Night terrors occur in about 3% of children between 1 and 14 years old. They are uncommon in adults and occur only in predisposed people, who usually have a family history of sleep disorders. According to Schatzman,[8] murders during night terrors are very rare indeed. Only two cases have been reported in England in the past 25 years, though there have been other reports of violent acts committed during sleep that did not result in death.[4]

The most recent case is that of Kemp, who killed his wife during a night terror in which he dreamed he was being chased by Japanese soldiers.[8] This case is of interest because it lacks some of the usual features of a night terror. The apparent detailed recall of the dream content, with vivid imagery and a narrative, approximates much more closely to a nightmare.

Night terrors allow a defence of sane automatism, which, if successful, results in acquittal. For most other violent automatic acts carried out in an organic confusional state there is a mandatory referral to hospital, usually a secure one. This difference seems illogical and suggests that the law on automatism needs revision.

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1 Regina *v* Quick (1973) Queen's Bench 910.
2 Bartholomew AA. On serious violence during sleep walking. *Br J Psychiatry* 1986;**148**:476.
3 Bartmann E. Two case reports: night terrors with sleep walking—a potentially lethal disorder. *J Nerv Ment Dis* 1983;**171**:503-5.
4 Oswald I, Evans J. Serious violence during sleep walking. *Br J Psychiatry* 1985;**147**:688-91.
5 Bonkalo A. Impulsive acts and confusional states during incomplete arousal from sleep: criminological and forensic implications. *Psychiatr Q* 1974;**48**:400-9.
6 Hall C, Nordby V. *The individual and his dreams*. New York: Signet, 1972.
7 Fisher E, Calne E, Edwards A, Davis D, Fine J. A psychophysiological study of nightmares and night terrors: III. Mental content and recall of stage 4 night terrors. *J Nerv Ment Dis* 1974;**156**:174-85.
8 Schatzman M. To sleep, perchance to kill. *New Scientist* 1986;**110**(No 1514):60-2.

Skimping on care of the newborn is false economy

Despite at least five national reports in the past 15 years urging improved care for the newborn,[1-5] the government has not provided the necessary resources. Much has been achieved locally, but British neonatal care remains inadequate,[6] unstructured, understaffed, and under-equipped. These failures have been exacerbated by the success of neonatal intensive care: in the best centres 80% of babies born at 28 weeks' gestation survive, as do half of those born at 26 weeks. But achieving such results makes heavy demands on resources, and some of the best centres are particularly hard pressed because of the consequences of the Resource Allocation Working Party formula.

In 1971 the Sheldon Committee recommended that there should be one neonatal intensive care cot for every 2000 annual births and three nurses for each cot.[1] By 1980 this requirement had still not been met.[3] Meanwhile, the Sheldon recommendations had become outdated, and in 1981 the British Paediatric Association and the Royal College of Obstetricians and Gynaecologists emphasised the need for one intensive care cot for every 1000 births and four nurses for each cot.[7] In 1984 the House of Commons Social Services Committee identified the inadequacies in neonatal intensive care and the shortage of nurses as the most urgent priority in neonatal care.[4] The National Birthday Trust Fund found in 1984 that there were 641 designated neonatal intensive care cots in the United Kingdom[8]—88 fewer than the number suggested by the British Paediatric Association and the Royal College of Obstetricians and Gynaecologists. In fact, only 473 of these cots were equipped and staffed for intensive care, resulting in a 35% underprovision.

The chronic shortage of nurses results partly from the continued use of the outdated Sheldon formula and partly from lack of funds and is further exacerbated by increasing difficulty in recruitment. Inadequate pay is one reason for recruitment difficulties, but another is the stress caused by staff shortages: a vicious circle has been established—overwork, stress, resignation, and more work for the remaining staff.

Paediatricians have been doing their best to persuade management of the need for more resources for some years,[9-11] but the task is not easy in the present climate. To support their case the British Paediatric Association and British Association for Perinatal Paediatrics recently published categories of newborn care.[12] Three categories have been defined: routine, special, and intensive. Each is described in detail with guidelines on how each infant should be graded. Units have been recommended to audit their workload daily or twice daily (to include the night shift). Workload can thus be related to available staffing and facilities. Early experience with the audit in Bristol has already shown that the recommendations of one intensive care cot for every 1000 births may be too low; the true requirement seems to be 1·4 cots.

Managers do not seem to accept that inadequate provision of neonatal intensive care is false economy. Neonatal intensive care is cheaper than is popularly thought[13-15] and is only a small fraction of the cost of the lifelong care of individuals with avoidable handicaps.[11] Further, expert neonatal intensive care seems to reduce not only mortality but also long term morbidity.

The Maternity Services Advisory Committee Report recognised the present deficiences in newborn care but then went on to ask regions to plan improvements over the next 10 years.[16] A junior health minister called this a major step forward, but the Spastics Society called it a 10 year set back.[17] Paediatricians think that at most there should be two years for planning and three for implementation.[18] For too long procrastination has been the order of the day.

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1 Department of Health and Social Security Expert Group on Special Care for Babies. *Report*. London: HMSO, 1971. (Chairman Sir W Sheldon.) (Report on Public Health and Medical Subjects, No 127.)
2 British Paediatric Association/Royal College of Obstetricians and Gynaecologists Liaison Committee. *Recommendations for the improvement of infant care during the perinatal period in the UK*. London: British Paediatric Association/Royal College of Obstetricians and Gynaecologists, 1978.
3 Social Services Committee. *Second report 1979-80. Perinatal and neonatal mortality*. London: HMSO, 1980. (Chairman Mrs Renée Short.)
4 Social Services Committee. *Third report 1983-84. Perinatal and neonatal mortality: follow up*. London: HMSO, 1984. (Chairman Mrs Renée Short.)
5 British Paediatric Association. Minimum standards of neonatal care. *Arch Dis Child* 1983;58: 943-4.
6 Baby Life Support Systems. *A survey of neonatal care in the UK*. London: BLISS, 1985.
7 Standing Committee of the British Paediatric Association and Royal College of Obstetricians and Gynaecologists. *Midwife and nurse training for special and intensive care of the newborn: a discussion document*. London: British Paediatric Association/Royal College of Obstetricians and Gynaecologists, 1981.
8 National Birthday Trust Fund. *Survey into facilities at the place of birth*. London: National Birthday Trust Fund (in press).
9 Anonymous. Falling short [Editorial]. *Lancet* 1984;ii:326-7.
10 Walker CHM. Special and intensive care baby units and nurse staffing in the UK. *Arch Dis Child* 1983;58:387-92.
11 Dunn PM. Neonatal intensive care in the United Kingdom—problems and priorities. In: *Neonatal intensive care a dilemma of resources and needs*. London: Spastics Society, 1984:7-12.
12 British Paediatric Association and British Association for Perinatal Paediatrics. Categories of babies requiring neonatal care. *Arch Dis Child* 1984;**60**:599-600.
13 Sandhu B, Stevenson RC, Cooke RWI, Pharoah POD. Cost of neonatal intensive care for very low birthweight babies. *Lancet* 1986;i:600-3.

14 Newns B, Drummond MF, Durbin GM, Cully P. Costs and outcomes in a regional neonatal intensive care unit. *Arch Dis Child* 1984;59:1064-7.
15 Nicholson RH. Costs of neonatal intensive care. *Institute of Medical Ethics Bulletin* 1986;No 12:10.
16 Maternity Services Advisory Committee. *Maternity care in action. Part III*. London: Department of Health and Social Security, 1985.
17 Anonymous. Newborn babies are not a government priority. *Newspaper of the Spastics Society* 1985; March.
18 Jackson ADM. Perinatal care. *Arch Dis Child* 1986;61:315-6.

Obstetric ultrasound: getting good vibrations

Most pregnant women attending a hospital that offered routine ultrasonography found the scans reassuring and thought them clinically useful, whereas those attending a hospital that scanned only patients with indications generally declined to attach any importance to the procedure.[1]

Two main features influenced the attitude of those scanned: their perception of the safety of ultrasonography, and the explanation (or lack of it) offered by the staff performing the scan. While this was a small survey, the attitudes expressed by these mothers probably reflect those of most women attending an antenatal clinic. In units where the staff do not believe there are risks to scanning the mothers are probably given an appointment in such a routine manner that most will not question the necessity of such an examination. But is there any risk from the procedure, and should an explanation be offered during the scan?

Ultrasound can cause biological damage, but we do not know whether cellular injury can occur in a human fetus from the energy produced by the machines in everyday clinical use. An overview on the physical problems of insonation of animal tissue has been written by Taylor and Dyson[2] and authoritative views on safety published by the National Council on Radiation Protection and Measurements in America[3] and the Royal College of Obstetricians and Gynaecologists in Britain.[4] Misrepresentation of the American report by the media led to public anxiety about the safety of obstetric scanning. The report stated: "Because the possibility of hazard is not totally discounted, it is considered prudent by physicians to minimise ultrasound exposure to that required to achieve medical objectives." This is not the same as saying that ultrasound is harmful, but there is still a need for caution.

Reports on the value of obstetric scanning have tended not to assess observer error, and few even include this important cause of variation in their assessment of accuracy. Not only should the errors of a single observer both within and between occasions be assessed but so should the across observer variations within patients. Reports are now suggesting that measurements of blood flow velocity in the umbilical and arcuate arteries with Doppler ultrasound may be useful in diagnosing some fetal disorders, but even in skilled hands it can take 15 minutes or more to achieve good recordings. Thus to determine across observer variation within patients might expose a patient to 30-45 minutes of scanning. Such validation is necessary, but total exposure times require careful appraisal. The fact that currently used clinical techniques are almost certainly safe should not lead to complacency during the development of new scanning methods requiring increased exposure times.

The second question of how much discussion and explanation should take place during scanning is much easier to assess. Most women probably expect to see the video screen, receive a full explanation of the image, and be able to discuss some points in detail. Such expectations are sometimes out of place, however, and mothers should have that made clear at the outset.

If the scan is undertaken by the obstetrician responsible for the patient then full discussion and explanation can take place. One question usually leads to another and inevitably away from merely discussing the fetal image to details of clinical management; the answers should therefore come from the person who will make the final clinical decisions. The next best alternative would be to have an obstetrician immediately available to a non-obstetric scanning team; queries from both the team members and the patient could then be dealt with promptly. Anything less than these alternatives is, in my view, unacceptable if discussions and explanations are to occur between non-obstetric staff and patients.

Experienced non-obstetric staff are capable of explaining what is going on when the findings are normal. They can also describe image details even when something is abnormal, but in those circumstances the mother will expect full answers to her questions—and they will range beyond the sonar findings. In my view nobody should embark on explanations unless they can carry them to their conclusion. And what if those who perform the scan and the obstetrician disagree over what patients should be told?

Let us consider fetal sex, which can now be accurately determined. In one report of 381 patients scanned at or after 20 weeks' gestation there was 100% accuracy for male and 97% accuracy for female fetuses.[5] Even this remarkable accuracy was bettered by Stephens *et al*, who achieved total accuracy for 100 consecutive cases scanned between 16 and 18 weeks' gestation.[6] For sex linked disorders this could offer a non-invasive method that would allow mothers to consider termination. Nevertheless, if the accuracy of sex determination was known to the general public, women might want to know the sex of their babies. If a woman then demanded a termination because the child was of an unwanted sex who would carry the can?

Many examples could be given of where information on the fetus may best be held in confidence until management decisions have been made. This may mean denying many mothers an interesting and rewarding experience if they are not being scanned by their obstetrician, but if such mothers are offered an explanation before being scanned of why details are not discussed they will accept it.

With the ultrasonic equipment presently used for scanning the technique appears to be safe. A routine scan on every pregnant woman between 16 and 18 weeks yields enough information to make it good clinical practice. Additional scans before or after this stage of pregnancy are almost certainly safe, and mothers having three to four scans during one pregnancy are unlikely to be at any increased risk. In a perfect world mothers should be "talked through" their scan to make it an interesting and rewarding occasion. But such explanations may lead on to more complex matters and hence are the province of obstetricians. If the system available does not allow ready access to the obstetrician discussion should be avoided. All sound waves, whether ultrasonic or verbal, require thought before being used.

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1 Hyde B. An interview study of pregnant women's attitudes to ultrasound scanning. *Soc Sci Med* 1986;22:587-92.