represent 1% of congenital heart disease.¹ Deanfield *et al* found a 10% incidence of thoracic heterotaxy in children admitted to a cardiac unit,² and thoracic heterotaxy is thought to be more commonly associated with atrial isomerism than visceral heterotaxia. In studies of large numbers of cases severe cardiac disease still dominates the picture of atrial isomerism and, although recognised, extracardiac abnormalities are rarely reported as causing clinical problems.³ Rose *et al*, in a study of 60 patients with atrial isomerism, noted only two patients with appreciable gastrointestinal abnormalities other than asplenia.⁴ Moller *et al*, however, found that malrotation was always present in children with congenital heart disease who also had asplenia or polysplenia, though it occurred in less than 1% of cases in which the spleen was normal.⁵ Freedom concentrated on extracardiac problems and, in 23 cases, found 25% with important gastrointestinal and genitourinary anomalies.⁶ Three patients in his series presented with intestinal obstruction: two each had an annular pancreas and one had congenital fibrous bands. No child in his series with malrotation presented with obstruction.

Our collection of five children all had visceral heterotaxia and developed clinical intestinal obstruction. All had malrotation and four required division of Ladd's transduodenal band. Two had other appreciable gastrointestinal abnormalities that probably contributed to their deaths, but—as might be expected—intestinal operations seem to carry much greater risks in this group of children than in those with normal hearts. The poor survival in this group confirms other reports,⁴ but one child remains well at the age of 8 years on long term treatment

with antibiotics. Antipneumococcal vaccine is no use in congenital asplenia until the age of 2 years, but lifelong prophylaxis with half doses of phenoxymethylpenicillin is recommended. These children present early with serious cardiac problems, although in our unit antenatal diagnosis is becoming increasingly common. As treatment of these cardiac problems becomes more successful, the extracardiac associations become more important. Thus the occurrence of gastrointestinal symptoms (particularly bile stained vomiting) in infants with atrial isomerism warrants early investigation and consideration of operation.

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Comforters and night waking

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SUMMARY Among 320 low birthweight infants seen at nine months post term those using a soft object, thumb, or fingers as comforter were significantly less likely to wake at night (9/96, 9%) than those with no comforter or using a dummy (66/224, 29%). Dummy users were as likely to wake (27/93, 29%) as those without a comforter (39/131, 30%).

One of the commonest reasons for parents to seek

professional advice is that their child wakes them at night. Sleep disturbance can cause serious family problems and many strategies have been advocated to alleviate the problems.¹ One of us (CJM) observed that children who were able to soothe themselves with a thumb or cloth were least likely to wake their parents at night.

In a survey of 3 year old children, Graham and Boniface² found that children who used an 'attachment object',³ settled to sleep more easily than those without one ($p=0.07$), but they found no

Table 1 Frequency of night waking and use of comforters

	Type of comforter			
	None	Dummy	Thumb or fingers	Soft object
Total No	131	93	72	24*
No (%) not waking	92 (70)	66 (71)	64 (89)	23 (96)
No (%) waking once	24 (18)	14 (15)	3 (4)	0
No (%) waking twice or more	15 (12)	13 (14)	5 (7)	1 (4)

*Of the 24 infants categorised here as using a soft object, eight also sucked their thumb and two also used a dummy. None of these 10 children was waking at night.

relationship between thumb sucking and ease of settling. Passiman found that the security blanket was as effective as the mother in inhibiting moderate distress.⁴

This study was planned to explore the association between comforter use, comforter type, and night waking.

Patients and methods

Altogether 320 low birthweight infants who were seen at nine months post term were enrolled in this study. They were from two centres (Cambridge and Kings Lynn) of a five centre feeding trial⁵ on infants with birth weights under 1850 g, born during the period 1982 to 1984. Social class, mother's education, and birth rank were coded as described elsewhere.⁵ Extensive obstetric and neonatal data were recorded, the latter prospectively.

The children were seen (by RM) at nine months post term. Parents were asked how often the child woke at night and needed attention. Where this was variable, the average over the previous week was calculated and rounded up to the nearest integer. A child waking less than once a week or only when unwell was categorised as not waking. Parents were also asked whether the child had a comforter without which he did not settle to sleep. Comforters were categorised as a dummy, a special soft object, (cloth or soft toy), thumb, or fingers. We have examined for an association between the use of a comforter and night waking.

Statistical analyses were performed using the χ^2 test.

Results

Of the 320 children, 131 (41%) used no comforter, 93 (29%) used a dummy, 24 (7.5%) a special soft object, and 72 (22.5%) used thumb (n=61) or fingers (n=11). Two of the children using a soft object also used a dummy and eight were also thumb

Table 2 Comforter use and neonatal and social factors

	No comforter or used dummy	Used thumb, finger, or soft object
Total No	224	96
Mean (SD) birth weight (g)	1343 (320)	1365 (294)
Mean (SD) gestation (weeks)	30.6 (2.8)	30.7 (2.4)
No (%) boys	98 (44)	48 (50)
No (%) first child	128 (57)	59 (61)
No (%) social class 1 or 2	49 (22)	25 (26)
No (%) of mothers who chose to express breast milk	157 (70)	69 (72)

suckers. Altogether 75 (23%) were waking once or more at night and needing attention (range one to eight times).

Table 1 shows the association between night waking and type of comforter. Children using a soft object, thumb, or fingers were significantly less likely to wake (9/96, 9%) than those having either no comforter or a dummy (66/224, 29%; $p < 0.0005$, by χ^2). Waking was least common in those using a special soft object (1/24, 4%), though they did not differ significantly from the thumb or finger suckers, with 8/72 (11%) waking.

We considered the possibility that these two groups (those with no comforter or using a dummy compared with those using a soft object, thumb, or fingers) might differ in respect of social, obstetric, or neonatal factors, which could themselves be independently related to waking at night. Results of some analyses are shown in table 2. No associations were found with type of comforter or with night waking. The only factor significantly associated with waking was whether or not the child used a soft object, thumb, or fingers as a comforter.

Discussion

Our study demonstrated a strong association between use of a comforter and night waking at nine

months post term. Those children who sucked their thumb or fingers or used a soft attachment object woke significantly less at night than the others (9% compared with 29%). Waking was least common (4%) in those who used a soft object, either alone or with another comforter. Dummy users were as likely to wake as those with no comforter.

In this group of low birthweight infants, 23% were waking and needing attention at night. This is comparable with studies on term infants that showed that 30% of 3 month old infants were waking, as were 20% of 1 to 2 year olds.¹

The majority of children here (77%) did not disturb their parents at night. Video recordings have shown that many infants wake and fall asleep again without needing attention. One explanation for our findings would be that in the group of children who needed comforting to settle again at night, some were able to soothe themselves with a thumb or attachment object (which Bowlby regarded as substitutes for the mother), whereas the others required parental attention. Children who use effective comforters, however, may be intrinsically different and less likely to wake at night. Dummies were not effective in respect of night waking; we suggest this may be because they are easily lost.

Winnicott's work would suggest that, like thumb sucking, use of a 'transitional object' is spontaneous and cannot be deliberately initiated by parents.⁶ However, there is no evidence on whether constantly

providing a particular cloth might encourage a child to develop an attachment to it. Conversely, the extent to which parents can discourage attachment object use, when they dislike the practice, is not known. If further research indicated that use of a special soft object could be encouraged and could decrease night waking, this might prove to be of considerable value in families where there has been a problem with sleep disturbance.

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As sick as a pigeon—psittacosis myelitis

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SUMMARY An association between acute transverse myelitis and psittacosis in a teenage boy is described. Closer collaboration between doctors and vets might have made the diagnosis sooner. A full paediatric history should include details of contact with pets and other animals.

Sudden onset of paraparesis is uncommon in children; the differential diagnosis includes trauma, vascular malformation, Guillain-Barré syndrome, transverse myelitis, or cord compression. Psittacosis has been implicated in the Guillain-Barré syndrome in four reported cases,¹ but we are unaware of any published association between psittacosis and acute transverse myelitis.

Case report

A previously healthy 15 year old boy developed coryza and sore throat followed by a productive cough with purulent sputum. Eight days later he developed sudden onset of paraesthesia and leg weakness. On arrival at hospital three hours later he had weak flexion and extension of hips and knees, with a flaccid paralysis below the knees, and absent lower limb reflexes. Abdominal reflexes were present. Sensation (including proprioception and vibration) was impaired below L2.

Over the next six days he developed complete loss of sphincter control and his sensory deficit extended to T11. He also developed severe back and abdominal pain that required pethidine for two weeks.

Haemoglobin concentration, white cell count, and