Growth, Intake and Feeding Patterns

What is Normal for the Breastfed Baby?

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Questions and Inconsistencies

• How often should my baby be eating?
• How much should he be eating?
• Is his growth normal?

Research and Practice

• Look at the research
• Understand what is normal.
• Develop a plan for practice.
How do we know what normal intake is?

- Many “formulas” over the years.
- Most common has been to multiply the baby’s weight in pounds by 2.5 and come up with a 24 hour total. (8lb baby x 2.5 = 20 oz)
- But this did not work at every age and every weight.
  - Not before day 3, not after 4 months, not over 10 or 12 pounds

Is it still current?

- No…looks like we “making it work.”
- Probably set up a lot of moms for failure.
- Every 12 pound baby needs 30 ounces of milk a day? Not realistic.
- Most pumping moms will discover they do not make that amount

#1 reason moms quit breastfeeding?

- Perceived low milk supply that is not usually REAL.
- But reinforced by many people
  - That baby always seems hungry
  - My baby did not feed that often.
  - Your baby should be sleeping through the night…does not need to eat past 8 weeks
- Relatives, friends and healthcare professionals alike.
Do all moms make enough milk?

- No... because we are seeing more women who are not able to make enough milk.
- Most have a history of infertility
- We are able to help more women conceive, but we are not fixing the hormonal problems that then become an issue with making milk.
- Every drop of milk is worth it...

What are normal feeding amounts?

- Peter Hartmann’s research shows us that milk production is consistent from 1 – 6 months and actually decreases after solids are introduced.
- These studies have been duplicated by American researchers as well.
- Following information is from

Day 1

- 24 hour intake average: 37 mL = 1.25 ozs.
- Average intake per feed: 7 mL
- First feeding is often the biggest.
Day 2
- 24 hour intake average: 84 mL = 2.84 ozs.
- Average intake per feed: 14 mL
- Multiparous mothers have increased milk volumes

Day 3
- 24 hour intake average: 408 mL = 13.7 ozs.
- But the range is huge: 98 – 775 mL (3.3oz – 26 oz)
- Average intake per feed: 14 – 45 mL
- For many women, Lactogenesis II has occurred during the 3rd day, thus the large range.
Normal Weight Loss in Hospital

- More for the breastfed baby than formula fed.
- Averages about 6 - 7%
- Risk factors for higher weight loss
  - Higher birth weight
  - Female gender
  - Epidural
  - Longer hospital stay
  - Maternal Obesity
  - Gestational Diabetes

Table 2. Incidence of Weight Loss during Hospital Stay.

<table>
<thead>
<tr>
<th>Extent of Weight Loss</th>
<th>Incidence, n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 8%</td>
<td>731/1003 (72.9)</td>
</tr>
<tr>
<td>&gt; 8%, &lt; 10%</td>
<td>212/1003 (21.1)</td>
</tr>
<tr>
<td>&gt; 10%, &lt; 12%</td>
<td>57/1003 (5.7)</td>
</tr>
<tr>
<td>≥ 12%</td>
<td>3/1003 (0.3)</td>
</tr>
</tbody>
</table>

Small amounts of milk by design...

- Thick, sticky fluid is good to practice suck, swallow and breathe
- More output than intake in first 2 – 3 days
- The average physiologic capacity of a newborn stomach on day 1 is 7 ml
- A 2000 study from Spain by Rodriguez, et al. showed that even though breastfed babies averaged a 6% weight loss, their hydration status was increased due to the passage of more solids from the body than water.
Day 4, 5 and 6

- Per feed averages range from
  - 58 – 65 mL
- C-section moms may lag behind in milk supply until about day 9
- Most babies are gaining weight by day 4-5.
- End of week 1:
  - 576 mL – 20 ounces

1 month – 6 months

- 750 mL at 4 weeks (25.3 ozs)
- 750 mL at 3 months (25.3 ozs)
- 770 mL at 5 months (26 ozs)
- 800 mL at 6 months (27 ozs)

- Average supply is 25 – 35 ounces...
- A little over 3 – 4 cups of milk!

First feed study

- 2012
- Measured intake differently
- >37 weeks
- Scotland / White / Primips
- 15 week average 923 mL – 33 ounces
- 25 weeks 999 mL – 35 ounces
- Boys had a larger intake
First feed study

- 15 week BF frequency – 8 feeds
- 25 week frequency - 9 feeds
  - but fewer minutes per feed
- 173 vs 140 minutes per day spent feeding
- 2.8 hours vs 2.3 hours
- 20 mins (15 weeks) vs 16 mins (25 weeks) per session

9 – 24 months

9 months: 740 mL = 25 ozs
12 months: 520 mL = 17.5 ozs
18 months: 218 mL = 7.37 ozs
24 months: 114 mL = 3.8 ozs

So when mom feels her supply is decreasing...it probably is...and it is normal!

Feeding Patterns

- Many moms report baby cluster feeds in the evening for many months
- Cluster feeds seem to be important to growth
- Probably due to higher fat and higher degree of milk removal during the day and evening, as opposed to morning and night.
- The breast is fuller in the morning and night, thus milk is lower in fat.
Night Feedings

- Almost 2/3 of infants breastfeed between 1 and 3 times at night (10 PM to 4 AM)
- The number of nighttime breastfeedings do not change between 4 and 26 weeks.

(Volume and Frequency of Breastfeedings and Fat Content of Breast Milk Throughout the Day
Pediatrics Vol. 117 No. 3 March 1, 2006)

Volume of milk consumed at a breastfeeding from the more productive breast (□) and the less productive breast (□) during the morning (4:01 am to 10:00 am), day (10:01 am to 4:00 pm), evening (4:01 pm to 10:00 pm), and night (10:01 pm to 4:00 am) by infants...

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Normal Growth Rates

Back to birth weight by 2 weeks
- With larger weight loss may take up to 3 weeks
- Consider lowest known weight when assessing rate of gain
- Baby should be in a gaining trend
Normal Growth Rates

- 2 – 6 weeks of age:
  - Minimum gain of 20 gm/day
  - Average for girls: 34 gm/day
  - Boys: 40 gm/day
- Rapid gain in first 2-3 months
- Followed by a drop in growth percentile after that

Growth Beyond 3 Months

- 3 – 6 months:
  - 4 – 5 ounces per week
- 6 – 9 months:
  - 3 ounces per week
- 9 – 12 months:
  - 2 ounces per week

Even after solid foods are added to the diet, breastfed babies continue to gain weight at the same pace.
- Suggests that they regulate their own intake.
- Early introduction of solids, prior to six months, can result in slower weight gain as lower calorie foods replace breastmilk
Equal milk in both breasts?

- Not everyone makes an even supply
- Most moms have more milk in the right breast.
- Should we “fix” that?

Some moms try to even up supply...

- By making baby always start on lower producing breast to increase that supply.
- I have seen babies lose weight as mom tried to do that.
- Don’t give the baby an impossible, unnecessary job.
- Switch sides you start on...

Volume of milk consumed at a breastfeeding from the more productive breast (□) and the less productive breast (□) during the morning (4:01 am to 10:00 am), day (10:01 am to 4:00 pm), evening (4:01 pm to 10:00 pm), and night (10:01 pm to 4:00 am) by infants...


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Is Each Ounce Created Equal?

<table>
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<tr>
<th>Year of the Day</th>
<th>Morning</th>
<th>Day</th>
<th>Evening</th>
<th>Night</th>
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<tbody>
<tr>
<td>Feed volume</td>
<td>75 (36.4)</td>
<td>59 (25.6)</td>
<td>70 (32.6)</td>
<td>70 (30.8)</td>
</tr>
<tr>
<td>Feed duration, min</td>
<td>12.8 (1.9)</td>
<td>13.7 (1.7)</td>
<td>12.2 (1.6)</td>
<td>12.3 (1.5)</td>
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<tr>
<td>Average Fat</td>
<td>40.1 (11.6)</td>
<td>47.1 (12.6)</td>
<td>42.3 (10.1)</td>
<td>47.9 (11.4)</td>
</tr>
<tr>
<td>Protein</td>
<td>29.9 (12.9)</td>
<td>32.5 (12.5)</td>
<td>34.3 (13.4)</td>
<td>30.2 (12.2)</td>
</tr>
<tr>
<td>Postfeed</td>
<td>52.9 (16.3)</td>
<td>45.8 (11.8)</td>
<td>54.0 (13.7)</td>
<td>50.9 (12.4)</td>
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Energy yield: 607 (131.6) 714 (151.9) 731 (139.2) 687 (121.9)

Variations in Fat, Lactose, and Protein Concentrations in Breast Milk over 24 Hours: Associations with Infant Feeding Patterns. Sadaf Khan, MSc1, Anna R. Hepworth, BSc (Hons), Dip Ed1, Danielle K. Prime, PhD1, Ching T. Lee, PhD1, Naomi J. Trengove, PhD1, and Peter E. Hartmann, PhD1

Pre feed / Post Feed Pumping

What to do with the slow grower?

11
Is It the Baby?
Consider:
- Gestational Age
- Labor / Birth Issues
- Tongue Function
- Thoroughly assess a feeding
  - Latch
  - Milk Transfer
  - Activity at Breast

What about mom’s health history?
Must know if she has risk factors
- History of Infertility
- History of Thyroid Problems
- Breast Surgery
- Breast changes in pregnancy
- Was she a c-section?
- Breastfeeding history in hospital

Assess feeding strategy
How is mom feeding baby?
- 1 breast per feed?
- Is she switching sides after x minutes?
- Is she finishing feed with a pacifier?
- Is she timing feeds?
- How does mom describe baby?
Plan of Action...
Putting the Evidence into Practice

- When baby starts to hang out at breast, switch to other side.
- Do not let baby hang out at breast until the 3rd breast
- It is the flow of milk that gets a baby’s attention.
- Increased flow = increased volume
- Amount of time on breast means nothing.

A little story... 90% to 10%

- Baby born at 9 lbs 2 oz.
  - Mom is a Type 1 Diabetic
- Discharge weight 7 lbs 14 oz
- Primary C-section
- Latch Issues in Hospital
- Discharged supplementing with syringe at the breast

Our involvement

- Had 6 visits with us after discharge from hospital
- 1st visit 13% weight loss
- Started nipple shield
- Frenectomy at 2 weeks old
- Good weight gain after that
- Left our care at 16 days when she was gaining .75 - 1.25 oz per day
- Instructed to feed on 2 - 3 breasts per feed as baby never transferred enough on just one breast
Return visit at 12 weeks

- Baby was fussy
- Mom was worried about supply
- Only had 3 – 4 ounces to leave with sitter while working
- Had switched to block feeding on advice from a friend
- Went back to 2 – 4 breast feedings
- Increased amount of milk at sitter to 6 ounces
- Baby gained 5 ounces in next week.

Continued gain – slow but adequate

- 1 month – 8 lbs 15 ounces
- 2 month – 9 lbs 12 ounces
- 11 weeks – 10 pounds 3 ounces
- 3 months – 10 lbs 8.5 oz
- 4 – 8 months – Average 1 pound per month
- 8 – 16 months – ¼ to ½ pound per month
- No difference with the addition of solids

Determine if the problem is intake or production

- Is the mom making plenty of milk but the baby is not drinking it?
- How is she managing her feeding routine?
- Or is mom not producing enough milk?
- Supplementation may be appropriate
- Breastmilk obtained by pumping is 1st choice.
How to determine supplement amount

- Test weigh (pre feed, post feed) can help you get an average 24 hour intake. Calculate less intake in evening.
- How far off of the average supply appropriate for the age is that number?
- In first 3 weeks I work with an average of at least 20 ounces in 24 hours.
- After that 25 – 32 ounces

Supplementing

- Recommend a 24 hour supplement amount...moms seem most compliant with this.
- Pump to obtain more milk when she has the chance.
- Very often, it only takes 2 – 3 ounces / 24 hours to get a baby who is maintaining weight but not growing to grow.
- Let mom know every drop of her milk counts.
- Does not have to be all or nothing.

Supplementing

- I have often found that when mom realizes she only needs a small amount of additional milk, she will add a couple feedings or pump and can make up the difference once she is more confident in her supply.
Moral of the story
- There is a wide range or normal
- Some moms make a lot of milk.
- They even make enough to share!

Some moms make just enough
FOR ONE OR EVEN TWO

Some moms have to feed more times a day than other moms...
MORE LESS
Look at the big picture...

MOM

BABY

• Know what is normal
• Listen to the Mom – She will tell you what she wants
• Listen to the Baby – She will tell you what she needs
• Devise a plan that best protects the baby
• And the breastfeeding

And remember...

Babies are talking to us...in their own way.

They hope we are listening....
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