Concerns About Low Milk Production

Nancy Mohrbacher, IBCLC, FILCA

Enough Milk?
Reason unnecessary supplements given in the hospital
Most common reason mothers give formula and wean early


What Other Than Milk Intake Affects Weight Loss?

- Birth weight
- Type of birth
- Gestational age
- Gender
- Country of birth
- Mom’s fluid balance


Excess IV fluids ≤2 hr before birth ↑ birth wt & act as diuretic
- ↑ urination & ↑ wt loss during 1st 24 hr
- # wet diapers in 1st 24 hr predict wt loss

For accuracy, calculate wt loss from 24-hr wt


"Weight loss in the range of 8-10% may be within normal limits.
If all else is going well & the physical exam is normal, it is an indication for careful assessment & possible breastfeeding assistance."

Concerns About Low Milk Production

Breastfeeding Norms

Day 1
5-7 mL/feed
= 50 mL/day

Day 2
15 mL/feed
= 150 mL/day

Day 3
25 mL/feed
= 250 mL/day

Babies breastfed 7-11x on Day 1 took 86% more milk on Day 3 compared with those fed 0-6x


To breastfeed more, spend less time like this

And more time like this

If baby balks at breastfeeding, use SOFT:
• Bonding through skin-to-skin (S)
• Open eye to eye (O)
• Finger-tip touch (F)
• Time together (T)

Recommend Supplements

“When a medical indication exists”

>10% wt loss

Baby not feeding well

Credit: Carol Lopez Melcher, RNC, MPH, Clinical Director, Perinatal Services Network of Loma Linda (CA) University Medical Center
Concerns About Low Milk Production

**Maternal Red Flags**
- Hypoplastic breasts
- History of endocrine problems
- History of bilateral breast surgery
- Conditions that delay milk increase
  - Diabetes
  - Long, difficult labor
- Heavy blood loss
- Retained placenta
- History of low milk production

**Infant Red Flags**
- Illness/infection
- Tongue tie
- Prematurity
- Cleft palate
- Cardiac problems
- Breathing problems
- Sensory processing disorders
- Neurological issues

**Breastfeeding Adequacy Week 1**
Exam 3-5 days after d/c
Low wt on Day 3 or 4
Baby’s stools:
- The earlier stools turn yellow, ↓ wt loss
- Red flag: <4 BMs Day 4 & Mom feels milk not yet increased

**Supplements**
In order of priority
1. Expressed milk
2. Donor milk
3. Hypoallergenic formula
4. Standard formula

**Protocol to supplement healthy, term babies**
**Volume per feed**
- **1st 24 hr**: 2-10 mL
- **24-48 hr**: 5-15 mL
- **48-72 hr**: 15-30 mL
- **72-96 hr**: 30-60 mL

©2013 Nancy Mohrbacher, IBCLC, FILCA
Concerns About Low Milk Production

Sipping/Lapping Methods

Muscles used more similar to breastfeeding than bottle-feeding

May lead to easier transition to the breast

Feeding-tube devices

Make bottle-feeding more like breastfeeding

Kassing, J Hum Lact 2002; 8(1):56-60

The Exclusively Pumping Mother

Basics of Reaching & Maintaining Full Milk Production

Degree of Breast Fullness

Daly. Exp Physiol 1996; 81:861-875
- Drained breasts make milk faster
- Full breasts make milk slower (FIL + pressure)

Breast Storage Capacity


Large capacity
Takes more milk & time to fill

Small capacity
Takes less milk & time to fill

Affects # of milk removals needed per day to establish & maintain milk production

©2013 Nancy Mohrbacher, IBCLC, FILCA
Concerns About Low Milk Production

**Stage 1: Birth to Milk Increase**

Breast massage before pump

Pump 8-10x/24 hr
- Focus on daily total
- "Putting in your order"
- Expect small amounts

Longest stretch: ≤ 6 hr
Double pump till flow stops
After, hand express >5x/day

**Stage 2: Milk Increase to Full Production**

Longest stretch: ≤ 6 hr
Use hands-on pumping so "drained breasts make milk faster"

**Full Milk Production Defined**

<table>
<thead>
<tr>
<th>Level</th>
<th>Volume (mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideal</td>
<td>≥ 750 (25 oz.)</td>
</tr>
<tr>
<td>Borderline</td>
<td>350-500 (12-17 oz.)</td>
</tr>
<tr>
<td>Low</td>
<td>≤ 350 (12 oz.)</td>
</tr>
</tbody>
</table>

**Goal:** ≥ 750 mL/day/baby by Day 7-10


©2013 Nancy Mohrbacher, IBCLC, FILCA
Concerns About Low Milk Production

**Hands-On Pumping**
1. Massage both breasts
2. Double pump
3. Stop pumping & repeat massage
4. Single pump or hand express
5. Alternate right to left to right, etc. until milk flow slows

**Research Findings**
- **Preterm mothers**
  \(~3x\) greater risk of inadequate milk at Week 6 (<500mL/day)

- **Day 4 output predicted Week 6 output**

**Increase in Milk Yield of >48%**
Milk-fat content nearly double the average
Morton, et al. J Perinatol 2012; Jan 5; 1-6

**Early Breast Stimulation**
- **Preterm**: 6 pumps/day
- **Term**: 8-9 breast/day

Early breast stimulation predicted 49% of variation in Week 6 milk output

Gestation in weeks predicted 11%


©2013 Nancy Mohrbacher, IBCLC, FILCA
Concerns About Low Milk Production

Adding Hands to Pump

Adding Hands to Pump

Adding Hands to Pump

Adding Hands to Pump

Adding Hands to Pump

Adding Hands to Pump

If <500 mL/day                 on Day 10
✓ Check pump fit
✓ Hands-on pumping
✓ Skin-to-skin contact
  Hurst, J Perinatol 1997; 17(3):213-17
✓ Pump at baby’s bedside
✓ Increase # pumps/day
✓ Galactagogues

“As new evidence has emerged regarding various interventions to increase milk secretion in lactating women, the case for using pharmaceutical galactagogues has grown weaker.”


Galactagogues

If not a licensed prescriber, provide information to health-care provider

©2013 Nancy Mohrbacher, IBCLC, FILCA
Concerns About Low Milk Production

Good practices usually eliminate need for galactogogues

Starting to pump within 1st hour may ↑ milk production enough to avoid the need

Galactogogues should be used only after all modifiable factors that affect milk production have been addressed


Maintaining Milk Production

Impact of Individual Differences

Stage 3: Full Production

Decrease to 15-20 min

Most maintain milk production with 6-7 pumps/day

Sleep through the night

Record 24-hr yield 1x/wk

Law of Diminishing Returns

<table>
<thead>
<tr>
<th>Milk Ejection</th>
<th>Average Volume of Milk Expressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>54 mL (1.8 oz)</td>
</tr>
<tr>
<td>2nd</td>
<td>37 mL (1.3 oz)</td>
</tr>
<tr>
<td>3rd</td>
<td>16 mL (0.5 oz)</td>
</tr>
<tr>
<td>4th</td>
<td>13 mL (0.4 oz)</td>
</tr>
<tr>
<td>5th</td>
<td>7 mL (0.2 oz)</td>
</tr>
<tr>
<td>6th</td>
<td>7 mL (0.2 oz)</td>
</tr>
<tr>
<td>7th</td>
<td>2 mL (0.1 oz)</td>
</tr>
</tbody>
</table>


Flow Patterns Vary Among Mothers

But timing, pattern & number of milk ejections were consistent for each mother


How Many Minutes Should She Pump?

Individualize pumping recommendations

For best pumping length, ask her to pump a few times & watch milk flow


©2013 Nancy Mohrbacher, IBCLC, FILCA
Concerns About Low Milk Production

In Stage 3 Does Better Breast Drainage Trump Pumping Frequency?

Pumping >7/day key to milk volumes in 1st 2 wk but not at 8 wk

With HOP, pumped fewer times/day but milk volumes kept increasing


Impact of the Longest Stretch

Always ask its length
"Full breasts make milk slower"

Usually at night
– May be ≥12 hr
– 8 hr works for most

Key Milk Production Facts

A breastfed baby’s milk intake:

↑Increases from Birth to Week 5

↔ Plateaus til 6 mo

↓ Decreases when other foods started


Peak milk intake averages ~ 25-35 oz/day

Baby’s growth rate slows

Between 1 & 6 mo, breastfed baby needs ~ same volume of milk/day


On average, formula-fed babies consume much more milk per day:

• 15% @3 mo
• 23% @6 mo
• 20% @9 mo
• 18% @12 mo


The Magic Number

Total # of pumps/day needed to maintain milk production long term

Major factor: Breast storage capacity

Clue to capacity: Yield at first am pump

Concerns About Low Milk Production

Breast Storage Capacity

If pumps/day drops below mom’s Magic Number, milk production slows

Spectrum of Normal

<table>
<thead>
<tr>
<th></th>
<th>Largest Capacity</th>
<th>Large Capacity</th>
<th>Average Capacity</th>
<th>Small Capacity</th>
<th>Smallest Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td># Pumps/day to increase milk</td>
<td>4-5</td>
<td>6-8</td>
<td>8-10</td>
<td>10-11</td>
<td>≥12</td>
</tr>
<tr>
<td># Pumps/day to maintain milk</td>
<td>3-4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td># Pumps/day to decrease milk</td>
<td>2</td>
<td>3</td>
<td>4-5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Spectrum of Normal

<table>
<thead>
<tr>
<th></th>
<th>Largest Capacity</th>
<th>Large Capacity</th>
<th>Average Capacity</th>
<th>Small Capacity</th>
<th>Smallest Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum longest stretch</td>
<td>10-12 hr</td>
<td>8-10 hr</td>
<td>8 hr</td>
<td>6-7 hr</td>
<td>4-5 hr</td>
</tr>
<tr>
<td>Yield at first am pump</td>
<td>15 oz</td>
<td>10-14 oz</td>
<td>8-9 oz</td>
<td>6-7 oz</td>
<td>4-5 oz</td>
</tr>
<tr>
<td>Type of pump</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Other factors</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

Ask Pumping Mothers

- Pump used (best varies)
- # pumps/day
  (NOT “how often”—count)
- Length of pumps
- Daily yield—full production?
- Longest stretch
- Yield at first am pump, other pumps
  (Clue to storage capacity)
- Long-term goals

Questions?
E-mail: nancymohrbacher@gmail.com
Reporting at:
NancyMohrbacher.com
BreastfeedingMadeSimple.com
Facebook.com/NancyMohrbacherIBCLC

©2013 Nancy Mohrbacher, IBCLC, FILCA