The Magic of Milk Supply

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March 15, 2016
Decatur, Georgia
Emory Conference on Breastfeeding
I have no conflicts of interest to declare
Objectives

Add more ‘tricks’ to your magic set-
What does it mean to have a ‘good’ milk supply?

*abracadabra!*
This isn’t a trick!

Most women can successfully breastfeed and can make enough milk. A magic potion of hormones and biological events have set the stage for an abundant milk supply.
What is the first ingredient in our magic potion?

**HORMONES**

- estrogen and progesterone
- prolactin, human placental lactogen, human chorionic gonadotropin and growth hormone
- insulin, cortisol, thyroxine, and more prolactin
Other ingredients: tissue and enervation

The Milk Supply Equation:

Sufficient Glandular Tissue
+ Intact nerve pathways and ducts
+ Adequate hormones and hormone receptors
+ Adequate frequent, effective milk removal and stimulation

= GOOD MILK PRODUCTION

Prolactin levels are high in pregnancy, but progesterone (produced by the placenta) inhibits prolactin receptors. The ability to lactate is present from +/- 15 weeks gestation, but placental hormones inhibit it.
OUR SECOND TRICK: Lactogenesis II

When the baby is born- and, more importantly, the complete placenta is delivered- the important “Lactogenic Complex” of prolactin, insulin and cortisol are able to do their work.
Endocrine Vs Autocrine: Moving to Lactogenesis III
Which FIL can inhibit milk supply?

a. Father-In-Law
b. Feedback Inhibitor of Lactation
c. Chik-FIL-a
d. both A and B
Yes, Fathers-in-Law could inhibit your milk supply (by interfering with oxytocin), but so does Feedback Inhibitor of Lactation.
More about HORMONES: What about oxytocin?

Oxytocin, the ‘love hormone,’ is responsible for the Milk Ejection Reflex.
What increases oxytocin?

a. infant gaze
b. nipple stimulation
c. warmth; comfort; physical touch
d. all of the above
The Most Important Trick:
more milk out = more milk made
Hormonal Contraceptives
Insulin Resistance and Lactation

Are overweight or diabetic mothers doomed to low supply? How can obesity, PCOS, and insulin resistance affect milk production? How can we effectively counsel these mothers?
Perceived Insufficient Milk

A self-fulfilling prophecy: a mother believes her supply is low, and takes steps which could interfere with her milk supply.
The Top Up Trap

Feel like you're not making enough breastmilk

Body makes less milk

Baby suckles less

Baby feels overfull and sleeps more

Top up with formula
Which Actions Are Most Likely to Affect Milk Supply?

a. Drinking more water

b. Eating oatmeal, drinking blue Gatorade, and making lactation cookies

c. Waiting longer between feedings or pumping sessions for breasts to “fill up”
What is a full milk supply?

a. 25 ounces a day - five 5 ounce feedings
b. 25 ounces a day - ten 2.5 ounce feedings
c. 19-30 ounces a day
d. 6-7 gallons a day
Mohrbacher’s ‘Magic Number’

Nancy Mohrbacher explains this concept on her blog, *The Breastfeeding Reporter*. How many times a day a mother needs to remove milk to maintain milk supply is related to milk storage capacity (which is not particularly related to the size of a woman’s breasts).
Counseling the *oversupply* mother:

Oversupply is a real problem: don’t underestimate
Block feeding: use caution
Foremilk vs. Hindmilk vs. “Milk”
What about this foremilk/hindmilk business?

The fuller the breast, the lower the fat content of the milk and the greater the difference in fat content from beginning to end of the feeding/pumping session.

The emptier the breast, the higher the fat content of the milk, and the lesser the difference in fat content from beginning to end of the feeding/pumping session.
Case Study #1

A 20 year old first time mother delivers a preterm baby who is taken to the NICU and requires surgery. Her baby is very ill and is in IV nutrition for his first three weeks.

She is given a hand pump and pumps 6-8 times a day for the first 4 days, when she starts using a hospital grade double electric breastpump for three or more of those sessions.

On day 5, she is pumping 15-20 ounces per pumping session, pumping about every 4-6 hours because if she doesn’t, she is very painfully engorged.

What factors are at play?
Case Study #2

A 35 year old mother of two exclusively breastfeeds her second child until she is 6 months, when her baby becomes ill and must be hospitalized. The baby is fed expressed milk via ng tube at the hospital. The mother is unable to provide the amount of expressed milk that is ordered for the patient (4.5 ounces every 3 hours).

What factors are at play?
Case Study #3

A fifty year old first time mother conceives via IVF and delivers her first baby at 35 weeks gestation. She pumps using a double electric hospital grade breastpump 10+ times a day starting on day one. By day 20 she is producing 30 ounces a day over 8-9 pumping sessions. She sustains this level of production until the baby is discharged.

What factors are at play?
Case Study #4

A first time mother, age 33, seeks help from an IBCLC because her three month old has “dropped off the charts” on weight gain and she is going back to work. She reports patient is currently fed 5 times a day: 7 am, 10 am, 1 pm, 4 pm, 7 pm and has been sleeping 7 pm-7 am for the last three weeks. When he takes a bottle of expressed milk he is given 5 ounces and she plans on leaving three 5 ounce bottles of expressed milk for him in daycare.

What factors are in play?
Case Study #5

A forty year old mother who successfully breastfed 7 children gives birth to her 8th child who is admitted to the NICU for a complicated medical problem. She seeks help from a lactation consultant regarding her low milk supply when her baby is 4 weeks old. She has been pumping 7-8 times a day since her baby was born and is still only pumping about 10 ml from each breast (⅓ of an ounce) per pumping session. She is still experiencing post-partum bleeding, which resolved in the first week or so with her first 7 children.

What factors are at play?
What NOT to tell a mother with low milk supply:
Galactagogues/Lactogenic Foods

“What should I eat/drink/take to make sure I have enough milk?”
Boost Your Milk Supply with Essential Oils

Fennel & Basil

Apply 1 drop of each oil above the breasts on the lymph area.
Apply 2-3 drops on the spine, about breast area.

FREE Product of the Month

Milk supply increases
Sugar cravings
Colic
Digestive support
Blood clots
Bruses
Wrinkles
Balancing hormones
Fear/shame

Essential Oils to Increase Breastmilk Supply

2 Essential Oils That Increase Milk Production in Nursing Mothers

Increases Milk Supply

Using Goat’s Rue for Low Milk Supply

Get My Free Guide Eight Essential Breastfeeding Tools

YES! GIVE ME THE GUIDE! →
Elements of counseling a mother with low milk supply

- Milk Removal?
- Supplementation? - what, how, how often
- Scheduling?
- Hormonal, Physical, Anatomical Factors
- Discussion of Goals
- NOT “all or nothing”
- Compassion
“Galactagogues do increase baseline serum prolactin, but there is no direct correlation between baseline prolactin levels and rates of milk synthesis or measured volumes of milk production. As new evidence has emerged regarding various interventions to increase milk secretion in lactating women, the case for using pharmaceutical galactagogues has grown weaker.”

1. Evaluate and augment the frequency and thoroughness of milk removal. Use non-pharmacologic measures to increase the overall rate of breastmilk synthesis.

2. Evaluate mother for ‘medical’ causes of hypogalactia.

3. THEN consider prescribing galactagogues, with informed consent, with ongoing care, in lowest possible dose for shortest period of time, tapering therapy, with written documentation of consent.
What suggestions are almost always appropriate?

Increase milk removal:

• Hospital grade pump?

• Hands-on pumping techniques

• Hand expression after pumping or breastfeeding

Increase skin to skin and access to breast

Reinforce unrestricted frequency or duration of breastfeeding, IF baby can transfer
Essential Resources:
Be the Magic