

# CLINICAL PRACTICE

## Effect of delivery room routines on success of first breast-feed

LENNART RIGHARD    MARGARET O. ALADE

72 infants delivered normally were observed for 2 h after birth. In the separation group ( $n=34$ ), the infant was placed on the mother's abdomen immediately after birth but removed after about 20 min for measuring and dressing. In the contact group ( $n=38$ ) contact between mother and infant was uninterrupted for at least 1 h. After about 20 min the infants began to make crawling movements towards the breast; the rooting reflex soon came into play, and at an average of 50 min after birth most of the infants were sucking at the breast. More infants in the contact group than in the separation group showed the correct sucking technique (24/38 vs 7/34). 40 (56%) of the 72 mothers had received pethidine during labour; the infants were also sedated and most of them (25/40) did not suck at all. It is suggested that contact between mother and infant should be uninterrupted during the first hour after birth or until the first breast-feed has been accomplished, and that use of drugs such as pethidine should be restricted.

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### Introduction

Our breast-feeding studies showed a faulty sucking technique in a proportion of mother-infant pairs. We postulated that development of correct or incorrect technique depends on delivery ward routine. We studied the effects of two different ward routines and of pethidine administration to the mother on sucking technique during the first 2 h after birth.

### Subjects and methods

The study was carried out at the university hospitals of Lund and Malmö, Sweden. 80 healthy mothers with uncomplicated pregnancies were enrolled consecutively and were told that we would like to observe the delivery and the newborn infant's

behaviour with a view to improving our routines. All the mothers had uncomplicated spontaneous deliveries; the infants had normal birthweights and 5 min Apgar scores of 9 or 10. Informed consent was obtained from 72 mothers. 8 would not agree to the presence of an observer in the delivery room during the first 2 h after birth, since it would disturb their privacy. The sucking technique was classified as correct when the infant opened the mouth wide, tongue under the areola, and expressed milk from the breast with deep sucks.

Observations (without interfering with the routine) were made in the delivery room by either of us, during labour, delivery, and the first hour after birth or until the first breast-feed had been accomplished. At the time of the study both separation for weighing and bathing and continuous mother-infant contact during the first 2 h after birth were common routines. The series of 72 mothers fell naturally into two groups, the routine being decided by the midwife and mother. In the separation group (34 mother-infant pairs) the infant was allowed to rest on the mother's abdomen for the first 15-20 min after birth before being removed to be measured, weighed, bathed, and dressed, a process taking about 20 min and carried out in the delivery room; the infant was then returned to the mother for the remainder of the time. In the contact group (38 mother-infant pairs) contact with the mother was uninterrupted, the naked infant being left at rest on the mother's abdomen for at least 1 h or until the first breast-feed had been accomplished. There were no differences between the two groups in maternal age, parity, or marital status. At 63 (88%) of the deliveries, the father was present.

Of the 72 mothers, 40 (56%) received pethidine (75-100 mg) during labour, 22 (31%) nitrous oxide during the first stage of labour, and 7 (10%) epidural analgesia. 1 mother had received pethidine 21 h before delivery; because of this long interval, the infant was not regarded as still being affected by pethidine at birth. The use of local infiltration anaesthesia during the second stage of labour was common.

Student's *t* test and Yates' corrected chi-square were used for statistical analysis of the data.

ADDRESSES: Department of Paediatrics, University of Lund, Malmö General Hospital, Sweden (L Righard, MD) and Department of Nursing, Faculty of Health Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria (M. O Alade, RN). Correspondence to Dr L. Righard, Department of Paediatrics, Malmö General Hospital, S-214 01 Malmö, Sweden

## Results

In the contact group, there was continuous skin contact between mother and infant during the first hour after birth. All but 3 infants started making arm and leg movements after a mean of 19.0 (SD 7.8) min in an attempt to reach the breast, followed by mouthing and sucking movements (see accompanying figure), generally in that order. After a mean of 49.0 (22.2) min most of the infants took the breast by their own efforts and sucked for about 20 min. Of the 38 infants in the contact group, 24 sucked correctly, 4 sucked in a faulty manner, and 10 did not suck at all (all 10 affected by pethidine) (table).

In the separation group, the infant was removed from the mother's abdomen after 19.6 (9.3) min to undergo routine measuring and weighing procedures; the infant generally cried out loudly in protest. After 19.9 (9.6) min, when the infant was returned to the mother and she tried to feed the baby, his or her reflexes failed to come into play. In this situation, the mother usually manipulated the nipple into the infant's mouth, without waiting for the mouth to open, which resulted in superficial nipple sucking in many cases. Of the 34 infants in the separation group, 7 sucked correctly, 11 sucked incorrectly, and 16 refused to suck. The difference between the contact group and the separation group in success and failure of sucking was significant ( $p < 0.001$ ).



Infant crawling and making mouthing and sucking movements (a) then taking breast (b).

DISTRIBUTION OF DELIVERY ROOM FACTORS

—	Sucking pattern		Still not sucking 2 h after birth
	Correct	Incorrect	
<i>Contact group</i>			
No pethidine	16	1	0
Pethidine	8	3	10
<i>Separation group</i>			
No pethidine	7	7	1
Pethidine	0	4	15

Another factor had as adverse an effect as separation—analgesia with pethidine hydrochloride during labour. Since this drug is transferred to the fetus across the placenta, the infant is also sedated. Of 40 infants whose mothers received pethidine during labour, 8 sucked correctly, 7 sucked incorrectly, and 25 were too drowsy to be able to suck at the breast at all. Of the 32 infants whose mothers received no pethidine, 23 sucked correctly, 8 incorrectly, and 1 did not suck. These differences between the groups were highly significant ( $p < 0.001$ ). Of the 26 infants who did not suck at all, 25 were born to mothers sedated with pethidine. The distribution of the factors separation and pethidine analgesia together are shown in the table.

Of the 11 infants whose mothers were given pethidine 45 min to 2 h before delivery, 5 sucked correctly. The mothers of the other 29 infants were given pethidine more than 2 h before delivery (range 2–13 h); 3 of these infants sucked correctly (5/11 vs 3/29;  $p < 0.05$ ).

Naloxone was given to the mother as an antidote to pethidine in 8 cases. In 5 cases it was given too late (less than 15 min before delivery) and consequently had no effect; in the other 3 cases, the infants were nevertheless drowsy and did not suck.

## Discussion

Our breast-feeding studies have shown that the early suckling pattern is of prognostic value for the duration and success of breast-feeding. In this study, we have shown that delivery ward routines are very important for a good start to breast-feeding. Brief separation of the infant from the mother during the first hour after birth had a strong effect on the success of the first breast-feed, as did pethidine given to the mother during labour. Of infants both separated and exposed to pethidine through their mothers, not one breast-fed successfully, whereas almost all those who were neither separated nor exposed to pethidine succeeded in adopting the correct breast-feeding technique. Thus, the two crucial determinants for a successful start to breast-feeding seem to be uninterrupted contact with the mother until after the first feed unless separation is unavoidable, and no sedation of the infant by analgesics given to the mother during labour.

The harmful effects of early separation, and the benefits of undisturbed early contact, have been reported previously.<sup>1,2</sup> It has also been shown that early separation is followed by shorter duration of the whole breast-feeding period.<sup>3,4</sup>

Newborn mammals start crawling to the mother's nipple to get the first feed soon after birth. Although human infants apparently have the same natural instinctive behaviour,<sup>5</sup> it is easily disturbed. Separation for measuring and dressing procedures after 15–20 min seriously disturbed the first breast-feed. This time seems to be a very critical stage for separation; just when the infant was about to start crawling movements, he or she was removed. The infants generally

protested loudly when removed from their mothers. There is no sensible reason for routine separation—measuring and weighing procedures can simply be put off for 1 or 2 hours.

There have been several reports on the effects on the infant of analgesics given to the mother during labour.<sup>6-10</sup> A side-effect of such narcotic analgesics as pethidine is central nervous system depression, in both the mother and the infant. The plasma half-life of pethidine is 3.0–4.5 h in the mother, but as long as 13–23 h in the infant (62 h for the active metabolite, normeperidine).<sup>11,12</sup> Consequently, the infant is depressed for much longer than the mother. The plasma concentration of pethidine in the infant is almost as high as that in the mother, reaching a maximum after 2–3 h, after which the level falls slowly.<sup>13</sup> In this study, more infants were alert and ready to suck when the time between analgesia and delivery was below 2 h than when it was longer.

The conclusions to be drawn from our study are clear. First, the naked infant should be left undisturbed on the mother's abdomen until the first breast-feeding is accomplished, and the infant's efforts to take the breast actively should be promoted. Secondly, use of drugs given to the mother during labour should be restricted.

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## Risk factors for transmission of hepatitis B virus to Gambian children

M. VALL MAYANS A. J. HALL H. M. INSKIP J. CHOTARD  
S. W. LINDSAY E. COROMINA M. MENDY P. L. ALONSO  
H. WHITTLE

**Risk factors for hepatitis B virus transmission were examined in 973 Gambian children aged 6 months to 5 years. 33% had evidence of infection with hepatitis B virus and a third of these were carriers. A significant association was found between infection and tropical ulcer scars, and between e antigenaemia and the presence of bedbugs in each child's bed. There was no association between infection and traditional scarring, circumcision, or injections. Skin disease and arthropods are the two most likely modes of transmission of hepatitis B virus between children in West Africa.**

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### Introduction

Hepatitis B viral infections in Africa are commonly seen in childhood<sup>1</sup> after the first year of life. By contrast, in Asia many children are infected at birth, the source being an infectious carrier mother.<sup>2</sup> The dominant route of transmission to children in Africa is unknown, although older infectious siblings may be important.<sup>3</sup>

Exudates from skin lesions are found to be hepatitis B surface antigen (HBsAg) positive<sup>4</sup> and a history of skin disease is known to be a risk factor for infection.<sup>5</sup> Tattooing, circumcision, and ear piercing have also been proposed as mechanisms of transmission although supporting evidence is weak.<sup>6</sup> Viral surface antigen has been found in pooled samples of mosquitoes,<sup>7</sup> bedbugs,<sup>8</sup> and ticks<sup>9</sup> and may be detectable in their faeces for up to 6 weeks.<sup>10</sup>

This study was designed to provide information on possible modes of transmission of hepatitis B virus, specifically by examining bedbugs and skin lesions.

### Subjects and methods

Seven neighbouring Gambian villages were identified (Kolor, Massembah, Genieri, Kaiaf, Jiffin, Toniataba, and Sikunda) where

ADDRESSES: International Agency for Research on Cancer (WHO), Banjul, The Gambia (M. Vall Mayans, MD, A. J. Hall, MFPHM, H. M. Inskip, PhD, J. Chotard, MD); MRC Laboratory, Fajara, The Gambia (S. W. Lindsay, PhD, P. L. Alonso, MD, E. Coromina, DI, M. Mendy, HNC, H. Whittle, FRCP). Correspondence to Dr H. M. Inskip, PO Box 273, Banjul, The Gambia.