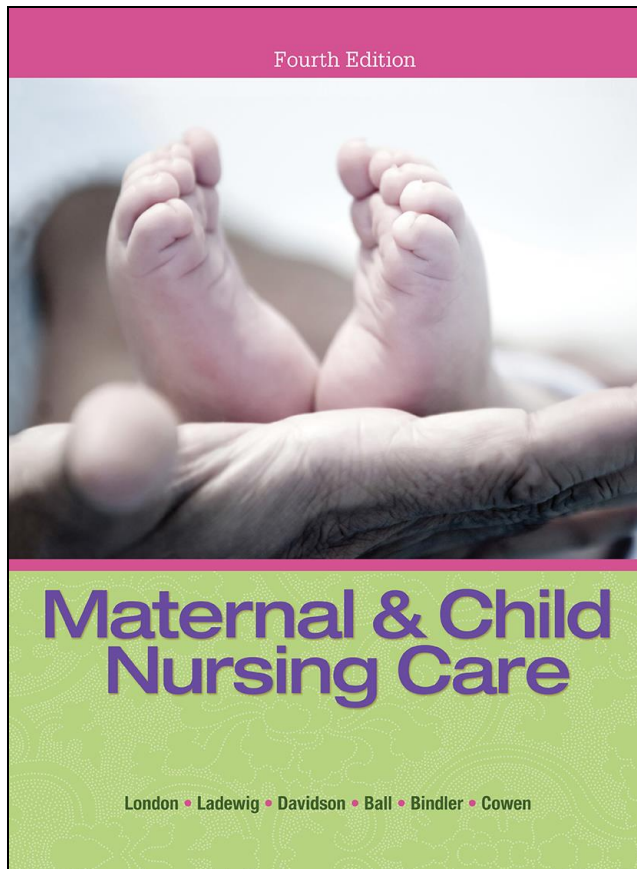


# MATERNAL & CHILD NURSING CARE

FOURTH EDITION



## CHAPTER 26

The Normal  
Newborn: Needs,  
Care, and Feeding

## Learning Outcome 26-3

Explain the advantages and disadvantages of breastfeeding and formula-feeding in determining the nursing care of both mother/family and newborn.

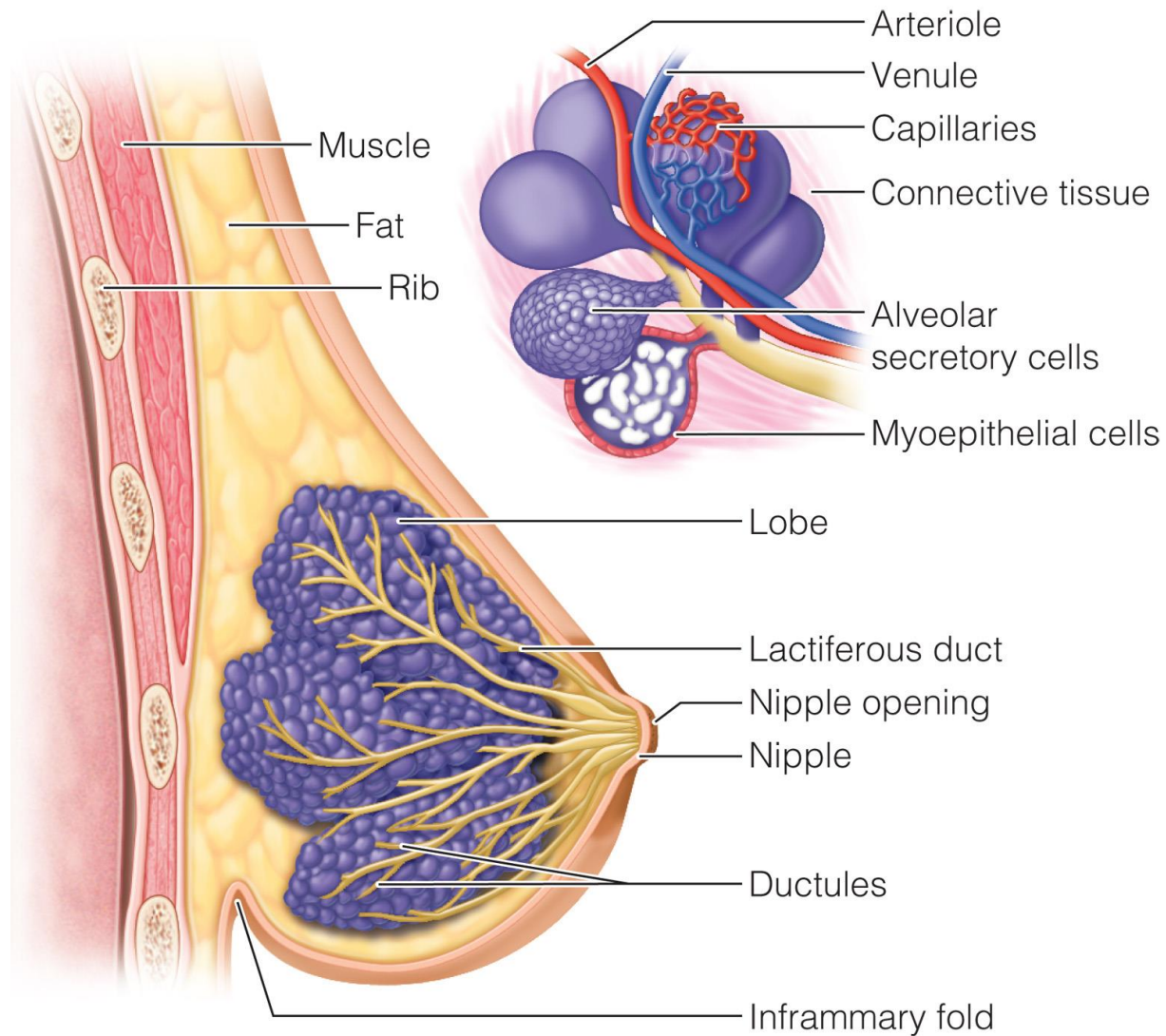
# Breastfeeding

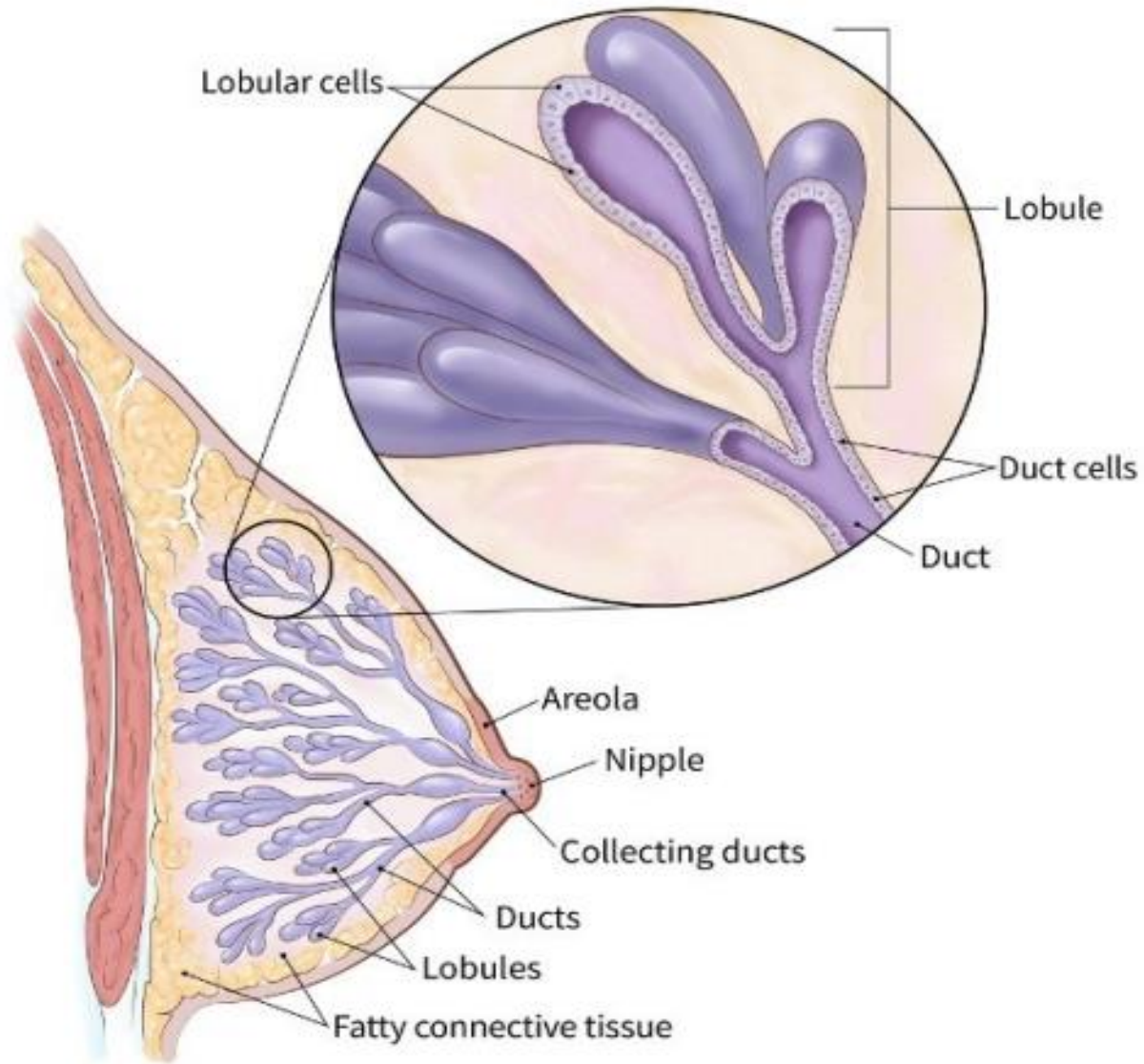
- Breast milk production
  - Breast divided into 15–20 lobes
  - Separated by fat, connective tissue
- Physiologic and endocrine control of lactogenesis
  - Elevated estrogen, progesterone → breast duct proliferation & development
  - Prolactin: ant. Pit. gland
    - Released in response to breast stimulation

# Breastfeeding

- Physiologic and endocrine control of lactogenesis
  - Foremilk: high protein, low fat
    - Milk at the start of feeding, pumping
  - Let-down reflex
    - Oxytocin
      - Ejects milk and fat globules into ducts
    - Milk that flows is hindmilk

**Figure 30-1** Anatomy of the breast.





# Lactation Anatomy and Physiology

Latch On and sucking



Oxytocin Release



Releases Milk



Infant Empties Breast



Production Increases



Milk Production Occurs

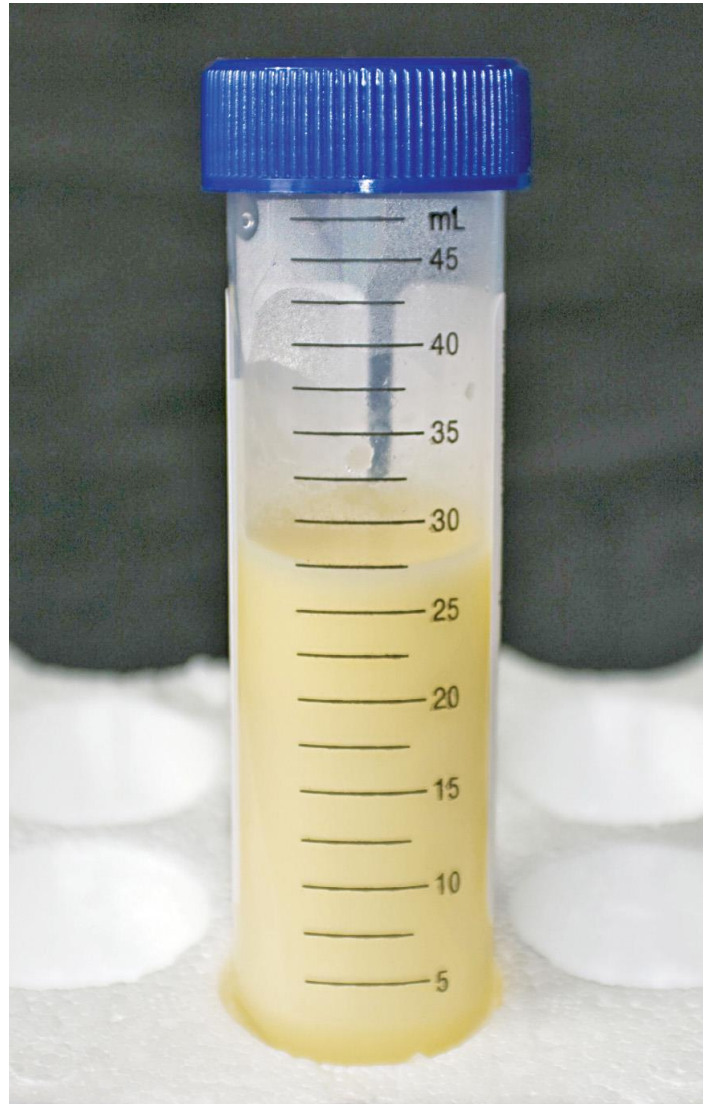
Interference with this cycle decreases the milk supply.

# Breastfeeding

- Stages of human milk
  - Colostrum
    - Initial milk secreted mid-pregnancy
  - Transitional milk
    - Onset of copious secretion between 32–96 hours postpartum
  - Mature milk
    - Present by 2 weeks postpartum



**Figure 30-2** Transitional human milk.



# Nutritional Advantages of Breastfeeding

- Human breast milk provides an ideal balance of nutrients that are efficiently absorbed
  - Contains over 200 components
  - High lactose content
    - Contributes to brain and CNS development

# Benefits of Breastfeeding

- Infant - reduced risk of:
  - Type I and type II diabetes mellitus
  - Lymphoma, leukemia, and Hodgkin's disease
  - Obesity
  - Hypercholesterolemia
  - Allergies & Asthma

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# Benefits of Breastfeeding

- Mother – reduced risk of:
  - Breast cancer
  - Ovarian cancer
- Less postpartum bleeding
- More rapid uterine involution
- Child spacing & birth control
- Easier weight loss

# Immunologic Advantages

- Protection from:
  - Respiratory tract and gastrointestinal tract infections
  - Necrotizing enterocolitis
  - Urinary tract infections
  - Otitis media
  - Bacterial meningitis
  - Bacteremia
  - Allergies

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# Immunologic Advantages

- Secretory IgA (Immunoglobulin A)
  - Antiviral
  - Antibacterial
  - Antigenic-inhibiting

# Psychosocial Advantages

- Increased self-esteem
- Enhanced bonding
- Decreased stress for mother and infant
- Communicates warmth, closeness, comfort
- Helps learn behavioral cues

# Other Advantages

- Cost savings
- No preparation
- Less time, efforts & expenses



# Benefits to the family

- Less trips to doctors, hospitals
- Less prescriptions
- Less stress
- Less illness
- Less costs
- Free milk
- Always Perfect Temperature
- No Preparation time
- Available any time any place

# Benefits to the society

- Smarter
- Healthier stronger families
- Less cost to healthcare system
- Saves resources
- Less waste
- No refrigeration
- No manufacturing
- No bottles, cans
- No trucking, No handling



# BREAST IS BEST



[www.nursesregister.com](http://www.nursesregister.com)

# Breastfeeding Contraindications

- Maternal infections
  - HIV
  - Tuberculosis
  - Herpes
  - Others
- Maternal habits
  - Illicit drugs
  - Smoking
  - Prescription medications

# Other Options If BF is Not Possible

Mom can still use her milk, even if she cannot BF:

Express milk using hands or a breast pump  
(electric/manual)

Give expressed milk by:

- cup or bowl feeding
- Spoon feeding
- Eyedropper or feeding syringe

Get breast milk from a donor



**TABLE 30–7****Factors Requiring Consideration of Supplementation****RISK FACTORS FOR INADEQUATE INTAKE**

- Maternal/infant separation
- Maternal barriers to breastfeeding (e.g., medications, fatigue, pain, cultural)
- Congenital malformation or illness interfering with ability to breastfeed
- Delayed lactogenesis after day 3 or 4
- Primary lactation failure (usually due to breast pathology or prior breast surgery)
- Low birth weight or infant with illness/disorder requiring nutrient requirements that may exceed that available through breastfeeding

**SIGNS OF POTENTIAL INADEQUATE INTAKE**

- Weight loss  $>7\%$  from birth weight
- Delayed bowel movements or continued meconium stools beyond day 2
- Hypoglycemia not responding to frequent breastfeeding attempts
- Hyperbilirubinemia due to breastfeeding jaundice

**TABLE 30-6** Storage Guidelines for Human Milk and Formula

<b>Milk</b>	<b>Environment</b>	<b>Time Until Discard</b>
Human milk or formula, opened/reconstituted	Being fed	Finish feed within 1 hour
Fresh human milk	Room temperature 72–79°F	4 hours
Fresh human milk	Room temperature 66–72°F	6–10 hours
Fresh human milk	Cooler w/ frozen ice packs 59°F	24 hours
Formula, opened/reconstituted	Room temperature	2 hours
Thawed human milk	Refrigerator	24 hours
Formula, opened/reconstituted	Refrigerator	24–48 hours (see label)
Fresh human milk	Refrigerator	8 days
Formula powder, opened can	Room temperature	1 month
Fresh human milk	Freezer	3–4 months
Formula/powder in sealed container	Avoid excessive heat	Printed expiration date
Thawed human milk	Freezer	Do not refreeze
Formula	Freezer	Do not freeze

*Sources:* Data from Human Milk Banking Association of North America (HMBANA). (2011). *Best practice for expressing, storing and handling human milk in hospitals, homes and child care settings* (3rd ed.). Raleigh, NC: Author; Mead-Johnson Nutritionals. (2012). *Pediatric products handbook*. New York, NY: Bristol-Myers Squibb Company; Ross Products Division. (2014). *Pediatric nutritionals product guide*. Columbus, OH: Abbott Laboratories.

# Early Feedings

- Skin-to-skin contact can begin immediately after birth
- Breastfeeding can begin in the birthing room



# Feeding Patterns

- "On-demand" feeding
- Cluster feeding
  - 5–10 feeding episodes over 2–3 hours
- Techniques to wake a sleepy baby to feed

# Breastfeeding Positions

- Modified cradle position
  - Cradle position
  - Football hold position
  - Side-lying position
- 
- Different positions should be encouraged for second breast

**Figure 30–6** Cradle position.  
*Source: Brigitte Hall, RNC, MSN, IBCLC.*

### Cradle position



- Have mother sit comfortably in upright position using good body alignment. Use pillows for support (may use Boppy, body pillow, or standard bed pillows). Lap pillow should help bring baby up to breast level so mother does not lean over baby.
- Place baby on mother's lap and turn baby's entire body toward mother (baby is in side-lying position). Position baby's body so that the baby's nose lines up to the nipple. Maintain baby's body in a horizontal alignment.
- If feeding from the left breast, have mother cradle baby's head near the crook of her left arm while supporting her baby's body with her left forearm.
- With mother's free right hand, she can offer her left breast.

**Figure 30–5** Modified cradle position.  
*Source: Brigitte Hall, RNC, MSN, IBCLC.*

### Modified cradle position



- Have mother sit comfortably in upright position using good body alignment. Use pillows for support (may use Boppy, body pillow, or standard bed pillows). Lap pillow should help bring baby up to breast level so mother does not lean over baby.
- Place baby on mother's lap and turn baby's entire body toward mother (baby is in side-lying position). Position baby's body so that the baby's nose lines up to the nipple. Maintain baby's body in a horizontal alignment.
- To feed at left breast, mother supports baby's head with her right hand at nape of baby's neck (allow head to slightly lag back), mother's right thumb by baby's left ear, and right forefinger near baby's right ear.
- With mother's free left hand, she can offer her left breast.

**Figure 30-7** Football hold position.  
*Source: Brigitte Hall, RNC, MSN, IBCLC.*

### Football hold position



- Have mother sit comfortably and use pillows to raise baby's body to breast level. If using a Boppy and the Boppy is in "normal" position on mother's lap, turn it counterclockwise slightly (if feeding at left breast) to provide extended support for baby's body resting along mother's left side and near the back of mother's chair.
- If feeding at left breast, place baby on the left side of mother's body, heading baby into position feet first. Baby's bottom should rest on the pillow near mother's left elbow.
- Turn baby slightly on her side so that she faces the breast.
- Mother's left arm clutches baby's body close to mother's body. Baby's body should feel securely tucked in under mother's left arm.
- Have mother support baby's head with her left hand. With mother's free right hand, she can offer her breast. (Good position for mother with C-section).

**Figure 30–8** Side-lying position.  
*Source: Brigitte Hall, RNC, MSN, IBCLC.*

### Side-lying position



- Have mother rest comfortably lying on her side (left side for this demonstration). Use pillows to support mother's head and back, and provide support for mother's hips by placing a pillow between her bent knees.
- Place baby in side-lying position next to mother's body. Baby's body should face mother's body. Baby's nose should line up to mother's nipple. Place a roll behind baby's back, if desired.
- With mother's free right hand, she can offer her left breast. After baby is securely attached, mom can rest her right hand anywhere that is comfortable for her.

# Positioning

## Mother:

- Comfortable
- Use pillows to support back & arms
- Infant at level of breast, supported by pillows
- Infant turned completely on side facing mother (belly to belly)
- Use footstools





# Latching On

- Infant needs to attach lips to areola, not nipple
- Stimulate the infant to open mouth wide
- Quickly and gently draw baby in
- Observe infant for sucking, movement of temporomandibular joints, and swallowing
- Provides teaching opportunity

**Figure 30–14** Baby is latched on.  
*Source: Brigitte Hall, RNC, MSN, IBCLC.*

### Baby is latched-on



Once baby has latched onto the breast, the mother should check that baby is latched on properly. The infant's chin should be embedded into the mother's breast. The infant's nose should be very close but not actually touching the breast. The nose should be centered. If the mother feels a little pinch on her areola, she can slowly release the hand supporting her breast so she can have a free hand to attempt to move her baby's jaw gently downward. To do this maneuver, the mother needs to place her thumb or forefinger of her free hand (the hand that just released the breast) on baby's lower jaw (there is a horizontal groove to use as leverage—the groove on baby's chin is parallel with the baby's lips). With gentle downward pressure the mother should feel relief of any persistent tenderness. This procedure opens the jaw wider and it also helps to roll out the infant's lower lip that may have been inadvertently drawn into the baby's mouth. As the baby begins to suckle, there should be no dimpling of the infant's cheeks and no smacking or clicking noises.

# Assessment of BF

During feeding, by direct observations for:

- Latch-on
- Position & alignment
- Suckling & swallowing

After feeding, observe:

- Behavior i.e. sleeping
- Elimination

# Health Promotion Education: Breastfeeding Technique

- Breastfeeding efficiency
  - Infant nursing at least 8 times in 24 hours
  - Mother can hear infant swallow.
  - Mother's breasts soften after feeding.
  - Number of wet diapers increases.
  - Infant's stools beginning to lighten.
  - Characteristic output

# Frequency of BF

- Newborns require 8-12 feeding q 24 hours
- On demand
- Awaken the baby to feed at least q 3 hours
- Later, infant regulates his/her own pattern of feeding

# Duration of feedings

- Vary. Depends on the baby's sucking
- Can be 10 – 45 minutes
- Average: 20-30 minutes
- Better to teach the mother how to determine BF finished than teaching her number of minutes
- If the baby sucks well, 15-20 minutes on each breast

# Nursing support

- Assist all mothers to initiate BF within 1st hours after birth
- Practical assistance while in hospital (positioning & latching)
- Assess BF by observations

# Common concerns of breastfeeding mothers following discharge



# Nipple Soreness

- Mother's own milk
- Hypoallergenic lanolin cream
- Peppermint gel
- Protective bra shells
- Consult certified lactation consultant if nipple soreness persists

# Cracked Nipples

- All interventions described for sore nipples may be used
- Begin nursing on the breast that is less sore
- Analgesics may be taken approximately 1 hour before nursing

# Breast Engorgement

- Infant should suckle for an average of 15 minutes per feeding and should feed at least 8 to 12 times in 24 hours
- Mother may express milk manually or with a pump
- Warm compresses before nursing
- Cool compresses after nursing
- Well-fitted nursing bra 24 hours a day

# Plugged Ducts

- Heat and massage
- Warm compresses

*continued on next slide*

# Plugged Ducts

- Nurse infant starting on the unaffected breast if plugged breast is tender
  - Some lactation consultants advocate starting on the affected side because the more vigorous sucking may help dislodge the plug
  - Breast pump may be effective in unplugging the duct

# Plugged Ducts – Prevention

- Frequent nursing
- Variety of positions to ensure complete emptying
- Pressure from purse strap, infant sling, or a car seat belt may cause recurring plugged ducts in the compressed area
- Prevention and prompt correction are important because plugged ducts can lead to mastitis