



# Clinical Perspectives In Lactation

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## Breastpumps – A Brief History

Mechanical devices to remove milk from lactating mothers' breasts have been used since the 1500s. An early device was called a "sucking glass." Women could use it themselves using the sucking glass to remove milk to relieve engorgement or when there were other problems present. The tool worked just as the name suggests – sucking on a glass tube attached to a glass flange created a vacuum. There were also levered pumps, pewter pumps, brass pumps, and the bulb and horn or bicycle horn style still sold in stores today to list a few. The United States Patent Office has issued many patents for breastpumps as they have improved over the years. Techniques, instructions and sanitation have also improved to make milk expression more successful. Breastpumps help mothers of premature infants feed their babies, support moms in the workplace or in school, and allow moms to feel secure in leaving their infants with a care provider with breastmilk ready to use.

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Brass and pewter mid-1800s pump



Hand blown glass and brass 1870s pump



### Special points of interest:

\* Learn about breastfeeding on the Illinois frontier on Page 2.



Bulb and horn pumps 1900s



## Breastfeeding in Illinois 1883

The improvement of breastpumps is making life easier for nursing mothers as is the availability of lactation consultants and medications. Breastpumps were not available for many women living on the frontier in the United States and physicians and medication were scarce. What could a mother who was ill after delivery or having breastfeeding problems do?

The following passages are excerpts from a diary written by Izora White Byler used with permission granted by her great-granddaughter. The passages tell about her breastfeeding experiences with her first child born in January of 1883 and her second child born in 1884. She was 26 years old at the birth of her first child and had been married for more than a year. Mrs. Byler suffered many problems after the birth of her daughter. She also reported that her daughter gained one pound by January 21 so the baby was nursing and growing although her mother was ill.

Mrs. Byler tried many remedies to prevent breastfeeding problems with the birth of her son in 1884 including drawing the breast (unfortunately she doesn't tell us what utensil was used), a mixture of camphor gum and lard applied to the breast, hops applied to the breast and a puppy. She reported using the puppy to draw the breast but does not report how successful the procedure was. She was up and around and doing fine two weeks after her son's birth. Her husband, family and neighbors offered advice and assistance throughout her ordeals.

Sat Jan. 6 1883

I took worse just as he (*the doctor*) came and suffered terribly until 25 minutes past 12 when my baby girl was born. They all went to bed at 2 o'clock. They all said they never saw anyone have a harder time than I did. Mother (*mother in law*) put her arms around me and cried when it was all over with. I could not sleep much felt too excited. Will (*husband*) wrote the news to Ma (*her mother*) and took the letter to Colusa, brought me some crackers and Rose (*her sister*) some candy for turning the grindstone. Our baby has so much black hair has dark eyes and is the fleshiest baby I ever saw. She weights 8 pounds.

Jan 12

I sat up some for the first time.

Sunday Jan. 14

Clear and cold. I was taken worse and had a hot fever all day and my breast is sore. Will went to Father's (*his father*) and got some whiskey and catnip. Saw the doctor and told him to come over. He gave me some medicine and said to tell him if I did not get along all right. Had to feed the baby some and I felt somewhat discouraged and it was hard work to keep from crying for a while.

Jan. 26

My breast has been hurting me all day. I wrote a letter home, wiped the dishes and made my bed. Rose went to Fathers for terperentine (*her spelling*) for my breast. She made pan cakes and put them on which soon gave relief.

Jan 29

I felt bad in the evening.

Jan 30

Had fever and both breasts sore I took a cry about it. Rose made pancakes and put some on and Will send Andy after Grandma who doctored me all day and I got better.

Jan 31.

Cold and clear. Will took Rose to Mrs. Stiles after noon. I slept while they were gone. My breast is better.

Feb. 5 Monday

Felt bad all day, my breast is worse. Clear, Will got breakfast then went to La Harpe (*town*) to get me medicine. I have been so lonely. Will has come home at three.

Feb. 6

Snowed and is a little warmer. My breast is no better and I was so sick for a while that Will became uneasy that he went for Mother and Squire for the doctor. I got better before Mother got here. Will went for Flora Ritchy but she couldn't come, he took Mother home and brought Martha. Had to feed baby some.

Feb. 8

Clear. Will washed. The Dr. Came and left me medicine. Continued to use cakes. Mother came in the eve and stayed awhile. *Continued on Page 3*

A mother's practice of nursing her infant is about more than just providing nourishment. Breastmilk provides a multitude of benefits and nursing provides even more benefits for both the mother and the infant.

- Promotes mother-infant bonding. The more babies and mothers are kept together, the greater the impact on the mother in terms of exhibition of responsive caregiving and the security of attachment in the child. [1] Nursing also reduces maternal child neglect. [2]
- Calms and provides analgesia to infants. Skin-to-skin contact with the mother stabilizes blood glucose levels, body temperature, and respiration and reduces stress hormone release and blood pressure. Fat in the milk stimulates the release of cholecystokinin which induces relaxation and pain relief while the sweet flavor of milk stimulates the release of opioids in the midbrain of the infant which reduce pain. [1]
- Reduces stress in the mother. Oxytocin is released during breastfeeding in response to suckling at the breast providing an anti-stress action on the mother's nervous system. Prolactin released from the pituitary in response to nipple stimulation acts as an analgesic and reduces stress responsiveness in animal models. Cholecystokinin is released in the intestine of the mother during breastfeeding and relaxes the mother and is thought to promote maternal behavior. [1]
- Increases responsiveness of mother to the infant. The hormonal actions described above may affect mother responsiveness. The physical closeness required for nursing increases a mother's sensitivity to her infant. [1]
- Provides an optimal position during the nursing session for the eustacean tubes and middle ear to prevent ear infections and reduces negative pressure than can affect the middle ear. [3]
- Promotes proper development of the oral cavity, airway shape, and facial form and prevents malocclusion and sleep apnea. [3]
- Reduces obesity – infants at the breast eat until full then stop. The infant develops her/his own supply-demand pattern as there is no set amount in a bottle.

1. Kribble, Karleen D. *International Breastfeeding Journal*. 2006 1:5
2. Strathearn L, Mamun A A, Najman J M, O'Callaghan M.J. *Pediatrics* 2009;123:483-493
3. The Importance of Breastfeeding as it Relates to Total Health, Brian Palmer, DDS, Jan 2002, [http://www.brianpalmerdds.com/bfing\\_import.htm](http://www.brianpalmerdds.com/bfing_import.htm)

## Breastfeeding in Illinois 1883—*continued*

Feb. 9

Will after doing the work and waiting on me went for wood. Martha takes care of baby and washed dishes. My breast continues to grow worse

Feb. 10

Will doesn't go for timber as I am worse. He went to Father's and sent oil by Andy (*Will's brother*). Laura came and worked all day washed the baby. Will went to see if he could get Mrs. Sheilds. I haven't much appetite and ache all over. Martha went home. Will and Laura sat up and put oil on breast all night, eased my breast.

Feb. 12

Fannie washed. My breast hurting me again a little matter running from it. Mother came over and made a poultice for me soon after Mrs. Sikes and Adda came and spent the day. Fannie washed the Baby.

Feb. 13

Will went to Dallas (*Dallas, Ill. Larger town*) to get Black to come and lance my breast. Mother came in the morning. The Dr. came about four, Just before he came my breast broke. He lanced it anyway appeared surprised to see me so and nothing more done than it had been. I shook so that I could not hold a glass of water to my lips. He left me quinine and said he would give more medicine tomorrow. I felt so relieved, run a pint of consupction. (*her spelling*)

Feb. 15<sup>th</sup>

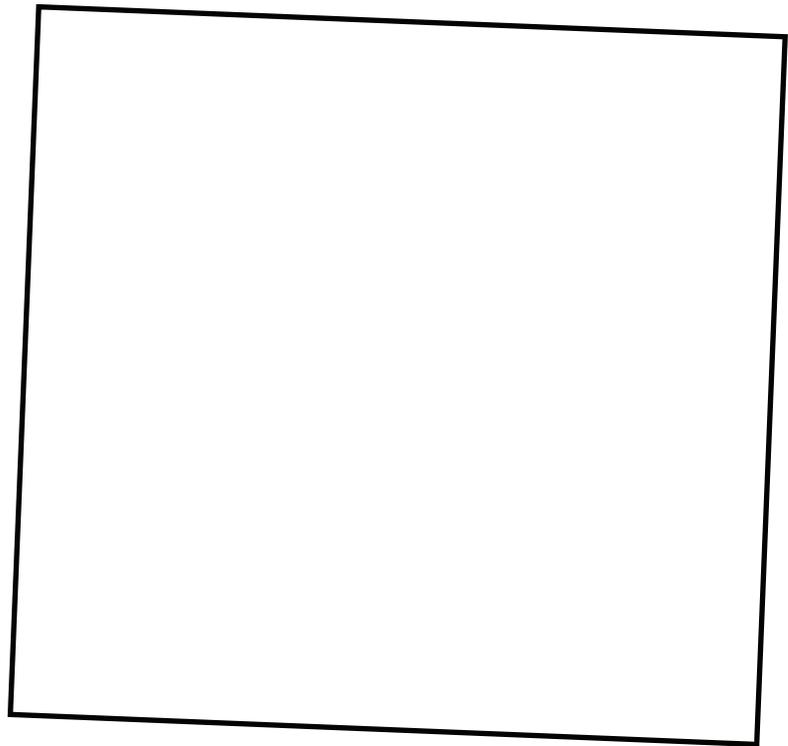
I am feeling better.

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Our Vision—Healthy Kansas living in safe  
and sustainable environments.



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## It Doesn't Take A Pump

Hand expression of breastmilk can be empowering for mothers. With a little practice moms can hand express milk – no electricity, no batteries, no cost and easily portable. Hand expression during frequent quick breaks can help maintain a mother's milk supply when pumping for a longer period of time is not possible. The Marmet Technique of manual expression works well. Mothers first gently massage and then stroke their breasts, lean forward and shake the breasts to get gravity assistance and apply warmth with a wet cloth or paper diaper filled with warm water to promote an easy let down. Then mothers utilize the technique of placing the thumb on the top of the breast and the first two fingers below the breast with thumb and fingers about 1 to 1½ inches from the nipple. The mother pushes the breast tissue back against the chest wall and then rolls (no sliding) the thumb and fingers towards the nipple. Ejected milk can be caught in a small clean bowl.

To view a video demonstrating the Marmet Technique access:

<http://video.about.com/breastfeeding/Hand-Expression-Technique.htm>.

Another method is demonstrated at [http://www.breastfeeding.com/helpme/helpme\\_video\\_hand\\_expression.html](http://www.breastfeeding.com/helpme/helpme_video_hand_expression.html)

Dr. Jane Morton at Stanford University School of Medicine demonstrates teaching hand expression to new mothers at <http://newborns.stanford.edu/Breastfeeding/HandExpression.html>

The video, “Breastfeeding Techniques that Work! Hand Expression Volume 6,” provides a demonstration of hand expression by Kitty Frantz, RN, CPNP-PC. This video is available from Geddes Productions, <http://www.geddesproduction.com/>

You can practice this technique even if you are not a lactating woman. To practice use a water balloon with two or three holes made by puncturing the balloon with a needle. Follow the steps except for the relaxation and let down techniques above.

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