

# Perinatal News & Events

Cincinnati Children's Perinatal Outreach Program



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## Inside this Issue

- Neonatal Abstinence Syndrome – Ohio House Bill 315
- Ohio Perinatal Quality Collaborative
- Child & Family Health Services (CFHS)
- Announcements
- Cincinnati Familial Preterm Birth Program

## Prenatal Testing

### *Cell-Free Fetal DNA Screening*

For all pregnancies, the baseline risk of some type of birth defect is 3-4%. Non-invasive methods of screening for birth defects and/or genetic abnormalities have traditionally included ultrasound as well as maternal blood tests. In the first trimester, a combination of biochemical markers from maternal serum and ultrasound measurement of nuchal translucency is typically performed between 10-12 weeks of gestation. In the second trimester, a panel of four biomarkers can be measured from the maternal circulation. Each of these (or a combination) gives a pregnant woman a profile of the risk of various fetal disorders. Definitive prenatal diagnosis, however, is dependent on the use of invasive diagnostic tests. Chorionic villus sampling is performed at 10-14 weeks gestation, whereas amniocentesis is done at 15 weeks gestation or later. Both of these techniques carry a risk of pregnancy loss of 0.5-1%.

Genetic screening using cell-free fetal DNA (cffDNA) is a new technique in non-invasive prenatal testing which has become widely available within the last 3 years. This testing requires only a maternal blood sample, and can be performed as early as 9 weeks of gestation. CffDNA represents 5-10% of total circulating cell-free DNA in the mother's blood, and it can be detected in the first trimester of pregnancy. It originates from the fetal side of the placenta (rather than from the fetus itself) and is rapidly cleared from the circulation following delivery, ensuring that cffDNA is specific to the current pregnancy. CffDNA fragments are much smaller than cell-free maternal DNA, which helps to separate the fetal cell-free DNA from the maternal.

Currently four companies offer cffDNA testing in the USA, under the test names Verifi, MaterniT21, Harmony and Panorama. All four tests screen for the most common trisomies (13, 18, and 21), with a sensitivity over 98% and specificity of over 99.5% in the high-risk populations that have been studied. Some of the tests also offer sex determination and screen for additional sex-chromosome abnormalities, though the sensitivity and specificity are lower than those for detecting trisomies. Advantages of the tests include the ability to perform screening very early in pregnancy, as well as the high sensitivity and specificity, without exposing the fetus to an invasive procedure.

*Continued on page 2*

## Cell-Free Fetal DNA Screening *continued from page one*

Some caution is warranted, however, and the use of cffDNA in routine prenatal care may be happening too quickly. The American Congress of Obstetricians and Gynecologists (ACOG), the Society for Maternal-Fetal Medicine (SMFM) and the National Society of Genetic Counselors do not recommend the use of these tests for normal-risk pregnancies (only for high-risk pregnancies) because their clinical utility in the general population is not well established. These professional societies also recommend that positive results be confirmed through invasive testing (chorionic villus sampling or amniocentesis). CffDNA does not provide information about other disorders, including

chromosomal abnormalities other than trisomies. Finally, these tests are not widely covered by insurance, and costs can range from \$795 - \$2762.

*Amy Nathan, MD  
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Medical Director*

### References

- Bodurtha J and Strauss JF. Genomics and perinatal care. *NEJM* 2012; 366(1):64-73.
- Morain S, Greene MF and Mello MM. A new era in noninvasive prenatal testing. *NEJM* 2013; 369(6):499-501.
- Simpson JL. Cell-free fetal DNA and maternal serum analytes for monitoring embryonic and fetal status. *Fertility and Sterility* 2013; 99(4):1124-34.

### Neonatal Abstinence Syndrome – Ohio Hospitals Required to Report NAS effective July 10, 2014

Ohio's HB 315 was signed into law on April 10, 2014 by Governor Kasich. Incorporated into maternity licensure, hospitals and maternity homes will be required to report to the Ohio Department of Health (ODH), on a quarterly basis, the number of infants diagnosed as opioid dependent. Opioid dependent is not defined by HB 315. ODH is required to establish standards and procedures for reporting the required information. The information reported to ODH regarding newborns diagnosed as opioid dependent is not to include personal identifiers and cannot be disclosed to law enforcement authorities. Additional information can be found at:

[www.lsc.state.oh.us/analyses130/14-hb315-130.pdf](http://www.lsc.state.oh.us/analyses130/14-hb315-130.pdf)

### Ohio Perinatal Quality Collaborative

OPQC will be presenting: “**Neonatal Abstinence Syndrome: The Magnitude of the Problem and Compassionate Care**” on June 12 and 17, 2014. It is the 1<sup>st</sup> in a series of 3 webinars on NAS. The target audience is Level I hospitals and nurseries. Dr. Moira Crowley, Rainbow Babies and Children's Hospital, and Dr. Scott Wexelblatt, Cincinnati Children's Hospital Medical Center are the presenters. For more information on this presentation series, please contact: [opqc@cchmc.org](mailto:opqc@cchmc.org).



## Hamilton County Child and Family Health Services

Hamilton County is one of 59 counties in Ohio to receive funding from Ohio Department of Health, Division of Family and Community Health Services, Bureau of Child and Family Health Service for the Child and Family Health Services (CFHS) Program grant. The CFHS Program is designed to eliminate health disparities, improve birth outcomes, and to improve the health status of women, infants and children in Ohio. The population of interest continues to be low-income women and children in racial and ethnic groups that are disproportionately affected by poor health outcomes.

Since its inception in 1981, the CFHS Program has been a network of local consortia of health and social service agencies that identify health needs, service gaps, and barriers to care for families and children and plan community public health and clinical services to fill those needs. CFHS agencies have filled a critical gap over the years by providing child, adolescent and perinatal health care services for Medicaid-eligible families and those who are uninsured or underinsured.

Hamilton County has received CFHS Program funds for the past 25 plus years. One of the CFHS Program requirements is to create a CFHS Consortium of local health and social service agencies. Throughout the years the Consortium has evolved to align with changes of the CFHS program as well as needs within the County.

In July of 2012 Hamilton County Public Health (HCPH) began managing the CFHS Program including management and facilitation of the Hamilton County CHFS Consortium. HCPH wanted to grow the Consortium and envisioned the Consortium being the Maternal and Child Health resource for Hamilton County. The Consortium went through a strategic planning process to unify current members and rebrand the Consortium to expand and engage new community organizations. Through the strategic planning process a new vision, mission and goals were created by the Consortium.

***VISION: Healthy Child, Healthy Parent, Healthy Community.***

***MISSION: Hamilton County Child and Family Health Services Consortium applies the collective strengths of its members to sustainably improve community health through resource development, advocacy and process improvement.***

The CFHS Consortium believes:

- Every child deserves a healthy start in life-to be loved, cared for, nurtured and given the best chance to thrive.
- Every parent deserves the opportunity to realize optimal health for her/himself.
- The health status of each child and adult greatly impacts the health of the entire community.
- Collaboration is key to creating sustainable improvements in key community health status indicators.

The CFHS Consortium continues to grow and change to meet the needs of Hamilton County. Stay tune to the latest changes that will take effect July 1, 2014. For more information about the CFHS Consortium or how to become a member of the Consortium contact:

Mary Ellen Kramer (Health Educator at Hamilton County Public Health) at 513-946-7926 or [maryellen.kramer@hamilton-co.org](mailto:maryellen.kramer@hamilton-co.org)



A community resource guide which provides contact information for prenatal care, support groups, food assistance, smoking cessation and more is now available online at:

[www.cradlecincinnati.org](http://www.cradlecincinnati.org)

## PERINATAL INSTITUTE

Division of Neonatology  
3333 Burnet Ave., MLC 7009  
Cincinnati, Ohio 45229-3039

*Our mission is to improve  
the health of newborn infants  
through innovation in clinical care,  
education and research.*

[www.cincinnatichildrens.org](http://www.cincinnatichildrens.org)

[www.cincinnatichildrens.org/perinatal](http://www.cincinnatichildrens.org/perinatal)

[Perinatal Resource Directory](#)

## Announcements

### Fetal Infant Mortality Review (FIMR)

3:30-5:00 pm, Thursday, June 19, 2014

Cincinnati Health Department

Please contact Corinn Taylor at (513) 357-7266 if you would like to attend.

### Ohio Equity Institute - Cincinnati

10:00 am-12:00 noon, Thursday, June 26, 2014

Theodore Berry Head Start

For more information, contact: LHolloway@marchofdimes.com or Kelli.Kohake@cincinnati-oh.gov

### Perinatal Community Action Team (PCAT)

2:30-4:00 pm, Thursday, June 26, 2014

Cincinnati Children's, Vernon Manor 2.020

For more information, contact: kathy.hill@cchmc.org

### Regional Perinatal Nurse Manager Meeting

8:30-11:30 am, Friday, August 22, 2014

University of Cincinnati Medical Center – Hoxworth Center

For more information, contact: kathy.hill@cchmc.org

### AWHONN Ohio 9<sup>th</sup> Annual Conference

September 12, 2014

Holiday Inn French Quarter, Perrysburg, Ohio

For details, visit: [www.awhonn.org](http://www.awhonn.org)

### 13<sup>th</sup> Annual Regional Perinatal Leaders' Summit

Assistive Reproductive Technology

Friday, October 17, 2014

Sabin Auditorium, Cincinnati Children's

For more information contact: danielle.bolton@cchmc.org



## Cincinnati Familial Preterm Birth Program

### Preterm Birth Prevention Consultative Services



- **Purpose**  
To provide a one-time comprehensive outpatient consultation to women at high risk of preterm birth.
- **Mission**  
To prevent preterm birth by optimizing application of available resources, ensuring knowledge of modifiable risk factors, and gaining new knowledge through genetic analysis.
- **Vision**  
To shorten the time typically seen in clinical medicine in which the most up-to-date basic science and clinical research is translated into clinical care.

Beginning June 2, Cincinnati Children's will offer preterm birth prevention consultations in the Familial Preterm Birth Program on the main campus. The primary focus of the program is to target women, both pregnant and non-pregnant, with a significant genetic influence to their preterm birth risk, such as women with a prior preterm birth or a history of preterm birth in close family members. The program is especially interested in working with women who have experienced a preterm birth despite using currently available preventative measures. The program will serve as a consultative service and not offer ongoing consultation or prenatal care. The care provided by the patient's primary or obstetric care providers will be augmented, not replaced. The program intends to learn through the experience of patients the key contributors to preterm birth for both familial – or genetic – factors, as well as environmental causes. The information will be used to prevent subsequent preterm birth in families seen and women world-wide.

*Continued on page 6*

**For more information  
on the Familial  
Preterm Birth Clinic  
contact:  
513-636-3882**

**BEFORE, BETWEEN &  
BEYOND  
PREGNANCY**

[www.beforeandbeyond.org](http://www.beforeandbeyond.org)

Before, Between and Beyond was created as a key component of the national Preconception Health and Healthcare initiative, a public-private partnership which engages the CDC, HRSA, and other government agencies, nonprofit organizations, professional organizations and hundreds of individuals.

## **Preterm Birth Prevention Consultative Services**

- Detailed family, obstetric and medical histories
- Complete physical examinations
- Recommendations for laboratory and imaging studies for either preconception planning or for screening and management on ongoing pregnancy
- Education around modifiable risk factors and currently available preventive therapeutic strategies
- Recommendations regarding screening tests, interventions and management of subsequent pregnancies
- Opportunity to participate in new research aimed to understand the causes of preterm birth and development of new preventative strategies

## **Team**

- **Emily DeFranco, DO, MS**, Assistant Professor Maternal-Fetal Medicine, Department of Obstetrics and Gynecology, University of Cincinnati College of Medicine
- **Michael Marcotte, MD**, Maternal-Fetal Medicine and Director of Quality for Maternal Services at TriHealth and Adjunct Associate Professor of Pediatrics, Division of Neonatology, University of Cincinnati College of Medicine
- **Louis J. Muglia, MD, PhD**, Director, Center for Prevention of Preterm Birth and Co-Director, Perinatal Institute, Cincinnati Children's, Professor of Pediatrics and Obstetrics and Gynecology, University of Cincinnati College of Medicine