Medical care of the newborn in England and Wales

SUMMARY AND RECOMMENDATIONS OF A REPORT OF THE ROYAL COLLEGE OF PHYSICIANS

Membership of the Working Party

Sir Raymond Hoffenberg, KBE MD PRCP (President and Chairman)
M. L. Chiswick, MD FRCP (Hon. Secretary)
R. W. I. Cooke, MD FRCP
J. A. Davis, MD FRCP
K. L. Dodd, FRCP
C. L. Newman, FRCP
E. O. R. Reynolds, MD FRCP FRCOG
Anne Greenough, MD MRCP(UK)
G. V. P. Chamberlain, MD FRCS FRCOG (Representative of the Royal College of Obstetricians and Gynaecologists)
S. J. Cohen, MRCP FRCS (Representative of the British Association of Paediatric Surgeons)
Sandra Foster, RGN RSCN (Representative of the Royal College of Nursing)
Susan E. F. Jones, FFA RCS (Representative of the Faculty of Anaesthetists, Royal College of Surgeons)
Elizabeth A. Letsky, FRCPa (Representative of the Royal College of Pathologists)
Noreen Shaw, SRN SCM MTD (Representative of the Royal College of Midwives)
D. A. Pyke, CBE MD FRCP (Registrar)

In attendance

Mr D. B. Lloyd, FCCA (Secretary, Royal College of Physicians)
Miss Janice Bowman (Working Party Secretary)

INTRODUCTION (BASED ON THE PREFACE TO THE REPORT)

The medical and nursing care of newborn babies is important not only because they are more likely to die on the first day of life than on any other, but because the well-being of babies in the first few weeks of life has a bearing on their health throughout childhood and adolescence and even into adult life.

Of approximately 650,000 babies born each year in England and Wales, about 3,500 are born dead, 3,500 die within the month (most during the first week), and approximately a further 3,000 die after one month and before their first birthday. The main causes of death and illness in the newborn period (0-28 days) are congenital abnormalities, preterm birth, and asphyxia occurring before and during birth; to some extent these categories overlap.

Increasingly, congenital abnormalities can be diagnosed before birth, but many still present as difficult diagnostic problems after birth. Their treatment is, by and large, surgical and the province of the paediatric surgeon, but in many cases a full range of medical intensive care support is also required. The recognition and management of birth asphyxia concerns both obstetricians and paediatricians. Despite recent advances in the diagnosis and management of asphyxia it remains an important cause of stillbirth and neonatal death, and a small proportion of those who survive are handicapped throughout life. Some 5-7% of babies are born preterm yet they account for as many as 70-80% of neonatal deaths. In spite of efforts to reduce the incidence of preterm birth by studying various aspects of the life-style of women in their reproductive years, there is nothing to suggest that preterm births are decreasing. Indeed, they are probably increasing partly because improvements in neonatal care make it safer for obstetricians to undertake Caesarean section or to induce delivery before term when the condition of mother, baby, or both makes continuation of the pregnancy hazardous. A small group of preterm babies, amounting to at least 1% of all births, are so immature that they require life support and intensive care if they are to survive without residual disabilities, and such care may be required for many weeks and even months.

The survival of newborn babies is one of the generally accepted measures of the health of a nation. In comparison with other countries, the record for England and Wales is not bad, but could and should be better. How this might be achieved is outlined in the full Working Party Report published by the Royal College of Physicians in September 1988. Here we print a summary of the main recommendations.
Thus, the work of neonatal paediatricians has many aspects, including collaboration with obstetricians in the management of fetal problems such as growth retardation and other disorders resulting from maternal disease, the early recognition of congenital abnormalities and arrangements for their surgical correction, and efficient resuscitation at birth. After birth, the management of a wide range of disorders, especially those resulting from immaturity of various organ systems, often requires very demanding intensive care, including respiratory support, parenteral nutrition, and brain monitoring. All these aspects of intensive care require a lot of time, skill, experience, dedication and an understanding of the distress and anxiety experienced by parents.

Without the necessary resources, many babies who could have been rescued will die and, as was the case 25 years ago, a high proportion of the survivors will have avoidable handicaps. This report indicates what resources are likely to be required in order to care adequately for the medical needs of ill babies in all parts of the country. It was not within the remit of the working party to make recommendations about the organisation of neonatal surgical services, although these are referred to where they impinge on the organisation of medical care. Indeed, this report should be seen in the context of medical, social and emotional needs which extend from infancy throughout childhood to adolescence and which are the concern of parents and many professionals involved in different aspects of child health and care.

The important and painful ethical issues that arise in the practice of caring for the newborn and which are of major importance to the babies themselves, parents and professional staff have been kept in mind. The working party subscribed to the view that all babies, including those at the so-called extreme of viability, are potentially autonomous persons and should be respected and treated as such. They were well aware of occasions when it is beneficent to refrain or desist from the provision of life support, and were cognisant that dilemmas of ethics are brought to the forefront when competing needs of patients occur against a background of scarce resources. These and other issues were not explored. But the results of intensive care for the newborn are probably better by any criteria than those obtained by the provision of life support to certain other groups of patients, although anomalies do exist which seem absurd, such as the provision of resources to overcome infertility whilst overlooking the needs of the babies so produced.

Finally, among the many issues to be considered, is the question of whether the country can better afford the economic cost of providing appropriate standards of care for ill newborn babies or the moral cost of failing to do so. It is easy to forget that successful reproduction is the sine qua non for the biological survival of a community or culture.

**SUMMARY OF MAIN RECOMMENDATIONS**

Maternity units must provide a suitable environment for mothers to care for their babies independently and with confidence. Yet appropriate services must be readily available to meet a range of demands, from the frequent need to give a mother reassurance and guidance to the infrequent and sometimes unexpected need to treat a critically ill baby.

1. We recommend that all maternity units, however small, must have appropriate staffing and facilities for immediate resuscitation of newborn babies, and the provision of short-term intensive care (for several hours) pending, when necessary, transfer of the baby to a neonatal intensive care referral unit.

**Special care**

A significant proportion of babies require something more than normal care. We include in this group those with jaundice, feeding problems, and those who require monitoring for hypoglycaemia and also babies whose parents require extra guidance and reassurance from staff for whatever reason. The provision of special care must take into account the need to ensure the baby’s safety and to avoid unnecessary separation of mother and baby. Where possible, these babies should be nursed with their mothers rather than be admitted to a special care baby unit, but inadequate midwifery staffing levels in the maternity wards often precludes this.

2. Wherever special care is provided, the cots must be recognised as special care cots and staffed to the appropriate level.

3. Nationally, the number of under-utilised special care cots within special care baby units should be reduced in parallel with an expansion in the number of designated intensive care cots (see below).

4. We recommend that District Health Authorities develop appropriate community paediatric services to enable babies who have required special or intensive care to be discharged home earlier.

**Intensive care**

Nationally, there is a serious under-provision in the number of fully staffed and equipped neonatal intensive care cots. As a result, paediatricians working in district maternity units are unable promptly to secure the admission of ill babies to existing intensive care referral units. This has led to intensive care cots developing in an unplanned and haphazard way in different regions, with little thought to staffing and other requirements needed to ensure the quality and safety of the service.

5. Long-term intensive care should be carried out only where there are appropriately staffed and equipped neonatal intensive care cots.

6. We recommend nationally a provision of 1.5 intensive care cots per 1000 live births. There is a shortfall of at least 500 intensive care cots in England and Wales.

7. We recommend that intensive care cots within
each Region should be distributed among maternity units such that there are 1–2 regional perinatal centres, and also a number of subregional centres, receiving both antenatal and neonatal referrals.

8. As a priority, each Region should establish a working party on perinatal medicine, with representation to include those who have special knowledge and experience of clinical needs during the perinatal period. Its function should include planning for the allocation of the required number of intensive care cots, taking into account the size, distribution, and expertise available in the existing maternity units.

9. The designation of subregional perinatal centres should take into account that their main function is to serve as referral centres for a number of smaller maternity units situated within a convenient radius.

10. Regional perinatal centres, in addition to acting as referral centres for more complex problems, have a broad role, which includes perinatal audit and research, and education and training for doctors and nurses. There are important advantages in planning for specialised medical and surgical services for children to be available at sites close to the regional perinatal centres.

Medical staffing

The unplanned provision of intensive care in many maternity units has highlighted shortages in the numbers of paediatric medical staff available to provide a safe intensive care service, and at the same time fulfil their obligations to older children in paediatric units which may be at some distance from the maternity unit. In many neonatal intensive care units it is not possible to provide the required level of training and continuing education for all grades of medical staff because of pressures on clinical service.

There is a need to avoid a serious imbalance between the number of junior medical staff in training grades and the number of available consultant posts, and we have taken this into account in our medical staffing recommendations. We are particularly concerned that a sufficient number of training posts, giving experience in neonatal medicine, should be made available to meet the needs not only of those who intend to pursue a career in paediatrics, obstetrics, anaesthetics, paediatric radiology, paediatric surgery, clinical genetics and clinical pathology etc, but also those whose career aims are towards community medicine or general practice.

Minimum staffing levels

11. We recommend the following minimum levels of staffing:

**Regional perinatal centres**

- (15 intensive care; 20 special care cots)
- 3 consultant neonatal paediatricians; 4 ‘middle-grade’ staff; and 6 senior house officers.

**Subregional perinatal centres**

- (8–10 intensive care; 15 special care cots)
- 1 consultant neonatal paediatrician; 2 consultant paediatricians with a special interest in the newborn; 3 ‘middle-grade’ staff; and 4 senior house officers.

**Maternity units with special care cots only**

- 1 consultant paediatrician with a special interest in the newborn (sharing responsibility with other consultants); and 3–4 senior house officers.

**Consultant neonatal paediatricians**

There is a serious deficiency in the number of consultants available to staff neonatal intensive care referral units. This limits the overall quality of services, particularly with respect to effective communication with parents; liaison with obstetricians over high-risk pregnancies; education and training of medical students, doctors and nursing staff, and the maintenance of effective links with community based services.

12. We recommend that an additional 70–80 posts of consultant neonatal paediatrician be created as urgently as possible, commensurate with the availability of appropriately trained senior registrars.

**Senior house officers in neonatal paediatrics**

13. We recommend that there should be an increase in the number of senior house officer posts which provide training and experience in neonatal medicine. We stress the importance of providing such posts, as far as possible, within the framework of a rotational experience which gives training in other branches of paediatrics.

**Neonatal nursing staff**

The trained and experienced neonatal nurse who is in minute-to-minute contact with a sick baby has an important role in the prevention of death and disability, in addition to her duties as counsellor to parents, helping them through an emotionally traumatic period. Our information, confirmed by many relevant professional bodies, suggests that most neonatal units have an insufficient number of nurses to provide a proper service, and the situation in some units has reached a point of crisis.

14. We recommend that the appropriate requirement for a neonatal nursing establishment is 5 nurses per intensive care cot, and 1.5 nurses per special care cot.

15. We recommend that the appropriate professional nursing bodies survey the precise extent of the shortfall as a basis for alleviating the situation.

16. We recommend that the professional nursing bodies set appropriate standards concerning the number of nurses required on each shift, and their level of experience in relation to different work loads in the neonatal unit.
Support services

One reason why it is essential for intensive care cots to develop in a planned way, rather than on an ad hoc basis, is that a wide range of support services is required. There is an urgent need for an increase in the number of medical and laboratory staff who are specially trained and experienced in all aspects of perinatal pathology.

17. Regional perinatal centres should have at least one haematologist, microbiologist, and biochemist with special experience in the problems of the perinatal period, and a perinatal imaging service with appropriately trained staff. There should be at least one and preferably two whole-time paediatric histopathologists in each region.

18. Regional and subregional perinatal centres should have the support of designated technical staff for the day-to-day maintenance of equipment and the provision of an emergency service outside office hours. In-service training and day-release arrangements for attendance at courses leading to higher qualifications is a priority. Technicians should be encouraged to have a wider role in research, liaising with medical and nursing staff in the evaluation of new equipment.

Performance review

Each region should examine epidemiological data on the possible relationship between socio-economic factors, complications of pregnancy, and specific neonatal disorders. This forms the basis for exploring preventive programmes in perinatal medicine. There is a need to ensure that facilities are available for the assessment of the neurodevelopmental progress of babies who have suffered perinatal disorders and this information should be collated on a regional basis.

19. We recommend that information concerning epidemiology, preventive programmes in perinatal medicine and neurodevelopmental outcome of babies is examined through the Regional Working Parties in Perinatal Medicine with scope for co-opting to membership experts in different fields.

The full Report is available from the Royal College of Physicians of London, price £7.00.