



برنامه دوره آموزشی مشاور شیردهی

دوشیدن شیرمادر

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Mother may choose or Need to Express Milk for a Number of Reasons

1. To increase the milk supply.
2. To stimulate Lactogenesis II (around day 2 to 5 post partum)
3. when breastfeeding initiation is delayed due to separation of baby and mother.
4. To supply milk if her baby is premature or ill or hospitalized and cannot breastfeed directly.
5. To prevent or relieve breast engorgement.
6. To have milk available if she leaves the baby with another caregiver.
7. To maintain or increase the milk production when ..travel,work,hospitalization, medication,..



Milk Expression



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Hand expression is the best way to express breast milk because:



Stimulation



Breast compression



Expression



Hand Expression of Human Milk

A. The most common form of milk expression throughout the world.

(Core Curriculum Lactation consultant practice 2013)

1. All hospital maternity nursing staff should be trained in teaching Hand expression(AAP2009),
2. Every mother should be trained in teaching hand expression .
3. No equipment, not noisy, or power source (electricity) is required.
4. Hands are always available.
5. No cost to mother

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Hand Expression of Human Milk

B. Reason to express milk by hand (in addition)...

1. To direct expression into the baby's mouth
2. To soften an engorged nipple/areola.
3. Drains overfull milk duct to make it easier for baby to latch on.
4. To elicit the milk ejection reflex prior to breastfeeding or pumping.
5. If the nipple are sore or macerated and use of pump will exacerbate the tissue damage.
6. When breast pumps are unaffordable.

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Hand Expression of Human Milk

B. Reason to express milk by hand (in addition)...

1. Expressing colostrum.
2. Hand expression can be very effective and quick when the mother is experienced.
3. Some mothers prefer the skin-to-skin stimulation from hand expression rather than the feel of plastic and sound of a pump.
4. Skin to skin contact is more stimulating than the feel of a plastic shield.
5. Many mothers are more comfortable with manual expression of breast milk because it is more natural and the procedure is easy to learn.
6. Hand expression is usually more gentle than a pump particularly if the mother's nipple is sore.
7. There is less risk of cross-infection since the mother does not use equipment that may be also handled by others.
8. Milk expressed by electric breast pumping also appears to have greater bacterial contamination than milk expressed by hand.
9. Manual expression is.



Points

- ▶ It is easier to learn to hand express when the breast is soft rather than engorged and painful.
- ▶ A woman should express her own breast milk.
- ▶ *The breasts are easily hurt if another person tries.*
- ▶ If you are showing a woman how to express, show her on your own body as much as possible, while she copies you.



If you need to touch her to show her exactly where to press her breast, be very gentle.



Hand Expression Techniques

- ▶ Always wash hands with soap and water before expressing milk.
- ▶ Milk can be expressed into any type of container ,such as: a bottle, cup, glass, jar, or bowl. It helps if the container has a wide opening.
- ▶ Breast massage
- ▶ Eliciting milk ejection reflex (milk release)
- ▶ Expressing colostrum.



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Mothers who are reluctant to try hand expression!

- ▶ Because previous attempts have been unsuccessful usually have had inadequate instruction. Two good strategies help this:
 - First, teach hand expression when success is most likely:
 - When the breast is fuelled.
 - When the infant is feeding on the contra lateral breast.
 - Otherwise, **Encourage the milk to flow**



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If baby isn't latching successfully by the end of the first six hours

- ▶ Keep him skin to skin to stimulate his feeding reflexes and begin expressing colostrum.
- ▶ Don't use your pump quite yet, though; Hand expression usually gets more out than a pump in the beginning. It also works well if your breasts become uncomfortably full as the milk comes in because pumping can draw more fluid into your areolas, which causes swelling and makes **latching difficult** for your baby.



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Hand Expression Techniques (1)

1. Cup the breast with the thumb and forefingers directly opposite each other without touching the nipple or areola.
 - ▶ PUSH straight into the chest wall
 - ▶ ROLL thumb and fingers forward in a rhythmical movement to massage the breast.
 - ▶ **REPEAT** this action.
 - ▶ ROTATING around the breast.
 - Avoid **Squeezing** the breast
 - Avoid **Pulling out** the nipple and breast
 - Avoid **Sliding** on the breast



Hand Expression Techniques(2)

2. Another method Hold the breast that the thumb is on the top and other four finger are cupping the breast from underneath, with the little finger touching the rib. .
- ▶ To express milk, she will start a wave-like motion from her little finger, pushing gently into the breast followed by the fourth finger, the third, then the index finger while the thumb compresses from above.



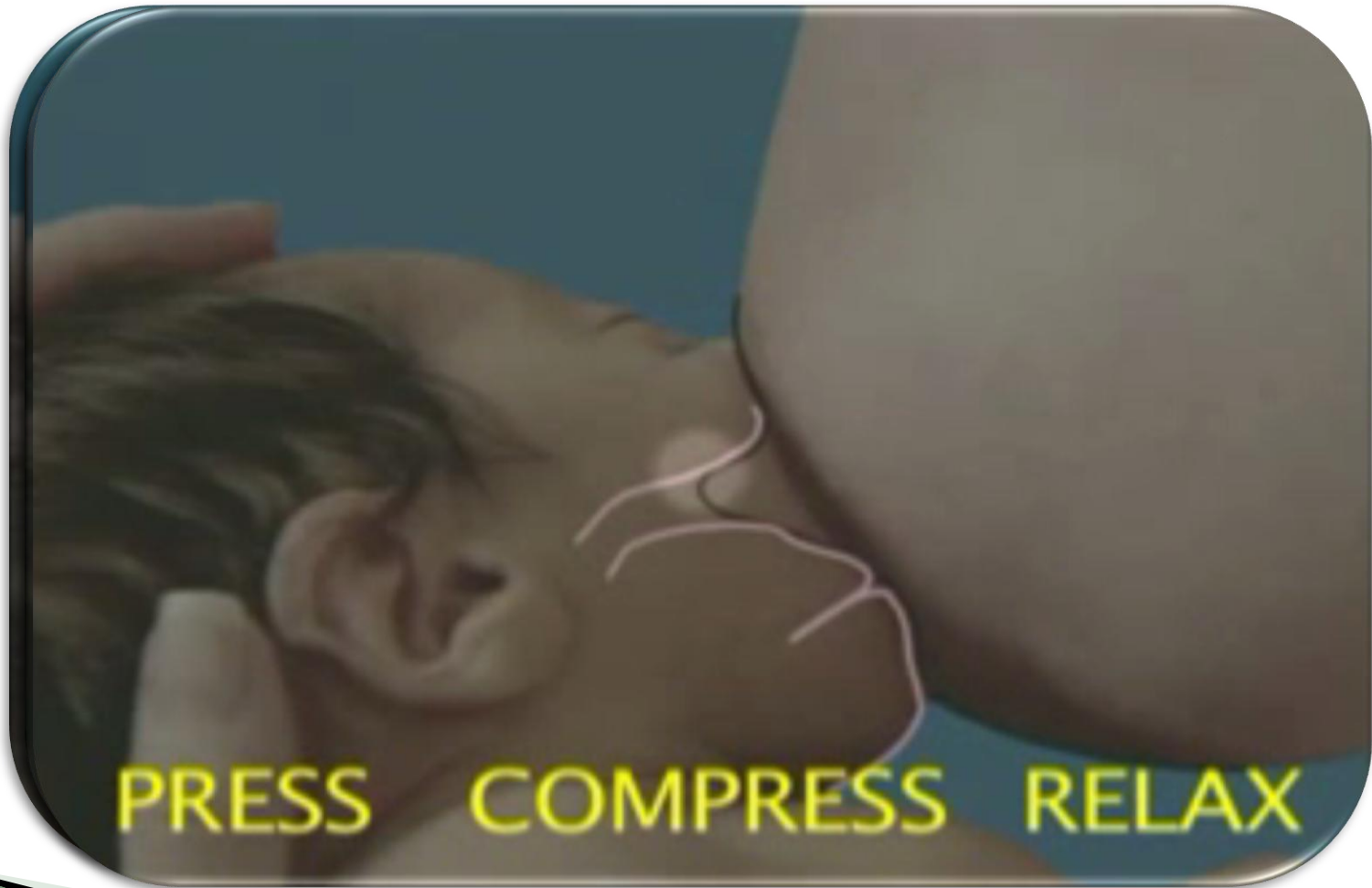
Hand Expression Techniques(3)

3. Morton's technique (very useful in HOP)

- **Step1:** sit up and lean slightly forward
- **Step2:** gentle massage on all areas of both breasts
- **Step3:** Form a C with thumb and index finger about an inch back from the areola, with the tip of the thumb and finger in a direct line with the nipple
- **Step 4:**
 - press (back),
 - compress (together),
 - relax (fingers)
- **Step5:** Alternate breasts frequently



Press ,Compress ,Relax



Timing (hand expression)

- ✓ Express one breast until the flow slows (for at least 3–5 minutes); then express the other side; and then repeat both sides.
- ✓ She can use either hand for either breast, and change when they tire.

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HOW MILK IS REMOVED FROM THE BREST?

- ▶ Infants use **suction and a compressive** motion to remove milk from the Breast, regular **pumps use suction** only in a cyclic Pattern.
- ▶ When **milk flow** is low, infants suckle **faster**, When **milk flow** is high, infants suckle **slower**.
- ▶ Average suckling rate is **74 cycles/minute** with a range of **36 to 126 cycles/minute**.
- ▶ Negative pressure generated by infant suckling averages **50 to 155 mm Hg** with a maximum of **241 mm Hg**.

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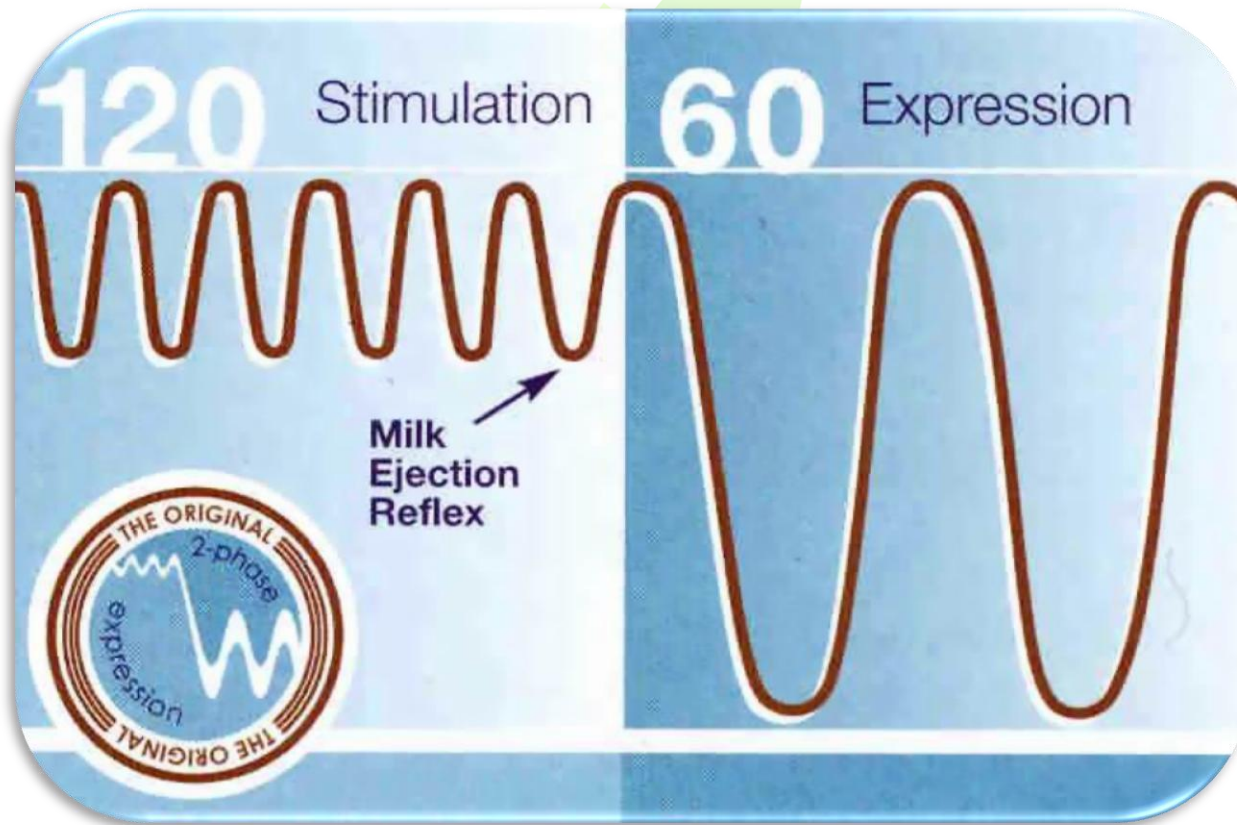
Core Curriculum for Lactation Consultant Practice, International Lactation Consultant Association(ILCA) 2013.



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- Pumps that allow the mother to adjust the suction and cycling should initially be set on lower suction with faster cycling. Once milk release has occurred, the suction can be increased and cycling decreased to more closely mimic physiological suckling.





Effectively nursing infants can transfer more milk from the breast than the mother who in pumping

Many women find that hand expression is Easier and Faster than using a mechanical breast pump

Battery-operated pumps

- ▶ Require manual release of the vacuum during the pumping cycle...(nipple trauma)
- ▶ Vacuum takes up to 30 seconds to reach the appropriate level
- ▶ Time for recovery of the vacuum following release can limit the number of cycle to 6 per minute which is below acceptable ranges.



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GUIDELINES FOR CHOOSING A BREAST PUMP AND USING IT CORRECTLY

- ▶ Proper use of the pump is pivotal in its success or failure..
- ▶ The pump should be comfortable to use, not causing any pain or discomfort to the mother..Nipple pain during pumping will have a negative effect on supply, (*rubbing and constriction* of the nipple, blocking the flow of breast milk)



There are Two main types of double electric breast pumps available on the market

1. The majority of manufacturers make breast pumps that require a piston to create a vacuum, causing the **nipple to be moved in and out** of a barrel
 - The pump piece, or flange, that goes over the mother's nipple may or may not come in different sizes.
 - A pump that enables interchangeable flange sizes in several increments is ideal when using this piston-type pump



GUIDELINES FOR CHOOSING A BREAST PUMP AND USING IT CORRECTLY

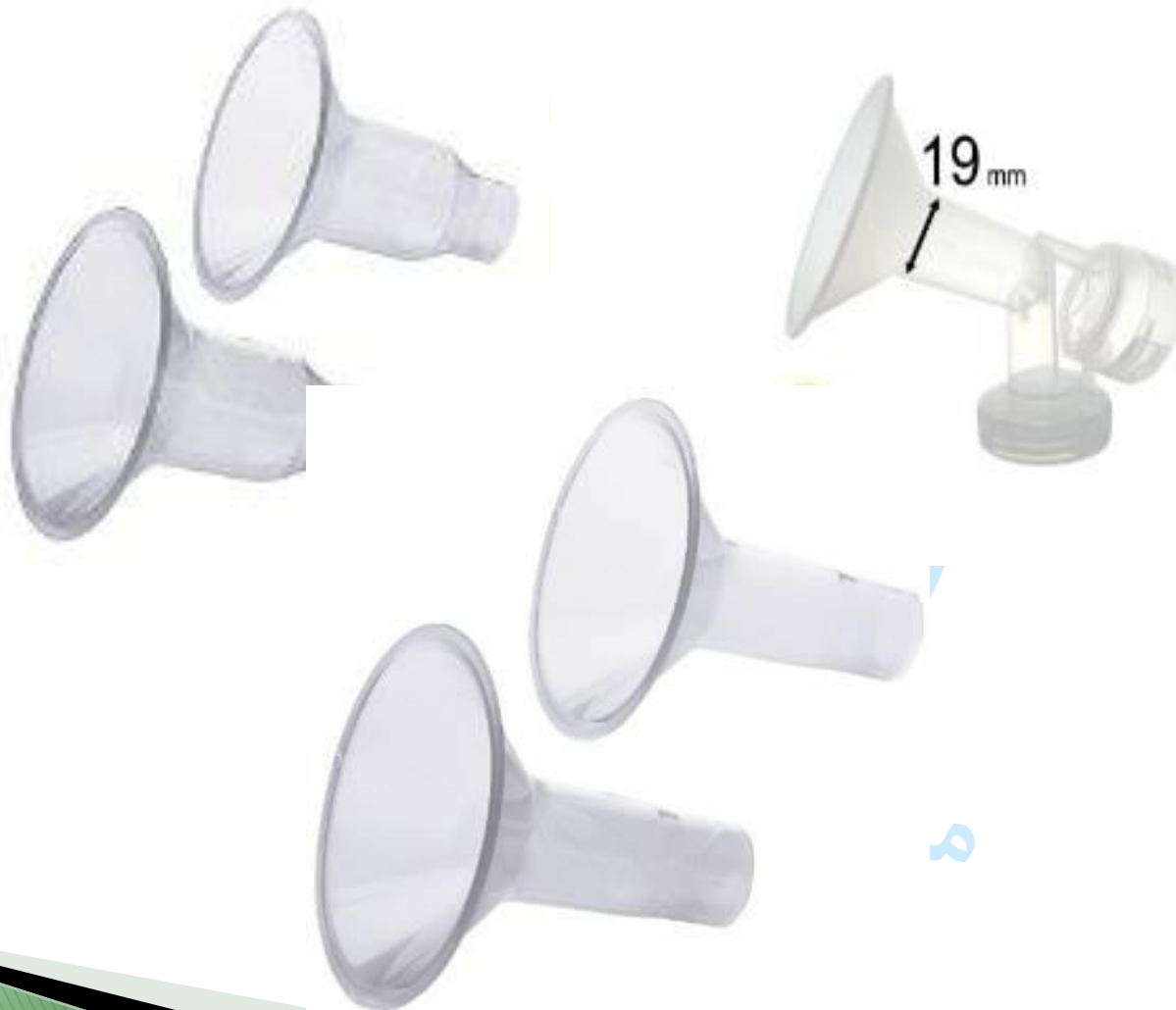
- ▶ the size of the flange should be determined in accordance with the diameter of the mother's nipple at the height of expansion during pumping.
- ▶ Hard- or Soft-Rimmed Flanges
- ▶ Vacuum Pressure
 - Although some women are able to tolerate the preprogrammed vacuum pressure without any discomfort, others may need to adjust the pressure up or down to their own comfort, depending on the elasticity of their nipple/areolar complex.



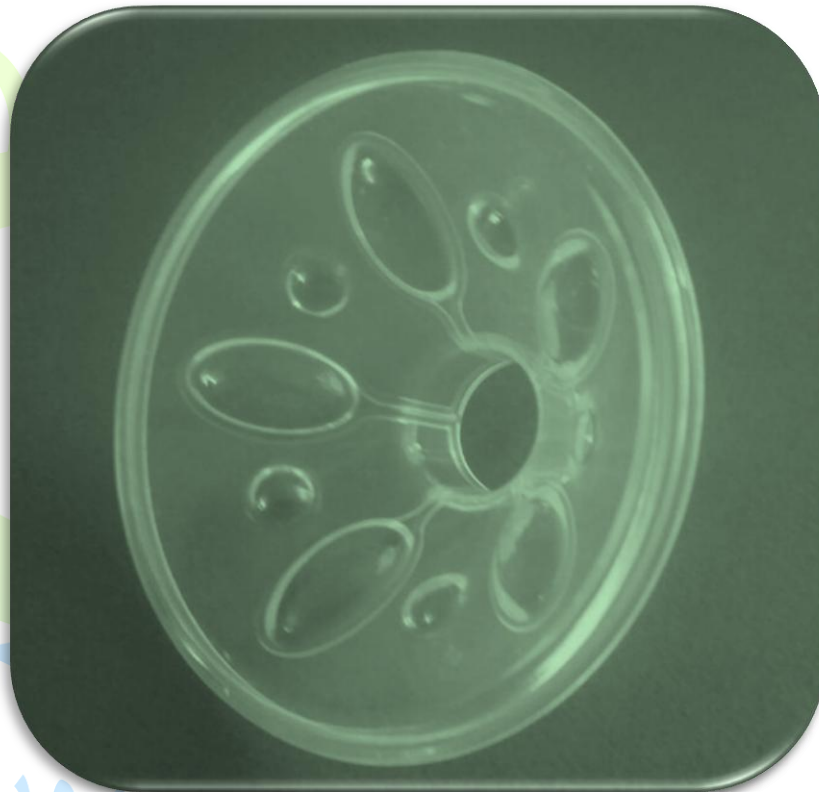
The size and shape of flange is important
for successful milk expression



Hard-rimmed flange



Soft-rimmed flanges



Many women state that they find the soft-rimmed flanges more comfortable



SUPPER SHEILD



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There are Two main types of double electric breast pumps available on the market

2. The other type of breast pump, specific only to the Limerick pump, does not depend on vacuum alone. It combines vacuum and compression, much like that of a suckling baby, To remove breast milk from the breast.
- The flange comes in one size only and allows for any size nipples to be comfortably compressed instead of pulling them into a tunnel.
 - The vacuum pressures may be decreased more than the other types of pumps but continue to be enough for effective breast milk removal.



Pumps Operation



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Breast Pump Instruction PJ's Comfort by Limerick



Double electric pump (simultaneous pumping)

- ▶ Use when time is limited in order to increase a milk supply, as well as for prematurity, maternal or infant illness, or other special situations
More milk,
- ▶ Did better in stimulating prolactin levels than did battery or manual pumps, or hand expression, when only one breast was stimulated at a time
- ▶ Most mothers prefer double,
- ▶ Less time involved than single,
 - 10-15 minutes for double pump,
 - 20-30 minutes for single pump.



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Massage During Pumping

- ▶ Cupping the breast also allows for the mother to massage her breasts during pumping, which has proven to
 - increase milk production,
 - increases **ejection of milk** already in the breast,
 - ensuring more **complete emptying** of the breast and
 - can possibly increase the **fat content** of the milk



- ▶ Combining breast expression and massage with **electric pumping** may increase milk output.. Without increasing frequency or duration of pumping, milk output increased over several weeks from an average of **591 ml/day** to a post instruction output of **862 ml/day**.

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Expression with massage

- ▶ Sequential expression without massage: 51 grams
- ▶ Sequential expression with massage: 79 grams
- ▶ Simultaneous pumping without massage: 88 grams
- ▶ Simultaneous pumping with massage: 125 grams

The massage occurred before pumping, but theoretically, additional massage during pumping could even have higher yields. following milk expression amounts on 36 women with preterm infants in a NICU in the United Kingdom ...

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(HOP) hands-on pumping

- ▶ **Combine**
 - Hand expression with
 - Electric breast pump expression
- ▶ demonstrated an average milk production between 900 and 1000 mL /day by day 8, compared with typical milk production of 500 to 600 mL average per day using only an electric pump.. **expressed milk volumes can be increased by 48% by (HOP)**

▶ .

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Steps for Hands-On Pumping

- ▶ Massage both breasts
- ▶ Pump both breasts simultaneously
- ▶ Both massage and compression during milk expression
- ▶ Stop pumping once milk flow is reduced to drops
- ▶ Repeat massage
 - Single pump and/or hand express
 - Alternating breasts for several minutes at a time
- ▶ Continue until breasts feel empty



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