


 The logo features a stylized orange square with a white grid pattern on the left, followed by the text 'PRET x' in white on an orange background, and the word 'Update' in a large, red, serif font to the right.

## Treating infants' colic

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### ABSTRACT

**QUESTION** Young parents often visit my office because their infants are crying inconsolably. Results of physical examination are unremarkable, so colic is the most likely cause. Colic has been known for many years, but I am unaware of any good remedy for it. Are there any modern, effective, safe methods of managing colic?

**ANSWER** In most cases, colic is a “noisy phenomenon” for which there is no good explanation or treatment. Changing babies’ feedings rarely helps, and effective pharmacologic remedies are as yet unavailable. Several behavioural and complementary therapies have been suggested, but they have not been found effective. Addressing parental concerns and explaining about colic is the best solution until the colic goes away.

### RÉSUMÉ

**QUESTION** De jeunes parents me consultent souvent parce que leur nourrisson pleure sans pouvoir être consolé. Les résultats de l'examen physique ne permettent de déceler aucune anomalie et la colique est la cause la plus probable. On connaît la colique depuis des années mais je ne lui connais aucun remède. Y a-t-il des méthodes modernes, sûres et efficace de prendre en charge la colique?

**RÉPONSE** Dans la plupart des cas, la colique est un «phénomène bruyant» pour lequel il n’y a pas de bonnes explications ni de traitement efficace. Changer l'alimentation du nourrisson aide rarement et des options pharmacologiques n'existent pas encore. Plusieurs thérapies comportementales et complémentaires ont été suggérées mais elle ne se sont pas révélées efficaces. La meilleure solution, c'est de rassurer les parents et de leur expliquer ce qu'il en est jusqu'à ce que les coliques disparaissent.

Infantile colic, which affects up to one third of infants in their first 3 months of life, was defined in the mid-1950s as “the rule of three”: healthy, well-fed infants with paroxysmal irritability and crying lasting a total of 3 hours a day and occurring more than 3 days a week.<sup>1</sup> Colic is a “noisy phenomenon”<sup>2</sup> that manifests as excessive and inconsolable crying, usually in the evening. Episodes of crying sometimes occur in clusters during which babies can have increased body tonus and be excessively alert. While the etiology of colic is unknown, it is clear that this self-limiting condition resolves in up to 90% of infants by the age of 4 months.<sup>3</sup>

Those most affected by colic are the parents. Sleepless nights and the inability to console a newly arrived baby cause a great deal of stress, especially among first-time parents. Mothers of infants with

colic were found to be more concerned about their infants’ temperament and even to feel rejection compared with mothers of infants without colic.<sup>4</sup> Mothers have been shown to be less responsive to, and to interact less with, infants they feel are “difficult” at 3 months old. Strong negative emotions are still evident when these infants are 8 months old.<sup>4</sup>

### Feeding routines

In some infants, allergies could be responsible for colic. Intolerance of cows’ milk proteins consumed by breastfeeding mothers or to cows’ milk-based formula could be the cause. Excluding cows’ milk from the mother’s diet or switching to soy-based drinks could ease colic. In one study, when soy-based formula was used, 11 of 19 infants with an intolerance for cows’ milk cried less. Crying was

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reduced from 17 to 20 hours using cows' milk formula to 4 to 13 hours using soy-based formula.<sup>5</sup>

Treating with lactase before feedings might also result in considerable relief of symptoms in babies with transient lactose intolerance.<sup>6</sup> Infants sensitive to both cows' milk and soy could be fed a hypoallergenic formula containing extensively hydrolyzed proteins. Lucassen et al<sup>7</sup> reported an hour less crying a day (95% confidence interval 1 to 127 minutes) when 23 infants were fed a whey hydrolysate in a randomized controlled trial. Casein hydrolysate formula was effective for managing colicky symptoms associated with protein sensitivity in 15 of 22 infants in a study conducted in Sweden,<sup>8</sup> and colic associated with carbohydrate malabsorption from apple juice was eased by switching to white grape juice.<sup>9</sup>

### Pharmacologic interventions

Colic is difficult to treat and hard to investigate and measure. The large placebo effect, the transient nature of the phenomenon, and the undetermined etiology make colic unique. Several trials have looked at medications for treating infantile colic.

Dicyclomine hydrochloride (eg, Bentylol), an anticholinergic agent with a relaxing effect on smooth muscle, is used to treat and prevent spasms in the gastrointestinal tract in irritable bowel syndrome. It was approved by the United States Food and Drug Administration in 1950, and in the late 1950s it was offered as a treatment for colic. Dicyclomine was more effective than placebo in three trials, one of which was adequately double blinded, but some infants suffered serious adverse effects so the manufacturer stopped recommending its use for colic.<sup>3</sup>

Simethicone (eg, Ovol) silicone latex, an over-the-counter drug that disperses and prevents gas bubbles from forming in the gastrointestinal tract, is used to treat symptoms. Simethicone was compared with placebo for treating infantile colic in three trials.<sup>10-12</sup> In one study,<sup>11</sup> 26

infants had significantly fewer crying spells (during 4 to 7 days of therapy), but results of the other two<sup>10,12</sup> showed no significant difference between study and placebo groups.

Cimetropium bromide, a muscarinic antagonist with direct spasmolytic activity, is a quaternary ammonium semisynthetic derivative of scopolamine. One report from Italy found it more effective than placebo in reducing duration of crying (74% and 33%, respectively).<sup>13</sup> Sleepiness, an adverse effect, was more common in the study group.


### Alternative measures

When conventional therapy is ineffective, many parents search for alternative methods of treatment, especially for a "natural" way. Herbal tea containing chamomile, vervain, liquorice, fennel, and balm mint was effective in one randomized controlled trial,<sup>14</sup> and a fennel oil emulsion helped 65% of infants in another.<sup>15</sup> A number of homeopathic remedies containing various ingredients, including alcohol, are sold under the name "gripe water." Most of them have never been formally evaluated.

Chiropractic manipulation helps some patients, but a study in Norway<sup>16</sup> that looked into this issue found that a 10-minute chiropractic adjustment was no more effective than a nurse's cuddling for 10 minutes. Among other approaches to coping with colic, behavioural modifications, such as taking "time out" and avoiding overstimulating the baby, can be beneficial. Simulating a ride in a car, early response to crying, carrying for longer, and making soothing motions have been suggested, but have not been found to be effective.<sup>3,17</sup>

### Conclusion

Colic continues to be a noisy phenomenon for parents. While efforts have been made to discover dietary resolutions for colic, and changing diet is often effective in children with protein sensitivity or carbohydrate malabsorption, for most

babies, no definitive solution has yet been found. Cimetropium and fennel oil preparations look more promising than other remedies, but their effectiveness and safety for infants should be further investigated. In most cases of colic, no underlying cause can be found, and addressing parental concerns is the best way to cope with it. 

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