria. The cells that they eat, ho wever, are the dead or discarded cells. These corpuscles might be compared to the snails in an aquarium. They protect the breast from infections and help to keep the ducts and ductules neat and clean. The fluid part of the colostrum also keeps the ducts and ductules patent (open) - so that the channel walls do not collapse or grow together.

When the milk is secreted later, it will not have to fight its way out of a puzzling maze of channels. Colostrum is a type of "wet run" for the breast.

Colostrum is also the baby's first food, and again it is formulated for a specific situation. It is very small in amount; someone has estimated it to be between 10-40 cc daily. This is about two and a half to ten teaspoonfuls, and I think the estimate is probably low. It is a very concentrated food, however, and is satisfying to most babies, who are not ready to ingest large amounts of food when they are newborn. It contains several times the percentage of protein found in regular breast milk. Protein, you know, is a sustaining food, as compared to carbohydrates which are energy foods. Protein is the necessary ingredient for the growth of muscle tissues and blood; in fact, of all living cells. The fat content of colostrum is lower than the fat content of milk, and this is nature's provision, because small infants do not tolerate fat well, especially if they are weak, premature, sick, or newly born. The percentage of carbohydrates (as we have mentioned) is less than in breast milk; at this point nature is more interested in rapid cell growth than the growth of the fat cells which carbohydrates foster.

Colostrum is also the baby's first immunization. For years researchers have tried to perfect immunization by some method other than by the needle. Now, of course, we have oral vaccine for polio, but ages ago God provided an oral vaccine for the baby. It is not like the oral polio vaccine which causes the body to react and produce its own antibodies in the blood to immobilize viruses and germs: that type of immunization is called an "active" immunization. A baby, however, cannot react "actively" to vaccine until it is about six months of age, so Nature has provided that the baby's mother would provide the baby with immunization made in *her own body* until the baby is able to manufacture his own antibodies. This "passive" immunization is a very temporary protection (similar to that made from gamma globulin which is given to adults who are susceptible to childhood diseases). The baby receives a continuous dosage of this "passive" immunization as long as he is nursed. All babies get some protection from antibodies from the placenta; breastfed babies are protected also by their mother's milk.

Breast feeding does *not* take the place of regular vaccinations for children. If nursed past six months, the child can be given vaccines by his doctor, and then he will make his own antibodies. Whether a baby is breast fed or not, he should be given the permanent type vaccines for diptheria, tetanus, pertussis (whooping cough), etc., as soon as he has reached the proper age to react to the vaccines.

A nursing baby very seldom contracts a childhood disease that the mother has had in her past. Whooping cough is an exception, and my youngest, Patty, contracted it from Bill and Kaethe when she was only five weeks of age. I am still wondering how Bill and Kaethe were able to contract whooping cough, because they both had received all their vaccinations and booster doses. I think we counted that Bill had had about nine injections, and Kaethe about seven. It just shows that nothing is absolute in medicine; anything can happen and usually does, at least once!

Patty had a very light case of whooping cough, developing the characteristic whoop but no serious side effects. I nursed her often, small amounts because she did not feel like nursing very long at a time. She was able to keep the small amounts of food in her stomach, and I don't believe she ever vomited with her paroxysms of coughing. Whooping cough in one so tiny is a very serious disease, but she even gained weight during her illness!

Possibly the worse disease that can happen to a newborn is the dreaded "Diarrhea of the Newborn." This disease sometimes becomes an epidemic in hospital nurseries, especially in large cities. Again, the babies who are nursing are greatly protected, provided that they are allowed to nurse shortly after birth and thus allow the immunizing properties of colostrum to begin immediate action.

Before we forget colostrum, a medical student classmate told me about an experience of his father, a dairy farmer. One year this dairyman decided not to allow any of his newborn calves to receive colostrum. He lost *all* of his calves that year! Of course, colostrum is not that important in humans, but it is something that nature has gone to a lot of trouble to formulate for the baby, and it is a shame when babies do not nurse as much of this wonderful prescription as nature has intended.

The death rate of bottle-fed babies is always higher than that of breastfed babies. The margin is not so evident in peacetime, but in time of national emergency, or national disaster, the difference can be vital. We seem never too far away from war or natural disasters - even this year. And no mother should take even the slightest unnecessary chance with a baby - should she?

I'm not writing all this to frighten you into nursing your baby, because such tactics are not right, for despite my belief that nursing gives a baby the best possible break, many bottlefed babies are healthy, happy little people. Since you want to nurse, these are extra bonuses and fringe benefits and the extra security you can give your little one.

In fact, the more you study, the more apparent it is that God thought of everything when he created the mammary gland.

Love to the both of you and baby-to-be.

Mother R

CHAPTER 5: COLOSTRUM: THE BABY'S FIRST VITAMINS

Dear Judy:

In the last letter we discussed that colostrum was the baby's first oral vaccine. Colostrum is also the baby's first dose of vitamins. Vitamin A is especially abundant in colostrum, probably giving it its yellow color. Again, there is a definite indication why Vitamin A is so abundant in these very first feedings. Vitamin A is important to the skin, to the eyes, and to the mucous membranes. It aids the growth of the bones and teeth, and helps build resistance to infection. After birth the baby's skin is very tender; he changes from an aquatic creature to a landlubber. The vernix caseosa, a thick waxy material that protects the baby in the uterus, is usually removed in the initial cleansing of the baby. Vitamin A helps to protect the new dry skin, the new tender eyes, and the membranes of the nose and mouth from infection.

Vitamin A is necessary for the development of the retina, the seeing screen of the eye. I was shocked in reading some books on prematures to find that no mention is made of Vitamin A in their diet until after the first week of life. I feel that Vitamin A should certainly be given in the first feedings of life, as that is the way nature arranged it in her planning. Lack of Vitamin A causes blindness in calves, and deafness in dogs. So you see, nature knows what she is doing when she puts Vitamin A in the baby's first feeding.

Colostrum is the baby's first laxative, and is a medicine that he will actually cry for. This first laxative is important. The intestines at birth are full of meconium - a dark green substance that acts as packing material: to keep the intestinal walls from collapsing and becoming obstructed by adhesions during development. It is composed of the by-products of the baby's developmental process. The baby swallows some amniotic fluid from his own private swimming pool and sewage disposal plant, some lanugo (hair which covers his body at one stage of his development) and other waste products. This material can be compared to the scrap pile left by the builders when they construct a building - the sawdust and things like that. The material must be removed for the new tenants - the breast milk - so the intestines are cleaned by the cleanup squad, colostrum. The colostrum acts not only like a broom (the gentle but positive action of its laxative effect) but also as a vacuum cleaner. The vacuum cleaner effect is due to the colostrum corpuscles which, as I told you, ingest dead and dying cells, bacteria, etc. The sooner the colostrum is fed, the sooner the cleanup crew begins its duties. These colostrum corpuscles are also found in the breast milk for about one month, then disappear.

Can't you see how marvelous Mother Nature is, and how she strives her utmost to protect and care for the baby until he is able to fend for himself?

Affectionately,

Mother

CHAPTER 6: THE AUTOMATIC BABY FEEDER

Dear Judy:

Wouldn't it be wonderful if every new mother could have three automatic appliances -- washing machine, clothes dryer, and automatic baby feeder? Oh, oh, you've guessed it -- the breast is the automatic baby feeder. Of course, the nice thing about the automatic baby feeder is that there is no down payment, no monthly payments, no moving parts, a twenty years or more guarantee, and no trade-in required. It is very inexpensive to operate, very lightweight, and highly portable.

I can recall boiling Bill's diapers in Georgia when he was a baby and steaming up the kitchen daily. Thank goodness all that drudgery is not necessary now. The more you can be relieved of scullery work, the more time you can be with and enjoy your baby. Unfortunately these appliances only give more time for some mother to have away from home and, consequently, away from their babies. You should have a lot of time to cuddle and love the baby if you can find a new dryer in time.

While nursing the baby, the mother is also giving herself a physical treatment. As the mother nurses, there is a rhythmic contraction of the uterus, caused by the oxytocin her body produces during the act of nursing. These contractions feel a little like menstrual cramps, and they last only a few days. While they are somewhat uncomfortable at the time, they are performing for the mother a very valuable service, that of massaging her uterus so that it will return to its normal size speedily and without abnormal bleeding. Many women are given drugs (including a synthesized form of oxytocin) to contract the uterus to accomplish this. Nursing does a better job than drugs, for it performs in a natural manner with its squeezing-relaxing, squeezing-relaxing action.

I might tell you of my last experience. After Patty was born, my obstetrician had to attend an out-of-state meeting scheduled months earlier. He had written orders for some medicine to help contract my uterus. The nurse forgot to chart these orders, and I did not receive any of the medicine. I was not concerned because I could determine by palpatation (manipulation) how small and firm my uterus had become. Days later, my husband (who is also a physician) and I were talking, and in the course of the conversation I told him that I had not taken the medicine that had been ordered, but that it did not matter. The nurse became indignant and said that the medicine had not been ordered. She left the room, to come back red-faced, saying that she was sorry, someone had overlooked it. I told her not to worry; if I had thought that it was necessary, I would have asked for it. Later, at my six weeks' checkup the doctor remarked that my uterus was unusually small -- "so small, that if you had come to me complaining of sterility, I would have told you that the reason you could not get pregnant was that you had an infantile-type uterus."

I do believe that many of the women with recurrent backaches could have escaped some of their discomfort, had they nursed their babies. Of course, those women are the very ones that did not!

When you think how important colostrum is, you feel impatient to start feeding the baby with this wonder food. I do hope your doctors let you feed the baby immediately after birth. When I was a medical student, we were advised to wait twelve hours before feeding the baby -

- because feeding them earlier made them allergic. Baloney! This delay was practiced routinely; unfortunately, it still may be routine in some hospitals. The result has not been a decrease in allergy; in fact, allergy is more common now than ever. I believe that this generation can claim about the most allergic bunch of humans the world has ever known!

Certainly denying a baby the right to eat when he is hungry soon after birth has not altered the percentage.

This does not mean that a baby should be given milk soon after birth. We have seen, nature does not want babies to have milk for three or four days, not until the colostrum has prepared the intestinal tract for milk; but colostrum is not milk, and it is prepared on a standby ready-alert for the baby as soon as he desires it.

I have been told that baby pigs break their umbilical cords by migrating from the birth canal to their food faucets. In fact, the first of the pig litter will be nursing before the last of the litter has been born. If one were to give out medals to the animal mother for fast food service, the mother pig should get it. She treats all of her offspring fairly, on a first-come, first-served basis, and whoever heard of an allergic pig?

In some hospitals where the mothers wish, the babies are nursed before the mother leaves the delivery room. Of course, some babies cannot be fed immediately after birth, because their mothers have had a painless (or shall we say unconscious) delivery. The mother and the baby are so heavily sedated it takes some time for the baby to awaken from his sedation and to really know that he is alive and that he is hungry. On the other hand, the baby who nurses in the delivery room goes to the nursery or his crib warm, comfortably satisfied, with his first immunization, his first laxative, his Vitamin A, to begin life feeling that it is a nice, friendly, and wonderful world into which he has been born.

One obstetrical supervisor told me she thought that many babies were born hungry because they would try to suck their fists immediately after the birth of only the head, shoulders, arms, and hands. Only much later are these hungry babies taken to their mother for their first feeding, and by then they are so tired and hungry and upset they cannot eat.

Lovingly,

Mother

CHAPTER 7: FIRST, A SIP OF WATER

Dear Judy:

With Baron lying on my feet and sometimes nipping at my shoes, I'll try to concentrate on today's letter. I'll be glad when he cuts his second teeth; I am so tired of my hands being chewed as his teething ring. He can really bite, and I can see that he is not too far removed from a wolf. Today Dad took him to the feed store with him to buy some food for the sheep. There were some loafers sitting around, and Dad explained to them that Baron was a shepherd dog and he thought it was time to train him; he wanted Baron to learn about sheep. He had brought him along to show him what kind of feed sheep were fed. The man told Dad that when Baron was grown he would consider that sheep were dog food! Let us hope not.

Meanwhile, back to the milk bar. As we mentioned several times already, the breast is many things to the baby. But right now let us discuss water for the baby. The breast produces water so that the baby can have a drink whenever he wishes without having to have a meal of food to get it.

First, let me advise you as a mother that one of the most important items in your diet should be water. Drink lots and lots of it. Actually, I think water is almost as important as the food a mother eats (not quite, but almost). During the depression some of the mothers from the slum community along the river bank were actually scrounging for food in the garbage cans. Yet they still were able to nurse their babies! Other mothers in the wealthy section of town, with every good food available, were unable to nurse. Even the poor manage drinking water, and if you are hungry, I imagine that you will drink plenty of water to deceive your stomach into thinking it is full. When a mother is trying to dry up her breasts, she restricts her water intake.

A mother needs ample water shortly after delivery to help remove the waste products of childbirth. Ample water helps prevent the urinary infections that are fairly common after delivery. Abundant water intake also helps if one must use a hospital bedpan; a full bladder is easier to empty. A nursing mother also needs abundant water to prevent constipation, because in addition to the usual loss of water by breathing, perspiration, and elimination, the mother has to allow for the loss of liquid secreted in the milk. In the hospital I always enjoyed crunching the pitcherfuls of shaved ice that the nurses brought me.

I mentioned before about the shower spray falling on the nipples and causing the breasts to fill. When this happens, you will become extremely thirsty, and you cannot wait until you are out of the tub to get a drink, but you will open your mouth, and drink the warm water as it comes from the showerhead, and it will taste *so* good. (If I were a farmer, I think that I would give my cows water to drink as they give down their milk, rather than feed them dry food at milking time.)

After the baby is about eight weeks old, you will notice that when the breast fills suddenly *(the "let-down reflex")* you will simultaneously have this great thirst. This is because when the fluid leaves the bloodstream and fills the breast, there is a sudden decrease in fluid in the blood and the thirst is calling for replacement. You need to replace this water, and nature is reminding you.

I usually made it the rule to drink three glasses of water at a feeding. One before I started to nurse, one to sip as I nursed, and one to drink following. This is quite important when the baby is older and is nursing what amounts to several pints daily. That liquid simply must be replaced.

Once I was telling a young mother about it and she said, "That doesn't happen to me; I never feel thirsty." Her own mother interjected, "Why, Gloria, can't you remember how many times you would ask me to bring you a glass of water while you were nursing?" Her need for water had not been consciously realized; she was satisfying her thirst without ever realizing she had it. There are many aspects of nursing that I would not have noticed had I not had medical training.

Oh yes, and when we are speaking of fluid for milk, we are speaking of water, not colas, coffee, or tea. Coffee, tea and colas actually are mild diuretics; they pull water out of the body, taking out almost as much water as they add. If you drink coffee all day long, your throat can still feel dry. Sugared drinks also are not as good as plain, old-fashioned *water*. There are those who have never liked the taste of plain water, but one can develop a taste for it and become sensitive to a feeling of thirst. [It goes without saying that you should also drink milk while you are nursing to supply calcium and minerals for the baby's milk.]

The first liquid secreted from the breast after the breast milk is established is largely water. This allows the baby to go to the breast, nurse for just a few minutes, and have a drink of pleasantly flavored water. It has been known for a long time that breastfed babies rarely require additional water. In fact, a well fed breast baby will refuse water repeatedly (often indignantly). The reason is that to get to the richer food in the milk, he has to nurse through the watery part of the milk that first comes from the breast.

If nature had not arranged it so, the poor babies in equatorial Africa would have difficulty in finding a safe drink of water. However, they would be no worse off than their Eskimo cousins in Alaska, whose water would be frozen. Nature allows the baby to go to the breast and get a drink of water, an hour later have another drink, and another hour later perhaps enjoy a complete meal. When a baby is only thirsty, he drinks down to where the milk is getting rich; then he stops.

One of the mistakes in breastfeeding is for the mother to nurse the baby from both breasts routinely. He gets water on one side and then water on the other, filling his stomach before he has really had a satisfying meal as far as calories go. If he is nursed from only one side, he gets water plus a feeding. If the baby is really thirsty, he sometimes nurses from one breast for a few minutes, then he rejects that breast but still seems to want to nurse. If this happens, let him nurse from the opposite breast to nurse only the watery milk from that breast, because he is not interested in the richer milk. If, after nursing both breasts down to the rich milk, he is still thirsty, offer him sterile water from a bottle.

Most babies on the breast receive ample water, and Patty had no additional water until she was over four months of age (except that given her in the hospital nursery). I doubt that she had a quart of additional water before she was nine months of age. Her skin was always hydrated and healthy.

If a baby *is* dehydrated, of course he needs additional water and surely should be given some. There are two simple ways to judge if a baby is getting enough water. One is by the color of his urine. If his diaper has the slightest yellowish color on his diaper, I think he needs

more water and should be nursed from both breasts at each nursing. If the baby's skin layers are thin, he needs water. A baby's skin should not be dry nor lack elasticity. The doctor can also test for dehydration by feeling the fontanel (the soft spot on the baby's head); it is depressed if the baby needs more water.

> *Editor's Note: The new "ultra" diapers can store much more urine than cloth diapers; thus a slight yellow color of the diaper is not of concern (it means "change me!").*

The different quality of the early milk was brought to my attention when a mother told me, "Oh, you are nursing your baby. How nice. I couldn't; you see, my milk was just like water." A few days later while I was nursing Patty, I noticed that my milk was just like water, too. But as she nursed the milk began to be richer and richer, and when she stopped, the drop of milk on the nipple looked more like half-and-half in richness.

One night when I was nursing, I squirted a drop in the palm of my hand. I continued to nurse and then squirted another drop in my hand. Then I let her finish nursing and squirted another drop in my hand. One drop looked like water with very little milk in it, the second looked like breast milk, and the last looked again like half-and-half. I awakened my husband and showed him the difference. "It doesn't take a chemist," I said, "to see the difference in these drops of milk." At two a.m., you can imagine that my husband wasn't too enthusiastic an audience.

Dr. Icie Macy reported many years ago that the last half of the milk removed from the breast was richer than the first half. This same phenomenon occurs as one milks a cow. Here are some figures on that. I copied this from a dairy book, (I believe it was from "Feeds and Feeding" 20th Edition, Morrison).

Cow milk:	1st stream	1.1% fat
	1st quart	1.4%
	2nd quart	2.0%
	3rd quart	3.1%
	4th quart	4.0%
	Strippings	7.6%
	Composite	3.26%

As you can see, the milk gets richer as the cow is milked (or nursed by her calf). In the same book there was a comparison of the foremilk of a Holstein and that of a Jersey cow. Both were the same: 1.03%! These two cows, the Holstein (which gives milk relatively low in butter fat) and the Jersey (which gives milk relatively high in butter fat) still have the same weak initial drink for their calves. Yet their strippings are much different; Holstein strippings

were 4.0%, Jersey strippings were 7.6%. It is also noteworthy to know that the Holstein cow, with the weakest milk in the dairy industry, is the universal mother; all breeds of calves thrive on her weak formula.

So, if you are told that your milk is weak, do not be upset. That's good!

So much for the breast water except to say that it is much better for the baby than water from a bottle. Water from the breast has some nourishment in it. It is an excellent drink for the sick baby, who cannot tolerate much fat in his milk, but who still needs the proteins, minerals, vitamins, and the moral support he receives while he has his drink.

Excuse me while I go get a drink of water.

Love,

Mother

CHAPTER 8: FEEDING CAFETERIA-STYLE

Dear Judy:

In my last letter we mentioned how the milk becomes richer as the baby nurses from the breast. Of all the truths of breastfeeding this is the most important. The breast is so constituted so that if a baby is sickly he gets a weak formula; if he is strong and vigorous, he nurses all of the milk out of the breast and pulls the fat globules from the secreting cells, making up the strippings of the breast, or that part of the milk which is highest in the fat content and most satisfying to his hunger.

I do not like the idea of emptying the breast by a breast pump for a sick or premature baby, because a breast pump removes the kind of formula that a strong and vigorous baby would nurse, not one that can be tolerated by a sick or premature infant. If milk is to be removed from the breast, it should be removed in the same manner that the baby himself would remove it, either in small frequent nursings, or large and complete ones. Let's say the baby is a premature, and you have been told to bring milk to the hospital. Then, many times a day you should gently squirt milk from both breasts, removing only the watery (low fat) milk, collect it in a sterile container, chill it in the refrigerator (even this may destroy the colostrum corpuscles), and take it to the hospital while keeping it ice cold. The milk then should be given the baby without further sterilization, merely warming that portion of the immediate feeding to body temperature.

> *Editor's Note: Microwave reheating, although fine for formula, is not recommended for reheating breast milk - it may break down the colostrum. There are inexpensive bottle warmers on the market that use steam to heat, and they work fine. Breast milk may be frozen.*

It should not be removed by a breast pump in the same manner that a fifteen pound infant would remove it. The final blunder is to take that milk and boil it five minutes in an open pan, strain it (thereby removing some of the valuable proteins) and then offer it to a premature. This actually was recommended in a report I read! The conclusion of the report was that human milk was not so good for premature infants as skim powdered or diluted evaporate milk. The human milk (a composite) mixture was boiled five minutes in an open pan, strained, and had a resulting fat content of 6.7% as compared to that of the 2.2% half skimmed powdered milk, or 5.5% evaporated milk. This was giving the premature baby a milk that was not only richer than any whole cow's milk on the market, but was richer than many cows' strippings! Prematures and sick babies do not tolerate fat. Neither could a normal baby take this amount of fat for a full formula; it would be like giving him only dessert for his entire meal. The method used in the above report was as wrong as was its erroneous conclusion.

Since nature has provided the unique arrangement whereby the weak, the premature, and the ill babies never nurse down to get this harmful fat, why remove it by a breast pump, concentrate it, and then offer it to the tiny one?

I don't think that mother's milk should be boiled *at all*. There are more vitamins and antibodies to be lost through boiling than germs to be acquired while the milk sits for a short time. Besides, I believe that nature has already put in breast milk a bacteriostatic substance. Here is the reason why:

Several years ago I had collected six samples of milk from my neighbor across the street. I planned to show these to the medical students to whom I was to give a lecture. Three of the samples were collected the night before. She had collected them in clean (not sterile) plastic pill containers, a sample of her foremilk, middle milk, and strippings. Similar samples were collected that same morning. I wanted the medical students to see just how the fat content varied in the different samples. They could see that the foremilk collected the night before had a thin layer of cream, the middle layer was thicker, and the strippings had the thickest cream layer. The samples collected that morning showed that the foremilk was bluish watery in color and the middle milk was definitely richer, while the strippings more nearly resembled half-and-half. These differences in richness of the milk could easily be appreciated at a glance.

After the lecture, which was given during their final examination period either the last of May or the first of June, I put the shoebox with the six samples under the driver's seat of my car and promptly forgot about them. The pill bottles had been packed in facial tissue so that they would not tip over in transit. *One month later* I found them again. (My husband always says that women would not think of keeping their houses as messy as they keep their cars!) when I decided to have the car washed. The month of June had been an exceptionally hot one, and the temperature several times had soared over 100 degrees, so I am sure that it must have been very hot in the car during the times the windows were closed and the car locked. At first I thought that I would toss the whole shoebox away as I knew the milk would be moldy and rotten. Since the bottles had not been sterile when it was collected, I was prepared for a mess. Then I remembered that the pill bottles were all the same size and decided they could be cleaned and reused. I opened the box and found the milk was not covered with mold as I had expected. I took off the lids and there was no rotten odor, in fact *no odor at all!* This was unbelievable, and to this day I do not know just what happened. Did the car become so hot that the milk was sterilized in the closed bottles, or is there really a bacteriostatic factor in the milk? I told my nursing friend about it and asked her if her milk was so sweet that it was preserved, or was it so sour it was pickled? She said it must have been pickled since that was her married name -- Pickles!

I could not bring myself to taste the milk, but now I wish that I had done so.

MAXINE ADDS: When Judy (the recipient of these letters) was nursing her baby, I collected some of Judy's milk and took it to the medical school to try to have the cream line photographed -- incidentally, this was more difficult than one would think (the fat does not photograph as a definite white layer, but as a translucent layer) -- and I was talking with a nurse at Children's Hospital. I left the sample of Judy's milk with her and told her about Marjorie's milk not spoiling. When I came back several weeks later the nurse told me that they were still displaying Judy's milk and no noticeable deterioration had taken place, even though the milk had not been refrigerated!

So, if the baby's mother is supplying the milk for her own baby and bringing it to the hospital, I do not think that it should be boiled -- only that the amount to be used immediately be warmed to body temperature.

In fact, the entire formula from the breast is much weaker and more watery the first weeks of life than later, giving the baby the exact type of formula that he should have at that early period. During the first month, as we mentioned before, the huge "colostrum corpuscles" (these are likely to be killed by heat) are still present in the mother's milk. The formula changes later after the baby matures, and as I have indicated you can readily see the change in the milk.

Because a baby nurses differently at each feeding, he receives a different caloric intake at each nursing. If he is tired, he nurses a short time and falls asleep; to awaken after a short or long nap with an appetite that only he knows how to satisfy. Let him select his schedule and his diet; do not be so presumptuous as to select it for him. This is nature's automatic feeding machine; so far it has not been reproduced by artificial formula. What is more, I am certain that it will never be.

Fondly,

Mother

Collage of the family breastfed: Top left: Maxine and Pat, 1950; center right: Andrea and Pat, 1986; bottom left: Andrea Palermo and Zia, 2015. Created by Andrea for as a present for Pat. Poem by Hamilton [1985; http://www.lullaby-link.com/song-for-a-fifth-child.html].

CHAPTER 9: VITAMINS AND OTHER TRACE ELEMENTS

Dear Judy:

We discussed that vitamins that are found in colostrum. Vitamins are also found in breast milk. Vitamin A is not so abundant in the colostrum because it is not needed so desperately as at first when the baby's eyes, skin, and mucous membranes are so delicate. The baby is meant to receive his vitamins from his mother's milk, and for that reason the mother should make certain that her own diet is high in vitamins. If the mother does not eat plenty of Vitamin C, the baby will not have Vitamin C in his diet. Fortunately again, vitamins and minerals are found in a poor man's food -- cabbage, greens, pork chops, fish, dried beans and peas, and liver.

Of course a baby can be given extra vitamins, but many times giving vitamins and minerals (especially iron) is overdone. It is better that the mother eat a complete diet and then both the mother and baby will fare well.

Breast milk is deficient in iron. This is as it should be, for there is evidence that iron is very irritating to a baby's digestive tract. Babies who have been sleeping all night long, and who are given vitamins with iron sometimes awaken several times during the night, cry, and want to be nursed. I believe that they are trying to dilute the irritant iron, and when they nurse enough milk to do that, they fall asleep and awaken in a short time crying again to be nursed. Unfortunately, often the mother's milk is blamed as being too weak. However, by omitting the iron preparation, the stomach discomfort stops, and the baby sleeps through the night. Breast milk which is tinged with blood from traumatized nipples is also irritating to the baby's digestive tract. I believe again that it is the iron in the red blood cells reacting with the hydrochloric acid of the stomach that causes the stomachache. Nature did not err when she omitted iron from breast milk; such an omission was deliberate, since iron is very poorly tolerated by infants. There are doctors who believe that all of the iron that has been added to baby cereals during the past decade has not appreciably changed the incidence of iron deficiency in children.

One very great precaution should be taken by all mothers who are taking iron pills, and that is to be sure that these pills are not where a toddler can reach them. There are innumerable cases of deaths and injury to the stomach and intestines of small children who accidentally ate these pills. They are poisonous, and any child known to have taken them should be made to vomit and rushed to the hospital at once!

If you are anemic or needing iron, add liver, oysters, dried beans and peas, spinach or chard, turnip tops, meat, beet greens, and whole wheat bread to your diet.

I think that all things taken into consideration, babies who are nursed are apt to have better teeth than do bottlefed babies. This, of course, is relative, for other factors also affect the teeth. In our family, Bill was not nursed, and he had many cavities at a very early age, yet he received more orange juice and vitamins and ate less candy than did Patty. Kaethe was nursed ten months, and has had better teeth than Bill, and she even was a runner-up in a "smile" contest in high school!! Patty was nursed eighteen months and was thirteen years of age before she had a cavity, and at this writing still has only one filling. The fact that you, Judy, were nursed, and are now twenty years of age and have no cavities suggests that your baby

may be endowed with hereditary good teeth. I do hope the baby inherits your teeth and not Bill's, but if you nurse, I am sure this will help the baby have a better chance for good dentition.

> *Editor's Note: Another common problem among babies is cavities caused by being put to bed with a bottle. The sugars in formula or milk cling to the teeth and can cause serious problems, even in a two-year old. An infant who was nursed before bedtime, on the other hand, doesn't get into the bad habit of putting himself to sleep with a bottle. If you put a baby to sleep without any crutches (no bottle, no pacifier) he will soon learn to quiet himself to sleep, saving yourself lots of agony later when you try to break him of the bad habit!*

What should a mother eat? Actually, anything she likes that does not adversely affect the baby. It is best that you eat high vitamin foods, fresh vegetables, fruits, and good red meat. Usually if you eat any one thing in moderation, you are not likely to upset the baby. I cannot remember having to change my diet in any respect while I was nursing. Certain drugs are secreted in the breast milk; the sulfonamides, barbiturates, anti-thyroid drugs, salicylates, arsenicals, iodides, and bromides. Also some cathartics, sedatives, and painkillers. Since tobacco smells so strong on many users' breath, I feel that nicotine must also be secreted in the breast milk. I have no proof of this.

> *Editor's Note: It's about time for a comprehensive study of what drugs ingested by the mother get passed on to the milk - could that be a safe way to give an infant an antihistamine, for example?*
>
> *Just this past fall an infant died from a cocaine overdose passed through mother's milk. Clearly lactating mothers need to be just as concerned about harmful drugs as pregnant women are instructed to be!*
>
> *Certainly even artificial colors are passed on to the milk. Expressing my milk at the office every day, I noticed that the color of my milk was decidedly pinker when I was taking red-coated vitamins and iron pills. When I switched back to vitamins with light pink coatings, the color went away.*

Judy, I also believe that I would refrain from drinking cola drinks, coffee, or tea shortly before the baby is to be nursed and put to sleep. There is a very good possibility that the stimulative effects of these drinks can make the baby wakeful and resist sleep. As you know, I do not believe in letting infants and small children drink cola drinks until they are the age to have coffee or tea. The stimulating effects are the same, and many small children are overstimulated by allowing them caffeine. Very few children need or should have them. I feel that a tiny infant may receive some stimulation if the mother drinks coffee or cola drinks as she nurses the baby. Test this for me, will you? After all, breast feeding is so poorly understood, maybe you can add to the pitifully inadequate knowledge of it.

The thyroid gland is not so active while a mother is nursing, and she does not have to eat "for two." This gland acts like the carburetor of a car and while a mother nurses, she does not burn her food so fast, and like a car, she "idles" at a slower pace. She should restrict her

carbohydrates and fats to keep from gaining weight. She must increase her vitamins and water intake considerably.

I have read where increasing the carbohydrates in the mother's diet makes milk richer in fat content; but that increasing fat in a mother's diet results in a greater amount of milk. I would be inclined to agree with this, for most fat people are fat due to an excessive carbohydrate intake, not because they eat excessive amounts of fat. We have learned that carbohydrates are necessary for the fat to be stored in the body. If your milk production is insufficient, increase the fat in your diet. If you are getting fat, decrease or omit the simple carbohydrates, spaghetti, sweet potatoes, macaroni, rice, potatoes, etc.

> *Editor's Note: Recent research indicates that there is more than one type of carbohydrate and more than one type of fat. Complex carbohydrates (as found in potatoes, whole grains, bran etc.) are slow to digest and make good fuel whereas simple carbohydrates (e.g. sugars) burn quickly and clog the system (much like burning newspaper in the fireplace -- it flames quickly, but leaves a lot of ash compared to a hardwood fire). Similarly, saturated fats are the most harmful (e.g. animal fats, most margarines), polyunsaturates better (e.g. sunflower, safflower oil), and monounsaturates (e.g. olive oil) the best of all, even protecting against heart disease in regions where the diets are full of carbohydrates and cholesterol (e.g. Italy). Guess what? Breast milk fat is also a monounsaturated fat!*

Of course, you must drink milk, about a quart a day. If you cannot, then you must take some calcium preparation.

> *Editor's Note: Many antacid preparations are a cheap way to supplement your calcium -- while nursing twins I took 6 a day.*

Fortunately, you like milk and while you are nursing, be sure that you drink your quota. If your milk is too abundant, you can drink the lower-fat fortified milk that is very tasty and has only 2% fat.

We had a nice rain the past week, and spring is in the air. I am eager to get into the garden. Dad raked the front yard yesterday with Baron barking at the rake with every stroke. The man who was to plant our trees has never come back, so I guess we are out the $100.00 we paid for them.

We shall see you soon, love you to you both.

Mother

CHAPTER 10: BREAST MILK

Dear Judy:

By now you probably realize that the baby's drink of water emerges into food as he nurses. At this point we can discuss breast milk as such. As we said before, the colostrum has paved a way for the milk, which makes its appearance usually on the third or fourth day (sometimes even later). The colostrum has conditioned the intestines so that the milk that appears later can be readily absorbed by the digestive tract. Milk really is not a laxative, but when a breastfed baby can normally have as many as twelve stools a day, you may wonder!

On the third or fourth day in hospitals where "rooming in" in practiced, it is noticed that simultaneously with this initial surge of true milk, the baby has developed a voracious appetite. He literally could nurse almost all day (or all night) long; given the opportunity, he usually does. The breast fills as though it is about to pop and is ready to supply this hungry baby all the milk he needs.

I really think that this is a crucial time in baby's nursing. The main factor in drying up of a mother's milk is backpressure from an engorged breast. When the baby nurses this milk as fast as it is produced, milk production is given the green light, for this means that the baby is alive and is being nourished. However, if the baby is weak or dying, he would not take his milk, and the backpressure would advise the mother's breast that the baby is not nursing, and the milk would suddenly be curtailed. An analogy would be a manufacturing plant producing articles for sale that were not being sold. The manufacturing plant would stop production. The breast acts just like this; if all the milk that is produced is not used, production is cut back to only the amount consumed.

Unfortunately in many hospitals the baby is nursed only on schedule -- *the hospital's!* The day (or night!) that the milk makes its appearance in great quantity, business at the hospital goes on as usual. This is what happened to me; my breasts were full, but my baby was losing weight, because she wasn't getting enough to eat. I wondered just what the nurses thought was in my breast -- lemonade or catsup! A baby cannot gain weight if he is not allowed to nurse his mother when he is hungry and instead is given water or formula in the nursery. Sabotage!

By the seventh day of life, Patty had lost fifteen ounces of weight on a four hour schedule. During this time, from the fourth day on, my breasts were bursting with milk. On the seventh day, she was put on a three hour schedule and gained three ounces in the next twenty four hours.

> *Editor's Note: Fortunately, rooming-in and short hospital stays are becoming the norm. For our first baby, we stayed in the hospital only two days; for the twins, (thank God we arrived at the hospital too late for a caesarian), we stayed only 24 hours, and our 20-month-old was permitted to come to the hospital to see her new siblings. "Babies! Two Babies!" she reported to the neighbors the next day. At home we could more easily resist formula while waiting for the milk to arrive.*

It has also been found that women who nurse frequently during the colostrum period are more apt to have an ample supply of milk. Other animals who nurse their young keep their

babies close by. When Bilco, our Labrador Retriever, had her puppies, she would not leave them the first day, even to come for her own food or water. The first few days of their life she devoted herself totally to their welfare. Should humans do less? Sometimes I think that to be "treated like a dog" as far as babies are concerned would be a great improvement in baby care. One place where the "middleman" should be eliminated is in the OB nursery for most normal babies. Babies need their mothers and, as one erudite person expressed it, "It is time that we start babying the babies and stop babying the mothers."

There are several reasons why a baby should not be nursed on schedule when he is newborn. Nursing from an engorged breast is *very* difficult. The baby is a rank amateur when it comes to nursing and in order to nurse correctly, he must compress the lactiferous sinuses having all of the nipple far into his mouth. When the breast is engorged, the nipple is shortened, and he cannot nurse it easily and effortlessly. He must truly suck, and this is fatiguing to a newborn.

Ideally the baby should nurse from an *empty* breast. That sounds strange, but it is true. When he does, the nipple is easily grasped, and he can put all of it into his mouth (perhaps with your help at first.) He sucks a few times and then waits for the milk to come at his bidding; then he can nurse easily and without trauma to the breast. When a baby is close to his mother, she can nurse him before he becomes ravenously hungry, and he will not attack the nipple like a hungry wolf, but as one confident that his wishes will be satisfied, with some show of patience.

A friend of mine had her baby in a small hospital, with her room was next to the nursery. She asked the nurse to bring her baby to her, because she thought she heard it crying. The nurse objected, felt of the mother's empty breasts, and reminded her that she had just fed the baby two hours earlier. In order to prove her point, the nurse weighed the baby before she brought it (reluctantly) to the mother. The breast filled at the baby's bidding, and the nurse was surprised to find that the baby received *five ounces* from an empty breast. Incidentally, the baby then slept all night.

My neighbor's daughter came home from the hospital on the fifth day, having been advised that she probably would not have any breast milk since it had not appeared by this time. Her mother asked me to come and talk to the daughter, because she wanted so much to nurse. I encouraged her to put the baby to the breast anyway and give it the old college try. The baby had lost eleven ounces in the hospital. I mentioned she could always feed it formula if the baby were not satisfied after the breast feeding and advised her that she would have to feed him very frequently for several days. She put the baby to the breast but gave him no additional formula. Her milk appeared and started increasing. At the end of the first few weeks, her pediatrician said the baby had not gained enough and that if he had not gained enough by the next checkup, he would have to be put on the bottle. She gave the baby some Pablum, and the baby started gaining. She relaxed then and was able to nurse him for 15 months, a pretty fair record for someone who was not supposed to have been able to nurse.

Her second baby was born with a heart defect, and she again insisted on feeding it. Colostrum was removed from her breast and given to the baby, who was under oxygen for the first few days. Four days later, against advice, she brought the baby home, since the infant was strong enough to nurse by then. That infant was nursed for 14 months. When the baby was three and a half years old, she had open heart surgery, and the defect was successfully corrected. The mother and the pediatrician felt that had she not nursed this baby, it might not

have lived to undergo the surgery. The mother's antibodies probably kept the baby from contracting a serious illness before the baby was strong enough to manufacture her own defenses. There are many diseases that are prone to be serious with babies with heart valve disease.

So you see, the milk may not appear until the seventh day, and still one can nurse successfully. Darlene, incidentally, now has nursed all four of her children and recommends it to all of her friends.

> *Editor's Note: The time waiting for the milk to come in can be very frustrating, particularly if your baby is ravenously hungry, as Andrea was (the colostrum was too hard for her to get and of too low a quantity to satisfy her). DON'T GIVE UP! And don't feed her formula! A little sterile water (preferably unsweetened) is o.k., but the more bottles she gets, the later and less copious your own milk supply will be. It's a long wait if the milk takes 5 full days to come in as mine did (or seven days, as my graduate student's milk did); but the payoff is worth it!*

When we speak about nursing we must remember that a baby nurses for three reasons: food, water, and diversion (love, entertainment). Many times a baby will nurse for a few minutes, and an hour later want to nurse again, and again in another hour he may want to nurse once more. The mother telephones the doctor and says that the baby "is nursing all the time." The doctor may conclude that the milk is not rich enough or that the mother does not have enough milk and perhaps advises her to put him on a bottle. Actually, the baby has really had only two drinks of water and one feeding. Some babies nurse ample water at scheduled times to satisfy them; at other times they do not. Neither condition is abnormal. The mother, during this same period of time, has had a drink of water and a cup of coffee with her neighbor, but she still does not say to herself, "I've been in the kitchen twice this morning, so I don't need any lunch." She has the mistaken idea that every nursing is a feeding, which it is not.

We have already compared Holstein and Jersey milk. Now let us compare breast milk with both. They are quite similar in the way both become richer has the milk is removed. What has been described as breast milk and cow's milk is really a composite mixture of each one.

		Breast	Holstein	Jersey
Fore Milk	Total Solids	10.9%	9.65%	10.85%
	Fat	1.3%	1.9%	1.9%
Strippings	Total Solids	15.2%	10.85%	17.25%
	Fat	5.5%	3.5%	8.8%

So please remember, a baby can go to the breast, have a drink of water, a cheese sandwich, or a turkey dinner, just by varying the length of time and the manner in which he nurses. Neither you nor I know just what kind of an appetite the baby has, so it is well to let him make his selection cafeteria style.

It is the same way with our dog, Baron; he does not eat the same amount of food at each meal. One time he will eat a huge meal, and the next meal show no interest at all in food. He drinks water about two or three times as often as he eats, however.

About the saddest thing I have heard of is a story told me by the cleaning lady. It seems she works for a lady who leaves shortly after she arrives and who returns shortly before she leaves. Before leaving, the mother has prepared the breakfast and the noon meal for the infant, and the cleaning lady has instructions not to feed the baby any more than the measured amount left by the mother. The cleaning lady is not to give the baby any water or any additional food, no matter how the baby cries. He is to eat only three meals a day - the mother does not want him to get fat! Poor baby! One wonders what psychological damage we do, innocently or sadistically. The result is probably the same, whatever our reasons.

The baby is the best judge of what kind of formula he needs, and when a baby is not feeling too well, he will want to eat more often but will take a weaker formula. If you will notice the difference in the strippings and in the foremilk of the human (or for the cow for that matter), the strippings have only about fifty percent more protein in them but about three hundred per cent more fat, so even the weakest formula he receives has a lot of nourishment.

The proteins of human milk are superior for human babies to those of cow's milk, however. A cow has a four-sectioned stomach, and the curds of cow's milk are larger so that they are not completely digested until they have passed through all four sections. The baby has only one stomach, and human milk has small-sized curds, so that by the time that the milk leaves the one stomach, the milk is digested enough to be absorbed by the intestines. To make cow's milk more digestible, the milk has to be boiled, evaporated, acidulated (acid added) and diluted for the human baby. All of these processes change the vitamins, antibodies, proteins, and/or dilutes the nutritive part of the milk. Even the normal bacteria in the stools of breast fed babies are different than the bacteria normally found in cow's milk formula stools. These bacteria are thought to help with digestion and perhaps protect the baby against diarrhea. Breast fed babies have fewer digestive upsets than do formula babies.

Actually, I believe that mare's milk is more like human milk, but that kind of milk is rather hard to come by - at least it is not available at any market that I know.

As the baby changes, the formula adapts to his growth. The first few weeks of life, the baby is small and needs a weaker formula. He cannot see well, cannot use his hands or feet, and he meets life through his mouth, so nature devised that he needs a weaker formula and one that takes longer to obtain; he may nurse for twenty or thirty minutes at a time. Nursing is his only pleasure, so as he eats he is also entertained and comforted. Later, he can see, and appreciate his environment through using the rest of his senses. Then the milk comes in faster, and his feeding time is reduced. He is no longer so much like a marsupial in a pouch, but is beginning to have more of an identity of his own. He now nurses less for the feeling of being one with his mother, and more for water, food, and companionship. The formula is richer, and he nurses with vigor, pulling the fat cells from the acini, to satisfy his appetite and sustain his bountiful energy.

They say imitation is the sincerest form of flattery. Breast milk must be good, so many researchers are trying to produce it artificially. So far it has not been duplicated.

Of course, all the old sayings we used to laugh about in medical school are true. Breast milk is sterile, the right temperature, easy to take on picnics, and stored where the cat can't get it.

We love you both,

Mother and Dad

Editor's Note: I haven't seen any literature on the subject, but the sugar content of breast milk also changes as the baby grows. Pumping my breasts every day at the office, I occasionally taste the milk. The milk in the first few months tasted sweeter to me (like melted ice cream) whereas the milk after the babies reached six months of age did not taste as sweet.

CHAPTER 11: NATURE'S DEODORANT

Dear Judy:

One of the nice things about breastfeeding is that the baby smells so sweet. It almost seems that there is some kind of a chlorophyll substance in breast milk. When the baby upchucks, and this is rare, the milk does not have that horrible, offensive odor that upchucked canned milk has. I have not had much experience with the new formulas -- I do not know what they smell like second-hand, but I do know that only a mother can love a stinking baby who smells of partially-digested canned milk.

Another bad feature about many artificial formulas is that the milk stains the baby's clothing and defies bleach, soaps, and detergents to remove the stain. Breastfed babies rarely spit up, because they usually nurse at their own speed, and they nurse the kind of formula they desire. About the only time they overeat is when they are so hungry, they overdo it, especially if the breast is too full of milk, and they are afraid that they will not be fed again soon. When babies do spit up, it is a safety valve, indicating merely that they have eaten too much, and the milk has no odor. It would be a shame to have the baby stain all those beautiful little dresses and gowns your mother has made for it. Most breastfed babies are hard to burp, because they do not have an air bubble in their stomach to "burp."

> *Editor's Note: for hard-to-remove food stains try soaking with a proteinase stain remover. These contain papain that breaks down food proteins (it is also used as a meat tenderizer).*

One experience I had with Patty (I hope you do not mind all these personal references) is that I never bathed her on Sunday mornings. We always went to Sunday School, and she was nursed enroute to the church. I kept her near me in the car bed in Sunday School, and she was always in good spirits. One member of the class held her and said, "Oh, she smells so sweet, she has just been bathed, hasn't she?" I grunted a neutral sound. I hated to admit that she had not been bathed since Saturday morning. Of course, I always washed off her "hinie" whenever she had a B.M. and always kept clean diapers on her.

The sweet smell of babies is another of nature's ways to encourage the universal loving and coddling of the young.

This deodorant factor is noticeable among other animals. That is why you can pick up a baby kitty or puppy and love it. You can hardly keep the little bundles of fur away from your face, and nature protects them by their winsomeness and their sweet odor, or at least by the lack of an objectionable one.

In one of Walt Disney's pictures this protection was demonstrated when a little fawn was lying within a few feet of the path of a lion. You would have thought the lion would have smelled the baby and would have eaten it. Due to the excellent protective coloration, the baby lay camouflaged in the grass, and through the deodorizing effect of the milk, the fawn was completely safe. The lion could neither see nor smell the dainty morsel. If animals had their

usual smell while they were nursing their young, they would be easy prey to the predatory animals, so even the nursing animal *mothers* lack their usual scent.

Along with this deodorant in milk, there is also another noticeable advantage to breast milk: the baby's stools do not smell so objectionable. This, of course, may be due to the different type of bacterial flora in the intestines, and it does not appear like a very great advantage, but when you consider how much diapering you will have to do while the baby is little, every little advantage helps.

Remember to enjoy your baby. Put schedules, rituals, etc., second place in your mind. Don't worry about a breastfed baby's bowels unless they become too frequent and liquid. Some breastfed babies are healthy with only one bowel movement every three days (mine was). If the stool is soft when it is passed, the baby is not constipated. When a baby is constipated an infant glycerin suppository can be used occasionally.

I had better end this letter. Baron can certainly scramble the house in just a few minutes. He chews on a paper and reduces it to shreds before you can grab it from him. Dad was outside, hitting some golf balls, and I asked him if Baron was retrieving them for him. He said, "Yes, even before I have time to hit them with the club." We are trying to keep him outside most of the day. At night he sleeps by Patty's bed. When he first came, he slept almost as much as a tiny baby; now he is almost three months old, and is awake most of the time.

We enjoyed talking to Bill on the phone the other night. We are glad that Judy is feeling so well, and that you are both studying together.

Love,

Mother and Dad

CHAPTER 12: NATURE'S TRANQUILIZER

Dear Judy:

We have discussed that the breast milk supplies the food, water, and immunizations for the baby as well as the talcum powder (the built-in deodorant). Now let us discuss the tranquilizers and sedative the breast provides for the baby. Actually, breastfeeding is a sedative to both the mother and the baby - *if* breastfeeding is done correctly. It is a very good pain killer for the baby. The American doctors noticed how relaxed and stoic the children of Okinawa were as contrasted to the children they were used to treating in the United States. The Okinawan children were nursed for three years, and could be sedated by nursing while the doctors performed minor surgery on them. I remember one time when I slammed the car door on Patty's little fingers. I grabbed her up and rushed her into the house and nursed her. She nursed for a minute or so (getting a drink of water and some sympathy) then squirmed down from my lap and acted as though the accident had never happened. As Bill's dad would say, "If you want a baby to stop crying, just give him a bust in the mouth." It works in almost every case.

Once I was giving a lecture at a college to marriage class, and I spoke of the sedative effect upon the baby; a young mother came up afterward and said to me "Why don't you speak of the sedative effect it has on the mothers?" I told her that I should have, because when a mother is nursing, she often becomes drowsy and sleepy. After nursing the baby she feels refreshed. I remember such an unusual event. It was when Patty was a tiny baby and Bill's dad had just started his medical practice. It was just after five o'clock and I was trying to fix dinner; the baby started fussing, and the telephone started ringing. It was one of those hours of complete frustration. I answered the telephone and brought my chair near it (patients somehow seem to wait until after five o'clock to need a doctor. At that time the girls have left the office, and I became both receptionist and secretary). I turned out the fire on the stove, and picked up Patty with the idea of nursing her a few minutes just to quiet her until I could finish the dinner. As I nursed her, I relaxed, and I really nursed her a little longer than I had intended. When I arose from my chair, I felt as if I had had a nice long nap. This feeling was so foreign to what I was expecting that I will never forget it. I feel sure our grandmother experienced these brief periods of rejuvenation when they nursed their babies and that this, in part, enabled them to do all the work that they were able to accomplish. Now of course we have barbiturates, liquor, and tranquilizers. Ho Hum.

Anyone who has watched a mother dog nurse her puppies notice how nearly asleep she is. She looks as if she couldn't be any more relaxed if she were under an anaesthetic.

Of course, if you do not like to nurse, and resent it, I suppose it can be pure torture.

One mother told me, "I nursed my first baby, but I was so nervous with my second, the doctor said I should not nurse it." When I told her that I could hardly stay awake when I nursed my baby, she said, "Oh yes, I remember how hard it was to stay awake." Perhaps nervous mothers should be encouraged to nurse just for the tranquilizing effect.

Emphasis on the terrible tensions under which we live has been given as a reason for the difficulty encountered in nursing. Yet all ages have been times of tension. Imagine living through the terrible Black Plague in Europe. Visualize yourself as a serf under the reign of a

terrible dictator, or living in the dark ages when superstition was rampant, or put yourself in the time of the Crusades and see your children go to war! Tensions today are nothing new.

We have overemphasized this tension bit and ignored some of the natural means of relaxation. Nursing to a mother is a tranquilizing procedure, coupled with the wonderful feeling that she is giving her baby the very best treatment that is possible for the baby to have -- at any cost. There is a psychological and emotional maturity the mother feels in giving herself to the baby. Even our language reflects this truth -- an act of kindness to another human being is expressed as "the milk of human kindness." (Remember Mrs. Keys?) I doubt that many mothers who breastfeed their babies are also guilty of child beating.

When a mother offers her breast to a baby who has fallen or has hurt himself, she gives him sympathy and in nursing him allays his tensions and therefore eases his pain. As we all well know. tension intensifies pain; relaxation decreases it. The breast is an instant painkiller. In contrast, an appropriate painkilling drug must be forced down the baby's throat, and then there is a delay before the drug acts. Long after the pain is gone, the drug effect is felt. Many drugs can become habit forming, and the dosage is uncertain and variable. There is no concern over overdosage when the breast is used; the baby merely gets a drink of water and some nourishment, and a lot of motherly emotional empathy. A quick, effective, cheap, non-habitforming, painkiller with no worry about any side effects or false advertising claims! Used for generations by billions of satisfied customers! Can you beat this preparation?

> *Editor's note: The painkilling and tranquilizing effects of breast–feeding are never so welcome as when one has sore nipples! Despite applications of lanolin, my nipples cracked (no doubt from overuse by my voracious singleton and hungry twins) and were sore for the first two weeks of nursing. The first "suck" was typically agony, but then when the "let down" arrived, the sucking was just squirting, and the nipples didn't hurt any more. I typically tensed up awaiting that burst of pain, but when the nursing was underway, I relaxed. Again, mother nature's way of helping us deal with sore nipples! Rubber nipple shields can be useful to protect tender nipples and help them heal. Also, break open a capsule of Vitamin E oil to rub on them. Give them lots of air (put your bra flaps down under a loose sweatshirt). Express milk manually (not with a pump) if the agony is too great to nurse. Don't give up - the worst is usually less than a week.*

I am baking a cake for tomorrow to take to the church, and it surely smells good. Too bad that I am dieting! In fact the whole family, except Dad, is trying to shed those Christmas pounds. I've set my goal for ten pounds to lose; then I shall feel better in my clothes.

We enjoyed your letter. I am sorry you were having such a time finding the title to the old car. Dad found it up here. While we are on that subject, one of those inexpensive file boxes -- I think they are only about two dollars -- is a nice investment and will hold a copy of your marriage certificate, the baby's birth certificate, your copy of your income taxes, car registrations, receipts, guarantees, etc. in alphabetical order. It surely will save a lot of searching.

Your ever loving parents,

Mother

P.S. To me, nursing a baby is sort of a maturing process; in other words it "sorts the women from the girls" and helps a mother grow up emotionally.

CHAPTER 13: THE HOME ENTERTAINMENT CENTER

Dear Judy:

I have written about many functions the breast performs for the baby, by providing food, water, vitamins, minerals, etc. Perhaps we should also mention that the breast is the baby's home entertainment center. For the first few months of the baby's life, his world centers around his mouth. He cannot see or hear well, and he has little or no control over his arms and legs. He is for the most part like a blind paralytic with no function in his body, save that of his highly sensitive mouth. His mouth, however, has been functioning even in utero. He has learned to swallow liquids, and he has already swallowed amniotic fluid. His mouth is all important, for it is through this organ that he is introduced to life. When a baby's relationship with his mother (and specifically with the nipple) is good, life is good. He realizes that he has been born into a friendly world.

If the world is to remain a friendly one, the baby must eat before he is ravenously hungry; he was fed automatically in the womb and never knew hunger. He was also protected in the uterus so that he had no fear of falling. Now his wants must be attended to before he is acutely conscious of discomfort. But filling his stomach is not all of his hunger needs. He must experience pleasure in his nursing. There are those who say that a baby's greatest pleasure the first six months of life is the pleasure of sucking, and that sucking from a mother's breast is the highest form of pleasure.

A baby that sucks well and is allowed to stay at the breast until he can enjoy this pleasure to the fullest, is a baby that relaxes well and sleeps well. Not long ago there was a baby doll on the market that had the pinched, uncomfortable expression of a dissatisfied baby. Thank goodness, those baby dolls did not sell well and I have not seen them advertised since. The sad part about it was that apparently some doll designer thought that this expression was a normal expression for babies. I could hardly look at these dolls, and I wondered what effect they would have on some little girl.

When a baby is nursed correctly, it will resemble a beautiful baby doll. When Patty was born and was nursed without having to cry first, she was happy and contented. She could be picked up or put down without murmur. In fact for the first time, I felt that the dollplay of a little girl made sense. Here was a baby that behaved as a doll. She did not have any fear, she felt at home among everyone, she knew no strangers, and no one ever frightened or hurt her. While she was an active baby, alert and vigorous, she still seemed to need so little attention and time. Yet the attention she did get was at the right time as far as she was concerned. She was always happy, and when she was injured, or taken to the pediatrician for injections, she was stoic.

Yet babies who are fed by tube and who receive ample amounts of food into their stomach do not fare so well. They have a pinched expression as though something is missing, and it is -- the sucking pleasure. There are those who believe that the great interest in cigarettes, cigars, pipes, and chewing gum, as well as thumb sucking and bitten fingernails, are indications that the baby did not receive enough sucking and mouth enjoyment at the time it was necessary. People bite, chew, and suck to relieve their "nervousness." As Ecclesiastes admonishes, there

is a time and season for all things -- a time to be born, and we might add, a time for the enjoyment of being a baby.

As we mentioned before, a mother's attitude toward nursing is important, but it is not all. If a mother desires to nurse but is thwarted by rules of the hospital, so that her breasts are overly distended, the baby has trouble nursing, and the milk is not removed from the breast. It becomes caked, the nipples may be cracked and bleeding, and nursing is a failure. On the other hand, if she does not wish to nurse, the baby's enjoyment in nursing will be hampered. As we mentioned before, if the mother abhors nursing, and is unconciously trying to avoid it, the nipple will flop every way and the baby will have to struggle to nurse. Life becomes a drudge, and a struggle, and his aggressiveness will cause pain to the mother, and the mother and the baby will remain at emotional odds. It is like a full-blown family squabble in the rumpus room. What should be moments of pleasure for mother and baby, become moments of arguments over how to play the game.

While we are discussing the home entertainment center, we must realize that part of the baby's nursing is for the pure pleasure of nursing. Sometimes a rare baby will get all of his drinks of water, food, and pleasure on regularly scheduled intervals; but again he may want a drink of water at one time, food at another, and just plain enjoyment of human companionship at another.

Sometimes you yourself may have the hi-fi music playing while you are eating; sometimes you may want to enjoy hi-fi music between meals. So a baby may want different satisfactions while nursing. Remember: please do not consider every nursing a feeding; a baby often likes to hold the nipple in his mouth for reassurance and he should be permitted to do this. Of course this can be overdone, and certainly *judgment* enters into the care of babies. Some babies are like adults; they like to eat slowly and savor their food; others gulp it down as though they were about to miss the commuters' train. You will just have to play it by ear, as far as your baby is concerned. Yet again, nature knew that a baby needed a pacifier and made the nipple such that it would pacify him into a restful sleep.

In our own home entertainment center we have comfortable surroundings -- a cozy chair or soft cushions. The breast is such a wonderful lounging area for the baby -- the breast itself is a spongy cushiony pillow to rest and relax on. These pillows are unsurpassed, moreover, because they are always warm and stimulating. The skin to skin contact of mother and child helps the circulation of the baby -- just like a lounge chair with a built-in vibrator. It is the place of ease and supreme enjoyment where the baby can enjoy the intimate relationship with another human.

This skin to skin contact with the mother is important physiologically as well as psychologically. The stimulation by the mother's skin actually helps the baby breathe better; he is at ease, and his circulation is improved. Psychologically, the baby realizes that he is not alone, but is temporally connected to his mother (as he once was in utero). Since the creation of Adam, the need of one human for the companionship of another human being has been known. The great need for TLC (tender loving care) has been shown many times when babies were fed amply, but cared for impersonally, and some actually died from lack of human companionship. It is true that man does not live by bread alone. There are psychic needs as great as the physical ones of food, shelter, and clothing. Humans need *love*.

Mother love as expressed by good breastfeeding, is the type that God intended the baby to have. Please do not think that I believe bottle babies are not given love. It is just that they cannot become as abundantly aware of it as if they were nursed at the breast. Not all breast feeding is necessarily good in itself, and certainly not all breastfed babies have received the love they were meant to have; and surely many bottlefed babies have had more love than some breastfed babies. The love a child receives depends also on the affection and care he receives after weaning. *How* a baby is weaned also comes into the picture of his later psychological makeup.

One would think that I am advocating that the baby spend most of the day at the breast. Actually the tiny baby sleeps most of the time, and as he grows older and can see, hear, and use his arms and legs, the pleasure of his mouth becomes less important to him. He divides his time between eating, sleeping, sucking, and amusing himself with his own fingers and toes (as Baron does trying to bite his own tail), feeling his toys, and listening to human voices sing or read.

I am advocating that we treat babies like babies, so that when they grow up they are ready to become adults, and do not insist on returning to babyhood by eating every hour or so (treating their peptic ulcers), sucking on cigars, hitting the liquor bottle, or trying to return to the womb with sedatives and sleeping pills.

Some psychologists believe that unhappy or uncomfortable babies who are left alone, unable to move or help themselves in any way, feel great anxiety. They do not know why they feel alone and anxious, they merely feel helpless and this can later produce in the adult the same feeling of impending doom without any relation to any known cause. Whether babies are bottlefed or breastfed -- they should never feel alone. Keep them near you, they will not mind your noise as much as the aloneness from its absence. One of the advantages of breastfed babies is that they must be near their mothers -- the source of the supply; bottle babies, on the other hand, are more apt to be treated more independently. Too often a harried and hurried mother will prop a bottle holder into the baby's mouth and skip holding the baby close to her. Very seldom is a bottlefed baby against the bare bosom of the mother, yet there are those who believe that this skin-to-skin contact is the precursor of later successful conjugal love of married life. (Is the soaring divorce rate a result of bottle feeding?)

While all this time is spent in nursing, doesn't one lose a lot of valuable time? Actually no, the mother is being rested (if she will just relax and enjoy it). She can read to herself. If you have an older child, read to him or her while you nurse your baby. This takes your attention from the baby and prevents jealousies. The older child will look forward to the times when the baby is nursed, and may receive more attention after the baby comes than before. I would tell Kaethe, "I am going to nurse the baby now, would you like to get a book and let me read to you while I nurse her?" You would be surprised how much attention you can give the older children while you are nursing the baby, and the baby loves the sound of the words being read aloud.

Again this is just like a home entertainment center -- several people can enjoy themselves at the same time.

While you are nursing, other activities can be done, meals can be planned, you may visit with friends over the telephone, you can even write letters.

But for the baby to enjoy nursing, you must enjoy it too.

Eagerly waiting,

Mother

Editor's Note: A good friend of mine even "made" a small slam when playing bridge while nursing!

CHAPTER 14: GETTING STARTED

Dear Judy:

By now I hope that you are convinced that breastfeeding is the best way to feed a baby and are ready to ask, "How do I breastfeed?". Since breastfeeding is an "art" there are some techniques to nursing. It is not an all-or-none proposition.

Possibly the most important decision is the selection of an obstetrician and a pediatrician who really believe in breastfeeding. Unfortunately some obstetricians are not too sold on it. One obstetrician discourages his mothers to nurse; he feels that after a mother has carried a baby for nine months, she needs a rest, and she "has done her duty." That makes about as much sense as telling the young bride that the wedding preparations were so fatiguing, that she and her husband should go on separate honeymoons. The birth of the baby is not the end of the story; it is the beginning of an exciting second chapter. Sometimes also the obstetrician, by oversedating a baby, makes it impossible for the baby to be nursed early and have the benefit of the colostrum. Sometimes obstetricians by their very attitude seem to throw cold water on a young mother-to-be's enthusiasm for nursing.

If you cannot find an obstetrician who believes in breastfeeding and who will write orders for the baby to be fed whenever the baby is hungry, find a *pediatrician* who *does* and have him called in as soon as the baby is born.

If at all possible pick out a pediatrician who has a clientele of successful breastfeeders. Maybe one of your friends has been successful. If so, ask who her pediatrician is. If the pediatrician's wife has nursed, then you know that he has some firsthand knowledge, and that he knows some of the answers to any problems that may arise. Many doctors pay lip service to breastfeeding, but at the first little problem that arises, they are ready to turn to the bottle (ready to have *you* turn to the bottle, that is). There are a lot of pediatricians who say, "Of course breastfeeding is better, *but* ...". A nursing mother needs encouragement, not discouragement, in her venture.

If possible select a hospital where rooming-in is possible. Soon after the birth of the baby, the mother has an intense urge to be with the baby. I do not think this feeling is mere curiosity. I think it expresses nature's plan for the mother to care for the offspring, and that it should not be thwarted or frustrated. This same urge is present in other animals, because immediately after birth, the motherly attentions begin. Animals would not permit themselves to be separated from their offspring. The segregation of mother and baby is inhuman and unanimal I believe, as well as unnatural. Mothers usually can nurse if they have their baby by their side. They do not spend time worrying if it is hungry, cold, or uncomfortable. When the baby is near the mother, she can see that it is fed before it has hunger pains, and is kept warm. Patty was so cold in the nursery that when she was brought to me her hands and feet were blue; we were so concerned that we had her x-rayed to be sure that she did not have something wrong with her lungs or heart. She was fine, just cold! But it is such little things which upset a new mother and cause her unnecessary worry. If the baby is kept by the mother's side while in the hospital, the mother leaves the hospital confident that she has learned how to care for her baby, and she does not feel that she is incompetent, nor is she afraid of the task before her.

In one hospital I visited, even the mothers who had had Caesarian sections nursed their babies, and (after the third day post-operation) are given their babies to care for. These mothers seem to heal faster than those who do not nurse or have their babies beside them.

Some hospitals foolishly insist they can't have "rooming in" because they have no toilet facilities in the rooms; yet in one large municipal hospital there were twenty-two women in one ward, and they all had to walk down the hall to the restrooms. Breastfeeding thrives in very primitive conditions.

A hospital that instructs a mother about nursing is to be commended. As I mentioned before, it would take a physician several hours to individually instruct a mother in the fine points of nursing. Hospital classes taught by nurses would help. Mothers are often shown movies and told about formula feeding; too often, nursing mothers are left to fend for themselves.

Before you go to the hospital, tell your friends that you would rather they come to see you later. New mothers are usually tired after the birth of the baby and are glad to have rest and quiet for a few days. Visitors do not cheer up a new mother; she is happy enough. They do fatigue her more than they know. Let the visitors come after you and the baby have become adjusted to one another. If the visitors must go to the hospital, they should merely say "hello" and "goodbye," and "goodbye" is the nicest utterance they can make. There are some hospital patients who like visitors, those who have had such injuries as broken legs, and those who are fighting boredom; but new mothers who wish to nurse do not crave visitors.

This sounds rather anti-social, but I know from experience that visitors can be upsetting. When I came home from the hospital, the baby and I were getting along just fine until one Sunday afternoon when many of our friends came to call. I thoroughly enjoyed their visits, but the excitement was too much, and my milk supply dropped. The baby was fussy and very unhappy, and I had to nurse her frequently that evening. Other mothers have told me the same thing; when they are in the hospital they enjoy a few days without visitors. Some even write to columnists in the paper and ask why visitors do not stay home and away from new mothers.

While in the hospital drink plenty of water (or chomp ice as I did - although your dentist may not approve). Eat nourishing foods, and include Vitamin C fruits and vegetables in your diet. Drink a quart of milk daily (or take calcium tablets if you cannot tolerate milk).

If you have purchased your brassieres, launder them and take them to the hospital with you, so that you will have something to support your breasts. The hospital binders are really not supporters but flatteners. If you have only a hospital binder you can make it support your breast by merely rearranging the safety pins. It will not support you while you are nursing, but it will help the rest of the time. Merely pin the binder with a safety pin at the top and the bottom of the binder. Then take a dart on one side, about half-way up the binder, and pin the dart so that it fits the contour of your breast. Do the same on the other side. This binder will support and not inhibit the secretion of milk ("binder" means to bind or inhibit). The flat binder inhibits secretion by causing backpressure against the breast, which in turn exerts pressure against the secreting cells of the breast.

Editor's Note: Fortunately most present day hospitals don't give binders to nursing mothers, and most childbirth preparation classes remind you to take nursing brassieres to the hospital with you. But don't buy too many

before the milk comes in - you might get the wrong size! (My normal bra size is 36A, so I bought 36B nursing bras while waiting for the milk to come in. Boom! I suddenly found (to my delight) that 36B's were too small. After the first few weeks, the 36B's became o.k., but the C's and D's were still more comfortable. Alas, I'm back to a 36A again.)

Select brassieres which support the opposite breast while one breast is being nursed; that is, a bra that does not open down the front, but rather has individual flaps that can be opened over the breast which is being nursed. The breast is like a teapot -- when the nipple is upright, and the breast is supported, it will not leak. If the unused breast is allowed to droop, milk will drip into your lap.

A good nursing brassiere can be bought for $2.50 or $3.00. It should have fairly wide straps, should be lined with a flannel-like material, and should be able to stand many washings. It is better to have four $2.50 brassieres than two $5.00 brassieres. You must have a clean brassiere daily. Keep the straps shortened enough to lift the breast!

Editor's Note: One of the few places this manuscript really shows its age is in these prices! Clearly, though, inexpensive but good nursing bras can be found through most catalog department stores. Virtually all of them on the market today flap open a single cup at a time, as Mom suggests. Fortunately, the return of nursing to popularity has brought speciality stores that cater to nursing mothers, with dresses, blouses, sweatshirts, and even swimsuits with discreet zippers or flaps. Today's bulky sweaters (maternity or not) are also ideal for nursing discreetly, especially if worn with a jacket - just tuck the baby underneath!

If you do not let milk be stored in your breast, you will not have to wear any pads. I nursed for eighteen months and never wore anything other than the brassiere. I did not drip or leak through any of my clothes.

In the hospital you may be taking your daily bath in a washbasin. If so, take a clean soapy washcloth, and cleanse your breasts first; then use the washcloth on your face and the rest of your body. Care of nipples should include a daily bath and a clean brassiere. Then let nothing but the baby's mouth touch the nipple. During pregnancy if your nipples are pulled out occasionally, it may later help the baby to grasp them, but after the baby starts to nurse, the nipple is the sole property of the baby only; no trespassing allowed!

Editor's Note: My left nipple is typically inverted, but after a few weeks of nursing it becomes normal. It was interesting that of the twins, only Amy was persistent enough to use the inverted nipple; Adam, the more eager, wanted the easier route. Now that they are nine months old, it's Adam that is the more insistent on breastfeeding and Amy can take it or leave it!

There is no special care of the nipples, other than to take a daily bath, put on a clean brassiere and keep your hands off the nipple. Do not use boric acid, alcohol, or anything else on the nipple unless there is some unexpected reason to treat it. For years I have lectured against boric acid, and thank goodness, it has finally been discarded. I believe there is some bacteriostatic secretion around the nipple that protects it from bacterial invasion, and that when it is washed with antiseptics, this protection is removed. One rarely sees women in the poorer section of town who have trouble with their breasts. Much more trouble is encountered in those who overdo the antiseptics.

There may be a healing tendency in the breast milk. The grandmothers of other years prescribed breast milk squirted into the baby's eyes whenever a simple infection was present.

Finally, if you do not like the way the baby is treated in the hospital, you can take courage from the knowledge that you can take the baby home soon and nurse it as often as you like. The stay in the hospital is being shortened all the time, and in a way this is good. The mother moves about earlier, and phlebitis (so-called milkleg) is not so common. With Bill I was kept in the hospital two weeks in bed, then sent home to remain in bed one week. By the time I did get up, I was so weak and so tired of being in bed that I felt incompetent and unsure of myself. With my next baby, I was never confined to bed; we went to the restroom down the hall. My recovery was much faster and my spirits were better. After all, all other animals take care of their young themselves, but they do not take care of the rest of the family at the same time. (In fact most animals do not have either the papa or the preceding litters to worry about at all.) A new mother is capable of taking care of her baby shortly after childbirth, but I do not feel that she should be burdened with the rest of her housewifely duties until later. The Chinese peasant women who give birth to their young and then return to the fields to work seem to be rushing it a little!

Gentleness with the nipple in the hospital should be the rule. It is better to prevent nipple pain and infections by prevention rather than treatment. The nipple is a work of art, and should be treated with utmost care. I was outraged when I read that expectant mothers should toughen their nipples before birth by rubbing them with a stiff brush! A bath towel is much more appropriate.

After nursing, let the nipple air-dry and then close the flap on the brassiere.

Proudly,

Mother

CHAPTER 15: ESTABLISHING A RHYTHM

Dear Judy:

While a mother is in the hospital and her milk has not made its appearance, she may nurse lying down; however, after the milk has appeared the mother should nurse sitting up so that all areas of the breast are drained equally as the baby feeds. When a mother is lying down, part of the breast may be folded on itself, and the spongy ducts and ductules may be kinked so that certain areas of the breast are not drained (usually the lower right quadrant of the breast) and milk is left in this area. The mother can feel this undrained area as a lump in her breast. This stagnated milk must be removed and the gentle way to remove it is to take the four fingers of the opposite hand and gently lift and support that area of the breast, while the baby nurses from it. The mother can feel the lump gently dissolve beneath her fingers. If the lump does not disappear completely, she should let him nurse from that breast until it does. Usually by the second nursing it will be completely gone. If the breast is engorged, some of the milk may have to be manually expressed before letting the baby nurse (he might not be hungry enough to completely empty the breast). The milk expressed can be saved in a sterile container, in case he might need it later.

> *Editor's Note: Small breasts can be lucky in this way -- they seldom fold on themselves. If you can do it comfortably and safely, nursing lying down is easy and restful. It really saved my sanity with the twins nursing each every hour at night. I would bring one to bed with me, and we'd both fall asleep nursing. Then the other one would awaken, and I'd put the first one to bed and bring the second one in with me. I'd end up nursing 45 minutes "on" and 15 minutes"off" all night long, but fortunately I was able to sleep through most of it! It is safest to lie on your side and nurse with the breast that's highest in the air. Unless the baby is very weak and sickly, they won't let you roll over on them - they will squirm and you will naturally move over. Nature has planned for mothers to be very light sleepers, at first!*

To gently express milk, use the thumb above the nipple and the remaining fingers below the nipple and with them about three inches apart, beyond the areola of the nipple, gently compress toward the nipple area massaging as you roll toward the nipple. With a little bit of practice, you should be able to squirt a stream of milk for several feet, without trauma to the nipple or breast. Periodically rotate your hand so that the thumb is inside and the fingers on the outside (toward the center of your chest), to stimulate all of your breast.

Whenever the breast is engorged to the point that the nipple is not easily grasped by the baby, (like a balloon that is blown so tight that the end has disappeared) it is wise to express some milk yourself by compressing the lactiferous sinuses *before* the baby attempts to nurse. In other words, empty the breast to the point where the baby again has a nipple to hold in his mouth. When the baby nurses from a breast where the nipple is shortened by engorgement it

is very traumatizing to the nipple and may result in a cracked nipple and bloody milk for the baby (and is frustrating for both of you).

As you nurse him, be sure that his nose is not against the breast (to avoid difficulty in breathing). By compressing the breast with your index finger (of your opposite hand, of course) you can hold the breast away from his nose so that he is comfortable while nursing. After he is older, he will have strength to move about and hold his head away from the breast, or else he will use his own hands and hold the breast so that he can breathe easily.

When the baby comes home from the hospital, there are two times to nurse him: first, whenever milk comes into your breast; and second, whenever the baby is hungry. Nursing is like dancing: if either partner is out of step, one must break his rhythm to get in step with the other. If you nurse at *both* of these times, you and the baby will find yourself on the same mysterious rhythm, ESP, or whatever you call it, and the scheduling will be agreeable to both of you.

Remember it is better to put the baby to the breast *before* he is really hungry and crying from discomfort. If a baby has to wait for his food, he may try to suck his fist and swallow air which may later cause him to have colicky-type pains. When a baby cries, he is uncomfortable, and it makes no more sense to delay your own meals until you are hurting from hunger pains, than to make him cry for every meal he is to receive. A baby is like an adult with ulcers; he simply cannot stand hunger pains. When he awakens, change his diapers, and if it is near his mealtime, offer him the breast. If he isn't hungry, or thirsty, he will not eat. When he is nursed before he is ravenously hungry, he will eat like a gentleman, and he will be gentle toward the breast and the nipple. You will enjoy nursing him, and he will enjoy nursing.

After the milk comes in, let him nurse from one breast until he is satisfied. It does not make sense to him, if he is hungry, to find himself disturbed and moved to the opposite breast. (How would you like to be enjoying a meal, and in the middle of it have someone demand that you take your plate and go into another room to finish?). After nursing one breast dry, if he is still hungry, change him to the opposite breast and let him finish his meal. (Coffee in the drawing room?) You can judge by the ways he acts, what kind of formula he is preferring. If he seems unhappy at one breast, and yet still wants to nurse, change him to the opposite breast where the milk is not so rich. If he is content, let him nurse as long as he wishes from the same breast (so long as he is not traumatizing the nipple).

A rule such as "nurse five minutes from each breast" is stupid and does not consider the appetite of the baby at that particular feeding. Let *him* decide what he wants! Whenever he nurses from both breasts, he will receive a weaker formula than when he nurses from just one breast. Nursing from both breasts may provide a satisfying drink of water, but may not offer a satisfying and sustaining meal.

I want to tell you of one strange experience I had, that I would not have believed had it merely been told to me. Once I was nursing and the baby emptied the breast (I could feel a tug deep inside my breast) but before I could move the baby to the opposite breast, my breast filled again with milk. The baby emptied the breast again, and again before I could change breasts, the milk filled my breast for the third time. While I had plenty of milk in the opposite side, the baby nursed from a thrice filled breast!

Editor's Note: multiple "let-downs" has happened to me many times, particularly when nursing twins simultaneously (for more hints on twin nursing, see Appendix C).

Later in your nursing, *(it seems to take about six weeks to develop a good pattern)* you will find that milk will fill your breast, and then the excess will seem to disappear. This does not happen early in nursing, and the full breasts you experience will decrease in size, yet secrete more milk than before. The leftover milk seems to be reabsorbed into the blood stream, or else milk is secreted as the baby is being nursed. So when you nurse from only one breast, for some reason the opposite breast is not bothersome with milk. The breast learns to know how to function graciously and cooperatively for the welfare of the mother as well as the baby.

As you nurse the baby, depending on your right- or left-handedness, you will naturally favor one breast or the other, and the one that is nursed more often will tend to become larger than the other. The treatment for the resulting lopsidedness is to favor the other breast for a while. Both soon will return to normal size. The breast is very responsive to frequent nursings.

As silly as this seems, sometimes a mother will forget which breast was nursed last. If this is a problem, or if she wishes to guard against forgetting, she can put a safety pin on the side the baby is not nursing, and then she knows that the one with the safety pin is the breast the baby should start on next time. Usually the breast which was not nursed will feel fuller, and she can tell that way, as well.

There are days when the baby is taking a spurt in growth so great that the breast cannot seem to satisfy his sudden increase in appetite. Yet if you will nurse him more frequently on those days, the breast will more than supply the added amount of milk he wishes. One day he may be taking six ounces at a feeding, the next he wants nine ounces. The breast with just a little time will produce twelve ounces, and later cut back to whatever the baby needs. Very seldom will he not get enough from both breasts, and if you eat well and drink plenty of water and milk, you will have ample milk. In the olden days mothers nursed their babies for over two years; in Okinawa they nurse for three years, so do not worry about the milk supply running out.

Let the baby nurse as long as he wishes, so long as he is not traumatizing the nipple. Remember, a full tummy makes a sleepy baby, just as a big meal makes an adult drowsy. Let the baby decide when he has had enough. He will seldom overeat, though if he does he may spit up some of the milk. Unlike canned milk, breast milk will not have a objectionable odor or stain. Do not worry about not being able to burp the baby; he will swallow very little air, since there is no air in the breast to swallow and the bubble he will have is that which was swallowed before his meal, especially if he is allowed to cry from hunger. I find that the old fashioned way to burp a baby -- holding him against your shoulder -- is best for breastfed babies.

Editor's Note: Breastfed babies certainly can spit up, depending on how they organize their breathing while swallowing. Of my twins, Amy never spit up and Adam did frequently (and still does now at 9 months on occasion). But it's not a rancid smell. I recommend white terry cloth shirts!

About nipple shields, I do not advise them unless they are necessary. I think prevention of sore and painful nipples is best accomplished by proper scheduling of nursing periods -- not allowing the breast to become engorged -- than by treating cracked nipples later. Many mothers have small nipples that are functional if the breasts are not allowed to become engorged. This means that on the day that the milk comes in and the baby is hungry, the mother should be allowed to feed the baby every two hours if necessary, to prevent engorgement and to keep the breasts from overfilling. After nipple shields are used, and even after nursing without them, the nipples should be air-dried before they are replaced in the brassiere. Engorgement of the breasts aggravates nipple trouble.

> *Editor's Note: With my twins, my nipples get nearly constant use and were very sore for several weeks. Nipple shields did help, as did rubbing in lanolin after each feeding. But, as I mentioned earlier, the pain of nursing from a sore nipple stops after the first few seconds, even with a badly cracked nipple.*

Also remember a baby nurses for three things: food, water, and entertainment. You may not know what he has in mind when he nurses. A baby that sucks well and is allowed to hold the breast as a pacifier, will be more apt to have a restful sleep.

There are about all the things I can think of at the present. Actually these are not rules so much as examples of common sense, tips our parents and grandparents knew by instinct.

Love,

Mother

P.S. Judy, letting the baby linger on and on with the nipple in his mouth is not necessary. If he is not nursing let him stop and go to sleep and then nurse vigorously when he awakens. He needs some pacifying and considerable sucking, but he should not be allowed to just hold the nipple in his mouth for more than twenty minutes, only taking a swallow of milk now and then. If he is ill, allowances should be made for his comfort and nourishment. The mother should not allow herself to become exhausted. If necessary an occasional bottle should be used to prevent this.

CHAPTER 16: THE PARADOXICAL ORGAN

Dear Judy:

As I mentioned before, the breast seems paradoxical (or perhaps I should say it is quite feminine). It is really a very logical organ, as it should be, and every thing about it has a purpose, known or unknown, but on the surface what should seem to be logical about it, isn't. That is why so many people do not understand breastfeeding, and why so many doctors do not encourage it.

It would seem that if a mother rested and nursed infrequently that she should have ample supply of milk. However, that is not the case. The more the breast is nursed, up to a point, the more milk is produced. A mother nursing a newborn on a three-hour schedule will usually be more successful than a mother nursing on a four-hour schedule. In fact, four-hour schedules for newborns are very rarely successful for breastfeeding.

In the hospital when the milk comes in with such gusto, the mother knows that she has plenty of milk, yet when she goes home, the breast immediately is not full anymore. The mother becomes panicky and thinks something horrible has happened. All her milk has gone! The panic is what dries up the breast, not the fact that the breast is not storing milk anymore. Nature never intended that the mother's breast be full of milk, to be carried around with her until time to nurse.

A full breast will sag and bag under the sheer weight of the milk. Circulation to the breast itself is impaired. Such a condition is no better than carrying around water in one's edematous ankles -- both are abnormal conditions. Another abnormal condition occurs when the breast is engorged to the point that it is quite hard, and the "well" back of the nipple cannot be compressed until the breast is emptied of some of the milk. This is very painful to the nipples and I am sorry to say that this condition occurs fairly regularly in hospitals still insisting upon schedule feedings. There is only one way that nature can relieve the full breasts and that is by leakage. A breast that drips or leaks before the baby starts to nurse is being used as a storage bin.

A breast used as a silo will be bumped and bruised more easily than an empty breast. A full breast will refill anyway as soon as the baby touches the nipple, and by then the breast is so full the baby cannot possibly drink all that milk at one time. The leftover milk stagnates in the breast, the breast may become "caked," and may be infected to form an abcess. The mother is uncomfortable and to relieve the enormous amount of milk, she may use the breast pump, which in turn encourages the breast to manufacture more, not less milk. So a messy cycle has been started.

When a baby is small there are two times when he should be nursed. First, whenever he is hungry or uncomfortable (of course he should be nursed before he is uncomfortable enough to cry), and second whenever milk is secreted into your breast. If the milk comes first, the baby should be urged to oblige the breast and nurse; if the baby gets hungry first, the breast will oblige him. If this scheduling is followed, the breast and the baby will fall into their own rhythm that seem to be controlled by some kind of ESP. Many women in the hospital have had my experience of awakening when their baby in the nursery started crying, even though it

was out of earshot. Milk would come into the breasts immediately and leak onto the bedclothes during the 30 minute delay while the babies were being readied in the nursery.

(Editor's Note: again, another important reason for insisting on "rooming-in"!)

When Patty was several months of age, I would go downtown shopping for four hours without milk in my breast. Just as I would put the key in the door in anticipation of nursing her, milk would fill my breasts. I never wore any pads in my brassiere, because milk did not collect in my breast until after the baby would initiate nursing or until I felt an immediate anticipation of nursing.

(Editor's Note: pads can be helpful for the first six weeks or so when you and the baby are getting your schedules coordinated, or for traveling or working moms whose breast fill unexpectedly. Both washable and disposable types are on the market now.)

Nature does not intend to handicap mothers by making them miserable just because they are nursing; nature has really made it very nice and convenient for mothers. When the breasts are used as storage containers, *then* they encounter trouble. Some hospitals mistakenly believe that by skipping the two a.m. feeding, the mother will have a good night's sleep and her milk supply will not be affected. It usually results in her awakening anyway and then when the six o'clock feeding is due, the breasts are engorged and the baby has to suck vigorously to pull the milk from the breast. It is known that severe coughing can fuse the lung's alveoli into larger (less functional) pockets -- this process is called bronchiectasis. It may well be that the large fused alveoli in the breasts called galactocoeles may be caused similarly by strenuous nursing and distended ducts -- both effects of overengorgement. Too violent sucking can also cause blood to be ingested, and upset the baby's digestive tract.

The ESP that develops between baby and mother develops early. About eight years ago I was visiting in a "rooming-in" ward of a large eastern city. The mothers, about 22 of them, were all in one large ward with their babies' cribs beside their own beds. Although the supervisor and I talked for almost two hours, no babies were crying. The mothers simply attended to the babies before they cried, which of course was as it should be (anything else is stupid, cruel, and sadistic) and the ward was so quiet that I remarked about it. The nurse said that the babies on this floor rarely cried, but that they did whimper when their mothers left their beds to go down the hall to the restrooms and showers. The baby would whimper very softly, until his mother returned to her bed and then would stop crying. She said it was really strange for these newborns to behave like that. (The wealthy women's nursery in another hospital, on the other hand, was *full* of crying babies.)

There are several uncanny things that happen to the breast so that it seems that it is connected to the mother's conscious mind. Merely by *thinking* of nursing the baby, milk can be secreted! In one experiment with a rabbit, all nerves to the mammary gland were cut, and the gland transplanted into the ear. Yet it secreted milk on cue when the rabbit gave birth to little

ones. We know also that strangers can frighten milk cows so that they will not let down their milk.

When the baby is tiny and nurses, the milk secreted earlier may remain in the breast to be bothersome and engorge the breasts. Yet months later, as the baby is older and nurses for just a short time (drink of water?) what he does not drink seems to be rapidly reabsorbed; so that the mother is not burdened by one full breast and one empty one until the next feeding. The breast just seems to behave as you will it to, although you are not conscious of your wants. It is highly efficient and very cooperative.

The baby reacts to the breast also. Almost any time that you need to leave the baby and it is not quite feeding time, you can lift him up and nurse him and he will usually nurse, even though he may seem to be asleep. Go on your errand and return; he will be content. He is also very considerate and cooperative.

I remember one New Year's night. We were going to the Country Club for dinner as guests of friends. I nursed the baby before I left, even though it was before her usual time. We returned home about 10:00 p.m. from the dinner and I nursed her again, changed into evening clothes and went to a New Year's dance. When I came home early in the morning, I awakened her and nursed her again, and she was happy during all of this changed schedule.

This flexibility is wonderful for the mother. You can go anywhere you wish and stay for three or four hours, if you nurse just before you leave. (This is not true in the first two months of nursing, when more frequent nursings are necessary.) And four hours away is long enough, for usually if you stay anywhere longer than four hours you will be too fatigued, or else you will be a crashing bore to your friends. Nursing is a good excuse to be excused from doing things you do not particularly enjoy; but it allows you flexibility for the activities you really want to do!

I know this all sounds like contradiction -- that you can leave your baby for four hours, and yet you must stay near him. Actually, during the first two months of life, you should stay near your baby and it is easier just to take him with you. Patty at three weeks went to town with me (we had a lightweight folding buggy in which she could sleep comfortably while I shopped). If it were necessary to nurse her, I went to the first aid room or the lounge of the department store (once even in a fitting room). Nursing her enroute to town usually prevented her needing to nurse before we returned home. I was ready to head for home before too long anyway (long shopping trips should not be taken until later). When we played cards with friends, she went along in her carbed. I would put her in a nearby room where I could hear her awaken, and where I could go to her to change her and feed her. In a very few minutes she would be back asleep, and we had no worries about babysitters, etc., etc.

Editor's Note: The "four-hour rule" is a tremendous boon for working mothers who are fortunate enough to have child care facilities either at their place of business or nearby. One of my colleagues leaves her infant with a lady who lives in the neighborhood of our University, so she can go over on her lunch hour and nurse. I took my firstborn with me on all my business trips during her first year, and took at least one twin on most of my trips during their first year. More information for working and traveling mothers is contained in Appendices A and B. One time, two of my friends brought their baby to a party

at my house, and it slept in the bedroom while we enjoyed ourselves. The baby was so content (being nursed once in the course of the evening) that my friends drove several blocks towards their home before they realized that they had forgotten their baby!

A baby should no more have to cry to be fed, than a patient in a hospital should have to tell the nurse it is time for his medicine or meals. I have seen mothers who will not wait three minutes for a cigarette, yet make their babies wait fifteen minutes for their next bottle. A good mother takes care of the needs of the baby expectantly, without the baby yelling at her to do so. It always makes me nervous to be talking to a mother on the telephone and hear her baby crying in the background. I want her to stop talking and attend to the baby!

The question arises, won't the baby who has all this attention be spoiled? This is another paradox. No, a baby that has had a goodly share of mothering becomes self-sufficient early, and in a short time has so much confidence in himself that he requires very little attention, and demands very little. It is the baby who has to cry and scream for everything he gets who become spoiled and demanding, and hard to live with. (Another paradox!) A mother is going to have to give a certain amount of time to her offspring: intensive care when they are babies, or intensive corrective care when they are older. They should be babies just once; when they are born! So many of us mothers want to hurry them to the next stage of development, instead of thoroughly enjoying this stage of babyhood. Later, when we have our last baby, we lean the other direction and we hate to let them leave their babyhood.

Enjoy your baby, baby him and help him to have the best and most comfortable babyhood a baby ever experienced. Again, a paradox; you will enjoy his babyhood more than you ever believed possible.

We read about parents who injure babies, "because they wouldn't stop crying." Babies do not like to cry, and when they do, they are actually miserable, not just mentioning the fact to you that they are slightly unhappy.

There are those who feel that a tiny crying baby does not get the necessary amount of oxygen to his brain, but that a baby who is loved, allowed to suck and nurse with skin to skin contact has much better circulation to his brain and the rest of his growing body.

I always had Patty's bed next to mine at night. I could reach over and touch her, and when she cried at night, I would move her into my bed and nurse her. A few times I would go to sleep and awaken the next morning to find the baby asleep beside me. She would have the most satisfied expression on her face, like the proverbial cat that had eaten the canary. Oh, I know there is a danger of suffocating a baby in bed with you, yet all of the cases of suffocation I have read about usually added, "the mother had had a few beers." If a mother sleeps with one ear tuned to her baby, I doubt that she will roll over on him and suffocate him. When you think about it, the human mother is the only animal that does not sleep with its young, and then I would almost say it is the only "highly civilized" human mother does not sleep with her young.

Most of the baby deaths due to suffocation are not due to the mother sleeping with the baby. Most suffocated infants have been found alone in their cribs and their pitiful cries of distress were not heard! Keep the crib near you.

No mother who has taken tranquilizers, sedatives, or liquor should sleep with her little one, of course. But all mothers should have the baby's bed close enough that they may reach out their hand, and the skin-to-skin contact can stimulate the baby's circulation.

All for now,

Love, Mother

Editor's Note: I did hear of one sad case (a friend of a friend) whose infant smothered in bed. She had very large breasts that covered the poor infant. So be careful if you are extra generously endowed, or if you're a very heavy sleeper! My daughter and her husband sleep with their baby and have never had an issue with rolling over her!

CHAPTER 17: "HUNGER COLIC"

Dear Judy:

I learned one little trick about colic when Patty was a baby and I have told other mothers about it and it seemed to work for them too.

When Patty was just about three or four months of age she was in perfect health and was a fine energetic baby. One afternoon two elderly women came to call. Although they kept saying that they had to leave, as women do, we kept talking. Patty started fussing, and I knew it was her feeding time, but I thought I would wait until they left. After about fifteen minutes, Patty began to cry, and finally she began to squall. Then she became cold and covered with perspiration, and the elderly lady said, "Why, she has the colic."

A few weeks earlier my mother had just had a coronary occlusion and suffered such severe pain that she went into shock -- she was cold and clammy, and the bed where she was lying was wet with perspiration, as though someone had thrown a bucket of water on her. Now Patty looked as though she were in severe pain and was cold and moist, which resembled mild shock.

I knew that the treatment of shock was to try to ease the pain and keep the patient warm. Since she had been in my arms, and perfectly normal a few minutes ago, I deduced that her discomfort could only come from hunger pains, or from air swallowed while crying. I wrapped her in a blanket and held her close to me and began to nurse her.

She grabbed the nipple eagerly and started to nurse as though she were starving. Then she dropped the nipple and started to scream again. I just held her and waited for her to stop crying. When she did, I offered her the breast again. Again she nursed greedily, and then after a moment, dropped the nipple and screamed. Again I waited and nursed her again between the paroxysms of pain. She began to nurse for longer intervals and cry for shorter intervals until she filled her stomach and relaxed and went to sleep.

When Bill was a baby and had colic, he was on a bottle. I would offer him the bottle and he would take it in his hand, nurse it for a few minutes and then drop it and scream. I would offer it to him while he was screaming and he did not seem to want it. Then I would go and get water, and offer him that. He would take it for a moment and then spit out the bottle and scream. I reasoned that he did not want these because he refused them.

With Patty I learned that a baby will not nurse *while he has paroxysms of pain* any more than if you had been hungry, suddenly suffered a broken leg and then someone offered you a turkey dinner. Only after the pain was eased would you want to eat. So, feed the baby between the spasms of pain, and as more and more food goes into the tummy, the pain is lessened and the periods of ease are prolonged, and the spasms of pain are shortened until the baby falls asleep.

Once a grandmother called me and told me the baby had the colic. I suggested that she have the mother keep the baby warm and have the mother nurse between pains. As we talked, I asked the grandmother how the baby was, and she looked over at the nursing baby and said, "oh she has gone to sleep already."

Colic occurs in healthy growing babies and I believe that it is almost entirely due to delayed feeding of the baby, swallowed air, or formulas not adequate for proper growth. A baby grows in spurts, demanding more food or more frequent feeding than his old schedule called for. In other words, I suspect that much of our "colic" is merely hunger pains that have progressed to severe abdominal discomfort resulting in mild shock.

So before you get excited about colic -- feed, burp, and keep the baby warm, remembering to feed between the colicky pains.

Love,

Mother

CHAPTER 18: WEANING

Dear Judy:

The weaning of babies is very important, and I think that it has a lot to do with their psychological makeup. I feel sure that nature intended for the baby to be nursed until it reaches the first stage of independence (1-1/2 to 3 yrs of age). Babies in primitive societies are nursed until that time - the time when the baby asserts his freedom and leaves his mother of his own will. Of course the baby has begun to eat other foods long before this break, and has been nursing his mother only for his drink of milk. In primitive countries, there is no alternative to breastfeeding; no artificial formulas are available and no canned baby foods for babies who might be weaned too early. If an American mother would nurse a baby for three years, she would be considered some kind of a nut, and would be accused of trying to prolong her domination over the baby. The natural procedure has to be modified in polite society. I nursed Patty for eighteen months and enjoyed it very much, but I could see that my friends were getting a little disturbed by the end of that time.

The first two months of nursing are the most difficult. This is the adjustment stage, when the baby nurses slowly and for a long time. You are worried about your milk supply, and feel confined to home. After about eight weeks, the "let down" reflex develops, the breasts fill suddenly and the baby nurses quickly and easily. You are no longer bothered with full breasts or with any dilly-dallying during the nursing period. After this time of life passes, the baby begins to notice his surroundings and is not so dependent upon the nipple as his only pleasurable activity.

I see no reason to hurry the baby through this first two month period by trying to feed him solid food. For the first two months of life, he is supposed to be a "baby" and is supposed to be only on breast milk. To me it is silly to feed solid food before the baby's true swallowing reflex for solid food is developed. It is also silly to feed cereals to a baby before four months of age, the time when pytalin (the digestive juice of the saliva which changes starches into sugars) makes its appearance in the baby's mouth. Nature intended that feeding should take certain logical steps, and the attempt to hurry the baby on to solid foods was not in nature's plan. Otherwise, she would have provided the baby with a full set of teeth, with proper digestive enzymes, and the swallowing reflex for solid foods. (Again one might argue that there were no electric blenders for pureeing foods in nature, and the solids that are fed are really half-liquid, and that babies really drink their fruits and vegetables. This is true, and it is also true that we have many adults with peptic ulcers also on baby food, but this is not a normal condition. Isn't there really a *time* for everything? Can we not let our babies be babies -- just for two months?)

There are exceptions to all rules, and Darlene, you recall, fed her first baby cereal for her own peace of mind until she had enough milk to feed him. She was interested in putting *fat* on the baby so that the doctor would be satisfied. Cereal *will* make a baby fat, if weight-gain is the main objective.

Another friend of mine started feeding her daughter cereal at one month. Several months later the baby was bothered with a persistent rash. Since the rash had been present almost since birth, the doctor reasoned that the baby was allergic to breast milk. He advised that the baby be weaned. I advised the mother to take the baby off everything *except* the breast milk. This

she did, and the baby's skin cleared up immediately. As soon as the cereal was fed again, the rash reappeared. Too early feeding of solid foods may cause allergies, and surprisingly enough many baby soups contain such foods as onions and tomatoes that babies would not usually eat.

Soon after two months the baby coos to himself, enjoys his own hands and fingers, and is content to suck on a pacifier. A little later he begins to sit up, crawl, and bite and chew to help the new teeth erupt. He likes teething rings and although he wants to chew and bite, he does not necessarily want to swallow what he bites. I can remember my babies trying to bite my fingers, just as Baron used to try to chew on my hands. A baby must have some mouthing exercise and teething rings and pacifiers allow him to satisfy his oral compulsion without overeating.

On the surface we have been doing a bang-up job of taking care of our babies. According to weight and length they are extremely well nourished. If we judged nutrition by weight alone we would be concerned mainly with the fatty tissue. However, we are interested in the brain, muscle, heart, bones and teeth of the infant. I have seen bottle babies who were so obese they looked like animated Buddhas. By weight alone they were superb, yet, the feel of their skin was not right. One mother who nursed her baby at her doctor's insistence, complained to her doctor that her baby was not as fat as her neighbor's who was feeding by the bottle. One day she came to the doctor and said, "Now I know what you mean. I babysat for my neighbor and when I picked up her baby, the flesh did not feel right. My baby's skin is much firmer." Some bottlefed babies overeat in order to receive the amount of sucking they require as there is no way that they can change the caloric content of the bottle formula in the manner of nursing. As we mentioned before, the breastfed baby can nurse more gently and receive a weaker formula from the breast.

I feel that nature intended that dentition should be a factor in determining the feeding and weaning of babies. (Again, I do not imply that those rare babies born with teeth should be fed solids at once!) When a baby's teeth become uncomfortable for the mother and adequate for the baby's needs, then the weaning process should be initiated. It is not a mere coincidence that the lower teeth erupt first. The baby's tongue protects the mother's nipples from these first teeth. Actually, the baby's teeth -- a full set -- do not hinder nursing. In the eighteen months that I nursed Patty, she bit me only once, and a not-too-severe swat, and a sharp "No!" prevented her biting me again. A mother simply does not let a baby bite her nipples, and the baby learns early that such behavior is not tolerated. This is about the only justifiable punishment to a baby at this age, and it should not be severe but firm.

> *Editor's Note: Babies can give a pretty painful bite even before they cut any teeth! One painful trick is when they gum down on you and turn their head to one side - YEOW!*

After six months, nursing is a simple matter with hardly any problems of any nature. By the time the baby has been nursed a year, you know then that you have enough milk to nurse on and on and it is just a matter of gradually decreasing the amount of milk by letting the baby nurse less and less each day, until the breast finally dries up.

I do hope that you plan on nursing for at least a year. It is during the last six months of the year that you and the baby have so much fun while nursing. The baby is adorable at this age, (this is the age usually shown in the Madonna pictures) and is very responsive to your actions. The baby will nurse a while, then stop, drop the nipple and look up at you and smile as though you were the greatest person on the earth -- which you are, to him!

A breastfed baby who is secure in the mother's love and is suddenly weaned, of course suffers an emotional blow. It is as though a wife who felt secure in her marriage were suddenly faced with death or divorce. A baby cannot understand such a turn of events and cannot understand his being rejected. When you wean a baby let it be done very gradually so that the relationship of nursing stops without any abrupt termination. I feel sure that many a wonderful breastfeeding relationship has been blasted by a sudden withdrawal of the breast. When we speak of the psychological good that occurs in breastfeeding, we must also remember that an abrupt weaning can negate that good. A beautiful friendship should not end with a slammed door.

After the baby is enjoying other foods, a bottle can be substituted for a nursing, and more bottles should replace nursings. When the baby is almost weaned to the bottle, do not let him nurse the breasts empty. The breast should be "dried up" just as the farmer dries up old bossy -- by not milking her often enough and by not milking her completely empty. Leave some milk in the breast to create backpressure on the secreting cells. In addition, restrict your fluids, wear a binder (externally applied backpressure) -- in other words, do the opposite of those things that encourage milk secretion. Some doctors use hormones to dry up the breast; but this will dry the breast suddenly and I do not know whether this is desirable or not -- at least it isn't for the baby. If there is no particular hurry, I think that I would prefer the more natural and gradual approach.

Animals adapt themselves to their environment, or at least try to adapt. Man, on the other hand, uses his God-given talent of creativeness to change his environment to suit himself. The real problem of course is just how much change man can interject without finding himself in serious trouble. Certainly man has changed the care and feeding of infants in the past fifty years in the United States. Whether the change has been for good or evil has yet to be determined. Will the bottlefed youngsters (now in their fifties) reach their seventies and eighties, as many of their parents, aunts, and uncles have? Those now in their seventies, eighties, and nineties were breastfed babies who were fortunate to live with the benefit of modern drugs. After the passing of the breastfed generation, will the bottlefed generation have as long an expectancy of life? There are so many variables in a lifetime, the question may never be answered. We are also interested in what the babies will be like a year, two, five or fifty years from now. Will he or she be as potentially as intelligent as he or she should have been? Will he have headaches and tension? Will he have numerous earaches and tonsil infections? Some authorities feel that nursing helps a baby to speak early and clearly. Others feel that breastfeeding helps to distribute more blood to the brain, with the tongue acting as a secondary pump. All of these are mere speculation and difficult to prove.

There is a current article in a popular women's magazine stating that there is no psychological difference in children breastfed or bottlefed. The survey was made of some eighteen year old adolescents. To me breastfeeding continued for less than a year is not really breastfeeding as far as the psychological effects are determined. Any amount of breastfeeding as far as nutrition is concerned is better than none, but psychological results from

breastfeeding with abrupt weaning cannot be compared to those that result from a long period of breastfeeding and gradual weaning. Before I could understand such a report, I would like to know how long the babies were breastfed and in what manner they were weaned. Breastfeeding to some doctors is merely a four to six month activity.

In my own children, the stoicism toward pain is more pronounced in Patty, than in Kaethe, and least in Bill. When Bill was a child he always put up a big fuss about immunizations, and was always fearful of being in pain. The outstanding characteristic of the breastfed Okinawan children was their stoicism toward pain. Psychologically, and philosophically, such fear of pain and discomfort could have repercussions on a whole generation of people. Would they be less likely to display courage and less apt to want to defend their country against aggressors? Would they be more likely to desire external security above all else as long as they themselves do not have the pain of earning it? Would they be more apt to yearn for the soft and comfortable life? Does breastfeeding make a person more confident in himself?

Actually, I think it is hard to assess a person's personality until he is on his own, and is responsible for himself and his dependents. Yet, in different children, heredity plays such a great part, that the environment factor of breast feeding is hard to evaluate. Most mothers will tell you that the children who were nursed longer seem to be more self-confident and less fearful than bottlefed babies, but again the mothering they receive after weaning is probably as important as the mothering they receive before.

You may wonder, as complicated as I may have made the whole process seem, "Why should I nurse? Is it not easier to have the baby on the bottle?" For you, yes, it is easier, but the mother who nurses her baby experiences a beautiful relationship with him. Some marriages are shallow and the two people do little but room and eat together; other marriages are interwoven with subtle and gentle relationships. So it can be with a mother and baby -- it may be only a feeding and diapering relationship, or it can be a mutual admiration society filled with constant delight.

If nursing has been an enjoyable relationship between mother and baby, and lasted at least six months, then weaning will be a sweet-sad experience.

Breastfeeding has been one of the most exciting periods of my life. I would not have wanted to have missed it.

Love, Mother

Editor's Note: Long after weaning has been completed, you may still note some small amount of milk being secreted. Again, this is nature's way to protect the baby if because of some calamity nursing must be resumed. Many women take advantage of that extension - for me, it meant that I was able to resume nursing after a 17-day hiatus (a business trip when Andrea was 8 months old). It also allows women to donate milk for babies that desperately need it - multiples and other prematures. Like donating blood, donating milk is the "gift of life".

CHAPTER 19: THE "MODERN" BREAST

Dear Judy:

To conclude these series of letters, I want to repeat that I do not think that breastfeeding is a lost art, but I do think that it has been mislaid and misjudged. I sincerely believe that no amount of modern research can produce a formula that is so perfect for the infant as nature's own. The formula is correct; the method of nursing has been at fault. Breastfeeding has evolved from aeons of experimentation in nature's earthwide laboratory; the findings have been absolute, the observers have been most objective.

Breastfeeding takes into consideration the whole infant, his dietary and psychological needs at specific periods of his life. It supplies the needs that we recognize now, and perhaps some that we are as yet unaware of.

The breast is modern. It is an automatic dispenser that does not even require coins to operate. It dispenses concentrated, warm food, vitamins, immunizations, laxatives, and water -- all from a clever, portable container. It supplies deodorant, sedatives, stomach settler; and it is a pacifier. The breast itself is a transistorized, heated, airfoam, vibrating pillow, and serves as a psychologist's couch. For the baby, the breast is also an amusement park and a masseuse. In our atomic world it is a baby's complete civil defense and disaster kit.

The breast introduces the baby to the world through the wonderful, soft yet firm nipple. It introduces him to the person to person contact he later encounters in adult life in marriage. It is a supplier of emotional growth to both the mother and baby alike. Breastfeeding helps her mature, and helps him mature emotionally. However, breastfeeding is not everything. It does not insure emotional maturity any more than a good first fifty miles of journey insures a successful cross-country trip. But it is a good start, and to be successful it should be enjoyed by mother and baby alike.

It needs the same kind of advertising that other good products enjoy. For too long, it has been sold as a "yes, but, ..." product. Yes, breastfeeding is best, but too many mothers think that breast feeding is difficult, when actually the reverse is true. Until the past fifty years, millions and even billions of the world's population have been fed by this means, many of them illiterate, poor, and without benefit of medical advice. It does seem strange that during the past fifty years breastfeeding should suddenly be regarded as difficult. Tension, they say. Baloney! Ours is the first country that has not had to fear hunger. In America security is the slogan. I believe that real security can only come from within. The Atomic Bomb? Actually it's the fairest form of warfare, killing the stupid in as great numbers as the select - all other wars have preferentially killed the best and the bravest. The brave die only once, and breastfeeding is the mother's best preparation for the baby in the age of the atomic bomb.

Breastfeeding is not difficult. If men can nurse, if teenagers can nurse, if spinsters can nurse, if grandmothers 65 years can nurse, and if mothers like Mr. Flake Keys of Hollis, Oklahoma and Señora Diligenti of Buenos Aires, Argentina can nurse quadruplets and quintuplets, then surely you, a new mother in an age of automatic washing machines, clothes dryers, dishwashers and all the wonderful electrical household appliances can nurse one baby.

Love your baby, have confidence in yourself and in God, and you will have the "milk of human kindness" for your baby.

God bless and keep you.

Mother

CHAPTER 20: BOTTLES

Dear Judy:

Patty insists that I write something about bottles, since the subject is mentioned in the title of the booklet. Formula feeding is slower, more boring, more impersonal, less satisfying to the baby, more expensive for the father, and less gratifying to the mother.

Bottles are secondbest!

Love,

Mother

APPENDIX A: The Working Mother

The fraction of children under five with mothers who work full time is now over fifty percent, so it's important to share some advice for the woman who wants to nurse *and* work. I nursed my singleton while working full time until she was 15 months old, and nursed my twins until over a year old while working as well.

The first thing you should ask yourself is, do I really *have* to work? Or, alternatively, do I really *want* to work? With the costs of day care, either by a caregiver at your house or in a specialized day care center, a mom has to bring home a substantial salary to pay all the costs. Some are obvious (the direct cost of the care). But some costs are less obvious: the taxes paid on the employee's behalf, FICA and even unemployment taxes, your own clothing and transportation costs, etc. Even disposable diapers used instead of cloth diapers can add ten dollars or more a week (and are terribly hard on Earth's environment - see Appendix D). A considerable sum of money is spent on "convenience" foods and on not having time to make or mend clothes, etc. In addition, sick children are rarely accepted at day care centers, so mom has to use her own sick days to take care of sick kids, and hope that *she* stays well! A mom has to be making at least double the minimum wage in order to justify the expenses of child care for a single baby, and more for more children.

However, for many moms the money is not the entire argument. They have professions which are important and which do not allow an extended leave of absence. My mother's profession was one of those - physicians must practice regularly or they fall behind the advance of knowledge. Mom had to make a hard choice, and she chose to give it up so that she could give us full time care. Others of us are in "publish or perish" professions: we must keep doing scientific research so that our grants will be renewed so that we can continue working in our field. A five year hiatus would also be forever.

So, if you're a mother who really needs to (or wants to) work, you needn't give up your nursing - it *can* be done! Once again, the mystic union between mother and child comes to the fore. A mother can nurse her baby when she first awakens in the mornings, and again, right before she leaves for work. If she lives close enough to the care facility, she can go there at lunchtime and nurse again. In mid-afternoon, she can express milk to make a drink for the baby to use the next day. Lastly, she nurses the baby when they first see each other in the evening, and once again just before bed. Even without expressing milk at work, she should be able to nurse at least five times a day, plus overnight feedings (if any) and a lunchtime feeding (if convenient). One or two bottles of formula during the day may be necessary, but you will be confident that the baby is getting all the antibodies that he or she needs during the feedings that you *do* have together. In this regard, it is useful to stay at home as long as you can - preferably three months or more, although the standard six weeks of maternity leave is generally adequate to give a good start to your nursing routine so that the baby will not be too upset by your departure. At that age, babies are very flexible and adapt readily to a new caregiver. However, please note that babies 11-13 months old are at their *most* dependent stage; therefore that is a particularly bad time to return to work. Either go back well before 10 months, or wait until after 18, if possible.

During the first few days back at work, your breast will not "know" it is away from the baby and may fill at an inopportune moment. It's good to wear breast pads for the first month

or two back at work. If you get a "let down" at work, or uncomfortably full breasts, excuse yourself to the restroom and/or lock your office door, if you're fortunate enough to have a private office, and "express yourself." After a few weeks, you can gradually reduce the amount expressed, finally stopping entirely if you like. Your body will soon adapt to the new schedule, only "letting down" when you walk in your front door. Many corporations now have “nursing rooms” for momma and baby (or to express milk during the day).

There are two obvious advantages to expressing milk at work, however. First, it keeps the daytime milk production up, so that you will have plenty of milk to nurse on the weekends. Secondly, it allows you to freeze breast milk so that the baby drinks less formula in the daytime. The frozen milk is also ideal to leave for the caregiver if you must travel without the baby. And finally, it allows you to donate milk to less fortunate babies, if you so choose.

There are two ways to express milk: the manual way, and by using a breast pump. The manual way (discussed in chapter 15) is by far the preferable: the heavy suction of a pump can strain the blood vessels in the nipple. In addition, a "let down" is more likely, since the stimulation is more similar to a baby's nursing. (Your "let down" may be enhanced if you look at a picture of your baby and think about loving him rather than attempting to do other work while expressing.) Finally, it is more discreet, with no telltale noise or machinery in your office when the inevitable knock on your office door happens while expressing. To manually express, put a clean (sterile for the first four months) cup or baby bottle under one breast, and with the opposite hand massage your breast from the chest wall, allowing your fingers to draw towards the nipple. First squeeze horizontally a few times, then vertically. Soon a "let down" will occur, and you will then need only to compress the lactiferous sinuses (the bulbs underneath the dark part of the breast surrounding the nipple). The milk will flow in a series of squirts as you compress the sinuses. When one side "slows down", then express from the other side, but come back to do each side at least twice, since manual expression is considerably less efficient that nursing. The main disadvantage to manual expression is that it takes two hands, so it's more difficult to get other work done while expressing. In addition, it's a significant exercise. I expressed manually every afternoon at work when the twins were very small. Therefore, when I needed to leave town on a brief two-day trip (leaving early one morning, returning the following evening), I didn't take my battery pump along. To my dismay I found that, especially with twins, my milk production was so large that my hands got very tired from the effort of expressing, and since my twins were still waking twice a night each for feeding, I spend a good portion of the night expressing as well! In addition, manual expression does not always drain each duct equally, so over the course of a day or two you may find one duct hard and distended whereas the others are fine. So, take a pump if you go out of town, or, better yet - *take your baby!* (See Appendix B.)

Breast pumps come in three popular types: battery-operated, hand-operated, and hospital-type. The first is a battery-operated portable model that can readily fit into your purse or desk drawer. This is a fine tool; however, since its action is sucking, not squeezing, it may cause nipple discomfort if the suction is not released frequently by a button provided. Its advantage is its portability and its one-handed operation. However, I find that the milk production is enhanced if I compress the sinuses or massage my breast with my other hand while holding the sucking pump with the other hand. The non-electric breast pump has two concentric plastic tubes; by pulling the outer one out, a suction is formed that draws out the milk. I personally was not very successful with the non-electric breast pump. It seemed to me to be the worst of both worlds: it takes two hands to operate and it is not as efficient as either manual or electric

pumps. However, I have a friend who had to express (and discard) her milk while she was taking antibiotics; she found the gentle action of the manual pump to be less traumatizing to the nipples, and used it exclusively.

Another style of mechanical breast pump is the large hospital-type pump. These can be rented from hospital supply houses and selected drug stores. These machines, although they look like medieval torture devices, are gentle and rhythmic in their action. They also boast one-handed (or even no-handed) operation. Their gentle suction holds the nozzle to your breast, and a tube leads to a container in the machine. The principal disadvantage of this type is its bulky size - you would not want to carry it home with you each night.

The breast milk collected (by whichever means) should be refrigerated after collection. As Mom mentioned, plastic containers (either "disposable" bottle bags or plastic standard baby bottles) are best. If the milk is to be used the next day, you could put the container into a soft sided insulated lunch bag, keeping it cool by using a blue ice substitute container which you put in your freezer overnight to chill. If your office has a refrigerator available, you should put the breast milk container directly into the freezer. In my experience, I find that standard baby bottles with standard (nonorthodontic) nipples are the best for feeding nursing babies - the design forces the baby to suck vigorously in order to drink. The collapsible bottles dispense milk so quickly and easily that the baby can get lazy and refuse to work for the milk from the breast. Reheating the milk is better in a bottle steamer or water bath - microwave reheating may damage antibodies. However, recall that only a minor fraction of the baby's nutrition comes from the expressed milk, so don't feel guilty if you use the microwave. But be careful if you microwave - the milk will get much hotter than the bottle will feel to the touch - be sure that the milk does not get overheated - it can burn the baby's mouth!

As I mentioned, expressing is not as efficient as nursing (although with the hospital pumps, it is very close). Therefore, you may not have enough expressed milk to satisfy the baby the next day while you are at work. I solved the problem the following way: I took the expressed milk (generally 5 to 12 ounces, depending on how many times I expressed) and put it into a quart-size sterilized juice jug. I then added to it enough formula (made with sterile water, at half-strength) to the expressed milk to make a full quart. The caregiver then used this formula as necessary through the day, saving any extra for the next day. If it turned out that a quart is too much, reduce the amount of added formula; if too little, add more weak formula. I found that using half-strength formula to feed the baby while you are at the office encourages the baby to vastly prefer breast milk to formula (most babies do anyway, from the taste!) My friend who used the hospital pump needed no extra formula at all, since it was so efficient and she was so diligent. However, a small amount of added formula will probably not harm the baby (use a soy-based formula if you are concerned about cow's milk allergies).

Whichever method you use to express milk at the office, rest assured that you are providing the best you can for your baby. And even if you do stop expressing at the office, continue nursing morning and evening as long as it's mutually enjoyable - a year or more, preferably.

(2015 note): Many companies now have "on site" daycare facilities - what a joy to be able to visit and nurse your children several times a day, and be able to dash over and take a look if they call you that your child seems ill or unhappy. This is a tremendous boon for parents and children alike. Having your day care near your office has another significant advantage: if you have to drive a long way to your office, having your child with you is more

time you can talk to each other along the way, and, you can generally use the HOV lanes - you have two people in the car!

With rearfacing infant carseats required in the back seat now, you can get a mirror to hang on the rear seat's headrest. With a little adjustment, you can now check on your baby when stopped at stoplights, by looking in your rearview mirror and then at your baby by using the rear mirror. Eye contact is very reassuring to baby!

APPENDIX B: Nursing while Traveling

Traveling with Baby.

Of course you will want to take your baby along with you while traveling on vacation (to see the proud grandparents, for example). But you may not realize that traveling with your baby on a business trip is feasible as well. The first question a traveling mother should ask herself is "Do I *really* have to make this trip?" Traveling exposes our babies to a sea of unfamiliar germs, and is stressful all around, so it should be avoided if possible. Often our jobs allow a certain amount of flexibility on travel requirements. If you can trade off a trip with a colleague until after the baby is weaned, you and your baby will both be *much* more comfortable.

Nevertheless, often trips are necessary, and the best way to handle trips depends on the age of the baby. If the baby is six months old or younger, by all means try to take the baby along, particularly if the trip is for more than one overnight. The backpressure from incomplete expressing can severely curtail your milk production in as few as two days and stop it entirely in three days if you don't express yourself, and is *very* uncomfortable.

I took my singleton, Andrea, everywhere with me when she was very small. I counted up twenty six flight segments she flew before she was one year old! She didn't collect "frequent traveler" mileage, though - she flew free on my lap!

The best equipment to take along on a trip is a rocking-style infant car seat which is approved for use on airplanes (most are, these days). The seat has a handle for a carrier, and can buckle both into car seatbelts or onto airline seatbelts. Assuming that you don't want to pay for a seat for your infant, I have found the following procedure to work and be most comfortable: (1) Reserve a window seat for yourself, and the corresponding aisle seat for your (paying) traveling companion (if you have one). Remind the gate attendant that you are flying with an infant, and if the flight is not full, the odds are that a middle seat next to a baby will be the last one filled! (2) Preboard (get there *plenty* early!) and use an empty overhead bin to store the car seat (and an umbrella stroller, if you brought one of those along). (3) Hold your baby for takeoffs and landings, nursing during the times of greatest pressure changes (if your ears are popping, your baby's probably are as well). (4) After takeoff, if the middle seat is still empty, bring down the car seat. Strap the baby into the *window* seat and you sit in the middle (most airlines only let you buckle children into a window seat; otherwise the car seats block the window-sitting adult in, which is dangerous). (5) If you're in luck, after such a fine nursing, the baby will fall asleep and you can enjoy your trip! The other real advantage of the window seat is that it allows nursing discreetly since your body is turned toward the window - with only the people on your row even able to tell what you're doing. Generally, only one extra oxygen mask is provided each half-row, so only one lap baby is allowed per group of 3 seats. If the oxygen masks deploy during flight, put yours on first, then place another one on your baby. (Note that the airlines are considering changing the rules to force all babies to travel in airline-approved car seats; this would require purchasing a ticket for the baby - much more expensive, but certainly safer).

If you have a larger folding-type stroller, use it to go to the gate. The flight attendants will tell you if it is too large to go into the overhead bins. If so, they will check it there: ask for a

"gate check" tag, so it will be returned to you *at the arrival gate* and not at the normal carousels where luggage is returned. This is very helpful if you have a diaper bag, car seat, purse, *and* baby - the folding stroller often has a shelf you can stuff things under, or you can sometimes hang your diaper bag from the handle.

If traveling in a jumbo jet (overseas or as a local leg), airlines often reserve the first middle bulkhead row for families with infants, and for overseas, they even have a special bassinet that hooks into the bulkhead. RESERVE EARLY! The bulkhead row comes in handy if the middle seat turns out to be full - often you can put the rocker car seat down on the floor near your feet and the baby can sleep comfortably. Also, with a bulkhead row, changing diapers may be done on the floor by your feet (most aircraft do not have a large flat area to use as a changing table in the restrooms).

(2015 note: now most aircraft do have baby changing tables in at least one of the restrooms).

Don't even attempt to get off the airplane until everyone else has - you'll generally have too much equipment, and it is a courtesy to the other passengers who have been putting up with your infant through the flight.

I was fortunate that most of my business trips were typically informal committee or science team meetings, and I could take my baby along to the meeting, where she would sleep through them in her infant seat. With today's discreet nursing clothing, I was able to nurse her in the business meetings without disturbing the proceedings. She even attended a hearing in Congress!

For more formal business trips, however, the presence of a baby in the meeting would be a serious liability. In those cases, a babysitter should be lined up in advance. If you are fortunate enough to have friends in the city you are traveling to, perhaps they can find a sitter for you. Some urban churches have "mothers day out" programs that might offer you reciprocity. A college nearby may have a sitters list. Finally (and probably most expensive) many hotels offer babysitting services. I have only used this route once, and although it was expensive, Andrea really enjoyed the caregiver and they had a pleasant stroll through downtown Boston together.

Once your baby reaches 9 or 10 months old, he or she is probably crawling well and vocalizing a lot and it will mean that bringing them into a business meeting would probably be a significant disruption. In that case, a good sitter is imperative, or you could consider leaving the baby at home.

2015 addition: As my mom predicted, nursing is definitely easier in case of disasters! When Andrea was only six weeks old, I had her with me at an American Meteorological Society Council meeting in Boston. Guess what? Hurricane Gloria hit! Our hotel was fancy but ran out of diapers and formula. I had to use hand towels for her diapers. Thank God I was nursing! We survived and thrived, despite being on the 14th floor with only emergency electricity. Thank God for nursing!

Traveling without baby.

As I mentioned earlier, the principal consideration (assuming of course that your babysitting at home is lined up) is maintaining a flow of breast milk while you are away from your baby. Even a trip of a few days can curtail your milk production if it is not expressed carefully and completely. A nursing mother (after the first few weeks of adjustment) rarely has painfully engorged breasts. A traveling mom, on the other hand, *frequently* does! We become accustomed to expressing four or five ounces of milk at a sitting, once or twice a day at work. While traveling, however, you must express that amount *plus* all the milk that your baby nurses in the morning, evening, and overnight, which can be considerable (two quarts or more). Your first night away from home might sound like a welcome break from middle-of-the-night feedings - but you'll find that if your breasts are used to producing milk at night, your full breasts will disrupt your good night's sleep. You'll find that it's easier to get up in the middle of the night to nurse a baby than it is to get up and use a breast pump!

The best way to maintain your milk production is to taper off gradually *before* you leave town. For the three or four days before the trip, cut back from two morning feedings to one, from two evening feedings to one, and give formula for at least one of your overnight feedings. The first overnight feeding you skip, you'll be engorged in the morning, but you baby will be glad to drain it for you. It won't take too many days and your overnight production will decrease so that you can sleep comfortably while traveling. If the baby is six months old, he or she is ready to stop the overnight feeding anyway. (My ten-month old twins still occasionally want an overnight feeding - they prey on my guilt feelings since they don't get nursed in the daytime - a sneaky tactic, but it works). Tactics on weaning from the overnight feeding are shown in Appendix D.

In any event, by reducing your milk production before you leave town, you get your body more used to not being nursed, so you will need to spend less time expressing milk while traveling. In addition, you get your baby used to drinking more formula, and as a final bonus, you may just break the baby of the overnight nursing habit as well!

When you return from your trip, you may need to nurse more frequently to build back up your milk supply, but you are more likely to maintain your milk production (and have a lot less pain) if you taper off gradually *before* traveling rather than stopping suddenly.

I traveled to Australia for 17 days to take a group to see Halley's Comet when Andrea was almost eight months old. Starting about six weeks before the trip, I froze all the milk that I expressed at the office, switching her to straight formula during the daytime. By the time I left town, there were enough bottles frozen that she could have at least one bottle of breast milk every day I was gone, and two per day on the weekends (since she enjoyed the breast milk so much more than the formula, my husband used those bottles when he fed her and let the nanny give her straight formula). By that age, of course, she was also eating a fair amount of solid food as well. I took along two battery pumps (in case one broke on the trip), and pumped whenever I could get away from the group. Because I hadn't tapered Andrea off before I left, the first few days were agony despite pumping, and my production plummeted. By the last day I only expressed five ounces all day. Needless to say, it took us several weeks to return to full nursing production, but we were determined. If, on the other hand, one or the other of us had decided that the hassle wasn't worth it, we could have stopped nursing then quite easily.

Nursing is like a good marriage - both parties have to be interested or it doesn't work well. The next trip I took away from her (at 10 1/2 months, for ten days) I tapered off beforehand, I was less uncomfortable, and we were able to restore much more quickly.

As a side note, when I went to Australia, I hoped to donate all my surplus milk to a milk bank there, rather than just dumping it out. To my disappointment, they did not accept donated milk at any of the hospitals I called.

Traveling with twins is a much more difficult matter - I will discuss that in Appendix C.

APPENDIX C: Nursing Twins

The first time you discover that you're having twins is a major shock: pity the poor women (still a significant percentage) that discover their blessing in the delivery room! My husband and I found out when having an ultrasound in preparation for an amniocentesis (all women who will be 35 years old or more at delivery are now strongly counseled to have such a test done; major genetic diseases can be identified and in some cases treated *in utero*). Anyway, since the moving ultrasound images are so much more readily recognized than the still photos they give you, I suggested to my husband that he come and watch the proceedings. The doctor said "Hmm.... this baby is placed oddly - rather high and horizontal", and as he continued to rub the tranducer over my already-large 14-week tummy, my husband commented "Well, I guess you can rule out twins, eh?". Not thirty seconds later two heads were clearly visible at once! The doctor turned to Tom and said "Why did you say that? Do twins run in your family?" "Not that I know of", Tom answered. "They do now!" the doctor exclaimed. So we tried to contain our shock, and joy, and nervousness, as the doctor inserted a 4-inch needle *three times* into my belly. (When they remove fluid from the first sac, they inject a harmless blue dye to make sure they don't sample that same sac twice. Sure enough, the second needle brought out blue fluid, but on the third try he was able to sample "Baby B"). I found out later that two second cousins of my mother each had had twins, but the telling consideration is that mothers over 35 are more than 2.5 times as likely to have twins than 20-year-olds, and 37 (my age then) is the peak of the age distribution! With many more "baby boomers" waiting till late to start their families, and the use of fertility drugs, the number of twin births is rapidly increasing. Thus some helpful tips on nursing twins seems in order.

2016 note: now genetic testing can be done without needles… hooray!!

The key phrase here is *don't give up!* Raising twins (or "supertwins" - triplets and above) is an exhausting job, and nursing them is exceedingly time consuming, especially at the beginning. But the rewards are terrific, both in peace of mind and in their general health. Twins are frequently premature and underweight, and the added bonus of nursing (particularly the colostrum) helps them get off on the right foot.

There are entire books dedicated to nursing twins, but most of the tips that Mom told in the pages above apply to twins as well, so this appendix will highlight solutions to common difficulties. Since (unlike Mom) I am not a medical doctor but a Ph.D. in Space Physics and Astronomy, my suggestions come more from experience rather than from book learning. However, since both my secretary and my former secretary and I all had twins the same year, we swapped a fair amount of information. In addition, the local Mother of Twins Club (in my city, the Houston Mothers of Multiples) is an excellent way to learn typical problems and their solutions, and the *TWINS* magazine (a great source of twins information) just published a series of articles on nursing twins.

Successful nursing begins in the hospital! In Chapter 1 Mom told of Mrs. Keyes who nursed quads without supplements for six months (but did little else). As a mother of rambunctious 10-month old twins, I can tell you that nursing twins is also a full-time occupation (at least for the first few weeks)! Nevertheless, twins *can* be nursed successfully with a minimum of supplements. Even if you do supplement with an occasional bottle, you'll know that your babies are getting the best possible nutrition. To get the best start on your

nursing, resist having *any* formula given to your twins! (My secretary Maria's twins had formula supplements in the hospital, and she is certain that that is what caused her milk flow to be substandard). The colostrum is vital to their health, particularly if they are underweight (my twins were each 6 and a half pounds, which is very good, but the norm for twins is a pound less). If you tell the hospital that you want to nurse exclusively, they will give the babies a 5% glucose water supplement instead of formula, to give liquids and energy to your baby. This will typically be supplied in a small glass bottle with an aluminum cap. You take off the cap, screw on a disposable nipple and give it to the baby. Save the caps from the water jars - they are perfect to use later to seal baby bottles when traveling! But even sugar water can make the babies lazy - avoid it if you can.

Most obstetricians these days routinely perform Caesarians for twin deliveries. This is because one of the other is likely to be a breech presentation. The fear is that in a breech delivery, the baby's umbilical cord is pinched between his head and the tight cervix during delivery (in a more normal vertex delivery, the cord follows the head, so no trouble is likely unless the cord prolapses (falls down)). For the first-time mother, the pushing stage can take an hour or more, so the chance of the baby losing oxygen can be critical. On the other hand, if the first twin is vertex and successfully dilates the cervix, the second baby, even though breech, can often be delivered vaginally. The one remaining fear is that the second baby's cord may prolapse and be caught in the canal with the first baby. That is an indication for an immediate C-section. For all these reasons, twins are generally considered "high risk" and approximately 75% are delivered surgically.

A Caesarian, since it is major surgery, is both exhausting and leaves a painful incision. A hospital stay of at least five to seven days is typical. Under normal circumstances I recommend that nursing mothers get out of the hospital as soon as possible, so that they can establish a rhythm at home and resist the hospital's tempting formula and sugar-water supplements. On the other hand, a new mother after a Caesarian needs all the help she can get, and it's very useful to have the nurses bring you one baby at a time without needing to get out of bed!

If at all possible, try to have a vaginal birth. Discuss with your doctor the possible complications of the different presentations. If the "engaged" baby is vertex, ask him to allow you to try a vaginal delivery, even if the second one is breech. If the first ("engaged") baby is breech, your doctor probably won't let you deliver vaginally, but it can be done (I did!) Delivery of odd presentations is easier for women who have delivered babies previously; this is particularly true for twins, since each baby is generally smaller than the average baby. I was fortunate in that my twins were my second delivery, and though each were large for twins (6-1/2 pounds apiece, with 14-1/2 inch heads), my singleton had paved the way before (8 lb. 11 oz., with a 15 1/2 inch head). Nevertheless, with the first baby breech and the second transverse, my doctor told me that a Caesarian was indicated. However, my labor pains were very irregular, and since I had had several weeks of Braxton-Hicks contractions, the hospital resident on call at 7 a.m. said to wait until they became regular. By the time they *were* regular, we had to rush to the hospital, arriving at 10:30 a.m. fully dilated and with a foot in the birth canal! Thus, as they were having me sign authorization papers for an emergency C-section and the anesthesiologist was asking me what I had for breakfast, Adam kicked his way out! My obstetrician then manually rotated Amy from the outside, so that she could be delivered vertex presentation. ("This is hard work" he exclaimed.) So by 11:37 a.m. I had two babies, just an hour after my arrival and with no painkillers except a whiff of laughing gas! (And no

stitches, not even an episiotomy!) So, praise God, I got to come home with my babies only twenty-four hours after they were born.

No doubt because of the extra sucking from the twins (and also, I'm sure, because I had nursed before) my milk came in after only 3 days (unlike my singleton, which took 5 full days). My patient twin, Amy, was willing to suck hard to get the colostrum. Adam, on the other hand, typically wanted the "easy route." This is a not-infrequent happening: One baby is healthier or more vigorous, while the other is more languid. How do you make sure both get good nutrition? If you "assign" a particular baby to a particular breast (*i.e.* the first born always uses the left side), then the milk supply will become more plentiful on the side which gets the more vigorous sucking - the stronger baby will always get more milk and you'll become lopsided.

Instead, nurse one baby on the left side all one day and on the right side all the next day. In this way the weak baby gets the benefit from the strong baby stimulating that breast the day before. I have also tried alternating sides from one feeding to the next, but that does not work so well. The strong baby empties the breast that he is nursing from, and the weak baby nursing that same breast only an hour or so later may not be able to get a good "let down". One way to remember which breast "belongs to" whom is to have a safety pin attached to your brassiere, and to have one twin always use the side with the pin.

Nursing both babies simul–taneously may sound difficult, but it is not, if you have a good supply of bed pillows (or a special horseshoe-shaped "nursing pillow" available by mail order from twins magazines - see second photo). Since milk has a tendency to let down in both breasts at once, nursing both babies at the same time often gives a good let down to a weak baby who might not have the strength to do it alone. Also, when I came home from work, both babies demanded an immediate feeding, and nursing both at once made it easy and quick. *(in the photo, Adam is on my right and Amelia, now called Mel, on my left. This was early when I just used extra pillows)*

By far the worst problem with nursing twins is the seemingly-incessant rounds of overnight feedings. If a normal single baby gets nursed every two hours (and takes 45 minutes to nurse), then you sleep 75 minutes and nurse 45 minutes each two hours. With twins nursing alternately, a similar schedule might mean you will get only two 15-minute naps each two hours! After about a week on that schedule, you will feel like a zombie. *(This second photo shows all happy after using a special nursing pillow – Mel on the right).*

One solution is that whenever *one* wakes up, deliberately awaken the other, and nurse both at once. This is harder on your back, since you need to lean over them, (again, use pillows beneath them) but at least then you can get an hour or more of uninterrupted sleep afterwards. The problem with that is, if both of them fall asleep on your lap at once, you may be stuck and not be able to get up to put them to bed! To avoid that problem, nurse on a wide couch and slide the babies off your lap sideways. Then you can get up and put them (and yourself) back to bed. The problem with deliberately awakening the second baby is that he or she just might have slept through the night anyway and you certainly want to encourage that!

My favorite solution is to get out of bed when one baby awakens, bring that one to bed with you and nurse till you both fall asleep. When the next one awakens, put the first one back into his or her own bed, and bring the other one back to bed with you. I was able to sleep through most of my midnight nursing sessions that way.

One way I did "cheat" was to have my husband occasionally give them one formula feeding at bedtime. After a long day working and nursing, I would be exhausted. I would nurse both of them together a final time at 9 pm, and go to bed. Since my husband typically stays up much later than I do, he did not mind feeding them half-strength formula at their next feeding, which was typically 11 p.m.; they didn't reawaken for another nursing until about 1 a.m. After a month of no sleep, four uninterrupted hours can be heaven!

Another trick is to give babies some mashed banana or rice cereal before their last nursing. The solids may help them sleep. If a baby is still nursing in the middle of the night after 10 months of age, consider weaning them of that habit. Tricks are shown in Appendix D.

APPENDIX D: Miscellaneous Tips

There are a few issues that Mom didn't touch on that I'd like to mention before closing. Some came up with my own children, some with my friends. Here are our solutions to typical problems:

Nursing strikes are times when the baby refuses (sometimes adamantly) to nurse. It can be very frustrating for mother and baby alike. Solution? Don't force the issue - offer the breast first, but if he/she continues to refuse (more than 6 hours), give him half-strength formula. Use a breast pump (or manually express) to keep your milk production up (combine the breast milk with the formula). Generally the baby will return to nursing in a week or less. Rarely they will go as long as two weeks - don't give up! On the other hand, if the baby is well over six months old, and you think it might be a reasonable time to wean the baby, then express for a few days, gradually tapering off (that way you won't have the uncomfortably full breasts of abrupt weaning). Also, continuing to express gives you the option to restart more easily if your baby comes off his nursing strike and convinces you that a couple of more months of nursing would be pleasant for you both! You *can* restart, even after tapering down to only a trickle, but it takes time and patience.

Cloth versus disposable diapers: It is estimated that 40 million disposables are discarded per day across the U.S.!! [http://disposablediaper.net/faq/how-many-diapers-are-required-every-day-to-satisfy-the-world-consumption/] Aside from the sheer volume of the trash, plastics manufacturing causes a significant amount of air and water pollution. It is true that disposables hold much more urine before leaking, and Dad is usually more willing to change the baby if he doesn't have to get his fingers wet. Nevertheless, consider the facts: Cloth diapers are *far* less expensive - they can be bought at a price such that you could even throw away all of the ones with poop on them, washing only the wet ones, and still save a considerable amount of money! I told that fact to my husband, and he took me up on it once, throwing away a poopie diaper - I convinced him that I indeed did want to keep and wash *all* of them. (It always distresses me to see families on highly limited resources buying disposable diapers with food stamps that they could use more reasonably for food - one estimate is that a typical baby will use $1700 worth of disposable diapers if solely on them, or only $400 in cost of cloth diapers, including laundry expenses, if washed at home!). Cloth diapers generate far less *smell* as well (you can't rinse off disposables, and many daddies don't even take the time to even shake the solids off of disposables before putting them in the diaper pail. This puts human feces in your garbage bag and your city landfill – yech! Unless you empty the pail every day, the smell is very strong). With cloth diapers, you rinse off the solids in the toilet and the diaper pail can stay four days or more without being offensive. Finally, cloth diapers (when they are dry) are more comfortable to the baby than disposables. Cloth diapers with velcro-tabs for closure are very handy, although they are expensive (four times the cost of regular cloth diapers) and are somewhat inconvenient for very small babies. There are great new all-in-one type with an absorbent inside, cute cover outside, that work VERY well. They also have a separate absorbent insert, and many times you can just change the insert without changing the cover. My daughter uses the "Fuzzibunz" [http://fuzzibunzstore.com] version and loves them. The all-in-one cover can be bleached as well. To wash cloth diapers, first spray off the solids into the toilet (my daughter had a sprayer installed in her toilet water line and works very well). Then pre-wash the diapers in COLD water to dissolve the urea crystals

that may have formed. Then, if any of the diapers have solids remaining, prewash the group AGAIN, now in hot water with chlorine bleach to kill all germs. Finally, wash in the normal cycle with cold to warm water using gentle detergent (homemade is great), and a tiny bit of fabric softener if wanted (note – softener makes them less absorbent so don't use every time). This gets rid of any lingering bleach smell.

With cloth diapers, you need to change the baby often - maybe two to three times as often as with disposable diapers. I find that my babies had diaper rash much less often with cloth diapers, because I would change them as soon as they got wet. With disposables, I often waited too long - until the diapers were visibly heavy and/or yellow, and bred the bacteria that caused the rash. I only used disposables for traveling and for overnight, and most of the cloth diapers were still usable after all three children, although the more absorbent ones with a foam core shredded first. They still make good rags for cleaning up spills (I keep a supply under the cushion of each couch to mop up with). Latest on the scene are biodegradable plastic diapers. Unfortunately, they must be exposed to the sun to degrade, and are not really as environmentally useful as you might think - one still has all the waste of plastics manufacturing.

Teaching your baby to sleep through the night: Be tolerant of babies under 6 months, but teach the year-old babies to go to sleep alone: Put him to bed with a consistent bedtime ritual (storybook, quiet game, prayer, etc.). If he starts to cry, just say "Good night; I'll miss you, too" and close the door. If he continues to cry, wait two minutes before returning to the room. Reassure him; tell him you love him, pat him but *don't pick him up*; say goodnight but don't check again for another 5 minutes. Close the door and wait 10 minutes before comforting him again, then each 15 minutes until he falls asleep. The next night, make the first time interval be 5 minutes instead of 2; continue stretching out the time he must stay alone. If he wakes in the middle of the night, follow the same procedure. Nurse him if he's less than 6 months old, or if he's sick, but otherwise, just reassure him and don't pick him up. Most babies will learn the new routine in a week or less; toddlers who have developed bad habits may take longer. I know it's hard to hear them cry but you deserve sleep too!

Stains on clothing: I have been most successful in removing baby stains by keeping a solution of half-strength chlorine bleach (dilute regular bleach with an equal amount of water) in a spray bottle in the laundry room. Spray stains just before putting them in the washer. It is safe for virtually all clothes (except dark colors, which don't show the stains, anyway!) Enzyme-type soaks (Axion, LaFrance) are also very good at removing tough stains (like apple juice), and peroide-based cleaners (e.g. Oxi-clean) are great on food. Another household helped is "Barkeeper's Friend". Sold in a can like a scouring powder, it is the only thing I know that will remove rust stains from clothing, and a number of other tough stains.

Starting solid foods: One product that I found very helpful was a plastic manual food grinder. You put cooked carrots, peas, beans, etc., into it, turn the crank, and out comes a food that is very easy to digest. It is small enough to take along to a restaurant to use to make many adult foods into baby food. (A new item is a "Magic Bullet"™ which is basically a mini food processor). Also great in restaurants are the small cans of dehydrated baby food - just ask for a tea cup of hot water. The ideal baby bib that I have found is called a "Pelican Bib" - it is hard plastic with a scoop front that holds over a cupful of spilled liquids or foods - ideal for the baby who is just learning to eat!

References and other Materials

Hamilton, Ruth Hulburt, (1958) "Song for a Fifth Child (Babies Don't Keep)" words and music at: http://www.lullaby-link.com/song-for-a-fifth-child.html.

Medical benefits of breastfeeding (Most of these were not available when mom first wrote her book)

http://www.webmd.com/parenting/baby/nursing-basics

http://www.fitpregnancy.com/baby/breastfeeding/20-breastfeeding-benefits-mom-baby

http://kellymom.com/pregnancy/bf-prep/bf-benefits/

http://www.llli.org/nb/nbjulaug01p124.html

(and other resources from the La Leche League: http://www.llli.org)

http://www.mayoclinic.org/healthy-lifestyle/infant-and-toddler-health/in-depth/breast-feeding/art-20047138

(and other resources from the Mayo Clinic http://www.mayoclinic.org)