



NeonatalNews.Netsm

From the Section of Neonatology, Department of Pediatrics, Baylor College of Medicine, Houston, Texas

Vol. 3 No. 3, March 2003



Faculty Spotlight

Charleta Guillory, MD, FAAP is a Louisiana native who has long been a passionate advocate for patient health initiatives.

She has effected positive changes through governmental and volunteer organizations from Houston to Washington, DC.

An assistant professor of pediatrics in Baylor's Section of Neonatology. Dr. Guillory is also associate director of level II nurseries at Texas Children's Hospital. The main focus of her research is the issue of decreasing infant mortality and morbidity.

Her leadership in advocacy efforts with the State Children's Health Insurance Program and in community-based initiatives led to her receiving the National March of Dimes Award of Distinction. The Houston chapter, in 2001, awarded her the chapter's most prestigious Mary Owen Greenwood Award for her dedication to improving the lives of babies. Dr. Guillory has chaired several March of Dimes committees and currently is an active member of the Executive Board of the Texas Gulf Coast Chapter of the March of Dimes Birth Defects Foundation, the Texas Pediatric Society's Fetus and Newborn and Legislative Committees, and the Academy of Pediatrics' Perinatal Section.

Dr. Guillory is the author of several textbook chapters, including co-author of the *Perinatal Health Needs Assessment* of the March of Dimes. She has co-edited several issues of *Infant Mortality Update*, and has participated in numerous radio and television programs about the health of women and children. She

see Spotlight, page 3

The Front Line

Neonatal transport

by James M. Adams, Jr., MD

In 1978, the Baylor Section of Neonatology, in conjunction with Texas Children's Hospital, initiated a neonatal transport team to serve the rapidly expanding needs of the Houston metropolitan area. Establishment of a regional Perinatal Outreach Program under the Direction of Dr. Joseph Garcia-Prats preceded the development of neonatal transport capabilities. The outreach program provided community hospital staff with specific training in neonatal risk assessment, stabilization and early management of serious disorders of the newborn. The transport team was developed in conjunction with construction of a new 20 bed NICU, which opened in January 1979.



James M. Adams, Jr., MD

Lead by Dr. James M. Adams, the team Medical Director, a select group of neonatologists and neonatal intensive care nurses received a comprehensive training program extending over several months. The curriculum included acute neonatal pathophysiology, use of transport equipment and stabilization and medical management of the critically ill neonate in the unique transport environment. Ambulances provided under contract by a local company were equipped for the special needs of neonatal care during intra-facility transport.

Initially, a neonatologist and a transport nurse provided care. When the Baylor/Texas Children's Neonatal Nurse Clinician Program graduated its first class in 1980, nurse practitioners assumed the primary role of care during transport. Tremendous

see Transport, page 2

Breaking news

Update on Group B Streptococcal Screening

by Michael E. Speer, MD

Since 1993, the incidence of early onset group B streptococcal (GBS) disease in the neonate has progressively fallen [see Figure]. Evidence now validates prenatal GBS screening over the risk-based approach previously recommended. In the mid-1990s, Connecticut began a screening-based program. There the incidence of early-onset GBS disease declined from 0.6 cases/1,000 live births (1996) to 0.2 cases/1,000 live births (1999).

Although the culture-based methodology is superior, concerns exist regarding potential adverse or unintended effects of GBS prevention efforts. These include allergic or anaphylactic reactions to agents used for intrapartum antibiotic prophylaxis, emergence of GBS strains resistant to standard therapies, and increasing incidence of serious neonatal infections caused by pathogens other than GBS, including antimicrobial-resistant strains. Fortunately, none of these concerns has proven true related to penicillin prophylaxis. However, increasing resistance of GBS to erythromycin and

see Group B Strep, page 2

Editor's Corner: Taking care of the youngest

A message from

Dr. Ralph D. Feigin

President, Baylor College of Medicine and
Chairman, Department of Pediatrics

When I walk

through the Level II and Level III nurseries at Texas Children's Hospital and at Ben Taub General Hospital, I do not always see the babies born too sick or too small. I see the adults they will become and realize that the care given to these infants, though costly, is also often the most cost effective. If we are successful in caring for these youngsters, we have given them the possibility of full lives that can extend seven, eight or even more decades.

Care for these tiny infants has progressed significantly over the past 30 years, and premature infants for whom there was no hope in the 1960s often leave the hospital now with bright futures and few, if any, sequelae. That is why the closest attention must be paid to every detail of treatment while they are in the neonatal intensive care unit and why only professionals with experience in their care provide their treatment. It is a task that continues 24 hours a day, seven days a week.

Every aspect of an infant's stay in the intensive care unit is monitored, from the temperature and noise levels to nutrition and respiration. Baylor College of Medicine neonatal specialists have pioneered many of the advances in nutrition and respiratory care that have made it possible for these infants to survive. Among these are high frequency ventilation, treatments with surfactant, nitric oxide therapy and extracorporeal membrane oxygenation (ECMO).

Parents play a vital role in the care of these children, and mothers are encouraged to provide breast milk for their infants. Enabling parents to visit these infants and to participate in their care makes it much easier when they are able to take their babies home.

That of course, is the aim of everything we do, enabling children to have healthy and productive lives.



Ralph D. Feigin, MD

Infectious disease

(continued from page 1)

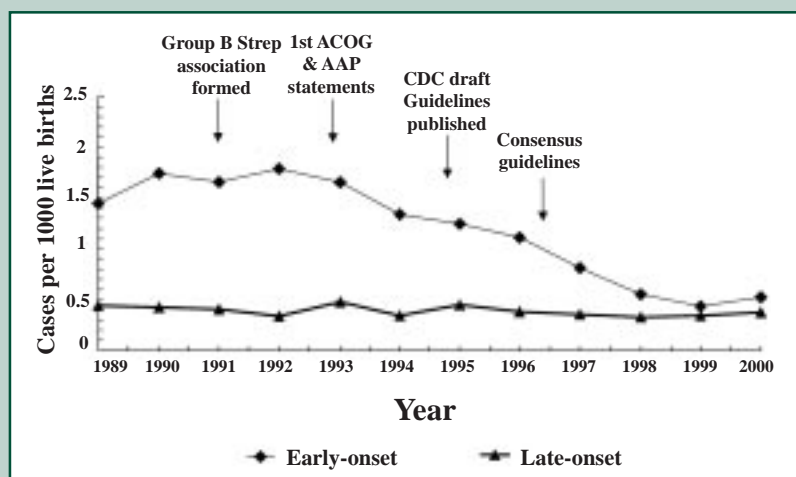
clindamycin (up to 25% and 15%, respectively) has been documented. Thus, use of those antibiotics is not recommended in patients allergic to penicillin unless the bacterium has been proven to be sensitive. In cases of elective cesarean section without labor or ruptured fetal membranes, intrapartum prophylaxis of the mother is *not* recommended regardless of culture status. All of the GBS recommendations, are on the CDC web site:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5111a1.htm#fig2>.



Michael E. Speer, MD

Figure - Incidence of early- and late-onset invasive group B streptococcal disease; selected Active Bacterial Core surveillance areas, 1989-2000, and activities for prevention of group B streptococcal disease.



*ACOG=American College of Obstetricians and Gynecologists; AAP= American Academy of Pediatrics

Source: Prevention of Perinatal Group B. Streptococcal Disease. *MMWR* 2002; 51(RR11): 1-22 as adapted from CDC. Early-onset group B streptococcal disease, United States 1998-1999. *MMWR* 2000;49:793-6; and Schrag SJ, Zywicki S, Farley MM, et al. Group B streptococcal disease in the era of intrapartum antibiotic prophylaxis. *N Engl J Med* 2000;342:15-20.

Transport (continued from page 1)

growth in the Baylor Neonatology Section and the Special Care Nurseries at Texas Children's was accompanied by a parallel increase in the volume of neonatal transports.

At the present time, under the supervision of Baylor neonatologists, the neonatal transport team provides both air and ground ambulance service throughout Texas as part of the Texas Children's Kangaroo Crew. Annually, 625 critically ill neonates are transported to the 120 beds in the Newborn Center at the hospital. Nearly 20% of these patients come from other Level III neonatal units and air transports represent an ever-increasing proportion since the inception of this service in 1999. Usual team composition includes a Neonatal Nurse Practitioner, NICU nurse and registered respiratory therapist. Two teams of these specialists are now maintained to meet the heavy demands of air and ground transport requests. The teams are able to provide all forms of neonatal ventilatory support, including inhaled nitric oxide.

Current construction at Texas Children's Newborn Center will provide 140 completely new intensive care beds for critically ill neonates by the year 2004. The proportion of babies referred from hospitals outside the Texas Medical Center continues to increase. The Baylor Neonatology Section anticipates steady growth in demands for transport services as the number of referrals and severity of illness continues to accelerate in the high risk newborn population.



Caraciolo J. Fernandes, MD

Case Report: Jaundice

by Caraciolo J. Fernandes, MD

A 5-day old, 3387-gram Hispanic male infant presented to an outlying emergency room with a one-day history of irritability, jaundice, skin rash, and poor breastfeeding. He was born vaginally at 38 weeks' gestation, weighing 3600 grams, to a 30-year-old G₃P₁₋₂Ab₁ woman after an uneventful pregnancy. Initial hospital course was unremarkable; he was discharged home the third day of life on breast feeds supplemented with an occasional bottle of formula. The parents stated that the child's

sibling had a normal early neonatal course without jaundice. Initial laboratory studies were: mother's blood group O+; baby's blood group B+; direct Coombs, negative; Hct, 45.2 gm%; reticulocyte count, 2.7%; indirect bilirubin, 32.6 mg%; direct bilirubin, 0.8 mg%. Phototherapy and IV fluids were started, and he was transferred to Texas Children's Hospital.

Physical exam on admission at Texas Children's an hour later showed a significantly jaundiced infant with normal vital signs. He was mildly irritable when examined but was otherwise neurologically normal. He had no evidence of dehydration. Following the admitting evaluation, laboratory studies were ordered including a type and crossmatch for a possible exchange transfusion. Crystalloid IV fluids were continued at 150 cc/kg/day, and intensive phototherapy was started. Results of Texas Children's laboratory studies demonstrated no electrolyte abnormality and confirmed elevation of indirect bilirubin (24 mg%).

Careful evaluation of history, examination, and laboratory studies suggested a diagnosis of breastfeeding jaundice. Following institution of intensive phototherapy, the indirect bilirubin fell rapidly (from 28.4 to 21 mg%). Therefore, an exchange transfusion was not performed. Ad libitum PO feeds were initiated; IV fluids, discontinued. The third day following admission, phototherapy was discontinued when indirect bilirubin was 11.6 mg%. At discharge, the following day, the indirect bilirubin was 11.8 mg%; the infant weighed 3580 grams, had a normal clinical exam, and was feeding well PO. Before discharge, in view of the significant hyperbilirubinemia, AEBR hearing tests were performed and developmental follow-up was scheduled.

Denouement: Although neonatal jaundice is common and usually benign, hyperbilirubinemia in the newborn period can have a potentially harmful, yet preventable, outcome. Significant jaundice in a symptomatic infant (irritability, poor suck, refusal to feed, abnormal cry/tones) should prompt use of phototherapy and immediate diagnostic studies to determine the degree and cause of jaundice. Many clues from the history (maternal blood group, jaundice in siblings and its course/treatment, adequacy or lack of breast-feeding, etc.) and clinical examination (signs of dehydration, abnormal clinical exam) can help guide therapy while awaiting the results of laboratory studies. While an exchange transfusion, when indicated, usually is performed in a tertiary care setting, intensive phototherapy (defined as phototherapy that is directed to as much of the skin as possible, eg, overhead and fiber optic blanket) may occasionally obviate the need for an exchange transfusion and should be instituted as soon as possible in infants with significant neonatal hyperbilirubinemia. In this era of early hospital discharges, the likelihood increases that early jaundice will go unrecognized until it is symptomatic, placing greater emphasis on appropriate follow-up of these infants (nurse phone calls/visits, early office visits) to identify and prevent avoidable complications.

Spotlight (continued from page 1)

was selected by ABC/Channel 13 for Houston's Top Women of Distinction Award and received the City of Houston's Mayor Award for Outstanding Volunteer Service in Health and, recently, local recognition in *Inside Houston* as one of the top female physicians in Houston and national recognition in *The Best Doctors in America*.

Dr. Guillory received a 1999-2000 Robert Wood Johnson Health Policy Fellows Award from The Institute of Medicine of the National Academy of Sciences for Outstanding Health Science Professionals. During the fellowship, she was a legislative assistant to U.S. Senator John B. Breaux (D-LA) promoting health policy legislation and programs.

Contact Us

The Baylor College of Medicine Section of Neonatology has staff at four hospitals in Houston's Texas Medical Center and in the local community.

To request a neonatal consultation at any of our locations, call
1-877-NEONATE
(1-877-636-6283)

Texas Medical Center locations:

Texas Children's Hospital

6221 Fannin Street, Houston TX 77030
 Director of Nurseries: James M. Adams, MD

For neonatal transport, call the Kangaroo Crew:

In Houston: 832-824-5550
 Toll-free: 1-877-770-5550

St. Luke's Episcopal Hospital

6720 Bertner Avenue, Houston TX 77030
 Director of Nurseries: Michael E. Speer, MD

The Methodist Hospital

6565 Fannin Street, Houston TX 77030
 Director of Nurseries: Michael E. Speer, MD

Ben Taub General Hospital

1504 Taub Loop, Houston TX 77030
 Director of Nurseries: Joe Garcia-Prats, MD

Community locations:

St. Luke's Community Medical Center - The Woodlands

17200 St. Luke's Way, Houston TX 77030

Twelve Oaks Medical Center - Sharpstown

6700 Bellaire Blvd, Houston TX 77074

Woman's Hospital of Texas

7600 Fannin Street, Houston TX 77056

© Baylor College of Medicine, Section of Neonatology 2003. All rights reserved.

Material provided within these pages is for informational purposes only and is not intended as medical advice or instruction. For medical advice or treatment, individuals must consult their own physician or other health care provider. The views and opinions expressed on these pages are not necessarily those of Baylor College of Medicine, its departments, or any of its affiliated hospitals, or other health care providers.

Fellowship Opportunities Available

The Baylor College of Medicine Neonatal-Perinatal Medicine Fellowship Program accepts applications year-round.

For information

- visit our website: www.neonate.net
- send email to: fellowship-program@neo.bcm.tmc.edu
- write to Dr. Leonard Weisman at the address on page 4 of this newsletter.

Leonard E. Weisman, MD
Professor of Pediatrics
Head, Section of Neonatology

Editorial Staff

Michael E. Speer, MD
Professor of Pediatrics
Editor

Marlane J. Kayfes
Managing Editor

Editorial Board

Lisa M. Adcock, MD
Gerardo Cabrera-Meza, MD
Kenneth Due
Joseph A. Garcia-Prats, MD
Karen E. Johnson, MD
Heidi E. Karpen, MD
Leigh McLeroy

Research Highlights

Grants / Funding

Griffin, I. A piglet model of mild and moderate zinc deficiency; Baylor College of Medicine's Child Health Research Center, New Development, \$15,000.

Karpen, H. Role of caveolin-1 in regulation of the Hedgehog signaling pathway; Baylor's Child Health Research Center, New Development, \$35,000.

Moorthy, B. Molecular mechanisms of lung damage by hyperoxia; American Lung Association, \$35,000.

Events

Peter Haney, MD, Co-chaired and lectured a session on Molecular Biology of the Mammary Gland at the 11th International Conference of the International Society of Research and Human Milk Lactation in Mexico City.

Karen Johnson, MD, presented her research *Medicine and the Media* at the Family & Community Medicine Annual CME Course at the University of Houston Hilton.

Ketan Kansagra, MD, received the Young Investigator Award from the Section of Perinatal Pediatrics at the American Academy of Pediatrics National Convention in Boston.

Marlene Walden, PhD, RNC, lectured on *Rx: Weaning protocols for the addicted newborn* and *Test your perinatal IQ: Genetic disorders and neonatal anomalies* at the 26th Annual Nursing Symposium of the Baylor Perinatal Outreach Program in Houston.

Leonard E. Weisman, MD, presented *Staphylococcal disease: New developments in immunotherapy* at the plenary session of the Midwestern Societies annual meeting.

Neonatal Nutrition Symposium

Addressing nutritional management issues of the low birth weight and/or premature infant.

March 2-5, 2003

Sheraton Suites Houston

2400 West Loop South • Houston, Texas

For information, contact

Myrthala Guzman or Diane Anderson PhD, RD
telephone 832-824-1360 • facsimile 832-825-2799
diana@bcm.tmc.edu

www.neonate.net

(Click: Educational-Symposia-Neonatal Nutrition Symposium)

This conference qualifies for 18.25 hours in category 1 credit toward the AMA Physician's Recognition Award.

Presented by Baylor College of Medicine and Texas Children's Hospital
Sponsored in part by Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau

Neonatal Nutrition Fellowship Opportunities

The Baylor College of Medicine Neonatal Nutrition Fellowship Program (for Registered Dietitians with clinical experience) accepts applications year-round for two training periods (January-March and April-June).

For more information contact Diane Anderson, PhD, RD

• email: diana@bcm.tmc.edu • telephone: 832-824-1346

• mail: to the address at the top of this page

Supported in part by the Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau (Project #7-T79MC0023-01)