



BREAST FEEDING, BEST FEEDING

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Breastfeeding
Benefits for
Mom and
Baby



BREASTFEEDING

- Ideal food for the neonate
- Ensuring exclusive breastfeeding reduces under-5 mortality
- Must be exclusive for 6 months



A close-up photograph of a baby with light brown hair and blue eyes, looking upwards with a curious expression. The baby's mouth is slightly open, and their hand is near their chin. A thought bubble is drawn in the upper right corner of the image, containing text.

HMM, WELL
FIRST BECAUSE
IT KEEPS ME
CLOSE TO
MOMMY

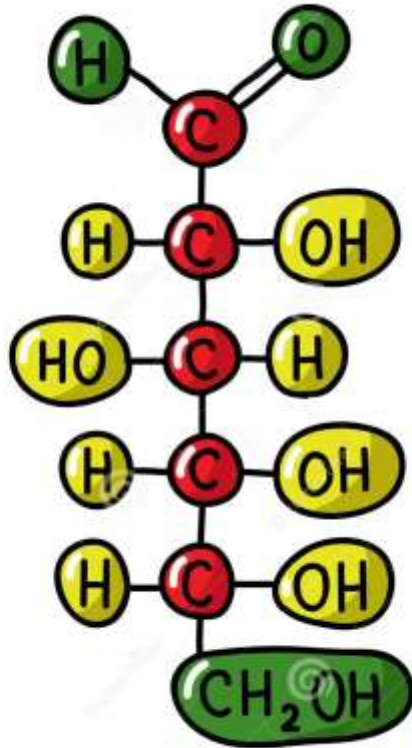
Breast milk ✨
contains basic
essential nutrients,
such as proteins,
carbohydrates,
probiotics, and
vitamins and
minerals.



Nutritional superiority

- **Contains all nutrients**
- **In optimum proportion**
- **In a form easily digested**

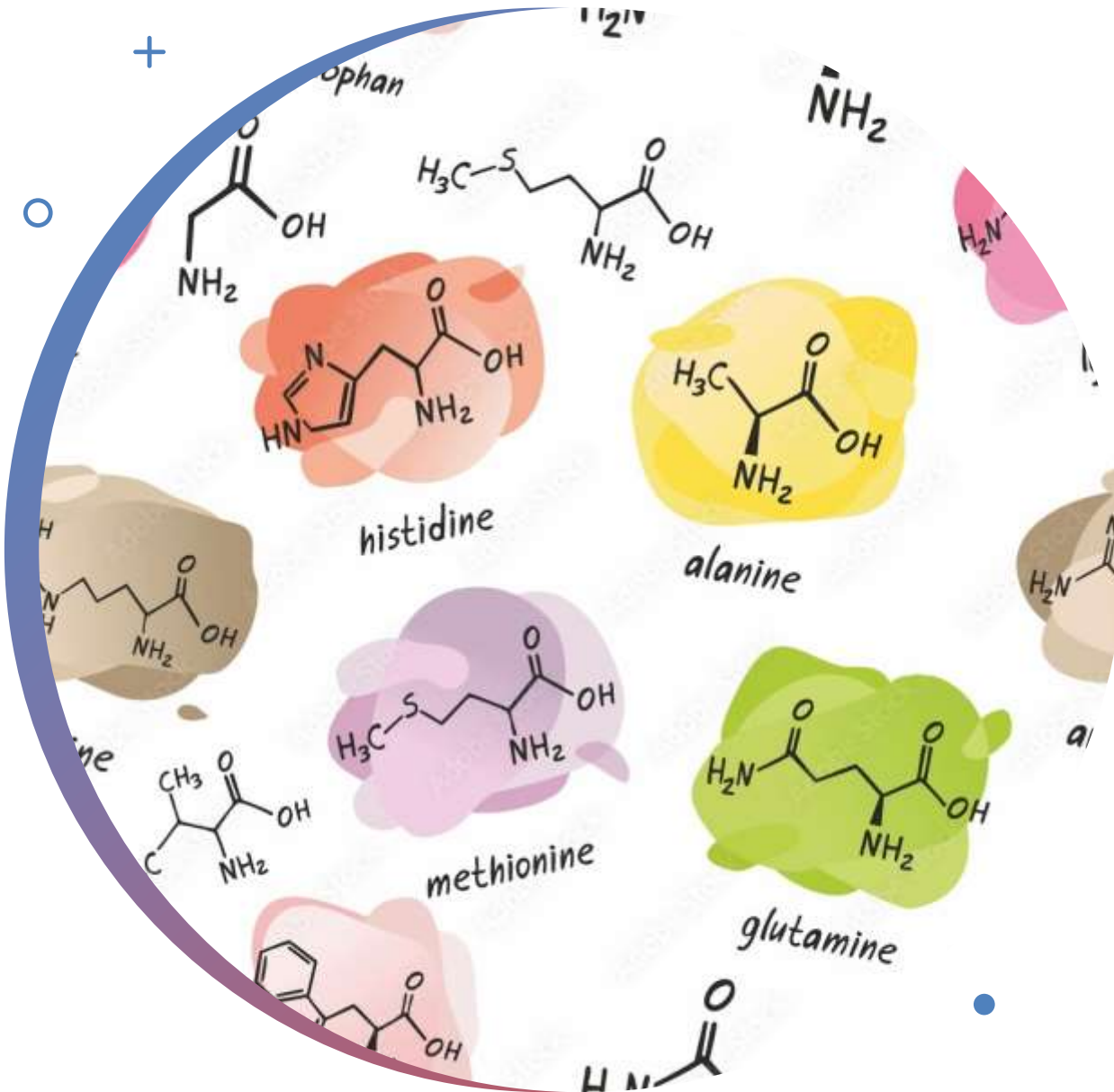
Carbohydrates



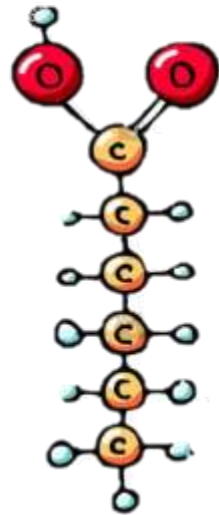
- Lactose 6-7 g/dL
- Helps in the absorption of calcium and growth of lactobacilli
- Galactose for galactocerebrosides

Proteins

- 0.9-1.1 g/dL
- Present in the form of Lactalbumin and lactoglobulin
- Amino acid – taurine and cysteine



Fats



FATS
vector illustration

- Polyunsaturated fatty acids help in myelination
- Omega-2 and omega-6 help in the formation of prostaglandins and cholesterol

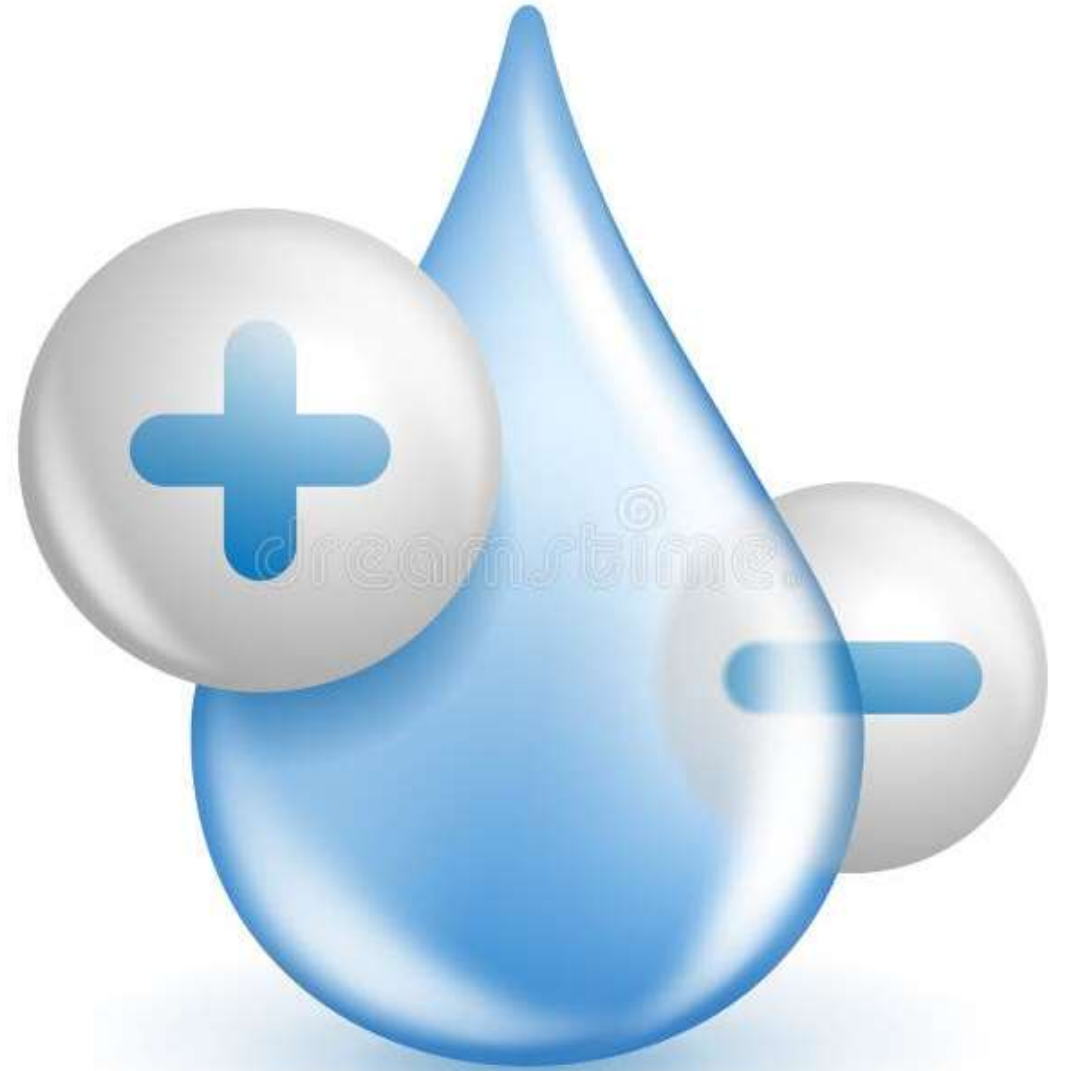
Vitamins and Minerals



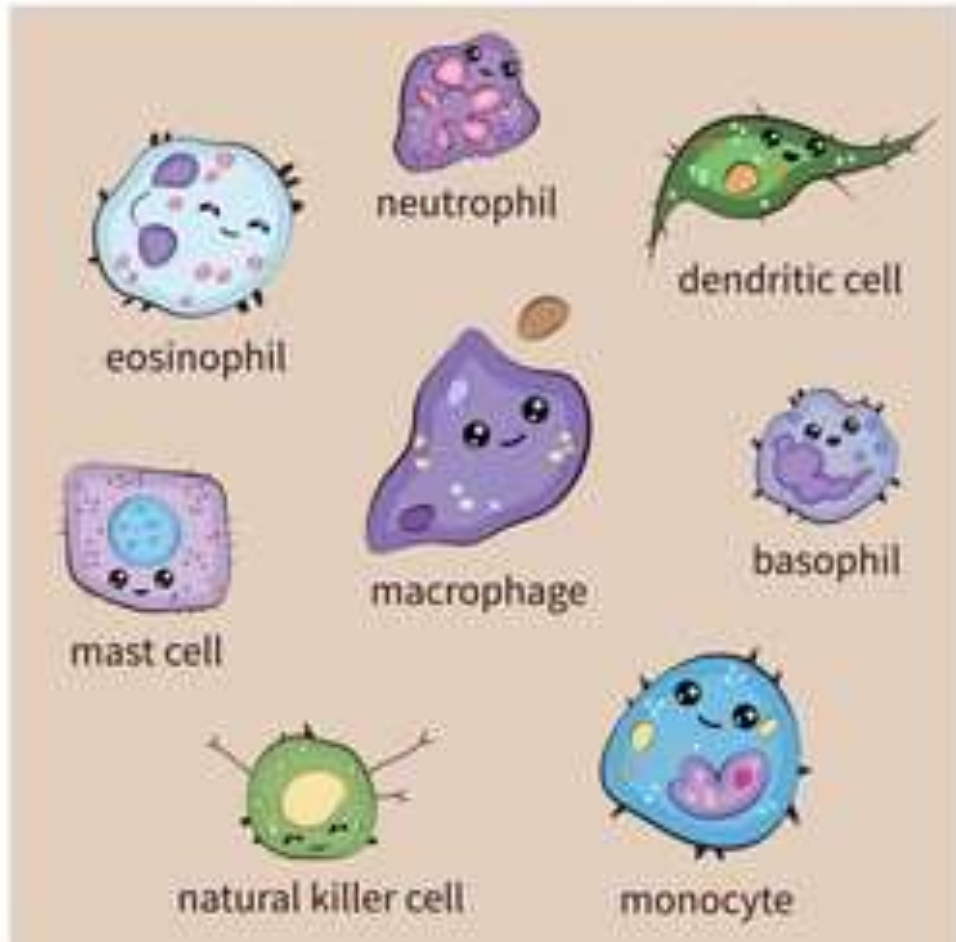
- Bioavailability
- Amount sufficient for baby till 6 months

Water and electrolytes


- 88 %, does not require additional water
- Osmolality is low
- Low solute load to kidneys



Immunological superiority



- IgA, Macrophages, lymphocytes
- Lactoferrin, Lysozyme, Bifidus factor
- Less likely to develop infections
- Less likely of morbidity due to diarrhoea



I'll be safer from diabetes
when I
grow up.

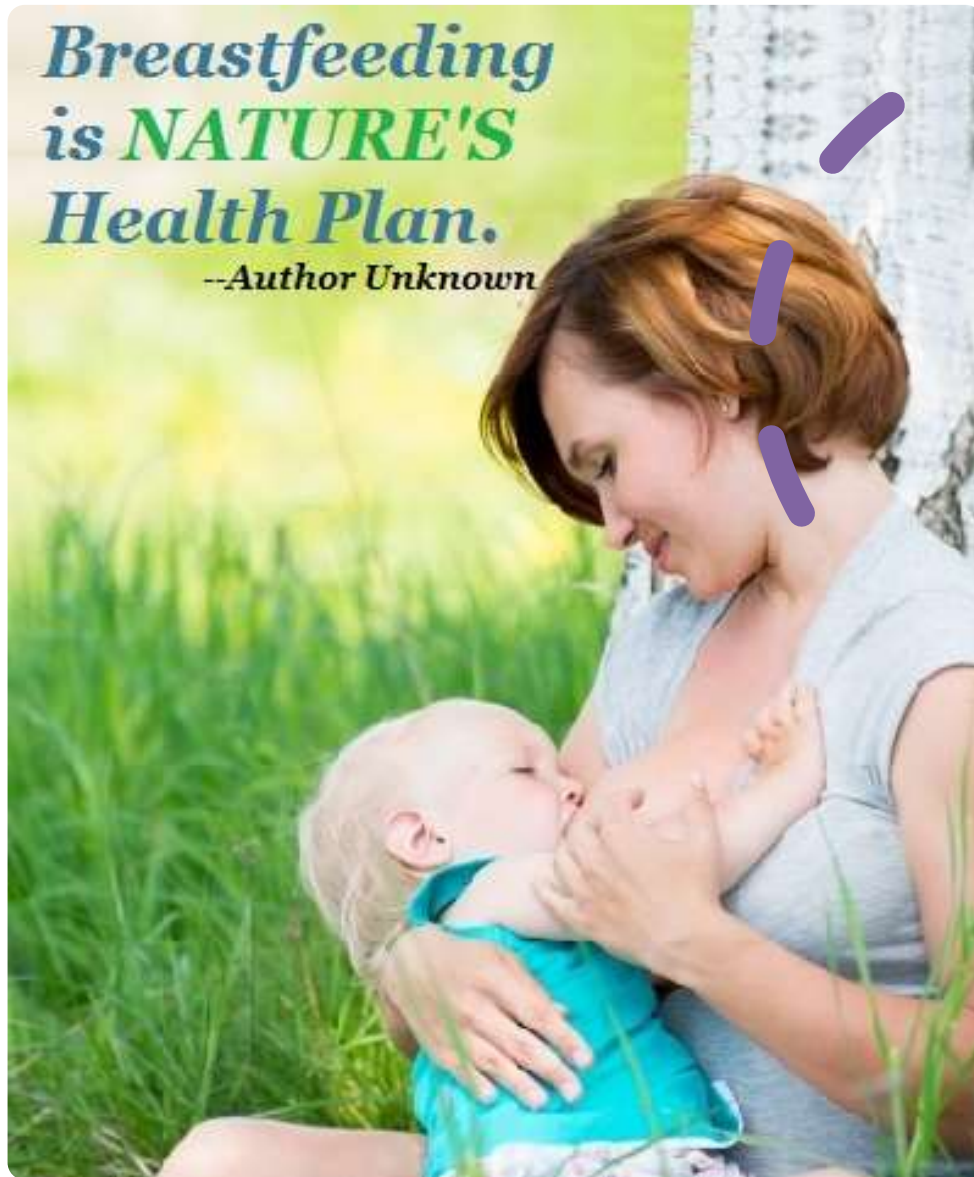
Know why?

Breastfeeding
Naturally.

Breastfed babies have a lower risk of diabetes and leukemia as they grow older. It's just one of the benefits for mother and child. Find out more at HealthyWfs.com/1f

Other benefits

- Growth factors, enzymes, and hormones
- Epidermal growth factors
- helps in maturation
- of intestinal cells
- Lipases – increase the digestion of fats
- Protection against other illnesses
- Mental growth

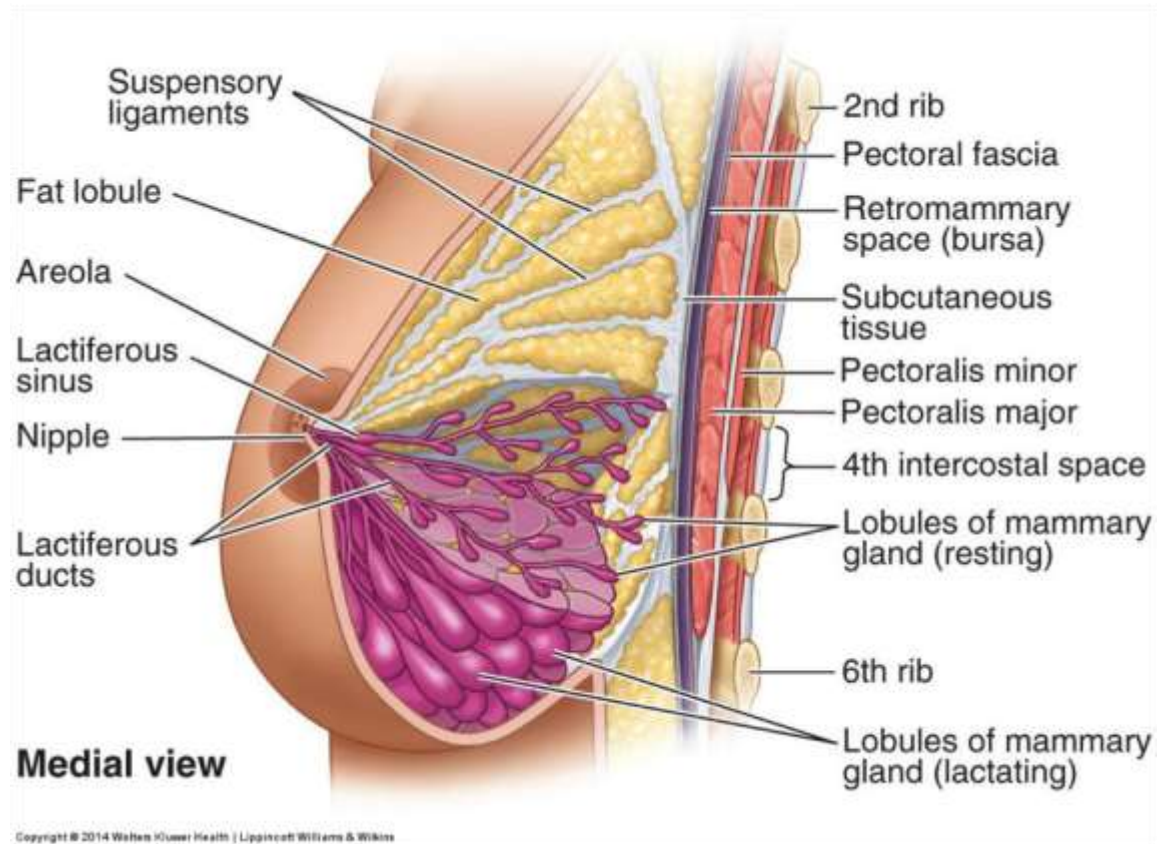


BENEFITS TO THE MOTHER

- Uterine involution
- Lactational amenorrhea
- Reduces the risk of breast carcinoma and ovarian carcinoma
- Helps to shed extra weight gained during pregnancy

ANATOMY AND PHYSIOLOGY

BREAST ANATOMY



- Glandular tissue

LOCATION:

-pectoral region

-four quadrants

EXTENT :

STRUCTURE OF THE BREAST

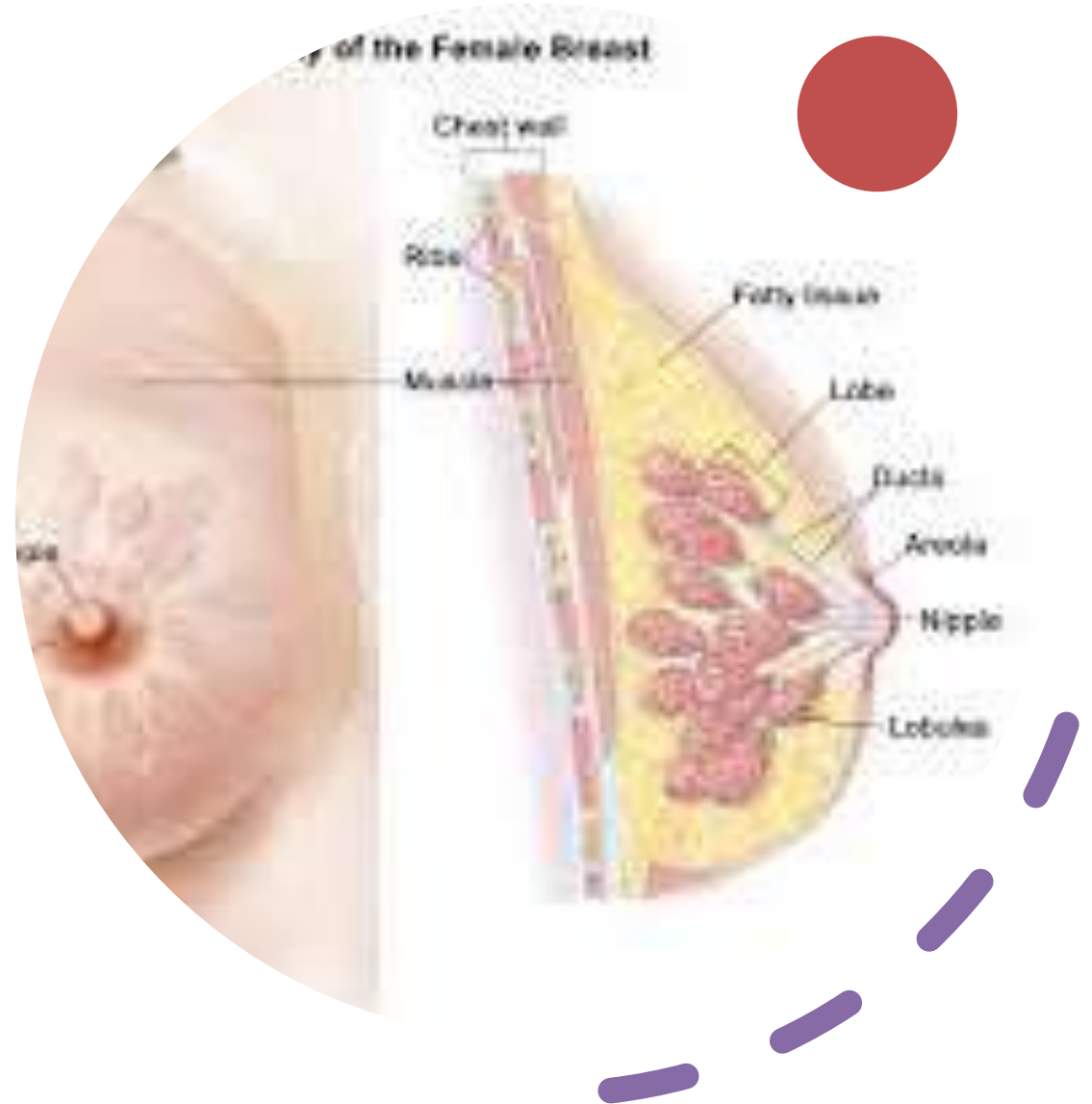
The skin

-Nipple:

Rich in its nerve supply and has many sensory end organs

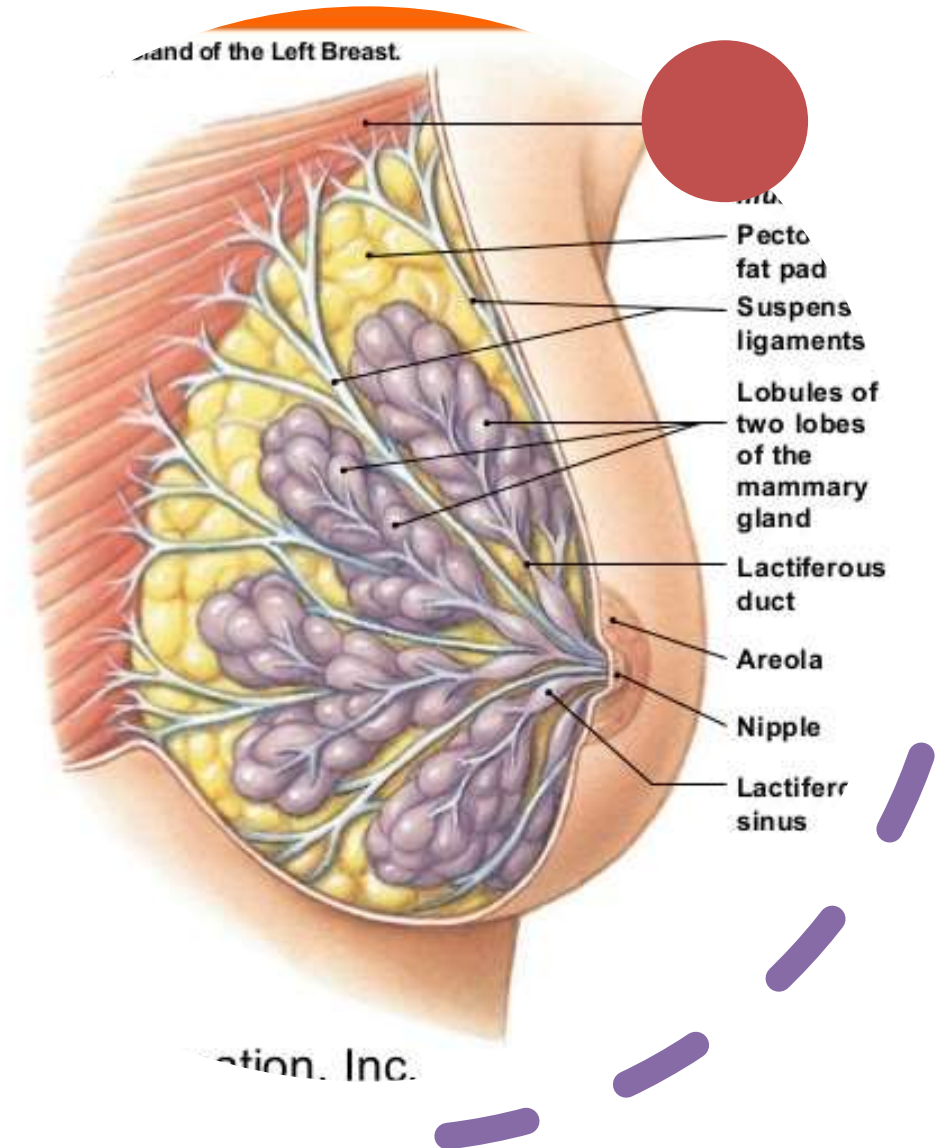
-Areola:

Rich in modified sweat glands, Oily secretions- Lubricate, preventing them from cracking



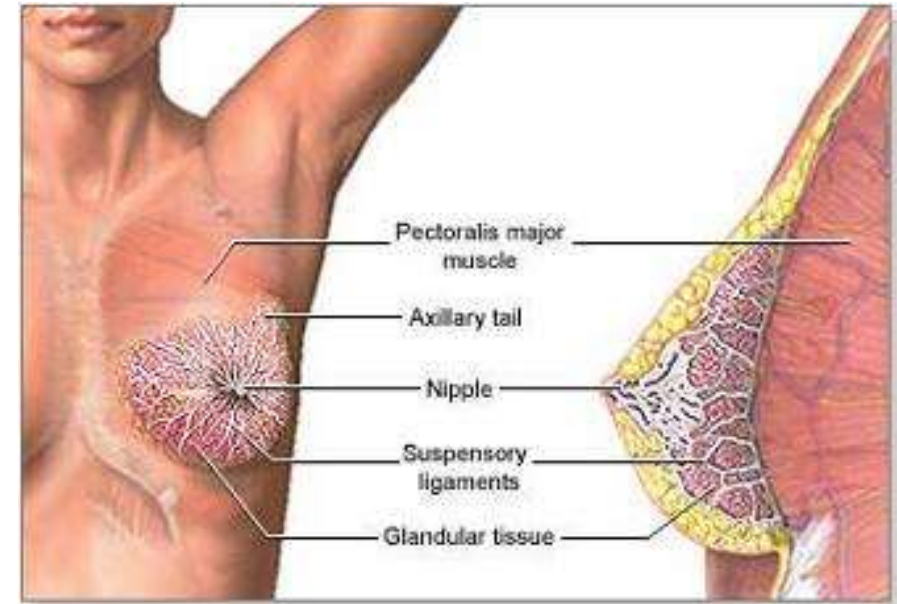
The parenchyma

- Glandular tissue
- 15-20 lobes
- Each lobe-cluster of alveoli
- drained by a lactiferous duct
- lactiferous sinus



Alveolar epithelium:
Resting phase-cuboidal
Lactation -columnar
• Myoepitheliocytes:

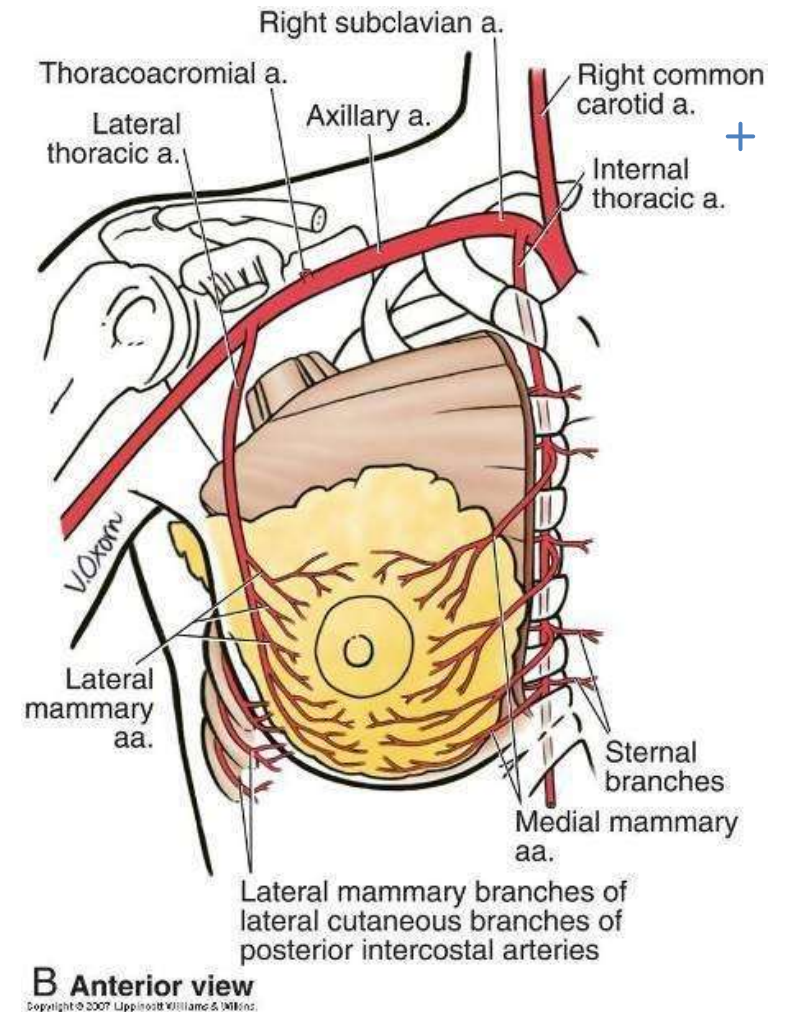
The stroma
-fibrous, fatty
-fibrous-----suspensory ligaments of
Cooper



BLOOD SUPPLY

ARTERIAL SUPPLY:

1. Internal thoracic artery
2. Lateral thoracic, superior thoracic, acromiothoracic arteries
3. Lateral branches of posterior intercostal arteries

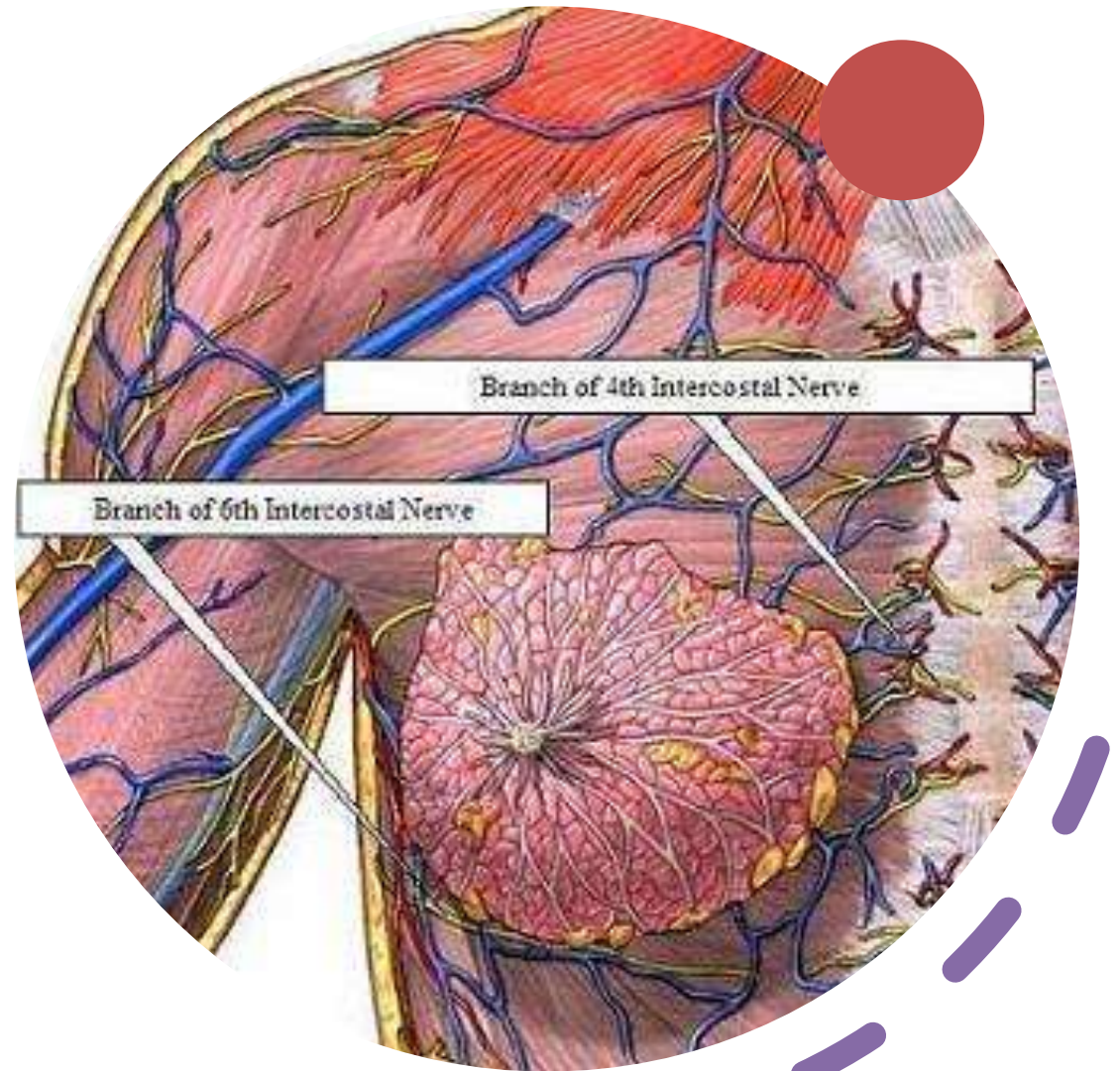


Venous drainage:

- Anastomotic venous circle

Nerve supply:

- Anterior and lateral cutaneous branches of 4th to 6th intercostal nerves
- Nerves do not control the secretion of milk



PHYSIOLOGY OF BREASTFEEDING

- Lactogenesis: complex phenomenon
- Prolactin reflex
- Oxytocin reflex

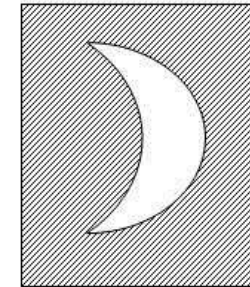
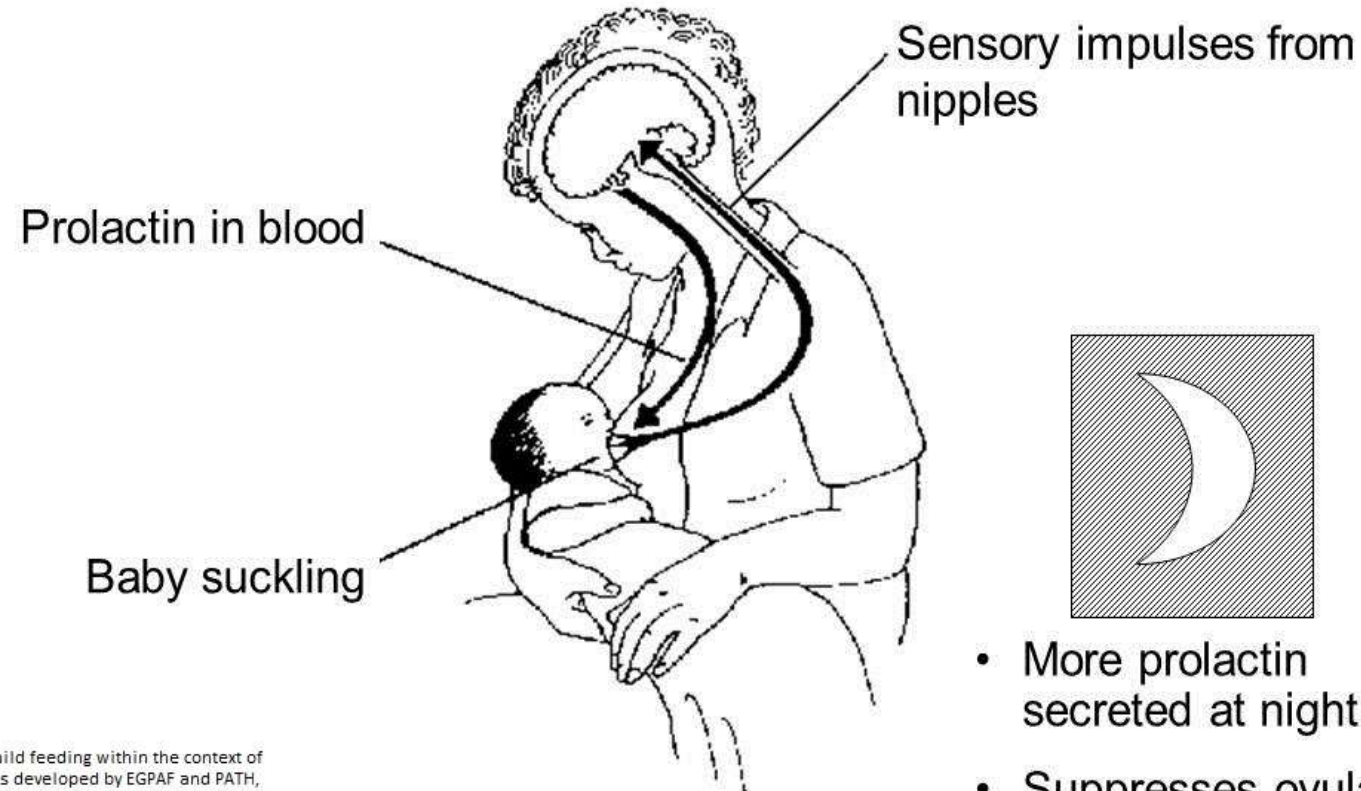


PROLACTIN REFLEX

3/2

Prolactin

- Secreted *during* and *after* feed to produce *next* feed



- More prolactin secreted at night
- Suppresses ovulation

OXYTOCIN REFLEX

3/3

Oxytocin reflex

- Works *before or during* feed to make milk flow



FACTORS WHICH REDUCE MILK PRODUCTION

Dummies, pacifiers, bottles

Supplements: sugar water, gripe water, honey, breast milk substitutes

Painful breast conditions: sore, cracked nipples

Lack of night feeding



*Baby
Reflexes*

REFLEXES IN THE BABY

1. The rooting reflex
2. The suckling reflex
3. The swallowing reflex

Reflexes in the baby

Rooting Reflex

When something touches lips, baby opens mouth, puts tongue down and forward

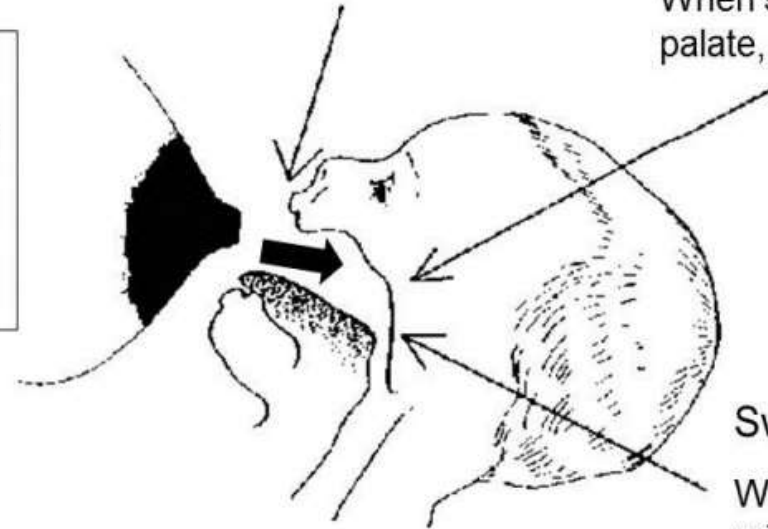
Sucking Reflex

When something touches palate, baby sucks

Swallowing Reflex

When mouth fills with milk, baby swallows

<p>Skill</p> <p>Mother learns to position baby</p> <p>Baby learns to take breast</p>



Rooting reflex

- This reflex begins when the corner of the baby's mouth is stroked or touched .



- **ONSET-28 WEEKS OF IU**
- **WELL, ESTABLISHED-32-34 WEEKS OF IU**
- **DISAPPEARS -3-4 MONTHS**

Suckling reflex

- **APPEAR AT 28 IU**
- **WELL, ESTABLISHED 32-34 WEEKS**
- **DISAPPEARS AT 12 MONTHS**



Swallowing reflex

- APPEARS AT 12 WEEKS OF IUL
- ESTABLISHED AT 32-36 WEEKS OF IU



COMPOSITION OF BREAST MILK (TERM INFANTS)

Components	Mean value (per 100ml)
Energy (KJ)	280
Energy (kcal)	67
Protein (g)	1.3
Fat (g)	4.2
Carbohydrate (g)	7.0
Sodium (mg)	15
Calcium (mg)	35
Phosphorus (mg)	15
Iron (mcg)	76
Vitamin A (mcg)	60
Vitamin C (mg)	3.8
Vitamin D (mcg)	0.01

Variation in composition during different Stages of lactation

The composition of milk changes after the birth of the baby according to the needs

- Colostrum

Secreted during the initial 3-4 days after delivery containing more [antibodies proteins and vitamins](#)

- Transitional milk

Secreted after 3-4 days until 2 weeks containing more [fats and sugar content](#)

- Mature milk

Which is thinner and watery

What about preterm babies?????

TYPES OF BREAST MILK

- Fore milk
 - ✓ secreted at the **start of the feed**.
 - ✓ is watery and rich in **proteins, sugar, vitamins, minerals and water**
- Hind milk
 - ✓ comes towards the **end of feed**.
 - ✓ richer in **fat** content and provides more **energy**

TECHNIQUES OF BREAST FEEDING



TRADITIONAL OR CRADLE HOLD

- **Sit as straight as possible**
- **Cradle the baby in the arm**
- **The ear, shoulders and hip should be in a straight line.**
- **Tuck the baby's lower arm out of the way, with her mouth close to the breast.**
- **Support the breast with the free hand**



CROSS CRADLE HOLD

- This is similar to the previous method except that the baby is cradled with the arm, the baby's tummy against the mother's tummy and the hand behind the baby's head.
- The ear, shoulders and hips should be in a straight line.



FOOTBALL OR CLUTCH HOLD

- Position the baby so her legs and body are under the arm, with the hand holding her head
- Allow the baby to latch-on while pulling the baby close, holding the head tightly against the breast.
- Keep the baby's body flexed at the hip with the legs tucked under the arm.





The football hold is a good position when:

- There is a caesarean birth
 - The need for more visibility in getting the baby to latch-on.
 - The breasts are large.
 - The baby is very small, especially if premature.
 - the baby tends to slide down the areola onto the nipple.
 - the baby is fussy, restless and hard to latch-on.
 - The baby is sleepy
 - The mother has inverted nipples.
-

SIDE-LYING POSITION

- First, the mother has to position herself and the baby on her sides tummy-to-tummy.
- Bend the top leg and position with pillows.
- Place the fingers beneath the breast and lift upward, then pull the baby in close as he/she latches-on.
-

Feeding Positions:
Side-lying Using
Modified Cradle



LATCHING ON

1. Sit or lie tummy-to-tummy with the baby.
2. Bring the baby close to the breast.
3. Touch the nipple to the baby's lower lip.
4. When his/her mouth opens wide, quickly pull your baby in to latch on. Bring the baby towards the breast, not the breast to his/her head.
5. The baby will be able to breathe even though his/her nose may press against the breast.

SIGNS OF CORRECT LATCH ON

- The baby's mouth should surround the tip of the nipple and about one inch of the areola.
- The lips should be turned outward against the breast.
- The motion of the suck is along the jaw, not in the cheeks.





SIGNS OF CORRECT LATCH ON

4. Baby's ears, shoulder and hip should be in a straight line.
 5. Breastfeeding should not hurt.
 6. There should be feel of a rhythmic tug on your breast, and a little bit of nipple tenderness is normal during the learning period.
-

How to take the baby off your breast after breastfeeding??

- Break the suction by slipping the little finger in the corner of the baby's mouth between her gums.
- Don't remove the baby from the breast until the suction is released, or sore nipples may result.
- The suction is usually quite strong

BURPING

- Burp the baby after feeding at each breast and at the end of the feeding
- When burping the baby, remember to apply some gentle but firm pressure on the abdomen.
- Helpful positions to burp include:
 1. Propped up with baby's tummy against the shoulder.
 2. Lying tummy-down across the lap.
 3. Sitting up, leaning over with the supportive hand under baby's arm.



CONTRAINDICATIONS & ALTERNATIVES OF BREAST FEEDING

Breast Feeding may not be the best interest of the baby in following conditons:

Fetal Factors:

Galactosemia.

Maternal Factors:

- active untreated T.B. & H.I.V positive
- T lymphotropic virus type 1 & 2
- Herpes lesion on breast



- ▣ Maternal Drugs

- Chemotherapy agents & antimetabolites
 - Drugs of abuse – discontinue breastfeeding until drugs are out of maternal system
 - Primaquine and Quinine – contraindicated if infant has G6PD
-



Metronidazole – discontinue breastfeeding until at least 12-24 hours after medication

Sulfa drugs – may be a problem in infants with jaundice or G6PD, stressed or premature (can cause kernicterus)

Radioactive isotope – discontinue BF for as long as the radioactivity is in the milk



BENEFITS OUTWEIGHING THE RISKS

- Mother is –
 - Hepatitis B surface antigen positive
 - infected with Hepatitis C virus
 - carrier of cytomegalovirus (except for possibly very low birth weight babies)
 - Mother smokes – advise her to give up smoking and not smoke in the home.
-

- ▣ Alcoholic Mother—
Occasional drinking—not harmful .
Can breastfeed after 2 hrs of drinking.
- ▣ Occasionally, in rare cases of hyperbilirubinaemia (breastmilk jaundice) breastfeeding may need to be interrupted temporarily.



ALTERNATIVES OF BREAST FEEDING



i .) Expressed Breastmilk

ii .) Wet Nurse

iii .) Formula
Feeding

EXPRESSED BREASTMILK

Mother –not in a position to feed her baby(illmother,preterm baby,working mother)

(OR)

in engorged breasts.

Precautions:

- should in a hygenic conditions
- stored at room temperature for 10hrs
- In refrigerator for 24 hrs
- In freezer at -20 c for 3 months.



WET NURSE (Donor Milk):

A woman who breast feeds & cares for someone's child.

Advantage :
similar to mother's breastmilk.

Disadvantage:
Screening process and Blood Test.



ARTIFICIAL / FORMULA FEEDING

- ▣ Infant formula is a manufactured food designed and marketed for feeding to babies and infants under 12 months of age, usually prepared for bottle-feeding or cup-feeding from powder (mixed with water) or liquid (with or without additional water).



DIFFERENT FORMS OF FORMULA:

- ▣ Ready to Use
- ▣ Liquid Concentrate
- ▣ Powdered.



READY TO USE:

Advantage:

- most convenient
- if no access to safe water

Disadvantage:

- expensive
- short lifespan(within 48 hrs)
- more storage space.



Liquid Concentrate Formula:

- ▣ **Advantage:**
- ▣ less expensive than the latter .
- ▣ less storage space.
- ▣ **Disadvantage:**
- ▣ expensive than powdered
- ▣ mix equal amount of water.
- ▣ lining of the cans contain BPA

POWDERED FORMULA

- ▣ **Advantage:**
 - longer life span (1 month)
 - less storage space
 - canned powdered formula -less BPA
- ▣ **Disadvantage:**
 - takes time to prepare(acc to instructions.)



TYPES OF FORMULA

Cow's-milk-based formula

Lactose free formula

Soy based formula

Extensively hydrolyzed formula

Formula for premature and low-birth-weight babies

ADVANTAGE OF FORMULA FEEDING



- ▣ Safe
- ▣ Bacteria Free
- ▣ Scientifically prepared
- ▣ Can be Fortified
- ▣ Simple to reconstitute



DISADVANTAGE OF FORMULA FEEDING



**The
baby
killer**

**Must follow the instructions
properly**

More dilution (to save money)

**Dirty bottles & Nipples can
kill
the baby.**

**Cannot kept in room
temperature
for >2 hrs.**

MYTHS ABOUT BREASTFEEDING



MYTHBUSTERS



- ❧ Colostrum is dirty and should not be given
- ❧ If babies feed a lot they aren't getting enough milk
- ❧ Formula fed babies sleep better
- ❧ Breastfeeding is painful
- ❧ Never wake a sleeping baby to breastfeed
- ❧ Breastfeeding prevents you from becoming pregnant
- ❧ You cant breastfeed after breast surgery

COLOSTRUM



- ❧ In many cultures throughout the world infants are not given colostrum because it is believed to be dirty and unclean
- ❧ In many countries around the world, especially in Asia, babies are given tea and sugar water for the first few days.
- ❧ Colostrum is actually liquid gold
- ❧ Helps protect gut from harmful substances, easy to digest and has a laxative effect.
- ❧ It is also high in white blood cells and antibodies which help fight infection.

IF BABIES FEED A LOT...



- ❧ ...that means they aren't getting enough milk
- ❧ Breast milk is easier to digest because of their high protein low fat content.
- ❧ Babies being breastfed get hungrier sooner.
- ❧ So babies that breastfeed usually eat every two to three hours



FORMULA FED BABIES...



- ❧ ...sleep better
- ❧ Research shows formula fed babies sleep longer.
- ❧ Due to formula milk taking longer time to digest
- ❧ Formula milk stays in the baby's system longer, it begins to ferment.
- ❧ The result...



BREASTFEEDING...



- ❧ ...is painful
- ❧ Mother's nipples may feel tender for the first couple of weeks
- ❧ But if baby is latching properly, there is no real pain or soreness
- ❧ It's important to go to the hospital and get advice from the doctor about correct breastfeeding techniques

NEVER WAKE A SLEEPING...



- ❧ ...baby to breastfeed
- ❧ Actually the baby will wake you to when he/she is ready to eat.
- ❧ Time period is usually two and half to three hours.
- ❧ Baby may also feed vigorously for two to three hours, known as “cluster feedings”.
- ❧ Should never sleep for more than four and half hour period per day

BREASTFEEDING PREVENTS YOU..



- ❧ ...from becoming pregnant
- ❧ Breastfeeding isn't a guaranteed birth control
- ❧ Up to 98% effective as other method of birth control
- ❧ Hormones involved in breastfeeding prevent ovulation from 6months up to 14 months.



YOU CAN'T BREASTFEED...



- ❧ ...after surgery
- ❧ In the western world some have breast implants.
- ❧ These surgeries often don't involve incisions on the underside of the breast, so it doesn't effect milk production or delivery.
- ❧ Women who have undergone breast reduction surgery on the other hand have it more difficult, especially if never ending around the nipple have been cut

TRUTH



- ❧ Protection against Post Partum Depression
- ❧ Studies show that women who breastfeed were less likely to be diagnosed with post partum depression.
- ❧ Researchers suspect oxytocin a “feel-good” hormone produced when a baby nurses.
- ❧ If breast feeding is going on well mothers have a confidence that they can provide for the baby

TRUTH



- ❧ It helps you shed baby weight
- ❧ Mothers who breastfeed loose about 300-500 extra calories a day compared those who formula feed.
- ❧ It releases hormones that trigger uterus to return to its pre baby size and weight faster.



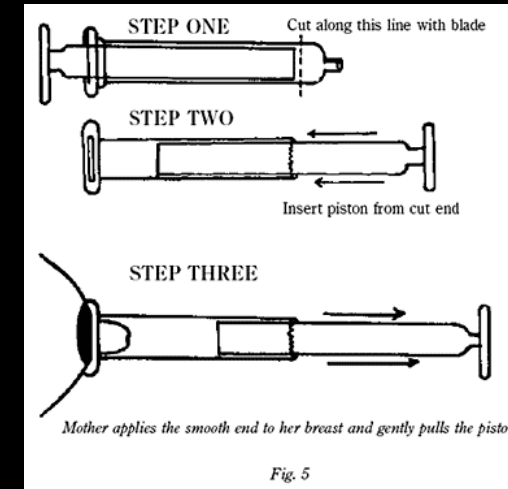


PROBLEMS IN BREASTFEEDING



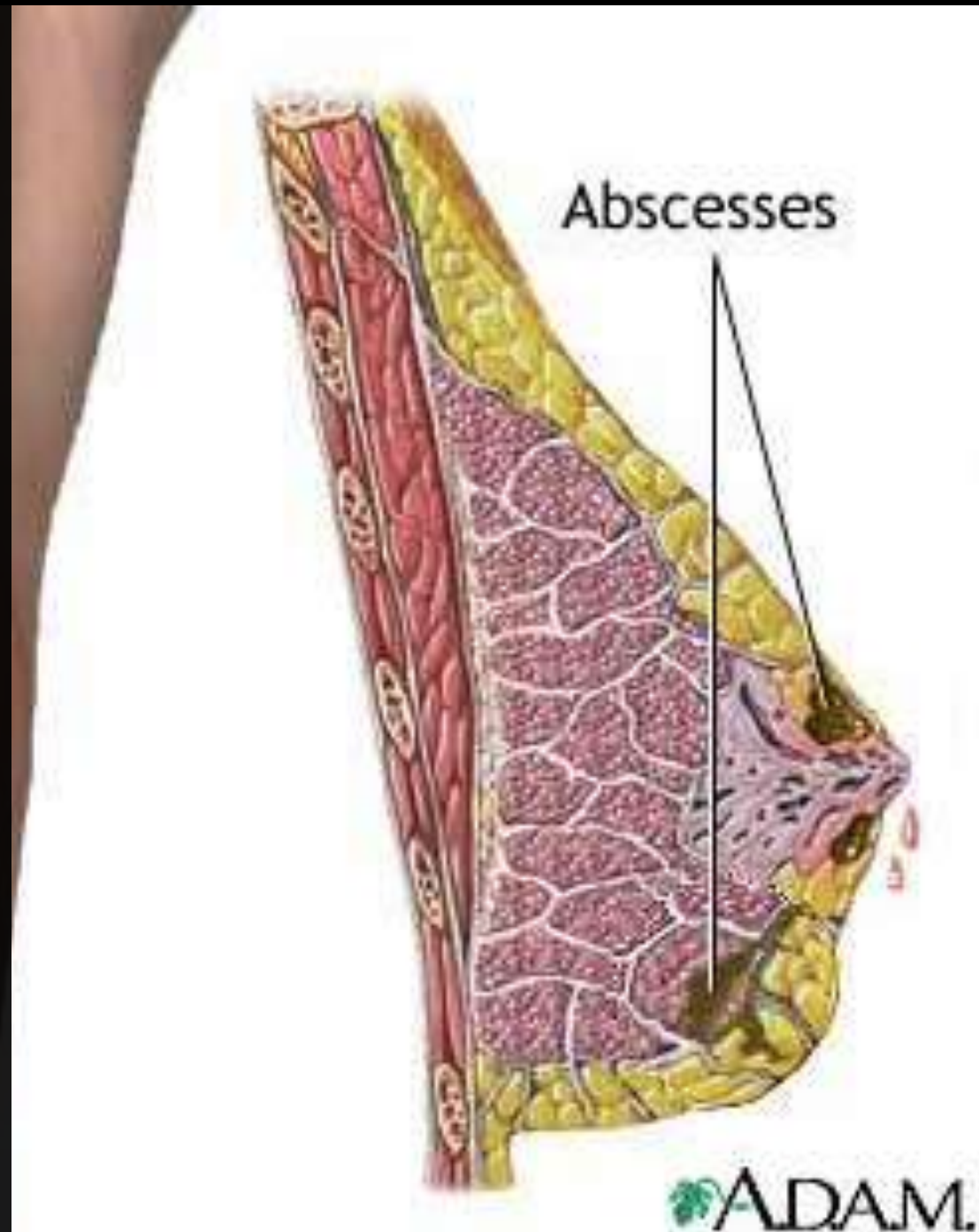
INVERTED NIPPLE

- Make difficulty in attachment
- Improper suckling may cause sore and excoriated nipple
- Treatment:
 - Manual eversion
 - Plastic syringe
 - Nipple Shield



SORE NIPPLE

- Causes
- Improper latching
- Frequent washing with soap and water
- Pulling of baby while still suckling
- Treatment:
 - proper positioning and latching
 - local hygiene
 - expose to air ,application of breast milk or lanolin , use nipple shield



BREAST ENGORGEMENT

- **CAUSES**
- **Delayed or infrequent feeding**
- **Improper latching and positioning**

- **Engorged breast: swollen, hard, warm and painful**



BREAST ENGORGEMENT

Prevention:

- early and frequent feeds
- Breastfeed on demand
- Correct attachment

Treatment:

- warm water packs, breast massage, analgesics
- Milk expressed to soften breast



PLUGGED DUCTS

- present as a palpable lump or area of the breast that does not soften during a feeding or pumping session.

Causes:

- ill-fitting bra, tight, constricting clothing, or a missed or delayed feeding/pumping.

Treatment

- Frequent feedings or pumping sessions
- moist heat and breast massage before and during feeding
- Proper Positioning



MASTITIS AND BREAST ABSCESS

CAUSES

- Engorged breast
- Cracked nipple

Clinical features:

- High grade fever, raised blood count

Treatment:

- Analgesics, Antibiotics
- Incision and drainage



INADEQUATE MILK INTAKE

- **Causes**
- **Incorrect method of breastfeeding**
- **Insufficient milk production**
- **Any illness**
- **Painful condition**
- **Maternal stress and insufficient sleep**

- **Advice to mother**
- **Sufficient rest**
- **Adequate fluids intake**
- **Feed baby on demand**



BREASTFEEDING JAUNDICE

- occur in the first week of life in more than 1 in 10 breastfed infants.
- inadequate milk intake, leading to dehydration or low caloric intake.
- type of physiologic or exaggerated physiologic jaundice.

BREAST MILK JAUNDICE

- **1 in 200 babies.**
- **visible after > 1 week**
- **Declines in the 2nd or 3rd week.**
- **caused by substances in mother milk that decrease the infant's liver's ability to deal with bilirubin.**
- **Breast milk jaundice rarely causes It is usually not a reason to stop nursing.**

SPECIAL SITUATIONS



- 1. Congenital anomalies may require special management.
 - a. Craniofacial anomalies (i.e., cleft lip/palate, Pierre-Robin)
- Treatment
- Modified positioning
- special devices (i.e., obturator, nipple shield) may be utilized to achieve an effective latch..

SPECIAL SITUATIONS



- b. Cardiac disease/defects may require fluid restriction status of the infant and special attention to pacing of feeds to minimize fatigue during feeding.
- c. Ankyloglossia (tongue tie)
- Frenulotomy is often the treatment of choice

SPECIAL SITUATIONS

- **2. Premature infants**
- **Mechanical milk expression concurrent with breastfeeding**
- **Weighing the infant before and after breastfeeding**
- **Kangaroo care**

AT A GLANCE

ADVANTAGES OF BREAST FEEDING

Advantages

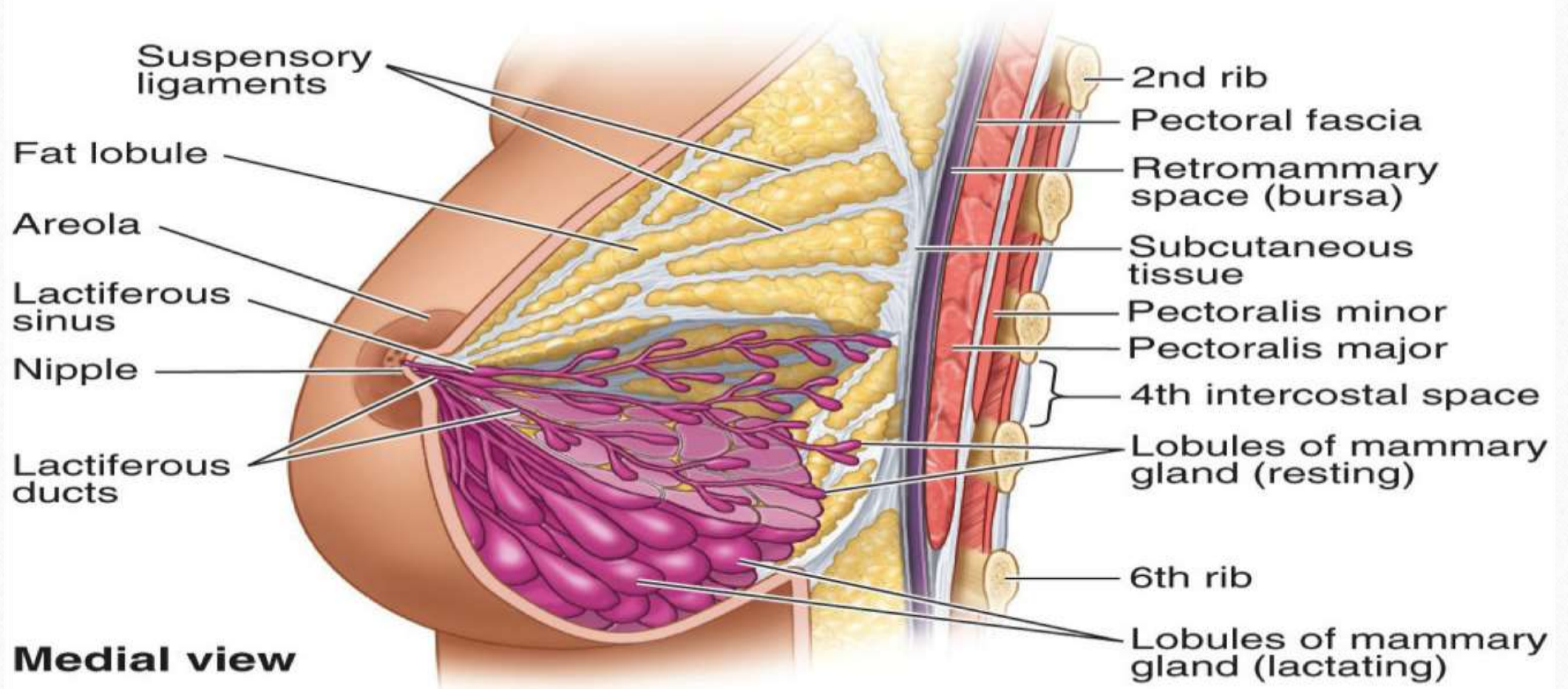
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graph TD; A[Advantages] --- B[Baby]; A --- C[Mother]; A --- D[Family];
```

Baby

Mother

Family

ANATOMY AND PHYSIOLOGY



Medial view

Pituitary releases prolactin and oxytocin.

Stimulation of nerve endings in mother's nipple/areola sends signal to mother's hypothalamus/pituitary.

Hormones travel via bloodstream to mammary gland to stimulate milk production and milk ejection reflex (let-down).

Infant suckles at the breast.



CONTRAINDICATIONS OF
BREASTFEEDING

Fetal Factors:

- Galactosemia.

Maternal Factors:

- active untreated T.B. & H.I.V positive
- T lymphotropic virus type 1 & 2
- Herpes lesion on breast
- Maternal Drugs
 - Chemotherapy agents & antimetabolites
 - Drugs of abuse
 - Primaquine and Quinine –
contraindicated if infant has G6PD



“The nature has designed the provision that infants be fed upon their mother’s milk. They find their food and mother at the same time. It’s a complete nourishment for them both for their body and soul”- Rabindranath Tagore

Breastfeeding and Work



Let's make it work!

worldbreastfeedingweek.org

BREAST FEEDING IS A TEAM EFFORT.



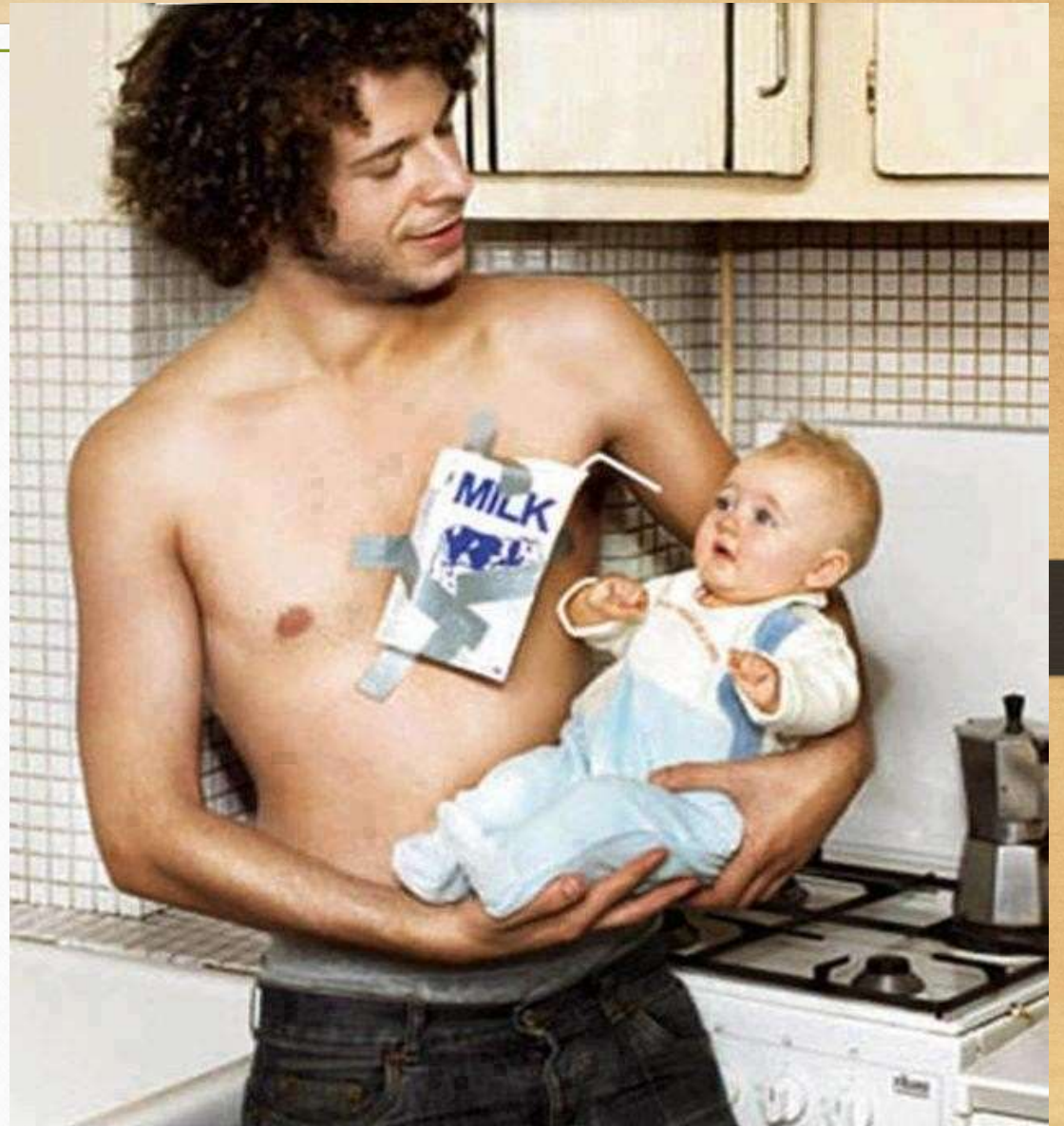
Cumbria Partnership NHS Foundation Trust

"My wife has given Emilia the best possible start and I love her for that."

Steve Stamper
Former Carlisle Rugby Club Captain



www.cumbriapartnership.nhs.uk/breastfeeding



THE LOLBRRARY.com/post/16783/



**Are animals more
intelligent than
humans?**

**Only
animals
drink
the milk
from their
mother.**



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स्तनपान – अमृतसमान



BREASTFEED FOR FUTURE





MUM'S
HALF
ASLEEP
AGAIN!

Thank You

