



Perinatal Gazette

Newsletter of the Regional Perinatal Center
Westchester Medical Center



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Neonatal Comprehensive Follow-Up Program

The Neonatal Comprehensive Follow-Up Program provides periodic developmental screening services for high-risk neonates in the lower Hudson Valley region. The follow-up program follows all babies born at 33 wks gestational age or term babies whom with complex illnesses. The Neonatal Comprehensive Follow-Up Program is a part of The Regional Neonatal Center of Westchester Medical Center clinical program in affiliation with St. Agnes Hospital and The Westchester Institute of Human Development. This Follow-Up Program was started in 1999 to address the developmental needs of increasingly surviving premature and other critically ill neonates. At present the program serves more than 700 babies in its clinic site at Westchester Medical Center, St. Agnes Hospital, in Putnam and Orange counties.

Nationally, Neonatal Intensive Care Unit graduates have benefited from the developmental screening, identification, and intervention for developmental concerns, especially during the first 3 years of life because this is a time of rapid growth and development, especially of the brain. While most prematurely born children and many children with other serious neonatal conditions eventually develop beyond any problems associated with their early experiences, frequently there are developmental issues that

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Intrauterine Growth Restriction: A Clinical Dilemma

Intrauterine growth restriction (IUGR) is one of the most commonly recognized abnormalities of the fetus. Confusion often arises over the definition of IUGR. The most widely accepted definition is fetal weight below the 10th percentile for gestational age. This leads to 10% of all pregnancies being defined as IUGR. Approximately 70% of these infants will be normally or constitutionally small and not IUGR and not at increased risk for poor outcome. If a definition of 2 standard deviations below the mean is used only 3% of infants would be defined as IUGR.

Perinatal morbidity and mortality tends to increase with decreasing birth weight. In neonates below the 6th percentile for growth, perinatal mortality is 6-10 times greater than that of normally grown neonates. Additionally, 30% of stillborn infants are found to be growth restricted. Other perinatal and neonatal morbidities include: intrapartum fetal distress, intrapartum asphyxia, neonatal hypoglycemia, neonatal hypocalcemia and meconium aspiration.

The etiology of IUGR can be divided into three categories: maternal, fetal, and placental factors. Maternal factors include: constitutional, malnutrition, chronic disease (e.g., diabetes, HTN, cardiac, autoimmune, renal) and environmental factors (e.g., smoking, alcohol, drug abuse and toxin exposure). Fetal factors include: chromosomal and genetic abnormalities, infections (CMV, toxoplasmosis, rubella), congenital anomalies (e.g. gastroschisis) and multiple gestations. Placental factors include: abnormal trophoblast invasion, abnormal cord insertion (marginal insertion), placental tumors, infarctions, and focal abruption.

Accurate knowledge of gestational age is essential for the diagnosis of IUGR. Fundal height is often used as a gross screen for IUGR. Uterine size less than 3cm or greater only detects 30% of affected pregnancies. This is further hampered by maternal obesity or uterine anomalies such as fibroids.

Ultrasound is the most useful modality for detection and surveillance of IUGR. Estimated fetal weight (EFW) is determined by incorporating measurements of biparietal diameter, head circumference, abdominal circumference, and femur length into standard formulas. Low EFW has a sensitivity of 89% for the detection of IUGR. Ultrasound is also useful for evaluating amniotic fluid volume, placental grade, and overall fetal well being (biophysical profile and Doppler studies).

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need to be addressed as early as possible in order to prevent further complications (such as growth problems in children with feeding difficulties and language delays in children with hearing loss). Developmental screening of all high-risk neonates, including vision and hearing screens, is important in identification of potentially handicapping conditions that may be prevented or remedied if addressed early. The Neonatal Comprehensive Follow-Up Program of Westchester Medical Center offers periodic evaluation of medical, psychological, and social factors in addition to assessment of developmental progress throughout childhood prior to school age. The follow-up team also integrates information from the various specialty physicians, therapists, and any other professionals working with children.

Program Highlights:

Identification of high-risk neonates: Hospital discharge planning team identifies children who are at increased risk for developmental problems including those born very prematurely or at very low birth weight, as well as those with known neurological abnormality or at birth and those who are very ill during the newborn period.

Referral to the Program: Hospital discharge planning team and community pediatricians refers children to the program based on high-risk status.

Scheduling of visits: Nurse coordinator of the follow-up program contacts parents and schedules visits at 3 months, 6-9 mo, 12-15 mo, 18-21 mo, 24-27 mo, 30-33 mo, and 36-39 mo. of adjusted age (age is adjusted for prematurity):

At the visit:

A small team of professionals sees high-risk neonates with expertise in neonatology and pediatric development. Each visit takes about 30-45 minutes of examination time. Age appropriate detailed neurophysical examination, screening for sensory impairment and neuro-developmental assessment are done in each visit. We routinely discuss concerns and findings fully with families. Referral to the appropriate intervention services including early intervention program are made after discussion with the family. Our affiliate St. Agnes Hospital Children Rehabilitation Center and Westchester Institute of Human Development provides evaluation and services under the auspices of the New York State Early Intervention (EI) program.

For additional information on the Neonatal Comprehensive Follow-up Program please contact us;

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Once IUGR is diagnosed, it is important to identify the etiology for both counseling and treatment. Some causes of IUGR such as malnutrition are potentially treatable. A detailed ultrasound should be performed to rule out congenital anomalies and search for markers of aneuploidy, such as nuchal thickening and sandal gap toe. Observation of intracranial calcifications would suggest an infectious etiology, specifically CMV or toxoplasmosis. Symmetric and early IUGR is more often seen with chromosomal abnormalities. The more common asymmetric (or "head sparing") IUGR occurs later in gestation and is associated with maternal disease or placental factors. Further testing may be indicated, including amniocentesis or percutaneous fetal blood sampling, depending on the ultrasound findings. Both amniotic fluid and fetal blood may be sent for karyotype and infection markers. Once identified, follow-up includes twice weekly nonstress test, weekly to twice weekly biophysical profile, growth ultrasound every 2-3 weeks and Doppler studies. Decrease in fetal heart rate reactivity and breathing movement are generally seen earlier than decrease in body movements and tone. Umbilical artery Doppler findings of decreased, absent or reversed diastolic flow and worsening pulsatility index of the middle cerebral artery are signs of worsening IUGR.

The timing of delivery will depend on the cause and severity of IUGR. Obviously Chromosomal abnormalities may be managed differently than placental factors. Amniocentesis for detection of lung maturity can be performed after 34 weeks for poor fetal growth. Failure of growth over four weeks or reversed end diastolic flow may warrant delivery regardless of pulmonary status. Reversed end diastolic flow is an ominous finding with high rates of intrauterine fetal demise over the subsequent week. Consultation with a neonatologist should be sought prior to delivery when possible. The patient should be counseled regarding immediate and delayed complications associated with IUGR and preterm birth, if applicable.

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Thank you to the Children's Service League of Westchester 2001-2202

A Grant by The Children's Service League of Westchester was given to the Department of Neonatology at Westchester Medical Center. The grant enabled a purchase of a TV and VCR, which will be utilized for educational purposes in our Parent Lounge, on the 3rd floor of the Medical Center.

Little Miracles

With this issue of the Perinatal Newsletter, we initiate a column dedicated to the brave baby girls and boys whose lives and families are affected by their stay in the NICU. Rarely do we have the opportunity to glimpse the, smiling, happy child who may have clung to life by the thinnest thread in the NICU. Olivia Rose was such a child. She aspirated meconium and developed a progressively worsening pulmonary hypertension. She also developed seizures, and required the highest level of care in the NICU. She is now two years old and you can tell by her picture that she is a happy child, who fills her parents and family with joy. Her parents are also exceptional. They survived the "roller coaster" ride of the NICU, and are an inspiration to other parents. Please read their note that follows:

"March 17, 2000: The best and worst day of our lives. That was the day our precious Olivia was born and the day that we were told that she would need to be transferred to another hospital for advanced medical care. So many thoughts and feelings to deal with! We chose the NICU at Westchester Medical Center.

Olivia suffered from meconium aspiration and PPHN. She was intubated for 8 days, required oxygen for 16 days, had seizures, was on numerous medications and went through many diagnostic tests. What a brave little girl!

She spent 19 days with the best nurses, doctors and ancillary personnel that anyone could ask for. They held and cared for her when we could not be there and cared for us when we could not care for ourselves. We would not have made it through without each and every one of them.

It has been over 2 years since our 19-day stay at Westchester Medical Center. The pain and bad memories have faded but the good memories have only become stronger. Olivia is a beautiful, happy and joyful little girl who is full of boundless energy. Best of all, she is alive and healthy.

We think often of all those who helped us and thank them."

**Sincerely and affectionately,
Mark and Debbie Palczewski**

We welcome other contributions to this column of "Little Miracles." Please contact Lance A. Parton, M.D. (Lance.Parton@NYMC.edu) if you would like to relate the history of your "Little Miracle.



Welcome to our new Pediatric Surgeon

We are pleased to announce Dr. Macy Au-Fliegner, Pediatric Surgeon, will be joining the faculty in the division of Pediatric Surgery, starting July 15th, 2002.

Dr. Au-Fliegner, who will be an Assistant Professor of Surgery at New York Medical College, obtained her B.A. in Biological Science from Columbia College and an M.S. degree from Cornell University in Ithaca, N.Y. She is a graduate of the M.D.-PhD program at The N.Y.U. School of Medicine in Manhattan. Dr. Au-Fliegner's Ph.D work was in the department of Pharmacology. Dr. Au-Fliegner trained in General Surgery at Yale-New Haven Medical Center from 1993 to 2000, and underwent fellowship training in Pediatric Surgery at The Cardinal Glennon Children's Hospital in St. Louis, MO, from 2000-2002.

Dr. Au-Fliegner has been involved in several different areas of medical research and presented work at national (and international) meetings. As well, she has published many articles in peer reviewed medical journals. Her main area of interest in research has involved thyroid hormone, retinoic acid, and diaphragmatic hernia. Clinically, Dr. Au-Fliegner's experience includes all aspects of Pediatric Surgery including Extracorporeal Membrane Oxygenation (ECMO). We are looking forward to the arrival of Dr. Macy Au-Fliegner, who will be a full time faculty member of the division of Pediatric Surgery and a liaison with Neonatology.

Dr. Au-Fliegner can be contacted at (914) 493-7620

CONGRATULATIONS!

FOUR WESTCHESTER MEDICAL CENTER PHYSICIANS SELECTED AS "TOP DOCTORS" FOR WOMEN IN NATIONAL SURVEY

Westchester Medical Center gynecologic oncologist Dr. **Linus Chuang** of Manhasset, **Dr. Andrew Salzberg** of Irvington (a plastic surgeon in the Burn Center), and Maternal-Fetal Medicine physicians, **Drs. Nancy Kirshenbaum** and **Enid Leikin**, were among a select group of physicians recently named as "The Best Doctors for Women—Coast to Coast," The list is from a nationwide survey running in the April issue of Ladies Home Journal. Our doctors were among 98 listed in the northeast U.S.A, which included Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont and Washington, D.C. The survey, conducted by Castle Connolly (publisher of the consumer guide America's Top Doctors), asked area physicians to identify "highly-skilled, exceptional physicians" in three women's health fields: obstetrics/gynecology, oncologic gynecology (cancers of the reproductive tract) and breast specialists. Included in the section on breast specialists are oncologists, radiologists, surgeons and reconstructive and plastic surgeons.

Congratulations to Drs Chuang, Salzberg, Kirshenbaum and Leiken!!



***The Regional Neonatal Center
Of the Maria Fareri Children's Hospital
At
Westchester Medical Center
20th Year Celebration & Graduate Reunion
Party!***

SAVE THE DATE!
Thursday, September 19, 2002

For Details:
Please contact Natalie Dweck, RN (914) 493 -8998

**State Perinatal Database Team &
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We are interested in providing you with a newsletter that is relevant and of interest to you. Please contact us with perinatal topics you would like to see addressed.

For a copy of our newsletter or to be placed on our mailing list contact us by phone or e-mail.

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ADDRESS CORRECTION REQUESTED

