

Slow Infant Growth

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Conflicts of Interest

I have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services discussed in this activity

I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation

Objectives

- Understand how to identify slow infant growth
- Identify possible reasons for slow growth among breastfed infants
- Explain strategies to increase weight gain among breastfed infants

Case 1:

CC: A 3-month old infant presents to your clinic because his mother is concerned she is not producing enough milk. During the evening, he feeds frequently, about every hour, and she feels her breasts are softer between feeds during this time of day.

Additional information:

The infant was born to a nulliparous mother at 39 weeks gestation.

His family reports that he breastfed well in the hospital. He lost about 5% of his birth weight during his first week of life, and was back at his birth weight at 2 weeks of life.

His mother has been exclusively breastfeeding.

Weight Data:

Birth: 8lb 4oz (79%)

Two weeks: 8lb 4oz (50%)

Eight weeks: 11lb 1oz (20%)

Twelve weeks: 12lb 2oz (16%)

WHO Growth Chart:



Additional questions?

Additional questions?

Baby feeds about every 2-3 hours in the daytime, and goes two 4-hour stretches overnight. Cluster feeding is mostly in the evenings between 7pm and 10pm. Baby is making good wet and dirty diapers and seems content between feeds. He is meeting all developmental milestones.

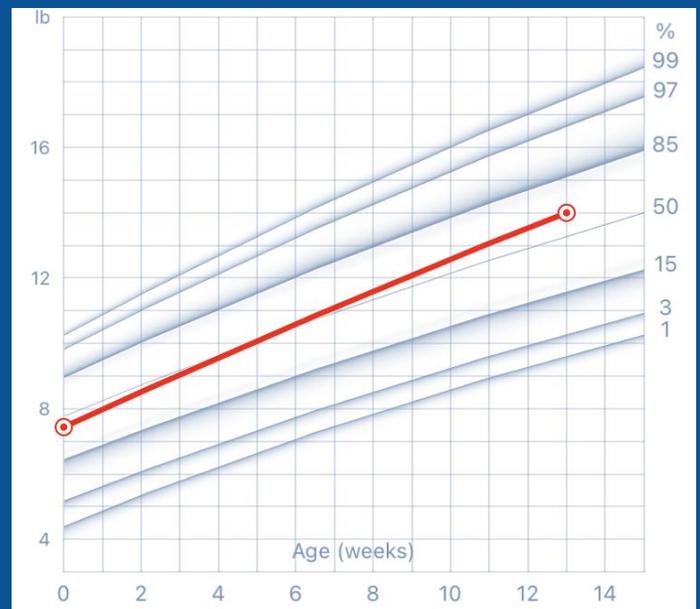
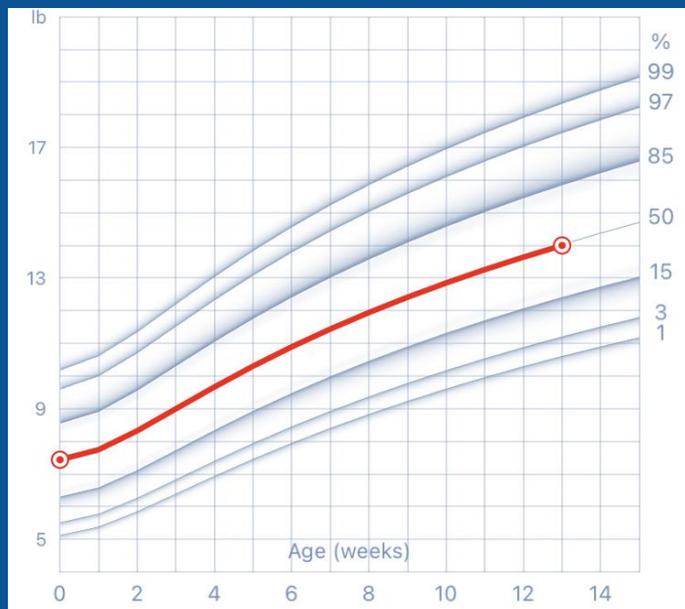
Differential Diagnosis?

Normal Growth

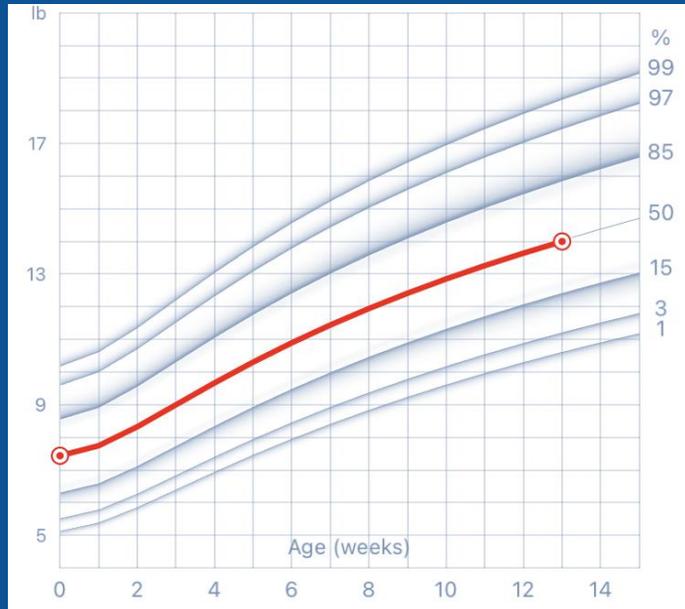
What is slow
growth?

“Dropping percentiles”

WHO vs. CDC



WHO criteria



“Predominantly breastfed”
for 4 months

“Still breastfeeding” at 12
months

Larger than average →

Average size →

Smaller than average →



Baby growing along the 50%

Average
growth →



Baby increased in %

Faster than
average →



Baby decreased in %

Slower than average →



Normal Growth:

=20-30g/day

= $\frac{2}{3}$ -1 ounce/day

5-7 ounces/week

Calculate growth:

current weight (g) - previous weight (g)
days between weights

$$\frac{5500\text{g} - 3750\text{g}}{70 \text{ days}} = 25 \text{ g/day}$$



← Normal

Normal →



~~“Dropping percentiles”~~

Calculate actual growth

Normal →

Normal →

Normal →



Enough about
bananas.

...actually, one more thing...

Abnormally large →



Abnormally small →



Case 2:

CC: A 3 week old infant presents with short feeds. Her mother reports that she will only stay latched to the breast for about 5 minutes before becoming sleepy and hard to wake up.

Additional information:

The infant's mother has one older child who breastfed for about 1 month. This infant was born at 37 weeks gestation.

Her family reports that she received donor milk and formula in the hospital due to jaundice but did not require phototherapy. She has been breastfeeding and receiving some pumped milk at home. Her mother's breasts were very engorged the first week of baby's life, but are no longer painful when she goes long overnight stretches.

Weight Data:

Birth: 6lb 10oz (31%)
One week: 6lb 2oz (11%)
Two weeks: 6lb 4oz (7%)
Three weeks: 6lb 7oz (4%)

WHO Growth Chart:



Additional questions?

Additional questions?

Her family reports she is a very “good baby” who slept long overnight stretches since the first week of life. She feeds for about 5 minutes and seems content and falls asleep on the breast, but often appears hungry 30-60 minutes later. She feeds frequently during the day, every 1-2 hours. Her mother pumps after her first morning feed, and gets about 2-3oz total, which she gives through the day in 0.5-1oz bottles between feeds.

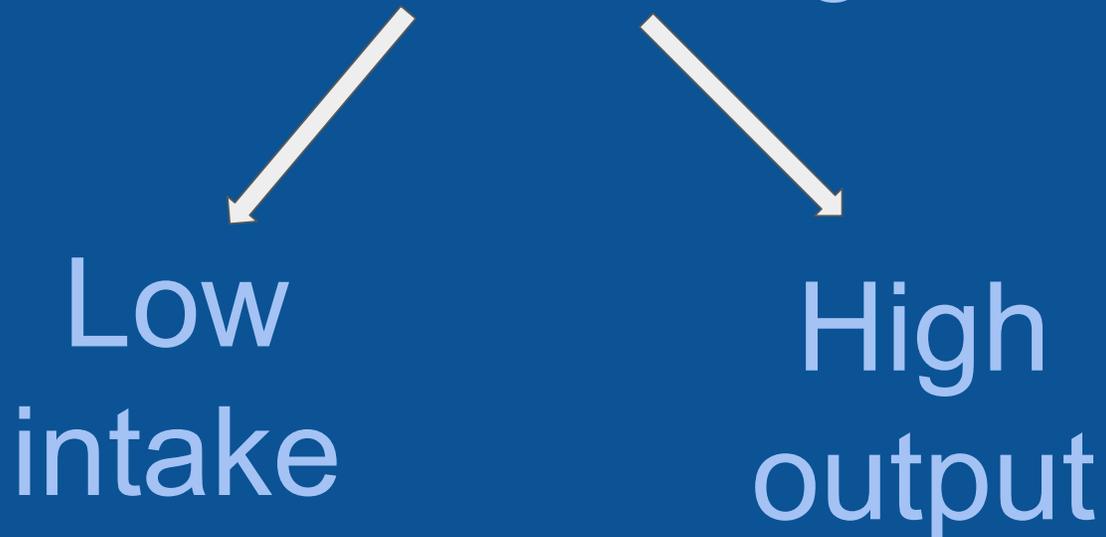
Additional questions?

On exam, the baby is well-hydrated but not vigorous. The latch is adequate, but she falls asleep after 5 minutes. She was stimulated and put to the other breast and stayed latched for about 10 minutes with constant stimulation.

Transfer assessment during the visit demonstrated about 1oz of milk transferred in that time.

Differential Diagnosis?

Reasons for slow growth:



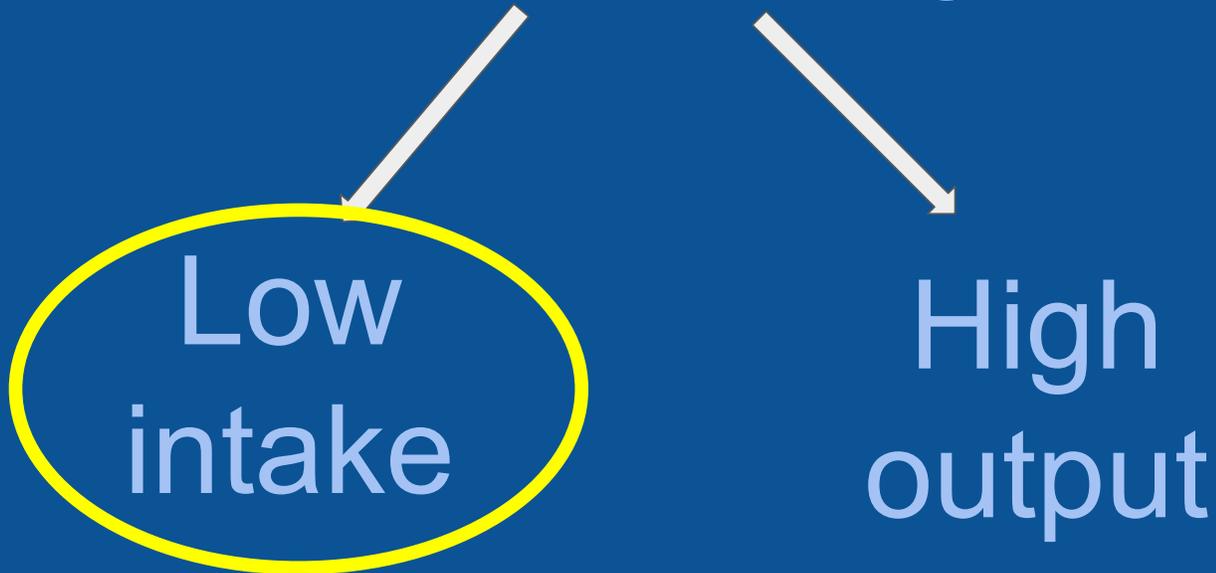
Milk volume intake estimate based on history-taking:

- Number of breastfeeds
- Length of breastfeeds
- Time between breastfeeds
- Number/Size of bottles
- *Transfer assessment?*

Milk volume intake estimate based on history-taking:

24-30oz a day is normal intake for most infants

Reasons for slow growth:



Low volume intake



Low volume intake

maternal

- low supply
- low bottle volumes
- strict schedule

infant

Low volume intake

maternal

- poor latch
- tongue tie
- weak suck

infant

Case 3:

CC: A 6 week old infant presents with slow growth. The baby's parents describe that he cries for a period of time after every feed, and it has gotten worse since about 2-3 weeks of life. He is spitting up after every feed as well.

Additional questions?

Additional questions?

On exam, the baby is well-hydrated and well-appearing. He breastfeeds for 10 minutes but arches his back during the feed and cries at the end of the feed and pushes away. Weights show he transferred about 3.5oz during this feed. When burping, he spits up milk that is nonbilious and nonbloody. He seems more content after spitting up.

Weight Data:

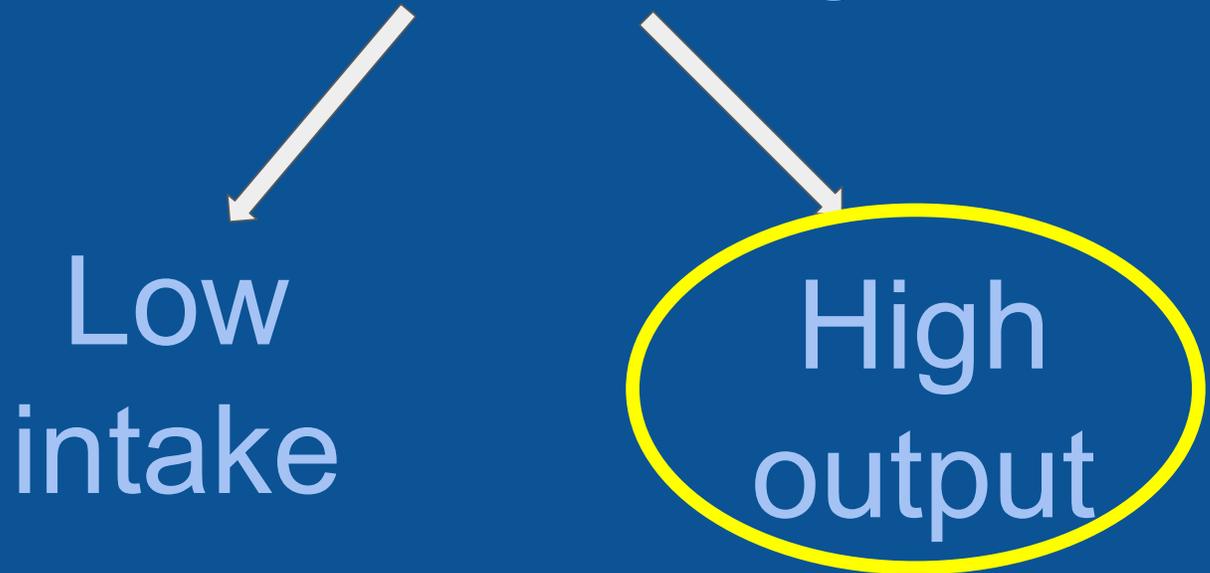
Birth: 7lb 8oz (55%)
One week: 7lb 0oz (26%)
Two weeks: 8lb 0oz (41%)
Four weeks: 8lb 8oz (18%)
Six weeks: 9lb 0oz (9%)

WHO Growth Chart:



Differential Diagnosis?

Reasons for slow growth:



High output



- reflux
- vomiting/ diarrhea

Strategy:

Frequent follow-up is reassuring to families and allows close monitoring of infant's growth.

Strategy:

Offer only as much additional supplementation as is needed for adequate nutrition and hydration.

Strategy:

Validate that breastfeeding has benefits for infants and mothers, even when babies are not exclusively breastfed.



Thank you!