Carole Kenner, PhD, NNP, RN, FAAN, is internationally known for her work in neonatal nursing, nursing education, and health policy establishing the rights of the neonate, standards for neonatal nursing care and neonatal nursing education, and the reduction of infant mortality worldwide. Dr. Kenner is the Carol Kuser Loser dean/professor in the School of Nursing, Health, and Exercise Science at the College of New Jersey, Ewing, New Jersey, and the chief executive officer for the Council of International Neonatal Nurses, Inc., Yardley, Pennsylvania. She has published more than 100 peer-reviewed journal articles, 30 books, and nearly 100 book chapters. Dr. Kenner has participated as principle investigator, co-investigator, or consultant on approximately 65 research/education/policy grants. She is a member of four honorary societies, including the American Academy of Nursing (AAN) (elected in 1994), and is a member of numerous review panels, editorial boards, and consultant groups. In 2010, Dr. Kenner received the prestigious Audrey Hepburn Award for Contributions to the Health and Welfare of Children from Sigma Theta Tau International. In 2014, she received a Lifetime Achievement Award for her work in neonatal nursing from the National Association of Neonatal Nurses (NANN).

Judy Wright Lott, PhD, NNP-BC, RN, FAAN, served as the founding dean of the nursing program at Wesleyan College in Macon, Georgia, until 2014. She served as dean, Baylor University Louise Harrington School of Nursing in Dallas, Texas, from 2002 to 2012. Dr. Lott has served as a neonatal nurse practitioner (NNP) from 2004 to 2005, associate professor of nursing and director of the NNP Specialty at the University of Cincinnati College of Nursing from 1996 to 2002, and assistant professor, Neonatal Graduate Specialty University of Florida College of Nursing from 1986 to 1990. She has worked in the clinical setting in various capacities since 1976. Dr. Lott was inducted into the American Academy of Nursing (AAN) in 2003, joined the American Association of Colleges of Nursing (AACN) Fuld Leadership for Academic Nursing Program in 2003, and was named visiting professor for the Perinatal Society of Australia and New Zealand (2001). Dr. Lott has co-authored four editions of Comprehensive Neonatal Nursing Care with Dr. Kenner. Dr. Lott has been invited to deliver more than 60 presentations at national and international professional meetings and 17 research presentations. She has published more than 20 peer-reviewed journal articles and 35 book chapters, and has been awarded six funded research grants, including a grant from the National Institute of Nursing Research (NINR).
NEONATAL NURSING CARE HANDBOOK
An Evidence-Based Approach to Conditions and Procedures

Second Edition

Carole Kenner, PhD, NNP, RN, FAAN
Judy Wright Lott, PhD, NNP-BC, RN, FAAN

SPRINGER PUBLISHING COMPANY
NEW YORK

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Mary Coughlin

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Contributors

Leslie B. Altimier, DNP, RNc, NE-BC  Director of Clinical Marketing, Mother & Child Care Patient Care & Clinical Informatics, Phillips Healthcare, North Andover, Massachusetts

Donna Armstrong, MSM, CAGS, RN, CCRN  Staff Nurse III, Boston Children’s Hospital Neonatal Intensive Care Unit (NICU), Boston, Massachusetts

Susan T. Blackburn, PhD, RN, FAAN  Professor, Department of Family & Child Nursing, University of Washington, Seattle, Washington

Marina Boykova, PhD, RN  Research Coordinator, Council of International Neonatal Nurses, Inc., Yardley, Pennsylvania

Caitlin Bradley, MS, RN, NNP-BC  Neonatal Nurse Practitioner, Boston Children’s Hospital NICU, Boston, Massachusetts

Carrie-Ellen Briere, BSN, RN, CLC  Staff Nurse II, Boston Children’s Hospital NICU, Boston, Massachusetts

Julie Briere, BSN, RN, CCRN  Neonatal Nurse, Boston Children’s Hospital, NICU, Boston, Massachusetts

Beth Brown, RNC, MSN  Adjunct Nursing Instructor, Kettering College, Division of Nursing, Kettering Medical Center, Dayton, Ohio

Monica A. Carleton, BSN, RN  Staff Nurse II, Boston Children’s Hospital NICU, Boston, Massachusetts
Contributors

Denise Casey, MS, RN, CCRN, CPNP  Clinical Nurse Specialist, Boston Children’s Hospital NICU, Boston, Massachusetts

Anita Catlin, DNSc, FNAP, FAAN  Ethics and Research Consultant, Pope Valley, California

Xiaomei Cong, PhD, RN  Associate Professor, University of Connecticut School of Nursing, Storrs, Connecticut

Mary Coughlin, RN, MS, NNP  President & Global Learning Officer, Caring Essentials Collaborative, LLC, Boston, Massachusetts

Michele DeGrazia, PhD, RN, NNP-BC, FAAN  Director of Nursing Research, NICU, Boston Children’s Hospital NICU, Boston, Massachusetts

Eileen C. DeWitt, RNC, MS, NNP-BC  Neonatal Nurse Practitioner, Boston Children’s Hospital NICU, Boston, Massachusetts

Georgia R. Ditzenberger, PhD, NNP-BC, APNP  Assistant Professor, CNHS, Department of Pediatrics, Neonatology Division, University of Wisconsin, School of Medicine and Public Health, Madison, Wisconsin

Noel Dwyer, MBA, RN, CCRN  Staff Nurse II, Boston Children’s Hospital NICU, Boston, Massachusetts

Wakako Eklund, DNP, NNP-BC, RN  Neonatal Nurse Practitioner, Pediatrix Medical Group of Tennessee, Nashville, Tennessee

Patricia Fleck, PhD, RN, NNP-BC  Neonatal Nurse Practitioner, Boston Children’s Hospital, Boston, Massachusetts, South Shore Hospital, Weymouth, Massachusetts

Tricia Grandinetti, BSN, RN  Staff Nurse II, Boston Children’s Hospital NICU, Boston, Massachusetts

Maura Heckmann, DNP, MSN, CPNP, RN  Pediatric Nurse Practitioner, Boston Children’s Hospital Medical Surgical ICU, Boston, Massachusetts
Patricia Johnson, DNP, MPH, RN, NNP  Neonatal Nurse Practitioner Coordinator, Maricopa Integrated Health System, Phoenix, Arizona

Carole Kenner, PhD, NNP, RN, FAAN  Carol Kuser Loser Dean/Professor, School of Nursing, Health, and Exercise Science, The College of New Jersey, Ewing, New Jersey

Michelle LaBrecque, MSN, RN, CCRN  Clinical Nurse Specialist, Boston Children's Hospital, Boston, Massachusetts

Judy Wright Lott, PhD, NNP-BC, RN, FAAN  Neonatal Nurse Practitioner, Surrey, British Columbia, Canada

Ruth Lucas, PhD, RNC-IPO, CLS  Assistant Professor, School of Nursing, University of Connecticut, Storrs, Connecticut, Nurse Scientist, Institute for Nursing Research & Evidence-Based Practice, Connecticut Children's Medical Center, Hartford, Connecticut

Carolyn Lund, MS, RN, FAAN  Neonatal Clinical Nurse Specialist, Benioff Children's Hospital Oakland, Oakland, California, Associate Clinical Professor, University of California, San Francisco, School of Nursing, San Francisco, California

Mary-Jeanne Manning, MSN, RN, PNP-BC, CCRN  Clinical Nurse Specialist, Boston Children's Hospital Medical Surgical ICU, Boston, Massachusetts

Samual L. Mooneyham, MSN, NNP, RN  Interim Director of Obstetrics/Nursing Supervisor, Heywood Hospital, Gardner, Massachusetts

Katherine M. Newnam, PhD, RN, NNP-BC, CPNP  Assistant Professor, University of Tennessee Knoxville, College of Nursing, Knoxville, Tennessee, Neonatal Nurse Practitioner, Children's Hospital of the King's Daughters, Norfolk, Virginia

Stephanie Packard, BSN, RN, CCRN  Project Manager, Patient Safety and Quality Cardiovascular and Critical Care Programs, Boston Children's Hospital NICU, Boston, Massachusetts

Leslie A. Parker, PhD, RN, NNP-BC  Clinical Associate Professor, College of Nursing University of Florida, Gainesville, Florida

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CONTRIBUTORS

Ann Gibbons Phalen, PhD, CRNP, NNP-BC  Associate Professor, Associate Dean, Undergraduate Programs, Jefferson College of Nursing, Thomas Jefferson University, Philadelphia, Pennsylvania

Jana L. Pressler, PhD, RN  Assistant Dean & Professor, University of Nebraska Medical Center, College of Nursing Lincoln Division, Lincoln, Nebraska

Melissa Roberts, MSN, RN, CPNP  Pediatric Nurse Practitioner, Shriners Hospital, Boston, Massachusetts

Ann Schwoebel, RNC-NIC, CRNP  Clinical Nurse Educator, Pennsylvania Hospital, Philadelphia, Pennsylvania

Elizabeth (Liz) Sharpe, DNP, ARNP, NNP-BC, VA-BC  Assistant Professor, The University of Alabama at Birmingham School of Nursing, Birmingham, Alabama

Beth Shields, PharmD  Associate Director, Operations, Clinical Specialist, Pediatrics, Rush University Medical Center, Department of Pharmacy, Chicago, Illinois

Tamara Wallace, DNP, RN, NNP-BC  Neonatal Nurse Practitioner, Nationwide Children’s Hospital, Columbus, Ohio

Charlotte Wool, PhD, RN  Assistant Professor of Nursing, York College of Pennsylvania, York, Pennsylvania

Ksenia Zukowsky, PhD, CRNP, NNP-BC  Associate Professor, Thomas Jefferson University, Jefferson College of Nursing, Associate Dean Graduate Programs, Coordinator of Neonatal Nurse Practitioner Program, Philadelphia, Pennsylvania
Foreword

The health of newborns in all countries must be at the forefront of all activities (teaching, research, and service) if neonatal nursing is to embrace the post-2015 global development framework. It is within this ethos that the Neonatal Nursing Care Handbook: An Evidence-Based Approach to Conditions and Procedures has been written to serve a global cadre of neonatal nurses!

The neonatal handbook provides an explanation of common conditions and focuses on a few procedures that are widely implemented in practice. The editors, Drs. Carole Kenner and Judy Wright Lott, have been mindful that resources may vary significantly in some countries where the handbook will be utilized. The neonatal handbook is therefore available, keeping at the forefront the principles of evidence-based nursing practice while appreciating that clinical decisions will be guided by the best evidence shared in the neonatal handbook, the resources available in the practice setting, the clinical practice skills of the neonatal nurse, and the parents’ preference with respect to care provided to their newborn.

There is an appreciation that learners and clinicians in some countries are not able to readily access knowledge or evidence to inform practice. This neonatal handbook has therefore been written with the intent of making evidence easily accessible to learners in the classroom or clinical setting, as well as to practitioners in clinical care who want to improve the quality of care. The authors have anticipated that the need for this knowledge will increase, given the call to end preventable deaths through the Every Newborn Action Plan, which is being coordinated by the World Health Organization and the United Nations Children’s Fund. The
neonatal handbook will therefore be an important resource for neonatal nurses worldwide.

The neonatal handbook employs a systems approach detailing management of disorders related to each system. Many of the special care considerations can be applied universally; for instance developmental care and breastfeeding. A separate section covers procedures and diagnostic tests.

Evidence-informed practice improves patient outcomes and sharing knowledge about best practices (i.e., current state of evidence) is an important step in this regard. The gift of knowledge will ensure the health and well-being of newborns in all countries.

Shahirose Sadrudin Premji, PhD, MScN, BSc, BScN, RN
Associate Professor, University of Calgary, Faculty of Nursing
Adjunct Associate Professor, University of Calgary
Faculty of Medicine, Department of Community Health Sciences
Calgary, Alberta, Canada
Preface

Neonatal nursing care is taking on an increasing prominence as part of the Every Newborn Action Plan (ENAP) and the United Nations Millennium Development Goals (MDGs). Yet, there is no quick reference for neonatal nurses in many countries, thus making this handbook extremely valuable for nurses working in international communities.

Neonatal nursing professionals need a quick reference for the most common conditions and procedures, which they can use to find the necessary information in a timely manner. The second edition of this handbook is divided into three sections. The first section takes a systems approach, providing a brief description of each of the most common conditions, signs and symptoms, assessment, and brief treatment. The second section focuses on special care considerations. The third section includes procedures, diagnostic tests, lab values, and common drugs that are most frequently needed in the care of neonates. The appendices consist of charts and graphs, such as weight and temperature charts, a list of common abbreviations, and pertinent web resources.


Carole Kenner
Judy Wright Lott
Acknowledgments

I wish to first express my appreciation, love, and support for my dad who turned 104 in 2015. He still gets excited when a new edition is published. Thank you, dad, from both of us as Judy also has grown close to you over the years.

I also wish to acknowledge the support from Dr. Marina Boykova, who reminds me what the international neonatal nursing community needs!

Carole

I would like to thank my daughter, husband, and sisters for their love, support, and patience through not only this book, but my other publishing adventures!

Judy

Together we would like to express our appreciation for the assistance of Margaret Zuccarini from Springer Publishing Company, who is a longtime trusted colleague and guided this project to a successful completion. Thank you for believing in this project. A special thank you goes to Elizabeth Nieginski from Springer Publishing Company, for all her assistance and guidance through the development and publication of this project. We really enjoyed working with both of you. Also, we would like to thank Jan Zasada for her tireless efforts to try to keep us organized and on track. And of course, thank you to all the authors who provided their expertise. Finally, we want to thank the professionals across the globe who take care of babies and their families.
Skin Care

Carolyn Lund

OVERVIEW

Neonatal skin care is an important clinical concern for neonatal nurses. Goals of skin care for newborn infants include protecting skin integrity, reducing exposure to potential toxicity from topical agents, and promoting healthy skin barrier function. An understanding of the unique anatomic and physiologic differences in premature, full-term newborn, and young infant skin is fundamental to providing effective care to these populations.

PHYSIOLOGIC AND ANATOMIC VARIATIONS IN NEWBORN, YOUNG INFANT, AND PREMATURE INFANT SKIN

Newborn skin undergoes an adaptation process during the transition from the aquatic environment of the uterus to the aerobic environment after birth. The skin assists in thermoregulation, serves as a barrier against toxins and micro-organisms, is a reservoir for fat storage and insulation, and is a primary interface for tactile sensation and communication.

STRATUM CORNEUM AND EPIDERMIS

The stratum corneum, which provides the important barrier function of the skin, contains 10 to 20 layers in the adult and in the full-term newborn. Although full-term newborns reportedly have
skin barrier function comparable to that of adult skin, as indicated by a measurement called transepidermal water loss (TEWL), there is now some evidence that the stratum corneum does not function as well as adult skin during the first year of life. Infant skin is 30% thinner than adult skin, the basal layer of the epidermis is 20% thinner than that of the adult, and the keratinocytes in this layer have a higher cell turnover rate, which may account for the faster wound healing that has been observed in neonates.

The premature infant has far fewer cell layers in the stratum corneum, with the specific number determined by gestational age. At less than 30 weeks gestation, there may be as few as two or three layers, and the extremely premature infant of 23 to 24 weeks gestation has almost no stratum corneum and negligible barrier function. The deficient stratum corneum results in excessive fluid and evaporative heat losses during the first weeks of life, leading to increased risk of dehydration and significant alterations in electrolyte levels, such as hypernatremia. Techniques used to reduce these losses include the use of polyethylene coverings immediately after delivery and use of high levels of relative humidity (> 70% RH) in incubators. Maturation of the skin barrier, particularly for infants of 23 to 25 weeks gestation, occurs over time, with evidence of mature barrier function delayed until about 30 to 32 weeks postconceptional age.

**DERMIS**

The dermis of the full-term newborn is thinner and not as well developed as the adult dermis. The collagen and elastin fibers are shorter and less dense, and the reticular layer of the dermis is absent, which makes the skin feel very soft.

Premature infant skin exhibits decreased cohesion between the epidermis and dermis, which places these babies at risk for skin injury from removal of medical adhesives. When extremely aggressive adhesives are used, the bond between adhesive and epidermis may be stronger than that between epidermis and dermis, resulting
in stripping of the epidermal layer and loss of or significantly diminished skin barrier function.

**SKIN pH**

Skin surface typically has an acidic pH, due to a number of chemical and biologic processes involving the stratum corneum. This “acid mantle” of the skin (pH < 5) contributes to the immune function of the stratum corneum by inhibiting the growth of pathogenic microorganisms and supporting the proliferation of commensal, or “healthy,” bacteria on the skin.

Full-term newborns are born with an alkaline skin surface (pH > 6), but within the first 4 days after birth the pH falls to less than 5. Skin surface pH in premature infants of varying gestational ages has been reported to be more than 6 on the first day of life; however, it decreases to 5.5 by the end of the first week and 5.1 by the end of the first month. Bathing and other topical treatments transiently alter skin pH, and diapered skin has a higher pH due to the combined effects of urine contact and occlusion. The higher pH of diapered skin reduces the barrier function of the stratum corneum, rendering it more susceptible to mechanical damage from friction.

**RISK OF TOXICITY FROM TOPICAL AGENTS**

Toxicity from topically applied substances has been reported in numerous case reports due to the increased permeability of both preterm and full-term newborn skin. This is due to a number of factors including the fact that newborn skin is 20% to 40% thinner than adult skin, and the ratio of body surface to weight is nearly five times greater in newborns than in older children and adults, which places newborns at increased risk for percutaneous absorption and toxicity. Examples of toxicity from percutaneous absorption include encephalopathy and death among premature infants bathed with hexachlorophene, and alterations in iodine levels and thyroid function related to routine use of povidone iodine in neonatal intensive care units (NICUs).
Evidence-based skin care practices for neonates are provided in the third edition of the *Neonatal Skin Care: Evidence-Based Clinical Practice Guideline*, published by the Association of Women’s Health, Obstetric and Neonatal Nurses (AWHONN, 2013). This guideline includes recommendations for 12 aspects of neonatal skin care, ranging from bathing to the use of disinfectants to diaper dermatitis. A brief summary of selected aspects is included here for neonatal nurses.

**BATHING**

The newborn’s first bath should occur when his or her temperature and vital signs are stable; the World Health Organization (WHO) recommends waiting at least 6 hours. Clear water or water and a mild baby wash product with a neutral or mildly acidic pH (5.5–7) may be used, but soap-based products should be avoided because they can be drying or irritating to the skin. Leaving residual vernix caseosa intact has several benefits, including protecting the infant from infection, moisturization, development of the acid mantle, and temperature regulation; it can be left in place to wear off with normal care and handling. Consider an “immersion” or tub bath even with the umbilical cord still in place, as this has been shown to be more soothing and results in less temperature loss. For routine bathing, it is not necessary to bathe a newborn more than every other day.

**UMBILICAL CORD CARE**

Cleanse the umbilical cord during bathing with clear water, and dry the infant to remove excess water. Leave the umbilical cord stump clean, dry, and uncovered by keeping the diaper folded underneath the cord. Educate parents to use “natural drying” by keeping the cord area clean and dry, without the use of topical agents. This is also the recommendation of the WHO. In some developing countries, however, a single application of chlorhexidine gluconate has been shown to reduce infection.
DIAPER DERMATITIS

Maintaining a healthy skin environment in the diaper area is the primary goal. In the newborn period, changing the diaper when wet or soiled, as often as every 1 to 3 hours, is beneficial. Avoid rubbing the perineal skin, and use soft cloths, water, or a gentle disposable diaper wipe that has been tested on newborn skin.

If diaper dermatitis occurs, determine the underlying cause. The most common type is irritant contact diaper dermatitis caused by fecal enzymes. This type is seen in the perianal skin, and can range from bright red to excoriated or denuded. Skin affected in this way can benefit from an immersion bath once daily, as well as application of petrolatum-based ointment either as a preventive strategy or to protect reddened skin with each diaper change. For more severe skin excoriation, use a skin barrier product, such as those containing zinc oxide; the barrier should be applied in a very thick coating over the excoriated skin, and reapplied with every diaper change. Consider if there is an underlying cause, such as diarrhea, that is infectious, from opiate withdrawal or from significant malabsorption of nutrients due to a surgical condition; a change in diet or other medical interventions may be indicated.

Another type of diaper dermatitis involves Candida albicans; this may also be called a yeast or fungal diaper dermatitis. This type of diaper dermatitis is characterized by “beefy” red skin, with “satellite” lesions scattered at the edges; the skin may or may not be denuded. An antifungal ointment or cream is applied topically three to four times a day; if the rash does not respond in several days, it may be necessary to select another antifungal preparation.

EMOLLIENTS

Emollients are topical substances composed of fat or oil, sometimes combined with water. The routine use of emollients in newborn skin care is not clear, although application of an emollient to skin that is dry or cracked is recommended. Large studies of very premature infants weighing less than 1,000 g reported no differences in mortality when a petrolatum-based ointment was applied twice daily,
compared with using this emollient only on an “as needed” basis for dry skin; they also reported an increase in bloodstream infections in the smallest infants weighing less than 750 g with the routine use of this ointment. For this reason, the routine use of emollients in premature infants weighing less than 1,000 g is not recommended.

In some cultures, the routine use of an emollient, usually in the form of oil, is used during infant massage. Although some oils such as sunflower seed oil have been shown to be beneficial, others such as olive oil or grape seed oil may be more irritating according to some laboratory investigations. The role of these oils in the NICU is not well studied, and concerns about using them with infants who have central venous catheters, for example, have been raised.

DISINFECTANTS

Disinfecting skin surfaces prior to invasive procedures such as insertion of central venous catheters, umbilical catheters, intravenous catheters, chest tubes, or venipuncture reduces the risk of infection. Current skin disinfectants used in this manner include 70% isopropyl alcohol, 10% povidone iodine, and chlorhexidine gluconate, with concentrations ranging from 0.5% to 3.15%, some in aqueous solutions and many combined with 70% isopropyl alcohol. When evaluating different products used for skin disinfection, efficacy of skin sterilization, systemic toxicity, and skin irritation or chemical burns should be considered.

Chlorhexidine gluconate-containing solutions have been shown to reduce the risk of bloodstream infection in adults with central venous catheters, but there is no study to date to demonstrate this in the NICU population. Povidone iodine is next in terms of efficacy, with isopropyl alcohol the least effective for skin decontamination.

Systemic toxicity has been reported with povidone iodine use in premature infants, affecting thyroid function transiently; if this solution is used, it should be removed completely using sterile water or saline to reduce skin exposure and absorption. Toxicity to chlorhexidine products has been seen with exposure to the eyes and ear structures. In adults, there have been reports of anaphylactic reactions when using chlorhexidine gluconate impregnated urinary
catheters or with large areas of exposure during repeated surgical procedures.

Chemical burns and skin irritation have been reported with alcohol-containing disinfectants. A number of reports involve the periumbilical skin that has been disinfected with chlorhexidine gluconate in extremely low-birth-weight premature infants but safety data are lacking. Disinfectants should be used with caution in this population.

**MEDICAL ADHESIVES**

Medical adhesives such as tape, electrodes, and transparent adhesive dressings are applied and removed many times a day in the typical NICU. These secure critical life support equipment such as endotracheal tubes, intravenous and arterial catheters, and chest tubes, as well as numerous monitoring devices and probes. Skin injury from medical adhesives is a known problem in the NICU population. As mentioned previously, one reason is immature skin with decreased cohesion between the epidermis and dermis layers.

There are a number of different types of adhesive products, including cloth tape, plastic perforated tape, transparent adhesive dressings, hydrocolloid adhesives, hydrogel adhesives, and silicone adhesives. Depending on the critical need to adhere, different adhesives are selected for different indications. For example, hydrogel adhesives may work well for electrocardiogram electrodes, but are not suitable to secure an endotracheal tube. Silicone adhesives work well as a border around dressings, and to secure electroencephalogram electrodes to the scalp and hair, and are very gentle when removed. However, silicone tapes do not adhere well to plastic tubes and cannulas.

Another strategy to reduce skin injury from adhesives is the use of silicone-based skin protectants that do not contain alcohol; these are commonly used on skin surrounding ostomy sites. They have been reported as beneficial in several small studies in premature infants. The use of bonding agents such as tincture of benzoin to increase the stickiness of adhesives is not recommended, because the bond that these agents forms between the adhesive and the epidermis may be stronger than the fragile cohesion between the epidermis and dermis and can result in epidermal stripping when removed.
Silicone-based adhesive removal products are being seen in the literature, and are described as very beneficial for infants with genetic skin disorders such as epidermolysis bullosa. It is possible that these, too, may benefit premature infants but more research in this area is encouraged. Alcohol- or organic-based skin removers contain hydrocarbon derivatives or petroleum distillates that have a potential for systemic toxicity, and should not be used.

CONCLUSION

Newborn skin has unique properties that are important to understand when providing skin care. Both full-term and premature newborns require careful consideration during such daily care practices as bathing, skin disinfection, umbilical cord care, adhesive and emollient use, and management of diaper dermatitis. Optimal approaches for neonatal skin care that are evidence based have been shown to be practical in both the neonatal intensive care unit as well as “well baby” nursery settings, while also improving the overall skin condition for newborns and young infants.

REFERENCE


ADDITIONAL CHAPTER RESOURCES


Palliative Care

Charlotte Wool and Anita Catlin

OVERVIEW

Integral to the care of medically fragile neonates is the reality that not all will survive. Perinatal palliative care is an interdisciplinary, comprehensive, coordinated approach to supporting families facing the possibility of perinatal death (Wool, 2013). Perinatal death refers to fetal deaths after 20 weeks gestation and live births with only brief survival (Barfield & The Committee on Fetus and Newborn, 2011). One aspect of palliative care, called end-of-life care, supports a peaceful, dignified death for the infant and the provision of loving support to the family and health care providers (National Association of Neonatal Nurses [NANN], 2010). This chapter defines and discusses perinatal and neonatal palliative care.

BACKGROUND AND INCIDENCE

The technology behind expanded prenatal testing has developed rapidly (Hickerton, Aitkin, Hodgson, & Delatycki, 2012), resulting in increased detection of anomalies and the subsequent need to provide care to families facing an unexpected fetal diagnosis. Today, the majority of diagnoses for several life-limiting disorders occur in the prenatal period (Irving, Richmond, Wren, Longster, & Embleton, 2011). Palliative care may begin in the prenatal period and then continue for infants born with life-limiting conditions or who develop life-limiting conditions during their neonatal hospitalization.

The World Health Organization (WHO; 2014) estimates 1.2 million children are in need of palliative care at the end of life.
worldwide. Congenital anomalies occur in approximately 3% of all live births and are the leading causes of infant mortality (MacDorman, Kimeyer, & Wilson, 2012). Preterm-related causes of death together account for 35% of all infant deaths, more than any other single cause (Centers for Disease Control and Prevention, 2013). More than 29,000 infants under 1 year of age die each year in the United States, and 66% of these deaths occur during the neonatal period (Xu, Kochanek, & Tejada-Vera, 2009), many in the neonatal intensive care unit (NICU) (Brandon, Docherty, & Thorpe, 2007).

Palliative care is focused on interventions aimed at improving quality of life and maximizing comfort. WHO (2014) states that, in the case of life-limiting conditions, palliative care should begin at the same time that curative care begins. Curative and comfort interventions may coexist (Catlin & Carter, 2002).

RECOMMENDED INTERVENTIONS

■ Palliative care should be offered at any period in which the infant’s life may be limited—prenatally, at the time of birth, after the birth, initially in the labor and delivery suite, in the NICU, and at home following discharge.

■ When a prenatal diagnosis is made, palliative care should be offered while the fetus is in utero. Parents should be supported throughout the decision-making process. Options for terminating or continuing the pregnancy should be offered in a balanced manner and family decisions should be supported by the health care team.

■ When continuing the pregnancy is chosen, an advocate or coordinator of care for a family should be identified prenatally to assist with (a) helping families navigate the health care system, (b) coordinating care conferences between the health care team and family, (c) answering questions, and (d) assisting parents with a birth plan that is appropriate. A birth plan is a written document available to all stakeholders outlining parental wishes about the pregnancy, labor, birth, and postnatal period.

■ Provision of care and services should be coordinated among interdisciplinary team members. Recommendations should be made as a team through consensus to avoid fragmentation in
communication and care. Should any party wish to change the agreed upon plan, the interdisciplinary team must all meet to reassess whether changes should be made.

- Parents are part of the caregiving team and should participate in the decision-making process. Family conferences are essential to caregivers’ understanding of families’ needs, hopes, and goals for their infant.

- Appropriate family support services should be provided, including those of perinatal social workers, hospital chaplains, and clergy; hospital palliative care team members to provide emotional and spiritual support; a child life specialist or family support specialist to support the infant’s siblings; and a lactation consultant to assist mothers who want to breastfeed their infant or donate breast milk at the end of life and to help mothers manage cessation of lactation (Moore & Catlin, 2003).

- Initial training, availability of written protocols, annual competencies, and support services should be available for all staff members. Debriefing for staff is essential after a difficult death.

**ASSESSMENT**

The International Council of Nurses (2015) views the nurse’s role as fundamental to a palliative approach that aims to reduce suffering and improve the quality of life for dying patients and their families through early assessment, identification, and management of pain and physical, social, psychological, spiritual, and cultural needs. Nurses and other caregivers determine when intensive therapies no longer offer hope for a cure or recovery, and they then shift the focus of treatment toward solely the provision of comfort for the infant and family.

Comprehensive assessment in the physical, psychological, social, spiritual, and cultural domains should recur on a regular basis. Recommendations support decision making using the same ethical criteria that is applied to other medical interventions. That is, using the best interest standard, which weighs the benefits and burdens of a particular intervention in light of pathophysiologic parameters, the
goals of treatment, and the parents’ preferences (American Academy of Hospice and Palliative Medicine [AAHPM], 2013).

A document for the health care team to use and refer to should be created to avoid fragmentation of care and provide continuity of care.

**DIAGNOSIS AND PLANNING**

Diagnostic information should be offered in a timely and compassionate manner. Since prognosis may be uncertain and an infant may live longer than expected, a treatment plan can be developed prenatally. A treatment plan is a written document available to all stakeholders stating fetal/neonatal diagnoses and anticipated treatments necessary to keep the infant comfortable as assessment dictates (i.e., breathing, pain, feeding). Palliative care is appropriate for neonates with a wide range of life-limiting conditions, including severe prematurity and its accompanying complications, birth-related trauma or complex congenital anomalies, and whether the condition will result in death during the infant’s first few hours of life or after several years.

Written information should be given to parents that complements palliative care interventions, such as (a) referrals to community resources, counselors, community members, and other parents; (b) what to expect during the dying process; and (c) who to contact when death occurs.

When an infant with a potentially life-limiting condition is being transported to a tertiary care center, parents should be informed that palliative care may be the focus of care, as parents may believe that transport means cure when in fact transport may be indicated to confirm a diagnosis.

When a decision has been made to pursue palliative care interventions, the proper focus of palliative care should be maintained.

- Active orders should be reviewed to determine whether they should be continued when palliative care is initiated.
- Pain and distressing symptoms, such as gasping or seizures, should be treated in consultation with a neonatal pharmacist, with the least invasive route considered the desired method of delivery (i.e., buccal, dermal, or rectal delivery if intravenous access is no longer desired or available).
- Comfort measures including holding and kangaroo care should be encouraged.
- A validated instrument to measure infant pain and sedation should be used.

End-of-life care should give attention to the following concerns:
- Care should be provided in a private location within or near nursing staff, with the goal of keeping the family members together.
- If possible the environment should have a “home away from home” feel to facilitate comfort and privacy.
- Alarms and pagers of those in attendance should be turned off. Light levels should be adjusted for family comfort.
- Routine measurement of vital signs and lab analyses should cease.
- Pain assessments to identify infant distress should be performed frequently.
- Pain medication should be offered frequently in standardized doses based upon the infant’s weight.
- No painful assessments (e.g., heel sticks, measurement of blood gases) should be made.
- Appropriate access to medications (intravenous, rectal, buccal, or topical) should be given.
- Offering small amounts of oral fluids such as drops of breast milk and lip lubrication as a comfort measure is appropriate.
- Infants should be bathed, dressed, and held.
- Infants should be taken outside into the sunlight if possible.
- Spiritual support should be offered to the family.
- Family and friends should be welcomed, and visiting restrictions should be waived.
- Memory-making activities should be encouraged, including taking family photographs (by lay or professional photographers), making handprints and footprints, cutting locks of hair, and holding special spiritual or religious ceremonies.
If the family is not available, nurses should hold and comfort the infant.

Family should be accompanied by staff when leaving the hospital.

**TRANSITIONS TO HOME AND PRIMARY CARE**

When palliative care includes the removal of life-sustaining technology in the hospital or a home, support from a hospice or palliative care organization should be provided. Before life-sustaining technology is removed, a plan should be in place for the eventuality that the infant continues to breathe independently. When ventilator support of an infant is discontinued, caregivers should attend to the following concerns:

- The infant’s parents should decide who will be present.
- Vasopressors should be discontinued.
- The infant should be weaned from neuromuscular blocking agents prior to the removal of life-sustaining technology.
- Nurses should explain as much of the process to the parents as the parents wish to hear.
- The infant should be held by a parent or family members, or, if the parents and family do not wish to hold the infant, by a staff member. (Some parents may find it difficult to hold a dying infant.)
- Gentle suction may be performed, and the endotracheal tube may be removed.
- Tape and additional lines may be removed.
- Medication such as morphine should be given if respiratory discomfort exists; oxygen therapy may be used as a comfort measure based upon assessment and parental wishes.
- Medications to treat respiratory distress or to prevent discomfort should be given in standardized dosages based upon the infant’s weight and may be repeated if necessary. (Bolus medications in larger than normal doses are not appropriate.)
Hospital personnel should have a relationship with a local hospice or palliative care organization in order to offer seamless continuity of care. Where local hospices do not provide pediatric care, pediatric home health agencies and a primary care pediatrician may oversee the palliative care needs. Infants who are discharged with life-limiting illnesses should have a plan of care, including necessary resources and a portable nonresuscitation plan to avoid unnecessary resuscitation.

The provision of whether the infant who continues to live will receive artificial nutrition and hydration should be discussed. Artificial feeding and hydration are viewed as a life-extending technology and may or may not be appropriate in palliative care (Diekema & Botkin, 2009). The family and staff members must be aware that the infant who receives only oral measures as comfort may not expire for 1 to 3 weeks (Hellmann, Williams, Ives-Baine, & Shah, 2012). Families may appreciate this time without artificial feeding as a time to get to know their infant and enjoy care without tubes and lines (Hellmann et al., 2012; Vesely & Beach, 2013). Local pediatric inpatient hospices, if they exist, can support parents and the baby during this difficult period (Vesely & Beach, 2013). Insertion of a feeding tube has the potential to extend life and prevent the natural dying process. Research on adult patients at the end of life report that adults are more comfortable when they are not fed. When adults are being fed at the same time that organs are shutting down, they often develop complications such as pulmonary edema, cardiac failure, painful abdominal distention, diarrhea, and aspiration pneumonia (Winter, 2000). When not receiving nutrients, the body releases endorphins that provide analgesia (Carter & Leuthner, 2003).

BEREAVEMENT

Bereavement interventions can be offered by nursing staff and identified community services. Support may include:

- Giving the parents a gift such as a stuffed teddy bear to take home (which allows them to leave the hospital without empty arms)
■ Calling the family the next day
■ Sending the family a card, e-mail, or letter from the staff; if possible, personalize the message and send it signed by the team
■ Contacting the family on anniversaries of the infant’s birth or death, as the family wishes (by telephone, card, text, or e-mail)
■ Introducing the family to a member of a local or online support group or organization
■ Providing a brochure about bereavement, including support contacts
■ Paying attention to sibling needs and supportive services
■ Archiving infant photographs for a period to allow parents to consider if they wish to have them
■ Conducting follow-up meetings where family members can ask questions or express their perceptions of the care they received
■ Holding an annual memorial event for bereaved families in memory of their babies

EVALUATION

Consequences of palliative care include increased patient and family coping, relief of suffering, advance care planning, healing within relationships, increased quality of life, effective closure, and improved bereavement outcomes (Meghani, 2004).

Written documentation reflects the need for physician management, skilled nursing care, and interdisciplinary support. Appropriate diagnoses and accurate procedural coding ensures reimbursement of palliative care measures. Assessment of quality indicators through regular and systematic measurements from patients (i.e., patient satisfaction) and other stakeholders (outcomes related) should be conducted.

This chapter contains portions of the National Association of Neonatal Nursing Position Statement #3051, 2015, Palliative Care for Neonates, used with permission.
REFERENCES


