A night in the life of a senior neonatal nurse practitioner

In response to the reduction in junior doctors' hours and government initiatives to work in new ways, many neonatal units employ Advanced Neonatal Nurse Practitioners, highly experienced nursing staff, who often work as part of the medical establishment. At North Cheshire Hospitals NHS Trust change was inevitable. Extending the practice and roles amongst senior staff was the obvious solution, however, staff were keen to maintain core neonatal nursing skills. Following discussions with both medical and nursing staff, the idea of providing enhanced practice within a nursing context, utilising a holistic approach incorporating aspects of the medical model was adopted, and the role of the senior neonatal nurse practitioner (SNNP) became a reality.

The role of the SNNP involves crossing traditional boundaries and working in partnership with medical staff. Development of the role has been facilitated by transfer of funds from the medical establishment – evidence of multidisciplinary commitment to this innovative concept. A team of six was appointed from existing nursing staff on the neonatal unit, all with extensive clinical experience. To support the advanced practice aspect of the role, the practitioners' completed selected modules from the BSc Honours Specialist Neonatal Practice Degree Programme at level 3. These included for example, Principles and Practice of Intravenous Therapy, Examination of the Newborn, Respiratory Management and Neonatal Emergencies. Practitioners completed the Examination of the Newborn module locally within the Trust under the Franchise Agreement with the University of Central Lancashire. The Newborn Life Support course was a prerequisite for appointment to the position of SNNP.

Each SNNP is allocated one third of contracted hours in a supernumerary role. The main area of cover is night duty Monday – Friday from 21.30 – 07.30 acting as first on-call in place of the senior house officer (SHO). Some day shifts are also covered primarily at the weekend to facilitate examination of the newborn. Key areas of responsibility are the neonatal unit, postnatal ward and delivery suite. Problems are directed to the practitioner and either managed autonomously by the SNNP without the need for medical intervention, or further advice is sought from the specialist paediatric registrar (SPR) or consultant if required. The remaining contracted hours are spent in clinical practice on the neonatal unit in order to maintain clinical skills and audit current practice. In collaboration with the unit education team, the educational remit of the role includes contributing to the formulation and dissemination of clinical guidelines to promote best practice and the development and support of staff.

Debbie Yates RGN, RM, ENB 405, Diploma Nursing, C&G 7307, ENB R23
Sue Emery RGN, RM, ENB 405, ENB 997
Deborah Weaver RGN, RSCN, Diploma H E Neonatal Practice, ENB 998
Wendy Wilkinson RGN, RM, ENB 405, ENB 997
Angela Glennard EN, RGN, ENB 998, ENB 904
Helen Billinge RGN, RM, ENB 997, ENB 402, ENB 904

The authors are all SNNPs at North Cheshire Hospital NHS Trust, Warrington

A typical night shift

21.30 A review of the neonatal unit status takes place with the night shift leader and any babies on transitional care are handed over. The SNNP aims to provide holistic care, with the mother as the main carer supported by the midwives and neonatal staff. The goal is to prevent unnecessary separation of mother and baby due to admission to the neonatal unit. Common conditions meeting criteria for transitional care include feeding problems, babies of drug dependent mothers requiring stabilisation on a withdrawal regime, babies requiring follow-up care from the neonatal unit and some babies with congenital malformations which do not require immediate surgical intervention e.g. cleft lip or palate.

21.45 The paediatric registrar on-call for the night visits the neonatal unit. The management plan for the babies is discussed. Appropriate times for blood gas analysis of sick neonates are arranged and request forms completed for infants requiring morning blood samples. The SNNP will undertake these procedures if necessary and offer senior nursing support and decision making for any problems that

FIGURE 1 Discussing the management plan of a ventilated infant.

occur on the neonatal unit during the night. Outstanding problems on the postnatal ward are discussed and handed over to the SNNP.

22.00 A liaison visit to the Labour ward determines whether any high risk deliveries are imminent. The SNNP attends all high risk deliveries >32 weeks' gestation, when resuscitation is anticipated (for deliveries <32 weeks' gestation the SPR must be in attendance). This provides a constant level of expertise. Team members are all NLS trained and attend mandatory neonatal resuscitation updates annually to maintain skills and ensure their theoretical and practical knowledge base is in line with current guidelines. No problems at present, so the SNNP carries onto the postnatal ward to review the transitional care babies.

22.15 On arrival the SNNP is asked to see Baby A, born earlier that day by ventouse extraction. The baby is irritable and will not settle after feeding. On examination, the baby has a marked chignon from the vacuum cup. No other risk factors are apparent. The SNNP assesses the situation and implements a plan of care. A loading dose of paracetamol for pain relief is calculated and administered as per the patient group direction (PGD) and the midwives are advised to contact the SNNP with any further concerns.

22.35 A forceps delivery for failure to progress in the second stage of labour results in a bleep to the labour ward. The SNNP has time to introduce herself to the parents and explain the reason for her attendance. She obtains a thorough history from the midwife and the maternal case notes – no further problems are anticipated. The resuscitaire is checked, ensuring all equipment is in working order, and that the heater is on with clean warm towels ready. The mother delivers the baby without the forceps! The clock is started as the baby is born. No cry at birth – the baby is transferred to the SNNP at the resuscitaire, dried and wrapped and quickly assessed. The heart rate is <60 beats per minute and the baby is apnoeic. The baby's head is placed in the neutral position and five inflation breaths delivered – there is visible chest movement.

On reassessment the heart rate is >100 with some respiratory effort. Respiratory support is continued with ventilation breaths and the infant's colour gradually improves, regular respirations are established by two minutes of age. The baby is passed to the parents, congratulations offered and reassurance given. Whilst documenting events, the midwife informs the SNNP that the mother would like a six hour discharge and asks whether the examination could be performed by the SNNP before going off duty to facilitate early discharge. An explanation is given to the parents of what the process involves and consent is given for the SNNP to return early next morning to undertake the examination of the newborn.

23.15 Back to the postnatal ward to review the transitional babies. Baby B is a term baby whose mother had experienced prolonged rupture of membranes. Initially the baby was well therefore not screened for sepsis as no other risk factors prevailed. The baby's vital signs were recorded four hourly for 24 hours by staff on the postnatal ward to observe for signs of infection. By day 2, the baby was not feeding well and had an unstable temperature. After a short stay on the neonatal unit for septic screen, nasogastric tube feeds and intravenous (IV) antibiotics, the baby had been transferred back to the ward to establish breast feeding – he required IV antibiotics at midnight.

The baby is feeding on arrival, which gives the SNNP an opportunity to observe attachment and discuss any problems. The mother is keen to learn alternative feeding positions which are demonstrated and utilised during the feed. She starts to feel more confident in her ability to feed the baby as she sees his condition improving. After the feed, mother and baby accompany the SNNP to the neonatal unit for administration of IV antibiotics then both are returned to the ward. Advice given to the mother on breast feeding is documented in the infant case notes and discussed with the midwives to ensure consistency in care.

00.15 On the same ward is Baby C, 34 weeks' gestation, born the previous morning at 9 am. He had an enlarged left kidney on antenatal scan and a palpable kidney abdominally. He was admitted to the neonatal unit for assessment and stabilised in a warming cot then transferred to the postnatal ward with his mum on transitional care.

The SNNP reviews the baby – the midwife and mother are both happy with his progress, he is breast feeding well two-three hourly and his temperature is stable in the warming cot. He has passed urine and an appointment for the urology clinic has been made for two days time. Midwifery staff are advised to contact the SNNP with any concerns overnight.

00.45 Time to take a blood gas from a ventilated infant on the neonatal unit. The baby is stable on minimal ventilation awaiting surgery for PDA ligation. The SNNP takes the blood sample, demonstrating the procedure to a junior member of staff. Analysis of the results reveals a blood gas within the normal range, therefore no changes are required to ventilator settings. The management plan has

been determined at the beginning of the shift so there is no need to contact the SPR. A discussion of blood gas interpretation follows amongst staff members facilitated by the practitioner, creating a positive learning environment.

01.10 The SNNP is bleeped to labour ward for a code red emergency caesarean section. The history is taken from the midwife. A primigravida who had been well antenatally had presented following spontaneous rupture of membranes and complaining of contractions for one hour. On vaginal examination she was found to be 8cm dilated, however, after ten minutes of CTG monitoring the fetal heart beat had dropped to 60 beats per minute without recovery.

FIGURE 2 Administration of sucrose prior to blood sampling.

All equipment is checked. The mother requires a general anaesthetic due to the urgency of the situation. The likelihood of the infant requiring respiratory support is anticipated by the SNNP due to fetal distress, precipitate labour, and the mode of delivery being further complicated by general anaesthesia. At birth, a weak cry is audible, the cord is clamped and the baby transferred to the resuscitaire, dried and the towel changed. The heart rate is >100 and the baby cries vigorously and maintains effective spontaneous respirations, so no resuscitation is required.

The responsibility of the SNNP regarding newborn resuscitation is to initiate and deliver basic life support. If at any point the resuscitation should become critical, the SPR is called to attend.

02.05 All is well so time to check up on emails and correspondence.

02.30 Bleeped by postnatal ward, the midwife is concerned about a baby exhibiting lack of interest in feeding, lethargy and moaning respirations. The SNNP takes a detailed history, which reveals the infant was born at 36 weeks' gestation and is now six hours old following a normal delivery. The baby has breast fed after delivery but is now not feeding. The antenatal history is unremarkable apart from prolonged rupture of membranes. On examination the baby is responsive but has reduced muscle tone. Pallor, nasal flaring, tachypnoea and slight intercostal recession are evident. His axilla temperature is 37.5°C and he is not well wrapped.

As infection is the most likely cause of the change in the infant's condition, management on the postnatal ward is not an option. Admission to the neonatal unit is arranged. The mother is advised of the findings and she accompanies the baby to the neonatal unit. Multiparameter continuous monitoring of vital signs is commenced. A peripheral cannula is inserted by the SNNP and bloods obtained for culture, full blood count, blood gas and blood glucose estimation. An IV infusion of 10% glucose is calculated and administered by the SNNP together with an initial dose of IV antibiotics under the PGD. The care is then handed over to the neonatal unit staff and relevant documentation completed. In this instance the SNNP has quickly assessed the infant as unsuitable for care in the postnatal ward setting, transferred the baby to the neonatal unit and ensured that investigations and treatment are initiated without delay or the need for medical intervention.

03.30 It is time for a meal break and a well-earned rest. Quiet periods are utilised to complete paperwork including the analysis of data for audit purposes. All aspects of the role are audited annually to monitor progress and determine whether improvements can be made. The information collated is incorporated into the directorate annual report and presented at clinical audit meetings.

04.00 A junior member of staff is taken to the labour ward to familiarise her with the layout and provide equipment training on the resuscitaire.

04.45 Bleeped by labour ward, the SNNP finds a baby has been born with an undiagnosed cleft lip and palate. The infant is warm and pink with no respiratory difficulties. On examination, the cleft lip and palate appear extensive. The condition is discussed at length with the parents, information booklets are given and as far as possible questions posed are answered to reduce anxiety. A plan of care is developed, the aim being not to separate mother and infant at this critical period to avoid the negative effects of separation, further compromised by congenital abnormality. The cleft palate specialist will be contacted later that morning and will visit and assess the infant the same day. The mother wishes to bottle feed, the parents are made aware that tube feeds might be needed if the infant is unable to feed with the available teats. Fortunately the infant feeds quite well and is able to take sufficient volume, although the feed takes longer

than for an average baby. The infant is transferred to the postnatal ward on transitional care where the mother is taught how to feed and care for her baby by both ward staff and the SNNP. If required, the SNNP would have facilitated tube feeding on the postnatal ward overnight, until assessment by the cleft palate specialist had been made. The supernumerary status of the role enables the practitioner to spend time with the parents to allay their fears, utilising effective listening and communication skills.

05.30 The progress of the transitional care babies is reviewed:

- Baby B has continued to breast feed well, the cannula site is satisfactory and the next dose of intravenous antibiotics is due at 12 midday.
- Baby C – the midwives are happy with his progress, he has fed well 3 hourly overnight. His temperature is 37.3°C so staff are advised to reduce the temperature of the warming cot and if his temperature remains stable to transfer the baby to an ordinary cot later that day.
- Staff report Baby A has slept well following paracetamol.

The SNNP ensures a management plan is documented in the medical notes so that a plan of care can be implemented until the next review or change in clinical condition.

06.00 The SNNP is bleeped by the postnatal ward to perform the six hour discharge examination from the delivery earlier in the night. A thorough review of the maternal history is undertaken, a prerequisite to anticipate problems with the baby in conjunction with talking to the parents. Initial discussion with the mother reveals that she had congenital dislocation of the hip as a child. The SNNP pays particular attention to this aspect of the neonatal examination as a potential problem has been identified. The mother has no concerns about the baby, she is feeding well and has passed urine and meconium. A systematic examination is carried out by the SNNP which appears normal – full abduction of the hips is achieved, Barlow's test is negative. In view of the family history, the infant is referred by the SNNP to the orthopaedic follow-up clinic for early hip screening. Health promotion issues are discussed including car seat advice, signs of illness in the newborn and who to contact if concerned. Documentation complete, the baby is transferred to community care by the SNNP. Early discharge has been facilitated with continuity of care through sound multidisciplinary teamwork and communication.

FIGURE 3 Taking a capillary blood sample and involving the parent.

06.45 Time to return to the neonatal unit to take morning blood samples. The night shift leader, also an SNNP on a clinical practice shift, has already taken bloods from her allocated babies and resited a cannula. Job satisfaction is improved by the delivery of true holistic care at a time appropriate to the infant's behavioural cues.

07.15 The end of a busy shift. All documentation is checked to ensure it is complete and patients are handed over to ensure continuity of care.

Conclusion

The SNNP role has provided an improved career pathway for senior staff and led to increased job satisfaction through the provision of high quality care. Improvements in communication between midwifery and neonatal staff are evident through positive feedback from midwives who are now more inclined to contact the practitioner with any concerns. Team members contribute to the education and training of senior house officers (SHOs) on the Trust induction programme and offer advice and support throughout their paediatric post.

The role has been challenging but highly rewarding. The neonatal unit underwent a period of adaptation due to the change in roles of the most senior and experienced staff. Subsequent internal promotion of other staff helped redress the balance. This resulted in a steep learning curve but, with peer support, staff morale and motivation increased. The SNNPs now need to consider the future including the development of junior staff – the next generation of SNNPs. The team would like to extend the service to include weekends and seven night cover with the ultimate aim of eventually providing a 24-hour nurse-led service. The SNNPs audit and evaluate the service annually. There are also plans to use a questionnaire to assess midwives' and SHOs' views on the current service and possible future provision. The team feel privileged to be part of this pioneering role and motivated by the knowledge that a difference has been made to the quality of care for mothers and babies.

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