Keeping TABS on the LAB

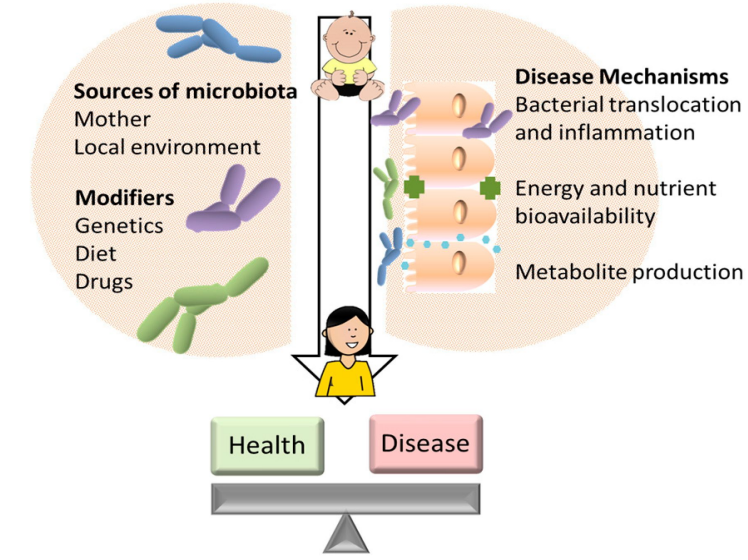
UPDATES ON BRIGHAM YOUNG UNIVERSITY'S COGNITIVE DEVELOPMENT RESEARCH

July 2021

WHAT ARE GUT MICROBIOTA?

Microbiota are bacteria and other organisms that naturally live inside our bodies. They can be found inside our mouths, genitals, and skin, but the majority live inside our stomachs. In our lab, we study this "gut" type, specifically those which are found in lower parts of the digestive tract.

Even though they sound gross and germy, our microbiota actually help our bodies stay healthy by creating chemicals needed for digesting food, feeling emotions, and fighting disease. Click here to learn more.



https://www.mdpi.com/children/children-05-00160/article_deploy/html/images/children-05-00160-g001.png

WHERE ARE WE? MID-PHASE 1

We are finishing up screening and matching participants and will be sending out the remaining fecal sample kits.

Please watch your mailbox for the test tube. It will arrive in a grey padded envelope with instructions included. Be sure to contact us once the sample is collected and in your freezer and we will schedule a pickup time within 48 hours.

We are almost ready to begin collecting round 2, which will assess ASD symptoms in the infants. This will include cognitive, language, and behavioral screenings.

DID YOU KNOW?

- 7 out of 11 infants diagnosed with Autism Spectrum Disorder have eating and gastrointestinal problems
- The most common gastrointestinal problems in individuals with autism are constipation, diarrhea, and abdominal pain.

While these facts don't prove that gastrointestinal problems cause autism, or vice versa, they do demonstrate the link between the mind and the gut!

Adia Hansen; Click here to read the full article

MEET OUR TEAM: Sarah Kamhout

Sarah is from Idaho and loves potatoes, Star Wars, and studying the human mind. She is majoring in neuroscience, minoring in psychology, and plans on becoming a clinical psychologist. While she loves many aspects of the field, she is especially fascinated by the connections between physical and mental health and hopes to one day incorporate biologically based treatments into her practice. Sarah recently completed her Honors Thesis, which included conducting her own research, tracking and analyzing the data, writing a manuscript, and finally successfully defending her findings to her panel of mentors.

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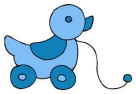
12 MONTH MILESTONES

The following are some characteristics and behaviors you may notice in your infant beginning around 12 months. If you have concerns about any late or missing benchmarks, please reach out to your pediatrician. You can also learn more here or here.

Becoming more independent! Testing physical abilities and wanting to help dress themselves.



Desire to spend time with others! Babies may be shy of strangers, but they are eager to interact with caregivers and siblings.

Beginning to make distinct babbling sounds, which will eventually lead to forming words.

Can follow very simple instructions and can understand what it means when someone tells them "no".

NEWS FROM OTHER MICROBIOTA LABS

A recent study found that kefir, a traditional fermented milk drink that is high in probiotics (bacteria that is good for the gut), changed the microbiome composition of mice and helped reduce their repetitive behaviors. These mice were specifically designed to represent autism risk as they carried two gene segments previously associated with higher likelihood of onset. In humans, repetitive actions are sometimes called "stimming" and can look like rocking, pacing, flapping, or picking. While these repeated actions are often calming to the child producing them, they can be disruptive in school and sometimes also physically harmful to the child or those around them. Interestingly, scientists found that the probiotics in the kefir didn't just stop the stimming, they also altered gut-brain axis pathways associated with autistic traits and increased levels of anti-inflammatory compounds associated with stress reduction. Being able to reduce the frequency or intensity of these behaviors, and the stress that may trigger them, if desired, could be helpful for children who find the repetitive behaviors inconvenient or distressing. More studies are needed, however, to see if the same effects that were observed in mice will also present in humans.

Sarah Kamhout; Click here to read the full article

Individuals with autism have many behavioral symptoms and current research is working to see if there is any connection between gut bacteria and the presentation of symptoms. A recent study looked at whether or not mice with gut bacteria from human donors with autism would show any behavioral differences. They found that there were in fact changes in the behavior of the mice that were consistent with the behaviors seen in humans with autism. This does not conclude that gut bacteria is a cause of autism but it may contribute to an individual's behavioral symptoms.

Karyna Dorman; Click here to read the full article

While there is a lot we still don't know about autism, clinical experience shows us that one of the most effective ways of treating it is through an integrative approach. As part of this, studies of environmental impacts on genetics combined with human biology has shown a lot of potential in shaping and influencing growth and development. Identification of some human bacteria and other environmental factors that impact gene regulation could have incredible impact in ASD management and understanding. It's possible that diet alterations can change the microbiome in as little as a day. This makes it a good candidate for more research and testing,

Joseph Bartling; Click here to read the full article

Let Other Parents Know

If you know other families with children who have autism or who may be interested in one of our studies, please feel free to pass along one of the flyers attached to this email. We are also always grateful when people share our flyers or links to the lab website on social media outlets like Facebook, Twitter, or Instagram! If you know of a business that may be willing to post a flyer, please also let us know.
Thanks for helping us spread the word!

Share our flyer on Facebook to be entered to win a prize! Details on our website here.

MINDFULNESS WITH YOUR KIDS

Is the stress of COVID-19 getting to you or your kids? Here are some fun ways to practice mindfulness as a family! Click here for more!

STARFISH BREATHING

Help your little one trace their hand as a guide to deep breathing.

FIVE SENSES EXERCISE

Use all your senses to focus on the present moment.