GIG CYMRU NHS WALES

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Health Education and Improvement Wales (HEIW)

Qualified In Specialty (QIS) Education Standards Wales 2025

Contents

Foreword

These standards provide, for the first time, a unified framework for neonatal Qualified in Specialty (QIS) education for neonatal nurses across Wales. They build on the foundational work of the NHS England neonatal nurses working group, who developed the original standards. The All-Wales QIS Group has adapted this framework to ensure it is fully appropriate for the Welsh context, reflecting the unique needs of neonatal care in Wales while remaining aligned with the broader standards used across England and Wales.

The true success of the QIS framework lies in the dedication, expertise, and collaboration of neonatal nurses. Chaired by the Neonatal Nurses Association, the All-Wales QIS Group worked to ensure the standards support consistent, high-quality neonatal care across Wales. Their efforts, alongside the invaluable contributions, content, and resources shared by the original NHS England working group, demonstrate the power of collaboration in driving excellence in neonatal nursing practice.

This document celebrates neonatal nurses leading and working together to improve the experiences of babies and their families. We are grateful to all who contributed and remain committed to sharing knowledge, supporting professional development, and promoting excellence in neonatal nursing. The original resource can be found here NHS England » National standards for neonatal qualified in specialty (QIS) education.

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Purpose and Scope

These standards have been developed to improve the quality and consistency of neonatal QIS education programmes across Wales, building on the foundational work led by NHS England. The original document was created in partnership with, and endorsed by, the Neonatal Nurses Association, the British Association of Perinatal Medicine, and the Royal College of Nursing. We are grateful for their leadership in developing this essential framework, which has enabled the All-Wales QIS Group to adapt and refine these standards to meet the specific needs of neonatal nurses in Wales.

By establishing the minimum standards required for the delivery of QIS programmes, this framework ensures consistency in the knowledge, skills, and behaviours of our future neonatal workforce. Higher Education Institutions (HEIs) and other education providers are expected to align their neonatal QIS educational programmes with these standards, supporting excellence in neonatal care.

While the framework primarily focuses on the education of registered nurses and midwives, setting out the minimum standards for programmes leading to a post-registration qualification in neonatal care, it is also relevant to other registered healthcare professionals who provide cot-side neonatal care.

QIS programmes

The education pathway from entry into neonatal care through to qualified in specialty (QIS) training provides the platform for further career progression (see figure 1):

- This document specifically focusses on the QIS education pathway followed by Nursing and Midwifery Council (NMC) registered nurses and midwives
- To gain neonatal QIS qualification, the whole programme (foundation and specialist) must be completed. Maintaining QIS skills learnt within the QIS programme is vital and will be considered outside of the remit of this document

Healthcare professionals from other disciplines working in neonatal settings and undertaking cot side care may undertake some of the taught elements of this pathway during their career development. However, this does not result in QIS qualification.

Figure 1 - QIS education pathway

NB. There is an expectation all nurses should be newborn life support (NLS) trained before undertaking QIS training.

What is expected of QIS educational programmes?

QIS education programmes must:

- Adhere to the knowledge and skills framework within this standard
- Align to the nationally agreed standards outlined in this document
- Be offered at education level 6 as a minimum (but may be offered at level 7 for those who wish to pursue masters' level education)
- Exhibit innovation, inclusivity, diversity and flexibility in their design
- Enable learners to acquire the skills and theoretical knowledge required for safe and effective practice
- Be adaptable to evolving treatments, technologies, and care delivery models
- Align with strategic transformation plans in health and care systems highlighted by Health Education and Improvement Wales (HEIW), the Neonatal Nurses Association and health boards
- Empower learners to critically review literature, research, and evidence so that it informs and allows them to critically evaluate care practice
- Disseminate current research to help improve clinical practice
- Encourage multiprofessional engagement to enhance shared learning and collaborative practice across the workforce.

Entry requirements and learning outcomes

To enter a neonatal QIS education programme, learners must be:

- Nursing and Midwifery Council registered nurses or midwives or Health and Care Professions Council (HCPC) registered professionals (provided that underpinning governance structures are in place)
- Employed in a neonatal setting for the duration of the programme

Most learners should start their pathway to QIS completion within a year of starting in a neonatal setting. After completing a QIS education programme, all learners must be able to provide evidence based cot-side care to neonatal patients as part of a multidisciplinary team (MDT) and work with families and carers to ensure wellbeing.

Universal elements

The following elements are fundamental to QIS education. Some are subjects in their own right which should be taught and assessed as such, but they must all also be reflected across all the programme domains.

Family integrated care

Embedding the model of family integrated care (FICare) across all aspects of neonatal care and integrating families and carers as partners within the neonatal team. All members of the neonatal team are responsible for understanding their role in empowering and enabling families and carers to become capable and confident caregivers. True integration of families and carers in the provision of care paves the way to significant benefits to all parties: better outcomes, reduction in separation anxiety and improved bonding between the family or carer and the infant.

Psychological and trauma-informed care

Embedding psychological and trauma-informed care to promote feelings of psychological safety, control and choice. Good psychosocial support includes the whole neonatal team and is central to every interaction staff have with an infant and their family or carers.

Safeguarding

A whole-family approach should be adopted, taking into account broader risk factors such as domestic abuse, substance misuse, and parental mental health. This document highlights, and learners should be familiar with, the key legislation that underpins safeguarding practice.

Inequalities

Awareness of the inequalities in outcomes for the infants of women from ethnic minority groups and those experiencing deprivation; the ability to deliver individualised, evidence based and personalised care and to advocate for infants and families from marginalised backgrounds.

Equality, diversity and inclusion

Support and promotion of equality, diversity and inclusion; enabling staff to use the full range of their skills and experience to deliver the best possible patient care.

Interprofessional learning

Maximising opportunities for interprofessional experience and learning to support the adoption of a ‘one-team’ approach across the wider perinatal MDT.

Culture

Creating a culture within teams that supports learning, psychological safety, and the importance of 'speaking up,' as highlighted in the Maternity and Neonatal Safety Support Programme, while also fostering civility to ensure respectful and supportive communication.

Research and evidence-based practice

Application of current research, evidence-based practice and national and regional guidance.

Resources

Ensuring all resources are used efficiently, safely and sustainably.

Clinical aspects

Awareness of the following clinical aspects across all domains:

- The impact of neonatal care on the short and long-term outcomes for infants and their families and carers
- Variations in care based on gestational age, diagnosis and/or co-morbidities
- Medicines management, pharmacology and the efficacy of all relevant medications
- Monitoring, investigation, assessment, and identification of deteriorating infants

QIS learning domain overview

The headings below provide an overview of the learning domains every neonatal QIS programme is expected to cover. The detail of the domain is described in section 2.

Domain	Overview of learning
1	**Personal and professional development** - Equality and diversity - Effective communication and documentation - Teamwork and compassionate leadership - Clinical governance and quality - Safeguarding - Legal and ethical principles - Engagement and quality improvement - Professional development
2	**Overview of neonatal services** - Neonatal care pathway and levels of care - Key principles of neonatal care - Transport team - Professionals working within neonatal or wider services
3	**Fluid, electrolyte, nutrition, feeding and elimination management** - Embryology, anatomy and physiology - Principles of feeding - Growth - Nutritional supplementation - Role of the multidisciplinary team (MDT) - Nutritional regimens - Breastfeeding and breastmilk - Alternative feeding methods - Enteral feeding - Conditions and complications that relate to nutrition and feeding - Intravenous nutrition and care of indwelling lines - Renal - Upper Gastrointestinal (GI) index output - Lower GI output - Glucose homeostasis - Hyperbilirubinemia - Bilirubin monitoring - Phototherapy - Fluid balance - Exchange transfusion

4	**Respiratory and cardiovascular care** - embryology, anatomy and physiology - Respiratory care and conditions - Cardiovascular care, monitoring and assessment - Cardiac conditions - Haematology - Monitoring and assessment - Cardiovascular instability
5	**Neurological and infant neurodevelopmental care** - Embryology, anatomy and physiology - Role of the multidisciplinary team - Infant neurodevelopmental care - Family integrated care - Pain, distress and discomfort - Neonatal abstinence syndrome (NAS) - Neurological conditions and management - Intra ventricular haemorrhage (IVH) and periventricular leukomalacia (PVL) - Hypoxic ischaemic encephalopathy (HIE) - Cerebral function monitoring (CFM) - Seizures - Infant neurodevelopmental care in intensive care, high dependency, special care and transitional care.
6	**Thermoregulation, skin, hygiene, infection and infection prevention** - Embryology, anatomy and physiology - Thermoregulation - Hygiene - Skin - Infection - Strategies to minimise infection - Intravenous (IV)/central line care - Antimicrobials - Role(s) of specialist personnel
7	**Admissions, stabilisation, transfers and discharges** - Admissions - Admission process - Screening - Core principles of infant transfer (intra- or inter-hospital) - Inter hospital transfer

	↳ Intra hospital transfer ↳ Documentation and communication ↳ Stabilisation ↳ Neonatal outreach ↳ Discharge
8	**Surgical care** ↳ Embryology, anatomy and physiology of the surgical infant ↳ Stabilisation of the surgical infant at delivery ↳ Stoma care ↳ Condition specific care ↳ Post-surgical care
9	**Palliative and bereavement care** ↳ Neonatal specific pathways ↳ Communicating effectively ↳ Working with others in and across various settings ↳ Identifying and managing symptoms (holistic) ↳ Sustaining self-care and supporting the wellbeing of others
10	**Psychologically informed neonatal care** ↳ Psychologically informed neonatal care (PINC) ↳ Infant wellbeing on the neonatal unit ↳ Family and carer wellbeing on the neonatal unit ↳ Staff wellbeing on the neonatal unit ↳ Recognition of the individual needs and characteristics of families and carers ↳ Developing compassionate and psychologically informed neonatal teams

Clinical experience

NHS health boards play a critical role in the training and development of learners who are undertaking a QiS programme. The learner's health board may need to arrange experience in an alternative neonatal setting to ensure that they have adequate clinical experience to fulfil the programme requirements.

Supernumerary status is required to ensure that learning opportunities are maximised. By meeting the national standards, health boards contribute to the effective delivery of neonatal QIS training programmes.

The neonatal environment is a constantly changing field, with emerging technologies and therapies. Learners need to develop capability and confidence in practice including gaining exposure to a range of experiences and opportunities to obtain, develop and apply related theoretical knowledge.

NHS health boards must:

- ensure that learners are allocated clinical placement time and QIS study days
- ensure sufficient numbers of practice development nurses, practice supervisors and assessors who are QIS qualified to support learners (including for completing final QIS sign off)

Health boards must ensure learners complete at least 150 hours of protected supernumerary experience: those based in SCBU/SCU or LNU must do so in a NICU, while those based in a NICU must also be offered placement time in a unit of a different designation.

Some learners may need more hours allocated to achieve their competencies; this should be considered on an individual basis.

The learning environment

QIS education programmes will expose learners to different learning environments. When considering the academic learning environment, all education providers must:

- have robust educational governance and quality assurance arrangements in place.
- incorporate a variety of teaching and learning strategies that align with clinical practice.
- facilitate theory practice application to ensure learners have a holistic understanding of neonatal practice.
- provide opportunities for inter-professional learning and experience (for example, simulation training).
- ensure teaching and clinical assessments reflect the needs of all newborns, taking account of differences related to ethnicity and skin tone. Educational resources, including clinical manikins, should represent a diverse range of skin tones. Curricula should also emphasise the responsibility of practitioners to recognise and address health inequalities.

Assessment Strategies

Assessment plays a pivotal role in the identification of a learner's level of capability. Effective and appropriate assessment supports the acquisition of the knowledge and skills needed to deliver high quality care to neonatal patients and to facilitate empathy, therapeutic relationships, and family integrated care.

Clinical and academic assessment strategies should promote reflective practice to allow learners to critically analyse their experiences, enhance self-awareness and provide opportunities for them to continuously learn and improve.

Assessments must adhere to these key principles:

- validity: accurately measuring intended knowledge and skills
- reliability: providing consistent results across different assessors and occasions
- fairness: evaluating all learners consistently and without bias or discrimination
- inclusivity: creating an inclusive assessment environment that respects diversity and allows for reasonable adjustments where appropriate
- practicality: considering specific circumstances and available resources

They must also be appropriately sequenced, reflect the domains and universal elements outlined within this document.

A range of formative and summative assessments should be used throughout the programme to enhance the development of the learner's knowledge, skill, and competence. Examples of suitable assessment practices include:

- clinical assessments that incorporate and promote critical reflections and foster a culture of self-assessment and self-awareness
- objective structured clinical examinations (OSCEs), NLS or oral examinations (vivas). These can provide a structured opportunity to demonstrate clinical skills, communication proficiency, and critical thinking abilities in a controlled and interactive environment
- portfolios that serve as comprehensive compilations of evidence, including case studies, reflective essays, personal development plans and clinical logs, allowing learners to demonstrate their achievements, experiences, and growth while promoting self-directed learning, critical thinking, and ongoing professional development

This is not an exhaustive list and education providers will be expected to determine which assessment strategies and methods are most appropriate for their programmes.

QIS educator roles

Collaborative partnerships between education providers, neonatal units and health boards will enable providers to develop courses that meet these QIS standards.

There are distinct educator roles that support the delivery of QIS programmes:

- programme leads and organisers
- session facilitators and subject matter experts
- clinical nurse educators
- practice supervisors and practice assessor

The programme lead or organiser

Programme leads / organisers should come from either a clinical education or academic background. They are responsible for maintaining the overall standard of the programme and must:

- possess a neonatal QIS programme qualification
- have significant neonatal experience
- possess or be working toward a teaching qualification
- have experience of facilitating and delivering neonatal education and training
- have leadership or management experience
- work in close collaboration with clinical facilitators, clinical areas and health boards
- ensure that the programme content remains educationally and clinically current
- ensure that subject matter experts involved in the delivery of the programme are aware of the programme requirements and the relevant learning outcomes and deliver high quality teaching

Session facilitators and subject matter experts

Session facilitators and subject matter experts are responsible for teaching specific subjects within the programme. They could be academics or clinicians from across the wider MDT. Session facilitators and subject matter experts must:

- possess up-to-date expertise in the subject
- have current credibility within their specialty area

Clinical nurse educators

Clinical nurse educators / trainers are responsible for supporting learners and their practice supervisors and assessors. Every neonatal unit must have a dedicated clinical nurse educator. All Wales Neonatal Standards 2nd Edition.

Dedicated support and development of the educator workforce (including succession planning) is a key priority to ensure sustainable education for the current and future workforce. This aligns with strategic direction in Wales, including the HEIW Education Strategy (in development), the annual Education & Training Plan, and A Healthier Wales: Our workforce strategy for health and social care, which collectively support educator development, sustainable teaching infrastructure, and equity in training access.

Clinical nurse educators must:

- receive support to help them pursue a teaching qualification as part of their professional development
- hold practice assessor status and adhere to the standards for this role that are outlined below
- ensure that all practice supervisors and assessors adhere to the standards outlined below
- support or coordinate the provision of adequate numbers of practice supervisors and assessors
- provide holistic support to learners
- offer educational leadership and serve as a role model within the clinical environment
- provide support and clinical education to learners to improve their professional practice
- oversee and support the practice assessor in the final QIS sign-off of learners
- coordinate and deliver practice-based education in collaboration with clinical and academic colleagues
- liaise closely with the programme lead to support learners and improve professional practice

Practice supervisors and assessors

These standards acknowledge good practice principles for supervision and assessment within the Nursing and Midwifery Council Standards for student supervision and assessment - The Nursing and Midwifery Council.

The principles within this standard have been adapted and developed for the purpose of supporting learners undertaking QIS programmes.

Learners undertaking the QIS programme must be supported by practice supervisors and practice assessors. Practice supervisors and assessors should act as role models, promoting safe and effective practice in line with their professional code of conduct.

Practice supervisors must:

- have current knowledge and experience of the clinical setting in which they are providing support, supervision, and feedback
- have their status as practice supervisor approved by the clinical nurse educator
- have completed local training to carry out the role of practice supervisor as defined by the Standards for student supervision and assessment - The Nursing and Midwifery Council
- be adequately prepared to deliver effective supervision, contributing to learner development and assessment
- communicate and collaborate with practice assessors and clinical nurse educators at relevant points in the programme to support learner achievement
- understand the capabilities and programme outcomes they are supporting learners to achieve
- promote a positive learning environment
- highlight and facilitate learning opportunities to support learners to expand their knowledge and understanding
- appropriately raise and respond to learner conduct, competence and concerns

In addition to the list above, practice assessors must:

- hold the neonatal QIS qualification and be approved by the clinical nurse educator to undertake the role of assessor
- work in partnership with learners to establish practical and attainable goals and action plans
- raise concerns with the education provider, clinical nurse educator, and/or manager, in line with the health board's or education provider's escalation process
- appraise sources of evidence to inform a final QIS sign-off decision
- support student progression through an effective partnership with the clinical nurse educator (with regular communication at relevant points in the programme)

Quality assurance and monitoring

Monitoring and evaluating the quality of QIS training is essential for maintaining standards, assessing effectiveness, promoting accountability, and driving continuous improvement.

The National Strategic Clinical Network for Maternity and Neonatal Services are fundamental in supporting the local education provision, monitoring the correct numbers of QIS trained nurses. The Network have been recognised as being well positioned to understand regional nuances within workforce and education Maternity and Neonatal Services - NHS Wales Performance and Improvement.

Neonatal services and education providers must work in partnership to ensure the delivery and sustainability of high-quality programmes that meet current and future workforce needs.

Placement providers must:

- support and empower learners to become well-rounded and competent professionals with the right skills and knowledge to provide safe and compassionate care
- demonstrate a commitment to quality, ensuring that all placement provision has effective arrangements for educational governance to manage and improve the quality of education and training.

Quality management framework - HEIW

Neonatal QIS education providers must:

- ensure there is effective collaboration between education providers and key stakeholders to evaluate the effectiveness of the QIS programme while maintaining a productive working relationship
- ensure educational governance processes effectively manage and improve the quality of education and training and ensure all key stakeholders understand them
- have a comprehensive evaluation strategy for the QIS programme to ensure that it remains fit for purpose and ensure that feedback from all stakeholders, including learners, is central to this evaluation
- have robust processes to annually audit the educational learning environment. These should provide a mechanism for continuous improvement of education and training based on collaboration between the education provider and placement settings
- gain assurance from providers of sufficient numbers of practice assessors qualified to complete final QIS sign off for learners
- have policies and processes to allow learners and practice supervisors or assessors to raise and escalate concerns, complaints and appeals. These help people to raise specific concerns about education and training (for example, issues with fairness or discrimination). All concerns must be investigated and responded to, and feedback should be given to the individuals who raised the concerns outlining what action has been taken. Learners should be made aware of the Speaking up Safely: A Framework for the NHS in Wales
- have robust academic quality assurance processes for marking, moderation, invigilation and assessment feedback that support consistency, parity and fairness for learners
- have processes to support reasonable adjustments, promoting fairness for all learners
- ensure that learners have access to and are encouraged to use resources to support their physical and mental health and wellbeing
- have governance arrangements that promote and support the development and sharing of equality, diversity and inclusion best practice

QIS Domains – Knowledge and Skills Framework

There are 10 domains, each setting out the knowledge and skills that must be included in QIS programmes in Wales. Each domain is divided into a 'foundation' and 'specialist' level. These are underpinned with Universal Elements which should run through the entire programme.

This document is split into 'foundation' and 'specialist' content to provide learners with levels of progression and programme providers with a suggested curricular structure for the QIS pathway. Future educational packages focused on specialist aspects of care for staff will complement the delivery of QIS and post-QIS - as part of their continuous professional development (CPD).

The domain descriptions below are organised under these headings:

- underpinning knowledge: what learners need to know
- skills: what learners need to be able to do
- related equipment and resources: the equipment and resources the learner should be proficient in using. This will vary according to the unit and training, and assessment should be conducted locally.

Domain 1: Personal and professional development

Underpinning Knowledge	Skills
Foundation knowledge **Learners should understand:**	**Foundation skills** **Learners should be able to:**
Equality and diversity - the value and benefits diversity brings and the reasons for promoting inclusion for all (including families, carers, colleagues, and peers) across all settings - the diversity of the local population their unit serves, and the negative impact inequalities can have on care (and access to services) for infants and their families or carers - the principles of personalised, family integrated care based on what matters to families and how the expertise, capacity and potential of families and carers can support good care - the importance of ensuring all service users have equal access and reasonable adjustments are provided - awareness of the role allyship plays and of the importance of advocating for people from marginalised groups and raising awareness about issues affecting infants, their families and carers and colleagues	**Equality and diversity** - champion equality and diversity - act as an ally within your team or clinical setting - champion underrepresented groups and seek ways to provide a fairer environment for infants and their families and carers, as well as colleagues
Effective communication and documentation - the importance of clear, easy to understand and accessible communication and how to provide it (including the use of multiple formats to enable access)	**Effective communication and documentation** - encourage and empower families and carers to become confident and knowledgeable in their infants' care - support and empower families to ask questions and make suggestions, embedding the principles of family integrated care (FICare) in all activities

↳ the importance of providing open and honest information to families and carers at an appropriate level and pace ↳ the importance of advocacy within practice for infants, families, and carers ↳ the importance of ensuring that documentation reflects the needs of the infants and their families or carers and records any communication that has taken place ↳ the principles of confidentiality and information sharing ↳ the importance of communicating or escalating any changes or concerns to relevant team(s) ↳ the impact of conflict in healthcare settings and of appropriate and timely management to reduce the risk of consequences for healthcare teams, individual staff, and, most importantly, infants and their families or carers	↳ contribute to the support of people in emotional distress (families, carers, and colleagues) and provide relevant signposting and referrals to support services ↳ respond appropriately and promptly to any questions or concerns raised ↳ demonstrate safe and effective record keeping and data sharing principles ↳ demonstrate timely escalation to senior colleagues (nursing, medical, allied health professional, and psychological colleagues) ↳ develop knowledge and skills to improve the recognition of potential conflict and early intervention to manage conflict between family's clinical teams, colleagues, and others ↳ signpost families or carers to relevant health advocacy services, where appropriate ↳ demonstrate the ability to effectively hand over the care of an infant, using a structured approach ↳ use communication tools such as SBAR within clinical practice
Teamwork and compassionate leadership ↳ the importance of upholding standards and promoting good practice across teams and departments, enabling infants, families, carers and colleagues to feel valued, respected and cared for ↳ the key principles of effective multidisciplinary team (MDT) working (teamwork, communication, professionalism, and mutual respect) ↳ five Cs of compassionate leadership: consciousness, curiosity, compassion, competence, and courage	**Teamwork and compassionate leadership** ↳ demonstrate an awareness of their own feelings and those of others and the impact of how they act on these feelings ↳ work collaboratively within a multidisciplinary team (MDT) to ensure the clinical and holistic needs of infants, their families and carers are met ↳ manage their time effectively and to prioritise and delegate ↳ demonstrate emotional intelligence, ↳ self-awareness, self-regulation, reflection, and empathy

Clinical governance and quality • the key principles and processes • of accountability and your role as an individual in the effective use of clinical governance processes to achieve and improve patient safety quality and outcomes. • the key principles of openness and the duty of candour, prioritising compassionate engagement with those affected by patient safety incidents Duty of Quality Statutory Guidance • the importance of the duty of quality to achieve improved quality of healthcare services and improved outcomes for the people who use our services Quality Management Systems Hub - NHS Wales Performance and Improvement	**Clinical governance and quality** • demonstrate clear understanding of the duty of candour in practice • Demonstrate an awareness of the Health and Care Quality Standards and quality management principles • work within organisational processes • escalate concerns, report incidents, and risks • reflect on their practice and embed their learning within their own practice
Legal and ethical principles • understand the key concepts of ethical decision making and the role of those providing cot-side care in ethical discussions, ensuring decision-making is family-centered and respectful of individual cultural-differences	**Legal and ethical principles** • identify ethical issues within daily care and describe their role in supporting ethical decision-making ensuring that care is family-centered and respectful of individual cultural differences
Safeguarding • understand the Safeguarding Wales Procedures (2019) • How to identify and initiate the safeguarding process where there are concerns of harm, neglect or abuse (including staff and families or carers)	**Safeguarding** • demonstrate clear understanding of principles of safeguarding • recognise and respond to safeguarding concerns - identifying and initiating safeguarding processes where there are concerns of harm (including staff and families or carers)

↳ awareness of the safeguarding training matrix, local induction processes, referral routes, escalation procedures, and access to safeguarding supervision or restorative clinical supervision support is essential. In addition, learners should be familiar with the procedures for managing allegations against staff and the links to NHS Wales safeguarding, Multi Agency Safeguarding Hubs, and escalation frameworks. ↳ the need to demonstrate professional curiosity by questioning/challenging information, identifying concerns and making connections to enable a greater understanding of a situation ↳ understand the role of each individual healthcare professional working in the NHS, to ensure that the principles and duties of safeguarding children and adults are holistically, consistently, and conscientiously applied	↳ work within organisational safeguarding processes ↳ escalate concerns, report related incidents, and complete safeguarding processes such as referrals or be able to seek advice and escalate safeguarding concerns
Engagement and quality improvement ↳ the roles of service improvement and service user engagement through co production	**Engagement and quality improvement** ↳ adopt approaches that support and empower service user engagement
Professional development ↳ the importance of personal development ↳ the need to take responsibility in maintaining skills and ensuring accountability ↳ the importance of ongoing engagement with national and international practices to support professional development and high standards of care	**Professional development** ↳ apply existing local, regional, and national guidance to practice ↳ adopt critical thinking in evidence-based practice and describe levels of evidence and their reliability

Specialist knowledge Learners should understand:	Specialist skills Learners should be able to:
career opportunities beyond QIS responsibility in maintaining high dependency (HDU) and intensive care (ITU) skills and accountability	actively seek opportunities to maintain and further develop clinical skills, support other learners within the multidisciplinary team (MDT) and promote a positive learning environment

Domain 2: Overview of neonatal services

Underpinning Knowledge	Skills
Foundation Knowledge **Learners should understand:**	**Foundation Skills** **Learners should be able to:**
Neonatal care pathways and levels of care - the structure of neonatal services within all areas of Wales. - BAPM categories of care - neonatal care pathways (for example, transitional care, outreach, hospice, transport) **Key principles of neonatal care** - the impact of neonatal pathways, the transfer of infants between services and the impact this has on families and carers - key neonatal and perinatal organisations involved in supporting infants and families - the vital role that families and carers provide to support service improvement throughout their neonatal journey and post-discharge. Including which local and national groups are available (such as maternity and neonatal voice partnerships, parent advisory groups, and relevant voluntary community and social enterprises) **Transport team** - the transport team, in utero transfers, immediate transfers, and repatriation **Professionals working within neonatal and other services** - the roles different professionals working within neonatal and other services have on care provision - the key principles of neonatal care and the interlinking roles of other professionals within the MDT	**Neonatal care pathways and levels of care** - describe the role of neonatal networks within the neonatal care pathway - describe the neonatal levels of care: special care baby unit or special care unit (SCBU or SCU), local neonatal unit (LNU), and neonatal intensive care unit (NICU) - describe relevant resources and networks to support infants and their families and carers - identify and signpost families and carers to local and national groups that support service improvement such as maternity and neonatal voice partnerships, parent advisory groups and relevant voluntary community and social enterprises.

Specialist knowledge Learners should understand:	Specialist skills Learners should be able to:
↳ the purpose and function of neonatal services at regional level ↳ the national maternity and neonatal ↳ programme and its impact on neonatal care delivery (basic overview) ↳ the current standards and frameworks that underpin neonatal care (for example, the British Association of Perinatal Medicine)	↳ articulate the impact the neonatal journey may have on families and carers, and the information and signposting available to support them within NHS Wales ↳ describe how the National Strategic Clinical Network for Maternity and Neonatal Services fits into the wider system in Wales, including local maternity and neonatal services and the role of Health Boards and describe the role of the neonatal transport team within the regional neonatal services.

Domain 3. Fluid, electrolyte, nutrition, feeding and elimination management

Underpinning knowledge	Skills
Foundation knowledge **Learners should understand:**	**Foundation Skills** **Learners should be able to:**
Embryology, anatomy, and physiology - the anatomy and physiology of the gastrointestinal system including congenital abnormalities - gestational development - including the integration of suck, swallow and breathe reflex - how to identify feeding readiness and how to support the transition from tube feeding to cue-based responsive feeding	**Embryology, anatomy, and physiology** - recognise indicators of normal and abnormal gastrointestinal function and report deviations (for example, stools and abdomen)
Principles of feeding - the importance of family-integrated care (FICare) in the provision of nutrition and feeding and appropriate sources of information and signposting when supporting families or carers with feeding choices - the principles of responsive feeding and early feeding strategies including mouthcare, non-nutritive sucking and supportive tube feeding	**Principles of feeding** - use a range of resources to appropriately advise and support families or carers - label and store all milk types correctly - recognise and support mothers in identifying infant cues and readiness for feeding - promote closeness and skin-to-skin contact between families and carers and infants to stimulate feeding behaviours - advise and support families and carers in sterilisation methods and equipment storage - support responsive feeding within their practice - employ appropriate non-nutritive sucking - complete all feeding-related documentation accurately - identify deviations from normal trends and escalate accordingly

Growth ↻ factors affecting neonatal growth (including congenital anomalies) ↻ the importance of growth measurement, documentation, and the identification of concerns (weight, length, head circumference)	**Growth** ↻ monitor and document growth (weight, length, head circumference on appropriate measuring chart).
Nutritional supplementation ↻ the role of specialist formulas and supplementation ↻ the role of probiotics and prebiotics ↻ the key principles of reconstitution, labelling and storage of artificial feeds and supplements (including fortifier)	**Nutritional supplementation** ↻ prepare artificial feeds, specialist formulas, fortifiers, and supplements and administer according to instruction. The learner should refer to local policy regarding reconstituting specialist feeds.
Role of the multidisciplinary team (MDT) ↻ the role of other healthcare professionals in the multidisciplinary team (dietician, speech and language therapist, infant feeding lead) ↻ the role of the MDT approach in supporting early intervention and problem prevention ↻ the importance of optimal nutrition in preterm and sick infants, when to escalate and who to escalate to when problems arise	**Role of the multidisciplinary team (MDT)** ↻ initiate appropriate referral to specialist personnel; Dietician/ speech and language therapist/ Infant feeding lead
Nutritional regimens ↻ the importance of adequate nutrition and essential components ↻ nutritional requirements depending on gestation (enteral regimes) ↻ storage of nutrients (for example, glycogen, subcutaneous fat) ↻ causes and consequences of electrolyte imbalance	**Nutritional regimens** ↻ calculate daily fluid requirements taking account of local guidance and acknowledging gestational or condition specific requirements ↻ monitor and document fluid balance ↻ identify gestational feeding ↻ development and individualised, typical/atypical oral feeding behaviour. ↻ record and report findings

↳ the need for individualised feeding regimes following surgery ↳ the range of infant formulas available (including pre-term and term formulas)	
Supporting alternative feeding methods ↳ principles of bottle feeding (side lying and positioning, coordination, and fatigue) ↳ the range of teats available ↳ the principles of safe preparation and administration of bottle feeds in hospital and at home ↳ the rationale for alternative methods of feeding such as cup feeding (under specialist guidance)	**Supporting alternative feeding methods** ↳ demonstrate the principles of bottle feeding (side lying and positioning, coordination, and fatigue) ↳ demonstrate knowledge of the range of teats available ↳ demonstrate safe preparation and administration of bottle feeds in hospital and at home ↳ demonstrate the knowledge of the rationale for alternative methods of feeding such as cup feeding (under specialist guidance)
Enteral feeding ↳ the principles of gastric tube insertion and ongoing care. ↳ the principles of naso-jejunal feeding and ongoing care ↳ the principles and clinical use of continuous feeds ↳ enteral feeding safety (assessment of tube position, enteral syringes) ↳ the principles of non-nutritive sucking (including family or carer consent) ↳ the principles and correct implementation of alternative feeding methods supported by specialist MDTs	**Enteral feeding** ↳ explain the physiology and rationale for nasogastric tube (NGT) orogastric tube (OGT) and placement to families and carers ↳ prepare appropriate equipment in line with current guidelines. ↳ prepare infant for intervention appropriately ↳ measure tube length correctly ↳ insert and secure gastric tube safely, observing infant physiological status throughout and responding appropriately ↳ undertake gastric aspirate assessment and document and report findings appropriately ↳ demonstrate when and how to escalate concerns with gastric aspirates or NGT or OGT placement or position ↳ complete all documentation correctly ↳ administer feed safely and observe physiological status throughout

	• provide appropriate neurodevelopmental support during tube feeds (oral stimulation and non-nutritive sucking (NNS), pacing, touch or comfort holding) Attunement and settling post-feed • recognise possible NGT or OGT displacement and demonstrate safe removal • provide support and information for families and carers regarding tube feeding, including supporting families and carers with tube feeding their infant
Conditions and complications that relate to nutrition and feeding • the characteristics of intrauterine growth restriction (IUGR), associated risk factors and conditions • differences for IUGR/ low birth weight (LBW) and preterm feeding patterns • necrotising enterocolitis (NEC): aetiology, infants at risk, prevalence, identifying signs and symptoms • gastro-oesophageal reflux (GOR): aetiology and strategies to support the infant with reflux • congenital anomalies affecting feeds and nutrition (for example, cleft lip and palate) • chronic lung disease • cardiac and neurological conditions • genetic conditions and syndromes • surgical and structural conditions • the importance of breastmilk and buccal colostrum in surgical infants	**Conditions and complications that relate to nutrition and feeding** • undertake abdominal assessments, report and document any deviations, implement plan of care. • identify signs and symptoms of neonatal gastro oesophageal reflux, report findings and implement a plan of care • identify the signs and symptoms of necrotising enterocolitis, report findings and implement a plan of care

Intravenous nutrition and care of indwelling lines - contraindications to enteral feeding - risks and benefits associated with use of peripheral venous lines - commonly used intravenous fluid regimes and their limitations, changing fluid and electrolytes needs in the first few days - the use of parenteral nutrition	**Intravenous nutrition and care of indwelling lines** - set up, maintain and discontinue peripheral intravenous nutrition - recognise and escalate complications (including extravasation and risk of over-infusion)
Renal - anatomy and physiology of renal and lower gastrointestinal structures - appropriate sources of information and signposts to use to support families and carers - normal parameters for urine output - gestational differences - the role of urinalysis - the role of diuretics	**Renal** - utilise appropriate personal protective equipment (PPE) and observe infection control procedures - measure urine output and calculate 24- hour fluid balance and demonstrate care of urinary catheter - collect and process urine samples correctly using non-invasive methods - accurate documentation of urine (including descriptive features) - identify when and how to escalate - concerns - use a range of resources and appropriately advise and support families and carers
Upper gastrointestinal output - normal and abnormal gastric aspirates or loss - normal and abnormal vomits or loss	**Upper gastrointestinal output** - demonstrate awareness of normal stoma losses - administer a glycerine chip as prescribed

Lower gastrointestinal output - normal and abnormal stool output - gestational and age differences - stools in the first 24 hours of life - common conditions that have an impact upon stool output - common causes of constipation and immediate care strategies	**Lower gastrointestinal output** - demonstrate awareness of normal stoma losses - administer a glycerine chip as prescribed
Glucose homeostasis - aetiology and physiology of hypo/hyperglycaemia - infants at increased vulnerability - actions at birth to reduce incidence of hypo/ hyperglycaemia - signs and symptoms - care interventions to support the hypo/hyperglycaemic infant - transition from IV to enteral nutrition (nasogastric tube (NGT), breastfeeding (BF), expressed breastmilk (EBM), formula) - maternal factors that impact glucose metabolism (for example, diabetes, obesity, medication) - when to seek support and escalate concerns - appropriate sources of information and signposts to employ when supporting families or carers	**Glucose homeostasis** - locate and discuss local guidelines for the management of hypo/ hyper glycaemia - identify infants who are at increased risk - implement care interventions to support the vulnerable/hypo/ hyperglycaemic infant - identify when blood glucose monitoring is required - coordinate care to minimise invasive painful procedures - prepare equipment and the infant's, families, and carers' environment appropriately - collect and process the sample correctly interpret the results and act accordingly - use a range of resources and appropriately advise and support families and carers - support the infant transitioning from IV to enteral nutrition, titrating fluids, and feeds accordingly and reflecting families and carers feeding choices - identify and escalate concerns

Hyperbilirubinemia - physiology of bilirubin production, transport metabolism, and excretion - conjugated and unconjugated bilirubin - physiological and pathological causes - (including ABO and breastmilk). - significance of hyperbilirubinemia under 24 hours of age - prolonged causes (total parenteral nutrition (TPN), gut surgery) - bilirubin encephalopathy and kernicterus - awareness of National Institute for Health and Care Excellence (NICE) guidance - approaches to visual assessment in all skin tones and recognising the limitations - relevance of maternal bloods - when to seek support and escalate concerns	**Hyperbilirubinemia** - holistically assess the infant for hyperbilirubinemia recognising limitations and demonstrate awareness of the ongoing need for hyperbilirubinemia assessment and monitoring
Bilirubin monitoring - the principles of bilirubin monitoring and when to initiate - measurement options and limitations (considerations for different skin tones) - documentation (how to plot results) - treatment thresholds and trajectories and gestational differences	**Bilirubin monitoring** - identify and use appropriate bilirubin measurement techniques (transcutaneous bilirubinometer, serum bilirubin) - prepare the infant and families and carers for relevant procedures and actively engage them in positioning and comforting their infant (according to their comfort level) - use pain assessment and alleviation strategies throughout and after the procedure - choose appropriate equipment for the gestation of the infant

	↻ undertake the procedure and label and process the sample appropriately ↻ identify, complete, and accurately interpret gestationally appropriate treatment threshold charts
Phototherapy ↻ principles and physiology ↻ modes of delivery and appropriate levels of treatment (for example, irradiance levels and intensity of treatment, depending on device used) ↻ cot-side care (eye and skin care, exposure, thermoregulation) ↻ side effects ↻ fluids and feeding ↻ the process of an exchange transfusion (basic awareness) ↻ what sources of information and signposts are appropriate when supporting families or carers.	**Phototherapy** ↻ identify and set up appropriate equipment ↻ prepare and provide ongoing care for infants receiving phototherapy ↻ support family and carers to navigate equipment etc., actively engaging them in positioning and comforting their infant ↻ identify when phototherapy should be discontinued ↻ consider exposure, eye and skin care, and thermoregulation ↻ identify when and how to escalate concerns ↻ demonstrate awareness of the ongoing need for hyperbilirubinemia assessment and monitoring ↻ manage fluid and feeding ↻ use a range of resources and appropriately advise and support families and carers
Specialist Knowledge **Learners should understand:**	**Specialist Knowledge** **Learners should be able to:**
↻ the current national feeding guidelines for the preterm (overview) ↻ the impact of intensive care on long term feeding outcomes ↻ the benefits and regimens for trophic feeding ↻ the expected growth patterns of the preterm infant ↻ adequate calorific intake for growth	↻ devise feeding plans in partnership with families and carers and review appropriately ↻ insert and manage a naso-jejunal (NJ) tube ↻ implement nutritional regimens for the high-risk infant ↻ calculate intravenous nutritional requirements for the extreme preterm or sick infant ↻ titrate intravenous nutrition and other infusions accurately

↳ high risk-feeding regimens ↳ parenteral nutrition (PN) constituents (micro and macro nutrients): administration, risks, and benefits ↳ the importance of fluid and electrolyte balance ↳ the nutritional considerations for infants who are 'nil by mouth' (for example, necrotising enterocolitis) ↳ metabolic disorders	
Renal and fluid balance ↳ the importance of accurate fluid balance and urine output in the extreme preterm and sick infant, including considerations of additional fluid losses (for example, bloods sampling or flushes) ↳ water homeostasis, reabsorption of electrolytes, excretion, and acid-base balance; sensible and insensible water losses in the newborn ↳ the relevance of urinary pH or specific gravity ↳ the relevance of glycosuria, leucocytes, haematuria, or proteinuria ↳ expected urine output and the causes of oliguria and polyuria ↳ acute renal failure - acute tubular necrosis (ATN) ↳ the recognition and management of renal failure or fluid overload ↳ situations leading to fluid restriction or liberation ↳ awareness of haemodialysis methods	**Renal and fluid balance** ↳ demonstrate accurate elimination and fluid output monitoring and documentation in the sick or extreme preterm infant ↳ demonstrate care of urinary catheter ↳ identify when to escalate concerns ↳ identify concerning gastric aspirates and vomit and escalate promptly ↳ use a range of resources and appropriately advise and support families and carers

Glucose homeostasis - the clinical situation in which infants may require insulin infusions - the role and action of administered insulin	**Glucose homeostasis** - care for the infant receiving insulin infusion - prepare, calculate, and administer insulin infusions - prepare, calculate, and administer increased glucose concentrations
Hyperbilirubinemia - haemolytic disease (risk factors, causes, and possible consequences including hydrops) - intensive phototherapy - intravenous immunoglobulin (IVIG) - cot-side care **Exchange transfusion** - rationale and effect (dilutional, double or single volume) - process and methods - risks - cot-side care/role in exchange transfusion	**Exchange transfusion** - identify local guidance and the equipment required to undertake an exchange transfusion - observe and monitor throughout the process - demonstrate awareness of how to access blood units - complete pre-transfusion screening (if the infant is less than 5 days old) - use a range of resources and appropriately advise and support families and carer
Related foundation equipment - feed warmers - scales - infant measuring boards tool - pH strips - breast pumps and kits - sterilising equipment - feeding cups - nipple shields - bottles/ teats - equipment for supporting side lying (cushions, stools)	

- privacy screens
- chairs
- enteral feeding pump
- ward urinalysis testing (if relevant)
- nappy scales
- blood glucose monitoring devices
- blood gas analysers
- lancets
- phototherapy units
- billibeds or billiblankets
- ward-based serum bilirubin (SBR) analysis (where relevant)
- transcutaneous monitoring

Related specialist equipment

- blood warmers
- IV pumps

Related resources

- Breastmilk provision for preterm and sick neonates
- Infant feeding

Domain 4 Respiratory and cardiovascular care

Underpinning knowledge	Skills
Foundation knowledge **Learners should understand:**	**Foundation skills** **Learners should be able to:**
Noninvasive respiratory care and conditions - the embryology, anatomy, and physiology of the respiratory system - the pathophysiology of respiratory conditions - how positioning can be used to optimise respiratory function - gestational differences - surfactant production and function - infants at greater risk of respiratory compromise - normal respiratory parameters and behaviours - holistic respiratory assessment and indicators of respiratory distress and deterioration (visual assessment, respiratory monitoring, blood gas interpretation, investigations) - how to recognise deterioration and ensure appropriate and timely clinical escalation - the principles of basic life support - oxygen therapy - the principles and cot-side care of noninvasive ventilation modes (include awareness of nasal HFOV) and pressure area assessment and care - the principles of humidity in respiratory therapy - the principles of nasal and oral suction - the importance of seeking support and escalating concerns - the principles of an accurate 24-hour oxygen saturation record (as part of discharge planning)	**Noninvasive respiratory care and conditions** - use a variety of resources to provide relevant support and information for families and carers regarding respiratory care so that families and carers are actively engaged in all care activities - demonstrate awareness of respiratory differences between term and preterm infants - demonstrate awareness of clinical deterioration and escalation - identify signs of respiratory distress (respiratory rate, oxygen saturation, recession, grunting, nasal flare), intervening and auscultating appropriately - demonstrate the ability to set up, apply and provide ongoing care for a range of respiratory therapies (low flow regulators, high flow delivery systems, continuous positive airway pressure (CPAP). Non-Invasive Positive Pressure ventilation (NIPPV) - demonstrate clinical application and interpretation of respiratory monitoring (gestationally appropriate alarm parameters, limitations, and possible sources of error) - demonstrate basic pathophysiology and cot-side care of common respiratory conditions - plan and implement nursing care of a baby at risk of apnoea of prematurity

↳ appropriate sources of information and signposting when supporting families and carers	↳ respond appropriately to the apnoeic or desaturating infant check resuscitation equipment correctly and demonstrate safe use. ↳ employ positioning to optimise respiratory undertake and document respiratory assessment ↳ status including the use of supportive equipment and demonstrate the ability to consistently position infants appropriately to safeguard support kangaroo care (skin-to-skin contact) to ensure optimal comfort and stability ↳ follow safe nasal and oral suction technique discuss the rationale for and demonstration of the safe use of humidity within respiratory therapy ↳ evaluate the effectiveness of care interventions on respiratory status ↳ demonstrate basic knowledge of blood gases, identifying abnormal parameters and responsibilities for escalation and documentation ↳ document, evaluate and report all aspects of respiratory care appropriately airway and optimise respiratory function. ↳ discuss how to facilitate a 24-hour oxygen saturation recording and how to troubleshoot and escalate concerns
Cardiovascular care, monitoring, and assessment ↳ the embryology, anatomy, and physiology of the cardiac system including fetal circulation and adaptations at birth ↳ the principles of cardiac monitoring and assessment	**Cardiovascular care, monitoring, and assessment** ↳ demonstrate applied knowledge of normal cardiovascular parameters, including gestational differences ↳ identify and utilise appropriate cardiac monitoring for low dependency infants with a range of care needs

↳ gestational appropriate parameters for heart rate, blood pressure and perfusion (including different skin tones) ↳ the significance of deviations from the norm and cardiovascular instability ↳ the importance of documentation and trends in data	↳ set correct alarm parameters for health status and gestation and identify limitations and possible sources of error ↳ identify physiological and visual indicators of cardiovascular instability and respond appropriately ↳ document, evaluate and report all aspects of cardiac care appropriately and identify when and how to escalate concerns
Cardiac conditions ↳ common congenital heart conditions (basic awareness) ↳ Patent Ductus Arteriosus (PDA) and its role and impact (basic awareness)	**Cardiac conditions** ↳ demonstrate applied knowledge of condition-specific cardiovascular parameters ↳ provide relevant support and information for families and carers regarding cardiac care including preparation for investigations and procedures
Haematology ↳ normal blood values (basic understanding) ↳ anaemia of prematurity symptoms and causes ↳ transfusion of blood products; indication, risks, process (basic overview) ↳ when to seek support and escalate concerns	**Haematology** ↳ discuss anaemia of prematurity and list the signs and symptoms of anaemia in the preterm or sick infant ↳ participate in the safe administration of blood products
Specialist knowledge **Learners should understand:**	**Specialist skills** **Learners should be able to:**
Invasive respiratory care and conditions ↳ the pathophysiology of respiratory conditions, for example PPHN, RDS and acute hypoxia. ↳ the impact of surfactant deficiency on respiratory status and treatment strategies surfactant administration	**Invasive respiratory care and conditions** ↳ undertake a systematic assessment (using the 'ABCDEF' approach) to prioritise and escalate care ↳ actively engage families or carers throughout assessment, seeking their feedback and observations, supporting, and empowering them to raise any concerns and ask questions

- holistic respiratory assessment and indicators of respiratory distress and deterioration (visual assessment, respiratory monitoring, blood gas interpretation and responsibilities, investigations)
- airway positioning and management
- the principles of transcutaneous CO_2 monitoring
- the principles of supporting intubation procedure
- the pharmacology of intubation pre-medication
- the principles and cot-side care of invasive ventilation modes include awareness of Nasal HFOV to include pressure area assessment and care
- the principles and practice of cot-side care for infants receiving nitric oxide
- the principles of suctioning airway devices
- Positional approaches to optimise airway function. Consider the benefits of respiratory physiotherapy.
- the principles and cot-side care of an infant with a chest drain in situ
- to use when supporting families and carers
- the importance of seeking support and escalating concerns
- the principles of neonatal resuscitation
- the pharmacology of medications used in resuscitation
- the principles of safe extubation
- the pharmacology of commonly used respiratory medications
- appropriate sources of information and the signposts

- plan and implement care activities to optimise respiratory status, including handling and positioning
- recognise respiratory compromise (observations, monitoring, and behaviours) and provide appropriate support
- evaluate the need for monitoring, taking into account the infant's condition
- support radiological investigations to optimise imagery
- provide neonatal resuscitation in line with current national guidelines
- participate in the preparation and administration of medications used within resuscitation
- participate in the intubation process to support the infant, neonatal team, and carers
- participate in the preparation and administration of pre-medication for intubation
- participate effectively in surfactant administration procedures and subsequent care
- demonstrate emotional intelligence and compassion when supporting families and carers in relation to a resuscitation or acute care episode
- participate and contribute professionally to the debrief process
- demonstrate the ability to set up, apply and provide ongoing care for a range of respiratory therapies (oxygen therapy, conventional and high frequency oscillatory invasive ventilation, nitric oxide)
- apply humidity within respiratory therapy demonstrate effective airway positioning

↳ awareness of the roles of the wider MDT and how to refer ↳ when to seek support and escalate concerns	↳ maintain airway patency via suctioning techniques ↳ demonstrate knowledge of blood gases, identifying abnormal parameters and responsibilities for escalation and documentation ↳ identify indicators for respiratory physiotherapy and initiate the referral process (if available) ↳ demonstrate care required for an infant requiring a chest drain (supporting insertion and removal and cot-side care) ↳ demonstrate safe extubation processes ↳ prepare and safely administer commonly used respiratory medications ↳ utilise a range of resources, appropriately advise and support families and carers
Cardiovascular care, monitoring and assessment ↳ the physiology of blood pressure (the impact of hyper/ hypotension, trends, and parameters in sick and preterm infants) ↳ the potential impact of cardiovascular instability on cerebral blood flow ↳ the principles of invasive blood pressure monitoring ↳ the impacts of poor perfusion ↳ the assessment of perfusion (capillary refill and toe or core monitoring) in different skin tones ↳ the principles of pre- and post-ductal saturation monitoring	**Cardiovascular care, monitoring and assessment** ↳ use the appropriate cardiovascular monitoring in response to the clinical condition ↳ undertake holistic, individualised cardiovascular assessment, respond appropriately to deviations from the norm and escalate appropriately ↳ provide safe care of arterial lines

Cardiovascular instability - strategies for the management of cardiovascular instability (pharmacology, volume, blood products) indications, risks, and cot-side care - the impact of cardiovascular instability on other body systems - the cardiac component of persistent - pulmonary hypertension of the newborn - fluid compartments within the body	**Cardiovascular instability** - participate in the immediate care of and in meeting the stabilisation needs of the infant with cardiac compromise - demonstrate safe practice in the preparation, administration and cot-side care related to inotropes, blood products, and fluid bolus - demonstrate safe practice in the calculation and titration of intravenous infusions for the fluid restricted infant
Cardiac Conditions - antenatally agreed place of birth and the importance of early communication with cardiac centre or transfer teams - common congenital cardiac conditions and patent ductus arteriosus (PDA) - pathophysiology - signs and symptoms - stabilisation - infusion pump height relative to the baby for inotropes and other short half-life drugs - treatment strategies - pharmacology - cot-side care	**Cardiac Conditions** - demonstrate safe practice in the preparation, the administration and the cot-side care related to cardiac medication (for example, prostaglandin E2) - use a range of resources to appropriately advise and support families and carers
Relevant foundation equipment - respiratory monitoring (oxygen saturation, respiratory rate) - low flow regulators - Non-invasive delivery systems - humidifiers - suction equipment (oral and nasal) - apnoea alarms - blood gas analyser - oxygen and air blenders	

- oxygen cylinders and portable blenders
- flow-driven devices (neopuff)
- manual resus devices (ambu bag)
- electrocardiogram (ECG) leads
- cot-side monitor
- saturation probe
- stethoscope
- blood pressure (BP) cuff
- blood gas analyser

Relevant specialist equipment - equipment competencies required

- respiratory monitoring (end tidal CO2/ transcutaneous/ saturation)
- ventilator - modes
- nitric delivery systems
- blood gas analyser
- respiratory humidifiers
- suction equipment and disposables (meconium aspirators, where used)
- chest drain kit and thoracic suction
- arterial transducer
- arterial line
- toe or core monitoring
- resuscitaire

Domain 5. Neurological and infant neurodevelopmental care

Underpinning knowledge	Skills
Foundation knowledge **Learners should understand:**	**Foundation Skills** **Learners should be able to:**
Embryology, anatomy, physiology - brain development including germinal matrix and cerebral blood flow and auto regulation - nervous systems including role of cerebrospinal fluid (CSF) - the musculoskeletal system - normal neurological development (gestational differences): tone, posture, movements - development of the five main senses and the environmental impacts on these - birth injuries (including caput succedaneum, cephalohematoma, subgaleal haemorrhage, skull fractures	**Embryology, anatomy, physiology**
Infant neurodevelopmental care - developmental risks associated with preterm birth (short and long-term impacts) - strategies to support bonding and their impact upon short and long-term wellbeing - considerations for families of multiple birth - the importance of family and carer education and empowering families and carers with developmental care - infant behaviour and sleep and wake states - behavioural cues - positioning and the correct use of aids	**Infant neurodevelopmental care** - actively engage families and carers to employ positive touch and wider comfort strategies - use a range of resources to appropriately advise, educate, and support families and carers during neurodevelopmental care, empowering them to be partners in care - recognise and appropriately respond to sleep and wake states and to behavioural cues - employ strategies to support gestationally normal posture, movement, and tone - promote and facilitate regular skin-to skin contact and plan and support safe infant transfer - implement ‘wrapped’ care

↳ appropriate handling (clinical and by family and carers) ↳ comfort strategies ↳ skin-to-skin contact (including the principles of infant transfer) ↳ the differing sensory experience in utero and ex-utero ↳ gestationally appropriate play ↳ supporting for a language-rich environment (language, communication, and interaction) ↳ neurological assessment tools ↳ when to seek support and escalate concerns ↳ appropriate sources of information and signposts to employ when supporting families and carers ↳ the role of the MDT ↳ the role of specialist personnel (including physiotherapists, speech and language therapists, occupational therapists, and psychological professions) ↳ how to seek support and escalate concerns to specialist personnel	↳ interventions ↳ Implement side-lying nappy changes ↳ promote bonding throughout care activities ↳ use boundaries, positioning aids and incubator covers appropriately ↳ plan and implement interventions to minimise the impacts of environmental stress and to evaluate effectiveness ↳ facilitate gestationally appropriate play ↳ identify when and how to escalate concerns, liaise, and refer to specialist personnel ↳ document developmental care in line with local practice ↳ The role of MDT ↳ demonstrate the local referral process to specialist personnel
Family integrated care (FICare) ↳ understand the rationale for and principles of FIcare (partnership with families and carers, empowerment, wellbeing, culture, environment, staff and family and carer education)	**Family integrated care (FICare)** ↳ provide education and support to families and carers, enabling them to be partners in care ↳ advocate for families or carers and demonstrate behaviours that promote a supportive collaborative culture, empowering them to be active in the planning and delivery of care activities ↳ signpost and promote peer and psychosocial support ↳ provide opportunities to families and carers

Pain, distress, and discomfort	Pain, distress, and discomfort
• the anatomy, physiology of the central and peripheral nervous system and gestational differences • normal behaviour in infants of different gestations (for example, tone, posture, movement, and sleep/awake states) • the differences between stress, distress, pain, and discomfort in infants • the behavioural and physiological indicators of pain, distress, or discomfort, including gestational differences • the range of care interventions that might cause pain, distress, or discomfort • the short- and long-term impacts of pain, distress, or discomfort • the importance of accurate and timely assessment of neonatal pain using assessment tools • the non-pharmacological and pharmacological supportive strategies and the importance of timely implementation • the pivotal role of families and carers in supporting the infant in pain, distress, or discomfort • appropriate sources of information and signposts to employ when supporting families and carers • when to seek support and escalate concerns	• recognise the infant in pain, distress, or discomfort • plan care to minimise painful experiences and promote rest and recovery and actively engage families and carers as advocates for their infant throughout this time • observe infant behavioural cues to pace interventions accordingly. • undertake pain assessment (utilising validated neonatal pain assessment tool) and document it • use non-pharmacological care strategies to promote stability and reduce pain, distress, and discomfort • support families and carers as key partners in the management of the pain, distress, or discomfort of their infant • provide relevant support and • information for families and carers about neonatal pain, distress or discomfort and use a variety of resources to enhance the family integrated approach • use holistic assessments to advocate for the infant in pain, distress or discomfort and escalate concerns • implement pharmacological strategies as prescribed • evaluate the efficacy of non-pharmacological and pharmacological interventions to modify ongoing care appropriately • document care in relation to pain management

Neonatal abstinence syndrome (NAS) - basic aetiology of neonatal abstinence syndrome (NAS) - the signs, symptoms, and behaviours - the impact of NAS on growth and development - the use of assessment tools and documentation - care strategies to minimise the adverse effects of NAS (pharmacological and non-pharmacological) - when to seek support and escalate concerns - specialist referrals to support areas of development (for example, neurobehavior and feeding) - the importance of developing effective relationships with families and carers to support their understanding of the infant's complex needs - appropriate sources of information and signposts to employ when supporting families and carers	**Neonatal abstinence syndrome (NAS)** - assess the withdrawing infant utilising validated NAS scoring tools and associated documentation - engage families and carers to employ positive touch and wider comfort strategies - implement a variety of non-pharmacological care strategies to support the infant with NAS and evaluate their efficacy - use assessment data effectively to advocate for the infant who requires adjustment to pharmacological support - identify when and how to escalate concerns - communicate with other agencies to support continuity of care, following local guidance - use a range of resources to appropriately advise and support families and carers
Specialist knowledge **Learners should understand:**	**Specialist skills** **Learners should be able to:**
Neurological conditions and management - the aetiology and antenatal and perinatal factors contributing to neurological conditions - the treatment and outcomes of the most common neonatal neurological conditions (hydrocephalus and spina bifida) - the impact of physiological instability on cerebral blood flow and the developing brain - strategies to reduce the risk and severity of neurological injury - neurological observations and assessment tools	**Neurological conditions and management** - identify infants at risk of neurological injury - employ interventions to reduce the risk and severity of neurological injury - perform holistic neurological observations and escalate concerns - measure head circumference (hydrocephalus and spina bifida)

Intra ventricular haemorrhage (IVH) and periventricular leukomalacia (PVL) - pathophysiology - classification - the signs and symptoms - strategies to minimise incidence and severity - treatment strategies - follow up and outcomes	**Intra ventricular haemorrhage (IVH) and periventricular leukomalacia (PVL)** - identify signs and symptoms - employ strategies to minimise fluctuations in cerebral blood flow
Hypoxic ischemic encephalopathy (HIE) - pathophysiology - classification - the signs and symptoms - the criteria for therapeutic hypothermia - the principles of therapeutic hypothermia - the care of the infant undergoing therapeutic hypothermia - outcomes	**Hypoxic ischemic encephalopathy (HIE)** - identify signs and symptoms of hypoxic ischemic encephalopathy (HIE) - demonstrate awareness of the criteria for therapeutic hypothermia - initiate cooling interventions - provide care for infants undergoing therapeutic hypothermia
Cerebral function monitoring (CFM) - awareness of cerebral function monitoring (CFM) and its uses - basic recognition of normal and abnormal CFM trace - the care of the infant receiving CFM monitoring - support the set up and application of cerebral function monitoring (CFM) - provide ongoing care for the infant receiving CFM - recognise normal and key abnormal CFM trace and escalate	
Seizures - common causes - the signs and symptoms - investigations - common anti-convulsant therapies, side effects, and monitoring	**Seizures** - identify and monitor infants at risk of seizures - recognise seizure activity and respond appropriately - provide care for an infant who is having seizures - safely administer anticonvulsant treatment and monitor its efficacy and side effects

Infant neurodevelopmental care in intensive care • the application of family-integrated care (FICare) within an intensive care environment • the preparation and facilitation of skin to-skin contact for extremely preterm or sick infants • strategies to support bonding in the sick and extremely preterm infant • the environmental impacts of intensive care • the supportive positioning of extremely preterm or sick infants • neurodevelopmentally supportive handling • the roles of allied health professionals (AHPs) and psychological professionals within intensive care	**Infant neurodevelopmental care in intensive care** • facilitate FICare from admission to intensive care and actively engage families and carers with positive touch and wider comfort strategies • employ strategies to facilitate bonding and promote and facilitate regular skin to-skin contact (when clinically appropriate) • plan and support safe infant transfer • employ strategies to support musculoskeletal development • minimise negative environmental stimuli • undertake safe preparation and facilitation of skin-to-skin contact for extremely preterm or sick infants • employ neurodevelopmentally supportive handling • collaborate with AHPs to support neurodevelopmental care • use a range of resources and appropriately advise and support families and carers to provide neurodevelopmental care
Pain, distress, and discomfort • pain pathways, pain perception, and modulation • intensive care factors influencing pain assessment (for example, intubation, sedation, muscle relaxation, and neurological impairment) • pain assessment tool limitations • pharmacological supportive strategies in the intensive care setting	**Pain, distress, and discomfort** • demonstrate awareness of pharmacological strategies, pain assessment tool limitations, and pain assessment in the sedated and paralysed infant
Neonatal abstinence syndrome (NAS) • the clinical situation where neonatal abstinence syndrome (NAS) may have an iatrogenic cause (for example, opiate infusions)	**Neonatal abstinence syndrome (NAS)** • identify infants at risk of iatrogenic neonatal abstinence syndrome (NAS)

Related foundation equipment

- positioning aids
- earmuffs
- cot canopy
- incubator covers
- decibel monitors
- reclining chairs
- camp beds
- kangaroo wraps
- eye masks
- locally employed pain assessment tools
- non-pharmacological aids
- locally employed NAS assessment tools

Related specialist equipment

- cooling mattress
- rectal temperature probes
- cerebral function monitoring (CFM) monitor
- measuring tape

Domain 6. Thermoregulation, skin, hygiene, infection prevention and infection

Underpinning knowledge	Skills
Foundation knowledge **Learners should understand:**	**Foundation skills** **Learners should be able to:**
Thermoregulation - the anatomy and physiology of neonatal thermoregulation - non-shivering thermogenesis - effects of low birthweight, differing gestational ages - surface area (body weight ratio) - development of skin - subcutaneous fat stores - vasoconstriction - posture and positioning - brown adipose tissue stores - energy and 02 in heat production - central nervous system (CNS) response - hypo and hyper thermic parameters - the signs and symptoms of the infant with temperature instability - the impacts upon physiological state (short and long term) - cold and heat stress - the energy triangle - four types of heat loss - environmental impacts - clinical care and handling that may cause thermal stress (cold/ heat) - bathing (appropriate clinical status, environment and preparation) - monitoring modes and appropriate clinical use - axilla - central and toe	**Thermoregulation** - identify and use the correct temperature monitoring (as locally available) for low and stable high dependency infants with a range of thermal care needs (axilla, central and toe, tympanic and skin) - determine the frequency of assessment - document thermal care data - interpret thermal data as part of a holistic assessment, escalate concerns, and identify sources of error - employ relevant strategies to minimise thermal impacts, maintain thermoneutrality throughout all care activities, and evaluate effectiveness and respond appropriately (commencing and maintaining humidity as required - environmental or respiratory) - use bedding and clothes appropriately for a low or high dependency infant being cared for with a cot, incubator, heated mattress, or radiant heater. - locate and discuss local, network or national policy and guidelines relating to thermal care - educate and support families and carers about thermal care and use a variety of resources to engage families or carers with managing thermal care

↳ central (including servo mode) ↳ the range of thermoregulatory support (skin-to-skin contact, incubators, Resuscitaire or radiant heater, heated mattresses, the principles of humidity (environmental and respiratory) and the appropriate use of clothing and bedding ↳ health promotion (sudden infant death syndrome (SIDS), appropriate clothing at home and in car seats, education of carers in thermal care monitoring and intervention in unit and at home) ↳ appropriate sources of information and signposts to employ when supporting families or carers (the effects of low birthweight at differinggestational ages, brown adipose tissue stores, energy and 0_2 in heat production)	↳ use a range of resources and appropriately advise and support families and carers about: ↳ sudden infant death syndrome (SIDS) ↳ appropriate clothing at home and in car seats ↳ thermal care monitoring and interventions (in unit and at home)
Hygiene ↳ underpinning principles of developmentally appropriate hygiene care	**Hygiene** ↳ engage families and carers with using positive touch and wider comfort strategies ↳ provide developmentally appropriate hygiene care, including: ↳ assessment of umbilicus/eyes/ skin/stoma ↳ bathing ↳ relevant hygiene regimes (such as mouth care and eye care) ↳ nappy care
Skin ↳ anatomy and physiology (skin and immune system) ↳ common neonatal infections ↳ its role in infection prevention ↳ gestational differences possible causes of iatrogenic skin injury ↳ skin assessment tools for different skin tones	**Skin** ↳ undertake regular head-to-toe assessment of skin integrity in different skin tones ↳ employ strategies to minimise pressure injury

↳ understanding of broader skin care products and their suitability for infants ↳ principles of wound care (wound sites, extravasation injury) ↳ common skin infections in different skin tones	↳ identify pressure injuries (using appropriate scoring system) in different skin tones and modify care accordingly ↳ referral to a local tissue viability service ↳ identify commonly used skin dressings and when they are appropriate
Infection ↳ sources of infection ↳ routes of transmission (vector, vertical, nosocomial) ↳ the timing of presentation (congenital, early, and late onset) ↳ common infections (bacterial, viral, and fungal) ↳ the signs and symptoms of local infection and systemic sepsis-escalation in different skin tones ↳ the identification of risk factors and 'red flags' ↳ tools used to determine the risk of early onset infection in newborn infants ↳ short- and long-term impact on outcomes	**Infection** ↳ effective hand washing ↳ donning and doffing personal protective equipment ↳ aseptic non-touch technique (standard and surgical ANTT™) ↳ routine infection control actions (in line with local policy) ↳ damp dusting ↳ the use of single use or single patient use equipment ↳ the decontamination of equipment ↳ identify signs and symptoms of infection in an infant and when and how to escalate concerns ↳ initiate and maintain barrier nursing procedures ↳ undertake screening swabs in line with local policy ↳ collect specimens (urine, stool, nasopharyngeal aspirate (NPA)) ↳ support the MDT with specimen collection (for example, lumbar puncture) ↳ conduct observations and document them using a recognised early warning tool, escalating concerns as appropriate (where used) ↳ identify sepsis protocol in their area and recognise red flags ↳ access and discuss local infection control policies and related guidelines

Strategies to minimise infection - hand hygiene - appropriate use of personal protective equipment - barrier nursing - differentiation between standard and surgical ANTT™ and selection of appropriate method using risk assessment - disinfection/sterilisation techniques - environmental considerations - routine infection and colonisation screening (swabs and specimens) - equipment (single use, single patient, reusable) - local cleaning procedures - septic screen	**Strategies to minimise infection** - identify infants at risk of early and late onset infection
Intravenous (IV) or central line care - the underpinning principles of IV or central line care	**Intravenous (IV) or central line care** - undertake site assessment and visual infusion phlebitis (VIP) score - assess the integrity of dressings and fixation methods and initiate changes appropriately - deliver relevant cot-side care - identify local infection control personnel - use a family integrated approach to educate and support families and carers to understand susceptibility to infection, participate in infection prevention, recognise signs of infection, and manage care or escalate when discharged - Signpost family and carers to information and resources
Antimicrobials - commonly used antibiotics, antivirals, and antifungals - indications - side effects	
The roles of specialist personnel - the local infection control and prevention team	

Specialist knowledge Learners should understand:	Specialist skills Learners should be able to:
Thermoregulation - delivery room strategies - extreme prematurity and effects upon thermostability - skin physiology of the extreme preterm and trans-epidermal water loss (TEWL) - thermal management of the infant who is undergoing intensive care procedures - supporting thermal care during transfers (intra- and inter-hospital) - impact of humidity on thermal stability (environmental, respiratory) - monitoring modes and appropriate clinical use: - central and toe - central - (including servo mode) - rectal - infections associated with intensive care (invasive procedures, ventilation associated pneumonia) - increased vulnerability of the preterm infant and sick infant - importance of rapid recognition and response to deterioration - impact of systemic infection (for example, disseminating intravascular coagulation (DIC)) - basic principles of microbiology - role of specialist personnel (including the role of the microbiologist)	**Thermoregulation** - correctly identify and use thermal care delivery room strategies and equipment (as locally available) - implement thermal care strategies to support the transition from delivery suite to neonatal unit - apply and manage environmental and respiratory humidity in the extreme preterm infant - employ proactive thermal care strategies for the infant receiving intensive care to maintain thermoneutrality - evaluate the effectiveness of thermal care strategies and interventions and respond appropriately - identify when and how to escalate concerns - Support the infant appropriately and advocate for them throughout the infection screening - carry out assessments and provide care for infants with indwelling central and peripheral catheters - assist the neonatal team during invasive procedures
IV and Central line care - the care principles, risks, and benefits of central lines (umbilical vein/arterial lines, percutaneous venous long lines, and peripheral arterial lines)	**IV and Central line care** - set up, maintain and discontinue intravenous nutrition via central access - recognise appropriate administration sites and contraindications of infusions - set up, maintain and discontinue peripheral / central arterial line monitoring

Related foundation equipment

- temperature monitoring (axilla, skin, toe)
- incubators
- heated mattresses
- trans warmers
- cots
- radiant heaters
- Resuscitaire
- humidifiers for respiratory therapy
- feeding equipment.
- sterilisation procedures
- fridge/freezer temperature management

Related specialist equipment

- thermal elements of Resuscitaire utilised at delivery
- thermal elements of transport mode
- rectal probes and monitoring
- plastic thermal covering
- repose mattress

Domain 7. Admissions, stabilisation, transfers, and discharges

Underpinning knowledge	Skills
Foundation knowledge Learners should understand:	**Foundation skills** Learners should be able to:
Admissions - embryology and fetal development, including multiple pregnancies - adaptation to extrauterine life - maternal health factors that impact the infant - obstetric issues contributing to neonatal admission - preparing families for admission (pre birth) - health inequalities and their relationship with maternal and neonatal care - risk factors for preterm delivery - PERIPrem optimisation strategies - avoiding unnecessary admissions (for example, ATAIN) - the range of criteria for admission to neonatal care - additional considerations for families of multiple birth	**Admissions** - locate and discuss related policies and guidelines
Admission process - preparation for admission (environment, equipment, team roles, and responsibilities) - holistic assessment of special care and high dependency infants (history, visual, handling, vital signs) - when to seek support and escalate concerns - data collection and documentation at admission - appropriate sources of information for families and carers and support signposting to relevant services at point of admission	**Admission process** - identify any additional support or resources that may support families and carers on admission (for example, finance, transport, accommodation, and interpreters) - prepare the environment and use equipment required for the admission of a special care or high dependency infant - communicate effectively with the MDT during the admission process

	↳ conduct an appropriate holistic initial assessment of the infant, assimilating data from a variety of sources and responding appropriately ↳ prioritise actions to respond to the infant's status ↳ identify when and how to escalate concerns and recognise their own professional boundaries ↳ participate in a team approach to admissions and support colleagues ↳ complete the relevant documentation ↳ use a range of resources to appropriately advise and support families and carers during admission and orient them to the neonatal environment ↳ recognise infants and families that are vulnerable or have existing safeguarding concerns ↳ identifying and initiating the safeguarding process where there are concerns of harm (from families/carers, staff etc) ↳ referring to relevant professionals in line with local and national safeguarding guidance ↳ use opportunities and interventions to support bonding and attachment during the admission process ↳ prepare a bedspace for admission and check all emergency equipment
Screening ↳ examinations and screening: ↳ Newborn Infant Physical Examination Cymru NIPEC - HEIW newborn blood spot (NBS) screening	**Screening** ↳ provide relevant information and signposts to families and carers, using a variety of resources and communication methods to support the consent process for screening programmes

- retinopathy of prematurity (ROP) screening
- hearing screening
- infection screening
- hip ultrasound
- cranial ultrasound
- the rationale for screening programmes
- the nationally recognised processes and methods of screening
- the information to provide families and carers when gaining consent
- preparation of relevant equipment for the required screening process
- supporting the infant and family during screening
- the key specialist personnel involved in routine screening
- supporting the professional undertaking the screening
- complete relevant screening documentation
- awareness of local and national support groups
- when to seek support and escalate concerns
- the most commonly seen neonatal genetic disorders and their management and prognoses
- the most commonly seen neonatal metabolic disorders and their management and prognoses, where applicable:
  - relevant anatomy and physiology
  - pathophysiology
  - risk factors and prevention
  - classification
  - treatment options
  - possible short-term effects and longterm outcomes

- prepare equipment
- support the infant and their family or carers throughout the screening process
- assist the professional doing the screening
- coordinate care to minimise pain and distress for the infant
- identify when and how to escalate concerns
- collect and process samples correctly
- complete relevant screening documentation

Core principles of infant transfer (intra and inter-hospital) - stabilisation before transfer - planning and preparation - communication (team, families, and carers, receiving area) - equipment - key safety aspects - destination preparedness - the importance of recognising personal abilities and professional boundaries - the impact of intra- and inter-hospital transfers on families and carers and strategies for support - potential problems during transfer and troubleshooting strategies - the impact of transfer on unit workload and the importance of teamwork	**Core principles of infant transfer (intra and inter-hospital)** - locate information about local immediate transport teams - locate guidance for the preparation of infants for intra- or inter-hospital transfer - check and prepare transport equipment - communicate with the receiving team to ensure preparedness - prepare the infant for transfer - undertake an intra-hospital transfer - prepare additional items for transport (for example, personal belongings and mother's milk) - undertake a comprehensive verbal handover using a structured approach - complete all transfer documentation - use a range of resources to appropriately advise and support families or carers throughout the transfer process - offer support and resources to the attending transfer teams - recognise individual abilities and professional boundaries - demonstrate appropriate moving and handling techniques during transfer activities
Inter-hospital transfer - reasons for transferring to another unit (surgery, escalation, repatriation, capacity) - clinical situations requiring immediate transfers - the role of the transport team - network guidance - the importance of timely referral to the transport team	

Intra Hospital transfer - the reasons for transferring within hospital (admission, escalation and de escalation of care within the unit, transitional care, investigations) - principles of safe transportation - the use of key transfer documentation	**Intra Hospital Transfer** - safely transfer patients utilising appropriate monitoring and equipment as per local guidelines
Documentation and communication (transfers) - structured approaches for verbal handover - when to seek support and escalate concerns - appropriate sources of information and signposts to employ when - supporting families or carers whose infants are being transferred - communication with other professionals before admission and on admission	
Neonatal outreach - the role and function of outreach services within the neonatal care pathway - local service provision and specialist personnel - local criteria for outreach	**Neonatal outreach** - identify key features of neonatal outreach services that support the infant and family throughout neonatal care - identify local unit criteria for outreach services - locate local guidelines aimed at helping families and carers to prepare for transfer to outreach care (where relevant) - liaise effectively with local outreach services to support the ongoing care of infants, families, and carers
Discharge - the importance of starting the discharge process early and of incorporating planning within daily nursing care to empower families - the purpose of a discharge planning meeting and the procedures for initiating one	**Discharge** - prioritise timely discharge planning - use all local care plans and checklists to support families and carers in preparing for discharge

- the range of services and equipment that may need to be coordinated before discharge (Basic Life Support (BLS), medicines, outreach, home oxygen)
- the importance of health promotion opportunities before discharge
- the local discharge criteria
- the possible ongoing care needs of the preterm infant and family after discharge and liaising with relevant teams (including outreach and specialist nurses)
- the appropriate sources of information and signposts to employ when supporting families and carers whose infants are approaching discharge
- when to seek support and escalate concerns
- the circumstances in which discharge processes may include safeguarding considerations
- the follow-up pathways and early interventions or outcomes relevant to continuing a developmentally appropriate care approach after discharge (including AHP's)
- supporting transition to home (working with outreach team or paediatric services)
- follow-up processes

- coordinate and participate in a discharge planning meeting
- teach families and carers the required infant care skills before discharge
- discuss all current and relevant health promotion communications with families and carers
- advise families and carers about how to comfort a crying infant and how to cope. Signpost them to relevant resources and services
- access supportive community resources (for example, breast pump hire and breastfeeding peer support groups)
- contribute to local referral processes that support infants, families, and carers who require outpatient or community care
- initiate local referral processes for infants who require home oxygen
- identify families with ongoing additional social needs and liaise with key referral personnel (for example, social workers, safeguarding leads, or foster families)
- complete all discharge documentation in line with local guidance, facilitating a safe and comprehensive handover of care to the wider MDT
- input information to BADGERNET™
- use a range of resources, appropriately to advise and support families or carers

Documentation and communication (outreach and discharge) • key documentation and communication actions that ensure a comprehensive handover of care to the wider MDT • data collection processes and systems • communication with other professionals within pre-discharge planning (for example, community midwives and health visitors)	
Specialist Knowledge **Learners should understand**	**Specialist Skills** **Learners should be able to**
Admission • the implications of right place of birth for the following infants: preterm, surgical, cardiac • preparation for an intensive care admission (environment, equipment, team roles, and responsibilities) • the practical implications of attending the delivery of and admitting multiple births • holistic assessment of an intensive care infant (history and visual) • resuscitation at birth as per Resuscitation Council UK guidlines • principles of neonatal resuscitation • the importance of appropriately stocked and checked safety equipment • escalating concerns dependent upon level of urgency	**Admission** • locate and discuss related policies and guidelines • prepare the environment and use the equipment required for the admission of an intensive care infant • demonstrate resuscitation skills (appropriate to role) and support the resuscitation process in line with Resuscitation Council guidance • correctly employ relevant monitoring or equipment to support the resuscitation and admission process • support preterm optimisation interventions at birth • undertake holistic initial assessment of the preterm or sick infant, assimilating data from a variety of sources • prioritise actions in response to infant status • identify when and how to escalate concerns and recognise their own professional boundaries to optimise outcomes • communicate effectively throughout the resuscitation, stabilisation, and admission processes

	↳ work with wider nursing team to support admissions and transfers; recognising impact of unit acuity ↳ complete all relevant documentation ↳ use a range of resources appropriately to advise and support families and carers during admission and orient them to the neonatal environment ↳ facilitate opportunities and interventions to support bonding and attachment following the intensive care admission process

Related foundation equipment:

- ↳ incubators
- ↳ monitoring
- ↳ temperature (axilla, skin, toe)
- ↳ electrocardiograms (ECGs)
- ↳ saturation monitor
- ↳ Resuscitaire
- ↳ heel lancets
- ↳ local transport equipment (basic awareness of location, checking procedures and responsibilities)
- ↳ computer access and training to complete key data capture

Domain 8. Surgical care

We recognise that further specialist education will be required for staff working in surgical centres. The objective of this domain is to address the learning needs of neonatal nurses across all unit designations in relation to surgical care.

Underpinning knowledge	Skills
Foundation knowledge **Learners should understand:**	**Foundation skills** **Learners should be able to:**
Embryology, anatomy, physiology of the surgical infant • the clinical presentation of common neonatal conditions that may require surgical intervention, including • abdominal wall defects • cardiac • diaphragmatic hernia • ear, nose and throat (ENT) • inguinal hernia • intestinal obstruction • necrotising enterocolitis (NEC) • neurological • tracheoesophageal fistula and oesophageal atresia (TOF and OA) • urology • the role of the wider MDT in the care of the infant who requires surgery (for example, Transport, surgical link nurses, surgical centre, stoma nurse) • appropriate sources of information and signposts to employ when supporting families and carers before and after surgery • the use of training materials and relevant teaching resources • care of an infant requiring surgery (basic introduction)	**Embryology, anatomy, physiology of the surgical infant** • identify common conditions requiring surgery in the neonatal period and highlight the impact of the condition on the infant, families, and carers • demonstrate awareness of the general principles of care for an infant requiring surgery (pre- and post- operative care) • promptly escalate the infant who has concerning gastric aspirates or vomit • identify and promptly escalate red flags for conditions that may require surgical review • prompt action to change to an individualised plan of care • undertake basic surgical wound care assessment and management • recognise the need for post-operative pain assessment and management, including pharmacological and non-pharmacological strategies • use a range of resources to appropriately advise and support families and carers

Stoma care - the relevant anatomy and physiology of lower gastrointestinal conditions that may require formation of a stoma - different types of stoma and appropriate care - altered anatomy and physiology in stoma formation and the implications of stoma site - the principles of cot-side care for the infant with a stoma (for example, perfusion, fluid balance, skin integrity assessment, stoma bag management) - Immediate post-surgical care of the stoma - when to seek support and escalate concerns (within the unit, within the health board or to regional specialist personnel) - appropriate sources of information and signposts to use when supporting families and carers	**Stoma care** - locate and discuss local stoma guidelines and supporting information - use a range of resources to appropriately advise and support families and carers to provide stoma care - use appropriate personal protective equipment and observe infection control procedures - change a stoma bag as per the individual plan and support parents, families, and carers with stoma care in preparation for discharge (as appropriate) - assess the stoma and document the colour, consistency and volume of stoma output - assess the skin integrity of stoma site and provide skin care in line with local guidance - recognise deviations from the norm and identify when and how to escalate concerns
Specialist knowledge **Learners should understand:**	**Specialist skills** **Learners should be able to:**
Stabilisation of the infant with a surgical condition - maternal histories associated with congenital abnormalities that may require surgical intervention - prenatal management and foetal medicine related to conditions that may require surgery (basic awareness) - the importance of timely escalations and reviews to outcomes - the importance of medical management in infants with conditions that may require surgical intervention	**Stabilisation of the infant with a surgical condition** - provide care as part of the neonatal team at delivery and provide ongoing stabilisation for the infant with common conditions that may require surgery - promptly action changes to individualised plans of care - ensure timely referral and effective communication with the surgical centre and the transport team where relevant - prepare infants, families, and carers for transfer to the surgical centre

- how to recognise and provide immediate care for and stabilisation of infants with conditions that may require surgical intervention, including:
  - abdominal wall defects
  - cardiac
  - diaphragmatic hernia
  - ear, nose and throat (ENT)
  - inguinal hernia
  - intestinal obstruction
  - necrotising enterocolitis (NEC)
  - neurological
  - tracheoesophageal fistula and oesophageal atresia (TOF and OA)
  - Urology
  - ROP
- the importance of close liaison with regional services (surgical and transport)
- the preparation for transfer to surgical centres
- the use of Replogle tubes in stabilising OA infants
- the surgical management and outcomes of necrotising enterocolitis (NEC)
- potential short and long term sequalae of common neonatal surgical conditions
- awareness of surgical complications
- the role and functions of specialist personnel (for example, paediatric specialty surgeons, specialist surgical nurses, stoma care nurses)
- when to seek support and escalate care

- use a range of resources to appropriately advise and support families and carers
- liaise with the relevant MDT
- care for infants with tracheoesophageal fistula or oesophageal atresia before surgery (including Replogle tube insertion and ongoing cot-side care)
- undertake a holistic assessment of an infant with bilious aspirates or vomiting and escalate appropriately for review
- identify an infant with inguinal hernias or testicular torsion and appropriately escalate concerns
- provide tracheostomy care

Post-surgical care - the principles of care for the infant with a tracheostomy - the principles of care for an infant with a trans-anastomotic tube (TAT) - the potential need for nutritional plans and dietetic referral - the complex feeding issues of infants before and after surgery - speech and language referral - medicine management, discharge planning, and parental training	**Post-surgical care** - offer relevant parental training in preparation for discharge (for example, stoma care, specialist nutritional care, - wound care and safety netting
Related foundation equipment - stoma bags **Related specialist equipment** - Replogle tubes - stoma bags	

Domain 9. Palliative and bereavement care

Knowledge	Skills
Foundation knowledge **Learners should understand:**	**Foundation skills** **Learners should be able to:**
These principles are based on the CPCET-Education-Standard-Framework.pdf Supported by Recognising uncertainty: an integrated framework for palliative care in perinatal medicine | British Association of Perinatal Medicine	
Neonatal pathway • the uncertainty of the neonatal journey and that families or carers can experience grief without the loss or death of their baby	**Neonatal pathway** • sensitively care for infants with an uncertain future and their families and carers (with support and guidance from senior staff and/or a psychological professional)
Communicating effectively • the importance of emotional intelligence throughout all communications, including the importance of offering memory making for families	**Communicating effectively** • support families and carers with memory making (tangible and non-tangible), enhancing, and nurturing the family and carers experience
Working with others in and across various settings • local policies and procedures that support palliative and end-of-life care • the role of the children's hospice • the key principles of safeguarding infants with palliative and end-of-life care needs	**Working with others in and across various settings** • discuss indicators of safeguarding concerns • seek support and escalate concerns as required
Identifying and managing symptoms (holistic) • common reactions and mental health issues and strategies to support wellbeing for infants and for families or carers who are experiencing grief and/or loss	**Identifying and managing symptoms (holistic)** • listen and respond to individual families' and carers' needs, signposting and referring as appropriate
Sustaining self-care and supporting the wellbeing of others • how their own behaviours, beliefs and practices may influence others.	
Sustaining self-care and supporting the wellbeing of others • demonstrate an awareness of their own feelings and the impact of their actions on others • listen and respond to families' and carers' needs, signposting and referring as appropriate and seeing support and escalating concerns when required	

Specialist knowledge Learners should understand:	Specialist Skills Learners should be able to:
These principles are based on the CPCET-Education-Standard-Framework.pdf Core. Supported by Recognising uncertainty: an integrated framework for palliative care in perinatal medicine | British Association of Perinatal Medicine	
Neonatal pathway - ethical principles relating to viability - awareness that some infants may deteriorate and need to transition to end-of-life care - the legal and ethical aspects of end-of life care and the redirection to comfort care - the importance of individualised care for the dying infant and their family that takes account of: - cultural diversity - spiritual or religious beliefs - variations in behaviours and preferences - language and communication styles - memory making - agencies supporting families throughout the bereavement process - support networks - family composition and dynamics - life experiences - maternal health (post-natal) - lactation after loss	**Neonatal pathway** - support the team and the family or carers if the infant deteriorates and needs transition to end-of-life care - participate in ethical discussions with emotional intelligence - sensitively care for the dying infant and the family or carers - sensitively care for the infant who has died and the bereaved family or carers in accordance with local and national bereavement protocols (with support and guidance from senior staff) - seek support and escalate concerns as required - liaise with support services and agencies to support the family of dying infants and ensure individualised needs are met - demonstrate insight into how the unique experiences, preferences and dynamics of families may affect the care approach required
Communicating effectively - positive patterns of communication when delivering bad or unwanted news or information to families and carers - the role of the nurse as an advocate for the infant and family throughout palliative and bereavement care	**Communicating effectively** - communicate sensitively during difficult conversations or when breaking bad news - initiate and lead individualised planning for end-of-life care in line with families and carers' wishes

Working with others in and across various settings - the professional roles and responsibilities within a MDT relating to the delivery of palliative and end-of-life care - local and national policies, procedures and reporting requirements following the death of an infant - the concepts of parallel planning and advance care planning within palliative care - the circumstances in which an infant postmortem may be required and when the medical examiner or coroner should be informed - awareness of the different types of postmortems and the consent process - the criteria and process for infant organ donation	**Working with others in and across various settings** - participate in individualised and parallel planning for end-of-life care in line with the families' and carers' wishes - sensitively care for infants with an uncertain future and those diagnosed with a life-limiting condition and care for their families and carers (with support and guidance from senior staff and/or a psychological professional) - initiate and lead advance care planning - discussions with the family and document accordingly - be aware and offer the choices available about location post death (hospital, hospice, or home) - sensitively care for dying infants and those with palliative care needs and care for their families and carers - identity processes of caring for and maintaining the optimum condition of the body of an infant who has died - identify procedures for preparing the body for the mortuary and postmortem - support the team and families and carers relating to organ donation
Identifying and managing symptoms (holistic) - how to recognise deterioration and ensure appropriate escalation in line with the end-of-life care plan - awareness of management of distressing symptoms as per guidelines - key concepts of bereavement, grief, and loss and how these may be manifested by families and carers	**Identifying and managing symptoms (holistic)** - initiate ongoing support for families and carers, including signposting or referring to local and national agencies

Sustaining self-care and supporting the wellbeing of others • their own experiences of delivering and their interactions with those receiving care and the team delivering care. Learners should have opportunities to reflect on and discuss this. • the impact of infant death on a neonatal unit	**Sustaining self-care and supporting the wellbeing of others** • consider and support needs across the wider neonatal unit (including other families and carers who may be affected or impacted) • support the team, families, and carers in situations where there are difficult or challenging discussions for infant(s) transitioning to end of life care
Related specialist equipment consideration of care of the baby's body after death. This may be in a side room within a hospital or home (using a portable air conditioning unit or cold cot) or in a cold bedroom at a local children's hospice.	
Related resources E-learning to support some of the content above is available from ESR. Programme leads should promote additional local, regional, or national education resources related to this domain.	

Domain 10. Psychologically informed neonatal care (PINC)

Knowledge	Skills
Foundation knowledge **Learners should understand:**	**Foundation Skills** **Learners should be able to:**
Psychologically informed neonatal care (PINC) - the aims of psychologically informed neonatal care (PINC) - relational care and containment, the potential effects of trauma and the importance of trauma-informed care - the creation of a psychologically informed environment - the importance of PINC supporting the principles FICare	**Psychologically informed neonatal care (PINC)** - contribute to the development of a psychologically informed environment - employ strategies to reduce the impact of admission and the neonatal environment on family life - support family and carers who are experiencing loss and grief - listen and respond to individual family member's or carer's needs and signposting or referring as appropriate - promote a partnership approach to care and decision making - facilitate memory making with families and carers from admission - support practices that promote the caregiver and infant dyad, recognising individualised needs - consider the needs of siblings, extended family, and wider support networks within care - discuss indicators of safeguarding concerns and instigate local processes to support family and carers - provide support mechanisms for the family and carers following an emergency or incident - respect and support the individual needs of each family member or carer: ~ cultural diversity ~ spiritual or religious beliefs ~ language and communication styles ~ support network ~ family composition and dynamics ~ life experiences

Infant wellbeing on the neonatal unit - the importance of the caregiver-infant dyad in supporting infant wellbeing and development - the development of the brain in a social context - the importance of interaction in buffering the effects of pain and toxic stress - the impact of the neonatal experience on the infant - family responses to neonatal admission - the relationship between families and carers and infant trauma - how to support mechanisms of healthy interactions, between families, carers, and infants	
Family and carer wellbeing on the neonatal unit - the impact of trauma (both infant, family, carer) and associated feelings of constant sense of threat - the sense of family/carer being empowered in their role as caregiver, feeling connected to their infant, and understanding co-occupations (tasks, or occupations, which require the participation of both a caregiver and the infant) - how to attend to family and carer needs - the multiple ways of showing distress - the importance of providing an opportunity to regulate their emotion; relate (with others) and reason (achieve a state in which they can think clearly) - access to a psychological professional - how to support specific needs of families or carers (for example, language, access to information, and logistical, practical, or financial issues)	

Staff wellbeing on the neonatal unit ↳ Learners should also understand the PRUDiC (Procedural Response to Unexpected Death in Childhood) - Public Health Wales ↳ that working in a neonatal environment can be stressful, and staff need to feel cared for ↳ stress induced psychological and physical reactions ↳ the mental and physical effects of repeated stress ↳ long-term psychological consequences ↳ the prevention of distress following a traumatic event ↳ the support that is available	
Recognition of the individual needs and characteristics of families and carers: ↳ cultural diversity ↳ spiritual and religious beliefs ↳ language and communication styles ↳ support networks ↳ family composition and dynamics ↳ life experiences	
Specialist knowledge **Learners should understand:**	**Specialist skills** **Learners should be able to:**
Developing compassionate and psychologically informed neonatal teams ↳ developing compassionate and psychologically safe teams and systems, including: ~ the development of relational care and containment ~ trauma informed care and psychologically informed environments ~ the mental health needs of staff, families, and carers and how to support them, including ~ psychological trauma	**Developing compassionate and psychologically informed neonatal teams** ↳ support team members in distress and signpost appropriately ↳ participate in safety briefs, debriefs and reflective spaces ↳ engage professionally with any medical/ethical conversations

~ the management of risk (including referral to neonatal psychological professionals and community services) ↳ the purpose of safety brief, debriefs and reflective spaces and a nurse's role within these ↳ verbal and non-verbal communication strategies	

Appendix 1: Background to the development of the standards

The Welsh journey

The development of All-Wales QIS standards has been a collaborative effort across the neonatal community in Wales. Neonatal nurses, the Neonatal Nurses Association, Higher Education Institutions, and Health Education and Improvement Wales (HEIW) have worked together to ensure the standards are evidence-based, relevant to Wales, and aligned with the needs of neonatal services, while remaining consistent with the wider UK approach.

Building on the work in England

Our work has been informed by and builds upon the progress made in England. The staffing standards set by the Department of Health and Social Care (DHSC) in 2009 required that at least 70% of nurses in a neonatal service should be qualified in specialty (QIS).

Since then, the Royal College of Nursing (RCN) and the British Association of Perinatal Medicine (BAPM) have published national documents to support the development of the neonatal nursing workforce. However, a lack of standardisation in QIS programme content and delivery created variation in training and expectations, limiting consistency of care.

In 2016, NHS England published Better Births: Improving outcomes of maternity services in England, which identified significant workforce challenges and led to the Neonatal Critical Care Review (NCCR). The NCCR made several recommendations, including strengthening the neonatal nursing workforce. This was followed by NHS England's 3-year delivery plan for maternity and neonatal services (2023), which committed investment in workforce recruitment and retention, and the Long-Term Workforce Plan, which set out the need to grow the workforce, embed the right culture, and reform training and development.

To address variation in QIS provision, Health Education England (HEE) commissioned RSM UK Consulting to evaluate neonatal QIS education and training. The review identified:

- a lack of standardisation of QIS knowledge and skills across operational delivery networks (ODNs)
- limited professional regulation and inconsistent monitoring of programme content and assessment

In response, NHS England developed national standards addressing recommendations 1 and 2 of the review:

1. One agreed standard across all ODNs for programme content and the knowledge and skills to be developed by learners.
2. An agreed minimum level of practical experience within QIS programmes, structured to ensure sufficient exposure across different levels of neonatal unit and opportunities to consolidate learning.

Stakeholder engagement in England

NHS England developed these standards in partnership with neonatal nurses, allied health professionals (AHPs), colleagues from the psychological professions, clinical and practice educators, unit managers, NODN lead nurses, workforce and education leads, national neonatal organisations and charities, service user groups, service providers, and QIS programme leads. The University of East Anglia (UEA) supported the early phases of this work.

Regulatory and professional bodies, including the Nursing and Midwifery Council (NMC), Neonatal Nurses Association (NNA), British Association of Perinatal Medicine (BAPM), and the Royal College of Nursing (RCN), also contributed.

The national QIS working group in England – Diane Keeling, Jessica Talbert, Kate Lamming, Kelly Harvey, Marie-Anne Kelly and Susi Hill – played an essential role, supported by colleagues from NHS England's Workforce Training and Education directorate (particularly the maternity and neonatal programme teams), and representatives from BAPM and the NNA.