

# The Current Wave

## TIDES Newsletter



SPRING 2018

### [Update from the Data Coordinating Center at Mount Sinai](#)

Thank you so much for your continued participation in TIDES. We have several updates to share with you for 2018 and beyond!

We are very fortunate to be involved in a large, new National Institutes of Health (NIH) national collaboration called **ECHO (Environmental Factors Affecting Child Health Outcomes)**. ECHO has many of the same goals as TIDES. ECHO will examine the relationship between environmental exposures during pre-conception and prenatal life in relation to four main outcomes: perinatal outcomes, neurodevelopment, airway health, and obesity. TIDES was selected to collaborate with two ECHO centers. One of these ECHO centers, called **PATHWAYS**, is based at the University of Washington, Seattle. PATHWAYS is focused on Airways and Neurodevelopment and includes three studies (the Candle Study—Conditions Affecting Neurocognitive Development and Learning in Early childhood; GAPPS—the Global Alliance to Prevent Prematurity and Stillbirth; and TIDES). TIDES is also part of a second ECHO center, called **NYU-ECHO**, based at NYU School of Medicine in New York City. This ECHO center, which also includes a new birth cohort (CHES—NYU Children’s Environmental Health Study), is examining early and childhood exposures in relation to pre- and post-natal growth and cardiovascular, metabolic and renal dysfunction in school-age years.

Being a part of this collaboration means that we will be able to follow TIDES families beyond the 6-year visit. Also, because we are now part of ECHO, we have added a few components to our Age 6 study visits

to address ECHO goals. This visit (which we hope you will participate in!) in addition to most of the same components as the 4-year visit, now includes measures of arterial stiffness and standardized blood pressure measures as well as questions on airway health.

As with the 4-year visit, these 6-year visits are being held at the study centers when possible, but moms who have moved too far from the center to come in to the office can complete study questionnaires remotely. At the Data Coordinating Center, we are continuing to track the progress of all TIDES Centers and are assembling new study data collected at the 6-year visit. As of April 1<sup>st</sup>, 2018, we had completed 145 6-year visits (about 20% of the total we expect). Most of these families have given us very positive feedback on the visit as you can see in the center updates below. If your visit is completed, **Thank You!** If not, you will be hearing from your Study Coordinator soon, and we hope you and your TIDES child will participate.

With results from TIDES and ECHO, we will be able to look at possible links between exposures to the mom during pregnancy or the child after birth and the children's behavior, growth, and airway health. Included in this newsletter are updates from our four study centers, some of our newer TIDES publications, and summaries of some of our exciting findings. I hope you will continue to participate in TIDES II, as your participation is integral to our success in carrying out this important work.

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## Update from University of Rochester Medical Center



In Rochester, spring is on the way! We wrapped up our 4-year TIDES study visits in the fall and are now enjoying seeing TIDES families again for the next visit as children turn 6. It is exciting to see how grown up our TIDES kids have become since starting school. We are delighted that our TIDES families have been with us for so long – nearly 7 years! By now, you’ve gotten to know our wonderful study coordinator, Andrea Hart (right), and at the 6-year visit, many of you will get to meet Keelin Abbot (left), who has joined the team. You may recognize her as the research recruiter at the Women’s Health Practice – please say hi!

Our current visits are action-packed: kids play brain-teasers, learn to spit in a tube, and get to watch their heartbeat, among other things. At the end of one of our recent visits, one TIDES child asked if he could spit more for science! We know how busy families are as kids get older, so we offer visits at your convenience including afterschool, weekends, and school holidays. If you have concerns about transportation or childcare, please let us know how we can help! As always, we appreciate your participation in TIDES. The ongoing support of TIDES families is what has made the study so successful and has allowed us to better understand how kids develop over time. If you haven’t heard from us recently, we’ll be in touch soon about scheduling an age 6 visit. In the meantime, enjoy the warmer weather!

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***Want to learn more about what’s going on at the other TIDES centers?  
Keep reading!***

## Update from University of Minnesota



Our entire team at the University of Minnesota has been so excited to see everyone for our busy 6-year old visits! We've expanded our team to allow us more flexibility in scheduling visit times; this will allow us to better meet your needs. In addition to the team members you've seen before – Stacey, Pam, and Dr. Ruby – another four team members were hired for the 6-year old visits: Nitika, Abigail, Alexandra, and Devon (left to right in the photo; note: photo was taken with a TIDES participant and permission was given by TIDES mom to use in this newsletter). We've also increased our space! We now occupy two adjoining rooms in the Epidemiology Clinical Research Center (ECRC), which is the convenient off-campus location with loads of free parking that you visited when your child was 4 years old.

We've heard lots of good things from moms and kids after attending their 6-year old visit! The kids like that there's lots to do during the visit including things they may have never done before, such as spitting into a container (to be used for laboratory analyses) and trying to figure out complex puzzles. In addition, kids have enjoyed seeing how much they've grown and providing the routine urine sample, which now they're experts at doing! But despite the fun that the kids have during the visit, we realize that taking the time and effort to come to TIDES visits can at times be an imposition to you and your family. ***We thank you for your continued support of this study, and the research findings that are being produced in partnership with you!***

We invite you to see how the data is being disseminated to other scientists and policy makers through our peer-reviewed publications listed in this newsletter. We are also excited to tell you that we will be at the Minnesota State Fair surveying fairgoers to determine what people know (and don't know) about phthalates, which will allow us to better target our dissemination of TIDES data to impact not only other scientists, but also families just like yours and ours.

As of this writing, we have seen 1/3 of our eligible families for the age 6 visit. If we haven't yet seen you for your child's visit, we look forward to being in contact soon! Please let us know if you have any questions until the next time we see you!

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## Update from UC San Francisco



It has been wonderful to reconnect with the UCSF site TIDES families! We are so thankful that so many of you responded to our outreach for the Age 4 visit—80% of our original participants completed an Age 4 visit! We've just begun visits with our participants who have turned 6-years-old, which are a lot of fun now that kids have so much to say and are growing so much. We look forward to connecting

with all of you and hope we can beat our 80% record this visit!

We are excited to announce that we are conducting study visits in our new private research space on the Parnassus UCSF campus! We have a comfy waiting area, quiet visit rooms, cool games, and books in our office that we cannot wait for you and your child to come experience. We are also excited to announce that we have a new member in our TIDES family: Victoria graduated from UC Berkeley with her BA in Psychology, has a certificate in ABA Behavior Therapy, and loves working with families.

Upcoming plans are to continue the Age 6 visit until we've been able to see you all again! We are excited about the way your recent and future participation can help us learn about an important range of child health and developmental outcomes. You can expect more updates on our study findings in the coming year, as well as follow-up from Alana to schedule a visit. Enjoy the new beginnings that Spring of 2018 will bring to your family!

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<http://bushlab.ucsf.edu/tides-infant-development-and-environment-study>

## Update from Seattle Children's / University of Washington

The Seattle team began seeing families for our TIDES II Visits in late 2017. One notable difference this time around is that Garry Alcedo, our long-time study coordinator, recently left to move to New York and works with our collaborators on the ECHO Study. Suzanne Peck has taken over in Garry's place as the TIDES Study Coordinator and works alongside Jen Powell and Nora Byington, research assistants. We are so happy to meet the TIDES families and have a lot of fun working with the kids as they do all the activities for the study visit. The kids are often curious about the science being done and find it fun that we want to collect their saliva. Most of the kids don't remember coming to the Age 4 visit, but the one thing they haven't forgotten is peeing into a cup. Some families were not able to make it in for the last visit, but were still able to participate by completing important surveys about their child's development and their own health and well-being. We greatly appreciate all the ways the children and moms contribute to this ground-breaking research! We also realize families are very busy these days, combined with the fact that kids are now in school, so we are happy to schedule the study visit on a weekend, or whenever it's convenient.



Research Assistant Sarah Wang, Seattle Center Psychologist Brent Collett, Study Coordinator Suzanne Peck, Seattle Center Director Sheela Sathyanarayana, Project Manager Trina Colburn, Research Assistants Nora Byington and Jen Powell

The team is also supported by our Project Manager Trina Colburn, our site Psychologist Brent Collett, and Research Assistant Sarah Wang. The entire team enjoys seeing the kids develop and grow as they enter school! We thank you for your continued participation and look forward to seeing you for the second TIDES study visit.

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### Highlights from some of our recent TIDES publications

#### [Association between prenatal psychological stress and oxidative stress during pregnancy.](#)

Eick SM, Barrett ES, van 't Erve TJ, Nguyen RHN, Bush NR, Milne G, Swan SH, Ferguson KK. Paediatr Perinat Epidemiol. 2018 Mar 30. doi: 10.1111/ppe.12465. PMID: 29603338

*In this paper, we examined prenatal psychological stress reported by the mother during pregnancy in relation to a urinary biomarker of oxidative stress and found that this marker is elevated in pregnant women who have higher psychological stress in pregnancy and are at a sociodemographic disadvantage.*

#### [Anogenital distance in newborn daughters of women with polycystic ovary syndrome indicates fetal testosterone exposure.](#)

Barrett ES, Hoeger KM, Sathyanarayana S, Abbott DH, Redmon JB, Nguyen RHN, Swan SH. J Dev Orig Health Dis. 2018 Jan 9:1-8. doi: 10.1017/S2040174417001118. PMID:29310733

*This paper examined the length of the perineum (the anogenital distance, or AGD) in daughters of women in TIDES who had polycystic ovarian syndrome (PCOS) and found that these daughters have longer AGD, suggesting that during PCOS pregnancies, daughters may experience elevated testosterone exposure. This may help in identifying the underlying causes of PCOS which may help doctors intervene early to minimize risk.*

#### [Early Prenatal Phthalate Exposure, Sex Steroid Hormones, and Birth Outcomes.](#)

Sathyanarayana S, Butts S, Wang C, Barrett E, Nguyen R, Schwartz SM, Haaland W, Swan SH; TIDES Team. J Clin Endocrinol Metab. 2017 Jun 1;102(6):1870-1878. doi: 10.1210/jc.2016-3837. PMID: 28324030

*In this paper, the authors looked at birth outcomes (including genital defects) in relation to maternal sex hormones and levels of phthalates in the mom's first trimester urine samples. They found that some phthalates were associated with increased estrogen while others were related to lower testosterone. They also found that higher testosterone was related to a lower rate of male genital abnormalities, confirming the importance of testosterone in early fetal development.*

#### [First Trimester Phthalate Exposure and Infant Birth Weight in the Infant Development and Environment Study.](#)

Sathyanarayana S, Barrett E, Nguyen R, Redmon B, Haaland W, Swan SH. Int J Environ Res Public Health. 2016 Sep 23;13(10). pii: E945. doi: 10.3390/ijerph13100945. PMID: 27669283

*In this paper, we examined whether first trimester prenatal phthalate exposure was associated with birth weight. We found few associations, but we had too few preterm infants to exam that outcome in relation to phthalate exposure.*

#### [Timing of prenatal phthalate exposure in relation to genital endpoints in male newborns](#)

Andrade, AJ, Liu, F, Sathyanarayana, S, Barrett, ES, Redmon, JB, Nguyen, RHN, Levine, H, Swan, SH Andrology, 2016. Apr 7. doi: 10.1111/andr.12180.

*To answer this question, when during pregnancy does phthalate exposure have the greatest effect on reproductive development? we obtained urine samples from you during each trimester of pregnancy. We found that phthalate exposure during the first trimester was associated with shorter AGD in the boys while exposure during the second and third trimester showed no effect. These observations are consistent with what we know about the timing of male reproductive development.*

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***If your contact information has changed, please tell your study coordinator. Thank you!***