



RN 2

Regional News & Notes

Seizures

What is a seizure?

A seizure is a sign there is a problem in the brain—the brain is not working the way it should—but it is only a sign. Seizures may be caused by a sudden (new) problem or by a continuing problem and may last a few seconds to a few minutes. Seizures happen when the brain sends out too many electrical signals, too fast—resulting in the seizure. When the seizure ends the brain continues to function as before. Remember, seizures are a sign of underlying pathology. They are not a disease.

Seizures are not seen very often in infants but are oftentimes the most frequent and earliest manifestation of neonatal neurological problems. There are many causes of neonatal seizures. They may result from any of the following:

- Perinatal asphyxia
- Infections
- Inherited metabolic problems
- Intracranial bleeding
- Drug withdrawal
- Anomalies of the CNS or brain
- Kernicterus

The maternal and/or perinatal history will limit the differential diagnosis to one or two of the more common causes; however, the basic cause for neonatal seizures remains unknown.

What does a seizure look like?

The most common type of seizure in the infant is not always easy to recognize. Many times clinical signs are also normal infant behaviors or can be associated with other disorders.



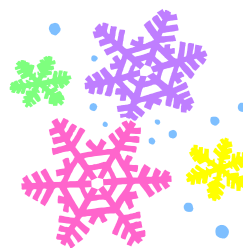
Upcoming Events

Winter Fling

A Manager's/Director's Meeting
Cape Fear Valley Medical Center
4th floor-NICU Classroom
0930-1430 hours
Fayetteville, NC
Friday, Feb, 28, 2003
Lunch Provided
RSVP deadline 2/21/03
Call: Julie Slusser
910-609-7010
Come and join us!!

Fall Update 2003: Perinatal, Neonatal & Pediatric Conference

Holiday Inn-
Bordeaux
Owen Drive (vicinity of
Cape Fear Valley Medical
Center)
Fayetteville, NC
Friday, Oct. 3, 2003
Tentative topics are hormone
replacement
therapy,
genetic
counseling and
much more.



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KUDOS !!!

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KUDOS !!!



I am so excited and pleased with your response to the self-study Modules and the PeaPod Series (slide presentations) on the Neonatal Outreach Web Page. Perinatal staffs from North Carolina, as well as some from outside North Carolina, have read and received contact hours for these educational offerings. Again, please accept my THANKS !! for your ongoing interest and participation.

Several additional neonatal topics will soon be available on the WebPage. But the **BIG** news is: As promised, the **1st of the OB topics**—Preterm Labor—is now available. Yeah !!! Yeah !!! The 2nd topic—Gestational Diabetes and the Pregnant Woman—is almost ready and should be live by early to mid-February. If there is a particular topic you'd like developed, please contact me.

The following are currently available on the Web Page:



<u>Modules</u>	<u>Pea Pod Inservices</u>
Air Leaks & Chest Tube set up	Apnea in Newborn
Breastfeeding: Getting Started	Congenital Heart Defects: Fetal Circulation & Transition
Congenital Heart Defects & PDA in the Neonate	Hyperbilirubinemia in Newborn
CNS & Hydrocephaly	ParvoVirus: Effects & Outcomes
CNS & Intraventricular Hemorrhage	Preterm Labor NEW
GI & Necrotizing Enterocolitis	
Thermoregulation	



The **Web Page address** is (type exactly as it appears):
www.capefearvalley.com/neonatal/outreach.htm



You say your facility doesn't offer the staff access to the Web. Don't worry. A hard copy of any of the modules can be sent to an on-site coordinator at your facility for staff's use. Unfortunately, the PeaPod Series is not available in hard copy form, it is an on-line activity only. If you would like to have a list of all available modules and information about how to

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implement them, please contact me at 910-609-6933. Now for the important "stuff." Congratulations to the following facilities and perinatal staffs who have successfully completed educational offerings:

KUDOS !!!

Murphy Medical Center:
Murphy, NC

Air Leaks & Chest Tube Set-up in the Neonate
Apnea in the Newborn
Hyperbilirubinemia in the Newborn
Congenital Cardiac Defects: PDA in the Neonate
ParvoVirus: Fetal Effects & Neonatal Outcomes
Thermoregulation in the Neonate

Northside Hospital:
Atlanta, GA

Breastfeeding: Getting Started
Congenital Cardiac Defects: PDA in the Neonate
Thermoregulation in the Neonate

Cape Fear Valley Medical Center:

Acid-Base Balance & the Neonate
Air Leaks & Chest Tube Set-up in the Neonate
Apnea in the Newborn
Hyperbilirubinemia in the Newborn
Congenital Heart Disease: Fetal Circulation & Transition
Prenatal/Intrapartal Maternal Drug Use: Fetal Effects & Neonatal Outcomes
Thermoregulation in the Neonate
ParvoVirus
GI System & NEC

Betsy Johnson Regional Hospital
Dunn, NC

Apnea in the Newborn
Breastfeeding: Getting Started

Moore Regional Hospital
Pinehurst, NC

Renal System & Acute Renal Failure
Air Leaks and Chest Tube Set-Up
Acid-Base Balance & the Neonate

Catawba Valley Medical Center
Hickory, NC

Apnea in the Newborn
Hyperbilirubinemia in the Newborn
ParvoVirus

Ashe Memorial Hospital
Jefferson, NC

Thermoregulation in the Neonate



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Seizures cont'd



Staff caring for "at risk" neonates need to be especially observant for signs of a seizure. Usually a seizure will present with:

- Jerky arm and/or leg movements
- Swimming movement of the arms
- Bicycling movement of the legs
- Eye blinking
- Lip smacking

The goal of management is to first, stop the seizure and secondly to determine the cause the seizure.

- Phenobarbital is the most commonly ordered anticonvulsant and may be given alone or in conjunction with Dilantin (Phenytoin). If these two drugs are unsuccessful in controlling the seizures, Ativan (Lorazepam) or Diazepam (Valium) may be added. The duration of anticonvulsant therapy can range from months to several years. The pediatric neurologist following the neonate makes this determination. Several different approaches to stopping the medication is used: the baby may be allowed "to outgrow" the dose, the medication may be tapered or it may be discontinued after an absence of seizures over a pre-determined time span. Be sure to include in your discharge parental teaching that parents should not stop the baby's medicine without talking with the baby's doctor. Suddenly stopping the medicine may cause a seizure.
- Since, seizures are a sign of an underlying problem other pieces of information and/or test, in addition to a thorough physical exam, may be collected. These may include:
 - * Maternal/family history
 - * Review of labor & delivery history
 - * Consult with a pediatric neurologist
 - * Labs: Electrolytes, CBC, Glucose, Calcium, ABG
 - * Blood/Urine: Bacterial and viral cultures; Evaluation for Metabolic Disorders
 - * Lumbar Puncture
 - * Electroencephalogram (EEG)
 - * CT or CAT Scan (Computerized Axial Tomography)
 - * Cranial Ultrasound
 - * MRI

Long-term outcomes for seizures remains unclear—seizures that persist for more than several days or significant birth asphyxia are more likely to have poor outcomes while transient metabolic disturbance (e.g.. hypoglycemia, hypocalcemia) are likely to carry a favorable prognosis. Also, current information and studies are unable to separate out the effect of the seizures from the effects of the underlying causes. In addition, the question of whether neonatal seizures predispose the neonate to seizures later in life remains.

Editor's Note: My best to all for a happy, healthy, and prosperous new year. May 2003 be one of our best yet! Please, hold our service men and women in your thoughts at this time

Stacey

