



Occupational Therapy Staffing on Neonatal Units

Neonatal Occupational Therapy Forum (CYPF) Recommendations

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Background

Historically, neonatal care has been focussed on increasing survival rates of preterm and medically fragile infants. More infants are now surviving due to advances in medical care, but levels of disability remain high. The aim has shifted to a focus on the provision of care that achieves high quality outcomes. It is acknowledged that outcomes focussed around quality of life and functional abilities cannot be achieved by medical and nursing intervention alone. Known increased risks of language and cognition difficulties, attention and hyperactivity disorders, motor difficulties and mental health problems highlight the need for ultra-early intervention. Essential contributions to care and outcomes are made by Neonatal AHPs who have advanced knowledge and skills within their discipline for optimising care and improving outcomes for high risk newborns. The early involvement and collaboration of key professions in the care plan/management plan enhances clinical effectiveness, impacts on length of stay, enhances therapeutic interventions, helps avoid complications and improves longer term neurodevelopmental outcomes.

Following a national review of staffing levels on neonatal units, AHP staffing ratios have been requested to move towards more equitable services for neonatal units nationwide. Such recommendations will assist with the commissioning of new roles to ensure we continue to strive for excellence in neonatal outcomes. This document will aim to specifically address Occupational Therapy staffing recommendations for neonatal units. However it is important to consider that the safety and effectiveness of services and patient care is influenced by far more than staffing numbers alone. Changes to patient needs, service delivery models and skill mixing have a big impact on the staffing requirements. A focus on a staffing number alone would detract from a focus on the quality of care and how this affects patient outcomes.

Neonatal Occupational Therapy

The Neonatal Intensive Care Services Review Group (Department of Health 2003) found that as the effectiveness of neonatal care has become apparent, due to a number of factors such as increasing technical advancements, demand for this highly specialist care has grown. Intensive care is now offered to infants of significantly lower gestational age and birth-weight. Indeed, research has shown a 14% improvement in the survival rates of those born at 25-31 weeks' gestation from 1997 to 2011 (Marlow 2015).

Neonatal occupational therapy has also commensurately evolved during this time to provide sensitive, individualised and family-centred developmental interventions to support this increasingly complex clinical group. Linked with occupational therapy interventions in the days, weeks and months following preterm or high-risk term delivery, it is the presentation of these infants with

subsequent developmental concerns which provides a strong impetus for occupational therapy prevention and early intervention.

Occupational therapy makes a unique contribution to the neonatal team, and the services it provides to infants and families. Occupational therapists have specific skills and knowledge which can enhance the delivery of neonatal care:

- A distinctive characteristic of occupational therapy education is the incorporation of both physical and mental health care models, resulting in a holistic approach. This is particularly relevant in the neonatal setting because preterm infants are at risk of developing emotional and behavioural problems later in life (Mathewson et al 2017). Occupational therapists particular interest in the antecedents to this, make them key contributors to a preventative health care model with this client group. In addition, parents/caregivers may also experience issues around psychological adjustment, and mental health issues may adversely affect parenting efficacy. Occupational therapists can support infants and their caregivers to develop successful psychological and practical coping strategies.
- Preterm infants are at risk of and often present with sensory processing problems, which is a specialised area of practice for occupational therapy (Bröring et al 2017). Occupational therapists can provide a specialist role on educating parents on promoting developmentally appropriate sensory stimulation and experiences for their babies.
- Occupational therapy is based on systems theory models (Reed and Sanderson 1992; Keilhofner 2002) which emphasises that dynamic interactions within families, within the neonatal unit and within the community are part of a problem solving paradigm.

However, it is also recognised that all neonatal healthcare professionals will be expected to have a range of common core skills and there will be considerable professional overlap (Barbosa 2013). This is an advantage in the delivery of neonatal care. A multi-disciplinary model of teamwork is particularly economical and effective when working with infants who have a relatively uncomplicated range of abilities compared to adults. Different disciplines understand and appreciate their unique contributions and core skills, but can also agree where the boundaries can be blurred to deliver effective services for families. Each profession brings their own perspectives and skills to these shared roles which adds a richness of knowledge and experience to the team. The range of practice for each profession will be influenced by the presence or absence of other allied health professionals and the skills they bring to the team.

Practice Guideline for Neonatal Occupational Therapy and Early Intervention

In September 2017, the Royal College of Occupational Therapists (Children, Young People's and Families Specialist Section) published a practice guideline for neonatal occupational therapy and early intervention. The purpose of this guideline is to provide specific evidence-based recommendations which describe the most appropriate care or action to be taken by occupational therapists working in neonatal services or early intervention. This guideline was developed specifically for the UK context, and builds on work which has been noted in the international literature for many years with regards to knowledge and skills requirements of neonatal occupational therapists (AOTA, 2006).

This resource is intended as the first stage in a series of planned developments. These include resources that will provide specific practical guidance on assessment and interventions appropriate for use in the United Kingdom, and a learning and development framework for occupational therapists. It is anticipated that these future developments will add increasing specificity to the provision of occupational therapy services in neonatal settings in the United Kingdom.

Neonatal Occupational Therapy Service Specifications

To date, there has been limited focus on providing detailed service specifications for neonatal occupational therapy provision in neonatal units. A variety of national documents have outlined the contribution of occupational therapy in this setting:

<p>British Association of Perinatal Medicine (BAPM) Service Standards for hospitals providing neonatal care 3rd edition (BAPM 2010).</p>	<ul style="list-style-type: none"> • These standards highlight the benefit of collaboration within the professional team, sharing of knowledge and leadership in relation to the implementation of developmental care practices. • Specific skills and competencies related to neonatal occupational therapy practice are contained in the BAPM document (BAPM 2010 p14).
<p>Toolkit for High Quality Neonatal Services (Department of Health 2009)</p>	<ul style="list-style-type: none"> • Recommendations for staffing include: <ul style="list-style-type: none"> ○ 2.5.4.1 Specialist neonatal occupational therapy services are available across a network and accessible to all units for neurodevelopmental assessment and intervention, and for follow-up after discharge.
<p>Neonatal care in Scotland: A quality framework (Scottish Government 2013)</p>	<ul style="list-style-type: none"> • Non-professionally specific recommendations made for allied health provision stating: A high quality service will ensure all units have access to Allied Health Professionals whose job plans contain sufficient capacity to provide advice and support across the network, to meet BAPM standards. This will be evidenced by: The availability within the neonatal team of specialist neonatal dietitian, physiotherapist and/or occupational therapist, speech and language therapist and clinical psychologist.
<p>All Wales neonatal standards 3rd edition (NHS Wales 2017).</p>	<ul style="list-style-type: none"> • Requirements for staffing state: <ul style="list-style-type: none"> ○ Occupational therapy provided by highly specialist Occupational therapists with knowledge, training and experience to provide neurodevelopmental, behavioural and psychosocial assessment, intervention and anticipatory guidance to the infant and their family/care giver, to support the development of parenting co- occupations and baby occupations. • All NICUs & LNUs will provide: <ul style="list-style-type: none"> ○ A minimum of 0.05 – 0.1 WTE highly specialist paediatric dietitian, Physio, Occupational and Speech and Language Therapist per intensive care cots ○ A minimum of 0.025-0.05 WTE highly specialist paediatric dietitian, Physio, Occupational and Speech and Language Therapist for high dependency cots ○ A minimum of 0.017-0.033 WTE highly specialist paediatric dietitian, Physio, Occupational and Speech and Language Therapist WTE for special care cots.
<p>National Clinical Programme for Paediatrics and Neonatology: Model of Care for Neonatal Services in Ireland. (Health Service Executive; Royal College of Physicians of Ireland, 2015)</p>	<ul style="list-style-type: none"> • Requirements for staffing state (section 8.6): <ul style="list-style-type: none"> ○ Occupational therapy is an underdeveloped area of practice in Irish neonatal units. The main goal of occupational therapy intervention in the NICU is to assess and treat any disability or developmental variability which may be present. ○ The occupational therapist will treat the infant, and also support the family, in terms of positioning, equipment, sensory stimulation, feeding, education, and discharge planning. ○ Occupational therapy staff working in neonatology should be at senior grade (for level 1 or 2 NICU) or clinical specialist grade (for level 3 NICU), and gain additional postgraduate training and expertise in neonatology.

	<ul style="list-style-type: none"> ○ Competencies for occupational therapists working in Irish neonatal units need to be developed in accordance with best practice. Staff should adhere to these competence standards and maintain continuous professional development. ● Specifications per level of care: <ul style="list-style-type: none"> ○ Level 1 unit: There should be access to health and social care professional (HSCP) services – dietetics, pharmacy, physiotherapy, social work, speech and language therapy and occupational therapy . ○ Level 2 unit: There should be dedicated HSCP services – dietetics, pharmacy, physiotherapy, social work, speech and language therapy and occupational therapy ○ Level 3 unit: The unit should be staffed by HSCPs with an interest in neonatology, including clinical psychology, dietetics, pharmacy, physiotherapy, social work, speech and language therapy, occupational therapy, and radiographers trained in paediatric diagnostic imaging ● Staffing specifications for tertiary units recommend 1 WTE neonatal occupational therapist per unit.
<p>American Academy of Pediatrics: NICU verification programme (AAP, 2018)</p>	<ul style="list-style-type: none"> ● The AAP NICU Verification Program was created to achieve the best possible outcomes by ensuring that every high risk newborn is cared for in a facility with the personnel and resources appropriate for the infant’s needs and condition. The AAP embraces the importance of multi-disciplinary approach to NICU patient care. ● In 2015, the state of Texas mandated that all facilities caring for newborns require a neonatal level of care designation to receive Medicaid payment for neonatal services. ● Specifications for neonatal OT provision as legislated in the state of Texas. These are outlined below: ● Level 2 unit: <ul style="list-style-type: none"> ○ An occupational therapist or physiotherapist with sufficient neonatal expertise shall be available to meet the needs of the population served ○ Ensure provisions for follow-up care at discharge for infants at high risk for neurodevelopmental, medical or psychosocial complications. ● Level 3 unit: <ul style="list-style-type: none"> ○ Speech and language pathologist, an occupational therapist, or a physical therapist with neonatal/infant experience shall be available to evaluate and manage feeding and/or swallowing disorders ○ An occupational therapist or physiotherapist with sufficient neonatal expertise shall be available to meet the needs of the population served ○ Ensure provisions for follow-up care at discharge for infants at high risk for neurodevelopmental, medical or psychosocial complications. ● Level 4 unit: <ul style="list-style-type: none"> ○ An occupational therapist or physiotherapist with sufficient neonatal expertise shall be available to meet the needs of the population served ○ Speech language pathologist with neonatal expertise shall be available to evaluate and manage feeding and/or swallowing disorders. ○ Ensure provisions for follow-up care at discharge for infants at high risk for neurodevelopmental, medical or psychosocial

	complications.
Developmental follow-up of children and young people born preterm: Quality Standard (NICE 2018)	<ul style="list-style-type: none"> • Recommended standards for developmental follow-up programmes: <ul style="list-style-type: none"> ○ Healthcare professionals (neonatologists, paediatricians, occupational therapists, physiotherapists, and speech and language therapists) are either present at the 2 face-to-face follow-up appointments in the first year (corrected age), or are available through referral for children born preterm who are eligible for enhanced developmental surveillance. ○ A neonatologist or paediatrician and at least 1 of occupational therapist, physiotherapist and speech and language therapist should be present at the assessment at 2 years (corrected age). At the appointments they discuss with parents or carers whether they have any concerns and check for developmental problems and disorders. At the 2-year (corrected age) assessment they use screening tools to check for developmental problems and disorders and also ensure that vision and hearing checks have been carried out. If there are any suspected problems they investigate further or refer to the appropriate local pathway.

Minimum Recommended Service Levels

As no current estimates exist for neonatal occupational therapy services in England, the following recommendations are derived from the WTE staffing models outlined in the Welsh neonatal standards, and in reflection of the model promoted by the AAP. They also reflect the staffing resources required to deliver neonatal occupational therapy assessment and intervention as outlined in the RCOT guideline recommendations.

These figures are to be used as a guide and represent the minimum recommended staffing levels. Occupational therapy input per infant/family in the neonatal unit will be influenced by the availability of other neonatal therapy providers. While there are some common areas of skill and competency that all specialist neonatal therapists should provide, all three therapies also make unique contributions to the specialist level of care provided.

Level of Care	Whole time equivalent (WTE) per cot*
Intensive Care cots	0.05-0.1 WTE
High Dependency cots	0.025-0.05 WTE
Special Care cots	0.025-0.05WTE

*NB: Variance will relate to availability of other neonatal therapy providers working with this population

Intensive care provision:

- Occupational therapy intervention at this level is focused on working with other neonatal staff to promote a neuro-protective care environment for the infant. This will include undertaking observational assessment of the infant's neurobehavioral regulation to identify the individualised developmentally supportive care model and recommendations for caregiving approaches that will mediate some of the impact of the necessary intensive medical and nursing care provided on the infant's developing brain. This will be an ongoing process throughout the infants' admission to reflect their growing developmental maturity. Where a multidisciplinary

neonatal therapy model is in place in intensive care, a shared approach to supporting infants and families may be utilised.

- At this level, occupational therapy intervention is also highly focused on supporting parents on their infant's admission to the neonatal unit. In many situations, parents will not be able to participate in caregiving for their infant in the manner which they anticipated prior to delivery. The occupational therapist will work with parents (and staff) to identify sensitive and supportive activities (parent occupations) that parents can undertake with their infant that also reflect the infant's fragility and ongoing care needs. These may include elements such as containment holding, skin to skin care, providing maternal scent, non-pharmacological pain management support etc.

High-dependency provision:

- As per above: OT intervention will focus on serial observational assessment of the infant's neurobehavioral regulation, and liaison with neonatal professional colleagues for incorporation of individualised recommendations into the infant's daily care plan.
- As the infant becomes more stable, provide an occupational enabling model for parents (in conjunction and consultation with nursing colleagues) for parents to becoming more actively involved in their infant's care-giving to promote family-centred care.
- For infant's experiencing an increased length of stay, and in accordance with their medical status, occupational therapy will also focus on providing appropriate developmental support for infants' and their families post-term age.
- It is recommended that for units providing surgical care, 0.05WTE is considered in reflection of the potentially longer admissions of infants at this level of care who will require increased facilitation of appropriate developmental support as they approach and pass term corrected age.

Special-care provision

- Collaborate with the neonatal nursing team to deliver a model of family-centre developmental care where parents and infants are enabled to participate in co-occupations as reflected by infant's medical status.
- Formal neurobehavioural and neurological assessment of identified high-risk infants to provide detailed recommendations for discharge planning and follow-up intervention recommendations. This may include (but is not specified to): Neonatal Behavioural Assessment Scale, General Movements Assessment etc.
- Continue to provide parent-focused interventions that support parents to read their infant's neurobehavioral cues, to promote the parent-infant relationship, and increase their confidence in parenting/caregiving tasks in preparation for discharge from the neonatal unit (e.g. incorporation of the Newborn Behavioural Observations etc).

Neonatal and Neurodevelopmental follow-up services

- Neonatal occupational therapy will also be required for screening/assessment purposes of infants attending neonatal and neurodevelopmental follow-up services as outlined in the NICE quality standard.

Neonatal Network considerations

In addition to the unit-specific recommendations outlined above, consideration also needs to be given to the support of network-related activity. It is recommended that the workforce figures across a network should reflect an additional 0.2WTE to provide a clinical advisory role and service co-ordination and development function for occupational therapy services across the network. This

0.2WTE would be considered additional time above that identified as direct service provision in their 'base' unit. This role will be responsible for activities such as: formal clinical supervision of neonatal occupational therapists working across the network, assessment of neonatal OT competencies, leading the development of local and regional resources, undertaking relevant quality improvement and/or research activities regarding neonatal occupational therapy services etc.

Occupational therapy expertise

On the basis of the specialist knowledge and practice skills required by occupational therapists working in the neonatal setting, we would suggest that these roles are commensurate with experienced/senior therapists. In line with the BAPM (2010) recommendations, occupational therapy positions in neonatal services should be banded at a minimum Band 7 level. Indeed, in many instances/units it may be appropriate for these roles to be considered at a clinical specialist level (band7/8). It is further recommended that the position undertaking a clinical advisory role across a neonatal network should be a band 8. We also recommend that therapists beginning practice in the neonatal setting have existing robust experience in children's occupational therapy services, with refined occupational assessment and intervention skills with infants, and recognise the importance of working within a family-centred care approach. This would form a practical basis from which to extend knowledge and skills development into the specialist area of the neonatal unit.

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Authors

Dr Deanna Gibbs, Research Consultant, Barts Health NHS Trust (and project lead for the development of the RCOT neonatal occupational therapy practice guideline).

Dr Betty Hutchon, Head Paediatric Occupational Therapist, Consultant Neurodevelopmental Therapist Royal Free Hospitals Foundation Trust

On behalf of the RCOT SS: Children, Young People and Families, Neonatal Clinical Forum.