ASSOCIATION OF PAEDIATRIC CHARTERED PHYSIOTHERAPISTS

A COMPETENCE FRAMEWORK AND EVIDENCED-BASED PRACTICE GUIDANCE FOR THE PHYSIOTHERAPIST WORKING IN THE NEONATAL INTENSIVE CARE AND SPECIAL CARE UNIT IN THE UNITED KINGDOM

A Professional Network of the Chartered Society of Physiotherapy

Association of Paediatric Chartered Physiotherapists
Neonatal Committee

A Competence Framework and Evidenced-Based Practice Guidance for the Physiotherapist working in the Neonatal Intensive Care and Special Care Unit in the United Kingdom

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A Professional Network of the CHARTERED SOCIETY OF PHYSIOTHERAPY

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This competence framework has been based on published Practice Frameworks and Evidence-Based Practice Guidelines for paediatric physiotherapists working in the Neonatal Intensive Care Unit in the United States of America developed by the Pediatric Section of the American Physical Therapy Association, updated in 2010[21,22,23,24] namely Professor Jane Sweeney, PT, PhD, PCS, FAPTA; Carolyn Heriza, PT, EdD, FAPTA; Yvette Blanchard, PT, ScD; Shirley Scull, MS, PT; Johanna Deitz, MS, PT; and Stacey Dusing PT, PhD.

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List of those involved in consultation process

- National Committee and members of the APCP Neonatal Group – a specialist group of APCP
- National Committee of Association of Paediatric Chartered Physiotherapists (APCP) – a clinical interest group of the Chartered Society of Physiotherapy
- members of Paediatric Physiotherapists in Management Support (PPIMS) - a specialist group of APCP
- Chartered Society of Physiotherapy (CSP)
- British Association of Perinatal Medicine (BAPM)
- Perinatal and Newborn Networks throughout England
- Neonatal Nurses Association (NNA)
- public comment from the neonatal and paediatric physiotherapy community at large
- Bliss - which provides vital support and care to premature and sick babies and their families in the UK

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Foreword

In 2009 the “Toolkit for High Quality Neonatal Services” was published by the Department of Health and in 2010 the British Association of Perinatal Medicine published its revised ‘Service Standards for Hospitals Providing Neonatal Care (3rd edition)’. Both documents, for the first time, gave due prominence to the role of allied health professionals in supporting neonatal services. In essence the Department of Health and the professions both documented their agreement about the vital importance of this group of professionals to neonatal services.

Neonatal care remains a priority for the National Health Service. Around the country commissioners will seek to implement the recommendations of the above two documents and in doing so will need further guidance about the nature of the support from allied health care professionals that should be available. Physiotherapy can impact on the care of babies who need neonatal care in various ways. For some the need arises soon after birth, perhaps because of a congenital anomaly, for others it will only be as they grow and developmental problems emerge. This document will provide commissioners and service managers with invaluable help in planning how to deliver physiotherapy to meet their neonatal service needs in an effective and cost efficient manner.

Professor David Field
Professor of Neonatal Medicine
President of British Association of Perinatal Medicine

Introduction

Clinical Competence Framework for Neonatal Physiotherapists practising in the United Kingdom

This competence based framework was developed as part of the Association of Paediatric Chartered Physiotherapists (APCP) competence project by a working party from the APCP Neonatal Group. The essential competences were developed by a panel of specialist neonatal and paediatric physiotherapists from clinical, research, and academic settings whose goal was to establish the basis by which to prepare the paediatric physiotherapy workforce to deliver safe, quality, standardised, competent, family-focused care to neonates within the Neonatal Intensive Care, High Dependency and Special Care setting (referred to as Neonatal Unit NNU throughout the document unless otherwise specified) and in follow-up in the Community following discharge.

It does not include competences or guidance for delivery of specialist neonatal respiratory care which will be a separate project.

These competences represent the ideas, practices and knowledge of this specialist discipline and demonstrate the collective wisdom between all physiotherapists who care for neonates. Although some of the competences outlined in the document are specific to neonatal physiotherapists, others are not exclusive to them; they do however apply to all registered physiotherapists.

Although it is important to acknowledge the potential limitations of the use of competence frameworks, the government has clearly signalled its determination to proceed with this approach across the health sector**.**

The Chartered Society of Physiotherapy (CSP) states that competence incorporates the values and philosophy of the person and the profession as well as knowledge, specific skills and abilities. It changes and is dependent on the context in which the individual works and his/her role. It is also dependent on an individual's ability to self-evaluate and learn from experiences, whether this is formal or informal learning.[1]

A holistic approach is essential, one that recognises the complexity of practice and one that places learning and the outcomes of learning at its heart.

The Competence Framework is made up of a set of 'outcome based' competence statements; this is in line with the CSP's approach to developing competence frameworks within physiotherapy practice. All paediatric physiotherapists working in the field of neonatology are expected to utilise the Competence Framework as the basis for their ongoing learning and development. They will also be expected to develop portfolios of evidence of the work they undertake in their role, to demonstrate their competence to practise as a neonatal physiotherapist. Developing and demonstrating competence is fundamental to paediatric physiotherapy practice, thereby facilitating the development of evidence-based practice and supporting the clinical governance agenda.

What is a Competency Framework?

Definition of Competence

The CSP defines competence as being "General, overall capacity, holistic, rests on a consensus view of what forms good practice".[1]

The Nursing and Midwifery Council 2004 defines competence as the possession of knowledge, skills and abilities required for lawful, safe and effective professional practice without direct supervision.[2]

Competence means the caregiver can integrate knowledge skills and personal attributes consistently in daily practice to meet established standards of performance.[3]

Another definition is: "The state of having the knowledge, judgement, skills, and energy, experience and motivation required to respond adequately to the demands of one's professional responsibilities".[4]

Skills for Health states that competences can be grouped together into frameworks. They can be specifically relevant to a particular condition, or they can be grouped in other ways, such as qualification or role.[5]

What it is and what it is not! [1]

Competence involves:

- thinking, critical analysis and learning;
- assimilation of new learning with previous learning;
- integration of new knowledge, skills and abilities with previous knowledge;
- application of new learning in practice.

Competence is not:

- just about knowledge, skills and abilities;
- about defining technical competence;
- about the technical skills necessary to do a job;
- just about doing or completing a task.

How a competence framework differs from competency

A competence framework provides a guide to the range of knowledge, level of that knowledge and skills a practitioner needs in order to work at a safe, effective, professional standard. It does not look at competencies that are formally assessed and passed.

The Competence Framework for Physiotherapists in the Neonatal Intensive Care Unit

These competences have been designed to encourage neonatal physiotherapists to work towards a standardised model of good practice.

The project began in 2008 when a small working party identified the need for such a framework. The evolving nature of the specialty of neonatal physiotherapy meant there was much debate and discussion relating to the principles of best practice and the content of this framework.

The overall aim of this framework is to provide neonatal physiotherapists with clear guidelines about their expected role, standards of performance, and the knowledge and skills required to achieve quality care in this specialist field of physiotherapy practice.

It is expected that this will be a working document which will stimulate discussion and changes will be made as new knowledge, skills and innovations emerge.

The distinction between a generalist and a specialist neonatal physiotherapist is insufficiently comprehensive to distinguish them from other branches of paediatric physiotherapy. One aim of this document is to develop a definition of a specialist neonatal physiotherapist in terms of competence, as the basis for differentiating them from other paediatric physiotherapists, and to define essential neonatal physiotherapy competence for all registered physiotherapists.

It is also intended to guide managers and educators in the design and implementation of learning experiences that help practicing physiotherapists achieve these competences.

These competences are not intended to replace other standards but are intended to be used in conjunction with:

- Information to Guide Good Practice for Physiotherapists - Working with Children (APCP 2007)[6]
- Quality Asssurance Standards (CSP, 2012)[7]
- Code of Professionals Values and Behaviour (CSP, 2012)[8]
- Standards of Proficiency - Physiotherapists (HPCP, 2013)[9]
- National Service Framework for Children, Young People and Maternity Services: Core Standards (DH, 2004)[10]
- The common core of skills and knowledge for the children's workforce (CWDC, 2010)[11]
- Children's National Workforce Competence Framework for Children's Services (SfH, 2004)[12]
- Modernising Allied Health Professions (AHP) Careers: a Competence Based Career Framework (DH, 2008)[13]

Physiotherapy standards need to be developed in tandem with multidisciplinary care standards and the APCP Neonatal Group has been involved with the development of the standards of the role of physiotherapists working in neonatal intensive care in the following published projects:

- Toolkit for High Quality Neonatal Services' (DH,2009)[14]
- Quality Standard: Specialist Neonatal Care (NICE, 2010)[15]
- Service standards for hospitals providing neonatal intensive and high dependency care (BAPM, 2010)[16]
- National Occupational Standards and National Workforce Standards: Maternity and Care of the Newborn Framework (SfH, 2004)[12]

Clinicians, managers and educators should also refer to the following documents:

- Neonatal Care in Scotland: A Quality Framework (Scottish Government, 2013)[17]
- All Wales Neonatal Standards - 2nd Edition (NHS Wales, 2013)[18]

Practitioners are personally accountable for their practice and are responsible for their own actions. They have a duty of care to neonates and their families and carers, who are entitled to receive safe, competent care.

This framework is based on research evidence available at the time it was developed, and also reflects a consensus of best practice. It outlines the level of competence expected by every physiotherapist working in this field and is applicable to the practice of all registered physiotherapists regardless of practice setting.

Each competence centres on the needs of the vulnerable babies and young infants that we treat and aims to promote, optimise, maintain and improve health and development. Those using this document should always use their clinical reasoning skills to assess their relevance to their own patients and settings.

The competences were developed on the basis of the results of peer-reviewed published work reporting practice-based competences, evidenced based guidelines, and recommendations and input from members of the APCP Neonatal Group, input from representatives of APCP and PPIMS, consultation with BAPM, members of Neonatal and Perinatal Networks across England, public comment from the neonatal and paediatric physiotherapy community at large.

The development of Competences for Neonatal Physiotherapist is believed to be essential to protect the quality and value of a specialist neonatal physiotherapist. These competences are designed to reflect the following role description.

Role Description - Specialist Neonatal Physiotherapist

Due to advances in both neonatal and obstetric care over the past twenty years there is an increasing survival rate of extremely premature infants admitted to the Neonatal Intensive Care Units across the United Kingdom. These highly vulnerable infants are at high risk of developmental sequelae and there are increasing requests for neonatal physiotherapists to

identify and assess infants at risk of morbidity and begin early intervention, not only in the larger tertiary centres but across the neonatal networks in the neonatal intensive care and special care nurseries in district general hospitals.[2]

Many hospitals provide both physiotherapy and occupational therapy staff to work in the NNU but few have clear guidance for the experience needed or of the services to be provided.

The Parliamentary Select Committee Report on staffing structures of maternity care teams acknowledged neonatal physiotherapy as an advanced practice sub-speciality area within physiotherapy.[19] The physiotherapist must possess advanced clinical competences to manage vulnerable infants, with complex medical, physiological, and behavioural conditions, who may inadvertently be harmed through examination and intervention procedures.[20,21,22]

It is recommended that the neonatal physiotherapist has at least a Master's degree, or appropriate professional experience to Master's level; Agenda for Change Bands 7 or 8 depending on the level of freedom to act autonomously and the knowledge, skill and experience required for the role. Master's level indicates advanced post-graduate study beyond the bachelor's degree. It recognises heightened expertise in an academic discipline or professional field of study, focusing on specialisation, professionalism, career enhancement and development of the following key attributes:[20]

- appropriate use of evidence and the ability to synthesise and integrate this into practice;
- refinement of critical reasoning and problem-solving skills;
- capacity for innovation within autonomous practice;
- ability to construct personal theoretical frameworks for practice, drawing on the evolving evidence base;
- capacity for leadership;
- ability to be innovative and to initiate change;
- ability to facilitate the learning of others;
- capacity for effective collaboration (within multi-professional and cross-sector teams and through a genuine engagement in patient partnership/user involvement).

The NNU is not an appropriate setting for the entry-level graduate, physiotherapist generalist, or physiotherapy assistant to work independently without adequate supervision, in order to minimise risk to infants who may be potentially unstable.

Sequenced, gradual entry to neonatal care for Band 5/6/7 physiotherapists who already have some paediatric experience is advised with individualised clinical preceptorship, observation and supervision by a clinician experienced in neonatal care (see page 15).[21,23,24,25]

Opportunities for undergraduate physiotherapy students interested in paediatrics to gain clinical observation experiences within the NNU settings without direct handling (examination or intervention) is recommended as a preparation and introduction prior to post graduate precepted speciality training in neonatal physiotherapy for those interested in this field of work. Students should be closely supervised by an experienced neonatal physiotherapist. Through observational experience the student should be made aware of the unique culture and physical environment of the NNU including intensive care, high dependency and special care equipment as well as the physiological and behavioural fragility of the vulnerable infants who are admitted. They should be encouraged to observe infants of varying gestational ages, diagnoses and acuity levels, parent-infant interaction, clinical decision making, handling and intervention

provided by all members of the neonatal team and communication between team members in the NICU, HDU and SCBU. Particular focus should be placed on the infant's behavioural and self-regulatory responses including physiological, motor and state responses and organisations to handling and intervention.[26]

A specialist neonatal physiotherapist is a registered physiotherapist who, as a result of postgraduate education and in-depth clinical experience of several years in paediatric and child health physiotherapy practice, possesses the advanced knowledge and clinical reasoning skills necessary to provide specialist physiotherapy services for the *holistic* care of the neonate and family in a variety of health care settings, and has responsibility for the quality of standards of physiotherapy provided. The major role functions of the specialist neonatal physiotherapist include specialist clinical practice, consultation, education and scientific inquiry.[21]

The specialist neonatal physiotherapist demonstrates self-direction and accountability in the development of this role.

Physiotherapists who provide services to neonates require a highly complex set of skills for assessment, observation, intervention, evaluation and interpretation of findings for the extremely fragile preterm population in neonatal intensive care, high dependency special care and intermediate care settings. This includes advanced clinical training to manage the rapidly changing physiological and behavioural stability in neonates, in collaboration with other members of the multi-disciplinary specialist neonatal team.[21,22]

Emerging research indicates the important role of the neonatal physiotherapist in support and education of the family in the NNU. Parents' expressed preferred instructional method in the NNU indicates support for multimodal (discussion, demonstration, video, and written) instruction.[27,28,29,30]

The unique role of the neonatal physiotherapist is highlighted as specialists in movement and postural control, within behavioural, environmental, and family context in the NNU.[21,24] They have a unique window of opportunity to shape the musculoskeletal system and motor organisation of infants requiring intensive care and to support parents and caregivers in optimising infant brain development during the NNU stay,[24] relying on principles of movement science, which are supported by the clinical, behavioural and foundational sciences in paediatric physiotherapy.

Physiotherapy can address the functional and structural integrity of the body systems, promotion of age-appropriate postural and movement activities, and appropriate interaction between the neonate, family, and other professionals both in the NNU and following discharge.

Other areas of practice most unique to physiotherapy include chest physiotherapy, the assessment and analysis of movement patterns and postural dysfunction, management of orthopaedic conditions, e.g. Obstetric Brachial Plexus Palsy, and positional and congenital foot deformities, as well as the assessment and identification of gross motor dysfunction.

Neonatal follow-up activities are a key part of the efforts to ensure the best possible outcomes for infants receiving care in Neonatal Intensive Care Units (NICUs).

Specialist neonatal physiotherapists should have the knowledge and skill to take the lead role in the field of neuro-developmental follow-up and identification of problems related to prematurity.

Monitoring of long term morbidity, through longitudinal neonatal follow-up after discharge, is now recommended by BAPM, particularly of those surviving infants who are at the highest risk of disability. Each Unit should have a defined protocol for neuro-developmental follow up and close liaison with local child development teams. The later health status of at-risk survivors should be ascertained up to at least a corrected age of two years,[22] this helps to ensure early identification, appropriate and timely referral to, and delivery of, early intervention services with improved outcomes for the vulnerable high-risk infants.[46,47,48,49]

It is recognised that the competences described overlap in some areas with those of other disciplines, such as occupational therapy and developmental psychology. The physiotherapist working in a NNU should liaise and participate in programme planning with other team members to negotiate areas of overlap so as to avoid unnecessary duplication of services. All therapy for children, however, must be provided within an overall developmental framework common to several disciplines. The competences for NNU physiotherapists reflect this concern by emphasising provision of developmentally and physiologically appropriate physiotherapy that is sensitive to the environmental and social needs of the child and his or her family.[23]

Using this Document

It is *not* a requirement that every neonatal physiotherapist will achieve *expert level* in all the dimensions of the framework. Whilst some aspects of the knowledge and skills outlined may need to be developed to the level of understanding of use, it may be that other aspects will need to be developed to the level of awareness only. This will need to be judged according to the particular working context, e.g. NICU, HDU or SCBU.

It is intended to be empowering and aspirational. It is primarily a tool to support self assessment and personal development plans rather than a tool against which performance is judged.

The framework can be used:

- as a tool for individual therapists to assess their own competence and identify learning needs, identify existing strengths and weaknesses;
- in the formal appraisal system and to assess competence and to enable identification and planning of learning needs/personal development plan;
- to recruit and select new staff more effectively;
- to evaluate performance more effectively;
- to identify skill and competency gaps within a service more efficiently;
- to provide more customised training and professional development;
- to plan sufficiently for succession.

Continuing Professional Development CPD

This framework focuses on professional, rather than academic accreditation and can be used to enhance life-long learning and supervision. It can also be used as a self assessment tool for professional development that practitioners can work towards achieving.

Standard 3 'Learning and Development' of the CSP's Quality Assurance Standards[7] states that: *'Learning and development is integral to physiotherapy practice. The CSP expects its members to actively engage with the two faces of learning and development; as learners through the process of continuing professional development (CPD) and as facilitators of others' learning and development.'* It goes on to say that *'active engagement with CPD ensures that CSP members can maintain and develop their competence to practice and continue to work within an evolving scope of practice. CPD is therefore a professional and regulatory requirement.'*

It is expected that all members in any setting will develop a personalised plan to to meet their learning and development needs and will record and evidence the outcomes of the learning process. This document can be used as a tool to guide, plan, implement and evaluate an individual's CPD.

Within the NHS it is expected that all staff will have an annual appraisal based on the Knowledge and Skills Framework (KSF) role outline (October 2004).[31] This competence framework can provide a basis for a more detailed review and assessment of competence an individual possesses than the KSF alone, and identify where there is a further need for development. The use of a competence based appraisal will enable the identification of the

knowledge and skills required for individual competences which can then be used to develop a personal development plan.

Quality Assurance

Quality Assurance is important to improving the standard and proficiency of safe, effective practice within the profession. It ensures that at least a minimum standard is maintained and ensures that patients have access to a high quality service wherever they live.

This document supports individual practitioners to participate in quality assurance by:

- enabling individual practitioners to self-assess and recognise their competent performance, plan their continuing professional development, and establish means of quality assurance;
- providing a tool to appraise individual team members to assess whether they are meeting the required standards - it can be used as a tool to identify and assess individual and team development needs, assist in workforce redesign, development and planning requirements;
- providing a means through which a training programme may be developed and tailored to the CPD needs of individual team members;
- providing a means of benchmarking training courses and appropriate learning materials and to specify outcomes of these programmes to assess if training and education has been effective.

Service review and workforce planning

Physiotherapy service managers could use the competence framework as a model of care to give a clearer insight into the expertise and competence required of a neonatal physiotherapist, and to be able to evidence that the workforce has the relevant competence to ensure consistent delivery of qualitative, safe and effective care.

It may also be useful when developing a business case to promote and sell specialist neonatal physiotherapy services to the Commissioners. It can be used to put together a picture of what the service can deliver in a way that will be meaningful to external audiences.

The framework will support the NHS Knowledge and Skills Framework in providing a guide to the range of knowledge and skills a neonatal physiotherapist needs in order to work at a safe and competent level and to plan development and review of individual work.

This document can:

- assist in the analysis of the distribution of competences between roles in a neonatal team and can suggest areas where new roles may be able to deliver the service more effectively;
- enable the identification of a range of competences that may be needed in order to deliver a service and where there are gaps or overlaps;
- enable individuals to be clear about their role and responsibilities;
- assist in the analysis of a role in more detail than a KSF role outline and so be useful in writing job specifications, recruitment selection and role design.

The Future
Continuing Education Needs of Neonatal Physiotherapists

Practice Development

Evidence-based clinical practice is essential in the delivery of quality neonatal physiotherapy care and collation and dissemination of this research nation-wide is crucial.

While there is a continual growth in the knowledge and skills of paediatric physiotherapists there still remains a lack of evidence-based literature relating to paediatric and neonatal physiotherapy practice across the United Kingdom. Therefore, many of the practices delivered to paediatric patients remain anecdotal or are being developed through benchmarking with other countries. This competence framework has been based on published Practice Frameworks and Evidence-Based Practice Guidelines for paediatric physiotherapists working in the Neonatal Intensive Care Unit in the United States of America developed by the Pediatric Section of the American Physical Therapy Association, recently updated in 2010.[21,22,23,24] Collaboration with other disciplines is necessary to provide a strong foundation of knowledge of basic applications to practice.

Many neonatal physiotherapists have taken, or are currently undertaking, a degree or a master's programme. The physiotherapists, however, who do not wish to undertake these programmes, must also have their continuing education needs addressed to be able to enhance and develop the advanced level of knowledge, skills and experience required of neonatal physiotherapists to enable them to deliver appropriate care to the highly vulnerable high risk infants and their families.

Teaching and Learning Strategies for Neonatal Physiotherapists

There is a tremendous need and challenge within paediatrics to develop the advanced practitioner roles of Clinical Specialist or Consultant Practitioners and to determine the appropriate management support structures for them. Continuing education programmes that focus specifically on the care of the neonate are essential. The framework can be used to identify training needs, curriculum design and development of specialist training packages.

There is a need to review the neonatal specialist courses provided and to develop courses to run in the future to help further develop the advanced practitioner courses.

A holistic approach to the assessment and treatment of the neonate is acknowledged as best practice and learning needs of the individual physiotherapist should acknowledge this.

Neonatal physiotherapists tend to work very much in isolation within their own paediatric physiotherapy teams. Peer review with other experienced neonatal practitioners nationally is therefore acknowledged as an important factor to be encouraged in the learning experience, and in continuing day to day practice of experienced therapists to maintain standards, improve performance, ensure consistency, safety, and provide credibility.

Suggested Learning Strategies:

- preceptorship (see below);
- higher education and specialist courses and study days – neonatal specific, profession specific, and intervention specific;
- self-directed learning - reading, e-learning, literature review;
- documented clinical supervision sessions and regular peer review;
- problem based learning;
- specific projects relating to neonatal care;
- reflective diaries;
- assessments and appraisal;
- publications, including posters, and presentations;
- audits;
- policy and protocol development;
- membership of advisory groups such as National Newborn and Perinatal Network Boards, clinical forums, working parties;
- membership of professional specialist interest groups, e.g. neonatal physiotherapists would be expected to become members of the APCP Neonatal Group and other relevant specialist interest groups, e.g. associate membership of the British Association of Perinatal Medicine;
- research and evidence based reviews.

Preceptorship

Preceptorship is now embedded in a range of existing professional regulatory and employment guidelines. It was introduced into the National Health Service (NHS) following the implementation of Project 2000, a scheme, introduced in 1989, that formed the basis for the academic education of all nurses and midwives, an outcome of a review of nurse education.[32]

Examples of current preceptorship projects within the NHS are:

- the Nursing and Midwifery Council's (NMC) guidance covers areas such as the role of the newly registered nurse and midwife and in the longer term the NMC is considering the introduction of a period of mandatory preceptorship for newly graduated nurses and midwives;[33]
- the College of Occupational Therapists has provided guidance and support for implementing preceptorship for managers and newly registered occupational therapists.[34]

Preceptorship has been described as an individualised period of support under guidance of an experienced clinical practitioner which attempts to ease transition into professional practice. Preceptorship will support the policy drive to place '*quality at the heart of everything we do in healthcare*'.[34]

The aim of preceptorship is to enhance the competence and confidence of the newly registered practitioners, those returning from work after a period of non working or practitioners entering a new field of work within their profession as autonomous professionals, enabling continuation of their professional development and life-long learning, building their confidence and further developing competence to practise.

A gradual entry into neonatal care is strongly advised. Several years' prior experience in paediatrics is essential. Treatment skills are best acquired with less vulnerable children before working with babies who are acutely or critically ill. Direct observation and clinical preceptorship with an experienced clinician in the NNU should precede independent assessment and treatment intervention.[21,22] Before attempting to examine or intervene with infants and parents in the NNU it is recommended that the physiotherapist has clinical experience of the assessment and intervention of infants born at full term and older medically fragile, hospitalized children requiring respiratory equipment and cardio-respiratory monitoring instrumentation in the Paediatric Intensive Care Unit (PICU), paediatric wards, and newborn care settings as they are less vulnerable than the extremely unstable infants born preterm.[21,22]

In a healthcare environment which recognises the importance of children being cared for at home with their families, it is essential that in discharging these children home, we provide the resources, including adequately trained staff, to care for them in partnership to ensure the service is provided in line with the principles of the National Health Strategy.

Knowledge and understanding of the developmental trajectory and neuro-motor patterns of the preterm infant in outpatient follow-up for NNU graduates is a critical learning experience for all therapists who assess and treat these young infants whether community based or hospital based and should be included in the preceptorship programme.[35] This valuable experience helps develop a perspective on various neonatal neuro-motor findings such as asymmetries, tone abnormalities, poor quality movement as a result of transient dystonia of prematurity, which may resolve.[36]

The neonatal follow-up clinic also provides valuable opportunities to see the parents outside the NNU environment, learn about their ongoing challenges and successes in care giving, and to evaluate and revise the neonatal therapy programme in collaboration with the parents, joint goal setting to their current priorities.

Observation and participation with paediatric physiotherapists working with NNU graduates in community-based early intervention services is advised to enhance NNU discharge planning, cross boundary working, ease of transition of care and liaison with these services, and to share knowledge and expertise. Without this clinical preceptorship it has been acknowledged there are physiological and musculo-skeletal risks to the infants, medical-legal risk to the physiotherapist and quality control risks for the Units.[37]

Other suggestions for precepted training could include:

- participating in quality assurance or applied research studies;
- assisting with data collection;
- providing education on developmental supportive care to individuals, families or groups;
- self-reflective practice with peers and/or mentor.

Spending time with other disciplines within the neonatal team to learn about their roles and practice, observing nursing, medical care and respiratory therapy for fragile infants with complex medical conditions are additional valuable components in precepted training, as are attending Grand Rounds on the NNU.

Preceptorship could also be accessed through local children's services, tertiary centres, through the neonatal network of APCP, and specialised training modules for experienced paediatric therapists.

APCP Neonatal Courses

APCP courses already available:

- The Role of the Therapist in Neonatal Care
- Lacey Assessment of the Preterm Infant (LAPI)[38]
- Introduction to Neonates Graduates for Paediatric Therapists Working in the Community Setting.

Knowledge Base for Neonatal Physiotherapists

Foundation Sciences

- genetics;
- embryology;
- developmental anatomy;
- fetal and neonatal physiology;
- pathophysiology of newborn;
- neuroanatomy/neurophysiology of the newborn;
- histology;
- epidemiology;
- lifespan human development;
- socio-emotional development of the fetus, newborn and infant;
- scientific enquiry;
- management science;
- cultural anthropology;
- knowledge of highly technical intensive care environment and equipment depending of the level of care delivered by individual nurseries.

Behavioural Sciences

- infant neuro-behavioural organization;[39]
- reading behavioural cues;[40,41]
- developmental psychology;
- neuro-behaviour and neuro-behavioural assessment tools;[42]
- parent-infant attachment;[43,44]
- parental stresses within the NNU;
- grief and bereavement process;
- counselling skills;
- family systems;
- group process;
- interpersonal collaboration;
- medical/legal issues;
- medical ethics.

Clinical Sciences

- knowledge of normal growth and development of the term and preterm infant;
- atypical fetal, newborn and infant development;
- analysis of developmental movement patterns;
- Individualised Developmental Care;[45,46,47]
- Family Centred Care;[48]
- aetiology, prognosis and clinical alterations in neonatal movement and postural control related to each of the body systems:
    - musculoskeletal;[49]
    - appropriateness of early physiotherapy intervention for preterm infants; [50,51,52]
    - neuromuscular;
    - cardiovascular and Pulmonary assessment and treatment;
    - endocrine and metabolic;

    - integumentary;
    - gastrointestinal and genito-urinary;
- oral-motor development;
- use of adaptive equipment, positioning aids and splints;
- infection control;
- developmental science – functional variables of growth, age, developmental level and interaction of the body systems.

Movement Sciences

- knowledge of theoretical frameworks of motor development including:[53,54,55]
    - Neuro-maturational Theory;[56,57]
    - Dynamic Systems Model;[58]
    - Synactive Theory of Development;[59,60]
    - Theory of Neuronal Group Selection;[61]
- developmental biomechanics;
- developmental kinesiology and pathokinesiology;
- developmental assessment tools for term and preterm infants;
- developmental physiotherapy assessment and treatment;
- motor control;
- motor learning;
- motor development;[62]
- posture and movement of preterm infant as compared to those of full term infants;
- parent education in the NICU: to reduce parental stress and improve parental mental health[63,64] to attune parents to their infant's capabilities.[65,66,67]

Other Required Skills

- a holistic approach to assessment and treatment of the neonate in the NNU and after discharge;
- provide consultation with professional staff in assessment, intervention and evaluation;
- be able to work collaboratively with a wide range of professionals and family as a member of the neonatal team;
- work within a developmental framework;
- show flexibility;
- show excellent communication skills;
- leadership skills to become a catalyst for change;
- foster respect and autonomy.

Competences for the physiotherapist working in the NICU [21]

1) Screening, primary prevention, and risk management

Role 1.1: Screen infants in NICU to determine the need for physiotherapy services based on referral or diagnostic criteria

Clinical proficiencies

1.1.1 Identify and interpret perinatal and medical history and current infant status from the medical notes and by communicating with neonatal medical and nursing staff.

1.1.2 Identify and interpret family information related to infant caregiving by communicating with parents/carers.

1.1.3 Recognise potential interaction problems having observed infant-parent caregiving patterns during caregiving.

1.1.4 Recognise consistent signs of neurobehavioural organisation or disorganisation in the physiological, motor, and state systems through repeated observations of infant caregiving and social interaction.

1.1.5 Identify infants for referral to physiotherapy through participation in NICU medical, neurodevelopmental ward rounds and neonatal follow-up clinics.

Knowledge areas

1.1.a NICU medical terminology and abbreviations.

1.1.b Epidemiology and pathophysiology of prenatal, perinatal, and postnatal diagnoses on subsequent neurodevelopment.

1.1.c Family systems and interview processes.

1.1.d Infant-parent interaction patterns and attachment process among families of infants developing typically and those at high risk.

1.1.e Normal and atypical pre- and postnatal and infant development.

1.1.f Aetiology and pathophysiology of common medical conditions affecting neonates.

1.1.g Typical developmental competencies of infants at various gestational ages.

1.1.h Indications for and the effects of general medical procedures in neonatal care.

1.1.i Effects of the NICU physical environment on the infant.

Role 1.2: Develop and implement a management plan for each neonate to prevent neurobehavioural disorganisation (physiological, motor and state systems) and secondary complications in musculoskeletal, neuromuscular, and integumentary systems and to maximise neurodevelopmental function

Clinical proficiencies

1.2.1 Recognise physiological stress by interpreting autonomic responses from the infant and from monitoring equipment: heart rate, respiratory rate and breathing pattern, colour, oxygen saturation, blood pressure, temperature during physiotherapy examination and intervention, routine care, feeding and social interaction.

1.2.2 Identify and interpret infant behavioural cues reflected in movement and posture, behavioural state, and attention and interaction.

1.2.3 Determine a safe and effective approach to start assessment and intervention following observation of the infant prior, during and after handling.

1.2.4 Recognise and prevent potential and iatrogenic neuro-musculoskeletal, integumentary, and infection complications and implement appropriate positioning strategies to prevent or lessen these impairments.

1.2.5 Locate all leads, lines and respiratory tubing from the infant to medical equipment and explain the general function of each attached equipment unit.

1.2.6 Demonstrate appropriate handling of infants with increasingly complex medical needs on physiological monitors, respiratory equipment, infusion or parental feeding lines, and other medical support devices.

1.2.7 Analyse and modify the physical and social environment using environmental support measures (e.g. positioning aids, light and sound control measures) and individualised caregiving procedures to optimise neurodevelopment of all infants, and in particular, neurobehavioural responses of infants at high risk to physiotherapy assessment and intervention.

Knowledge areas

1.2.a Acceptable range of physiological parameters based on acuity levels and ages of neonates.

1.2.b Range of neuromuscular and musculoskeletal parameters based on ages of neonates.

1.2.c Neurobehavioural cues demonstrating homeostatis, self-regulation and calming (engagement), as well as cues indicating stress and overstimulation (disengagement).

1.2.d General function of all medical equipment, lines and leads attached to the infant.

1.2.e Management precautions for neonates with postoperative medical conditions, cardiac and respiratory disorders, and septic conditions.

1.2.f Development of neuromuscular, musculoskeletal, integumentary, sensory, cardiovascular/pulmonary and other physiological (e.g. gastrointestinal and metabolic) systems in the fetus.

1.2.g Epidemiology, embryology, and associated neurodevelopmental risk of potential fetal malformations, deformations and consequences of exposure to maternal infection, substance abuse and inadequate nutrition.

1.2.h Physical and socio-cultural environment of the NICU.

1.2.i Interaction between environmental factors and infant development.

2) Examination and evaluation

Role 2.1: Examine infants and interpret findings

Clinical proficiencies

2.1.1 Select and carry out clinical examinations and evaluations appropriate for the infant's gestational age and physiological stability, determining infant readiness to begin neurologic and neuro-motor examination within the NNU.

2.1.2 Administer standardised tests and measures with modification (or stopping) to accommodate the infant's neurobehavioural and physiological changes, respiratory and infusion equipment, nursing/care-giving schedule, and family concerns and priorities.

2.1.3 Evaluate neuro-behavioural and neuro-motor vulnerabilities and level of function and / or give a differential diagnosis and recommend a developmentally appropriate plan of care.

2.1.4 Select the most appropriate tool using advanced clinical reasoning and decision making skills, for the different purposes of identification, classification, intervention planning, and evaluation of intervention and also as part of the Units long term two years corrected age developmental follow-up programme after discharge. Carry out and interpret appropriate, reliable, standardised developmental assessments after discharge.

Knowledge areas

2.1.a Movement characteristics of term and preterm infants, including range of movement, developmentally relevant primary movements and postural control, developmentally appropriate emergence of flexion and extension patterns, and developmental progression, signs and implications of transient dystonia of prematurity, the effects of ongoing respiratory conditions and long term oxygen dependency and failure to thrive on motor skill acquisition.

2.1.b Infant sensory and perceptual development.

2.1.c Infant behavioural repertoire (physiological, motor, state and interaction).

2.1.d Oral motor development, feeding patterns, feeding positions and equipment, breast feeding and lactation.

2.1.e Description, administration, psychometric characteristics (sensitivity, specificity, reliability, validity) of infant examination tools for individualised use within the NNU for both preterm and term born infants, for example:

- Hammersmith Neonatal Neurological Examination (Dubowitz)[68]
- Lacey Assessment of Preterm Infants (LAPI)[69]
- Neonatal Behavioural Assessment Scale (NBAS)[70]
- Neurobehavioral Assessment of Premature Infants (NAPI)[71]
- Newborn Individualised Care and Assessment Program (NIDCAP)[72]
- Prechtl's Method of Qualitative Assessment of General Movements[73]
- Test of Infant Motor Performance (TIMP)[74,75]

2.1.f Description, administration, psychometric characteristics (sensitivity, specificity, reliability, validity) of appropriate developmental assessments for screening, intervention planning, and longitudinal follow-up to determine longer term developmental outcomes. For example:

- Alberta Infant Motor Scale[76]
- Bayley Scales of Infant and Toddler Development, Third Edition (Bayley-III)[77]
- The Denver Developmental Screening Test (DDST2)[78]
- Peabody Developmental Motor Scales – Second Edition PDMS-2[79]
- Prechtl's Method of Qualitative Assessment of General Movements up to 20 weeks corrected age[73]
- Test of Infant Motor Performance (TIMP) up to 4 months corrected age[74,75]

2.1.g Neonatal structural and functional impairments, activity limitations, and potential disabilities involving posture and movement.

3) Planning and implementing neonatal intervention

Role 3.1: Design, implement, and evaluate intervention plans and strategies in collaboration with the family and neonatal team

Clinical proficiencies

3.1.1 Identify measurable long and short-term intervention goals to optimise functional outcomes and minimise risk, in collaboration with the infant's medical, nursing and therapy team and family.

3.1.2 Determine prioritisation, frequency, intensity, and methods (e.g. direct, consultative) for implementing a developmentally appropriate physiotherapy intervention plan.

3.1.3 Provide physiotherapeutic, developmental care and rationales for interventions utilising current knowledge and best practice in neonatal care, child development and principles of family health.

3.1.4 Apply appropriate hand placement, support, and adjustments during handling of neonates.

3.1.5 Implement therapeutic strategies appropriate to gestational age and matched to the physiological, motor, and state regulation strengths and vulnerabilities and neurodevelopmental risk. These strategies include positioning, skin to skin holding (kangaroo care), handling, behavioural organisation, oral-motor/feeding, modified infant touch, and adaptive equipment use as required.

3.1.6 Collaborate with neonatal nurses to implement modification of the physical, sensory and social environment in the NNU (e.g. day-night cycling, demand feeding, non-handling quiet time).

3.1.7 Collect data, monitor progress, evaluate effectiveness, and modify therapeutic strategies, plan and goals accordingly to accommodate changes in the infant's neurodevelopment.

3.1.8 Demonstrate successful strategies to promote family-infant interaction and attachment.

3.1.9 Act as a resource to nursing staff, medical staff, therapy staff and families for unit-wide implementation of evidence-based, developmentally appropriate practices and therapeutic strategies into daily caregiving.

3.1.10 Use parent concerns and priorities to guide the design and implementation of intervention.

3.1.11 Utilise a reflective, critical thinking and problem solving approach to the care of the neonate that is evidence-based, promotes clinical decision making and enables the development of clinical protocols.

Knowledge areas

3.1.a Strategies for facilitation of movement and posture in infants born preterm or with medical conditions.

3.1.b Evidence base for positions to prevent or reduce deformities and to increase function in infants.

3.1.c Infant respiratory control and feeding parameters (e.g. coordination of suck, swallow and breathing, feeding readiness cues).

3.1.d Positioning to optimize feeding.

3.1.e Infant self-regulation behaviours.

3.1.f Family-centred care models and the effect of family-centred care practices on family outcomes.

3.1.g Cultural (family/parents; nursing) differences in caregiving and the effects on family-

infant interaction, family well-being, and infant development.

3.1.h Grief and bereavement processes.

Role 3.2: Develop and implement discharge plans in collaboration with caregivers and community staff

Clinical proficiencies

3.2.1 Formulate transition plans for discharging infants home.

3.2.2 Create links to community services and NNU follow-up programmes.

3.2.3 Educate parents and neonatal caregivers on:

- risk of plagiocephaly, scaphocephaly and torticollis from prolonged asymmetrical head position during sleep and awake periods;
- sleeping in supine and bottom of the cot (lullabytrust.org.uk);
- importance of Tummy Time when alert and supervised;
- positioning and handling to prevent or modify atypical postures and movements;
- potential injuries from use of baby walkers in the home.

3.2.4 Ensure appropriate communication processes are in place to facilitate continuity of care e.g. referral letters, interdisciplinary case conferences.

3.2.5 Establish and maintain community resource networks.

3.2.6 Support and facilitate the family and carers to make informed decisions by providing appropriate information, support and options regarding health and ongoing development.

3.2.7 Encourage and foster the development of appropriate community support groups.

Knowledge areas

3.2.a Group dynamic processes.

3.2.b Infant and caregiver needs in the home environment including environmental modifications to support infant behavioural regulation.

3.2.c Mechanisms of acquiring positional plagiocephaly and secondary torticollis and examination and intervention options for managing the conditions.

3.2.d Early intervention and community services (e.g. parent support groups, therapy services, NNU follow-up clinics).

3.2.e Local guidelines for early intervention services.

3.2.f Neonatal Toolkit standards for follow-up.[16]

3.2.g APCP 'Information to Guide Good Practice for Physiotherapists Working with Children'.[7]

3.2.h Outcome measures to evaluate impairments, functional limitations, disabilities, primary and secondary prevention effects, and family satisfaction.

3.2.i Car seat safety requirements.

3.2.j Safety considerations in the use of infant toys and walkers.

3.2.k Patterns of musculoskeletal mal-alignment and atypical movement associated with prolonged periods of neonatal intensive care including use of NNU equipment (respiratory, infusions).

4) Consultation

Role 4.1: Consult and collaborate with health professionals, families, professional and community organisations or agencies

Clinical proficiencies

4.1.1 Consult with relevant members of the interdisciplinary team to ensure effective outcomes.

4.1.2 Assess needs and expected outcomes of consultation.

4.1.3 Formulate goals, criteria and timelines, and select consultation models in collaboration with clients.

4.1.4 Identify internal and external procedural and regulatory guidelines as well as key stakeholders.

4.1.5 Collaborate in identifying and analysing problems and in developing benchmark objectives and action plans to achieve outcomes.

4.1.6 Analyse and interpret change processes (individual styles and rates of change).

4.1.7 Evaluate outcome and recommend revision of action plans.

4.1.8 Identify opportunities for potential referrals, collaboration, and resource sharing among other disciplines or services.

Knowledge areas

4.1.a Needs assessment process.

4.1.b Consultation models.

4.1.c Clinical reasoning processes.

4.1.d Organisational change processes: catalysts and patterns of innovation and change.

4.1.e Communication and leadership styles.

4.1.f Community and multidisciplinary resources.

5) Scientific inquiry

Role 5.1: Incorporate evidence-based literature into neonatal practice

Clinical proficiencies

5.1.1 Review and critically appraise neonatal medicine, neonatal nursing and paediatric physiotherapy literature and incorporate findings into practice where appropriate.

5.1.2 Identify mechanisms to effectively disseminate selected, current research related to neonatal physiotherapy to NNU staff and families.

5.1.3 Apply research and evidence-based practice literature into caregiving plans and interventions.

5.1.4 Utilise current evidence to challenge existing clinical practice and in the development of clinical protocols.

Knowledge areas

5.1.a Literature searching procedures.

5.1.b Methods for appraising medical literature.

5.1.c Levels of evidence from evidence-based medicine framework.

5.1.d Administrative mechanisms for modifying clinical procedures or protocols on the basis of new research findings.

Role 5.2: Support or participate in research involving infants, parents, or caregivers in neonatal care units

Clinical proficiencies

5.2.1 Create research questions on neonatal topics for clinical researchers.

5.2.2 Review the literature to identify related studies, establish a basis for the research questions and potential measurement methods, and evaluate designs and statistical methods used in similar studies.

5.2.3 Formulate testable hypotheses.

5.2.4 Establish and define independent and dependent variables.

5.2.5 Determine the research design and methods best suited to answer the research question.

5.2.6 Establish reliability in the use of the instruments chosen for data collection.

5.2.7 Analyse and interpret data.

5.2.8 Establish conclusions and clinical implications from the data.

5.2.9 Identify limitations of the study and suggestions for future research.

5.2.10 Disseminate the results of the research.

Knowledge areas

5.2.a Evidence-based practice concepts (principles and evidence hierarchy).

5.2.b Research design and measurement methods.

5.2.c Common statistical tests used in neonatal and paediatric physiotherapy research.

5.2.d Resources for consultation in design, statistical analysis, and funding.

5.2.e Ethical principles and research governance.

5.2.f Procedures for clinical research proposal approval and monitoring.

5.2.g Research reporting mechanisms for presentations and publications.

6) Education and self-learning/professional development

Role 6.1: Communicate, demonstrate, and evaluate neonatal physiotherapy care processes with other NICU professionals and caregivers

Clinical proficiencies

6.1.1 Present or contribute to staff development initiated educational sessions/workshops and conferences.

6.1.2 Explain and promote the specialist role and its value to infants families, the community and the health service.

6.1.3 Identify learner knowledge and skills needs and prepare clinical training that reflects baseline and expected achievement levels.

6.1.4 Establish training objectives and priorities.

6.1.5 Choose teaching methods and format.

6.1.6 Communicate information, demonstrate procedures, arrange practice sessions and repeat demonstrations, and provide feedback with learners on performance.

6.1.7 Evaluate learner performance and teaching effectiveness.

6.1.8 Serves as a role model and preceptor / mentor to colleagues and undergraduate / graduate students.

6.1.9 Participate on committees within and outside the health service and professional organisation, e.g. Neonatal and Perinatal Network committees.

6.1.10 Utilise appropriate educational strategies, approaches and materials to enable other professionals in the neonatal team and family to make informed decisions about care.

Knowledge areas

6.1.a Scientific and theoretical bases and procedures in physiotherapy for neonates.

6.1.b Adult learning styles and stages of learning.

6.1.c Educational process to include objectives, methods, sequencing, and evaluation.

Role 6.2: Pursue active commitment to continuous education in practice topics related to neonatology

Clinical proficiencies

6.2.1 Self-assess clinical competencies and knowledge limitations in physiotherapy for neonates.

6.2.2 Participate in relevant professional organisation e.g. APCP Neonatal Group, Associate Membership BAPM.

6.2.3 Maintain a current knowledge of neonatal and child health issues relevant to practise e.g. reading relevant literature, attending conferences, participating in continuing education and/or post graduate studies.

6.2.4 Identify and document performance strengths and areas for improvement.

6.2.5 Consult with neonatal colleagues or mentors if unsure or unfamiliar with care requirements.

6.2.6 Identify learning needs that arise from changes in care guidelines.

6.2.7 Evaluate and select continuing education options to address skill and knowledge deficit areas.

Knowledge areas

6.2.a Self-reflective process.

6.2.b Resources for courses/seminars on neonatal care topics, NICU clinical training opportunities, peer review, and potential mentors with expertise in neonatology.

7) Administration

Role 7.1: Plan and administer a neonatal physiotherapy programme

Clinical proficiencies

7.1.1 Develop a mission and philosophy for the neonatal physiotherapy service that is consistent with that of the hospital/neonatal network.

7.1.2 Assess the service needs of the target neonatal population and establish referral criteria.

7.1.3 Select and assign priorities to the physiotherapy procedures for neonates that will be offered.

7.1.4 Identify and acquire physiotherapy resources for serving neonates, including physiotherapists with precepted training, supplies, and time.

7.1.5 Establish financial support and develop or help to develop a neonatal physiotherapy service budget based on current staff resources and forecasted eligible neonatal population.

7.1.6 Develop and implement physiotherapy policies and procedures for neonates including referral mechanism, intensity (frequency and duration), supervision and preceptorship processes, and documentation format and timelines.

7.1.7 Identify ethical and legal standards and incorporate them into neonatal physiotherapy practice.

Knowledge areas

7.1.a Principles for sequences for developing and administering clinical programmes.

7.1.b Resource management principles for analysing personnel, cost, and time requirements for neonatal physiotherapy services.

7.1.c Risk management principles and processes.

7.1.d Leadership principles and supervision models.

7.1.e Managed care processes and, if applicable, contract negotiation strategies.

7.1.f CSP Quality Assurance Standards and that of the HCPC.

Role 7.2: Develop a physiotherapy risk management programme

Clinical proficiencies

7.2.1 Document standard operating procedures for managing physiological risk during observation, infant examinations, and physiotherapy services in the NNU.

7.2.2 Develop clinical protocols for high risk or unusual procedures (e.g. splinting, soft tissue mobilisation).

7.2.3 Establish procedures for managing inadvertent occurrences of adverse events during provision of physiotherapy services in the NNU.

7.2.4 Delineate procedures for adverse event documentation, follow up plan, and clinical teaching on analysing and preventing the adverse occurrence.

Knowledge areas

7.2.a Normal and pathological ranges of physiological values and musculoskeletal parameters for term and preterm infants.

7.2.b Environmental (physical and socio-cultural) risk factors and their influence on the development of neonates.

7.3.c Risk management models and principles.

Role 7.3: Evaluate the effectiveness of a neonatal physiotherapy programme

Clinical proficiencies

7.3.1 Evaluate and monitor quality of care and identify opportunities for practice change through reviews of cases and records with peers.

7.3.2 Evaluate and monitor clinical productivity.

7.3.3 Analyse effectiveness of interventions on infant and family functioning and participate in ongoing quality assurance/improvement initiatives in the NNU.

7.3.4 Determine the evidence base for examinations and interventions implemented.

7.3.5 Conduct general review of physiotherapy programme with neonatal, medical and nursing managers.

Knowledge areas

7.3.a Quality assessment/improvement models and methods for application to clinical caseloads and programmes.

7.3.b Programme evaluation principles and methods.

7.3.c Evidence-based practice concepts and principles.

7.3.d Critical inquiry and evidence-based practice processes to evaluate neonatal and family interventions.

Evidence of Competence

Everyone is responsible for developing their own portfolio of evidence to demonstrate that they have reached the defined knowledge, skill and experience to perform their role. There is a variety of information that you can collect to capture evidence.

These may include:

- records of preceptorship, e.g. clinical practice days, reflective practice, shadowing, one to one support from a more experienced practitioner in the field, in person, or remotely/electronically;
- higher education and specialist courses and study days - certificates of course and study day attendance on their own will not show evidence of competence;
- reflections of how you have put the knowledge and skills learnt into practice;
- evidence of self-directed learning - reading, e-learning, literature review;
- evidence of clinical supervision sessions;
- observation of practice;
- problem based learning;
- specific projects relating to your speciality;
- recording of critical incidents;
- self appraisal via a reflective diary;
- assessments and appraisal;
- publications, posters and presentations;
- audits;
- teaching packages;
- policy and protocol development;
- evidence of membership on advisory groups such as national Neonatal Network boards and clinical forums, working parties, professional interest groups - Neonatal physiotherapists would be expected to become members of the APCP Neonatal Group and other relevant specialist interest groups, e.g. members of the British Association of Perinatal Medicine;
- research and evidence based reviews

For further information regarding standards for CPD please see:

http://www.hcpc-uk.org/registrants/cpd/

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The APCP Neonatal Committee would appreciate your feedback on this competence framework so the document can be updated and amended as necessary.

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