

# Dissecting an ANNP: a closer look at the role

The post of advanced neonatal nurse practitioner (ANNP) was introduced following changes to medical training hours and empowerment of nurses to take on new roles, as suggested by the UK Central Council for Nursing Midwifery and Health Visiting (UKCC). The first ANNP training programme commenced in Southampton in 1992 and since then the role has developed and evolved according to workload and changes within the environment of the neonatal intensive care unit (NICU).

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**B**ased in the acute setting and predominantly clinical, an ANNP works at a clinical level equivalent to that of a senior house officer and middle grade medical staff, reporting to the consultant body. The role has always had a high educational aspect and, more recently, the addition of prescribing.

## The ANNP team at St Michael's

The NICU at St Michael's Hospital is a tertiary neonatal unit with 12+ intensive care cots, taking medical, surgical and cardiac babies from the Western Newborn Network and beyond. The team currently consists of eight ANNPs (seven of which are full time and one part time), varying in age, experience and time in post. The longest serving ANNP has been at St Michael's since 2001; the most recent qualified in 2012 having trained at St Michael's with academic learning at Southampton.

The ANNP team comprises a mixture of RGN and RSCN nurses, all having a qualification in specialty (which was ENB405 and is now Special and Intensive Care of the Newborn). Two of the ANNPs hold an MSc qualification and two are working towards their MSc. All but one are non-medical independent and supplementary prescribers, registered with the Nursing Medical Council and the Trust. Further qualifications include Newborn Life Support (NLS) instructors and teaching qualifications. The team works to a core set of advanced skills which include:

**Respiratory:** Providing and leading basic and advanced resuscitation of infants, ordering and interpreting chest radiographs, recognising and leading management of respiratory conditions including persistent pulmonary hypertension of the newborn (PPHN), surfactant deficient lung disease, transient tachypnea of the newborn, pneumonia, aspiration, pulmonary haemorrhage, managing respiratory support and ventilation (including high frequency oscillation ventilation – HFOV), administration of surfactant and other pharmacological therapies.

**Cardiovascular:** Ability to examine the cardiovascular system and identify cardiological disorders, recognise murmurs, initiate emergency treatment to suspected cardiac disease, perform



An ANNP examining a baby for presentation at consultant ward round.

investigations, eg electrocardiography (ECG).

**Gastrointestinal:** Assess and advise on feeding problems, provide breastfeeding advice and support, prescribe nutritional supplements both enteral and parenteral, insertion and assessment of placement of percutaneous central lines, recognition of serious gastrointestinal pathology.

**Renal:** Assess fluid balance, recognise and treat acute renal failure, interpretation of results.

**Neurological:** Perform neurological assessment, recognise problems and initiate investigations and treatments (eg total body hypothermia for hypoxic-ischaemic encephalopathy), apply scalp



An ANNP performing cannulation of an infant.



Two ANNPs discussing an X-ray.

electrodes and interpret aEEG (amplitude-integrated electroencephalography), prescribe and monitor efficacy of anticonvulsants.

**Sepsis:** Prescribe antibiotic therapy, anticipate early and late onset sepsis, recognise signs of sepsis and demonstrate scrupulous hand hygiene and aseptic technique.

**Metabolic:** Identify conjugated and unconjugated jaundice and initiate investigations, undertake exchange transfusion when indicated.

**Haematological:** Request, send and interpret blood results, recognise haemorrhagic disorders, discuss prophylactic vitamin K with parents, discuss risks and benefits of blood transfusion with parents.

**Miscellaneous:** Verbal and written presentation of patients on consultant ward rounds, understanding of pharmacokinetics and dynamics of common drug treatments, recognise the breadth of different presentations of disorders, decision making in relation to admission to and discharge from the NICU, ability to use and troubleshoot equipment, eg transport incubator, resuscitation units, ventilators.

**Communication:** Ability to discuss sensitive information with parents and families, give psychological and emotional support to parents and staff, act as a role model, communicate effectively with other disciplines and services and ability to take adequate history.

**Education:** Lead teaching of nurses, medical team and parents, maintain up-to-date knowledge base and best practice, participate in national education programmes.

**Procedures:** Aseptic technique, umbilical arterial and venous line insertion, intubation of term and preterm infants, cannulation, venepuncture, lumbar puncture, needle thoracocentesis and chest drain insertion, peripheral arterial line insertion.

**Surgical:** Attend delivery of and lead management of surgical infants, eg diaphragmatic hernia, gastroschisis.

**Transport:** Manage transfer of patients across the newborn network for uplift of care and repatriation, undertake team governance and appraisals and provide accurate documentation.

## Activities of the ANNP

The ANNP team provides a middle tier of medical cover as it is not part of either the medical or nursing rotas. The team carries its own caseload of NICU patients per day and provides their medical care by managing their disease pathways, utilising high level clinical and decision making skills. An ANNP is ideally placed to support both medical and nursing colleagues and troubleshoot/intervene in all areas, as needed.

As well as the clinical duties of the ANNP indicated above, the team also:

- carries the crash bleep for neonatal emergencies
- attends high risk deliveries on the central delivery suite
- assists and supports the junior medical tier in their role
- provides education and training to the junior medical team and nursing complement
- has involvement in clinical governance, incident investigation, audit projects and research trials, eg recent involvement in the CoolXenon2 trial (assessing eligibility, activating the research team and assisting in recruitment and provision of xenon therapy).

## Neonatal transport

As providers of medical knowledge and expertise for NEST (Newborn Emergency Stabilisation Transport), the ANNP team plays a fundamental role in coordinating and leading acute transfer episodes, both repatriating infants closer to home and retrieving sick, unstable infants for tertiary medical, surgical or cardiac care<sup>1</sup>. Cover is provided 24 hours a day for the Western Newborn Network, which includes Yeovil, Taunton, Swindon, Bath, Gloucester, Southmead and St Michael's NICU, and the midwifery unit at Weston General.

The team of ANNPs at St Michael's is advancing the field of neonatal transport, being one of a few transport teams able to offer active cooling for hypoxic-ischaemic encephalopathy during transfer. The team have just taken delivery of a new transport system which allows the delivery of HFOV in transit.

## Contribution of ANNPs to patient safety, quality and patient experience

The ANNP team is involved in the NICU governance group. Some members of the team are part of the incident reporting investigation team and, as such, are able to manage incidents and provide the wider NICU team with learning points from the outcomes. The ANNP team crosses the boundaries between medical and nursing staff and is well placed to have a direct and positive impact on quality of care, interprofessional working and collaboration. Indeed it has been proven that the introduction and development of ANNPs has provided a stable workforce, able to provide a standard of care that is consistent, reliable and safe, and at least equal to, if not superior to, that provided by medical staff<sup>2,3</sup>. As a role model, the ANNP is able to intercept incidents as near misses and provide immediate experience and assistance at the cotside to junior staff.

The ANNP team is deeply involved in training and



An ANNP and a nurse preparing for infant transport.

education – members of the team are NLS instructors, travelling the country to teach this nationally recognised and accredited life support course. This is extended to University Hospitals Bristol (UH Bristol), where the team frequently runs life support updates to NICU staff. ANNPs have also taught on local specialist training programmes, transport training courses and even the ANNP course at the University of Southampton. The team regularly contributes to NEST education days and also provides on the spot training, as necessary.

### Public output, publications and presentations at conferences

The ANNP team is dedicated to advancing neonatal care and quality of care, and as such is often involved in new practices and research trials. Some team members have published their work, largely relating to their MSc projects and their involvement in cooling in transit.

An ANNP is largely clinically based, with little time for management or other activities, nevertheless it is hoped that future measures may allow more time away from the cotside for pursuit of other areas of interest, such as research, publications and presentations at conferences. It would be a welcome addition for the ANNP team to have time to improve its public profile, both within UH Bristol and beyond into the wider neonatal community.

### Future proposals for the ANNP service

Over the next 12 months, it's hoped that the team will have some management time built into the rota on a regular basis. This will be useful for:

- developing the NEST service
- devising service guidelines, protocols and standard operating procedures
- making the governance structure more robust
- allowing time for education and training needs, data collection and auditing of the NEST service
- further research involvement – the unit is taking part in a number of research trials, including SIFT (speed of increasing milk feeds trial), NeoMero (evaluation of meropenem in neonatal sepsis and meningitis) and a sildenafil for PPHN trial.

The NICU at St Michael's has been refurbished and extended, cot capacity is increasing and nursing numbers are rising. Furthermore, the network has been recently reconfigured – the Western Newborn Network has now joined with Peninsula, covering a much bigger geographical area. These changes will allow the ANNP team to continue to deliver high quality care for sick newborn infants and their families and provide expertise and education in the clinical setting, as well as creating opportunities to develop relationships with Peninsula hospitals and their transport service.

Since its inception, the role of the ANNP has become more defined with increased autonomy. As new advances in technology provide further therapy options, additional competencies can be achieved by all members of the ANNP team.

### References

1. **Leslie A., Stephenson T.** Neonatal transfers by advanced neonatal nurse practitioners and paediatric registrars. *Arch Dis Child Fetal Neonatal Ed* 2003;88:F509-12.
2. **Smith S.L., Hall M.A.** Advanced neonatal nurse practitioners in the workforce: a review of the evidence to date. *Arch Dis Child Fetal Neonatal Ed* 2011;96:F151-55.
3. **Aubrey W.R., Yoxall C.W.** Evaluation of the role of the neonatal nurse practitioner in resuscitation of preterm infants at birth. *Arch Dis Child Fetal Neonatal Ed* 2001;85:F96-99.

## N3- The Neonatal Nutrition Network

University College London Hospitals   
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# Neonatal Nutrition Network Study Day 2014



**Venue:** Events Centre, Stewart House, 32 Russell Square, London WC1D 5DN

**Date:** Thursday 3rd July, 2014

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