OT NICU LAB NEWSLETTER

OCTOBER 2014
Bobbi thanks the members of the OT NICU lab for their ongoing support during her transition back to work. The great work within the lab continues to grow.

With the support of the Boston Rehabilitation Outcomes Center, a new project started this month. This project seeks to assess the reliability and validity of the Neonatal Eating Outcome (NEO) Assessment, developed within the OT NICU lab. The NEO Assessment seeks to incorporate concepts of cue-based feeding, assessment of dysfunction and, most importantly, seeks to score each infant based on expected performance across postmenstrual age.

As an add-on to this project, the lab will also seek to define the trajectory of feeding behaviors throughout NICU hospitalization. Non-nutritive sucking as well as feeding, once it is initiated, will be assessed each week of hospitalization. A special ‘thank you’ goes out to Innara Health for the use of the N-Trainer to be used to quantify sucking across time.

Such work with this feeding project is hoped to define the normal developmental trajectory of oral feeding prior to term equivalent age, to identify factors that alter the progression to oral feeding and to validate feeding outcome measures. This work may bridge into larger studies aimed at better understanding the patterns toward adverse feeding and how feeding problems impact overall health and quality of life.

The project investigating language and sound exposure across room type and investigating its relationship to early brain development has completed enrollment. A handful of babies are still in the NICU completing their hospitalization.

Through this study, infants were enrolled at birth. They had language and sound measurements (using the LENA device) at 4 time periods across hospitalization. Prior to discharge home, they were assessed with the NICU Network Neurobehavioral Scale and the Neonatal Oral Motor Assessment Scale. They also receive an MRI prior to discharge. These findings will allow us to determine auditory exposures across different NICU room types as well as will allow us to relate early exposures to brain development and short-term outcome. Additional funding will be sought to bring this cohort back for developmental testing.

Building on the findings that demonstrated a developmental disadvantage among infants who were hospitalized in the NICU private room, a small grant was awarded to develop appropriate NICU-based sensory interventions. Bobbi is teaming up with Joan Smith, PhD RN for this project. They will conduct a systematic review of sensory based interventions in the NICU, gain expert opinion, benchmark current practices at St Louis Children’s Hospital with other top tier hospitals, and define an implementation plan. The ultimate goal is to define and investigate the effects of interventions in the NICU.
CONGRATULATIONS TO:

Bobbi Pineda was chosen as an inaugural member of the Neonatal Therapy National Certification Board (NTNCB)! She is co-chair of the new Board, that aims to develop a certification process for neonatal therapists.

Sonya Dunsirn (OTD 14), Joy Bender (MSOT 14), Kelsey Melchior (MSOT 14), and Laura Mazelis (MSOT 14) for graduating in May 2014 from the Washington University Program in Occupational Therapy!

Joy Bender (MSOT 14) for winning the Student Research Paper Award for her manuscript, Parental Presence and Holding in the NICU and Associations with Outcomes

Sonya Dunsirn for presenting her poster, Head Turn Preference: Associations with Neurodevelopmental Outcomes and Injury at the Pediatric Academic Societies and NANT conferences!

Laura Madlinger-Lewis (OTD 12), Mallory Duncan (OTD 11), and Lauren Reynolds (PPOTD 12) who all gave birth to baby girls in April, 2014 within 2 days of each other!

WELCOME TO:

Victoria Bosshart Lewis (MSOT 13) for giving birth to Jackson Alexander in March! He was 9lbs 1oz and 23in long.

Michelle Tang and Danielle Serota (high school summer students) for winning Awards of Excellence for their work in the lab this summer! See more information about their accomplishments on the following page.

Sarah Oberle (Cheatham) (OTD 13) who joined the lab as Research Coordinator in April, 2014!

Rebecca Armitage (OTD 17) and Elaine Ward (MSOT 16) who joined the lab as graduate assistants in September!

THANK YOU TO:

Katie Dimitriyev (MSOT 14) and Tess Greene (OTD 15) for their help as graduate assistants in the lab!
**CURRENT STUDENTS AND SUMMER STUDENTS**

Sonya Dunsirn (OTD '14) is finishing her manuscript, titled “Head Turn Preference in Preterm Infants and Associations with Outcome” and hopes to submit it to Developmental Medicine and Child Neurology in the next few months. Joy Bender (MSOT '14) has started some interesting work on understanding the effects of early parent presence and holding in the NICU-this manuscript is undergoing further revision and it is hoped it will be submitted to Pediatrics in the next 6 months. Kelsey Melchior (MSOT '14) has started some important work on understanding early social behaviors related to autism risk-this manuscript will be submitted to AJOT in the coming month.

Hayley Chrzastowski (OTD '15) is working on data collection for her project investigating the effects of breastfeeding on early behavior in preterm infants. Odochi Nwabara (OTD '15) is working on data collection for her project characterizing early intervention (EI) services in the first two years of life following NICU discharge and investigating associations between EI services and two-year developmental outcomes of premature infants. In January, we welcomed two new doctoral students to the OT NICU lab: Kelsey Dewey (OTD '16) and Katie Ross (OTD '16). Kelsey will be working on a project related to understanding feeding and feeding outcome measures in the NICU. Katie will be defining early therapy services in the NICU and relating early therapy to neurobehavioral outcome.

Hayley Chrzastowski will be presenting on the Implications of Breastfeeding at the DEC conference, held in St Louis from October 7-9th.

This summer, the OT NICU lab welcomed two high school students through the Students and Teachers as Researchers (STARS) program sponsored by University of Missouri – St. Louis (UMSL). The program is a summer intensive that requires students to complete their own research projects from start to finish – in 6 weeks!

Danielle Serota (pictured left) is currently a senior at Parkway Central High School. She completed a project entitled The Effect of Caffeine on Neonatal Neurobehavioral Development. Michelle Tang (pictured right) is currently a junior at John Burroughs. She completed a project entitled The Effect of Parent Engagement in the NICU on Neonatal Stress.

Both Danielle and Michelle won Awards of Excellence for their great work on their projects!
Previous Publicity

- [http://www.jpeds.com/article/S0022-3476(14)00112-7/abstract](http://www.jpeds.com/article/S0022-3476(14)00112-7/abstract)
- [http://www.jpeds.com/content/JPEDS-Pineda](http://www.jpeds.com/content/JPEDS-Pineda)
- [http://outlook.wustl.edu/2013/feb/premature-infants](http://outlook.wustl.edu/2013/feb/premature-infants)
- [http://www.scopeweb.mit.edu/articles/premies-in-private-rooms-may-require-extra-care](http://www.scopeweb.mit.edu/articles/premies-in-private-rooms-may-require-extra-care)
- [http://www.jpeds.com/article/S0022-3476(13)01345-0/abstract](http://www.jpeds.com/article/S0022-3476(13)01345-0/abstract)
**Published or In Press**

- Maternal Obesity and Increased Risk for Autism and Developmental Delay Among Very Preterm Infants  
  *Journal of Perinatology*, in press, 2014

- Developmental Effects of Neonatal Positioning: a Randomized Clinical Trial  
  *Research in Developmental Disabilities*, 2013

- Factors Associated with Early Cortical Activity in the Preterm Infant  
  *Acta Paediatrica*, September 2013

- Impact of Different NICU Environments on Brain Development and Function in Preterm Infants, 2013  
  *Journal of Pediatrics*

- Psychometrics of the NOMAS  
  *Journal of Developmental Medicine and Child Neurology* 2013

- Nursing Perceptions about Neonatal Positioning  
  *Neonatal Network* 2013

- Nursing Perceptions about Clinical Research in the NICU  
  *Newborn and Infant Nursing Reviews* 2013

- Factors Associated with Feeding Difficulties in the Very Preterm Infant  
  *Acta Paediatrica* 2013

- Parent Visitation and Holding in the NICU and Associations with Early Neurobehavior  
  *Journal of Perinatology* 2013

- Factors Associated with Developmental Concern and Intent to Access Therapy Following NICU Discharge  
  *Journal of Pediatric Physical Therapy* 2013

- Patterns of Altered Neurobehavior in the NICU  
  *Journal of Pediatrics* 2012

- The Maternal Effects of the Single Patient Room  
  *Journal of Perinatology* 2011

- Stress in the NICU and Associations with Early Brain Development and Function  
  2011 *Annals of Neurology*

- To be re-submitted soon  
  - Head Lag in the Preterm Infant

**In Final Preparation**

- The Neurodevelopmental Profile of Very Preterm Children with Adverse Feeding - Tara Crapnell

- Predictors of Parent Visitation and Holding and Parent Presence and holding and associations with outcome

- Early Neurobehavioral Testing and Associations with Brain Structure and Outcome

- Chris McPherson  
  - Fentanyl and the Preterm Brain – Chris McPherson
  
  - Assessment of Autism Symptoms During the Neonatal Period: Is There Early Evidence of Autism?
Amanda Brown (Felber) (MSOT 11) – Amanda is continuing to work at The Brown Center for Autism as an occupational therapy consultant. She is excited to be starting a weekly dance class for kids ages 2 to 6 with autism and will expand upon these classes if they are successful. She is still working prn at Vanderbilt Stallworth on the weekends and is loving continuing to make changes to her house (her sweet husband goes along with it!). amandasbrown123@gmail.com

Tara Crapnell (OTD 13) Tara is currently working as a pediatric occupational therapist at Children’s Learning Connection, an early intervention clinic in Fountain Valley, California. She is still on the board of directors for the music and expressive arts day program for adults with intellectual and developmental disabilities, Creative Identity, in Anaheim, California. She is writing grants, doing program development, staff development, outreach, and in the process of preparing for their 4th Annual Harvest of Creativity Gala. She has a conference meeting with the authors on her 2nd feeding manuscript and hoping to send it off by the end of September for final edits. Unrelated to OT, she has been reading a lot on coffee farming. She is hoping to learn enough to eventually visit a friend of a friend’s coffee farm in Guatemala to learn first hand about the business. crapnellt@outlook.com

Katie Dimitriyev (MSOT 14) Katie enjoyed her first fieldwork experience in Missoula, MT during this summer. She traveled all over Montana and the Pacific Northwest prior to the fieldwork beginning and on weekends. She has just begun her second fieldwork in Atlanta, GA at a children’s hospital inpatient unit. She is learning a lot in both her fieldworks and having a good time! kathryn.dimitriyev@gmail.com
Mallory Duncan (Hensley) (OTD 11) – Mallory continues her work in inpatient rehabilitation at Memorial Care Center in Belleville, Illinois. She and her husband Ryan welcomed their first baby, Stella Elizabeth Ann Duncan!! mallorymduncan@gmail.com

Laura Lewis (Madlinger) (OTD 12) Laura and her husband Matt welcomed their first baby, Rebecca Joly Lewis on April 16th. Her neurobehavior is WNL. :) Laura continues to work part time in the NICU and PICU at UIC Hospital. She is also starting a side business/volunteer endeavor as a certified birth doula. She will submit an abstract for NANT this year on the role of therapy services for pregnant women on bed rest. laura.madlinger@gmail.com

Allison Lynch (Castellano) (MSOT 10) – Ali is working for Special School District and doing private therapy on the side. Additionally, she is selling Stella & Dot (handbags jewelry, and accessories) and Juice Plus (fruits and vegetables in a capsule and whole food nutrition). With these wonderful jobs that allow summers off and flexibility (and some additional income), she was able to spend her summer traveling around the world (Ireland, Spain, Italy, France, & Grand Cayman). Her husband recently passed level 2 of the CFA exam, so he will be taking level 3 next June. This means a ton of studying for him and waiting at least another year before trying to expand our family (so no news on that front ;-) ) alisonleelynch@gmail.com
Melissa Mara (MSOT 13) – Melissa is happy to report that the first 5 months in a full time OTR/L position have gone very well! She is working at the Rehabilitation Institute of Chicago with a varied caseload, seeing both pediatrics and adults with a wide variety of diagnoses. The organization provided mentoring and a supportive environment for a new graduate. She has learned so much in a very short amount of time! She is hoping to become more involved in research in the future, and have realized it is definitely something she misses doing on a daily basis. Outside of work, she is enjoying having more time to explore Chicago and spend time with her family and friends. mmara889@gmail.com or mmara@ric.org

Lauren Reynolds (Strnad) (OTD 12) Lauren continues to work part-time in the NICU lab and enjoys her position as a research coordinator. She and her husband, Matt, welcomed their first child, Madison Rae Reynolds, in April. Lauren loves being a mom and spending most of her time at home with Madison! Matt is finishing his residency this year as Chief in neurosurgery, and they will move to Atlanta (Emory) next June. laurenreynolds912@gmail.com

Cori Zarem (OTD 12) is still working at Cleveland Clinic and is focusing her work entirely on intensive care, both pediatric and adult. She will be at the Johns Hopkins critical care conference in October. They’ve been working on animal assisted therapy for vent patients and end of life care. She says, “It’s so cool to see the immediate change in these patients!!” She is also getting married in April and is having a blast planning the whole thing! She and Aaron are so excited for the next chapter in our lives. Cszarem86@gmail.com

Tess Greene (OTD 15), Karen McInnis (MSOT 13), Kristin Seefeldt (MSOT 13), Lisa Tiltges (OTD 13), and Stephanie Walker (MSOT 11) are MIA for this edition’s update. We hope they are doing well and look forward to hearing from them in the future!