# Education & training

european standards of care for newborn health

EFCNI european foundation for the care of newborn infants

european standards of
care for newborn health

*Topic Expert Group*

# Education and training of the multidisciplinary team working in neonatology

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## Topic Expert Group: Education and training of the multidisciplinary team working in neonatology

### Overview

Although the outcomes of neonatal patients have been shown to be associated with the level of training of medical and nursing staff (1,2), neonatal care is not a recognised subspecialty in paediatrics in several European countries. Sadly, there is not even a commonly agreed minimal training syllabus for neonatologists nor for neonatal nurses in Europe, resulting in a lack of consistency in quality of care for preterm and ill babies between different countries, regions, and even hospitals.

This panel of experts strongly believes that existing neonatal training programmes, like the one issued by the European Society for Neonatology (3), taking evidence-based practices into account (4), need to be promoted and a minimum degree level of preparation as well as post degree specialisation of neonatal care is required. Given the complexity of the healthcare needs and the range of healthcare providers involved in the care of neonatal patients, interprofessional education is necessary to provide care by a multidisciplinary team working effectively together. (5) The inclusion of simulation in education and training, including basic life support training, is critical for the delivery of safe clinical care. (6–9) Continuous professional development is essential in order to keep up with the scientific and technological changes that are occurring in healthcare settings. (10) Also, parents should be offered education, training, and support in specific skills, to ensure they become an integral part of the neonatal team, and confident caregivers for their infant both in the neonatal unit and after discharge. (11)

The Topic Expert Group on Education and training of the multidisciplinary team working in neonatology developed standards to address the above mentioned needs related to education and training requirements for neonatal health practitioners.

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## A common neonatal medical training curriculum

Roehr CC, Breindahl M, van den Hoogen A, Johnston L

*Target group*
All doctors working in neonatal care

*User group*
Parents, healthcare professionals, professional societies, education providers, health services, and regulators of the profession

*Statement of standard*
All doctors providing care to infants and their families receive training using a competency based curriculum and assessment framework.

*Rationale*
Neonatal outcomes have been shown to be associated with the level of training of medical and nursing staff, as well as adequate staffing, and it has clearly been shown that healthcare professional education and consistent evidence-based practice shortens patients' hospitalisation. (1,2)

In 1988, the European Society of Paediatric Research (ESPR) Working Group on Neonatology recognised the immediate need to specify minimum training requirements for the accreditation of neonatologists throughout Europe. (3) To ensure that infants and families receive standard and evidence-based quality of care, the European Database of 30 member countries from the Union of European Medical Specialties (UEMS) has shown a very high degree of consensus on key skills and competencies necessary to practice neonatology. (3) Consequently, the European Society for Neonatology (ESN), now called European Board of Neonatology (EBN), has developed a Curriculum and Assessment Framework (3), which was approved and endorsed by the European Board of Paediatrics (EBP). The curriculum supports the harmonisation of national programmes for subspecialist training in neonatology throughout Europe, aiming to establish unified training in neonatology by clearly defining standards. (4)

*Benefits*

- Improved communication skills between medical teams and families and other members of the multi-disciplinary NICU teams (5–7)
- Reduced mortality and morbidity (2)
- Decreased rates of cerebral palsy and retinopathy of prematurity (8)
- Harmonised standards of education and training for doctors practising neonatal intensive care through a common European curriculum (consensus)
- Consistency in quality of care delivery in neonatology (consensus)

*Components of the standard*

| Component | Grading of evidence | Indicator of meeting the standard |
|---|---|---|
| For parents and family | | |
| 1. Parents contribute to the delivery of medical education programmes. | B (Low quality) | Training documentation |
| For healthcare professionals | | |
| 2. Neonatologists are qualified in their sub-specialty as evidenced by the following criteria:<br><br>Registered trainees have completed a period of at least three years with a recognised mentor, who is responsible for assessing and recording the competence level of the trainee within the sub-specialty. Completion of education links the following theory and practice elements:<br><br>• Theory modules relating to the neonate and their family within neonatology at all levels of care provision (Level 1-3).<br>• Management of resuscitation, cardiorespiratory intensive care, thermoregulation, neurology, haematology and blood product transfusion, metabolism and endocrine disorders, nutrition, feeding, gastro-intestinal and hepatic disease, immunity and infection, transport of the infant.<br>• Clinical decision-making skills, ward organisation, advanced parent counseling and communication skills on congenital anomalies and genetic disorders, family-integrated care and care of the well newborn infant. | B (Moderate quality) | Certificates of award, professional portfolio |
| For neonatal unit | | |
| 3. Infrastructure for educational programmes is provided. (see TEG NICU design) | B (Moderate quality) | Audit report |
| For hospitals | | |
| N/A | | |

| | | |
|---|---|---|
| For professional societies | | |
| 4. Standards of care, including competencies at the local level are developed and regularly updated, disseminated and promoted. (3) | B (Moderate quality) | Guideline |
| For education providers | | |
| 5. A (post) graduate programme focused on neonatal medicine, including the following domains is provided: neonatal physiology and pathophysiology, family-centred care, clinical practice, leadership and teamwork, professional development and research. (3) | B (Moderate quality) | Training documentation |
| 6. Core elements of training in neonatal medicine are included in educational curriculum of physicians taking care of infants. (3) | B (Moderate quality) | Training documentation |
| Health service and regulators of the profession | | |
| 7. Common national training frameworks aligned with the relevant European Qualification Framework are available and regularly updated. | B (High quality) | Training documentation |

*Where to go – further development of care*

| **Further development** | **Grading of evidence** |
|---|---|
| For parents & family | |
| • Parents are provided with the opportunity to review and revise neonatal medical curricula. | B (Very low quality) |
| For healthcare professionals | |
| • Undertake continuous professional development (CPD) to remain up-to-date and sustain expertise (maintenance of competence). (9) (see TEG Education & training) | B (High quality) |
| • Acquire new or expanded skills and abilities so that practice can evolve over time in response to practice needs and interests (advanced expertise). (9) | B (High quality) |
| • Provide opportunities to maintain competence in procedural, communication, and other professional skills. (9) | B (High quality) |

| | |
|---|---|
| For neonatal unit | |
| N/A | |
| For hospital | |
| • Support healthcare professionals to undertake continuous professional development (CPD). | B (High quality) |
| For professional societies | |
| • Develop, disseminate and promote care competencies at regional, national, and international level. (9) | B (High quality) |
| For education providers | |
| • Provide specialty national training programmes in line with agreed subspecialist neonatal training in Europe, as outlined by the ESPR/EBN assessment framework. (10) | B (High quality) |
| • Offer access to professional development programmes which foster the development of personal skills and competencies in leadership, such as counselling and managerial, leadership, and teaching roles. (9) | B (High quality) |
| For health service and regulators of the profession | |
| • International mutual recognition of specialty qualifications in neonatal medicine is facilitated. | B (Moderate quality) |

*Getting started*

| **Initial steps** |
|---|
| For parents and family |
| • Parents are involved in the delivery of medical education programmes. |
| For healthcare professionals |
| • Attend broader specialty training through a university administered neonatal online training and education programme. (11) |
| For neonatal unit |
| N/A |
| For hospital |
| • Support healthcare professionals to participate in broader specialty training. |
| For education providers |
| • Promote and offer access to professional development programmes.<br>• Include neonatal care content in undergraduate curricula. |
| For health service |
| • Provide opportunities for neonatal placements during clinical training.<br>• Develop and implement common training frameworks aligned with the relevant European Qualifications Framework. (10) |

## *Source*

1. Lake E, Patrick T, Rogowski J, Horbar J, Staiger D, Cheung R, et al. The Three Es: How Neonatal Staff Doctors' Education, Experience, and Environments Affect Infant Outcomes. JOGNN. 2010;(39):S97-98.

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## *Lifecycle*

3 years/next revision: 2021

## *Recommended citation*

EFCNI, Roehr CC, Breindahl M et al., European Standards of Care for Newborn Health: A common neonatal medical training curriculum. 2018.

## A common neonatal nurse training curriculum

van den Hoogen A, Johnston L, Roehr CC, Gözen D, Mannix T, Kühn T, Panas M, Petty J, Schlembach D, Simeone N, Stoniene D, Tency I

*Target group*
All nurses working in neonatal care

*User group*
Parents, healthcare professionals, professional societies, education providers, health services, and regulators of the profession

*Statement of standard*
All nurses providing care to infants and their families have access to and undergo education and training using a competency based curriculum and assessment framework.

*Rationale*
For over thirty years several countries have recognised neonatal nursing as a specialty with either training in the neonatal unit, or at an academic institution, resulting in a neonatal diploma or master's degree. (1) Infants in the NICU are among the most nurse-intensive patients. To intervene before the onset of life-threatening problems, nurses must make complex assessments, implement highly intensive therapies, and make immediate adjustments dependent on infant response. Maintaining optimal respiratory, cardiac, and feeding status may result in improved development and behavior, lower levels of morbidity, and shorter hospitalisation. (2,3)

In addition to staffing levels, neonatal outcomes have been shown to be associated with levels of patient volume, and training of medical and nursing staff. (4) In order to ensure that infants and families receive a standardised level of care, nurses should develop competencies through an integrated, developmental curriculum, both in university and practice settings.

*Benefits*

- More competent nurses are related to increased survival (5)
- Significantly reduced rates of mortality and morbidity (4)
- Improved nurse retention and satisfaction (6)
- Consistency in quality of care delivery in neonatology (consensus)

*Components of the standard*

| Component | Grading of evidence | Indicator of meeting the standard |
|---|---|---|
| For parents and families | | |
| 1. Parents contribute to the delivery of nurse education programmes. | B (Low quality) | Training documentation |

| | | |
|---|---|---|
| For healthcare professionals | | |
| 2. Neonatal nurses are qualified in specialty as evidenced by the following criteria:<br><br>Registered nurse, period of preceptorship or mentorship including defined foundation learning within the specialty, completion of a programme of post-registration (post-licensure) education which links the following theory and practice elements:<br><br>• Theory modules relating to the care of the neonate and their family within special care, high-dependency care and intensive care, delivered and assessed within a higher education institution.<br>• Achievement of core skills set, undertaken with supervision of an experienced qualified neonatal nurse, assessed in practice and supported by evidence of learning.<br>• Clinical decision-making skills. | B (Moderate quality) | Certificates of award, professional portfolio |
| For neonatal unit | | |
| 3. Infrastructure for educational programmes is provided. (see TEG NICU design) | B (Moderate quality) | Audit report |
| For hospital | | |
| N/A | | |
| For professional societies | | |
| 4. Standards of care, including competencies at the local level are developed and regularly updated, disseminated, and promoted. (7) | B (Low quality) | Guideline |
| For education providers | | |
| 5. A (post) graduate programme focused on neonatal nursing, including the following domains is provided: neonatal physiology and pathophysiology, family-centred care, clinical practice, leadership and teamwork, professional development and research. (7) | B (Moderate quality) | Training documentation |
| For health service and regulators of the profession | | |

| | | | |
|---|---|---|---|
| 6. | Common national training frameworks aligned with the relevant European Qualifications Framework are available and regularly updated. (8) | B (High quality) | Training documentation |

*Where to go – further development of care*

| **Further development** | **Grading of evidence** |
|---|---|
| For parents and family | |
| • Parents are provided with the opportunity to review and revise neonatal nurse curricula. | B (Very low quality) |
| For healthcare professionals | |
| • Undertake a minimum of 6 days per year of continuing professional development (CPD). (9) | B (Low quality) |
| For neonatal unit | |
| N/A | |
| For hospital | |
| • Support healthcare professionals to undertake CPD. | B (High quality) |
| For professional societies | |
| • Develop, disseminate, and promote care competencies at regional, national, and international level. (7) | B (Very Low quality) |
| For education providers | |
| • Provide specialty postgraduate programmes with a focus on neonatal care. | B (Very Low quality) |
| For health service and regulators of the profession | |
| • International mutual recognition of specialty qualifications in neonatal nursing is facilitated. | B (Moderate quality) |

*Getting started*

| **Initial steps** |
|---|
| For parents and family |
| • Parents are involved in the delivery of nurse education programmes. |
| For healthcare professionals |
| • Attend specialty training through on the-job training or through professional education programmes. |
| For neonatal unit |
| N/A |
| For hospital |
| • Support healthcare professionals to participate in neonatal nurse training.<br>• Provide opportunities for on-the-job training, and experiential learning environments (clinical placements) for students undertaking professional education programmes. |

For education providers

- Include basic neonatal care content in undergraduate nursing and midwifery curriculum.

For health service and regulators of the profession

- Develop and implement common training frameworks aligned with the relevant European Qualifications Framework. (8)

## *Source*

1. Council of International Neonatal Nursing (COINN). Position Statement on Neonatal Nursing Education [Internet]. 2018 [cited 2018 May 15]. Available from: https://coinnurses.org/wp-content/uploads/2018/03/COINN-PS-0100-Neonatal-Nursing-Education.pdf

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## *Lifecycle*

3 years/next revision 2021

## *Recommended citation*

EFCNI, van den Hoogen A, Johnston L et al., European Standards of Care for Newborn Health: A common neonatal nurse training curriculum. 2018.

## Continuing professional development (CPD)

van den Hoogen A, Johnston L, Roehr CC, Panas M, Gözen D, Mannix T, Kühn T, Petty J, Schlembach D, Simeone N, Stoniene D, Tency I, Warren I

*Target group*
Healthcare professionals working in neonatal care

*User group*
Parents and families, healthcare professionals, neonatal units, hospitals, professional societies, regulators of the profession

*Statement of standard*
All healthcare professionals have access to and undertake continuing professional development to deliver safe and effective healthcare.

*Rationale*
The commitment to professional development is essential to be able to deliver effective and safe healthcare for infants and their families. (1) Professional development requires life-long learning. (2) Professional development is required so that professionals keep up with the scientific and technological changes that are occurring in healthcare settings. (3)

The availability of a variety of faculty development programmes can prepare practicing healthcare professionals for different roles within their institution; such as practitioner, educator and scholar/researcher. (4) The content of continuing professional development (CPD) programmes needs to be adapted for use to fit the national context, and to reflect the specific needs, health priorities, legislative and regulatory standards that govern safe healthcare across different countries. (5)

*Benefits*

- Improved staff retention (3)
- Improved job satisfaction (3)
- Opportunities for personal and professional development (3)

*Components of the standard*

| Component | Grading of evidence | Indicator of meeting the standard |
|---|---|---|
| For parents and family | | |
| 1. Parents contribute their perspective to the CPD opportunities available to healthcare professionals. (6) | B (Low quality) | Parent feedback |
| For healthcare professionals | | |
| 2. CPD is undertaken by all healthcare professionals. | B (High quality) | Training documentation |

| | | |
|---|---|---|
| 3. Each healthcare professional is able to set professional development goals. (3) | B (Low quality) | Training documentation |
| For neonatal unit and hospital | | |
| 4. The access to CPD is ensured. | B (High quality) | Training documentation |
| 5. CPD is valued and included in everyday work practices. | B (Moderate quality) | Training documentation |
| 6. Opportunities for workplace learning are available. | B (Moderate quality) | Audit report, training documentation |
| For professional societies | | |
| 7. Structured CPD activities for members are available. | B (Moderate quality) | Training documentation |
| For regulators of the profession | | |
| 8. Evidence of CPD is required for re-licensing. | B (High quality) | Training documentation |
| For health service | | |
| N/A | | |

*Where to go – further development of care*

| **Further development** | **Grading of evidence** |
|---|---|
| For parents and family | |
| • Parents contribute to continuing professional development (CPD) activities. (7) | B (Low quality) |
| For healthcare professionals | |
| N/A | |
| For neonatal unit | |
| N/A | |
| For hospital | |
| • Establish a curriculum that prepares frontline caregivers to partner with families to identify problems on the units, to develop testable strategies for improvement, and to develop their leadership skills to lead further system change. (6) | B (Low quality) |
| For professional societies | |
| • Develop a broad CPD programme to enhance practice. | B (Moderate quality) |
| For regulators of the profession | |
| N/A | |
| For health service | |
| N/A | |

## *Getting started*

| **Initial steps** |
|---|
| For parents and family |
| N/A |
| For healthcare professionals |
| • Seek out availability of CPD opportunities. |
| For neonatal unit |
| N/A |
| For hospital |
| • Support healthcare professionals to undertake CPD.<br>• Ensure support for and advice about CPD by hospital managers.<br>• Ensure commitment of key decision makers to value of CPD.<br>• Provide the internal infrastructure for CPD (e.g. library access, classroom time, online module availability). |
| For professional societies |
| N/A |
| For regulators of the profession |
| • Develop CPD as a component for licensing healthcare professionals. |
| For health service |
| N/A |

## *Source*

1. Gould D, Drey N, Berridge E-J. Nurses' experiences of continuing professional development. Nurse Educ Today. 2007 Aug;27(6):602–9.

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*Lifecycle*
5 years/next revision: 2023

*Recommended citation*
EFCNI, van den Hoogen A, Johnston L et al., European Standards of Care for Newborn Health: Continuing professional development (CPD). 2018.

## Education programme supporting parents and families

Johnston L, van den Hoogen A, Roehr CC, Gözen D, Kühn T, Mannix T, O'Brien K, Panas M, Petty J, Schlembach D, Stoniene D, Tency I, Warren I

*Target group*
Infants, parents, and families

*User group*
Parents and families, healthcare professionals, neonatal units, hospitals, and health services

*Statement of standard*
All parents are provided with a training programme to facilitate their development as confident caregivers.

*Rationale*
The neonatal unit can be a stressful environment for parents and families. This further isolates parents and can affect bonding and impact future parenting. Families may struggle to cope and parents may not feel like a parent, although they want to become involved. To ensure parents are an integral part of the neonatal team (see TEG Infant- & family-centred developmental care), and to become confident caregivers for their infant both in the neonatal unit and after discharge, parents should be offered education, training, and support in specific skills (see TEG Infant- & family-centred developmental care).

The healthcare team understands the unique medical and psychosocial needs of infants and their families, and is ideally placed to teach parents how best to care for their infant. (1)

*Benefits*

- Reduced length of hospital stay (2)
- Reduced parental stress anxiety, and postnatal depression (3,4)
- Improved parental understanding, self-confidence, and satisfaction (3,4)
- Improved healthcare professional satisfaction (3,4)
- Improved parent-infant interaction (4)

*Components of the standard*

| Component | Grading of evidence | Indicator of meeting the standard |
|---|---|---|
| For parents and family | | |
| 1. Parents and family members are informed about education and training opportunities by healthcare professionals that enable them to confidently care for their infant and to be considered an integral part of the multidisciplinary team. | B (High quality) | Patient information sheet, training documentation |
| 2. Parents and families are active contributors to a family-integrated care curriculum. (5) | A (High quality) | Training documentation |
| For healthcare professionals | | |
| 3. A unit guideline on family-integrated care is adhered to by all healthcare professionals. | B (High quality) | Guideline |
| 4. Training in delivering family-integrated care is attended by all responsible healthcare professionals. (5) | B (High quality) | Training documentation |
| 5. Healthcare professionals contribute to a family-integrated care curriculum. (5) | A (High quality) | Training documentation |
| For neonatal unit | | |
| 6. A unit guideline on family-integrated care is available and regularly updated. | B (High quality) | Guideline |
| 7. Educational materials for parents are easily accessible. (5) | A (High quality) | Parent feedback |
| For hospital | | |
| 8. Formal training in delivering family-integrated care is ensured. (5) | B (High quality) | Training documentation |
| 9. Infrastructure for educational programmes is provided. (see TEG NICU design) | B (Moderate quality) | Audit report |
| For health service | | |
| 10. A national guideline on family-integrated care is available and regularly updated. | B (High quality) | Guideline |

*Where to go – further development of care*

| Further development | Grading of evidence |
|---|---|
| For parents and family | |
| • Parents and families are educated individually on an as-needed basis in addition to small group sessions. (5) | A (High quality) |
| • Ensure participation by volunteer experienced parents as mentors. (5) | A (High quality) |
| For healthcare professionals | |
| N/A | |
| For neonatal unit | |
| • Create an environment that is conducive to learning. (5) | A (High quality) |
| • Coordinate the programme by a dedicated parent and families resource nurse. (5) | A (High quality) |
| • Provide healthcare professional training to develop teaching skills and ability to manage groups. (4) | A (High quality) |
| For hospital | |
| N/A | |
| For health service | |
| N/A | |

*Getting started*

| **Initial steps** |
|---|
| For parents and family |
| • Parents and families are informed about education and training opportunities by healthcare professionals. |
| • Parents and families are invited to participate in their infant's care. (see TEG Infant- & family-centred developmental care) |
| For healthcare professionals |
| • Attend training in delivering family-integrated care. |
| For neonatal unit |
| • Develop and implement a unit guideline on family-integrated care. |
| • Develop information material about education and training opportunities for parents and families to facilitate their development as confident caregivers. |
| • Schedule classes for parents and families and a welcoming environment for parents and families. |
| For hospital |
| • Support healthcare professionals to participate in training in delivering family-integrated care. |
| • Develop education packages on the value of family-integrated care. |
| • Collaborate with parent organisations. |
| For health service |
| • Develop and implement a national guideline on family-integrated care. |

*Source*

1. Trajkovski S, Schmied V, Vickers MH, Jackson D. Experiences of neonatal nurses and parents working collaboratively to enhance family centred care: The destiny phase of an appreciative inquiry project. Collegian. 2016 Sep 1;23(3):265–73.

2. Nearing GB, Salas AA, Granado-Villar D, Chandler BD, Soliz A. Psychosocial parental support programs and short-term clinical outcomes in extremely low-birth-weight infants: J Matern Fetal Neonatal Med. 2011;25(1):89–93.

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5. Bracht M, O'Leary L, Lee SK, O'Brien K. Implementing family-integrated care in the NICU: a parent education and support program. Adv Neonatal Care Off J Natl Assoc Neonatal Nurses. 2013 Apr;13(2):115–26.

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## Evidence-based practice

van den Hoogen A, Johnston L, Roehr CC, Panas M, Petty J, Schlembach D, Simeone N, Stoniene D, Tency I

*Target group*
Infants, parents, and families

*User group*
Parents and families, healthcare professionals, neonatal units, hospitals, health services, and education providers

*Statement of standard*
Every healthcare professional caring for infants and their families delivers care based on the best available evidence, integrated with clinical expertise, available resources and the wishes of the family.

*Rationale*
Evidence-based practice (EBP) has emerged as an innovation in quality improvement in healthcare. In order to deliver safe and effective care, healthcare professionals underpin their practice with evidence in order to reduce inconsistencies, enhance effectiveness of care and improve outcomes for infants and their families. Through gaining access to, assessing, applying and integrating new knowledge, healthcare professionals can adapt to changing circumstances throughout their professional life. Curricula to deliver these aptitudes need to be grounded in the five-step model of EBP, and informed by ongoing research. (1,2)

*Benefits*

- Facilitated individualisation of care (1,2)
- Assured quality of healthcare (1,2)

*Components of the standard*

| Component | Grading of evidence | Indicator of meeting the standard |
|---|---|---|
| For parents and family | | |
| 1. Parents are informed about the contribution of evidence to clinical decision making, including evidence-based practice (EBP) and its limitations by healthcare professionals. | B (High quality) | Patient information sheet |
| 2. Parents and families are equal partners in healthcare decision making. (3,4) (see TEG Infant- & family-centred care, TEG Ethical decisions) | A (Moderate quality)<br>B (Moderate quality) | Clinical records, parent feedback |

| | | |
|---|---|---|
| For healthcare professionals | | |
| 3. The principles of evidence-based practice (EBP), implementation of evidence-based policies and a critical attitude to personal practice are understood by all healthcare professionals. (2) | A (Moderate quality)<br>B (High quality) | Training documentation |
| For neonatal unit | | |
| 4. Educators, healthcare providers, and those in positions of leadership have appraisal skills commensurate with higher training and continued practice. (2) | A (Moderate quality)<br>B (High quality) | Training documentation |
| 5. All unit guidelines are evidence based and regularly updated. | B (High quality) | Guideline |
| For hospital | | |
| 6. Training that supports EBP is ensured for educators, healthcare providers, and those in positions of leadership. (2) | B (High quality) | Training documentation |
| For health service | | |
| 7. Easy access to electronic databases to support EBP is provided. (2) | B (High quality) | Training documentation |
| For education provider | | |
| 8. Undergraduate and graduate curricula include the "five-step model" of EBP. | B (Moderate quality) | Training documentation |
| 9. Parents are given the opportunity to review and revise curricula. (2) | B (Low quality) | Training documentation, parent feedback |

*Where to go – further development of care*

| **Further development** | **Grading of evidence** |
|---|---|
| For parents and family | |
| N/A | |
| For healthcare professionals | |
| N/A | |
| For neonatal unit | |
| • Provide access to and information about evidence-based practices presented in such a way that it can be understood by parents. | |

| | |
|---|---|
| For hospital | |
| N/A | |
| For education providers | |
| • Foster research into the most effective and efficient methods for teaching each step, and link with ongoing systematic reviews on each step. (2) | A (Moderate quality)<br>B (Moderate quality) |

*Getting started*

| | |
|---|---|
| **Initial steps** | |
| For parents and family | |
| • Parents are informed about the contribution of evidence to clinical decision making, including evidence-based practice (EBP) and its limitations by healthcare professionals. | |
| For healthcare professionals | |
| • Attend training that supports EBP.<br>• Recognise and admit uncertainties in clinical practice (Step “0”). | |
| For neonatal unit | |
| • Develop and implement evidence-based unit guidelines.<br>• Develop information material on evidence-based practice for parents.<br>• Support the routine use of previously appraised evidence in clinical practice. | |
| For hospital | |
| • Support healthcare professionals to participate in training that supports evidence-based practice.<br>• Support the routine use of previously appraised evidence in clinical practice. | |
| For health service | |
| N/A | |
| For education providers | |
| • Include EBP in core curricula of undergraduate programmes. | |

*Source*

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3. Smith J, Swallow V, Coyne I. Involving parents in managing their child’s long-term condition-a concept synthesis of family-centered care and partnership-in-care. J Pediatr Nurs. 2015 Feb;30(1):143–59.

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## Interprofessional education (IPE) and interprofessional practice (IPP)

van den Hoogen A, Johnston L, Roehr CC, Panas M, Kühn T, Gözen D, Petty J, Schlembach D, Simeone N, Stoniene D, Tency I

*Target group*
Infants, parents, and families

*User group*
Parents, healthcare professionals, education providers, hospitals, and health services

*Statement of standard*
Every healthcare professional has access to interprofessional education that enhances the delivery of practice in the care of infants and their families.

*Rationale*
Interprofessional collaboration is identified as critical to the provision of effective and efficient healthcare, given the complexity of the healthcare needs of patients, and the range of healthcare providers and organisations. Interprofessional collaboration has been linked to a range of outcomes, including improvements in patient safety and case management, the optimal use of the skills of each healthcare team member, and the provision of better health. Professional and academic leaders from diverse countries have developed a shared vision and strategy for postsecondary education in medicine, nursing, and public health. National organisations have created core competencies for interprofessional collaborative practice, positioning interprofessional education (IPE) and interprofessional practice (IPP) as fundamental to practice improvement. (1,2)

Provision of IPE opportunities will ensure that infants and their families are cared for by a multidisciplinary team that values and practices collaboration in the delivery of care. (see TEG Infant- & family-centred developmental care)

*Benefits*

- Facilitates effective collaborative practice which in turn enhances the quality of health services delivery, strengthens health systems and improves health outcomes. (3)
- Facilitates exchange between students from two or more professions in health during all or part of their training to learn about, from, and with each other which leads to creation of a shared understanding and synergy. (3)

*Components of the standard*

| Component | Grading of evidence | Indicator of meeting the standard |
|---|---|---|
| For parents and family | | |
| 1. Parents contribute their perspective to the interprofessional education (IPE) and interprofessional practice (IPP) opportunities available to healthcare professionals. | B (Low quality) | Parent feedback |
| For healthcare professionals | | |
| 2. IPE and IPP are attended by all responsible healthcare professionals. | B (High quality) | Training documentation |
| 3. All principles of IPE and IPP (1) are understood and demonstrated. | A (High quality) | Training documentation |
| For education providers | | |
| 4. An integrated interprofessional curriculum includes common time, common curriculum content, collaborative competencies assessed along with uniprofessional competencies, and learning which occurs in both university and practice settings. (4) | A (Moderate quality) | Training documentation |
| For neonatal unit | | |
| N/A | | |
| For hospital | | |
| 5. IPE and IPP are ensured. | B (High quality) | Training documentation |
| 6. The principles of IPE and IPP are endorsed by educators, healthcare providers, and those in positions of leadership. | B (Low quality) | Training documentation |
| For health service | | |
| 7. The principles of IPE and IPP are supported by educators, healthcare providers, and those in positions of leadership. | B (Low quality) | Training documentation |

*Where to go – further development of care*

| **Further development** | **Grading of evidence** |
|---|---|
| For parents and family | |
| N/A | |
| For healthcare professionals | |
| N/A | |
| For education providers | |
| • Inform and advance curriculum through collaborative research and opportunities for scholarship. (5) | A (Moderate quality)<br>B (Moderate quality) |
| • Develop, deliver, and evaluate curriculum in collaboration with faculty, families, and learners. (5) | A (Moderate quality)<br>B (Low quality) |
| For neonatal unit | |
| N/A | |
| For hospital | |
| N/A | |
| For health service | |
| N/A | |

*Getting started*

| **Initial steps** |
|---|
| For parents and family |
| N/A |
| For healthcare professionals |
| • Attend interprofessional education (IPE) and interprofessional practice (IPP).<br>• Recognise the value of collaboration in professional practice. |
| For education providers |
| • Include IPE and IPP in core curricula of undergraduate and graduate programmes.<br>• Involve parents in the review and revision of the curricula. |
| For neonatal unit |
| N/A |
| For hospital |
| • Support healthcare professionals to participate in IPE and IPP. |
| For health service |
| N/A |

*Source*

1. Reeves S, Perrier L, Goldman J, Freeth D, Zwarenstein M. Interprofessional education: effects on professional practice and healthcare outcomes (update). Cochrane Database Syst Rev. 2013 Mar 28;(3):CD002213.

2. Frenk J, Chen L, Bhutta ZA, Cohen J, Crisp N, Evans T, et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. The Lancet. 2010 Dec 4;376(9756):1923–58.

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## Neonatal resuscitation training

van den Hoogen A, Johnston L, Roehr CC, Panas M, Gözen D, Mannix T, Kühn T, Petty J, Schlembach D, Simeone N, Stoniene D, Tency I

*Target group*
Infants, parents, and families

*User group*
Healthcare professionals, neonatal units, hospitals, and health services

*Statement of standard*
Every healthcare professional is given access to and undertakes regular neonatal resuscitation training.

*Rationale*
Research suggests that in institutions in Europe where Neonatal Resuscitation Program (NRP) training has taken place, the incidence of significant morbidities in the immediate newborn period may be reduced, even in countries where a severe shortage of equipment and supplies exists. (1)

Healthcare professionals formally trained in resuscitation require additional input to maintain their competence in neonatal resuscitation. (1–3) To ensure infants in need of resuscitation have access to appropriate and qualified care, physicians, nurses and midwives should be routinely certified in neonatal basic life support.

*Benefits*

*Short-term benefits*
- Reduced mortality and morbidity (1)

*Long-term benefits*
- Improved long-term outcomes with timely and effective resuscitation (2)

*Components of the standard*

| Component | Grading of evidence | Indicator of meeting the standard |
|---|---|---|
| For parents and family | | |
| 1. Parents and families are informed by healthcare professionals about neonatal resuscitation training and have an opportunity for resuscitation training before discharge. | B (High quality) | Patient information sheet, training documentation |
| 2. Parents are supported to stay with their infant during resuscitation if they wish. (4,5) | A (Moderate quality)<br>B (Low quality) | Clinical record, parent feedback |

| | | |
|---|---|---|
| For healthcare professionals | | |
| 3. Training in resuscitation using the European guidelines is attended by all responsible physicians, nurses and midwifes. (1) | A (High quality)<br>B (High quality) | Training documentation |
| For neonatal unit | | |
| 4. Recertification evidence is regularly audited. (3) | A (High quality) | Audit report, training documentation |
| For hospital | | |
| 5. Training in resuscitation is ensured. | B (High quality) | Training documentation |
| For health service | | |
| N/A | | |

*Where to go – further development of care*

| **Further development** | **Grading of evidence** |
|---|---|
| For parents and family | |
| N/A | |
| For healthcare professionals | |
| N/A | |
| For neonatal unit | |
| N/A | |
| For hospital | |
| N/A | |
| For health service | |
| N/A | |

*Getting started*

**Initial steps**

For parents and family

- Parents and families are informed by healthcare professionals about neonatal resuscitation and training options.
- Parents and families have an opportunity for resuscitation training at time of discharge. (6)

For healthcare professionals

- Attend training in resuscitation.
- Access E-learning modules regarding newborn life support (NLS and advanced NLS).

For neonatal unit

- Provide in-house training using European guidelines. (1)
- Provide easy access to E-learning modules regarding newborn life support (NLS and advanced NLS).

For hospital

- Support healthcare professionals to participate in training in resuscitation.
- Provide in-house training using European guidelines. (1)

For health service

N/A

## *Source*

1. Wyllie J, Bruinenberg J, Roehr CC, Rüdiger M, Trevisanuto D, Urlesberger B. European Resuscitation Council Guidelines for Resuscitation 2015 Section 7. Resuscitation and support of transition of babies at birth. Resuscitation. 2015;95:249–63.

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6. Care Quality Commission. Identifying and managing clinical risks in newborn babies and providing care for infants in the community who need respiratory support [Internet]. [cited 2018 May 15]. Available from: http://www.cqc.org.uk/sites/default/files/20160707_babyclinicalrisks_web.pdf

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## The role of simulation in education and training in neonatal care

van den Hoogen A, Johnston L, Roehr CC, Gözen D, Mannix T, Kühn T, Panas M, Petty J, Schlembach D, Simeone N, Stoniene D, Tency I

*Target group*
Infants, parents, and families

*User group*
Parents and families, healthcare professionals, neonatal units, hospitals, health services, and education providers

*Statement of standard*
All healthcare professionals develop and maintain competencies to provide safe and effective care through regular simulation-based learning.

*Rationale*
Simulation replaces or amplifies real experiences with guided experiences, often immersive in nature, that evoke or replicate substantial aspects of the real world in a fully interactive fashion. (1) Simulation is a superior method to educate healthcare providers in a broad range of clinical skills. Traditional strategies, such as the “see one, do one, teach one” approach result in uneven skill acquisition and unnecessary harm to patients. (2) The inclusion of simulation in training is valuable with respect to how personnel are educated, trained, and sustained in providing safe clinical care. (1,3–5)

*Benefits*

- Effective assessment tool for performance and competency of individual clinicians and teams (consensus)
- Effective adjunct to actual clinical practice (consensus)
- Powerful assessment tool for research and evaluation, concerning organisational practices (patient care protocols) and for the investigation of human factors (consensus)
- Efficient tool for changing the culture of healthcare to be more safety oriented, by training clinicians in practices that enact the desired ‘‘culture of safety’’ (consensus)
- Facilitated exchange and collaboration between experienced clinicians and healthcare administrators and experts on human factors, organisational behaviour, or institutional change. (1)

*Components of the standard*

| Component | Grading of evidence | Indicator of meeting the standard |
|---|---|---|
| For parents and family | | |
| 1. Parents and families are involved in development and delivery of simulation scenarios by healthcare professionals. | B (Moderate quality) | Training documentation |
| For healthcare professionals | | |
| 2. Simulation training is attended by all healthcare professionals. (3) | A (Moderate quality)<br>B (High quality) | Training documentation |
| For neonatal unit | | |
| 3. Simulation is incorporated in the training programmes. (5) | A (Moderate quality)<br>B (High quality) | Training documentation |
| For hospital | | |
| 4. Simulation training is ensured. | B (High quality) | Training documentation |
| 5. Facilities and equipment for simulation are provided. (5) | A (Moderate quality)<br>B (Moderate quality) | Audit report |
| For health service | | |
| 6. Nationwide education programmes incorporating simulation techniques are established and regularly updated. | B (High quality) | Training documentation |
| For education provider | | |
| 7. Undergraduate and graduate programmes incorporate simulation in curricula. | B (High quality) | Training documentation |
| 8. Parents are given the opportunity to be engaged in the delivery of simulation scenarios. | B (Low quality) | Training documentation |

*Where to go – further development of care*

| **Further development** | **Grading of evidence** |
|---|---|
| For parents and family | |
| • Contribute to the development of simulation scenarios. | B (Low quality) |
| For healthcare professionals | |
| N/A | |
| For neonatal unit | |
| N/A | |
| For hospital | |
| • Integrate simulation as a routine part of the "every day" work environment. (5) | A (Moderate quality) |
| For health service | |
| N/A | |
| For education provider | |
| N/A | |

*Getting started*

| **Initial steps** |
|---|
| For parents and family |
| • Invite parents to observe simulation scenarios. |
| For healthcare professionals |
| • Participate in simulation training. |
| For neonatal unit |
| • Develop simulation scenarios. |
| For hospital |
| • Support healthcare professionals to participate in simulation training. |
| • Provide access to simulation laboratories and equipment. |
| For education provider |
| • Provide access to simulation laboratories and equipment. |
| • Provide parents with the opportunity to develop simulation scenarios within curricula. |

*Source*

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