

The Outpatient Breastfeeding Champion Program Session 5



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- The Instructor has no conflicts of interest to disclose
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- CMEs can be used for nursing credits



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*Building
Breastfeeding-Knowledgeable
Medical Systems & Communities*



OBC Session 5 Topics

- Reasons for Insufficient Infant Weight Gain
- Weight Checks
- The Sleepy Baby
- Evaluating Growth Charts
- Low Milk Production
- Pre/Post Feed Weights
- Supplementing the Breastfed Baby



Session 5 Objectives

- Identify 3 symptoms of a 3-day old infant who is not consuming sufficient calories.
- Demonstrate competency at interpreting infant growth on an infant weight growth chart.
- Recite steps taken to perform a pre- and post-feed weight.
- Describe 4 typical pieces of advice given to parents with sleepy babies.



Session 5 Objectives

- Describe switch nursing.
- Identify 4 major reasons why milk production may be low.
- Describe 3 methods to supplement infants in the first few weeks postpartum.
- Identify 3 commonly used galactagogues.



Signs of Adequate Intake in the First 3 Days

- The baby nurses every few hours
- 2 stools a day
- 2-3 voids a day
- Content between feedings
- Minimal jaundice
- Breasts feel heavier
- Weight loss (from birth weight) is less than 10%



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Signs of Adequate Intake in the First 3 Days

Hopefully you will be seeing breastfeeding babies within 2-3 days after leaving the hospital. These are signs of adequate intake for the first 3 days, that we teach families before they leave the hospital:

The baby nurses every few hours

The baby has had at least 2 stools in the last 24 hours

The baby has at least 2-3 voids a day.

The baby appears to be resting comfortably between feedings.

The baby does not look very jaundiced.

Jaundice is hard for parents to assess, so they should not be the ones to monitor jaundice.

The parent feels that the breasts are fuller/heavier

The baby has not lost 10% from birthweight, or more

Reassuring Signs of Adequate Intake After the Milk Increases in Volume (after ~day 3)



- The baby nurses every few hours
- 3-4+ yellow seedy stools/day
- Always wet
- Infant content between feedings
- Breasts feel heavier before feeding, softer after
- Weight is no longer decreasing, and ideally is increasing ~30 grams a day (1 oz)



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Reassuring Signs of Adequate Intake After the Milk Comes In

Typically we expect the lactating parent to notice some degree of breast fullness by day 3, which would be 'the milk coming in', or at least the start of engorgement. Once a lactating parent notices this fullness, these signs reassure that there is adequate hydration:

The baby nurses every few hours

The baby has at least 3-4 runny yellow seedy stools a day

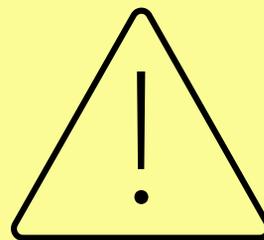
The baby is always wet

The baby is content between feedings

The breasts feel full before feeding, and emptier after feeding

Signs of Insufficient Intake

- Infant restlessness after feedings
- Dry small stools
- Dry diapers at times
- Constant nursing
- Breasts without fullness
- New breast/nipple pain
- Ongoing weight loss or lack of weight gain



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**Signs of Insufficient Intake after the milk is 'in', or after 72 hours:
The baby seems frustrated or restless after feedings.**

Pulls and tugs at the breast

Not satisfied after feeding

Stools are small, dry and not runny

**The diapers are not always wet, there are dry diapers for at least an hour at a time
Increase frequency of nursing or constant nursing, does not want to leave the
breast**

Breasts usually don't feel full

New breast/nipple pain- Terrible nipple pain can lead the lactating parent to not nurse the baby as often. If the production is low, the parent might be allowing the baby to nurse for long periods of non-nutritive sucking, causing nipple trauma from shallow nursing

Ongoing weight loss or lack of weight gain



What are infant feeding behaviors that lead parents to worry about how much the baby is taking?

See next slide, where we will talk about infant behaviors that lead parents to have concerns regarding infant milk intake.

Parental Concerns re Weight



Parents often express concerns that can lead to supplementation:

- Is our baby getting enough?
- Is our baby feeding too often?
- Is our baby not nursing long enough?
- Is our baby fussy because he is still hungry?



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Parents are often worried about their baby's weight, and if the baby is taking enough calories.

Parents worry about baby not getting enough

Parents often worry that they cannot tell if the baby is nursing well and taking enough milk. They are often not sure if the infant's fussiness is due to hunger, discomfort, or being over-tired.

Parents worry about whether the baby is feeding too often, or does not seem to nurse long enough

Parents are often told by others that their baby is nursing too often, and this might mean that the baby does not get enough calories. They will sometimes switch to bottle feeding in order to get more rest, esp at night.

Nursing patterns differ between babies: Some babies are done nursing in 5 min. others 40 min; Some babies nurse every 3-4 hours, others every 1-2 hours. There are many factors that determine how long it takes a baby to eat, such as rate of milk flow, wakefulness of the baby, and the amount of milk the baby will drink at each feeding

Is our baby fussy because he is still hungry?

Many infants love to suck. Not all sucking at the breast is nutritive. Both parents and health professionals can find it hard to tell if the baby is just sucking and not swallowing, vs if the baby is swallowing and transferring milk. Babies might cry and fuss at the breast, which may or may not have to do with the breastmilk or flow of milk.

Instilling Confidence

- **Infant Weight=Proof of Adequate Feedings**
 - Feedings cannot be assessed by phone
 - Adequacy of calorie intake cannot be determined by observing feeds
- **Non-gaining babies might:**
 - Have nl # of stools/voids
 - Be satisfied after nursing
 - Spit- up after feedings
 - Sleep all night



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Instilling Confidence

Your job as a breastfeeding supporter is to help parents feel confident about the baby's growth, and to help identify when an infant is not gaining weight well.

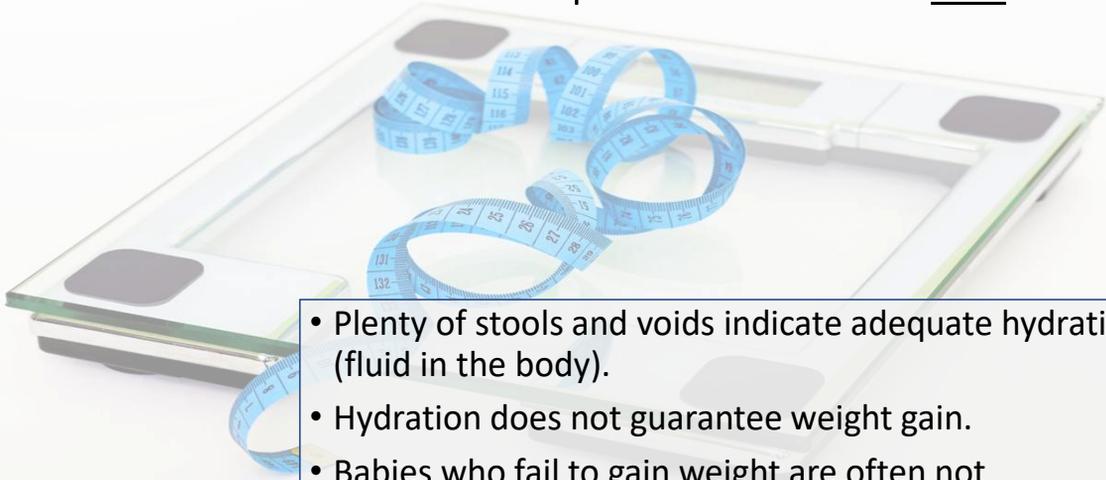
The proof of adequate infant feeding is in the infant weight. I cannot stress this enough. If this is the one message you take home from the whole course, this is the one!

No one can determine that intake is sufficient over the phone. So if a parent calls concerned that their milk production is low, or that the baby might not be getting enough, the only way you can determine this is to weigh the baby. No one can determine if a feeding is adequate by watching the baby nurse.

Sometimes we see babies who are not gaining weight, but they appear to be doing fine according to their behaviors and cues:

- They have a normal number of voids and stools daily
- They appear satisfied after nursing
- They do not demand to eat more often than expected
- They spit- up after feedings
- They are content and sleep for 8-10 hours over night

Does a report of adequate daily stools and voids indicate optimal intake? - NO



- Plenty of stools and voids indicate adequate hydration (fluid in the body).
- Hydration does not guarantee weight gain.
- Babies who fail to gain weight are often not dehydrated.



Does a report of adequate daily stools and voids indicate optimal intake? - NO

Plenty of stools and voids indicate adequate hydration. A breastfeeding baby who is gaining beautifully voids constantly and has several stools. An infant who took in 25% less than optimal calories would still have sufficient voids and stools to seem adequately hydrated. However, that infant is not going to gain well. Therefore, hydration does not guarantee weight gain.



**Not everyone can see a provider, lactation consultant or WIC for a weight check.
What are other options in your community for a weight check?**



Not everyone can see a provider, lactation consultant or WIC for a weight check. Many families are not eligible for WIC, and it is possible that an LC or a provider might not allow a weight check without paying for a visit. Allow the participants to brainstorm. Here are some ideas:

- Grocery store
- Post office
- Purchase a kitchen scale, many of them are under \$30.00, and go up to 25 lb.
- Fed-ex or UPS
- Mom-baby store

Local breastfeeding coalitions could have a project of finding a convenient place, like a local pharmacy, to have a scale for weight checks.

Triage Tool
Is My Baby
Getting
Enough?
Group 1



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Group 1 takes out the script Is My Baby Getting Enough, group 2 are the Breastfeeding Champions

Your baby is 10 days old

The baby wants to nurse every hour when awake

The baby falls asleep after nursing on one side, and you cannot get her to wake up after that

The baby has lots of wet diapers, and 3 poops a day

Your breasts feel somewhat full at times, mainly at night

You think that your baby's color is fine

- Your baby is 10 days old
- The baby wants to nurse every hour when awake
- The baby falls asleep after nursing on one side, and you cannot get her to wake up to feed from the other side .
- The baby has lots of wet diapers, and 3 poops a day
- Your breasts feel somewhat full at times, mainly at night
- You think that your baby’s color is fine

For Babies Who are 4 Days-14 Days Old:

Are all of the following true?	
<p>Is the baby nursing at least every 2-3 hours? Does the baby have at least 4 yellow seedy stools a day? Is the baby wet at least every 2-3 hours around the clock? Does the baby seem satisfied after nursing for at least 1.5 hours? Does the parent notice that their breasts feel full before it is time to nurse the baby? Does the baby appear healthy with no yellow color in the skin or eyes (jaundice)?</p>	<p>Yes → A weight check should be done to make sure the baby is gaining approximately 1 ounce a day or more. Confirming a good weight gain will boost the family's confidence.</p> <p>No → The baby must be seen soon for a visit with the physician.</p>



BLE. 15

Discussion Case Is My Baby Getting Enough?

- What is the parent concerned about?
- How can you help this parent?



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What are the parent's frustrations?

- The baby is nursing all the time

What is the parent concerned about?

- Having enough milk

How can you help this parent?

- Weigh the baby to reassure that the baby is gaining well
- Teach her how to wake the baby up, to nurse on the other side



What are reasons why a baby may not gain enough weight when breastfeeding?

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Ask this question first before moving on to the next slide, which discusses reasons.

Common Reasons for Insufficient Infant Weight Gain



Sleepy at the breast



Low milk production



Infrequent feeding



Infant illness



Distraction at the breast



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These are the most common reasons for sleepiness at the breast. Please name these. **We are going to talk about some of these later.** For now, we are going to focus on the Sleepiness at the Breast, which is why this is circled. (The circle will blow in second click of the slide)

'Sleepy-Feeder' Babies

- Too sleepy to transfer enough calories
 - All newborns are sleepy
 - These babies are **too** sleepy at the breast
- Increased risk
 - Small for Gestational Age (SGA) babies
 - Premature infants
 - Especially 35-38 week infants
 - Sedating medications taken by the parent



Source: US Breastfeeding committee

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Sleepy Babies and Insufficient Milk Intake

The Sleepy feeder by definition will not stay awake long enough to transfer sufficient calories.

All newborns sleep a great deal in the first several weeks, sometimes 22 hours a day. But most babies will stay awake sufficiently during nursing to transfer enough calories.

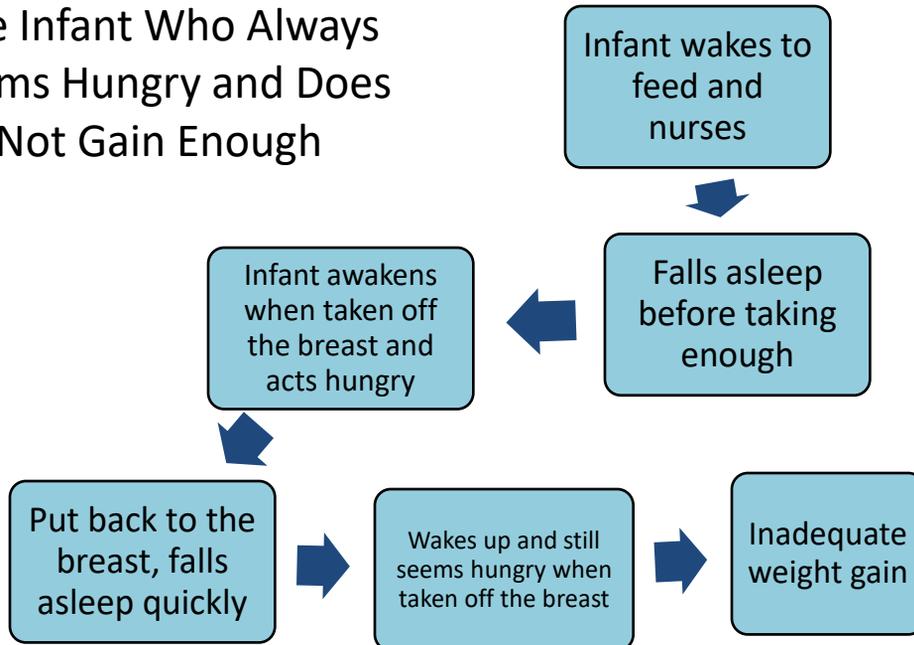
These babies are TOO sleepy, and just cannot stay awake enough to transfer enough milk. This is confusing for many people, including health care providers, because when a baby is sucking at the breast, people generally assume the baby is transferring food. So when a baby spends 15-20 min at a breast, they assume the baby has had enough.

Who is at increased risk?

This is a common problem for premature infants, but everyone who cares for premature infants understand this. Premature babies are given extra care, and gradually increase their ability to take more milk at the breast over time. However, many people don't realize that the 35-38 week infant and the small for gestational age infant can also have this same sleepy behavior, and need to be monitored carefully for intake.

Infants whose lactating parent or mother is taking medications that can cause sleepiness, such as narcotics, sleeping pills, and antianxiety medications such as valium (diazepam)

The Infant Who Always Seems Hungry and Does Not Gain Enough



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The infant who always seems hungry and does not gain enough: This is one type of sleepy baby

Read thru the cycle:

These babies will wake up to nurse and appear to feed well. They fall asleep after a few minutes of nursing.

When the lactating parent notices that the baby is sleeping at the breast, they will take the baby off the breast, but the baby will wake up and act hungry.

So the parent puts the baby back to the breast, and the again baby falls asleep quickly. The parent again takes the baby off the breast, and the baby wakes up hungry again. In these situations the parents often assume that their milk production is low, rather than realizing that the infant is sleepy and not removing milk well.

The assumption by the parent, family, and provider is that the baby is drinking when latched because the parent and the provider don't recognize the difference between nutritive and nonnutritive feeding.

The baby is not truly transferring milk because the baby is sleeping at the breast. These baby are often given formula after nursing, which leads to a decline in milk production.

In these situations, the parent needs to pump after feeding and supplement the baby, often with a bottle, sometimes finger feeding.

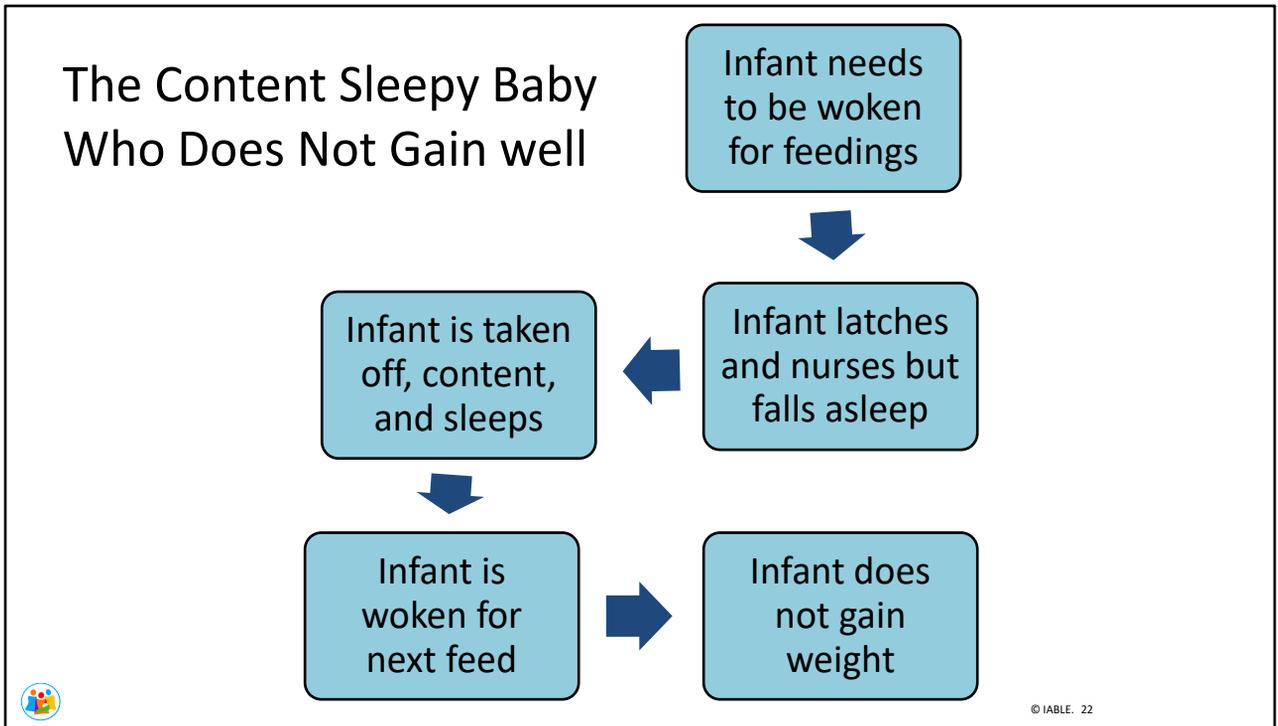
An Infant Who is Sleepy but Wakes Up When Parent Attempts to Take Off the Breast



© IABLE. 21

Play this Video. It has no sound.

Here is an example of the baby who won't stop nursing. The infant is sleepy, and is staying on the breast because he is still hungry. Please point out that when the parent tries to take him off, he wakes up a little and wants to stay there.



The Content Sleepy Baby Who Does Not Gain Well

This is a sleepy baby who never seems demanding, like the other sleepy baby
Read thru the Cycle

These babies need to be woken for feedings. Once the baby is awoken, he is put to the breast and seems to nurse. He falls asleep at the breast.

The parent takes him off the breast when he seems 'done', and he is content when taken off.

The baby has to be woken for each feeding.

When the baby is brought in for a routine weight check, the baby does not have adequate weight gain.

This is a more common pattern seen in premature infants, and infants who were born small for gestational age.

This is especially common in 35-38 week infants, because these infants are not always recognized as late preterms. They are often treated like term babies, especially if they are big babies.

This is another situation where the doctor thinks that milk production is low. The parents might be told to give formula after nursing.

Just like the other babies, the lactating parent will need to pump after feeding, so that milk production is maintained. The baby needs to be supplemented after nursing

Why Doesn't Milk Transfer Occur?

- Breastfeeding is an active process
- The baby must work to initiate milk flow
- Sleepy babies cannot generate this work



Source: US Breastfeeding committee

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Why Doesn't Milk Transfer Occur? Why don't these sleepy babies transfer milk? They often seem to bottle feed just fine.

Breastfeeding is an active process, and the baby needs to stay awake to pull milk into his mouth.

The baby must work to initiate milk flow, meaning the baby has to generate a vacuum, stay latched on tightly, and move the jaws and tongue to bring milk forward. The baby's effort needs to stimulate a letdown.

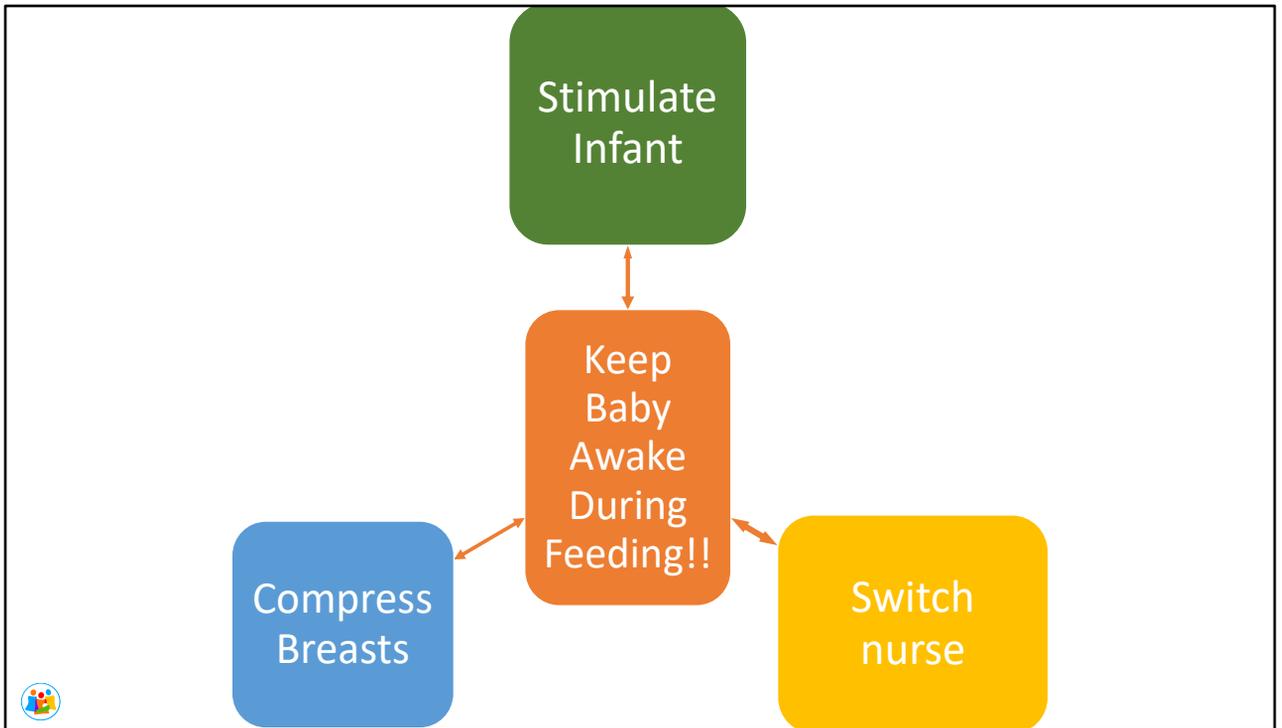
For babies who are sleepy, they cannot stay awake to generate this work.



How can parents help the baby remove milk (to nurse more effectively)?



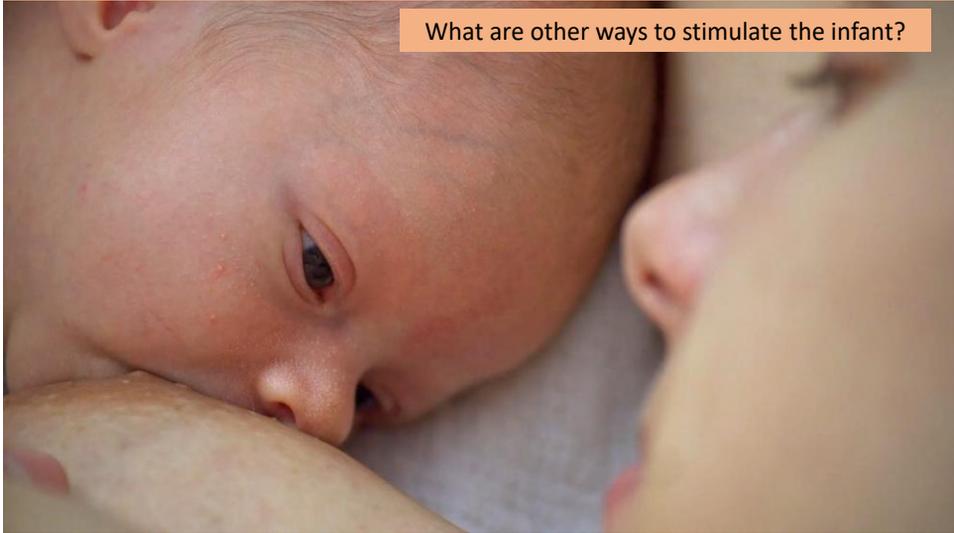
Ask this question, before going into ways to keep the baby awake during feeding.



This is a summary slide. We will talk about these 3 different strategies to keep the infant awake during feeding on the next slides

Keep Infant Awake- Stimulate While at the Breast

What are other ways to stimulate the infant?



Stimulate the baby if the baby is sleepy at the breast- **PLAY THE VIDEO**. This has no sound.

Please point out that mom is tickling the baby's face and chin to keep the baby awake at the breast.

What are other ways to stimulate the infant while feeding? Other ways to stimulate would be tickling under the arms, walk fingers up the back , or tickle the feet.

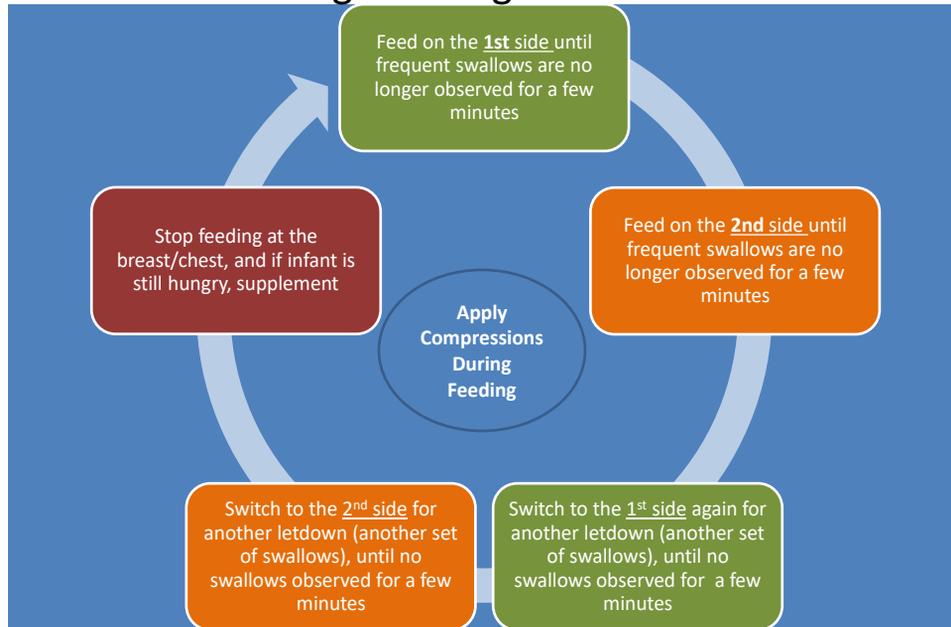


Breast compressions while nursing can help transfer milk to a sleepy infant



This is not a video, just an image. You can see that this parent is using their hand to support the breast, allowing the ability to provide breast compressions while feeding

Switch Nursing- Nursing on Both Sides Twice



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Switch Nursing- This is a term for feeding the baby on both sides twice.

Rather than using a clock to time an infant on each side, watch them nurse, identifying the swallows.

As the infant relaxes, and there are no swallows for a few minutes, switch the infant to the other breast. The parent can wake the baby up by burping or changing a diaper before switching to the other breast

Watch for swallows on the second side.

When the infant has not swallowed for a few minutes on the second side, take the infant off the breast.

If the infant is still hungry and didn't finish feeding, start the process over again on each side.

Make sure to apply breast compressions during feeding.

Let's watch the next slide with a video clip, to determine when the baby is done nursing on that breast

Watch for Sucks and Swallows
Determine When Swallows End

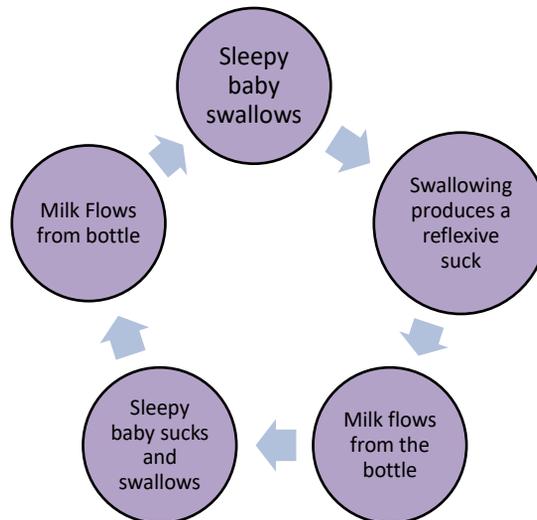


© IABLE. 29

This is a video of an infant who is falling asleep at the breast. Notice that the baby is drifting off to sleep, and identify when the baby is swallowing, and when the sucking is non-nutritive.

Supplementing Sleepy Babies

Bottles are often necessary when attempts to keep them awake and switch nursing do not help



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Supplementing Sleepy Babies-

Bottles are often necessary when sleepy babies don't transfer despite attempts to keep them awake, and switch nurse

These babies will typically take enough calories when fed with a bottle.

Start discussing this diagram with 'Milk Flows from a bottle'

The bottle has a very firm nipple that stimulates the palate, causing a reflexive suck and swallow. The baby does not have to work hard to create a vacuum, as the milk from a bottle flows easily. Think about what happens when you put a lollipop in your mouth. You will seat it in the middle of the hard palate and place your tongue under it. Having the sucker in your mouth will make you suck on it.

Sleepy baby swallows

Once milk flow from the bottle into the sleepy baby's mouth, the baby will swallow.

The swallowing will cause the baby to reflexively suck

This sucking will keep the milk flowing from the bottle

The Sleepy baby sucks and swallows

While the bottle nipple is against the baby's palate, the baby will continue to suck and swallow while being very sleepy.

A feeding tube at the breast or on the finger is not a great option because the baby must work to make the milk flow in these situations too.

Why Paced Bottle Feeding?

Click for video



- Not paced
- Milk flows quickly from the bottle
- Baby feeds quickly and may overfeed
- At risk for bottle propping
- Baby develops a preference for fast flow, less patient at the breast



- Feeding is paced
- Slows feeding to mimic breastfeeding
- Prevents overfeeding
- Baby has control of milk flow
- Prevents propping



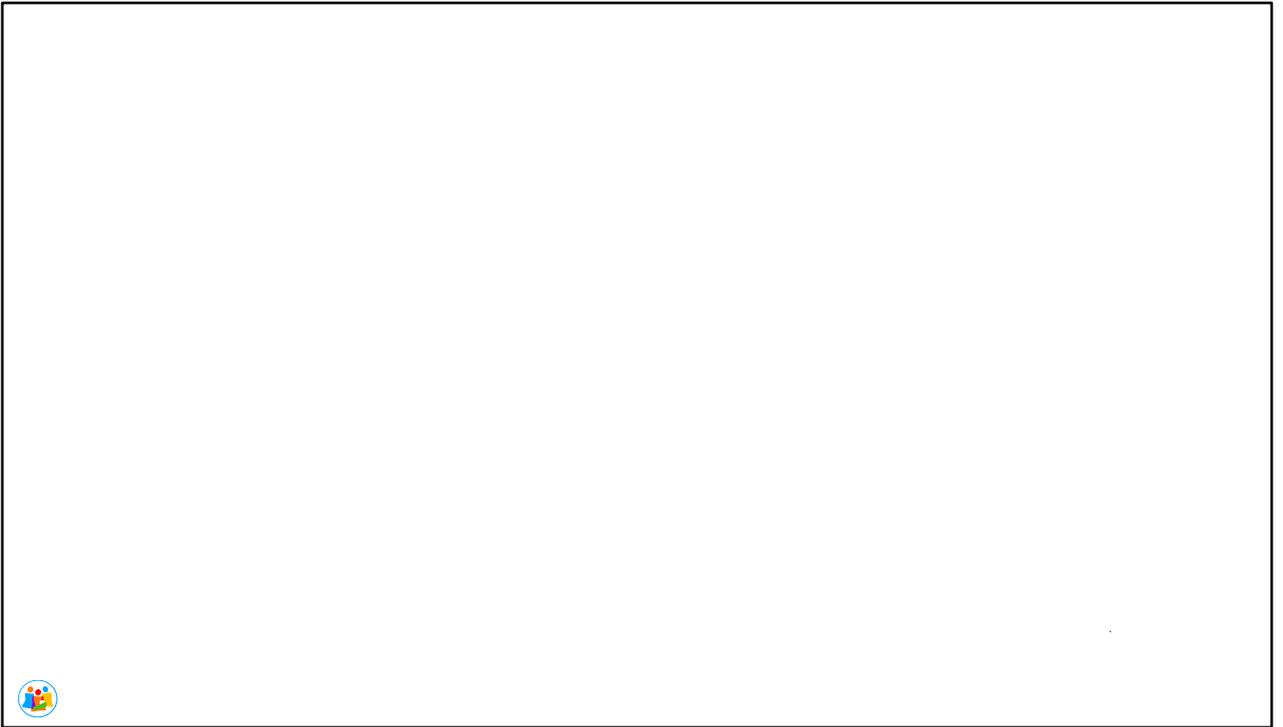
© IABLE. 31

Why Paced Bottle feeding?

The photo on the L is a common method of bottle feeding. This is not paced. The baby is subject to a bottle that may flow quickly, putting the baby at risk for rapid feeding, spitting up, coughing, and over feeding. Sometimes babies develop a preference for such rapid milk flow and won't breastfeed.

The photo on the R is paced feeding. The bottle is horizontal to the floor, preventing rapid milk flow. This allows the infant to have control of the milk flow, and decreases the risk for bottle preference based on milk flow. It also decreases the risk of over feeding.

Please play the paced bottle feeding video on the next click



This slide has the paced bottle feeding video embedded

Triage Tool -Sleepy Baby; Group 2

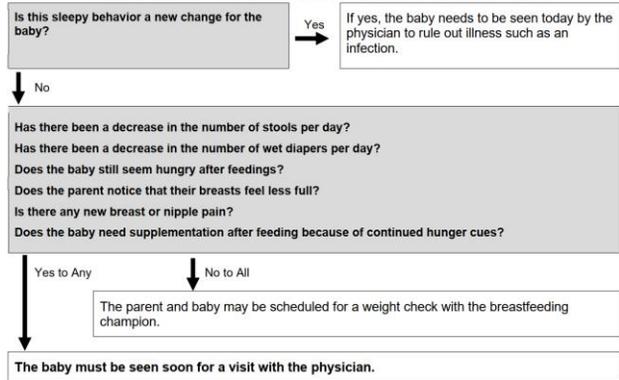


Group 2 takes out the Triage tool script Sleep Baby. Group 1 is the Breastfeeding Champion

This is your second baby
The baby is 3 weeks old, and has always been sleepy since birth
The baby takes 40 minutes to finish each side
It is hard to wake the baby up after nursing on one side
The baby nurses every 3 hours
He has 5 stools a day
Nothing has really changed in terms of # of stools or voids
Mom does not have breast pain

- This is your second baby
- The baby is 3 weeks old, and has always been sleepy since birth
- The baby takes 40 minutes to finish each side
- It is hard to wake the baby up after nursing on one side
- The baby nurses every 3 hours
- He has 5 stools a day
- Nothing has really changed in terms of # of stools or voids
- Mom does not have breast pain

For Babies Who are More Than 2 Weeks Old:



Regardless of responses, the baby needs a weight check to confirm normal growth and provide confidence for the parent.

Advice Given:

- Keep the baby awake at the breast by tickling the feet, back and neck.
- Wake the baby by taking off clothing and changing the diaper before feeding.
- Advise that sedating medications or substances can cause infant drowsiness, such as:
 - Antihistamines (e.g. Benadryl)
 - Narcotics (e.g. hydrocodone, oxycodone).
 - Benzodiazepines (e.g. lorazepam, diazepam, alprazolam)
 - Alcohol
- Advise breast compressions while the baby is feeding to assist with milk flow to the baby.
- If the baby needs supplementation after feeding due to persistent hunger cues, advise pumping or hand expression to maintain milk production.



Discussion of Case Sleep Baby

- What are mom's concerns?
- What are helpful pieces of advice?
- How can the breastfeeding champion help her in-person?



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What are mom's concerns?

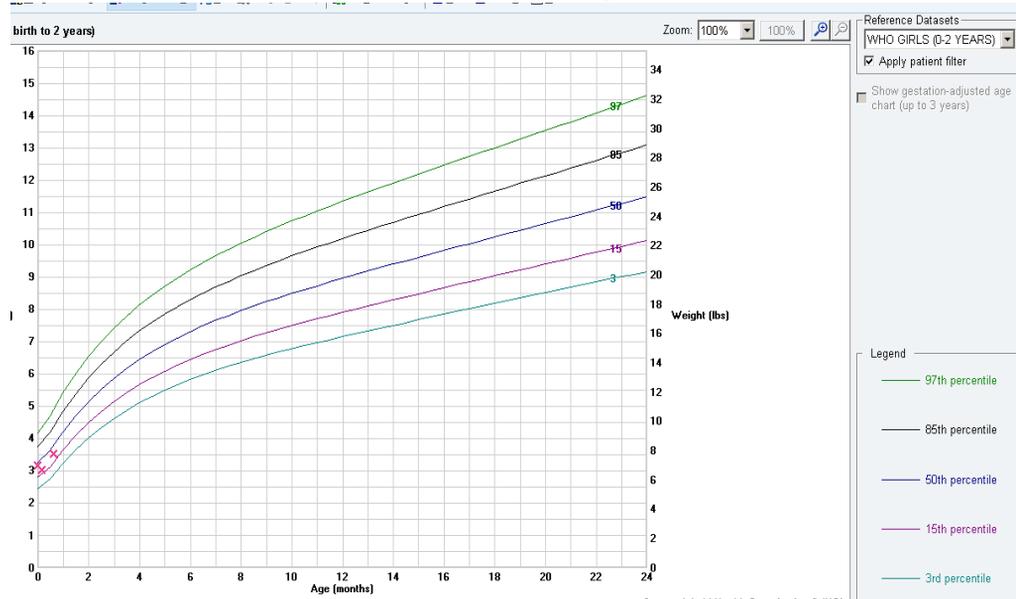
- Duration of time it takes to feed the baby, will it get better?
- Is the baby growing well enough?
- Is her supply good enough?

How can the breastfeeding champion help her?

- Teach her strategies to wake her baby up
- Weigh the baby to make sure she is taking enough milk
- Make sure mom is not taking any meds that can cause sleepiness
- It is OK to pump and bottle feed some feedings in order to give mom a break from so many long nursings.

Growth Charts

A Measure of Expected Growth



What is a Growth Curve?

We know that infants grow pretty much in the same way.

They tend to double their weight from birth to 4 months, and tend to triple their weight in a year.

After 1 year of age, children tend to grow approximately 2 inches a year and gain 5 lb a year.

However, not every child is the same size, so to know whether an infant or child is gaining enough, let's say between 4 months and 6 months of age, we need to plot the baby on his growth curve. We expect the baby to stay on a curve.

Growth Curves

- The Centers for Disease Control uses the World Health Organization Growth Curves thru age 2
 - http://www.cdc.gov/growthcharts/who_charts.htm
- Appropriate for human milk fed and formula fed infants
- Plot naked weights for accuracy

Do you use growth curves? –parents often follow their infant's growth curve on an app



Growth Curves

The standard growth curves recommended by the CDC for the first 2 years are from the World Health Organization. These can be downloaded for free from the US Centers for Disease Control or the World Health Organization websites.

The WHO curves are based on how human milk fed infants grow and are appropriate for both breastfed and formula fed infants.

Only naked weights should be plotted on the curves for proper tracking

Ask the group if they use growth curves- it may not be in scope of practice for those who are not medical. However, many parents have apps that plot their infant's growth curve, so it helps for breastfeeding champions to know about them.

Expected Rates of Infant Weight Gain

Age of Infant	Expected Rate of Weight Gain
The first 2-4 days	<ul style="list-style-type: none"> Mild decrease from birth weight No more than ~10% weight loss Lowest weight by day 3-4 of age Weight loss stops when breasts are fuller If more than 10% loss, see provider/LC
Day 5 thru approximately 3.5-4 months	<ul style="list-style-type: none"> Gain at least 25-30 grams/day At birth weight or beyond at 2 weeks Typically gain ~ 2 lb each month If gaining less, plot weight on growth curve to determine adequacy of growth
After 4 months	<ul style="list-style-type: none"> Weight gain/day depends on infant size Plot the weight on growth chart to determine adequacy of growth



© IABLE, 38

This chart describes how much we can expect babies to grow in terms of weight gain.

Weight change from birth to ~4 days:

Breastfeeding babies will lose weight until milk production is increasing significantly.

The baby might lose 7-10% of her birthweight until she starts to gain.

If she is at 10% weight loss and milk production has not significantly increased yet, or the baby is not feeding well, the baby needs to be seen by the provider or LC

Age 5 days to ~3.5-4 months:

Once milk production is plentiful, the baby will typically gain about 1 oz a day, or 2 lb a month.

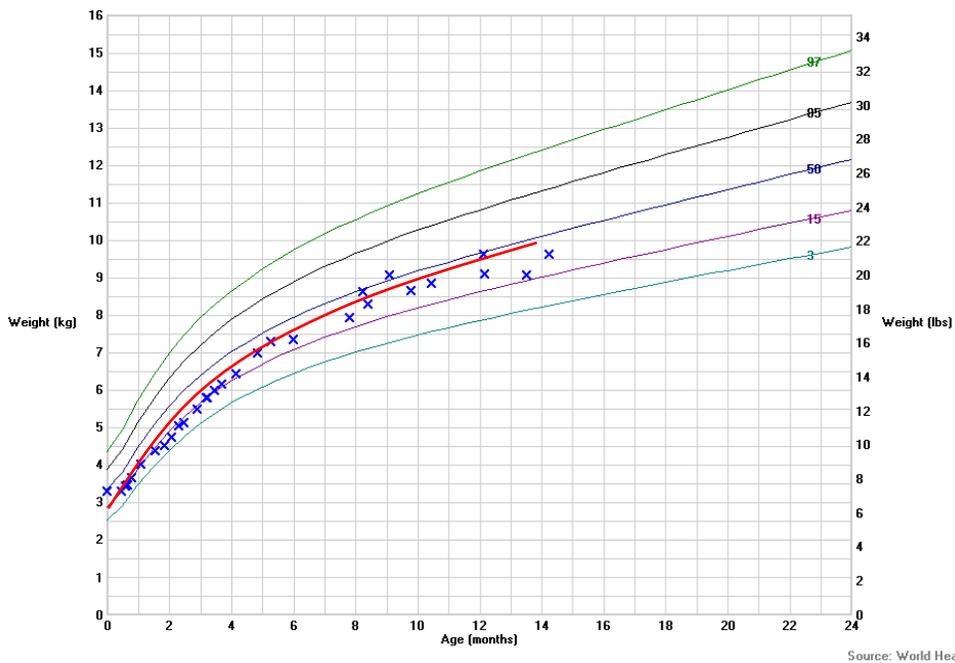
The infant is typically at birth weight or beyond by 2 weeks of age.

If the infant is gaining less than 1 oz a day during this period of time, they should be plotted on the growth curve to make sure they are not declining in weight percentile.

4 Months and Beyond:

Infants usually gain less than 1 oz a day after 4 months of age. In order to determine proper growth after 4 months of age, plot the weight on the growth curve.

Normal Infant Growth

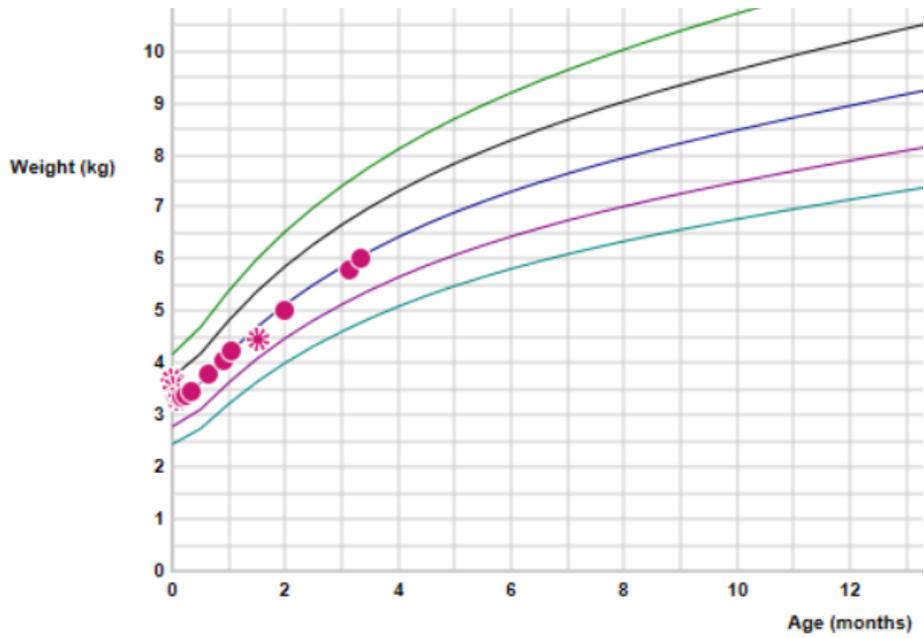


Here is a growth curve of a normal breastfeeding infant. You can see that the infant stays somewhere between the 15 and 50% for weight. The shape of the baby's weight gain (his own curve) appears to be parallel to the other curves. This is classic, normal growth.

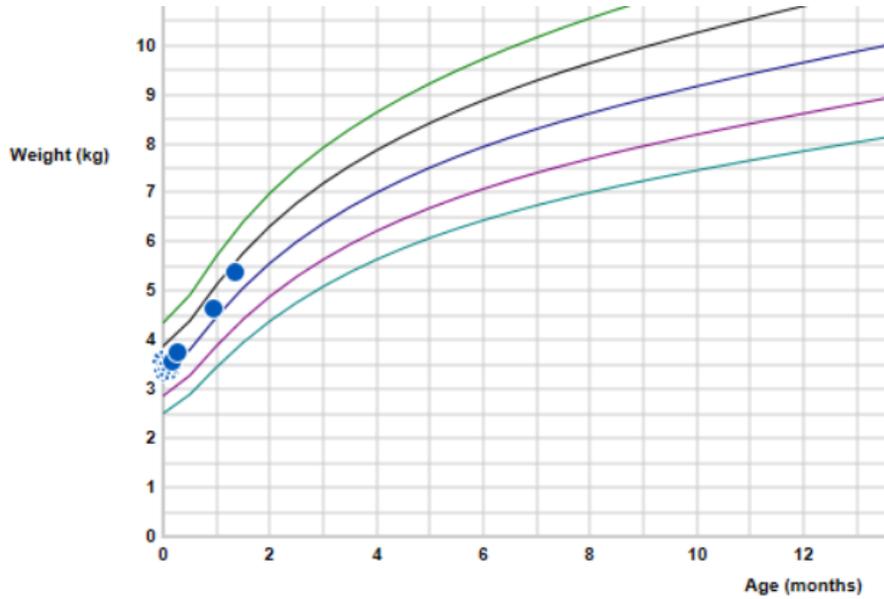
(the red line blows in on the second click)

Point out that the shape of the baby's own growth (ie the red line) should be the same shape as the other curves.

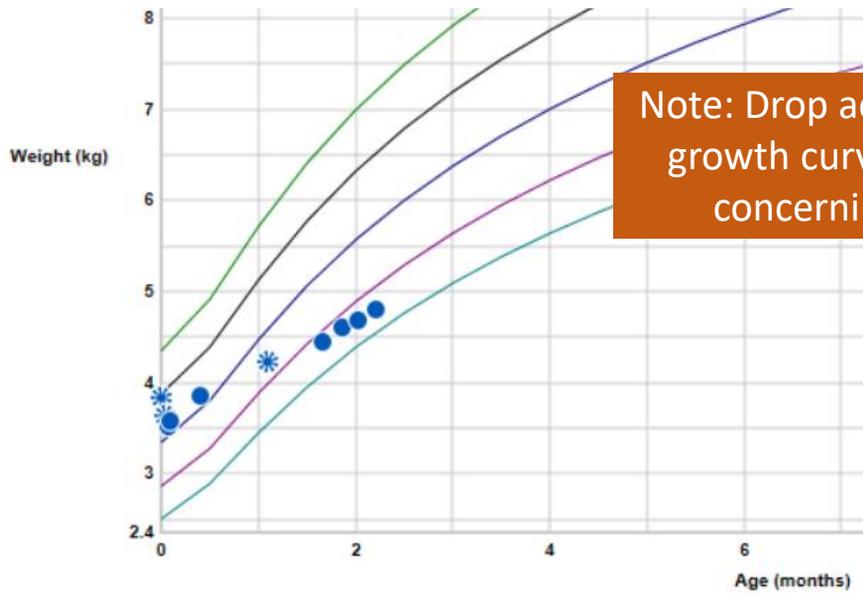
A flat, horizontal line is not OK.



This is an example of perfect growth over time. The infant stays on the same growth curve.



Here you can see that the infant's weight percentile has increased over time. That is not a problem. The infant is not over feeding

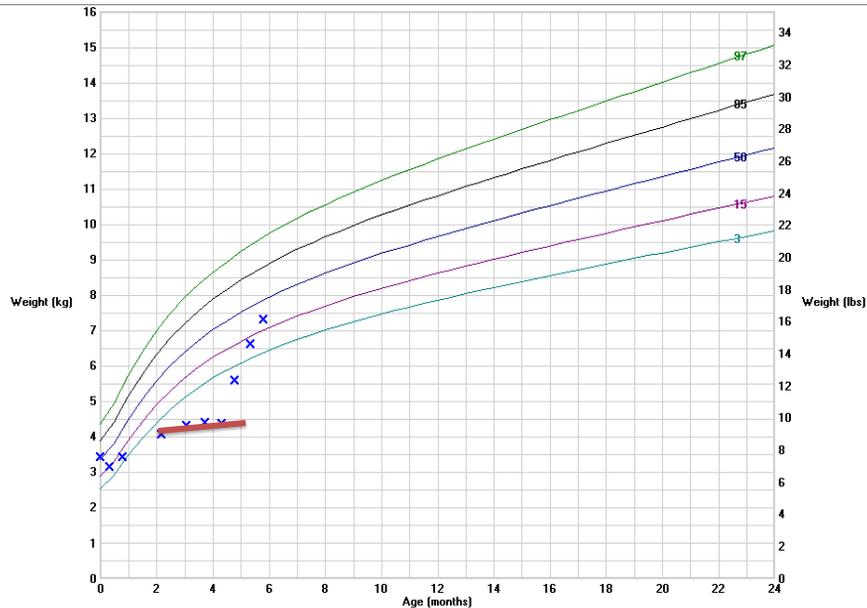


Note: Drop across 2 growth curves is concerning

Here is an example of concerning growth. The weight percentile has declined over time, with a drop down past 2 growth curve lines. A good rule of thumb is that when the weights drop more than 2 lines, to have the baby be seen by the physician/provider to assess growth.



Abnormal Growth



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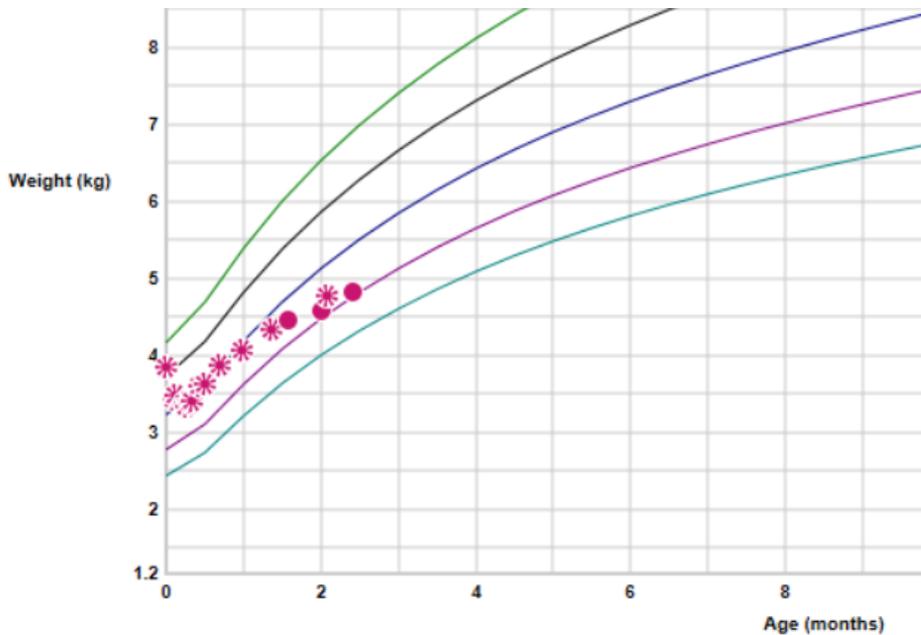
This curve is a dramatic example of a baby who went thru a period when he did not gain weight well.

You can see that the baby decreased his weight % from 1 month to 2 months of age. He then didn't gain any weight from 2 months for 4 months. (The Red Line will click in)

The baby started supplementation at 4 months, and gained weight very rapidly, about 3 lb per month from 4 to 6 months, to catch up.

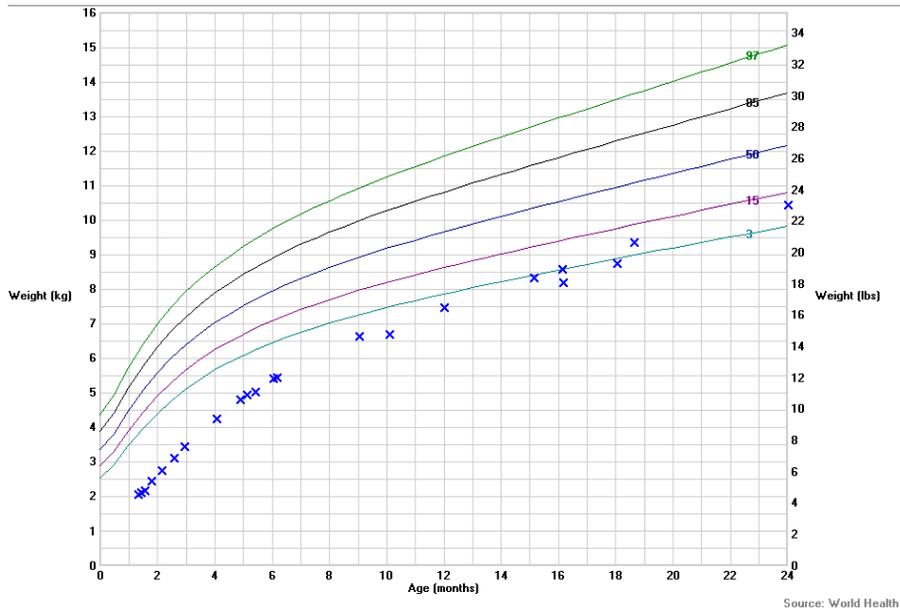
The baby's time of flat growth (horizontal line) is VERY unsafe. It means the baby is not gaining any weight.

Any time you see a baby crossing 2 growth curves, the baby needs to be seen by the provider and a breastfeeding specialist



Sometimes it is hard to determine if growth is adequate vs problematic, as in this case. This infant was large at birth and then has gradually drifted down in weight percentile over time. This is probably normal, but the infant and parent may need to be evaluated by the lactation consultant and possibly the physician/provider and watched closely over time.

Premature Infant



© IABLE, 45

This is a weight growth curve of a premature baby

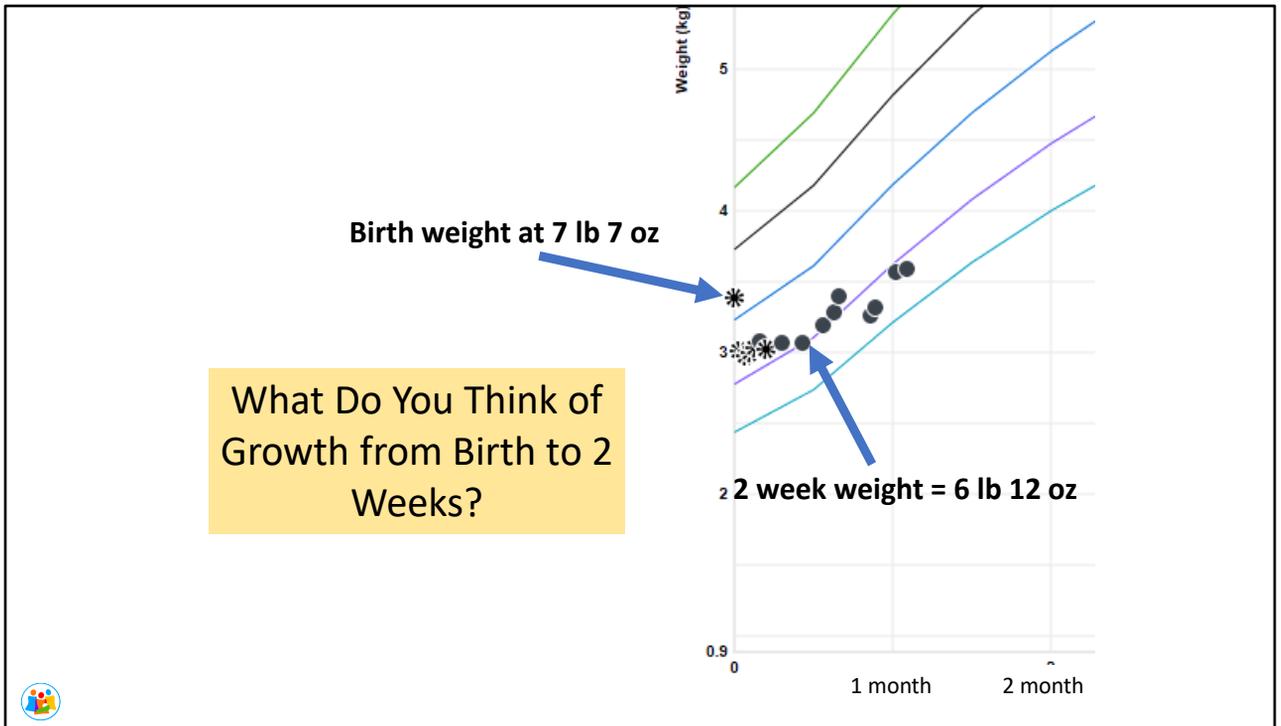
You can see that the baby started off small. This is because the WHO growth curves are based on term healthy babies.

However, premature babies tend to rise to higher curves over time, basically catching up over time.

What Do You Think?



I am going to present some growth charts, and I'd like you to tell me what you think about the infant's growth.
(have them shout out answers or raise their hands, or use the chat box online)



What Do You think About the Growth From Birth to 2 Weeks?

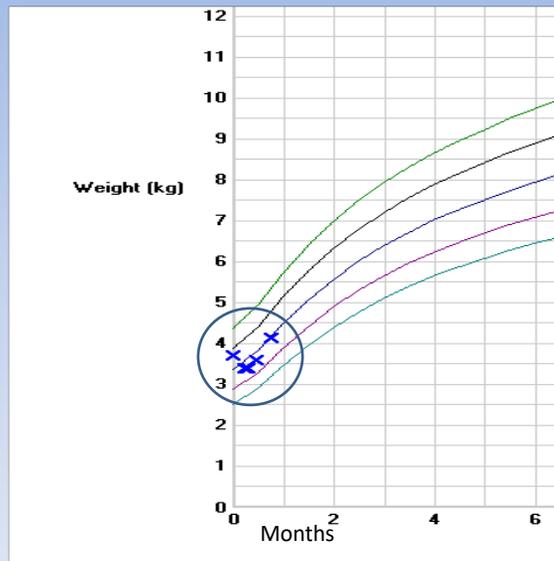
We discussed that weight will drop the first 2-4 days, until milk increases in volume. Then we should see 1 oz per day of growth. This baby should be back to birth weight by 2 weeks, so weight gain is insufficient.

What do these weights tell us? How is the weight at 2 weeks? At 3 weeks?

Birth wt- 8 lb 2.5 oz
(3600g)

2 weeks- 7 lb 14.3 oz
(3580g)

3 weeks- 9 lb 1.8 oz
(4133g)



© IABLE. 48

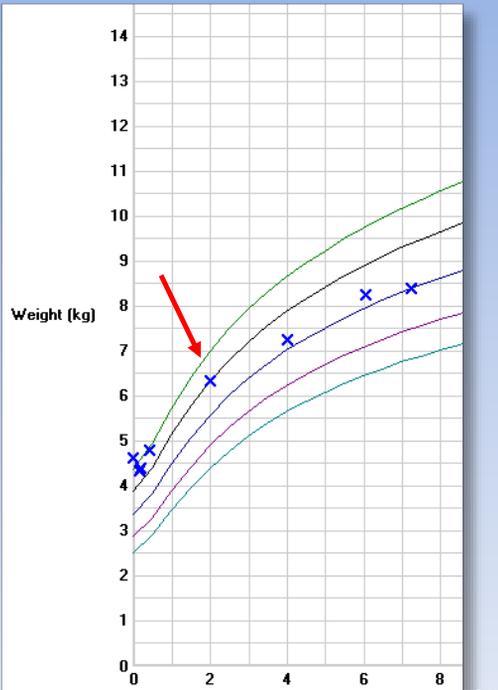
This baby was born at 8 lb 2.5 oz and at 2 weeks of age was 7 lb 14.3 oz.- What do you think about this 2-week weight?

The 2-week weight indicates that the baby was not gaining well.

How much would we hope the baby weighed by 2 weeks of age?- at least back to birth weight

From 2 weeks to 3 weeks of age the baby gained ~ 1 lb 3 oz. What may have happened?

You are seeing this infant at 2 months of age.
How is the growth from birth to 2 months?



What do you think about this baby's growth curve?

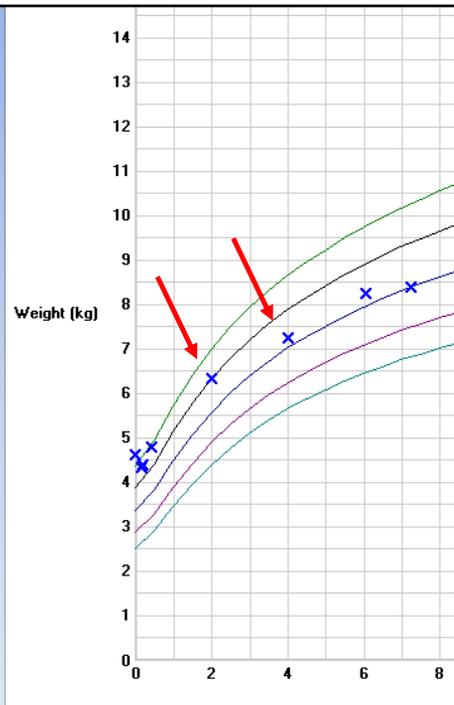
Let's first talk about the baby's growth from birth to 2 months of age. **What do you think about birth-2-month growth?**

The baby's weight % and weight gain is fine from birth to 2 months. It is down very slightly but didn't quite cross one growth curve.

Now you are seeing this infant at 4 months of age.

What do you think about the infant's growth, from 2-4 months?

What questions would you ask parents about feeding?



What do you think about infant growth from 2 to 4 months of age?

Between 2-4 months of age, the baby's weight % decreased, and the baby went down to the next curve.

How can you determine whether to be worried at 4 months or not?

What questions would you ask the parents about feeding?

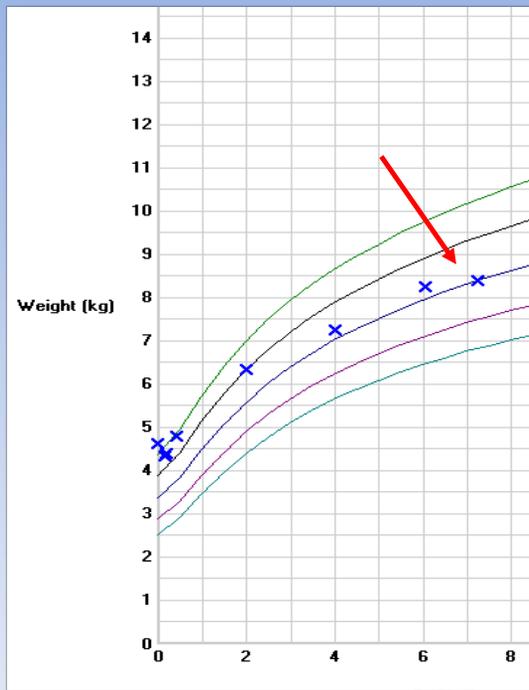
If the baby is content, sleeping well, and offered to nurse or given a bottle of breastmilk whenever he is hungry, then there would be less concern. But it is wise to recheck the weight at 5 months rather than 6 months.

If the parent senses that milk production is down, the baby seemed unhappy, fussy, or if the baby was ill with problems such as reflux symptoms or recurrent colds, then the decrease in weight % may not be normal for the baby. A drop in milk production should be addressed, and the baby's weight monitored closely.



You are seeing the same infant at 7 months of age.

What do you think about the infant's growth, from 4-7 months?



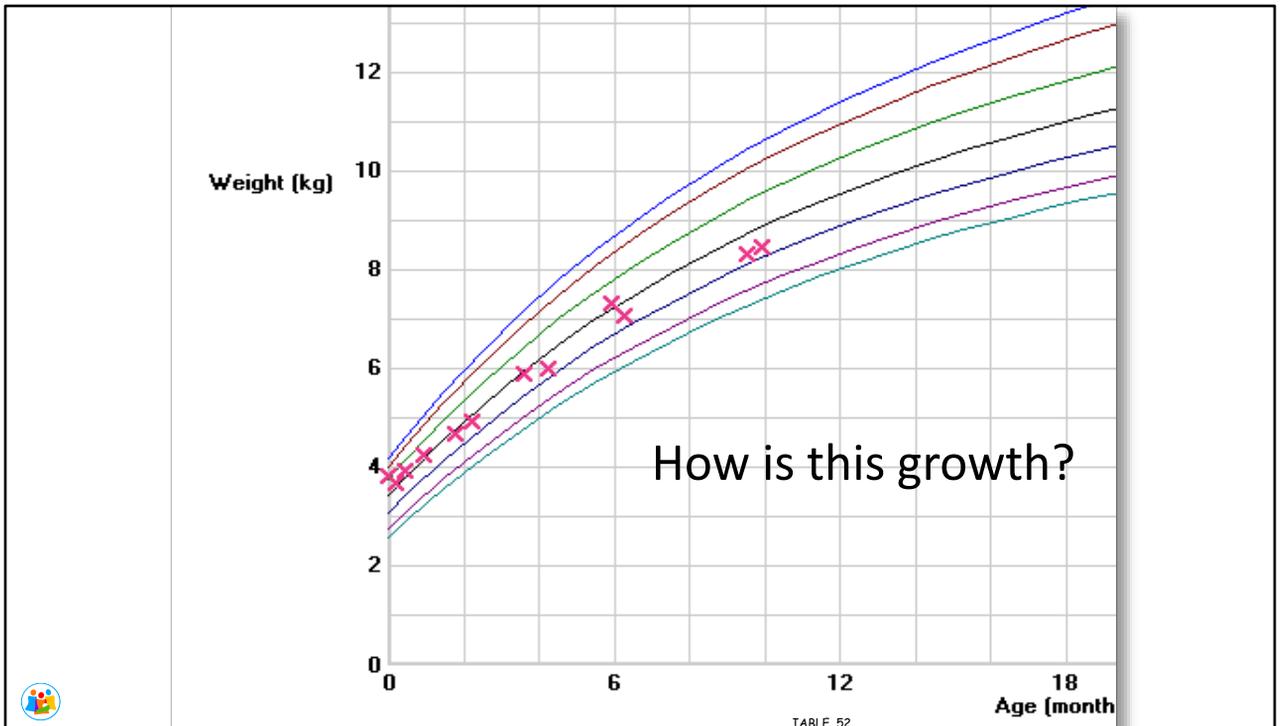
What do you think about the baby's weight from 4 to 7 months of age?

From 4 months to 7 months the baby stayed on that curve. This is normal growth.

In summary: The baby was a big baby at birth, but the baby's genetics did not intend for the baby to stay that large.

The baby's curve came down over time, but remained stable after 4 months, which is reassuring.





What do you think about this baby's growth?

This baby is growing fine. The baby was a big baby at birth, and over time he settled into a lower curve, but you can see that he tended to stay just above the 25th % for weight from about 4 to 10 months of age.

A good rule of thumb is that if the baby is just crossing 1 curve over time, there is less concern.

If the baby is crossing 2 curves, then there should be greater concern.



Is this growth OK?
 What may have happened at 2-4 mo?

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What do you think about this growth curve?

Describe what has happened from birth to 2 months of age.

The baby dropped her weight % from about the 50% to between the 50% and 25%

How does growth appear from 2 months to 4 months of age?

The baby seemed to gain fine, dropped down to the 25% by 4 months of age, but was stable from about 3 to 4 months of age.

Overall this baby is growing fine.

Pre- and Post- Feed Weights

- A way to measure intake at one feeding
- One feeding does not represent all feedings for the whole day
- The proof of appropriate calorie intake is in the daily/weekly weight gain



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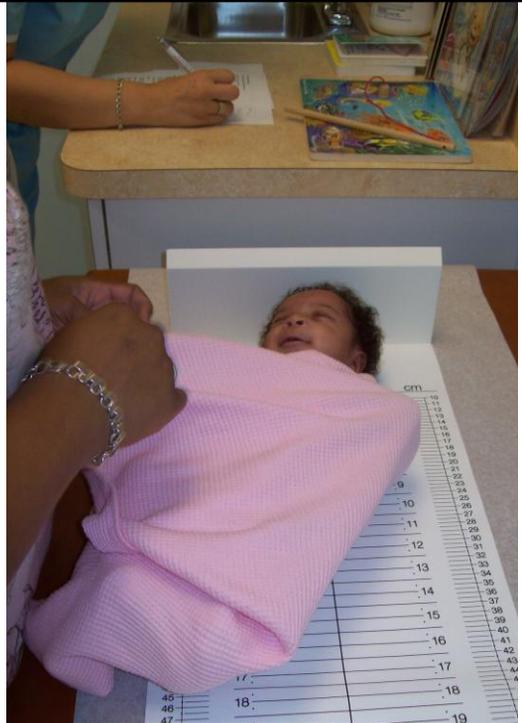
Pre and Post Feed Weights

This is a strategy that is useful to find out how much a baby takes at a feeding. However, 1 feeding in the office does not tell us how much the baby takes at every feeding, since each feeding will vary.

The best way to determine appropriate breastmilk intake is to monitor weight gain over days/weeks, and plotting the weights on a growth curve.

Pre/Post Feed Weights Can Backfire

- Volumes vary per feed
- An office feeding \neq home feeding
- What is the right amount?
 - Is 2.5 oz (75ml), 3 oz (90ml), or 4 oz (120ml) the right amount?



Pre/Post-Feed Weights can Backfire **Volumes vary per feed**

We know from studies that the amount a baby takes at each feeding will vary. Infants often take larger volumes in the am, when the breasts are fullest, and least in the evening, when the breasts are emptier.

The lower milk production in the evening is one reason why babies will nurse more frequently in the evening.

The feeding in the office might not represent a typical feeding at home.

The baby might be sleepy or nauseated from the drive to the office or might not be as hungry as usual.

It can be hard to determine if the volume transferred is sufficient.

Is 2.5 oz, 3 oz, or 4 oz the right amount for the baby to take? The only way to know the answer to this is to see how much the baby is gaining over the course of several days or a week.

Optimal Situations for Pre-Post Feed Weights



- The baby has not been gaining well, and mom appears to have plenty of milk
- Monitoring the baby known to have low milk transfer
 - Premature or sleepy babies
- The baby nurses for a long time, the parent is not sure about their milk production, baby's growth is marginal



Optimal Situations for Pre-Post Feed Weights

The baby has not been gaining well, and the parent appears to have plenty of milk.

In these situations, the parent may say that they can pump 4-5 ounces after the baby just fed, yet the baby is still not gaining weight. By weighing the baby after feeding we can definitely say that the baby is not transferring enough calories.

Monitoring the baby known to have low milk transfer.

This is a very common reason to perform pre/post feed weights. This is often the case for premature infants, very sleepy infants, or small for gestational age infants.

The baby nurses for a long time, the parent is not sure about their milk production, baby's growth is marginal.

In these situations, we can find out how much the baby transfers, and how much milk is left in the breast after pumping, to determine whether milk production is truly low.

How to Perform a Pre-Post Feed Weight

- Use a digital scale, measuring at least to 2 grams
- Weigh the baby naked, for documentation on growth chart
- Put on clean diaper and clothes that baby will wear while nursing, and weigh the baby in grams
- Feed the baby
- Reweigh the baby in the same clothes and diaper.
- Difference in grams= amount of milk transferred
 - 5400g pre-feed, 5464g post feed =64g difference, which is 64ml transfer



How to perform a Pre-Post Feed Weight

Use a digital scale that can measure weight down to at least 2 grams

Weigh the baby naked, so that you have the baby's weight for the day, which can be plotted on the growth curve.

Dress the baby in a clean diaper and clothes that baby will wear while nursing. With these clothes on, weigh the baby in grams.

Feed the baby. Allow the parent plenty of time, to make sure that the feeding is representative of a typical feeding. (Abandon the post-feed weight if the baby will not nurse well).

Once the baby is done nursing, reweigh the baby in the same clothes and diaper.

Difference in grams= amount of milk transferred.

ie 5400g pre-feed, 5464g post feed =64g difference, which is a 64ml transfer

The Breastfeeding Champion's Role

- Weigh the baby and determine if growth is sufficient
 - If weight is excellent, provide reassurance.
 - If not sufficient or unclear, needs a provider/LC visit
- Initial recommendation for supplementation
- Support the parent's milk production



The Breastfeeding Champion's role is to weigh the baby. The champion can plot the weight on the growth curve to determine if weight gain is sufficient. It is up to the champion to determine if this is within their scope of practice.

If the weight gain is sufficient, OK to provide reassurance.

If the weight gain is not sufficient, the dyad will need to be referred to the provider, or a lactation specialist

The breastfeeding champion can discuss how to support the parent's milk production which we will talk about next.

Options for Supplementation



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These are the options to supplement a breastfeeding infant

Cup Feeding

Finger Feeding

Tube Feeding at the Breast

We will now discuss each of these in the next slides



Why are bottles the most popular way to supplement a breastfed infant?



Ask this question to stimulate a conversation about the different methods of supplementation

Bottle Feeding

Pros

- Easy to use
- Available
- Easy to clean
- Culturally acceptable for most families

Best Bottles?

-elongated round nipples

Cons

- Parents may perceive this as giving up
- Baby might prefer the bottle over the breast



© IABLE. 61



Bottle Feeding

Pros:

Easy to use, most people are comfortable with bottles

Available, usually people have them in the house

Easy to clean, except during times of emergencies, when cups are the best

Culturally acceptable for most families

Cons:

Parents may perceive this as giving up at the breast

Baby can prefer the bottle over the breast. It is not nipple confusion, but rather nipple preference

Note:

There is not a best bottle, but best to choose a round elongated nipple, which promotes deep latch on the bottle. Avoid a flat or NUK shape, which keeps the tongue back, causing shallow feeding

Cup Feeding

Pros

- Does not fulfill infant's suck need
- Cups are easily available and inexpensive (shot glass)
- Easy to clean



Cons

- Learning curve
 - Spillage, slow
- Not typical in our culture
- Overwhelming task for some

Click for Video



© IABLE. 62

Cup Feeding

Pros:

Cup feeding does not involve sucking, so infants are less likely to stop suckling at the breast. Cup feeding does not fulfill the need that infants have to suck.

Cups are easily available, cheap, and easy to clean. A shot glass works well.

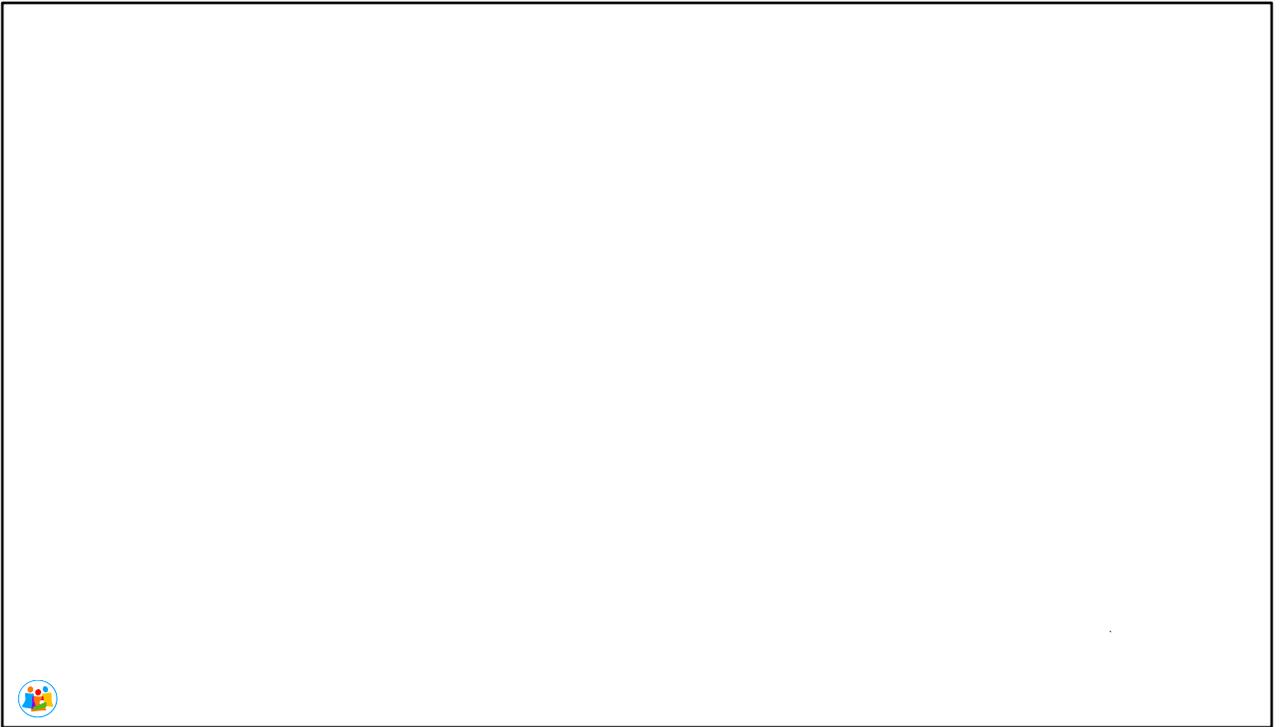
Cons:

There is a learning curve. It takes time to get the technique down. The baby often needs to be swaddled. Spillage is common until parent and baby improve their skills. If baby is sleepy, don't use this method.

It is not typical in our culture, so may not be accepted by others, or considered too strange.

Overwhelming for parents who are already stressed out, because of having to practice before it becomes efficient.

Show the Cup Feeding Video on the next click



The cup feeding video is embedded in this slide

Finger Feeding

Pros

- Avoids using a bottle
- Good for small volumes
- Active participation



Cons

- Difficult with larger volumes
- Needs coordination
- Aspiration
- Cleaning
- Accessibility

[Click for Video](#)



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Finger Feeding

Pros:

Avoids using a bottle

Good for supplementing small volumes in the first 1-2 weeks only.

The baby has to actively participate to take the milk, as the baby would do at the breast

Cons:

Difficult with larger volumes- takes too long.

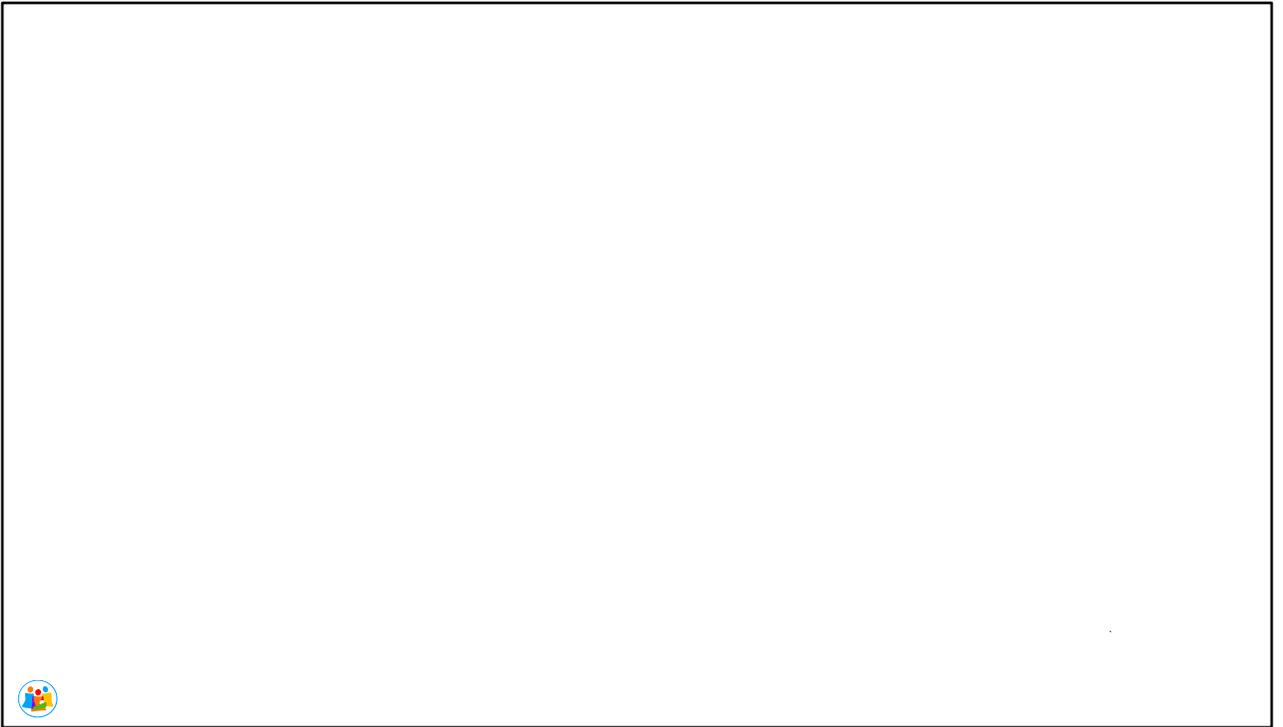
Can take some coordination

Baby could aspirate if not done properly- the parent should not push the syringe, the baby needs to feed by actively sucking

Need to clean feeding tubes/syringes, the tubes need to be rinsed with soapy water then clean water. They should be tossed after 3 days

Feeding tubes are not always available for families. They can buy them on line, but not easily purchased in a store. It is best to keep them in your offices, to hand out to patients. They are cheap to stock in the office. An ideal size is 5 french, both the 15 inch and 36 inch tubes.

Show the Finger Feeding Video on the next click



The finger feeding video is embedded in this slide

Feeding via a Tube at the Breast

Pros

- Saves time
- Increases breast stimulation
- Avoids artificial nipples
- Can help remove milk from the breast

Cons

- Clumsy, hassle
- Need extra equipment
- Not easily transportable
- Some babies refuse it
- Not for sleepy babies



[Click for Video](#)

© IABLE. 66

Feeding Tube at the Breast

Pros:

Baby breastfeeds while receiving supplement at same time.

This saves time, since the parent does not have to supplement with another device after spending time at the breast

When the milk production is low, the tube keeps the baby at the breast longer, which increases breast stimulation, helping to raise milk production.

This does not involve the use of artificial nipples, so it reduces the risk that the baby will prefer the bottle and refuse to nurse

For some parents, using the tube keeps the baby on longer, and with a nutritive suck at the breast while using the tube, the infant is more likely to remove milk well from the breast.

Cons:

Clumsy, hassle- some parents try it once and won't try it again because it takes some time to feel comfortable with it.

Need extra equipment- need to purchase feeding tubes, or a commercial product.

Sometimes the doctor's office can supply the feeding tubes and the syringes needed to clean them.

Not easily transportable- parents don't like to use this when they are out of the house

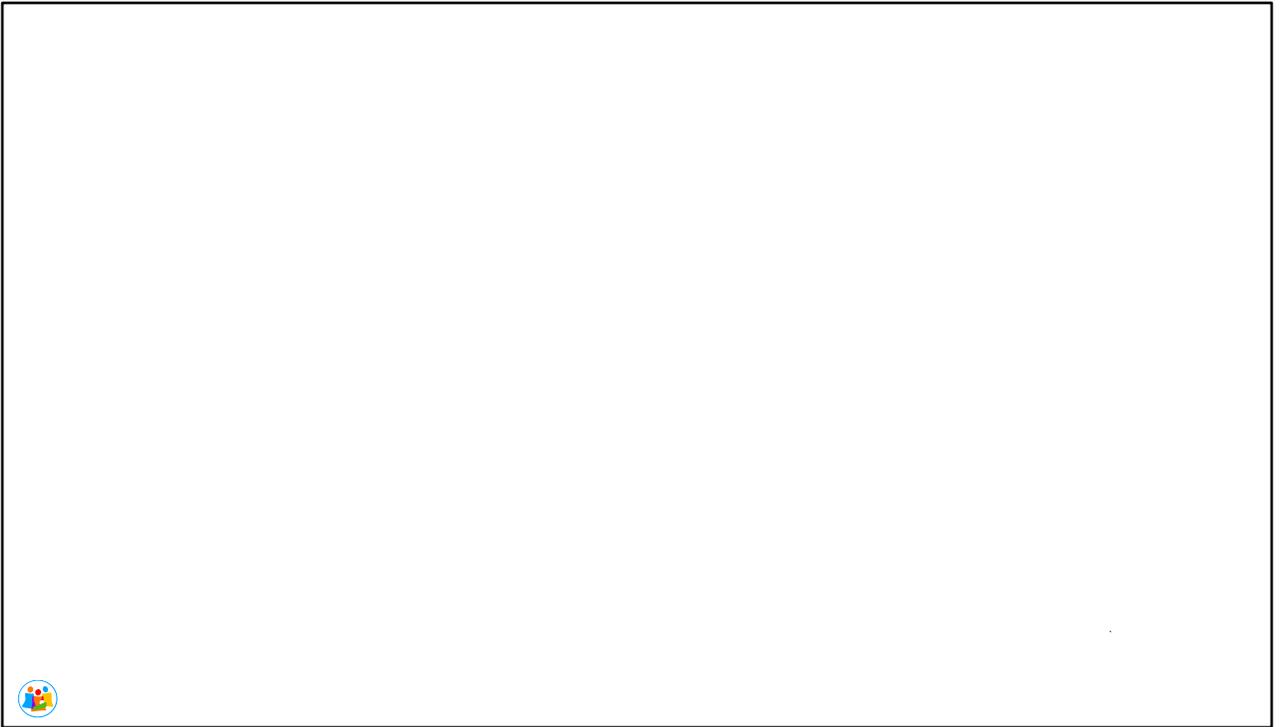
Some babies refuse it- they don't like having a feeding tube at the breast

Not for sleepy babies- sleepy babies need to work at the breast, and the feeding tube



does not make them work harder.

Show the Infant Feeding Tube Session 5 Video on the next click



The video of the supplementer at the breast is embedded in this slide

Breastfeeding Champion's Role in Cases of Low Milk Production

- Identify whether the parent may have low production
- Cannot diagnose etiology
- Support the milk production
 - Advise frequent nursing
 - Pump after feeding
 - Unless infant empties the breast thoroughly
 - Help parent access a pump
 - Advise on milk storage



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Breastfeeding Champion's Role in Cases of Low Milk Production

Identify possibility of low production-

Sometimes it can be very hard to determine if parent's production is low, or the baby is not taking enough, even when pre/post feed weights are done.

The champion won't have enough experience or knowledge to diagnose the underlying cause, or etiology, of low milk production. For that reason, these parents need to see a lactation consultant or a breastfeeding medicine specialist.

The breastfeeding champion can support the milk production

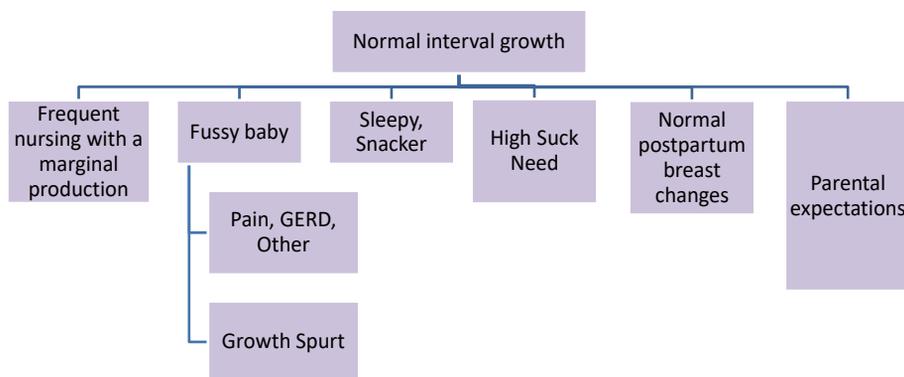
Advise frequent nursing to maintain good nipple stimulation, to keep the prolactin hormone level up.

Have the parent pump regularly after nursing to send a message to the breasts to make more milk

If the parent does not have a pump, help them access one. An alternative is for the parent to manually express after nursing, or instead of nursing.

Advise on milk storage if needed. We will talk about this in a later session.

Self-Reported Low Milk Production



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Self-reported Low Milk Production- Go thru these in detail here

Parents are often concerned that their production might be low, but the baby is growing fine

Here are some common reasons:

1. The baby is nursing often, and milk production is 'marginal'. Examples are parents who feed the baby every 1.5 hours, and the baby takes about 1.5 ounces, and the parent cannot pump more than a few ml after nursing
2. The baby is fussy and the parent feels that it might be that the baby is not getting enough. These babies might be fussy because of pain, GERD, or they could be in a growth spurt, with more frequent eating and general fussiness
3. The sleepy baby who does not finish nursing and wants to stay at the breast all day
4. The baby likes to suck
5. The parent feels that the breasts never feel full, or are less full than they used to be
6. Parental expectations that they baby will nurse every 3 hours rather than every 1.5-2 hours. Parents sometimes think that breastfeeding babies only wake up at night because they don't eat enough during the day.

If Interval Growth is Normal



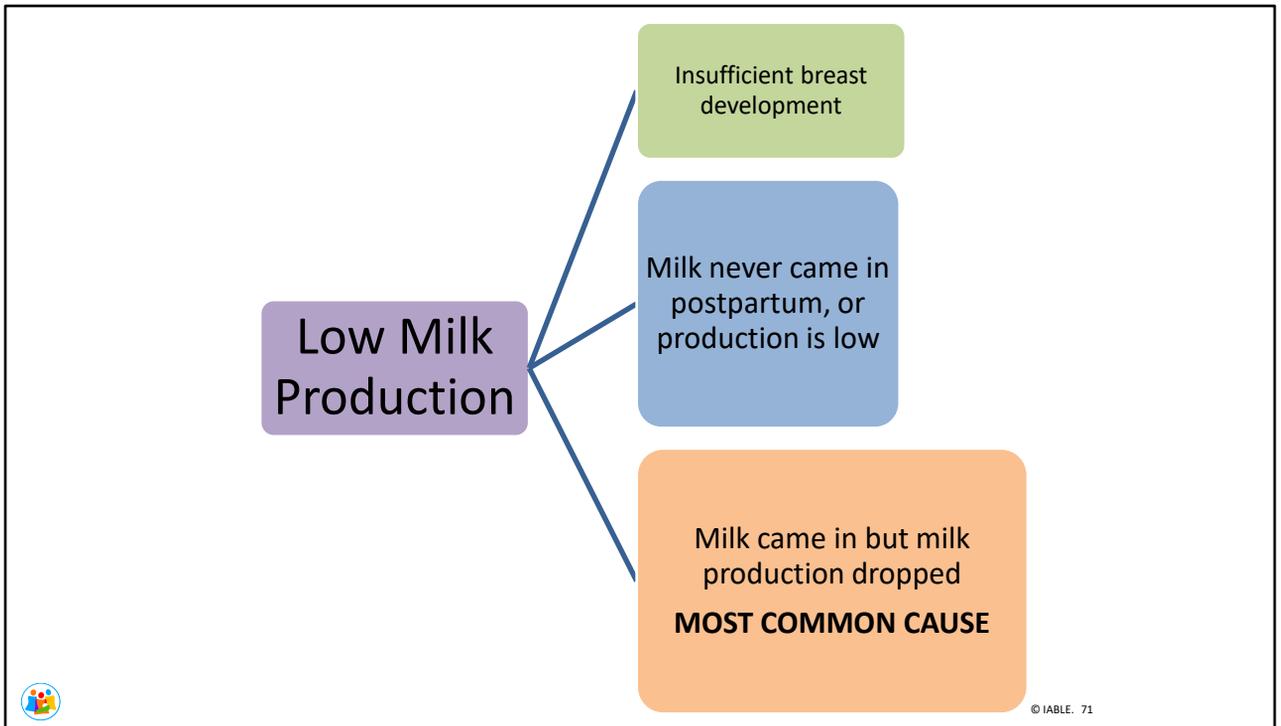
- Reassure
- Make sure that production is not marginal
- Advise on keeping baby awake with feedings
- Evaluate family's expectations
- Identify growth spurts
- Could consider a pacifier if needed



© IABLE. 70

If the baby is growing well on the growth curve then here are some suggestions in counseling the lactating parent:

1. Reassure the parent(s) that the baby is growing beautifully
2. Make sure that production is not marginal- if it does appear that the baby is nursing very often and taking low volumes, talk to the parent about ways to increase milk production, which we will review a little later in this session
3. If the baby seems sleepy, advise on how to keep baby awake with feedings
4. Evaluate family's expectations- Ask the family what sort of behavior they envisioned for a healthy breastfeeding baby. Explain that babies nurse in all sorts of different rhythms/frequencies.
5. Help the family identify growth spurts
6. Advise that they could consider a pacifier if needed



This is a summary slide- do not go into detail here!!!

This slide outlines the different stages during which low milk production might develop.

The cause of low milk production might be due to

1. breast development prenatally
2. postpartum medical problems that cause no milk or low volumes of milk
3. The milk came in fine, but the milk production dropped due to various nursing problems

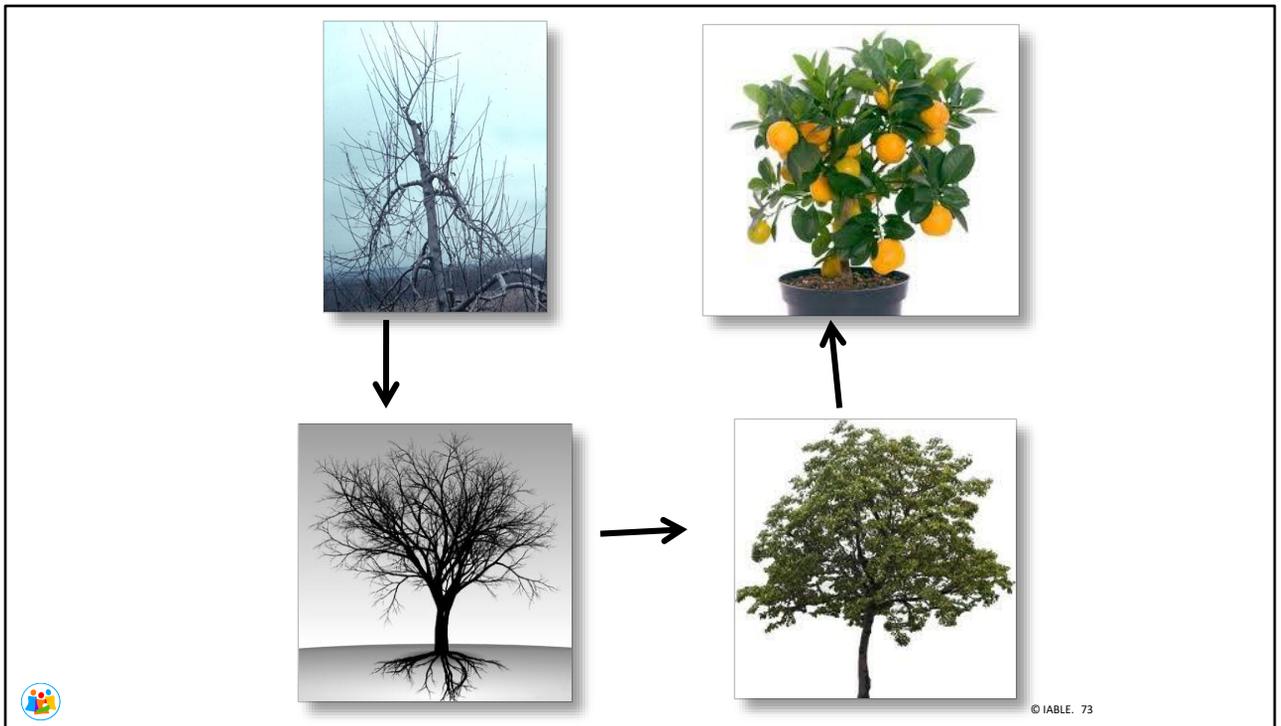
Prenatal Reasons for Low Production



Source: US Breastfeeding committee

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First let's talk about prenatal conditions that can lead to the breasts not developing sufficiently to make enough milk



Breast development during pregnancy is similar to the development of trees with seasonal change.

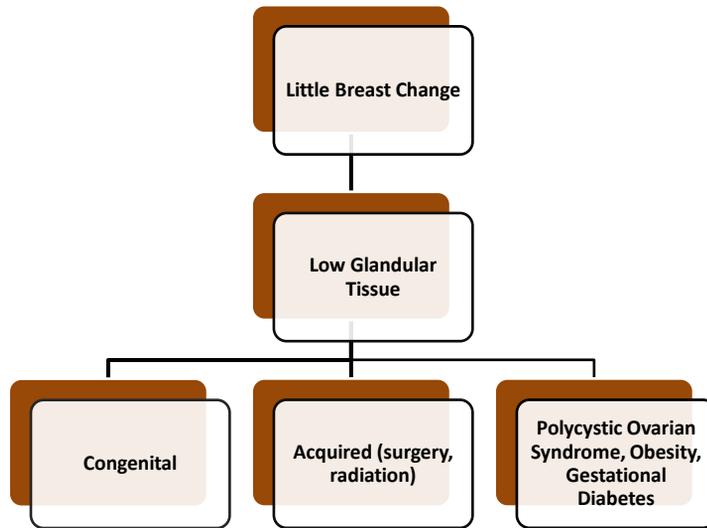
Top Left- Before pregnancy, there is little variation in breast tissue. Women will have mild aching and slight change before their menses, but overall they don't experience many changes in their breasts.

Bottom left- During pregnancy, the placenta sends out hormones to the breast for the ducts to elongate and new alveoli to form. This is similar to a tree, with new branch growth and new buds forming on the tree in the spring

Bottom right- towards the end of pregnancy the breasts are fully developed to make the 'fruit', which is milk

Top right- after the placenta delivers, an abundant amount of fruit is in production.

Little or No Breast Changes in Pregnancy



© IABLE. 74

What is happening when a new parent reports Little-No breast changes in Pregnancy?

Parents who notice little or no breast growth during pregnancy usually have 1 of 2 situations going on. **(this is further explained on the next few slides)**

First situation- low glandular tissue-

It is possible that the parent has low glandular tissue. The terminal buds, from which further breast tissue will develop, is insufficient. The small amount of glandular tissue makes small volumes of milk. This can be due to congenital factors, meaning that there was little potential tissue there since birth.

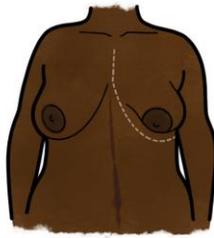
This is also the case for people who have had breast surgery, particularly a breast reduction. There is less tissue to respond to the hormones of pregnancy.

Parents who have had breast irradiation won't produce milk in the irradiated breast because the breast is 100% scarred. That breast will certainly NOT lactate.

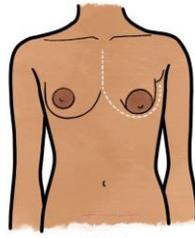
The second possible situation is Hormonal Disruption (the right bottom box of the flow chart)

The exact reason for this is not 100% understood. There are many people with high BMI, polycystic ovarian syndrome, and insulin resistance who don't experience much breast growth and aching during pregnancy. These people are at higher risk of insufficient milk production, but this is not true for all individuals with a history of elevated BMI or polycystic ovarian syndrome.

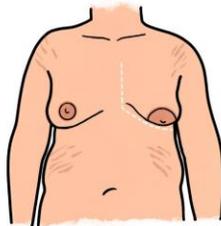
Congenital Insufficient Glandular Tissue



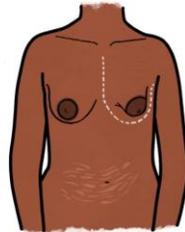
TYPE 1
hypoplasia of the
lower medial quadrant



TYPE 2
hypoplasia of the
lower and lateral quadrant
sufficient skin in the subareolar region



TYPE 3
hypoplasia of the lower
medial and lateral quadrant
Skin deficiency in the subareolar region



TYPE 4
severe breast constriction
minimal breast base

- May or may not report breast growth in pregnancy
- Not related to size of breast
- Shape of breasts can be a clue
 - Widely spaced
 - Nipples point down or outward
 - Large areola on small breasts



© IABLE. 75

This image shows drawings of the different ways that breast hypoplasia (low glandular tissue) can present.

These individuals may or may not report some breast growth in pregnancy. This problem is not necessarily related to the size of the breasts.

The **shape** of the breasts is usually a better clue for whether a person has insufficient glandular tissue. The breasts are often widely spaced, with nipples pointing downward or outward.

The L upper image shows insufficient tissue development in the inner lower quadrant of the breast.

The R upper image shows insufficient tissue in the outer lower quadrant

The L lower image shows insufficient tissue in the underside of the breast, causing the nipple to point down.

The R lower image shows insufficient tissue in the underside AND the outer lower quadrant.



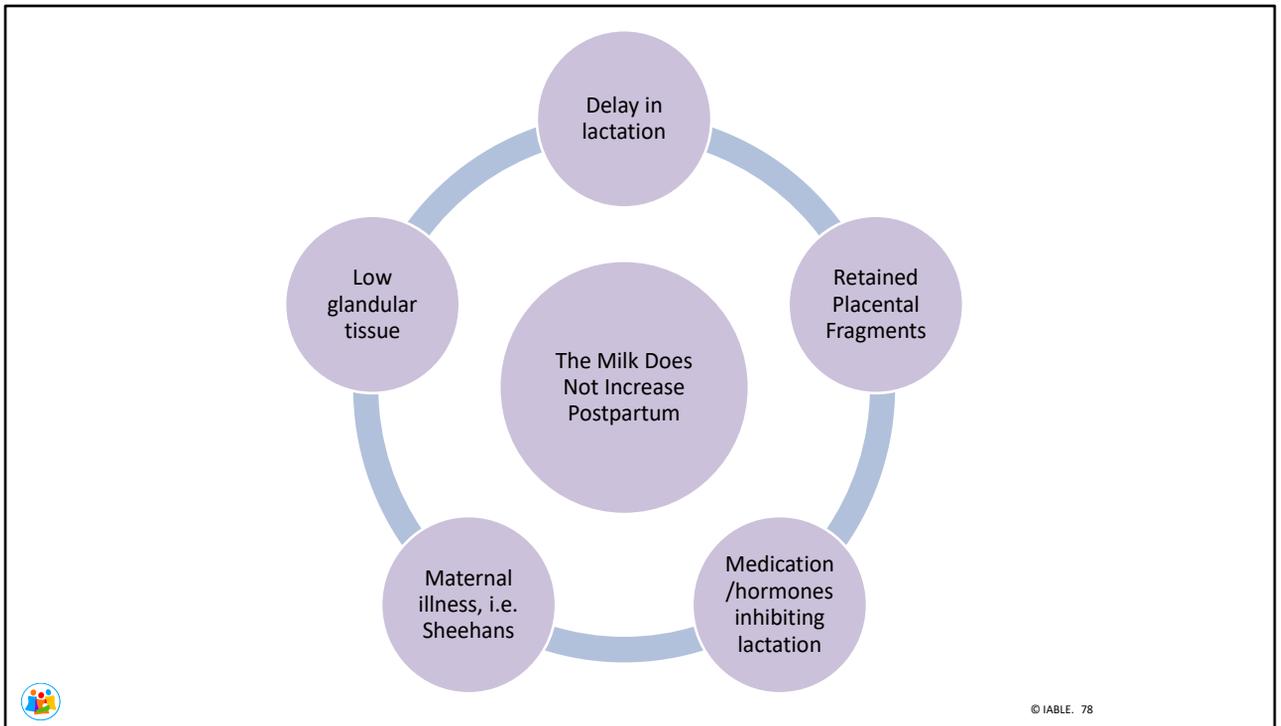
Sufficient glandular tissue but lack of full growth

There is an association between having insulin resistance and lack of breast growth during pregnancy, but this association is not well understood. People with an elevated BMI, polycystic ovarian syndrome are at risk for insulin resistance. People with diabetes before and/or during pregnancy are at risk for low milk production. Certain medications taken during pregnancy can affect glandular growth. Aripiprazole and brexpiprazole, for example, are 2 psychiatric medications that can cause low prolactin during pregnancy and lead to low milk production.

Postpartum Complications Leading to Low Milk Production



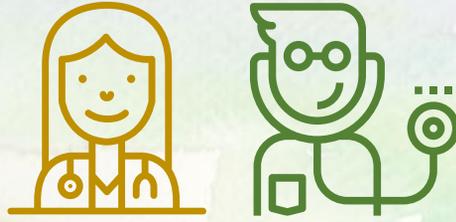
Next we will talk about how postpartum complications can cause low milk production



Parents who don't notice a 'coming in' of milk may have the following problems:

1. A delay in lactation- this means that it takes more than the typical 2-5 days for milk to come in. We see this in birth parents who have been under physical and sometimes emotional stress. A common example is pre-eclampsia, when IV magnesium is given, and the parent feels awful.
2. Retained placental fragments- by having a section of placenta left in the uterus, the body does not know that the placenta left, so the milk does not fully come in yet.
3. Medications or hormones that inhibit lactation- the most common examples are progesterone methods of birth control used in the first few days postpartum, such as the Depo shot, the progesterone implant or the progesterone IUD. We know that the drop in progesterone from the placenta leaving increases milk production. A few other examples are antihistamines like Benadryl, decongestants like Sudafed, and various other medications which we will discuss in session 8.
4. Parental illness- severe illness can lead to insufficient milk production. A special situation called Sheehans syndrome can occur in an individual with an overwhelming postpartum hemorrhage. The major loss of blood and loss of blood flow to the pituitary gland can kill the cells that make prolactin, and other pituitary hormones. This is relatively rare.
5. Individuals with low glandular tissue, as we just talked about, will notice very little change in their breasts postpartum, but the problem started prenatally.

If Minimal/No Milk by 7-8 Days, Refer to a Knowledgeable Physician/Provider

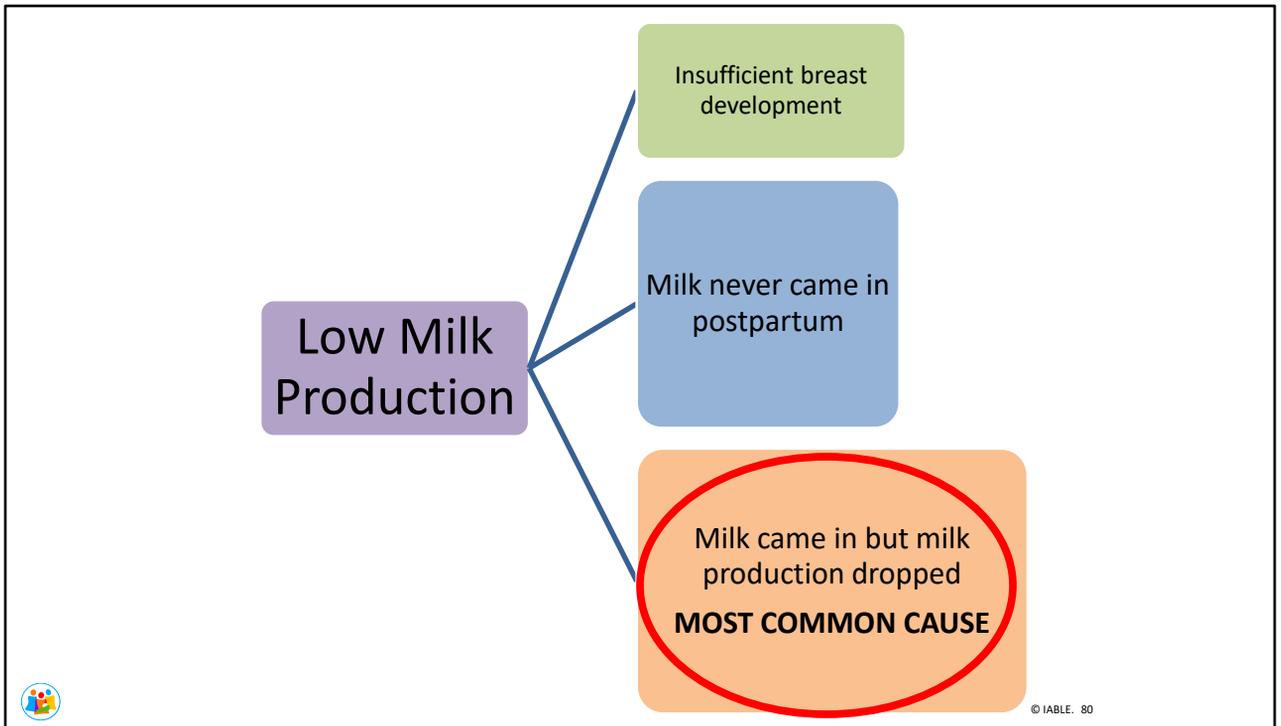


Labs and eval needed for::

- Pituitary function
- Uterus for retained placenta
- Other hormone problems
- Medication side effects



In cases where there is not milk or just drops by day 7-8, it is best to notify the physician or other provider. The lactating parent needs a medical evaluation to determine the cause of little or no milk. The medical evaluation typically involves blood tests for the pituitary function, thyroid function, and testing for retained placenta. Further, the provider needs to ensure that the lack of lactation is not due to a medication or other substance.



We are showing this summary slide again to point out that we discussed the causes of insufficient development, and reasons why milk may not increase postpartum.

Now let's focus on the most common cause of low milk production- that the production dropped postpartum for some reason.



If the Milk Comes In, How Can a Parent Lose Milk Production in the First Week Postpartum?

This is a discussion slide, meant to encourage everyone to think about what they have already learned, rather than being redundant with material that was taught in the first few sessions.

Answers are :

Infrequent nursing

Prolonged unrelieved engorgement

Infant who are not transferring well, such as sleepy infants, cleft palate, tongue tie, torticollis

Terrible nipple pain

Using a nipple shield

Medications, which we have not talked about yet

Medications and Substances that may Decrease Milk Production

- Cabergoline
- Estrogen-containing birth control pills
- Progesterone birth control, esp in the first 6 weeks
- Decongestants- pseudoephedrine
- Aripiprazole (Abilify) and brexpiprazole (Rexulti)
- Nicotine, tobacco
- Alcohol
- High dose steroids
- Epinephrine
- Antihistamines, especially frequent use
- Herbal teas/supplements
- Placenta encapsulation



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There are several medications that can decrease milk production

Cabergoline is a medication that reduces the prolactin level. Cabergoline is typically used to treat pituitary tumors.

Estrogen-containing OCPs- assume that any time estrogen is given to a lactating individual, it will drop milk production, no matter when it is given postpartum.

Progesterone birth control, esp in the first 6 weeks such as depo provera, the progesterone IUD, and the progesterone implant (Nexplanon). These are safer when given after 6 weeks. However, some people notice a drop in production when depo provera or Nexplanon implant is placed after 6 weeks postpartum

Decongestants!!- particularly pseudoephedrine, as known as Sudafed

Aripiprazole and brexpiprazole are antipsychotics that lowers the prolactin level

Nicotine- we will talk more about nicotine and tobacco use in a later session

Alcohol- we will also talk about alcohol in a later session

High dose steroids- high doses of intravenous or oral steroids have been observed to decrease milk production

Epinephrine given for allergic reactions can drop the supply

Antihistamines, particularly the strong ones like Benadryl, when used regularly, can drop the supply

Herbal teas/supplements, particularly sage, peppermint, parsley and rosemary.

Placental encapsulation- some people notice that if they ingest their placenta fresh or dried after delivery that they might drop their milk production

First Steps to Increase Milk Production

- Pumping and/or breastfeeding at least every 3 hours with no more than a 5-6-hour break at night
- Avoid medications that decrease production
- Sufficient self-care
 - Eat, drink, sleep



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The first steps to increase milk production are behavioral

The parent needs routine breast stimulation to keep the prolactin level up. Encourage nursing or pumping at least 8 times a day, ideally with no more than a 5-6 hour break at night.

Ask about medications or supplements that can reduce production

Encourage rest, eating and drinking fluids appropriately.

Make sure the parent is not restricting food intake, as excessive weight loss can lead to a decrease in milk production.

Galactogogues- Substances That Increase Milk Production



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Next we are going to talk about galactogogues, which are substances that can help increase milk production

Commonly Used Galactogogues

- Fenugreek
- Goats Rue
- Moringa Leaf
- Shatavari Root
- Herbal combinations as tinctures/teas
- Metoclopramide- prescription
- Domperidone- non-FDA approved prescription
- Non-prescribers generally not licensed to endorse these products



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This is a list of commonly used galactogogues. We will talk about each of these in a little detail, since you will likely come across these often

This list is for information only. Non prescribers generally are not licensed to endorse these products

Fenugreek

Goats rue is used, but little/no research on this

Moringa Leaf

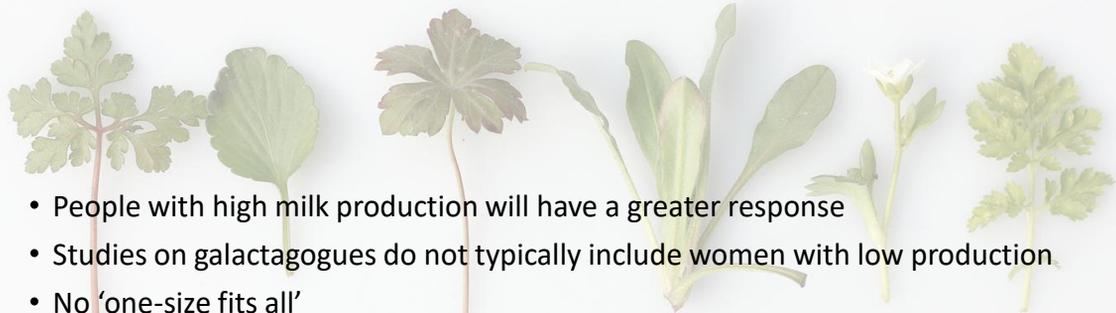
Shatavari Root

Herbal combinations as tinctures/teas

Metoclopramide- prescription

Domeperidone- non-FDA approved prescription

Considerations in Galactagogue Use



- People with high milk production will have a greater response
- Studies on galactagogues do not typically include women with low production
- No 'one-size fits all'
 - People respond differently to different herbs
- Research is generally low quality. Best evidence is cultural experience
- No data on how long to take herbs for effectiveness



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Other considerations regarding the use of galactagogues:

People with high milk production will have a greater response, so they will respond more to those who are struggling with low production, such as those with insufficient glandular tissue.

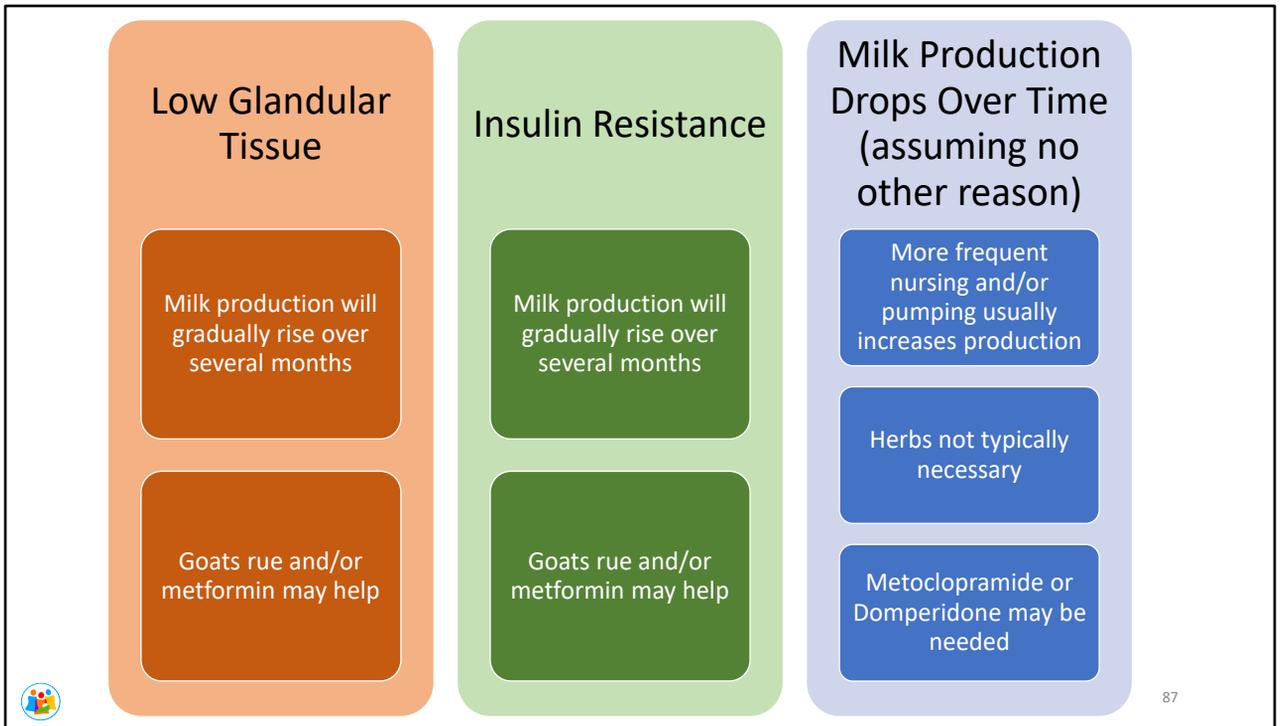
Studies on galactagogues do not typically include women with low production, so we don't know how they work in those with insufficient glandular tissue or low prolactin for some reason

No 'one-size fits all'

People respond differently to different herbs

Research is generally low quality. Best evidence is cultural experience

No data on how long to take herbs for effectiveness. We also don't know what the ideal doses are for many herbs.



This outlines strategies to help increase production over time.

For those with low glandular tissue, milk production will slowly increase over time.

Although we have no research, it appears from clinical observation that goat's rue and metformin may boost this increase their production.

This also seems to be the case for people who have a known history of insulin resistance.

For people who had sufficient milk production but had a decrease in production over time, herbs often do not help. They typically need to either nurse or pump more frequently. If increasing demand does not help, it's possible that their prolactin level is low and metoclopramide or domperidone will be the most effective.

Goat's Rue (Galega Officinalis) or Metformin

- These require approval by their medical provider.
- Both improve insulin resistance early postpartum
- May be the most effective to increase production in the first few months
 - Low glandular tissue
 - Known insulin resistance, such as diabetes before and/or during pregnancy
- Metformin is a prescription that is derived from goat's rue
 - Can cause stomach upset and reduce B-12 absorption.
- Goat's rue is well tolerated but expensive.



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Goat's Rue (Galega Officinalis) or Metformin

People with low production in the first several months often have a history of either low glandular tissue or insulin resistance.

Goat's Rue and Metformin seem to have the greatest effect on gradually increasing production over time. We don't have any research on this ,but it makes sense from what we know about the role of insulin in making more milk over time.

Metoclopramide- Prescription Med

- Requires a prescription from the physician/provider.
- Increases prolactin levels
- Side effects- fatigue, dizziness, depression, seizures, tremors, tics
- Contraindications- psychiatric disorders, seizures
- Dose = 5-10mg 3-4 times a day
- It can double milk volume at most
- Follow the lactating parent closely for depression, anxiety, seizures



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Metoclopramide is a prescription medication used for nausea, vomiting, gastroesophageal reflux, other gut motility disorders, and sometimes to help alleviate migraines.

It increases prolactin as a side effect, by decreasing dopamine levels in the brain. The neurological side effects are quite concerning. These occur in about 8-10% of those taking it. They include fatigue, dizziness, depression, seizures, tremors, and tics. Anyone with a history of psychiatric problems such as depression or anxiety, or anyone with a history of neurologic problems such as seizures, tremors, tics should not be given this medication.

The dose is 10mg 3 or 4 times a day

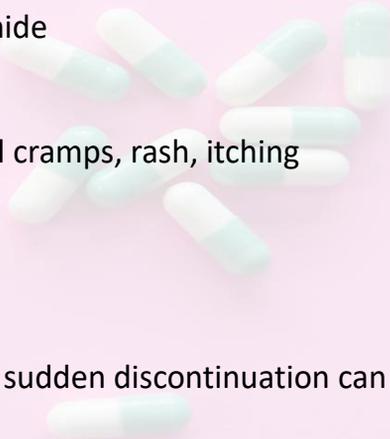
Some people can double their milk production with metoclopramide.

It is important to follow these individuals closely to make sure that they are not developing depression on it.

The longer a person takes it, the higher their risk of developing neurologic problems or depression while on it.

Domperidone- Prescription Med

- Requires a prescription from their physician/provider
- Increases prolactin levels
- Rare neurologic side effects
- Similar efficacy to metoclopramide
- Dose at 10mg 3 times a day
- Not FDA approved in the USA
- Side effects- cardiac, abdominal cramps, rash, itching
- Several medication interactions
 - Fluconazole
 - Lithium
 - Erythromycin
 - + others
- Must be weaned off over time- sudden discontinuation can cause severe depression and suicidality



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Domperidone is not FDA approved in the United States

It is used widely in other countries, such as Canada, Australia, New Zealand, England. It is over-the-counter in Ireland.

Domperidone is used for the same reason that metoclopramide is used, for nausea, vomiting, and gut motility disorders.

It does not enter the brain to the same degree that metoclopramide does, so many mothers choose to take this over metoclopramide.

It also works by increasing the prolactin level.

The dose is 10mg 3 times a day. You may see other higher doses elsewhere on the web, but domperidone can prolong the QT interval. The QT interval is a very short time period between 2 heart beats. If this time between 2 heart beats is prolonged, it can lead to life threatening heart rhythms.

It appears that 10mg 3-4 times a day is safe for those who don't have heart problems. It is best to not go beyond this dose.

Because domperidone is not FDA approved in the USA, many lactating parents have trouble accessing this. Insurances tend to not pay for it, and it can be expensive, approx \$80-\$100 a month.

Side effects can include change in gut movement, so maybe a change in stool pattern. Also watch for a rash or itching.

It should not be given with grapefruit juice, erythromycin, fluconazole, certain medications called anticholinergics, and lithium

Sudden discontinuation of the medication, especially for women who have taken the medication for several months, can trigger severe depression and suicidality.



Common Foods Believed to Increase Milk Production Based on Culture, Little Research

- **Herbs and Spices**

- Garlic, ginger, basil, onions, caraway, anise, coriander, dill, cumin

- **Hops**

- **Chamomile**

- **Green Leafy Vegetables and sprouts**

- **Grains- oats, quinoa, barley, rice**

- **Nuts and nut butters**

- **Brewers yeast**



Mother-food.com

These are some foods and herbs used in cooking and teas that have been people in various cultures use to increase milk production. Very few of research has been done to demonstrate that these foods really do increase milk production. The participants will find some families sharing information of what their families use to increase milk production, as a tradition.

When to use Galactagogues

- Galactagogues are not a substitute for optimal nursing/pumping
- Milk production will not increase with supplements alone
- They may help when the parent is trying to increase milk production by removing milk more frequently
- Goats rue or metformin may be helpful for those with insulin resistance or low glandular tissue in the first 4 months postpartum



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When to use Galactagogues

Galactagogues are not a substitute for proper nursing/pumping routines. People cannot get by with pumping or nursing less often by taking domperidone. It only works well if the parent is pumping/nursing in optimal ways to increase their production.

This means that the milk production will not increase with supplements alone. Galactagogues should not be used until the parent has proven that they cannot increase their production sufficiently with a proper nursing/pumping routine.

Conclusions Session 5

- Many babies appear to breastfeed well, but they need weight checks to confirm proper growth.
- Weight checks are key to instilling confidence.
- Parents need support in protecting their milk production when babies are not nursing well.



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Conclusions Session 5

- There are many reasons why a parent may have low milk production, and sorting out the underlying reason(s) can be complicated.
- Most parents can increase their production with effective and consistent nursing/milk expression routines.
- Galactogogues do not take the place of regular nursing and breast expression to increase the milk production.



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