Newborn Nursery Curriculum
Family Medicine Faculty Liaison: Allred, H. MD
Last review/update: 4/2017

The Newborn Nursery training curriculum is a required 4-week experience completed in the PGY-1 year. Training takes place within the Mother-Baby Unit of CHI-Franciscan Health Harrison Medical Center.

<table>
<thead>
<tr>
<th>ACGME Competencies and FM-Specific Milestones Assessed:</th>
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<tbody>
<tr>
<td>1. <strong>Patient Care</strong> that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health</td>
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<tr>
<td>✓ <strong>PC-3</strong></td>
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<tr>
<td>2. <strong>Medical Knowledge</strong> about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care;</td>
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<td>✓ <strong>MK-1</strong></td>
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<td>3. <strong>Systems-Based Practice</strong> as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.</td>
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<tr>
<td>✓ <strong>SBP-3</strong></td>
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<td>4. <strong>Practice-Based Learning and Improvement</strong> that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care;</td>
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<td>✓ <strong>PBLI-2</strong></td>
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<td>5. <strong>Professionalism</strong> as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population;</td>
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<tr>
<td>✓ <strong>PROF-3</strong></td>
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<td>6. <strong>Communication</strong> result in effective information exchange and teaming with patients, their families, and other health professionals;</td>
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<td>✓ <strong>C-2</strong></td>
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Family Medicine Program Requirements:

IV.A.6.g): “Residents must have at least 40 newborn patient encounters, including well and ill newborns.”
Competency-Based Objectives and Instructional Methods

Rotation Goal: Residents must learn to provide appropriate neonatal resuscitation care at time of delivery; provide appropriate preventive care for neonates; provide appropriate diagnostic evaluation for neonates with risk factors for or symptoms suggestive of sepsis; provide appropriate diagnostic evaluation and/or treatment for neonates with congenital abnormalities/pathology; and provide appropriate anticipatory guidance for parents during hospital stay and at time of discharge.

A. Patient Care

Objectives

During supervised clinical practice in CHI-Franciscan Health Harrison Medical Center Mother-Baby Unit, residents must demonstrate ability to:

1) Perform comprehensive newborn physical examinations, including an appropriate maternal/antepartum history.
2) Deliver care to pediatric patients in a manner which takes into account the need for parental interaction/bonding.
3) Determine appropriate follow-up for newborns based upon history and hospital course.
4) Perform appropriate newborn resuscitation in accordance with NRP protocols.
5) Understand red flags in the social history and their implications.
   a. Review the clinical findings and prognosis associated with maternal drug use including:
      i. Cocaine
      ii. Methamphetamines
      iii. Barbiturates
      iv. Opiates
      v. Marijuana
      vi. LSD/PCP
      vii. Alcohol
      viii. Cigarettes
   b. Discuss the management and follow up of infants born to teen mothers.
   c. Discuss the management and follow up of infants when there is a positive history of domestic violence.
6) Apply medical knowledge identified below to patients with Newborn Nursery concerns.

Instructional Methods

1) Direct Instruction: By Pediatric or Family Physician preceptors during rotation in the Newborn Nursery, Family Medicine Practice Continuity Clinic, and select Academic Conference sessions.
2) Faculty Modeling: Of relevant behaviors and techniques by Pediatric and Family Physician preceptor(s).
3) Guided Research: Resident presentation of faculty-assigned topics based upon clinical cases.
4) Supervised Clinical Management: Application of information to individual patient cases in the Newborn Nursery and Family Medicine Practice.
B. Medical Knowledge

Objectives

*During supervised clinical practice in CHI-Franciscan Health Harrison Medical Center Mother-Baby Unit, residents must demonstrate:*

1) Understanding of and ability to apply Neonatal Resuscitation Protocols:
   a. Maintenance of NRP Certification is required of all residents
2) Understanding of current recommendations for resuscitating infants with meconium.
3) Understanding of Apgar scores and explain their significance.
4) Ability to recognize the signs and symptoms of significant illness in the newborn and formulate a differential diagnosis for common presentations, including:
   a. Tachypnea, grunting and/or cyanosis
   b. Temperature instability and/or fever
   c. Poor perfusion
   d. Hypoglycemia
5) Appropriate management and referral of symptomatic infants.
6) A systematic approach to assessing and treating infants with risk factors for sepsis including:
   a. Maternal chorioamnionitis
   b. GBS colonization
   c. Prolonged rupture of membranes
7) Understanding the parameters for accepted weight loss in the first week of life.
8) Ability to teach new mothers effective strategies for successful lactation and breastfeeding.
9) Ability to compare and contrast breast vs. formula feeding.
10) Understanding of concerns raised when an infant fails to void in the first 24 hours of life including:
    a. Posterior urethral valves
    b. UPJ obstruction
    c. Dehydration
11) Understanding of the appropriate management for congenital hydronephrosis.
12) Ability to explain the significance of urate crystals in diaper.
13) Ability to discuss concerns raised by failure to have a stool within first 48 hours of life including:
    a. Relative risk of Hirschsprungs
    b. Meconium plug and relative risk of CF
14) Appropriate procedural skill when performing circumcisions, including:
    a. Discussion of risks/benefits of circumcision with parents
    b. Adequate dorsal penile nerve block
    c. Instructing parents on adequate post circumcision care
15) Ability to explain to parents the rationale for the newborn screen, vitamin K administration, hepatitis B vaccination and erythromycin eye ointment.
16) Understanding of the proper timing of screens and the importance of allowing a sufficient interval after the first feeding.
17) Understanding of risk factors, screening and management of hyperbilirubinemia.
18) Understanding of the rationale and policy for universal hearing screening.
19) Understanding of criteria for early discharge.
20) Ability to provide parents with accurate and appropriate anticipatory guidance regarding:
   a. Feeding instructions
   b. Cord and circumcision care
   c. Bathing
   d. Thermoregulation
   e. Signs and symptoms of acute illness
   f. Hyperbilirubinemia precautions
   g. Normal voiding and stooling patterns
   h. Infant safety

21) Procedural competency according to the Longitudinal Procedural Training Curriculum.

The following list of skills are integral to this curriculum and residents should seek opportunities to train in these procedures during rotation.

<table>
<thead>
<tr>
<th>A0 Procedures</th>
<th>A1 Procedures</th>
<th>A2 Procedures</th>
<th>B Procedures</th>
<th>C Procedures</th>
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<tbody>
<tr>
<td>Procedural competence assumed by graduating from the program</td>
<td>Procedural Competence is required for graduation</td>
<td>Procedural Competence is optional prior to graduation</td>
<td>Procedural Competence requires a focused training plan during residency</td>
<td>Procedural competence likely requires additional training beyond residency</td>
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<tr>
<td>• Bladder catheterization</td>
<td>• NRP</td>
<td>• Arterial Puncture (3)</td>
<td>• IO</td>
<td>• Venous Cut down</td>
</tr>
<tr>
<td>• CXR interpretation</td>
<td>• Newborn circumcision (10)</td>
<td>• Endotracheal intubation (10)</td>
<td>• Non-obstetrical, point-of-care diagnostic applications (abdominal, cardiac, musculoskeletal, ocular, pelvic, skin/soft tissue, thoracic, vascular, etc.)</td>
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<tr>
<td>• EKG performance and interpretation</td>
<td>• Central Venous cannulation (10)</td>
<td>• Lumbar puncture pediatric (3)</td>
<td>• Umbilical Artery Cannulation</td>
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<tr>
<td>• Peripheral venous cannulation</td>
<td>• Lingual frenotomy (2)</td>
<td>• Percutaneous arterial cannulation (3)</td>
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<tr>
<td>• Phlebotomy</td>
<td>• Lumbar puncture pediatric (3)</td>
<td>• Umbilical vein cannulation (3)</td>
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<tr>
<td>• Surgical aseptic technique</td>
<td>• IO</td>
<td>• Non-obstetrical, point-of-care diagnostic applications (abdominal, cardiac, musculoskeletal, ocular, pelvic, skin/soft tissue, thoracic, vascular, etc.)</td>
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<tr>
<td>• Surgical assist</td>
<td>• Endotracheal intubation (10)</td>
<td>• Umbilical Artery Cannulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• US guidance of needle placement</td>
<td>• Central Venous cannulation (10)</td>
<td>• Lumbar puncture pediatric (3)</td>
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</tr>
</tbody>
</table>

- For A1 and A2 procedures, the minimum number of procedures that must be logged electronically prior to graduation is listed in parentheses.
- Residents should attempt to complete as many Procedural Competency Assessment Tools as possible during the rotation.
**Instructional Methods**

1) **Direct Instruction:** By Pediatric or Family Physician preceptors during rotation in the Newborn Nursery, Family Medicine Practice Continuity Clinic, and select Academic Conference sessions.

2) **Faculty Modeling:** Of relevant behaviors and techniques by Pediatric and Family Physician preceptor(s).

3) **Guided Research:** Resident presentation of faculty-assigned topics based upon clinical cases.

4) **Supervised Clinical Management:** Application of information to individual patient cases in the Newborn Nursery and Family Medicine Practice.

5) **Directed Readings:**
   d. *Postnatal Glucose Homeostasis in Late-Preterm and Term Infants.* Committee on Fetus and Newborn. Pediatrics 2011;127;575.

**C. Systems Based Practice**

*During supervised clinical practice in CHI-Franciscan Health Harrison Medical Center Mother-Baby Unit, residents must demonstrate:*

**Objectives**

1. Appropriate utilization of health care services and professionals within CHI-Franciscan Health Harrison Medical Center while advocating for patient/parent interests
2. Advocacy for patient/parent interests and appropriate utilization of health services and professionals in the local community when such resources are not available within the CHI-Franciscan system
3. Use of cost effective, evidence-based medical practices.

**Instructional Methods**

1) **Direct Instruction:** By Pediatric or Family Physician preceptors during rotation in the Newborn Nursery, Family Medicine Practice Continuity Clinic, and select Academic Conference sessions.

2) **Faculty Modeling:** Of relevant behaviors and techniques by Pediatric and Family Physician preceptor(s).

3) **Supervised Clinical Management:** Application of information to individual patient cases in the Newborn Nursery and Family Medicine Practice.
D. Practice Based Learning and Improvement

Objectives

*During supervised clinical practice in CHI-Franciscan Health Harrison Medical Center Mother-Baby Unit, residents must:*

1) Willingness and ability to incorporate faculty feedback into clinical/academic performance changes.
2) Appropriate use of online search tools to find references which augment learning from cases seen in the Newborn Nursery including:
   a. Evidence based websites such as [https://med.stanford.edu/newborns/professional-education/photo-gallery.html](https://med.stanford.edu/newborns/professional-education/photo-gallery.html), [www.bilitool.com](http://www.bilitool.com) and [www.aafp.org](http://www.aafp.org)

Instructional Methods

1) *Direct Instruction:* By Pediatric or Family Physician preceptors during rotation in the Newborn Nursery, Family Medicine Practice Continuity Clinic, and select Academic Conference sessions.
2) *Faculty Modeling:* Of relevant behaviors and techniques by Pediatric and Family Physician preceptor(s).
3) *Guided Research:* Resident presentation of faculty-assigned topics based upon clinical cases.
4) *Supervised Clinical Management:* Application of information to individual patient cases in the Newborn Nursery and Family Medicine clinic.

E. Professionalism

Objectives

*During supervised clinical practice in the outpatient Pediatric Clinic and in Family Medicine Practice Continuity Clinics, residents must demonstrate:*

1. Ethical behavior and the humanistic qualities of respect, compassion, integrity, and honesty in all patient/staff interactions.
2. Willingness to acknowledge errors when committed and perform self-analysis to avoid future similar mistakes.
3. Punctuality and reliability at all times, whether in clinic, didactic sessions, or performing inpatient care.
4. A professional appearance at all times.

Instructional Methods

1) *Direct Instruction:* By Pediatric, Family Medicine physician or ARNP preceptors during rotation in the Newborn Nursery, Family Medicine clinic, and select Academic Conference sessions.
2) *Faculty Modeling:* Of relevant behaviors and techniques by preceptors.
F. Communications

Objectives

*During supervised clinical practice in the outpatient Pediatric Clinic and in Family Medicine Practice Continuity Clinics, residents must:*

1) Present cases clearly and concisely to precepting physicians.
2) Develop rapport with parents to promote the infant’s welfare, employing active listening techniques to clarify information.
3) Demonstrate effective communication with non-physician health-care team members.
4) Counsel parents in a compassionate and accurate manner.
5) Document appropriately-organized, complete, and timely notes in the Electronic Medical Record.

Instructional Methods

1) *Direct Instruction:* By Pediatric or Family Medicine physician preceptors during rotation in the Newborn Nursery, Family Medicine Clinic, and select Academic Conference sessions.
2) *Faculty Modeling:* Of relevant behaviors and techniques by Pediatric and Family Physician preceptor(s).
3) *Supervised Clinical Management:* Application of information to individual patient cases in the Newborn Nursery and Family Medicine Practice.

**Points of Contact**

Kim Gustafson MN, ARNP, NNP-BC
Neonatal NP/PA Supervisor
Seattle Children’s Hospital
Kimberly.gustafson@seattlechildrens.org

**Schedule**

<table>
<thead>
<tr>
<th>AM</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
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<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
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<tr>
<td></td>
<td>Clinical Rotation</td>
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<tr>
<td>PM</td>
<td>Longitudinal Curriculum</td>
<td>Family Medicine Clinic</td>
<td>Family Medicine Clinic</td>
<td>Academic Conference</td>
<td>Clinical Rotation</td>
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</tbody>
</table>
**Scheduling notes:**
The resident must be done pre-rounding at 8am.
Sign out with the NNPs is from 8am to 8:30am.
OB huddle is at 10am.
NPs start seeing newborns at 10:30am.
The resident should attend deliveries with nurses throughout the shift even when the NNP is not in attendance.
Evaluation Activities

Residents will receive an **incomplete** for the rotation and will not be eligible for graduation until the following items are completed.

1. **Resident Evaluation**: *(the resident may be evaluated by several department members)*
   - **Mid-rotation feedback**: Faculty are encouraged to provide daily verbal feedback; but written feedback is required if resident is failing at mid-rotation or at any other time. Family Medicine Associate Program Director or Program Director should be notified as soon as possible when a resident is in danger of failing the rotation.
   - **Final Evaluation**: Using rotation-specific on-line evaluation form. Evaluations should be completed within two weeks of rotation end to provide timely feedback to the resident.
   - **Attendance Verification**: Documentation of attendance at didactic sessions, procedural clinics, FM continuity clinics and experiential encounters will be maintained in resident training file.
   - **Directed Readings**: Reading the four required documents listed on page four and found attached to this curriculum.

2. **Documentation**: *(resident-completed by end of rotation)*
   - Procedures performed must be documented in standard electronic format.
   - Appropriate EHR documentation of all encounters must be completed.
   - Any provided supplemental readings should be completed and returned to rotation coordinator.

3. **Staff Evaluation**: *(resident-completed)*
   - Residents evaluate rotation faculty/staff using standard on-line evaluation form. Evaluation is to be completed within two weeks of rotation end.

4. **Rotation Evaluation**: *(resident-completed)*
   - Resident assesses quality of the rotation on the standard rotation evaluation form (same as for rotation faculty evaluation). Evaluation is expected to be completed within two weeks of rotation end.

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M. Watson, MD  
Program Director  

Date: 8/14/2017
Reading List:
1) AAP: Phototherapy to Prevent Severe Neonatal Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation
2) AAP: Clinical Report – Postnatal Glucose Homeostasis in Late-Preterm and Term Infants

Clinical Report—Postnatal Glucose Homeostasis in Late-Preterm and Term Infants

David H. Adams, MD and COMMITTEE ON FETUS AND NEWBORN

KEY WORDS
newborn, glucose, neonatal hypoglycemia, late-preterm infant

ABBREVIATIONS
NH—neonatal hypoglycemia
D5W—dextrose 10% in water

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abstract
This report provides a practical guide and algorithm for the screening and subsequent management of neonatal hypoglycemia. Current evidence does not support a specific concentration of glucose that can discriminate normal from abnormal or can potentially result in acute or chronic irreversible neurologic damage. Early identification of the at-risk infant and institution of prophylactic measures to prevent neonatal hypoglycemia are recommended as a pragmatic approach despite the absence of a consistent definition of hypoglycemia in the literature. Pediatrics 2011;127:575-579

INTRODUCTION
This clinical report provides a practical guide for the screening and subsequent management of neonatal hypoglycemia (NH) in at-risk late-preterm (34–36% weeks’ gestational age) and term infants. An expert panel convened by the National Institutes of Health in 2008 concluded that there has been no substantial evidence-based progress in defining what constitutes clinically important NH, particularly regarding how it relates to brain injury, and that monitoring for, preventing, and treating NH remain largely empirical. In addition, the simultaneous occurrence of other medical conditions that are associated with brain injury, such as hypoxia-ischemia or infection, could alone, or in concert with NH, adversely affect the brain. For these reasons, this report does not identify any specific value or range of plasma glucose concentrations that potentially could result in brain injury. Instead, it is a pragmatic approach to a controversial issue for which evidence is lacking but guidance is needed.

BACKGROUND
Blood glucose concentrations as low as 30 mg/dl are common in healthy neonates by 1 to 2 hours after birth; these low concentrations, seen in all mammalian newborns, usually are transient, asymptomatic, and considered to be part of normal adaptation to postnatal life. Most neonates compensate for “physiologic” hypoglycemia by producing alternative fuels including ketone bodies, which are released from fat. Clinically significant NH reflects an imbalance between supply and use of glucose and alternative fuels and may result from a multitude of disturbed regulatory mechanisms. A rational definition of NH must account for the facts that acute symptoms and long-term neurologic sequelae occur within a continuum of low plasma glucose values of varied duration and severity.
3) AAP: Controversies Concerning Vitamin K and the Newborn

AMERICAN ACADEMY OF PEDIATRICS

POLICY STATEMENT

Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of All Children

Committee on Fetus and Newborn

Controversies Concerning Vitamin K and the Newborn

ABSTRACT. Prevention of early vitamin K deficiency bleeding (VKDB) of the newborn, with onset at birth to 2 weeks of age (formerly known as classic hemorrhagic disease of the newborn), by oral or parenteral administration of vitamin K is accepted practice. In contrast, late VKDB, with onset from 2 to 12 weeks of age, is most effectively prevented by parenteral administration of vitamin K. Earlier concern regarding a possible causal association between parenteral vitamin K and childhood cancer has not been substantiated. This revised statement presents updated recommendations for the use of vitamin K in the prevention of early and late VKDB.

ABBREVIATION. VKDB, vitamin K deficiency bleeding.

BACKGROUND. Vitamin K deficiency may cause unexpected bleeding (0.25%–1.7% incidence) during the first week of life in previously healthy-appearing neonates (early vitamin K deficiency bleeding [VKDB]) of the newborn (formerly known as classic hemorrhagic disease of the newborn)). The efficacy of neonatal vitamin K prophylaxis (oral or parenteral) in the prevention of early VKDB is firmly established. It has been the standard of care since the American Academy of Pediatrics recommended it in 1961.1

Late VKDB, a syndrome defined as unexpected bleeding attributable to severe vitamin K deficiency in infants 2 to 12 weeks of age, occurs primarily in exclusively breastfed infants who have received no or inadequate neonatal vitamin K prophylaxis. In addition, infants who have intestinal malabsorption defects (cholestatic jaundice, cystic fibrosis, etc) may also have late VKDB. The rate of late VKDB (often manifesting as sudden central nervous system hemorrhage) ranges from 4.4 to 7.2 per 100,000 births, according to reports from Europe and Asia.2-3 When a single dose of oral vitamin K has been used for neonatal prophylaxis, the rate has decreased to 1.4 to 6.4 per 100,000 births. Parenteral neonatal vitamin K prophylaxis prevents the development of late VKDB in infants, with the rare exception of those with severe malabsorption syndromes.2

Oral administration of vitamin K has been shown to have efficacy similar to that of parenteral administration in the prevention of early VKDB.4-6 However, several countries have reported a resurgence of late VKDB coincident with policies promoting the use of orally administered prophylaxis, even with multiple-dose regimens. In a 1997 review of these experiences by Cornelissen et al,7 surveillance data from 4 countries revealed oral prophylaxis failures of 1.2 to 1.8 per 100,000 live births, compared with no reported cases after intramuscular administration. Newborns receiving incomplete oral prophylaxis tended to have a higher risk of developing VKDB, with rates of approximately 2 to 4 per 100,000. Small daily oral doses, as practiced in the Netherlands, may decrease the risk of late VKDB8 and approach the efficacy of the parenteral route; however, this needs to be better studied.

Draper and Still,9 using other data from Great Britain, have questioned the results of earlier studies of Golding et al10-11 that attempted to show an association between intramuscular vitamin K administration in newborns and an increased incidence of childhood leukemia. Using data from the National Registry of Childhood Tumors, they estimated the cumulative incidence of childhood leukemia. Three sources of data, including the estimates from Golding et al, provided rates of intramuscular vitamin K use over the same time frame. Their analyses failed to show a correlation between increased use of intramuscular vitamin K and the incidence of childhood leukemia.

The Vitamin K Ad Hoc Task Force of the American Academy of Pediatrics12 reviewed the reports of Golding et al and other information regarding the US experience13 and concluded that there was no association between the intramuscular administration of vitamin K and childhood leukemia or other cancers.

Additional studies that have since been conducted by other investigators have not supported a clinical relationship between newborn parenteral administration of vitamin K and childhood cancer. Ross and Davies14 published a review of the evidence in 2000. They found no randomized or quasi-randomized evidence of an association between parenteral vitamin K prophylaxis and cancer in childhood. Ten case-control studies were identified, of which 7 found no relationship and 3 found only a weak relationship of neonatal administration of intramuscular or intravenous vitamin K with the risk of solid childhood tumors or leukemia.
4) AAP: Management of Neonates with Suspected or Proven Early-Onset Bacterial Sepsis

CLINICAL REPORT

Management of Neonates With Suspected or Proven Early-Onset Bacterial Sepsis

abstract

With improved obstetrical management and evidence-based use of intrapartum antimicrobial therapy, early-onset neonatal sepsis is becoming less frequent. However, early-onset sepsis remains one of the most common causes of neonatal morbidity and mortality in preterm infants. The identification of neonates at risk for early-onset sepsis is frequently based on a constellation of perinatal risk factors that are neither sensitive nor specific. Furthermore, diagnostic tests for neonatal sepsis have a poor positive predictive accuracy. As a result, clinicians often treat well-appearing infants for extended periods of time, even when bacterial cultures are negative. The optimal treatment of infants with suspected early-onset sepsis is broad-spectrum antimicrobial agents (ampicillin and amikacin). Once a pathogen is identified, antimicrobial therapy should be narrowed (unless synergism is needed). Recent data suggest an association between prolonged empirical treatment of preterm infants (≥5 days) with broad-spectrum antibiotics and higher risks of late onset sepsis, necrotizing enterocolitis, and mortality. To reduce these risks, antimicrobial therapy should be discontinued at 48 hours in clinical situations in which the probability of sepsis is low. The purpose of this clinical report is to provide a practical and, when possible, evidence-based approach to the management of infants with suspected or proven early-onset sepsis. Pediatrics 2012;129:1006–1015

INTRODUCTION

“Suspected sepsis” is one of the most common diagnoses made in the NICU. However, the signs of sepsis are nonspecific, and inflammatory syndromes of noninfectious origin mimic those of neonatal sepsis. Most infants with suspected sepsis recover with supportive care (with or without initiation of antimicrobial therapy). The challenges for clinicians are twofold: (1) identifying neonates with a high likelihood of sepsis promptly and initiating antimicrobial therapy; (2) distinguishing “High-risk” healthy-appearing infants or infants with clinical signs who do not require treatment; and (3) discontinuing antimicrobial therapy once sepsis is deemed unlikely. The purpose of this clinical report is to provide a practical and, when possible, evidence-based approach to the diagnosis and management of early-onset sepsis, defined by the National Institute of Child Health and Human Development and Vermont Oxford Networks as sepsis with onset at ≤3 days of age.