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Neonatal care in context

Within the field of neonatology, nurses are a vital part of the multidisciplinary team (MDT) that provides care for sick neonates. The nursing care required by these neonates and their families in the hospital setting can be complex, meaning that there is much to learn for those working in this field. The past few decades have seen significant changes in the role of the neonatal nurse, along with considerable technological developments in neonatal units, changes in the education of neonatal nurses and ongoing clinical research activity within the speciality (Healy and Fallon, 2014). Not only have these advances in neonatal care made a meaningful contribution to the improvements seen in neonatal outcomes, but also the learning needs of nurses have become more diverse and varied (Petty, 2013, 2014).

The focus of this book lies in providing a guide for the clinical care of the neonate; i.e. that within the hospital setting. However, when caring for neonates in the clinical environment, fundamental care principles must not be forgotten in relation to treating them as individuals within a family care context. The following principles should be emphasized as being at the heart of caring for neonates and their families.

Fundamental principles of neonatal care

Firstly, neonatal practice is a speciality; that is, the specifics of the patient group and what is required for their care differs from that required for other patient groups. The unique anatomical and physiological features of the neonate, along with the smaller size and weight of the patient group, influences particular care practices. This can be illustrated with examples such as the interpretation of neonatal-specific blood value and vital sign ranges, the use of equipment designed around physiological norms and by the dosing, administration and metabolism of drugs. It is vital that anyone learning within this field captures the specific elements of the speciality.

Working within current neonatal care requires health professionals to acquire a sound repertoire of knowledge to support best practice for neonate and family. Learning resources, therefore, must be designed to meet the needs of the speciality and the related needs of the learner. Literature within healthcare on how best to support bedside learning suggests that health professionals require
discipline-specific resources that are well designed and tailored to their learning needs (Sredl, 2006; Hyrkas and Rhudy, 2013; Petty, 2013). This book aims to provide such a resource in this speciality.

Secondly, one must remember that the fundamentals of care must never be forgotten regardless of how small and sick neonates are. Any neonate needs ‘simple things done well’ (Resuscitation Council, 2010) from the point of delivery into the world and for their ongoing care thereafter. These needs include providing adequate hygiene, nappy and/or mouth care, ensuring they are comfortable and pain-free at all times and remembering a humanistic, holistic approach to care. Although the book focuses on hospital-based or clinical tools in the main, the aim of neonatal care is to ultimately ‘normalize’ their care as soon as is appropriate and to get the family home.

The neonate as an individual

The neonate, like any service user of the healthcare system, should be respected as an individual, which includes their physical, psychological, emotional, social, spiritual and cultural needs. Care must be culturally sensitive (Flacking et al., 2012), recognizing diversity of ethnic background and religious observances of the whole family. In addition, neonatal care comprises that delivered to a range of different conditions and gestations; this book does not cover these individual conditions as it is intended as a general bedside guide that is universally applicable to any neonate. However, the delivery of interventions must consider the neonate’s individual gestation, age, underlying condition and family context to tailor care most appropriately.

The neonate within the family-centred care context

It should be emphasized that any individual, specific care practice must be delivered within a holistic mindset, considering the needs of the neonate and the family as a whole. Family-centred care should always be at the forefront of neonatal practice. According to the Nursing and Midwifery Council (2010), family-centred care recognizes that, in most cases, children of any age, including neonates, are best cared for by their parents or certainly in a partnership approach between healthcare professionals and parents/carers. This partnership approach should include planning of care, negotiation of who will give that care and how primary carers for that neonate can participate as much as possible. The topic of family-centred care in practice will be covered later within this book in Part 2 (Key Bedside Tools for Clinical Neonatal Care). With the above concepts in mind, we must still remember that learners caring for neonates and their families must be equipped with the essential tools and vital information
The application of learning tools for neonatal practice

to do their job properly and safely, in order to ultimately deliver best practice to family units. This book aims to impart that information within this overarching context.

Bedside learning tools in context

The application of learning tools to neonatal clinical practice

A learning tool can be defined as something that a learner uses to work through concepts or processes while demonstrating his or her thinking, planning and/or decision making on the way to understanding and consolidating knowledge, in this case for nursing practice. Different formats for learning tools exist. However, the following features can be inherent in any learning tool, with examples from the author’s experience, recognizing that not all tools will satisfy all definitions.

- Include customized steps to help learners perform a task or care practice; for example, a resuscitation algorithm or a care pathway for feeding. Similarly, flow charts/diagrams can provide building blocks that enable learners to step through difficult concepts or processes to reach predetermined learning goals; for example, a ventilation weaning flow chart or blood gas analysis. Formulas such as that used for drug and infusion calculations can also be classed under this category.

- Create and present observable points of knowledge or practice points; for example, an admission checklist or a pain assessment tool.

- Clarify what learners know and do not know; for example, a summary table that highlights the main points of a complex care practice such as ventilation practice or feeding. This can help learners grasp knowledge in a new area.

- Focus learning and help support learners as they work towards learning about a specific model of care; for example, a summary or checklist to provide an overview of the principles of developmental care or a charter for family-centred care bringing together the key components.

- Add to the meaning, linking the learning from the classroom to the clinical practice area; for example, applying the neutral thermal environment chart to set an incubator temperature ready for a neonatal admission.

With all this in mind, this book uses three overarching formats: Flow Charts/Diagrams (labelled Figures), Checklists (labelled Boxes) and Summary Tables, which fit in with the above-mentioned learning features. The three formats can be defined as follows:

- A flow chart is a sequence of steps, which represent actions in a particular process or activity. They are a type of algorithm, which can include a process
for decision-making options or an ordered sequence of steps for a given practice. *Diagrams* are variations of flow charts and can appear in many different designs or formats, as applicable to the topic in hand.

- A *checklist* is a list of items, facts or names to be checked or referred to for comparison, identification or verification. This can include assessment tools.
- A *summary* (in the form of a look-up table) gives a brief account of the main points of a topic in a consolidated format.

Whatever format of learning tool is used at the bedside, the aim is that they are easy to use, accessible and concise, particularly for health professionals in a learning capacity, to aid and support optimum understanding.

**The use of learning tools to support clinical decision making**

Nurses and other health professionals perform a range of essential tasks and engage in key decision making in the bedside care of the neonate. To reiterate the point made earlier, neonatal care is a speciality that often requires health professionals new to the field to acquire a different and discipline-specific set of skills and knowledge to support their practice. Student nurses may attend the neonatal unit as a practice placement during their training programme, for example. Newly qualified nurses may then gain employment on a neonatal unit following registration, having gained varying amounts of neonatal experience during their training. Similarly, nurses from other fields may choose to work in neonatal care following a change in career path. Therefore, it follows that these individuals will require support with learning for effective decision making using appropriate tools. Whatever the reason for working in neonatal care, these nurses are faced with acquiring new knowledge within the remit of a beginner with limited experience in the field who uses taught general rules to help perform tasks. This ‘novice nurse’ learns differently and engages in less complex decision making than those who are more experienced and move from advanced beginner through proficient to expert level (Benner, 1984).

In practice, expert nurses collect a broader range of cues in the assessment of patient status than novice nurses (Hoffman et al., 2009). It is also well documented in the nursing literature that decision making among novice nurses tends to be linear, based on limited knowledge and experience in the profession and focused on single tasks or problems (Benner, 1984). As they make decisions, novice nurses are more likely to respond by using theoretical knowledge and psychomotor skills, rather than by engaging in more complex decision making (Gillespie and Paterson, 2009).

Furthermore, when novices lack experience in the clinical setting, they may rely on more experienced nurses until such a time as they become more competent and have sufficient experience to move to a more proficient and eventually expert level. This learning journey can take significant time and often,
The application of learning tools for neonatal practice can occur with minimal support from experienced trained nurses who can be faced with a busy workload and limited time to teach. Therefore, it follows that novice nurses or other professionals in a learning capacity require access to learning resources to ensure their practice is safe and accurate, supported by clear information in an accessible format.

In clinical practice, nurses make numerous decisions throughout the course of a shift. Sub-optimal decision-making strategies may adversely affect the quality of nursing care provided (Twycross and Powls, 2006). It is imperative that nurses, whether they be novice or experienced are provided with the necessary tools to impart knowledge for safe practice.

It has been concluded that the nurse’s awareness of the patient’s situation, together with a well-founded basis for decisions provided by accessible and tailored information, can have positive effects on the nursing care provided (Hedberg and Satterlund Larsson, 2003).

Educators need to recognize that novices learn in a dependent fashion and that this type of learning is a natural process linked directly to their stage of role development. Educators can support novice learning by providing information, helping the novice set learning priorities and supporting them during the period in which they need to learn new and complex tasks.

**Incorporating evidence into learning tools to support neonatal practice**

The application of recent and valid evidence in the neonatal field is an essential part of delivering best practice to the neonate and the family. It is also integral to effective learning that knowledge is delivered and assimilated by the learner within the context of what the evidence has shown. The care provided by neonatal nursing is based upon scientific research and great strides have been made in translating research into practice in this speciality. Examples include the introduction of new ventilation techniques including non-invasive modes, the advent of surfactant and antenatal steroids in the light of evidence linking these to improved outcomes and the implementation of both developmental care and family-centred care principles into neonatal care delivery.

Learning tools therefore, should also have a grounding within this evidence-based perspective. Research has highlighted the benefits of, for example, learning tools that have incorporated recent evidence to guide specific care practices, such as, an algorithmic approach that can provide a step-by-step method for emergency care based upon evidence-based guidelines (Acquaviva et al., 2012). Evidence-based clinical practice guidelines include clinical protocols, care pathways and algorithms. Within these guidelines, researched statements supported by scientific literature should be subjected to regular multidisciplinary review reflecting current knowledge. Similarly, clinical or critical pathways provide
a management tool which can help deliver standardized care. Clinical algorithms provide a flow chart of the process and those developed from an evidence-based perspective can facilitate the application of research to practice.

**Interprofessional learning in neonatal care**

Finally, it is important to remember that neonatal care is not delivered by nurses alone. Nurses caring for the neonate and family do so within a MDT perspective. Learning tools can be utilized by the MDT in relation to an interprofessional (IP) approach to learning in this field. This is congruent with the core essence of IP learning, which is seen as an essential component of current healthcare training and is relevant to a wide range of professions. The Centre for the Advancement of Interprofessional Education (CAIPE) states that, ‘IP education occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care … and includes all such learning in academic and work-based settings’ (Barwell et al., 2013). Following on from this, learning tools that may benefit nurses may also be of use to the other members of the MDT. The neonatal MDT and the roles within this are covered later in Part 2 (Key Bedside Tools for Clinical Neonatal Care).

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