ANATOMY, FUNCTION AND DEVELOPMENT OF THE FEMALE BREAST

Main Function of the Breast: to produce and secrete breast milk

Appearance:

• each breast is generally circular or tear drop in shape
• one breast is often larger than the other
• a nipple is in the center of each breast
• the nipple may stand out, be flat or pulled in
• the colored area around the nipple is called the areola
• the areola may be pink, brown or black like a person's complexion
• little bumps called Montgomery’s glands may be seen on the areola
• hair follicles are common around the nipple

Position:

• the breast extends from the collar bone to bra line and breast bone to the armpit
• breasts are positioned over the ribs and two muscles
  • the muscles are called the pectoralis major and pectoralis minor muscles

Composition:

• each breast has 15-20 lobes
• each lobe has many small lobules (imagine a stem of grapes)
• breast milk is produced in the lobules
• slender tubes called ducts carry the breast milk to the nipple
• the nipple has 6-8 openings where the milk is secreted
• fatty and fibrous tissue provide shape and support to the breast
BREAST DEVELOPMENT

Fetal Development:

- begins during the 6th week of fetal life
- develops in a line called the milk ridge which runs from the armpit to the groin
- line shrinks by the 9th week of fetal life remaining only in the chest area
- in animals the ridge remains which is why they have multiple nipples
- occasionally a woman will have an extra nipple (on this line) which is often mistaken for a birthmark

At Birth:

- breast tissue is present
- the tissue is sensitive to the hormones circulating through the placenta which nourishes the baby
- 80-90% of all infants (boys & girls) have nipple discharge on the 2nd or 3rd day of life
- this discharge is called *witch’s milk* and goes away within a couple of weeks as the baby is no longer getting the mother’s hormones

At Puberty:

- a little bud of breast tissue begins to grow under the nipple
- the bud may be itchy and is sometimes very sensitive
- the ducts begin to grow and reach full growth around the time menstruation begins (1-2 years after the breasts begin to grow)
- one breast may develop more quickly than the other (one breast may always be larger)
- the female hormones estrogen and progesterone affect breast growth
  - estrogen increases ductal tissue growth
  - progesterone increases lobular tissue growth

Breast Size:

- there is a large variation in breast size
- the proportion of milk glands, ducts and fat in the breast changes with age
  - during puberty the breast is mainly ducts
  - breasts of 20 year old women are mainly lobular (milk glands) tissue
  - size increases dramatically in pregnant and breastfeeding women
  - breasts of women over 50 years are mainly fatty tissue
- because of the fatty makeup of breasts, size can change as one’s body shape and size changes
- size does not affect breast feeding or breast milk production
- boys go through hormonal changes and sometimes develop a condition called gynecomastia, this usually goes away on its own within 18 months, if not surgery can be done