



# THE EATING AND SLEEPING BABY

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# Goal

- Go over some common questions that parents will come to you for advice for
  - Sleep
    - Sleep in the newborn
    - Sleep training
    - Technology and the sleeping baby
  - Feeding your baby
    - Breastmilk vs formula
    - When to introduce the bottle (and when to stop the bottle)
    - When and how to start pumping
    - When to introduce solids
    - Food allergens



## CONSENSUS RECOMMENDATIONS

Go to:

- **Infants\* 4 months to 12 months should sleep 12 to 16 hours per 24 hours (including naps) on a regular basis to promote optimal health.**
- **Children 1 to 2 years of age should sleep 11 to 14 hours per 24 hours (including naps) on a regular basis to promote optimal health.**
- **Children 3 to 5 years of age should sleep 10 to 13 hours per 24 hours (including naps) on a regular basis to promote optimal health.**
- **Children 6 to 12 years of age should sleep 9 to 12 hours per 24 hours on a regular basis to promote optimal health.**
- **Teenagers 13 to 18 years of age should sleep 8 to 10 hours per 24 hours on a regular basis to promote optimal health.**



## Lets talk about sleep

Sleep: optimal sleep hours are associated with better long term health outcomes including decreased RF for things like DM/HTN in the future.

# Sleep in the Newborn/first year

- So you have a parent with a 1 month old and they JUST want more sleep. How do you tell them what is normal?
  - Its important to remember that “normal” is variable.
  - Note that the American academy of sleep medicine does not give a recommendation for normal prior to 4 months
  - Keep in mind that infants have shorter sleep cycles, enter REM sleep faster, and spend a greater portion of their sleep time in REM sleep, this proportion decreases with age and cycles increase in length
  - Infants cry, but 0-4 month old infants cry because they need you. Go get them for goodness sake
  - Sleeping “through the night” is generally considered around 6-8 hours of sleep. Some infants won’t get there until 1 year, most won’t even be capable until 4 months
  - 3 month sleep regression, just warn parents about it, they aren’t doing anything wrong

## 0-2 months.

- Total sleep duration is 14-15 hours (average)
- Ranges between ~ 12-16 hours for about half the population\*
- Ranges between ~ 9-20 hours for about 95% of the population
  
- Most parents report multiple night wakings
- Total nighttime sleep duration approximately 8-10 hours\*
- Babies take 3-4 daytime naps (on average); more during the first weeks postpartum

## 3-5 months.

- Total sleep duration is 13-13.5 hours (average)
- Ranges between ~ 12-14 hours for about half the population\*
- Ranges between ~ 9-18 hours for about 95% of the population
  
- Most parents report at least one night waking
- Total nighttime sleep duration is approximately 8.5 – 10.5 hours\*
- 50% — or more — of parents say longest sleep bout is at least 5 hours
- Babies 2-3 daytime naps (average)

From data from: Australia, Canada, China, Italy, Israel, Russia, Switzerland, the United Kingdom, and the United States



# Sleep Tips

## 1. Ensure a good sleeping environment

- a. Safe: On infants back ALWAYS in a bassinet preferable in your room separate from your bed with no additional bedding/blankets/toys/bumpers on a firm mattress with a fitted sheet.
- b. Dark with a good temperature
  - (a gentle night light is ok so that you can see your infant when you wake up) and ideal temperature between 68-72oF.
  - Overheating is a risk factor for SIDS, your infant doesn't need a hat or blankets. Footie PJ's and a swaddle are sufficient
- c. Quiet with white noise to block out unwanted interruptions
- d. Swaddle (safely)- prevent that startle reflex, also helps to mimic the cozy womb. (stop the swaddle if your bear is starting to get the hang of the roll, generally between 2-4 months, transition to a sleep sack)
- e. NO SMOKING (this is a HUGE risk factor for SIDS)

# Sleep Tips

## 2. Feed often during the day

- a. It may be that your little bear gets comfy cozy during the day and naps can last and last. You can consider waking up your bundle of joy to eat if their nap lasts more than 2 hours. More food during the day may help them extend their nighttime sleep
- b. If your infant is gaining weight appropriately you can start around 2 weeks to allow them to sleep for longer stretches at night instead of waking them up every 2-3 hours to eat, if they want to sleep at night, go ahead and let them
- c. Keep your baby awake for feeds (undress a little, massage their feet, stroke their head, back massage) to make sure they get a full feed

## 3. Try to set a day mode and night mode

- a. Napping during the day should be in a more active part of the house
- b. Use awake time to take your infant outside, interact with them
- c. Nighttime interactions should be kept to a minimum (feed, change, and back to sleep)

# Sleep Tips

## 4. Try a pacifier

- a. If you're breastfeeding wait until 3-4 weeks to introduce to make sure that breastfeeding is well established
- b. If they love the paci it reduces the risk of SIDS

## 5. Establish a routine

- a. Its never too early! Though don't expect your little bear to be on board from the beginning
- b. The AAP recommends "brush, book, bath". You can wipe your infant's gums with a washcloth and reading to them from the start is beneficial for learning (both emotional and language skills) and bonding.

## 6. Start thinking ahead

- a. Once you feel ready, after you rock and shush your little bear to sleep try waking them up JUST A SMIDGE after you put them down, just enough for their eyelids to flutter open and then go back to sleep without being in your arms. This sets the stage for later one sleep training/independence.



# A note on sleep technology

Baby smart monitors:

The Owlet

Not recommended by the AAP for healthy babies (if has OSA/respiratory issues some apnea monitors could be recommended)

They have not been shown to reduce SIDS

They have been associated with increased parental anxiety

Healthy babies have normal periodic breathing of infancy (apnea for about 10 seconds followed by rapid breathing)

Smart Beds:

- The Snoo
- Marketed as SIDS reducing and improved sleep for parents





# SLEEP TRAINING (4-6 MONTHS

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Your 4–6-month-old infant has started to develop the tools to self sooth, so now may be a time to start.

By 6 months old your little genius has figured out that if they cry you will come get them, they may use this to their advantage.

Also remember between 4-6 months they may start teething which will increase the likelihood that they will wake up in the middle of the night.

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1. What is it?

a. It essentially is teaching your little bear to fall asleep a little more independently

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b. Can be done with night weaning (decreasing nighttime feeds) but is not the same thing

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c. Has been shown to decrease rates of maternal depression (sleep is KEY for emotional wellbeing)

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## Sleep Training

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2. How do you do it? There are a number of different techniques, and it generally takes 3-7 days

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3. All methods benefit from some sort of routine at bedtime, be that the “brush, book, bath” routine or whatever works for your family. Pick one and stick with it

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4. Whatever method you choose, generally it works best if you also use it for naptimes and if every sleep time is done in the crib or bassinet

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5. If it takes longer than 2 weeks, it may be time to try another method

## Sleep Training

# Methods

## Cry it out/Extinction

- No you are not a terrible parent, yes there is data that shows that this is safe and does not lead to any lasting childhood trauma
- When it's time- and your little one is tired (fussing, rubbing eyes)- after you complete your bedtime routine, place your little bear in their crib or bassinet and walk away.
- Expect protest (tears) that should stop sometime between 15 and 45 minutes and should get shorter each night

## The Ferber method

- think of it as a gentler version of Cry It Out. Start again with the bedtime routine and a tired infant, place your awake but sleepy bear in their safe sleeping environment (feed and changed) and walk away
- This method involves checking in on your little angel, soothing them WITHOUT picking them up or feeding them, and extending time between check-ins with each night
- Schedule as below
- Night 1: Check in 3, 5, 10, 10 minutes apart
- Night 2: Check in 5, 10, 12, 12 minutes apart
- Night 3: Check in 10, 12, 15, 15 minutes apart
- Night 4: Check in 12, 15, 17, 17 minutes apart
- Night 5: Check in 15, 17, 20, 20 minutes apart
- Night 6: Check in 17, 20, 25, 25 minutes apart
- Night 7: Check in 20, 25, 30, 30 minutes apart

# Methods

## The Chair Method

- Start again with the bedtime routine and a tired infant, place your awake but sleepy bear in their safe sleeping environment (feed and changed), but instead of walking away, set a chair near their crib and stay with them until they fall asleep, if they cry again come back inside and sit back down. DO NOT pick them up or feed them, just let them know you're there.
- Each night move the chair further away until you are outside the room
- Note that your little bear may not love waking up at night and not seeing you there anymore.

## Pick up Put down

- The gentlest but also possibly the longest method of sleep training
- Start again with the bedtime routine and a tired infant, place your awake but sleepy bear in their safe sleeping environment (feed and changed). For this method you hang out with your baby, if they cry give them a few minutes to see if they self sooth, if they are still crying pick them up
- Only hold them for enough time to sooth them and then put them back down again.





WHAT ABOUT FOOD?

## Benefits to Baby

Babies who are breastfed have a lower risk of:

- Asthma.
- Obesity.
- Type 1 diabetes.
- Severe lower respiratory disease.
- Acute otitis media (ear infections).
- Sudden infant death syndrome (SIDS).
- Gastrointestinal infections (diarrhea/vomiting).
- [Necrotizing enterocolitis \(NEC\) for preterm infants](#)

## Benefits to Mother

Mothers who breastfeed their babies have a lower risk of:

- Breast cancer.
- Ovarian cancer.
- Type 2 diabetes.
- High blood pressure.

# Formula Vs Breast milk

BREAST is best... but also  
FED is best

Benefits of exclusive  
breast feeding for the first  
4-6 months:

-Also not listed: reduced  
risk of atopic dermatitis for  
EBF x 3-4 months

# What type of formula?

For your average infant that is not high risk for food allergies, it likely doesn't matter. But please ask your parents to continue one with iron- I promise it is safe for his or her stomach

- Partially or extensively hydrolyzed formulas are recommended for infants at high risk of food allergies
  - Just FYI the primary symptom of IgE mediated milk protein allergy is atopic dermatitis
- There is some suggestion that perhaps pHF could reduce the risk of cows milk allergy/atopic dermatitis later in life therefore can consider it for all babies, but its also more expensive
- Soy formula or lactose free formula is pretty much only indicated for galactosemia or congenital lactase deficiency
- Preterm infants have more needs: Calorie-wise and micronutrient wise- so they need special formula

## Formula Selection in Term Infants

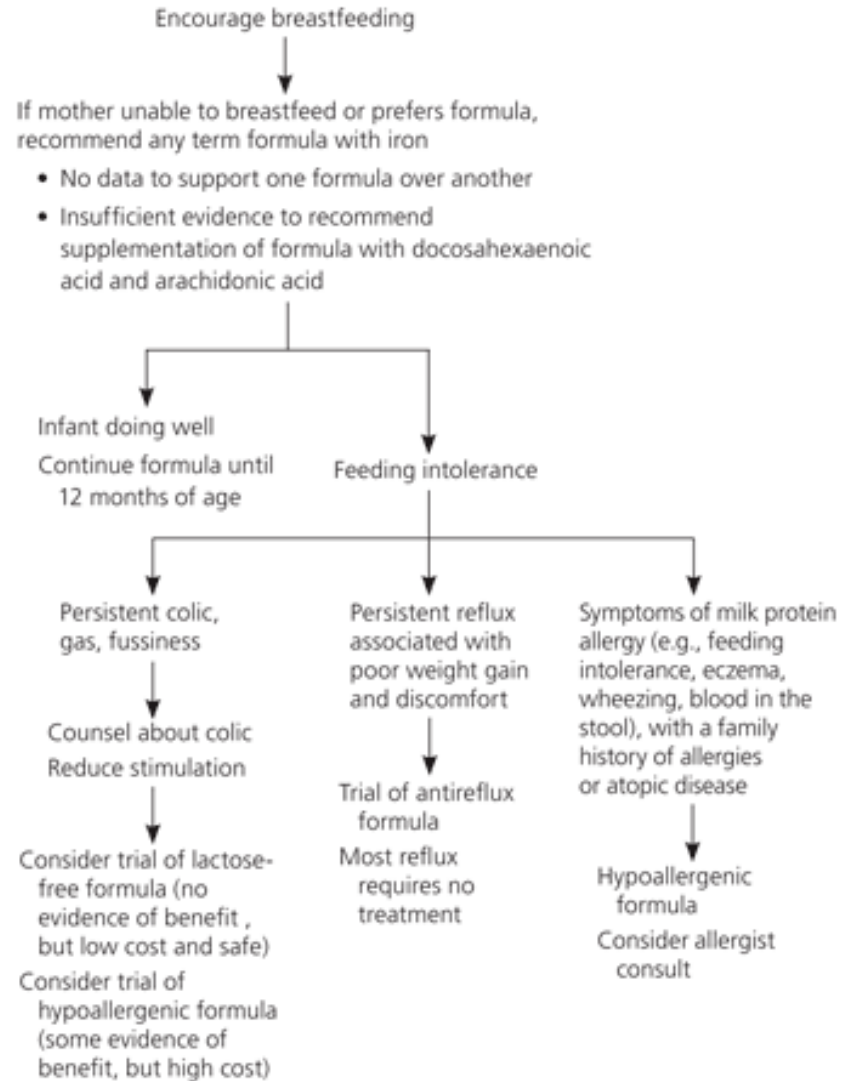


Table 1  
**Comparison of Breast Milk and Available Infant Formulas**

CLASS	BRAND NAMES	CALORIES (KCAL PER OZ)	CARBOHYDRATE SOURCE	PROTEIN SOURCE	INDICATIONS	COST PER OUNCE*	
						POWDERED FORMULA†	READY-TO-FEED
Breast milk	—	20	Lactose	Human milk	Preferred for all infants	—	—
Term formula	Carnation Good Start; Enfamil with Iron; Similac with Iron	20	Lactose	Cow's milk	Appropriate for most infants	\$0.14	\$0.27
Term formula with DHA and AA	Enfamil Lipit; Good Start DHA & ARA; Similac Advance	20	Lactose	Cow's milk	Marketed to promote eye and brain development	0.16	0.30
Preterm formula	Enfamil 24 Premature; Preemie SMA 24; Similac 24 Special Care	24	Lactose	Cow's milk	Less than 34 weeks' gestation Weight less than 1,800 g (3 lb, 15 oz)	—	0.80
Enriched formula	Enfacare; Similac Neosure	22	Lactose	Cow's milk	34 to 36 weeks' gestation Weight 1,800 g (3 lb, 15 oz) or greater	0.19	0.32
Soy formula	Enfamil Prosoabee; Good Start Soy; Similac Isomil	20	Corn-based	Soy	Congenital lactase deficiency, galactosemia	0.16	0.30
Lactose-free formula	Enfamil Lactofree; Similac Sensitive	20	Corn-based	Cow's milk	Congenital lactase deficiency, primary lactase deficiency, galactosemia, gastroenteritis in at-risk infants	0.16	0.30
Hypoallergenic formula	Similac Alimentum; Enfamil Nutramigen; Enfamil Pregestimil	20	Corn or sucrose	Extensively hydrolyzed	Milk protein allergy	0.25	0.37
Nonallergenic formula	Elecare; Neocate; Nutramigen AA	20	Corn or sucrose	Amino acids	Milk protein allergy	0.35	—
Antireflux formula	Enfamil AR; Similac Sensitive RS	20	Lactose, thickened with rice starch	Cow's milk	Gastroesophageal reflux	0.18	0.31
Toddler formula	Enfamil Next Step; Good Start 2; Similac Go and Grow	20	Lactose	Milk	Nine to 24 months of age	0.15	0.25

AA = arachidonic acid; DHA = docosahexaenoic acid.

\*— Calculated from average retail price. Most information comes from <http://www.drugstore.com>.

†— After adding water.

# But how much?

## Breast

- Newborns will want to be fed every 2-3 hours, even overnight. It is OK to space that if they have a good number of wet diapers and are gaining weight
- Hunger cues are your friend: eating hands, getting fussy, rooting. If your infant is crying they are likely over hungry
- Babies should be allowed to empty the breast, the hindmilk has denser calories than the milk that first comes out

## Formula

- For the first few days: 1-2 oz every 2-3 hours
- Generally: 3 to 4 oz per feeding during the first month, increasing by 1 oz per month until a maximum of about 7 to 8 oz
- Rule of thumb: 2½ oz of formula/24 hours per pound

In either case: schedules are not feasible nor are they useful initially, feeding and sleeping on cue for the first couple months is OK





# A note on pumping

When to start:

- Generally around 2-3 weeks, after milk has come in and you have established a good routine with baby for eating
- Careful about over-pumping, oversupply can become an issue
- Nipple introduction should happen around week 3-4 to avoid bottle refusal but wait until breast feeding is well established. (if you do have bottle refusal you can try many different bottle/nipple types)
- Start slow and consistent to build up a supply should you need to go to work or on an outing or just have some help with overnight feedings to get some rest

How much?

- Generally start with once per day, a good time is in the morning when you have higher milk production, about 30 minutes after your first morning feed
- Can also pump one breast while baby feeds from the other
- There is no set right/wrong way

- disclaimer: above is general knowledge from multiple mommy blogs/self experience, there are no RTC's to reference

## BEFORE EXPRESSING/PUMPING MILK

**Wash** your hands well with soap and water.



**Inspect** the pump kit and tubing to make sure it is clean.

Replace moldy tubing immediately.



**Clean** pump dials and countertop.



## STORING EXPRESSED MILK



**Use** breast milk storage bags or clean food-grade containers with tight fitting lids.



**Avoid** plastics containing bisphenol A (BPA) (recycle symbol #7).

## HUMAN MILK STORAGE GUIDELINES

TYPE OF BREAST MILK	STORAGE LOCATIONS AND TEMPERATURES		
	Countertop 77°F (25°C) or colder <i>(room temperature)</i>	Refrigerator 40 °F (4°C)	Freezer 0 °F (-18°C) or colder
<b>Freshly Expressed or Pumped</b>	Up to <b>4 Hours</b>	Up to <b>4 Days</b>	Within <b>6 months</b> is best Up to <b>12 months</b> is acceptable
<b>Thawed, Previously Frozen</b>	<b>1-2 Hours</b>	Up to <b>1 Day</b> <i>(24 hours)</i>	<b>NEVER</b> refreeze human milk after it has been thawed
<b>Leftover from a Feeding</b> <i>(baby did not finish the bottle)</i>	Use within <b>2 hours</b> after the baby is finished feeding		

# When to start supplements?

- Vitamin D:
  - Start within the first few days of life
  - Babies need 400 iu vit D per day
    - They MAY be getting this from formula, however, many fortified formulas don't give enough. Make sure you double check the amount they are getting in a day
- Iron
  - Start around 4 month
  - Exclusive BF OR more than ½ BF: 1 mg of supplemental iron daily per kg of body weight at 4 months
  - Can decrease once iron-containing foods are introduced in the diet.
  - Formula-fed infants ensure formula has 12 mg of iron per dL and start iron-containing foods
- B12
  - if vegan/vegetarian even then lactating or pregnant women should be started on a B12 Supplement



When to start?

- 4-6 months

How do you know your little one is ready?

1. Sits up alone or with support.
2. Is able to control head and neck.
3. Opens the mouth when food is offered.
4. Swallows food rather than pushes it back out onto the chin.
5. Brings objects to the mouth.
6. Tries to grasp small objects, such as toys or food.
7. Transfers food from the front to the back of the tongue to swallow.

What should I start with?

- Infant cereals are easy and fortified with iron, you can mix them with breast milk or formula
- Single ingredient foods: 1 food every 3-5 days to start
- Try baby lead weaning: its messy but removes the necessity of making a separate batch of food for your infant

## Solid Foods



# And Highly allergenic foods?

What are highly allergenic foods?

1. Cow's milk (CM)
2. Hen's egg
3. Soy
4. Wheat
5. Peanut
6. Tree nuts
7. Seafood (shellfish and fish)

Timing of introduction of Highly allergenic foods

- AAP used to recommend delaying introduction, but recent evidence suggests that EARLY introduction may reduce the risk of development of allergies.
- Introduction between 4-6 months of age is beneficial (so long as your little one is showing all the readiness signs to eat)





But WHO is high risk

- This is actually a very good and somewhat hard to answer question
  - Generally you should consider anyone with a 1<sup>st</sup> degree relative with atopy or with known atopy
  - Atopy:eczema, food allergy, allergic rhinitis, asthma

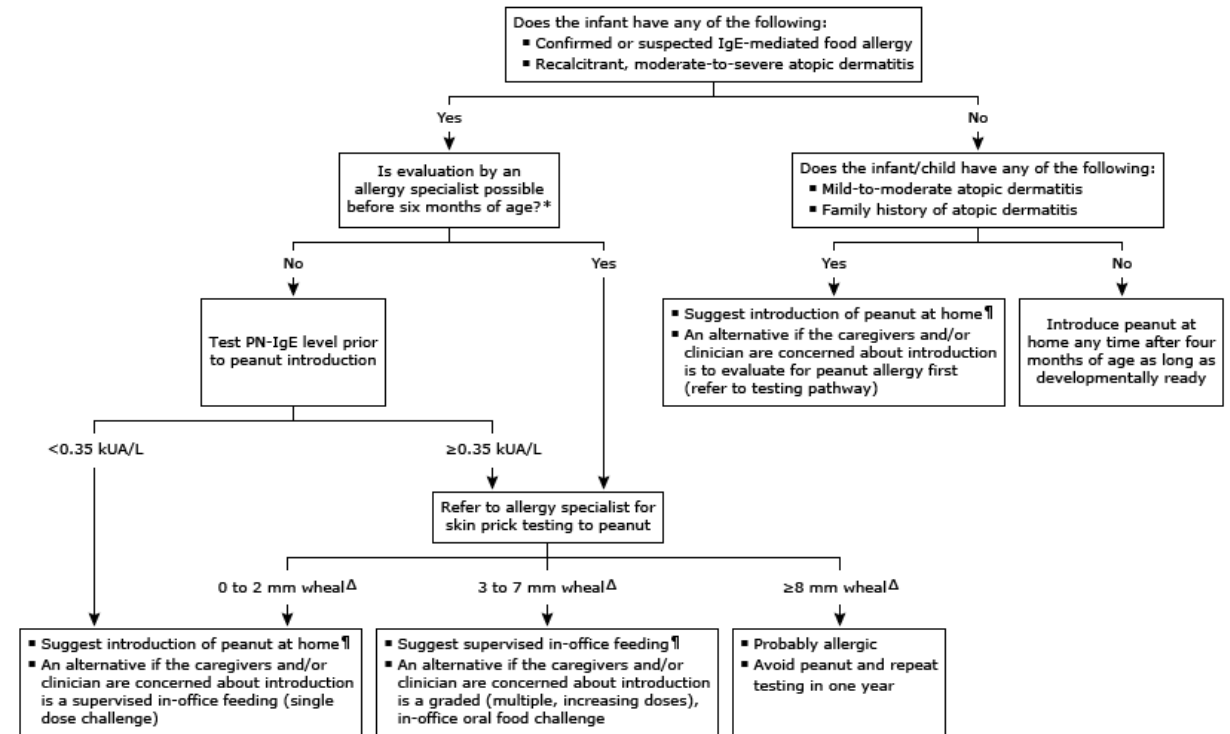
What if they are high risk?

- Still introduce foods early!
  - Very high risk or if you are concerned you can test first or refer to allergist

But How?

1. Start at home
2. Try some normal, less allergenic foods first
3. Supervised small amount- just a taste, then ramp up amounts from there

### Introduction of peanut into the diet during infancy/early childhood



IgE: immunoglobulin E; PN-IgE: peanut-specific immunoglobulin E.

\* Alternatively, the allergy specialist may choose to perform PN-IgE testing, or both skin prick and PN-IgE testing, for the initial evaluation.

¶ Prior to introduction of highly allergenic foods, the infant/child should:

- Be at least 4 months of age.
- Show developmental readiness to consume complementary foods.
- Have tolerated a few of the more typical, initial complementary foods (e.g. cereals, fruits, vegetables).

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