

What is colic, and what happens during a colic episode?

Colic is defined as a baby who cries more than 3 hours a day in total, on a regular basis. It's normal for babies to cry, and most babies do cry at least 2 hours a day, on and off. Colic is probably just the high end of a normal behavior. It may stem from neurologic immaturity, or it may be a personality type.

Many people think that colic may involve the child's intestinal tract, due to the behaviors of the colicky baby, such as drawing the knees to the chest and tensing the abdominal muscles, or passing gas. It's possible that colic is sometimes caused by GI symptoms, and sometimes caused by other problems.

The timing of colic episodes is often very predictable. Many babies cry from 5 pm to 9 pm, or from 1 am – 5 am. Since they are often predictable, a very important strategy for dealing with a colicky baby is to get help at the times when the baby often cries. A babysitter from 5-7 pm can make a world of difference in your ability to stay calm and loving and patient with your child! This is not selfish – a high needs baby needs lots of caregivers!

What is the cause of infantile colic?

The cause is unknown so far. Smoking during pregnancy or after delivery can put your baby at greater risk for infantile colic, yet the amount of smoking is not well established. Type of feeding, such as formula versus breast-fed, does NOT seem to cause colic, and the mother's diet during breast-feeding will NOT cause an episode of colic. The baby's sex does not seem to be a factor for developing colic, and there are NO long-term negative effects of infantile colic on your child's growth and development.

What can be done to alleviate the symptoms and episodes?

Several studies have identified herbal extracts, table sugar, hypoallergenic milk formulas, spinal manipulation therapy, and cranial osteopathy as suitable methods for alleviating colic episode duration and/or symptoms.

- Cranial manipulation and spinal manipulation
  - 50 children in Denmark, aged between 2-10 weeks, were treated with chiropractic manipulation (3-5 treatments) over 2 weeks with counseling or given a placebo. Studying up to Day 11, they found that the chiropractic manipulation group had a more significant reduction in hours per day crying (about 2.5 hours less) versus the placebo (1 hour less).
  - In New Zealand, 30 infants (between 0-8 weeks) were treated with a placebo or chiropractic spinal manipulation, and they found complete resolution of colic symptoms in the treated group after one month.
  - Two studies with less than 60 infants providing spinal manipulative therapy with light finger tips showed a great reduction of symptoms or resolution of colic. However, a larger study involving 86 infants showed no improvement with the same procedure.

- Osteopathic manipulation seemed to make a difference in 28 infants in a study in the United Kingdom. Some of the infants were subject to cranial osteopathic manipulation weekly for 4 weeks or received no treatment. Children in the osteopathic group had a greater reduction in crying (63%) versus the children who had nothing done (23%).
- A Finnish study of infant massage (28 infants, less than 2 months old) versus a crib vibrator (30 infants, less than 2 months old) over a month showed no significant difference in resolution of symptoms
- Sugar solution
  - 25 children in Turkey, aged around 9 weeks, were given either a glucose solution or water during a crying episode for 4 days. Parental assessment indicated that there was 64% reduction in symptoms of those treated with a sugar solution, compared to 48% in those given water.
  - Another study in Norway gave a sucrose solution or water to 29 infants, aged around 7 weeks, over 4 days, and the parents noticed a drastic reduction in symptoms.
  - A small study in Norway examined the effect of a table sugar solution versus water has on relieving colic in half of the 19 infants. Parents using sugar solution reported a drastic reduction in colic symptoms versus the control, yet the effect was for less than 30 minutes.
- Probiotics
  - 83 infants in Italy, aged around 31 weeks, were given the probiotic *L. reuteria* in oil solution or simethicone (Alka-Seltzer) solution over one month. For the probiotics group, there was a significant reduction in mean crying time to below 3 hours compared to the simethicone group
  - 90 breastfed colicky babies between 21-90 days of age were randomized to be given the probiotic or simethicone (Alka-seltzer) for one month. By the end of the month, the probiotic group had a dramatic reduction in crying time per day (200 min to 51 min) versus the simethicone group (200 min to 145 min).
  - NOTE: If the infant is less than 6 months old and has an immunodeficiency, there's some risk that the child can get sick. On the other hand, probiotics are often given to preterm babies. The risk is probably minimal but read more in the probiotics section of this website.
- Tea blends, including fennel seed oil, and fennel seed oil
  - 88 infants in Italy, aged around 4 weeks, were given a tea blend (German chamomile, fennel seeds, and lemon balm) or a solution with some sugar and citrus flavor and followed over a week. In the group with the tea, there was a significant reduction in average crying time (crying time was 76.9 minutes) compared to the placebo (crying time was 170 minutes).

- Another study in Israel with tea of similar ingredients, especially the fennel, versus water found that there was significant reduction in the number in babies with colic for those given the tea (57%) versus those given water (26%).
- A study in Russia on 125 infants between the ages of 2-12 weeks using fennel seed oil versus water found similar results for the fennel seed oil group.
- Note: For children less than a year old, do not use honey to sweeten tea, because there are botulism spores that infants under a year old cannot fight off.
- Fennel seed oil (*Foeniculum vulgare*)
  - In Russia, 125 colicky infants, aged 2-12 weeks, were given either 4 tsp of fennel seed oil in polysorbate solution or a placebo (just the polysorbate solution) up to 4 times per day for 1 week. Colic symptoms improved significantly for the fennel seed oil group (65%) versus the placebo (24%)
- Botanical blends (fennel seeds, chamomile, vervain, licorice, and lemon balm)
  - 68 Israeli infants, aged 2-8 weeks, found that giving 2/3 cup of the botanical blend versus placebo of flavored water (average was 1/3 cup of the tea per day) significantly reduced crying below 3 hours.
  - In Italy, similar results were found using a tea blend of fennel seed oil, processed chamomile flowers, lemon balm, and vitamins B1 and B6 versus flavored water. The treated group had a significant reduction in crying time per day (200 minutes to 77 min) versus the placebo group (200 min to 170 minutes)
- Changing the milk of baby—American Academy of Pediatrics recommended a trial of hypoallergenic cow milk on relieving colic in infants with allergies (incidence is low :2-3%). Some small studies have shown a reduction in colic symptoms of breast-fed infants after removing certain allergenic substances (cow milk, peanuts, tree nuts, soy, wheat, eggs) from the mother’s diet. However, further studies need to be done. Furthermore, hypoallergenic milk is expensive (about 3 times more expensive than standard formulas).
- Education and behavior interventions
  - In a study of 121 term infants (2-6 weeks old), they were separated into being into a group with home-based behavioral intervention (experimental) and a group with routine care to decrease parental stress (control). The experimental group showed an average reduction in 1.7 hours of crying per day less than the control group.
  - Another randomized control study had 23 colicky infants assigned to behavior modification groups, non-intervention, and control groups. Mothers in the behavior modification groups had a drastic decline in crying time per day (4 hours to 1 hour).
  - However, a third study of 38 mother-infant pairs showed no dramatic decrease in crying time with behavior and educational intervention

There have not been studies on homeopathic remedies, but many parents of colicky babies have found Colic Calm helpful. This is available at regular drugstores. Also, some

colicky babies have been thought to be helped by Chamomila, 30X, which is sold in small, blue, plastic tubes at Whole Foods.

Overview of the therapies		
Therapy	Effect	How to provide for colicky baby
Sugar solution	Decrease in symptoms	Mix ½ tsp of table sugar with 3½ tsp with water, and then give ½ tsp of that solution if child cries
Probiotics	Decrease in symptoms	Get a solution with probiotics, like <i>L. Reuteria</i> and give ½ tsp of powder in formula or breastmilk once a day (available at Whole Foods)
Fennel seed oil/tea	Significant decrease in crying time per day	These ingredients are found in Gripe water which is sold at regular drugstores and whole foods.
Cranial/spinal manipulation	Spinal manipulative—not clearly established; Osteopathic manipulation—seems to benefit infants; Infant massage by mom—no difference	Consult a chiropractor or cranial sacral massage therapist. Note that a craniosacral practitioner is included on the affiliate page of this website.

Finally, please keep in mind that crying is not dangerous – it is simply an expression of very strong feelings. Your baby may need to cry to release the stress of recently getting born, and being so new in the world. So, please don't feel that it is your job to make your baby stop crying! You can also just hold the baby and be a strong shoulder to cry on, until your child feels better.

Sources:

American Academy of Pediatrics Committee on Nutrition:

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