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The NEST Stork: Delivering News To You

from Duke OB-GYN

INSIDE THIS ISSUE:

Thank you to all our participants and community partners for your willingness to contribute to research. The purpose of this newsletter is to update you on the progress of this landmark study.

About NEST

The Newborn Epigenetic STudy (NEST) is a federally-funded research project that studies how environmental exposures and nutrition, in the womb and during childhood, affect how genes work. The genes we are studying are believed to play a role in obesity and other diseases, disorders, and conditions. We would like to thank all the mothers and children that participate in the NEST study. This is a relatively new and exciting area of research which will have an impact on the health of our children in the future!

- In 2005, we began recruitment for the pilot study. Approximately 900 women (≥20 weeks pregnant) were recruited between 2005 and 2009 at Durham Obstetric (OB) clinics. We are currently following-up with the children at 1, 3, and 5 years.
- In 2009, we started recruiting pregnant women (≤24 weeks), because some exposures are difficult to recall late into the pregnancy. The children will be followed until age three years.

NEST Enrollment Completed!

The NEST study enrolled its last participant in April 2011! Including the 900 women from the pilot study, over 2,500 women have consented to participate in the study. Thanks to the participation of pregnant women and their doctors from the following clinics:

- Durham OB
- Harris and Smith OB
- Duke Maternal Fetal Medicine
- Durham County Health Department OB at Lincoln Community Health Center

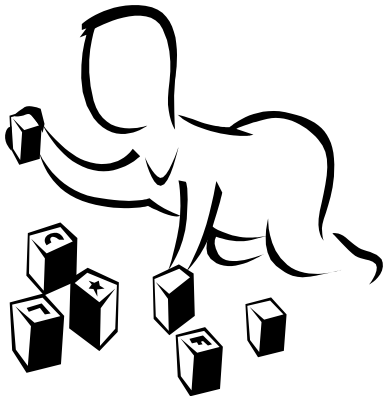
The NEST study wants to improve the health of children in NC!

NEST Follow-Up

The NEST study offers many options to complete your follow-up. You can choose the option that is most convenient for you. Choices include:

- **Clinic visit**– We can meet you at your child's scheduled appointment.
- **Office visit**– Come by our office at 2200 W. Main Street, Suite 600, Durham, NC 27705.
- **Home visit**– We can come to your home.
- **NEST Party**– RSVP and come to one of our parties held at least once per month!

If you would like to schedule an office or home visit, please contact Terika McCall at (919) 684-5420.



NEST Parties

NEST invites you to attend one of our parties to celebrate your child's birthday, and complete your follow-up.

Future Party venues:

- **Chuck E. Cheese's**
- **Trinity Park**
- **Music Explorium**
- **Build-A-Bear Workshop**
- **Museum of Life + Science**
- **The Scrap Exchange**
- **Movies at Northgate**

If your child has a birthday coming up look out for our party invitation!

What is Epigenetics?

Epigenetics involves the study of how genes are either actively used or shut off and how this affects the cells in our bodies. Researchers believe that epigenetic changes are influenced by things in the environment, including the things we eat and drink, as well as other exposures we have in our lifetimes. These changes are thought to contribute to an increased risk of chronic diseases, including diabetes, cancer, obesity, and neurological disorders.

For more information read the following article:

Murphy Paul, Annie. "How the First Nine Months Shape the Rest of Your Life." *Time Magazine*. 22 Sep 2010. Web. 30 Nov 2011. < http://www.time.com/time/magazine/article/0,9171,2021065-1,00.html>.

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Current Study Results

At the onset of the study, we determined that 10% of pregnant women took folic acid in quantities higher than those recommended by the Institute of Medicine as the tolerable upper limit for adults (Hoyo, 2011). To examine whether there were early effects of this high vs. moderate vs. no intake of folic acid, we compared some epigenetic features of the three groups of folic acid takers. We found favorable differences between moderate and high folic acid users compared to those who did not use folic acid (Hoyo, 2011). Scientists in the field agree that this may mean that even at doses taken by women in this study there are still benefits to be derived from folic acid.

Using this rich dataset, we are now looking at the following questions:

Whether commonly used antidepressants are associated with an abnormal epigenetic profile?

If an abnormal epigenetic profile is associated with obesity during the 1st year of life?

What other environmental exposures are associated with abnormal epigenetic profile?

Stay tuned!!!

NEST Word Search

G C I N Y E R A T Y U B B I P

C P K D M O I G C E L P A V J

R Z U M I S N F K V T X B X Z

R T D I C G E E G R M X Y A P

S E K U D U N B Q U F N G X N

S R H U I R V W A S A L E U Y

Q V K T G B I G E N E S T S Y

A E O T O F R J I H N R E B T

D C I F Z M O T Y W I S S Y P

S O A N M Q N X X T M J S Q E

E U B J N M M H I U X N P X U

J V B A Y O E O Y H T L A E H

R Z Q A A X N I S V H D U M S

U F K W W Q T M U U Z B J M B

BABY

DUKE

ENVIRONMENT

GENES

HEALTHY

MOTHER

NEST

NUTRITION

STUDY

SURVEY

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Meet the NEST Team

Front (l to r): Stacy Murray, Yvette Lacobie, Terika McCall

Back (l to r): Allison Barrett, Francine Overcash, Cathrine Hoyo, Susan Murphy, Erin Erginer, Zhiquing Huang, Siobhan Greene, Brittany Price, Carole Grenier

Not pictured: Rachael McCamy, Rali Peneva, Kennetra Irby, Joellen Schildkraut, Randy Jirtle, Amy Murtha, Joanne Kurtzberg