



ROYAL CHILDREN'S HOSPITAL  
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# Community

## P A E D I A T R I C S

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## About this newsletter

*Community Paediatrics is an exciting new publication designed to provide accurate, up to date paediatric information to community nurses, health professionals, and other workers involved in child health.*

*It will be published quarterly and distributed throughout Australia and New Zealand by Wyeth Pharmaceuticals. Wyeth have earned a reputation over the years for supporting medical education, and we are grateful for the sponsorship that makes this newsletter possible.*

*Community Paediatrics was conceived out of the belief that an important role of an academic teaching hospital is to share knowledge and expertise with caregivers and institutions in the community. It joins another publication for general practitioners, the Australian Paediatric Review, in being produced within the Department of Ambulatory Paediatrics at the Royal Children's Hospital, Melbourne.*

*We welcome feedback, suggestions for topics to be covered, or any comments you wish to make about Community Paediatrics. Our intent is to provide you with interesting, topical and practical information you can use. We hope you will work with us to achieve this goal. ●*

**Dr Frank Oberklaid, FRACP  
Ms Michele Meehan, RN MCHN  
Editors**

# "COLIC"



Infant "colic" is a common and stressful problem for parents and a major management challenge for health professionals. Although said to be self limited in time, the ramifications of a difficult parent-infant relationship early in life may on occasion have longer term consequences. However colic remains a poorly understood condition with little actually known of its cause, treatment or sequelae.

## ◆ Prevalence of colic

In the Australian Temperament Project almost 60% of parents reported that their infant had suffered from colic - 30% mild, 19% moderate, and 10% severe. Colic tended to be reported more frequently in first born infants. Part of the difficulty in estimating accurately the prevalence of colic is that there is no standard definition of colic - every parent, nurse and doctor has a different perception of what the term means. There is no way to make a reliable diagnosis of colic, and there is great variability in the degree of concern and distress that a crying baby creates for different parents.

## ◆ What causes colic?

There have been literally hundreds of articles published over the years which have studied the aetiology and management of infants with colic. - However virtually all of these studies have

had major flaws which make them difficult to interpret. Most have used differing definitions of colic, so it is impossible to compare one study with another. Studies of treatment have been complicated by the fact that the natural history of colic is to improve, so it is difficult to be certain that improvement is due to the intervention.

Causes proposed for colic include gastrointestinal (excess gas, intestinal tension) neurological (irritable nervous system, subclinical seizures, immaturity), infections (otitis media, urinary tract infection), hernias (inguinal, umbilical), poor feeding technique (under or overfeeding, improper burping, wrong teat on the bottle), allergy (milk, maternal diet), emotional factors in infant or mother (hypertonic infant, parental anxiety and insecurity, family tension) difficult infant temperament, etc. Note that this list is incomplete - literally dozens of causes have been suggested.

It could be suggested that something which affects 60% of infants should not be considered to be pathological, but rather a normal developmental phenomenon. For this reason the term "crying/fussing" is preferable to colic, which implies an organic diagnosis.

Crying/fussing is a normal part of infant development. Research has demonstrated that the majority of infants go through an unsettled period of crying and fussing. This peaks at about 6 weeks, may last for several months, averages 3-4 hours of crying/fussing each 24 hour period, and is always worse in the evening. There is variability between infants, and variability

within the same infant from day to day. These figures apply to "normal" infants - the average crying time of these normal infants is nearly 3 hours/day.

This crying/fussing is believed to be biological/intrinsic in origin and reflect changes in the maturation of the infant's central and autonomic nervous systems - there is precious little evidence that it is caused by excess gas, allergies, or other causes.

## ◆ The nature of the transaction between infant and mother

Maternal anxiety and stress does not cause crying/fussing in infants, but may exacerbate it. Some parents adapt to the infant's behaviour and cope with periods of irritability, crying and fussing; others perceive the infant's crying either as a sign that there is something wrong (and look for a medical diagnosis), or else a sign of their own incompetence as parents (if I was a good mother my baby would not cry).

Just as it is inappropriate to focus on treating the infant for gas, allergies or other causes for the colic, so it is inappropriate to focus exclusively on anxiety and psychopathology in the mother (and father). It is perfectly understandable for parents to be anxious about their infant's crying and fussing.

## Summary

1. All infants cry some of the time.
2. Normal infants vary in how much they cry, how intense

the cry is, and how soothable they are.

3. Parents have differing levels of tolerance to their infant's crying.
4. Infant crying invariably affects parents' feelings and behaviour, including self confidence, anxiety and maternal stress.
5. Some infants are overstimulated and inappropriately handled.
6. The amount of crying can be reduced by revising parental handling and making it more appropriate to the infant's needs.

#### ◆ The place of diet in management

There is no question that diet is given too much emphasis in the management of infant colic. There is some anecdotal evidence that maternal diet may affect the infant, so that many breast feeding mothers are told to exclude certain foods from their diet (spicy foods, coffee, cabbage, nuts, onions, etc.). Usually there is little rationale for these recommendations.

Babies who are bottle fed often have their formula changed, usually on the basis of questionable logic. True cow's milk allergy is rare, and the evidence that cow's milk causes the crying is not strong. Multiple changes of formula may be expensive, confusing for the parents, and are generally not indicated. Sometimes a change of formula is said to have made a difference, but this is difficult to vali-

date because the infant may simply become more settled because of the passage of time.

#### ◆ The place of medications in management

Many infants are prescribed either drugs which are designed to relieve intestinal spasm (eg. merbentyl), cause sedation (eg. Vallergran) or both (eg pheno-barb and atropine). There may be a very limited place for medications in some infants, but only for a short period of time, and never as the sole therapeutic intervention. In the past medications have probably been used too freely, and there is potential for an adverse affect on infant cognition and learning. ●

Dr Frank Oberklaid, FRACP

*\* In the next issue of Community Paediatrics we will include some recent work on infant crying, as well as outlining suggestions for the practical management of crying and fussing.*

## BREASTMILK JAUNDICE



Many healthy newborn babies develop jaundice after birth. In utero bilirubin crosses the placenta and is excreted by the mother. After birth because of delay in the infant activating his own excretory system, blood bilirubin levels may rise. This 'physiological jaundice' occurs over the first 48 hours and begins to

disappear toward the end of the first week of life.

Breastmilk jaundice, however, occurs after the third day when physiological jaundice is beginning to abate. This form of late onset jaundice had at one time been attributed to inhibition of glucuronyl transferase activity by abnormal hormonal component of the milk. Its mechanism is now believed to be more complex, and less readily classified as a single step defect.

A significant although small number of breast fed babies develop an exaggerated form of unconjugated bilirubinaemia during the newborn period, which in some cases may persist through the first few months of life.

#### ◆ Diagnosis

Clinical diagnosis of breastmilk jaundice syndrome may be established by the characteristic clinical pattern of rising bilirubin concentrations beginning or continuing after the third day and continuing to rise well into the second week in an infant who feeds normally and is otherwise well. Interruption of breast feeding may help to establish the diagnosis because of the characteristic fall of bilirubin levels followed by a small rise when feeding recommences.

However, interruption should not be used for diagnostic purposes alone, since it may have a detrimental effect and even lead to complete cessation of breast feeding.

Another cause of early onset breastfeeding jaundice may be due to inadequate caloric intake. Poor breast feeding practices in hospital may mean mothers are not encouraged to nurse their baby frequently, poor advice and an unsupportive

environment may serve to inhibit lactation. The mechanism by which starvation induces unconjugated hyperbilirubinaemia is unknown.

#### ◆ Management

Since not all jaundice is caused by breast feeding, the doctor is faced with the difficulty of whether or not to interrupt breastfeeding during the period of rising bilirubin levels. There is no firm clinical experience or trials on which to base a recommendation. Some doctors may feel breast feeding should be interrupted when bilirubin levels reach a toxic level; however kernicterus has not been asso-

ciated with breastmilk jaundice.

This in turn poses a dilemma for the nurse supporting the mother who is breast feeding. It should be remembered that parents may consider jaundice more of a serious illness than health professionals and thus feel weaning is warranted.

If a mother has been told to cease breastfeeding either temporarily or permanently because of breast milk jaundice in order "to diagnose" the problem, what is the nurse's role in supporting the maintenance of breastfeeding?

One step may be to clarify with the doctor concerned the need or urgency of a differential diag-

nosis, presuming all other causes have been ruled out. A further dilemma is the inference that the breastmilk is the cause and "my milk is not good for my baby". Without continued support and information to the mother and her family members, breastfeeding may be discontinued.

If the mother is willing or wanting to temporarily stop feeding (for 24-48 hours), it is essential that she understands the risks to her supply at this stage of lactation establishment. She must be educated and supported in expressing her milk, freezing the milk for later use (she need not discard it), helped to get the baby to take formula, and to re-establish breast feeding as soon as possible. ●

Michele Meehan, RN, MCHN

## ◆ From the Literature ◆

*In each issue of Community Paediatrics we will summarize one or two articles which are topical and relevant to child health.*

**Hazards of Mattresses, Beds and Bedding in Death of Infants**  
*E. Gilbert-Barness et al American Journal of Forensic Medicine and Pathology 1991;12:27-32 (March 1991).*

The forensic pathologists who prepared this report had 52 infants referred to them for autopsy over a period of 4 years after the infants had died suddenly and unexpectedly. In 20 cases, death was due to accidental suffocation rather than SIDS.

"Water beds were the single major cause of preventable infant deaths in our cases. When an infant is asleep prone on adult free-floating water bed, especially if it is not completely full, the infant's face, including the nose and mouth, are relatively trapped and immobile in the depression cause by the weight of the head and body". There were no deaths on specially designed infant water beds.

Similarly, sheepskin rugs with a deep pile can cause suffocation in infants. "The obstructive effect of the sheepskin is increased

if it is placed on a soft surface to form a hollow or if the wool becomes wet", the authors note.

Previously, many of these deaths would have been attributed to SIDS unless proper examination had determined that death was accidental. The authors conclude that the public should be alerted to the dangers of placing babies on water beds and sheepskin rugs and that better designed mattresses may prevent deaths related to beds and bedding.

*Jan Shield, Child Safety Centre, Royal Children's Hospital, Melbourne.*