Breast Feeding

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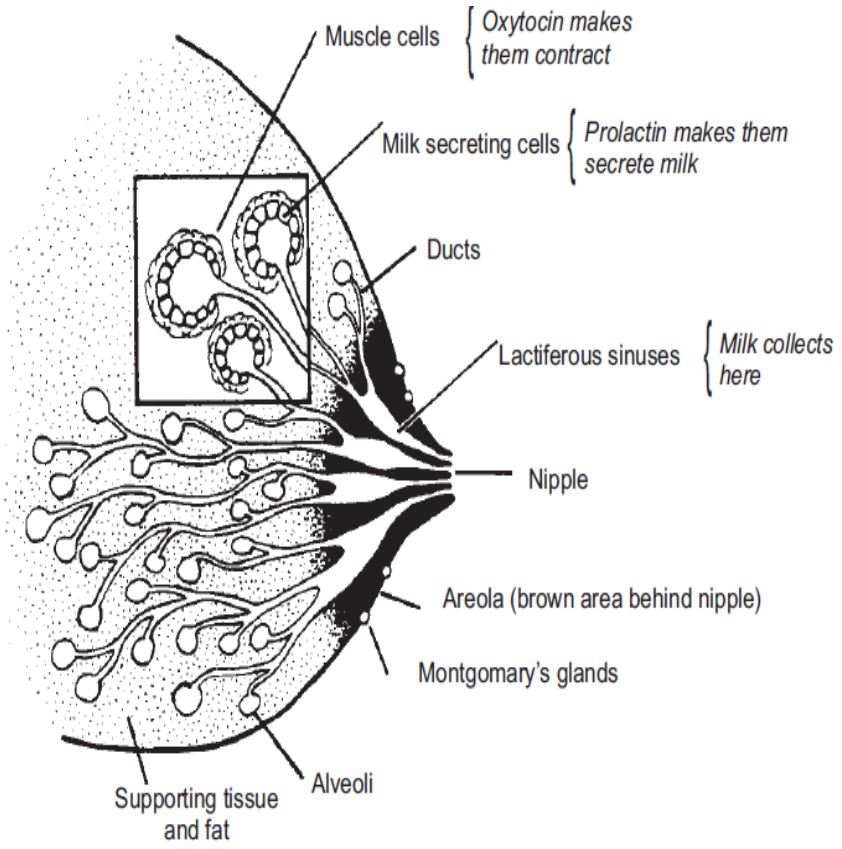
Background

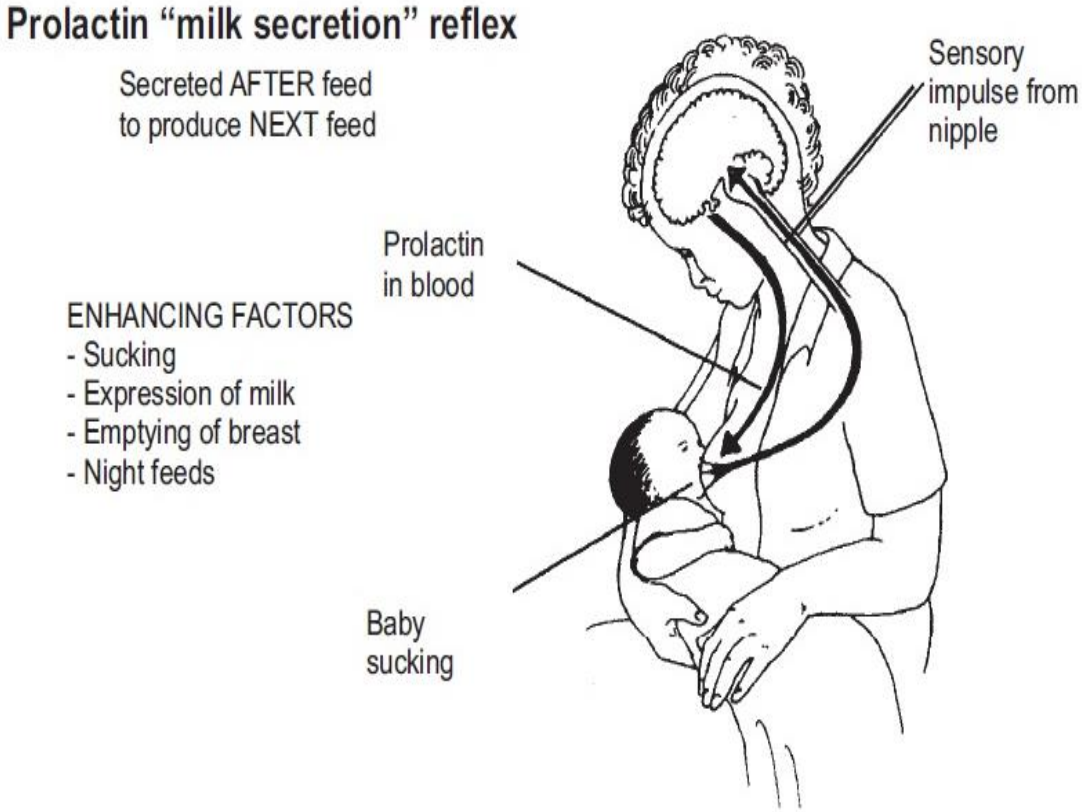
- Breast feeding one of the most satisfying experiences of being a mother
- May not be a smooth ride sometimes
- Many mother baby dyads especially a primigravida may have challenges and need guidance
- High risk pregnancies often need support and special arrangements

Exclusive Breast milk Feeding for first 6 months is the right of every child



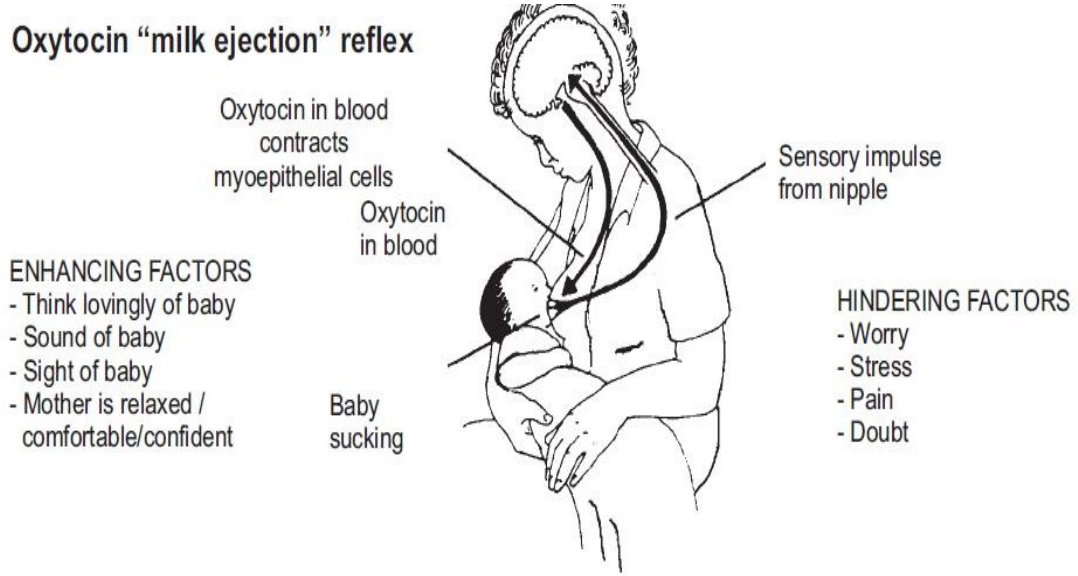
Anatomy and Physiology

- The breast consists of glandular tissue, supporting tissue and fat.
- Milk is secreted by the glands and travels through tubules which drain into lactiferous sinuses.
- The sinuses, which store small quantities of milk, lie beneath the areola.
- They open out on to the nipple through lactiferous ducts.
- A thin layer of muscle (myo-epithelium) surrounds each gland.
- The contraction of these muscles causes ejection of milk from the glands.



Prolactin Reflex

- Prolactin is produced by the anterior pituitary gland which is responsible for milk secretion by the mammary gland cells. When the baby sucks, the nerve endings in the nipple carry information to the anterior pituitary gland which in turn releases prolactin. This hormone passes through the blood to the glands in the breast promoting milk secretion.
- This cycle from stimulation to secretion is called the prolactin reflex or the "milk secretion reflex". The earlier the baby is put on the breast, the sooner the reflex is initiated. The more the baby sucks at the breast, the greater is the stimulus for milk production. The greater is the demand for milk, larger is the volume of milk produced.
- It is therefore important for mothers to feed baby early and frequently and ensure complete emptying of the breasts at each feed. Since prolactin reflex is active at night, night feeding (or expression of milk) helps to improve milk production.

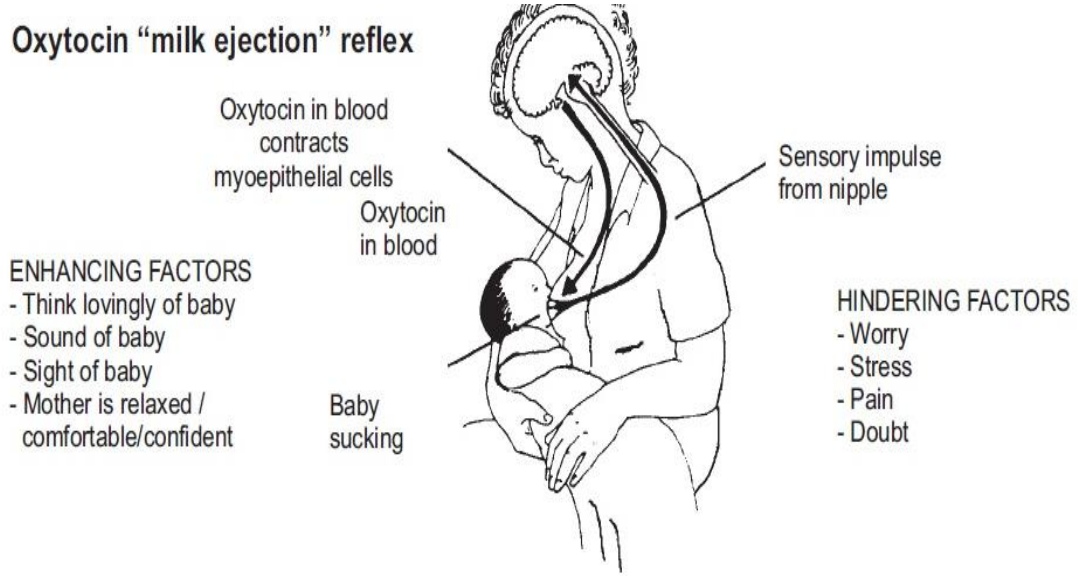


Oxytocin reflex

Sucking by the baby is the most important stimulus for production and secretion of milk in the mother

Oxytocin Reflex

- Oxytocin is a hormone produced by the posterior pituitary . It is responsible for contraction of the myo-epithelium around the glands leading to ejection of the milk from the glands into the lactiferous sinuses and the lacteal ducts.
- This hormone is produced in response to stimulation of the nerve endings in the nipple by sucking as well as by the thought, sight or sound of the baby. Since this reflex is affected by the mother's emotions, a relaxed, confident attitude helps this "milk ejection reflex".
- On the other hand, tension, pain and lack of confidence hinders the milk flow. This stresses the importance of a kind and supportive person – professional health worker or a relative - to reassure the mother and help gain confidence so that she can successfully breastfeed.



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Breast Milk Composition

Types of Breast milk

- Colostrum –Thick yellow milk for first few days

  Rich in proteins ,antibodies , small volume
- Transitional milk –after first few days till 2 weeks ,thinner ,decreasing protein and antibodies ,increase in carbohydrate and fat
- Fore Milk – Initial milk within a single feed ,more water ,minerals and proteins ,quenches thirst
- Hind milk – thicker and rich in fats, energy source ,fats needed for myelination , satiety
- Preterm milk- higher content of proteins ,antibodies , Sodium to provide for growth and immunity of preterm baby

Preparing For Breastfeeding

- Preconception maternal health-weight ,age , any chronic illness
- Adequate antenatal care – diet ,rest, medical care, supportive family and workplace
- Discussion with obstetrician /pediatrician before delivery for early initiation of breast feeding - within 1 hour of birth
- Look for any nipple issues

Early Initiation

- Delivery of baby on mother's abdomen
- Skin to skin contact
- Promote breast crawl- babies alert in 1st hour after birth and tend to find breast
- Early initiation of breast feeding leads to successful establishment of lactation and for a longer duration
- Relaxed and motivated mother - prerequisite

Breast Crawl

Baby locates the nipple using its olfactory senses , maternal touch and voice

Neonatal Benefits of Early Initiation

- Prevention of hypoglycemia
- Thermoregulation – skin to skin contact prevents hypothermia
- Improves mother and baby bonding
- More likely to result in successful establishment of exclusive and longer duration of breast feeding
- Colostrum , full of antibodies , provides 1st vaccination and healthy gut microbiome

Benefits in Childhood

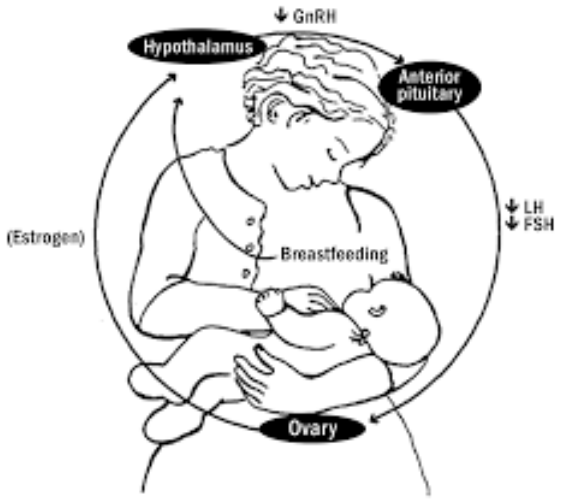
- Less infections especially diarrhea and respiratory tract infections
- Lower incidence of allergies and asthma
- Better sleep patterns
- Lower all cause mortality
- Better Cognition ,early language development and executive function in preschool children

Long Term Benefits For Baby

- Higher IQ
- Higher EQ (emotional health)
- Less chances of being overweight later
- Lower risk of diabetes and heart disease in adolescence and adult life
- Healthier individuals with more productive life

Maternal Benefits- Short Term

- Placenta expulsion
- Decreased Post Partum Bleeding
- Improved Uterine involution
- Shedding off pregnancy weight
- Less Postpartum depression
- Lactational amenorrhea –
  helps in birth spacing ,
  Less anemia



Maternal benefits –Long Term

- Less ovarian and breast cancer
- Better metabolic health – less visceral fat
- Lower risk of Diabetes and heart disease even after menopause
- Any length of breast feeding is beneficial for mother-longer the better

Common Issues

- Frequency -8-10 times in 24 hr /demand
- Complete emptying of at least alternate breast needed on each feed to ensure good flow
- Spend enough time to ensure baby gets hind milk also – usually 15-20 minutes on one breast
- Exclusive breast feeding for 6 months followed by addition of complimentary feeds
- Breast feeding can be continued till 2 years along with increasing solids as per age

Assessment of Adequacy

- Baby satisfied and sleeps well for ~2 hr in between feeds
- Mother feels breast lighter after feeding
- Passes urine at least 6 times /24 hours after first 2-3 days
- Regains birth weight by 7-10 days and then gains weight 25-30 gm/day
- Baby doubles the birth weight by 5^{th} month

Common Problems

- Breast engorgement is common for first few days and settles usually with frequent nursing of baby
- Alternate hot and cold compressors / chilled cabbage leaf application on breast help decrease discomfort and pain
- Cracked/sore nipples due to faulty attachment

Cracked Nipples

- Common especially in primigravida
- Results from poor attachment –baby sucking only on nipple
- Pain and discomfort can derail successful breast feeding
- Ensure good attachment , avoid prolonged sucking on one side –to change side frequently
- Apply hind milk on nipple at the end of feed
- Avoid washing/cleaning before feeding

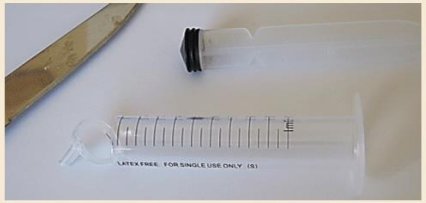
Inverted Nipples

- Should be seen during antenatal visits
- Can be corrected by pulling out between thumb and index finger lubricated with breast milk before each feed
- Also can use Syringe method

Syringe Method For Flat Nipples

Helping baby latch on to flat nipples

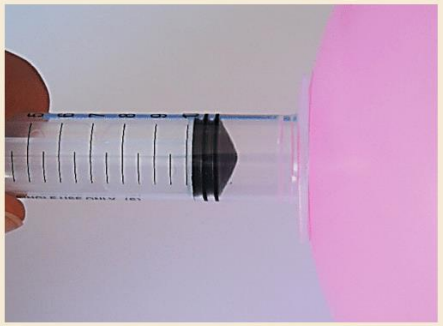
Using an inexpensive, effective, home-made "nipple-puller"



Use a normal 10ml or 20ml syringe (depending on the size of your nipple). Cut off the tip-end of the syringe

Re-insert the plunger from the cut end

Before feeds, place the open end of the syringe over your nipple and pull gently to create suction – enough to pull the nipple out, but not so much that it hurts. Hold for about 30 seconds, release the suction and latch baby immediately.

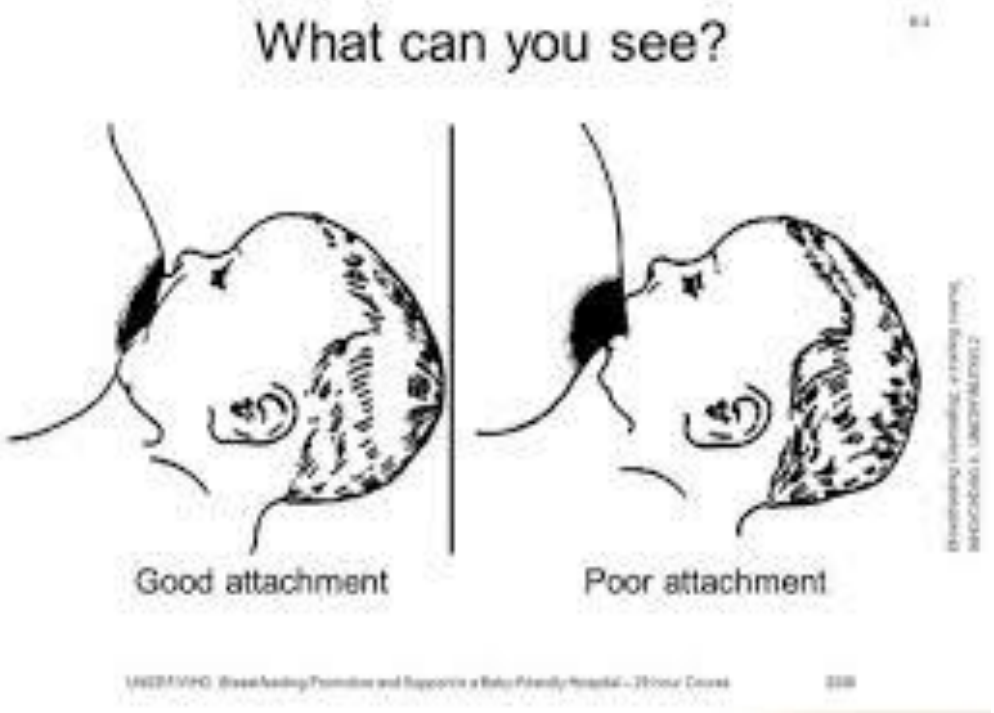


www.loveandbreastmilk.com

Good Attachment

- Baby should suck at areola and not nipple
- More areola is visible above than below baby's mouth
- Mouth is wide open with lower lip turned out
- Chin of the baby touches the breast

Proper Attachment



How to Initiate Feeding

- Look for cues from baby – sucking at thumb/hand ,opening mouth , looks for breast, tongue out
- Mother to sit comfortably ,relaxed
- Turn the baby towards her , touch upper lip with nipple and express few drops
- Wait for baby to open mouth wide and quickly pull towards breast with nipple directed to palate

Breast support

- Fingers below breast with index finger supporting the breast and thumb above the nipple to help shape and guide into baby's mouth
- Fingers should be away from mouth

Positions during Breast Feeding

Breastfeeding Posture

Bring your baby to your nipple, don't bring your nipple to your baby.

Keep your shoulders relaxed.

A rolled up towel can help raise your baby's head up.

Keep your feet flat on the floor.

Avoid looking down at your baby the whole time.

Sit all the way back in the chair. You can place a pillow behind you for support.

Create a breastfeeding station with everything you need including snacks, water, remotes, phone, nipple cream, pillows, etc.

healthline Parenthood

Maternal Health Issues

- Diet – Additional 500 calories/day needed during lactation , good water/fluid intake
- Backache – proper posture ,back support and massage
- Postpartum depression – good family support, counseling , meditation , sleep , physical activity
- Infections , bleeding – appropriate medical care

Special Situations

- Mother baby separation – NICU admission of baby for asphyxia/prematurity/congenital anomalies / surgical conditions/other medical issues
- Maternal issues – monitoring for PPH / PIH or other issues
- Arrangements need to be made for availability of expressed breast milk(EBM)

EBM

- Mother should express milk at least 8-10 times in 24 hours
- She should wash hands, sit comfortably and relax
- No need to wash breast before expressing
- Breast Pump/manual expression: In initial 2-3 days when flow is less ,manual expression is better. Mother needs to press the areola region between her thumb and index finger rhythmically and not use too much force.

EBM Storage and Transport

- Storage at home : EBM can be stored at home in sterile containers from hospital or clean steel containers and refrigerated in milk compartment pending transfer to hospital. Containers should be numbered and labeled with Baby ID, Time and date of expression. A separate container is used for each expression.
- Transport to NICU: EBM is transported to NICU with ice packs around the containers

Storage in NICU

- A dedicated refrigerator mandatory for storing EBM.
- Separate boxes for storing containers of each baby to avoid mixing and loss
- *ENSURE UNINTERRUPTED POWER SUPPLY*
- CDC guidelines

Human Milk Storage Guidelines			
	Storage Locations and Temperatures		
Type of Breast Milk	**Countertop** 77°F or colder (25°C) (room temperature)	**Refrigerator** 40°F (4°C)	**Freezer** 0°F or colder (-18°C)
Freshly Expressed or Pumped	Up to **4 hours**	Up to **4 days**	Within **6 months** is best Up to **12 months** is acceptable
Thawed, Previously Frozen	**1-2 hours**	Up to **1 day** (24 hours)	**Never** refreeze human milk after it has been thawed
Leftover from a feeding	Use within **2 hours** after the baby is finished feeding		

Pumping of EBM

Ways to Express Milk		
Type	**How it works**	**What's Involved**
Hand Expression	You use your hand to **massage** and **compress** your breast to remove milk.	• Practice • Skill • Co-ordination
Manual Pump	You need your hand and wrist to operate a hand-held device to pump the milk	• Practice • Skill • Co-ordination
Automatic, Electric Breast Pump	Runs on battery or plugs into an electrical outlet.	• Can pump one breast at a time or both breasts at the same time. • Double pumping may collect more milk in less time • Need places to clean and store the equipment between uses.

Feeding of Low Birth(LBW) Weight babies

- LBW <2500gm ,VLBW <1500gm ,ELBW <1000gm
- Diverse group with different complications
- Baby may not be able to take direct breast feeds completely
- Often a mixture of direct breast feed with EBM top up by cup or paladai
- Need to ensure adequate intake resulting in 10-15 gm/kg/day weight gain

ELBW BabyFeeding

- Usuallty trophic feeds with feeding tube from day 1 with TPN
- Enteral intake gradually increased at 20-30 ml/kg/day for stable babies with bridging TPN
- Aim to build up full enteral feeds at the earliest and remove lines etc
- Application of EBM in mouth from day 1
- Non nutritive sucking /breast feeds as stability and maturity increases ~ 32weeks

VLBW babies

- Mix of growing preterm /IUGR
- Oral feeds as tolerated
- Breast feeds + EBM by cup
- Babies >1800 gm and or >34 weeks usually transition to full oral feeds
- Supplements as needed – Vitamin D ,Iron
- Growing preterm babies should get fortified EBM top up as per need to avoid EUGR

Follow up

- Monitor Growth – adequate weight , length and head circumference gain
- Serial plotting on appropriate charts
- Look for developmental milestones
- Make sure baby is able to see and hear
- Regular immunization
- Complimentary feeds from 6 months

THANK YOU