

Recognizing when things are headin' south



Recognizing When Things are
**HEADIN'
SOUTH**

What's going on?

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Objectives

1. Differentiate the three main categories of milk production problems.
2. List at least 3 risk factors for lactation problems in the early postpartum
3. Relate the importance of current pregnancy history to lactation capability
4. Explain the impact of infant suck on maternal milk production

~No disclosures~

The Scenario- In hospital

Baby never happy at breast
Was ok first day, then deteriorated
Baby becoming breast averse
Colostrum difficult to express
Breastfeeding uncomfortable
Lots of latch problems
Exaggerated weight loss



The Scenario- First week home

Situation not stable at discharge
Milk slow to come in OR
Swung from engorgement to "empty"
Bfg "ok" until the milk came in
Poor weight recovery
Diaper output not increasing well
Mother feels that all is not right



The Scenario- The early weeks

Baby not as happy as before
Infant suck skills deteriorating
Diaper count borderline
Breasts feel "empty" at feeding time
Ambiguous MER- other side rarely drips
Mother/baby not sleeping well
Early return of menses
Mother feels that all is not right



Are things heading south?

Well, it's all about the clues

Recognizing when things are headin' south

Gathering good clues

Start by listening to mom's story

- ⇒ Is there really a problem? **No** → Reassure, educate

↓ *Yes*

Take a detailed history

- ⇒ Risk factors for delays
- ⇒ Breastfeeding Management


↓ *Yes*

Further Observations

- ⇒ Infant assessment
- ⇒ Feeding assessment
- ⇒ Maternal Assessment

↘


- ⇒ Differentiate delayed, primary and/or secondary causes



Early weight loss

>7%?
>10%?

*Context,
Context,
Context!*



Use day 2 weight as baseline for % loss - Noel-Weiss 2011

Start Here → Is baby getting enough?

Lots of smaller stools OR
Less often but blow-outs






Once milk comes in, gain
6-7oz+ per week for the first
4 months, slowing to 3-4 oz
per week around 6 months*

**Accurate unless there is an underlying illness*

Factor in supplementation

Breast milk?
Formula?
How much of each?


If something is
wrong

*Is it Mom
or
is it Baby?*

Is baby not getting enough because mom
isn't making enough?

Or is there enough milk but baby can't get
enough out?

Or was there enough milk but now there
isn't because baby killed off the supply?




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If things really are heading south...

#1: Feed the Baby

#2: Protect/Work on Supply

#3: Find the problem 



Don't put the cart before the horse

You must **find** the problem **before**
you can **fix** the problem

First fork in the road

Did milk production
start off well, and then
start to die later on?

Or did milk production
struggle to get going?



DELAYED ONSET: Milk in >72hrs (noticeable fullness)
Happens to over 1/3 of mothers in U.S. studies!
→ 40% of those babies lose >10% BW by day 4

The first week

Nommsen-Rivers 2010: *"Delayed onset of lactation is epidemic; risk factors are multidimensional"*

Risk Factors for Delayed lactogenesis

- ✦ Caesarean delivery, esp. unscheduled
(Dewey 2003, 2001; Evans 2003)
- ✦ Long labor (Dewey 2003; Chen 1998)
- ✦ Prolonged stage 2 labor (Dewey 2003, 2001)
- ✦ Stress in labor (Grajeda, 2002)
- ✦ Vacuum-assisted deliveries (Hall 2002)
- ✦ Severe bleeding (Livingstone, 1996; Willis 1995)

DOL Risk factors: The first-time mother



Put baby to breast right
away, or pump

Aim for 8-12 times per
day from the start. Skin
to skin helps

*Frequent feedings made
a difference for this
mother!*

Galipeau, R., Goulet, C., & Chagnon, M. (2012). Infant and maternal factors influencing breastmilk sodium among primiparous mothers. *Breastfeed Med*, 7, 290-294. doi: 10.1089/bfm.2011.0022

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DOL Risk Factors



- Age \geq 30 (Nommsen-Rivers, 2010)

Incidental finding in bfg during pregnancy study: milk intake on day 2 decreased 25g for each 5-year increment of maternal age




Marquis, G. S., Penny, M. E., Diaz, J. M., & Marin, R. M. (2002). Postpartum consequences of an overlap of breastfeeding and pregnancy: reduced breast milk intake and growth during early infancy. *Pediatrics*, 109(6), e56.

DOL Risk Factors

- Hypertension (Hall 2002) HELLP
- Severe pp edema (Nommsen-Rivers, 2010; Chantry 2011)




DOL Risk Factors

- Obesity (Rasmussen 2001, 04, 07; Nommsen-Rivers, 2010)
- Big Baby (birth wt >3600g) (Nommsen-Rivers, 2010)
- Diabetic Pregnancy (De Bortoli 2015)



Retained placental tissue DOL Risk Factors




Classical: hemorrhage

Subtle: persistent red bleeding, cramping, passing clots

Placenta accreta, increta, percreta:
 ↑ risk w/previous c-section, age >35, multiple pregnancy, placenta previa

DOL Risk Factors

- Rarer: Gestational ovarian theca-lutein cyst



High testosterone during pregnancy


Lact II commences when levels drop sufficiently

Hoover & Platia (2002)
 Betzhold, Hoover & Snyder (2004)

The second fork in the road

How well did mom manage breastfeeding?

Or did milk production struggle to get going and never got there?



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Rule out Maternal Management Problems

Anti-galactagogues

Parenting books & programs

Prolactin inhibiting meds

Mom's early reactions...

Failure of early removal of colostrum may inhibit lactogenesis II despite normal hormonal changes.

Neville M, Morton J. Physiology and Endocrine changes underlying human lactogenesis II. *Journal of Nutrition*. 2001;131(11):3305-3008S.

Breastfeeding frequency impacts the start of lactogenesis II, which in turn influences how long a woman exclusively breastfeeds

Galipeau R, Goulet C, Chagnon M. Infant and maternal factors influencing breastmilk sodium among primiparous mothers. *Breastfeed Med*. Aug 2012;7:290-294.

Premie management issues

Gestation
Lack of touch
Frequency of milk removal
Efficiency of milk removal
Stress over infant condition

Pumping in lieu:

Do not take responses at face-value: Check and re-check answers

How often do you pump?
Day AND night?
How many times in 24hrs?

Rule Out the Baby

- Behavioral/Sensory • Mechanical • Neurological
- Physical • Airway

Mom may own the equipment, but...


The Baby Drives the Supply

Baby's early feeding experiences at the breast factor into long-term production

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Infant & Feeding Assessment

- ❑ Infant birth and health history
- ❑ Physical assessment
- ❑ Suck assessment ⇨
- ❑ How does mother *describe* baby's feeding behavior in relation to available milk supply?
- ❑ Observe a feed and/or test-weighing
- ❑ Consider that a problem may be *multi-factorial*

 **Mother may say...**

I must not have enough milk, because...

- He wants to eat all the time*
- He falls asleep at the breast*
- He is never content...*
- He doesn't want my breast... "él no quiere"*
- He doesn't like breastfeeding*
- He wants the bottle*



Look and Listen

What do you see and hear when baby tries to latch & suck?

**SOMETHING
IS
WRONG.**

What do we know about baby?



Because it's all about suck


 **Red Flags**

Difficult birth




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Torticollis




Palate clefts



Problems can make it difficult to achieve adequate negative pressure Clicking heard if suction is broken intermittently

Fatiguing



The Sleepy / Lethargic / Worn Out Baby
 Typically symptomatic of poor milk flow
 May also indicate infant stress from


- ✓ poor muscle tone
- ✓ Heart problems
- ✓ inhibition of tongue mobility
- ✓ infection

} All can affect suck!


Borderline early & premature




Central Nervous System problems




Low muscle tone




Less Common Infant Issues




Cleft of Lip & hard palate



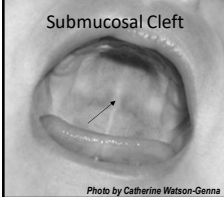
Soft palate cleft



Bifid uvula



Bifid uvula

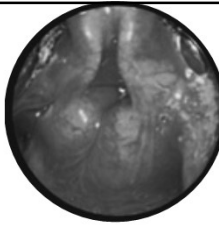


Submucosal Cleft

Photo by Catherine Watson-Genna

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Airway:
Laryngomalacia




Inspiratory stridor due to prolapse of walls in larynx during inhalation

May worsen over the first few months, but usually resolves by 2 yrs

- Stress triggers: crying, feeding
- Worse when lying on back (supine)
- Usually does best with head hyper-extended

Airway:
Tracheomalacia



Causes expiratory stridor

Tracheal wall collapses during coughing, crying, or feeding

Worsens with supine position, crying, and respiratory infections

 **Red Flags**



Frequent choking, sputtering & pulling away

 **More Red Flags**

Holds breath while swallowing

Baby not content after feed yet leaves lots of milk in breast


The Bib/Towel!




Strategy for airway issues

Remember that *air wins over food every time*

- Cradle hold can make it worse- facilitate latching upright, with head extension
- Paced feeding (breast/bottle)
- Time for physiological maturation
- Compensatory pumping as needed
- Galactogogues often very helpful



Suck Problems: Jaw



Small Lower Jaw (micrognathia)
-May be associated with Pierre-Robin

Recessed Lower Jaw (retrognathia)
Livingstone, 2000

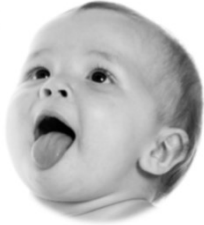
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Tongue mobility:
an essential ingredient for suck

With mouth open, must be able to:

- ✓ Maintain extension
- ✓ Elevate
- ✓ Lateralize
- ✓ Cup
- ✓ Spread

= a variety of movements



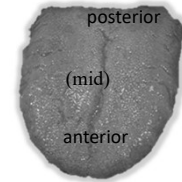
The unappreciated role of the *posterior* (back) tongue

Rise and drop creates vacuum to draw out milk

Bolus control

Swallowing

Airway protection



<https://www.oars.com/grand-canyon-national-park/>

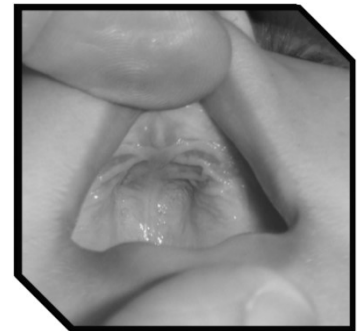
And the tongue helps shape the palate

Restrictions can cause:

Bubble palate

High arched palate

Narrow palate



What happens if not all parts of the tongue can move properly and/or freely?

If Baby can't suckle well, transfer is poor and milk production may suffer

Assessing Suck

Visual

- Anatomy
- Risk factors

Digital

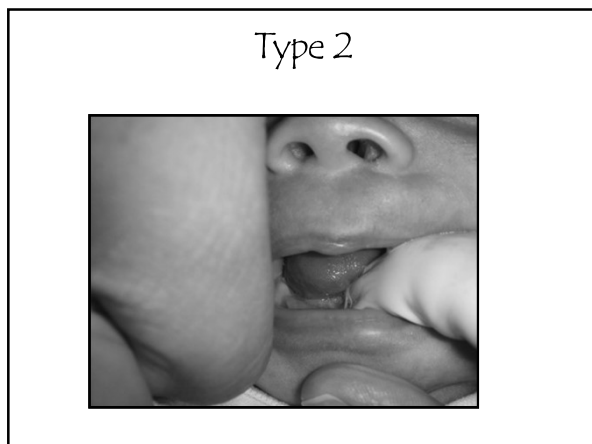
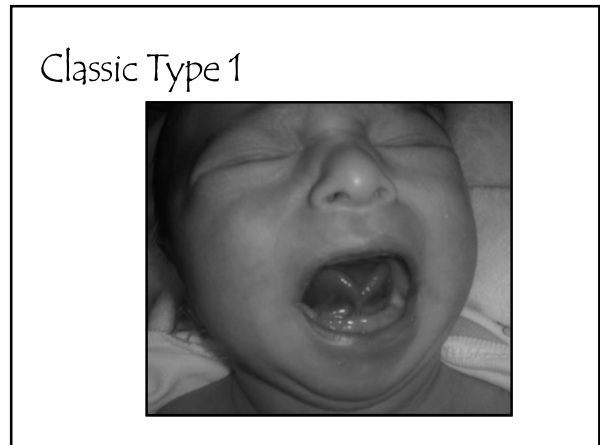
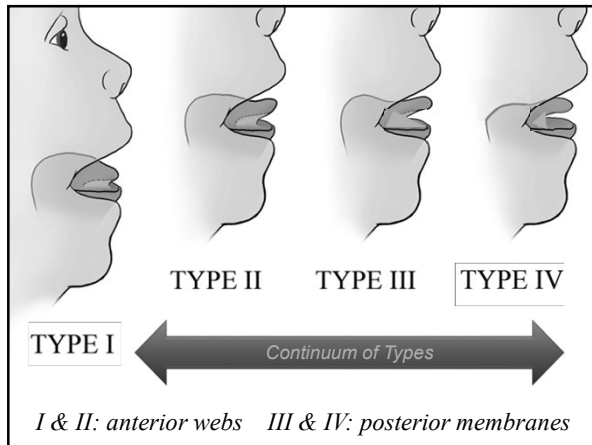
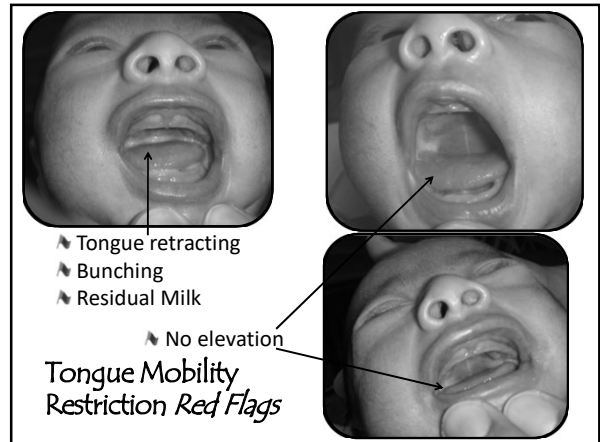
- Tongue contact
- Seal
- Cupping
- Vacuum
- Wave

At breast

- Ability to transfer available milk



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Posterior tongue-tie: fact or fact?

Only recently identified
 Incidence has not been studied
 Gender distribution
 (Knox et al, poster pres)

Pransky, S. M., Lago, D., & Hong, P. (2015). Breastfeeding difficulties and oral cavity anomalies: The influence of posterior ankyloglossia and upper-lip ties.
 Knox, I. (2010). Tongue Tie and Frenotomy in the Breastfeeding Newborn. *Neoreviews*, 11(9), e513-519.
 Hong, P., Lago, D., Seargeant, J., Pellman, L., Magit, A. E., & Pransky, S. M. (2010). Defining ankyloglossia: A case series of anterior and posterior tongue ties. *Int J Pediatr Otorhinolaryngol*.
 Chu, M. W., & Bloom, D. C. (2009). Posterior ankyloglossia: a case report. *Int J Pediatr Otorhinolaryngol*, 73(6), 881-883.

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Posterior restrictions...



Tend to be thicker & partially or completely "underground"

Type 3

Should movement be this hard?

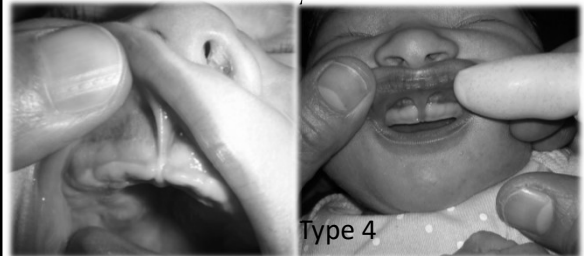
Type 3 pulls at floor of mouth, restricts tongue elevation, causes poor milk transfer and decreased supply



Type 4 Posterior restriction



New Territory:
The Restrictive Maxillary Frenum
aka Lip-tie



Kotlow, L. A. (2013). Diagnosing and understanding the maxillary lip-tie (superior labial, the maxillary labial frenum) as it relates to breastfeeding. *J Hum Lact*, 29(4), 458-464. doi:10.1177/0890334413491325

Function: *How well does mother's breast fit with baby's suck/tongue issues?*

- | | |
|-------------------------------|-------------------------|
| Breast size | Small gape |
| Breast density | Tongue curl back |
| Engorgement | Bunched tongue blocking |
| Breast pliability | Tongue thrust |
| Bulbous areola? | Tongue retractions |
| Nipple length | |
| Nipple diameter | |
| Nipple Inverted or retracting | |


Our job: Breastfeeding interventions to maximize baby's effectiveness



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Therapeutic options for mechanical/TT issues

- Positioning adjustments
- Massage
- Speech Pathologist
- Occupational Therapist
- Chiropractor
- Suck training




Appropriate for soft-tissue restrictions, nerve compressions, traumatic birth

Craniosacral Therapy

The Next Step: *Frenotomy*

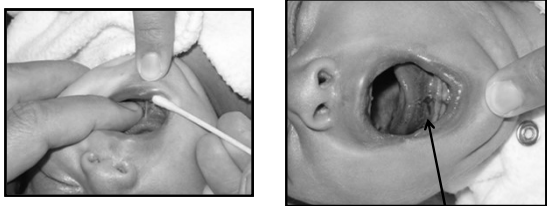
Releases the restrictive band
Usually done in office
Minimal anesthetic

Anteriors have very little blood
Posteriors may have a little more blood
Improvement may be immediate

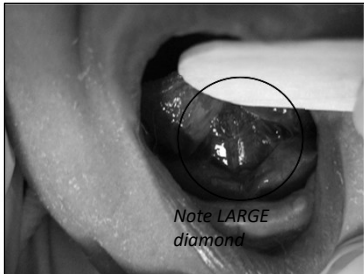


Grooved Director

Simple frenotomy



Open diamond



Note LARGE diamond

Frenotomy for Posterior restrictions

Photos courtesy Dr. James Murphy

But the job doesn't stop there...



Melissa Cole IBCLC. Video at <https://vimeo.com/55658345>

Lactation support helps optimize treatment results

Timing may be critical

Many practitioners want to "wait and watch"
BUT accumulated experience now suggests that *success rate drops over time beyond 2 months*

Donati-Bourne et al; 2015. Tongue-tie assessment and division: a time-critical intervention to optimise breastfeeding.

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The dilemma of postponing tx



Learned behavior eventually overrides the instinct to seek and feed at the breast

The third fork in the road

How well did mom manage breastfeeding?
How well did baby do her job?

Or did milk production struggle despite good management and baby??



If you've ruled out baby...

Take the Maternal Assessment Deeper



Detailed Maternal Assessment

- ⇒ Previous breastfeeding history
- ⇒ Mother's Reproductive history ⇨
- ⇒ Mother's Health & Event history ⇨
- ⇒ This pregnancy history ⇨
- ⇒ Breast assessment ⇨
- ⇒ Hormonal Issues ⇨



Previous Breastfeeding history



Reproductive History

- Age of breast development
- Age of menses
- Menstrual regularity



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Reproductive History

- Fertility
- Hormonal issues
- Breastfeeding experience of her mother, aunts, sisters, cousins

Mat'l health & event history

- Illnesses
- Car or other accidents
- Breast surgery/biopsies
- Chest surgeries/wounds
- Nipple piercings (Garbin 2009)
- Blunt trauma or burn wounds
- Radiation therapy
- Abscess/mastitis damage?
- Spinal cord injuries
- Gastric by-pass

Current Pregnancy history



- Breast sensitivity, changes?
- Labs normal/abnormal?
- Gestational diabetes?
- Total/rapid weight gain
- Threatened premature labor?
- Milk in prior to delivery?
- Lowered voice, virilization?

Normal Pregnancy Development

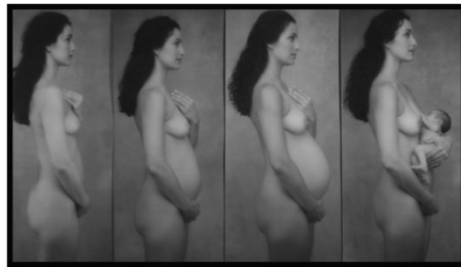
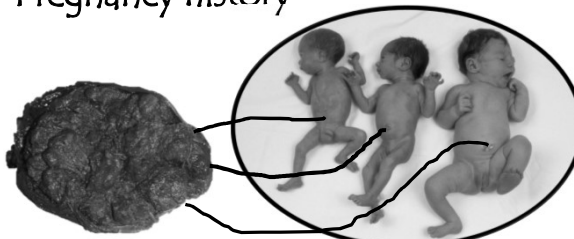


Image courtesy of Triumph International and bubhub.com.au

General signs of successful mamogenesis:
Increased breast sensitivity, nipple changes, enlargement,
expressible colostrum at end of pregnancy

Pregnancy history



http://www.stratog.net/content.aspx?pageid=292

- Hypertension?
- Placental problems?
- Baby small for gestational age or growth restricted?

Pregnancy: *Critical role of the Placenta*

Progesterone after 3mo all from placenta

Human Placental Lactogen (HPL) only produced in placenta

Level of HPL correlates most closely with breast volume change



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Placental *problems* can interfere with normal mammary development



Pregnancy history: preterm labor



Effect of preterm birth and antenatal corticosteroid treatment on lactogenesis II in women (Henderson 2008)

Pregnancy & Birth complications


Postpartum hemorrhage

- Vaso-constricting meds such as methergine
- Possible damage to pituitary: mild ⇒ Sheehans
- Anemia

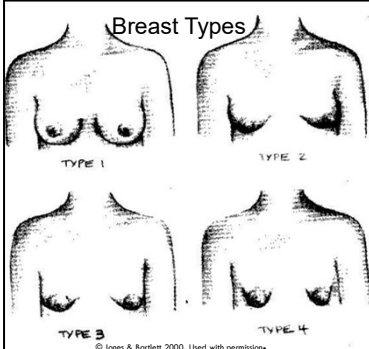
Breast Assessment

Note:

- Overall symmetry
- Overall shape
- Spacing between breasts
- Significant veining
- Fullness of each quadrant
- Proportion of glandular to fatty/connective tissue
- Nipple-areolar complex:
 - Pregnancy changes? Bulbous?
 - Overall density? Unusual nipple configuration? Pore patency?



Screen for Insufficient mammary tissue




RISK FACTORS FOUND:

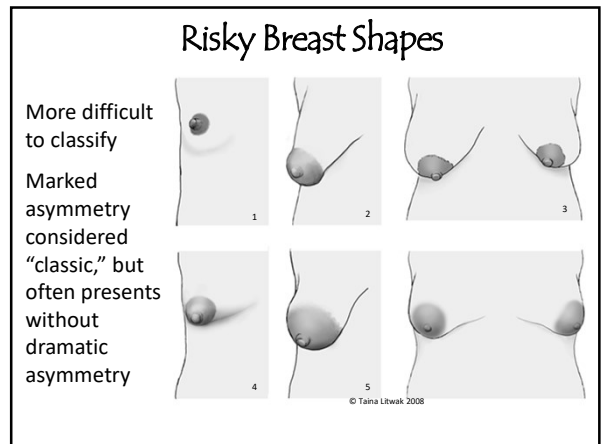
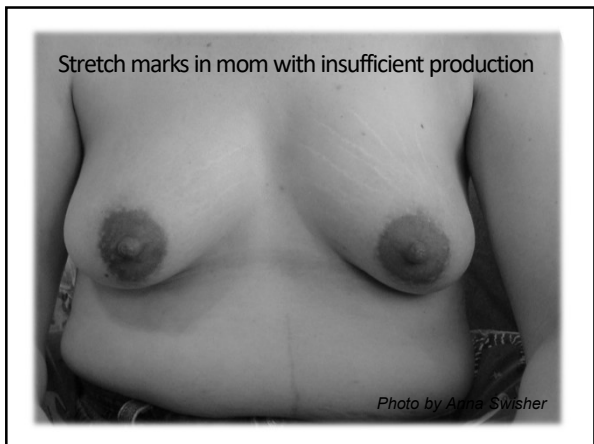
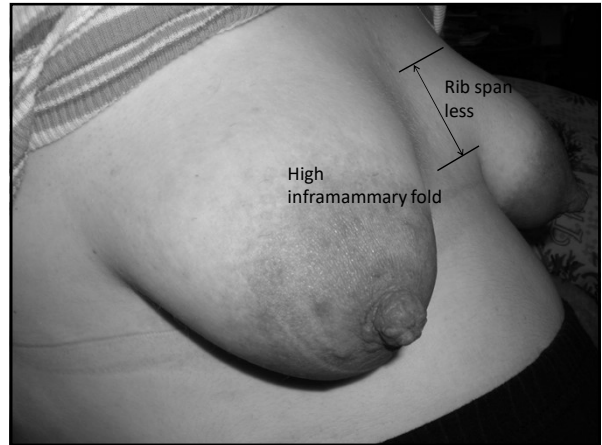
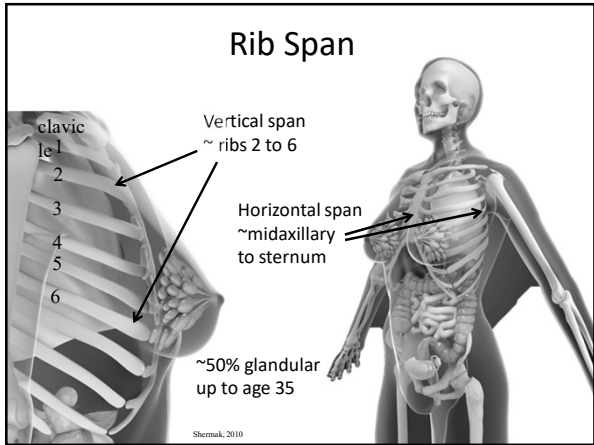
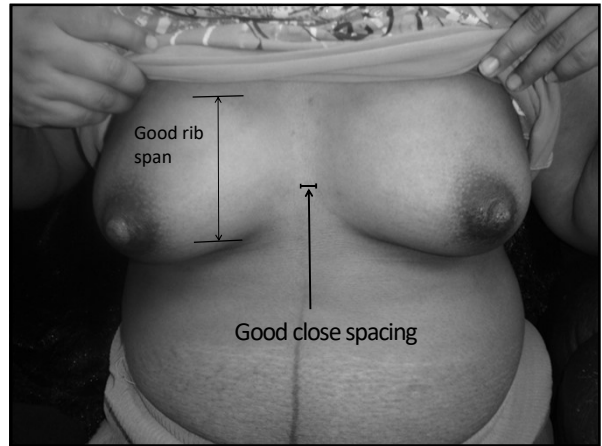
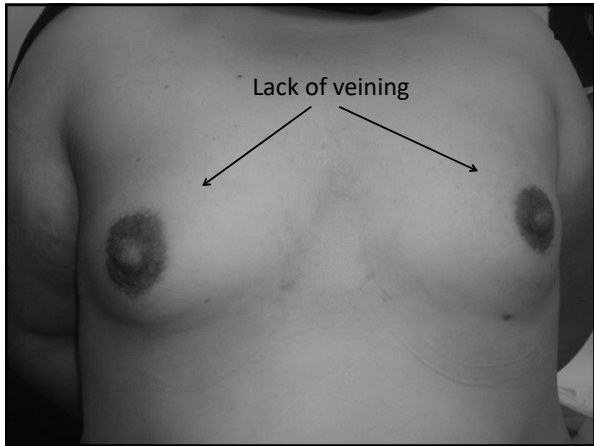
- ✓ Higher br type #
- ✓ Flat space > 1.5"
- ✓ Lack of veining
- ✓ Stretch marks + hx minimal growth
- ✓ Androgenous body type

Higgins, K., Petok, E., & Mireles, O. (2000). Markers of Lactation Insufficiency: A Study of 34 Mothers. Current Issues in Clinical Lactation, 25-35.

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