

Discussion with Britt Gratrek, on the gut-brain axis

- What's the connection between traumatic brain injury (TBI) and the gut microbiome?
 - o Study giving oral doses of sodium butyrate repaired the blood-brain barrier in patients with TBI and helped protect against symptoms
 - o Ex study: <https://www.ncbi.nlm.nih.gov/pubmed/27017959>
- Are there extremophiles living in humans?
 - o Not bathing more than once every two months increased your skin microbial diversity, including extremophiles living in your belly button
 - o <https://news.nationalgeographic.com/news/2012/11/121114-belly-button-bacteria-science-health-dunn/>
- Does the serotonin produced in your gut stay in your gut?
 - o Pretty sure some migrates, but the signal appears to transmit
 - o Hannah Tavalire: there is the highest density of serotonin receptors in your gut, serotonin helps with gut motility
- Does probiotic relief psychotic symptoms?
 - o Yes it helps but only as long as the probiotic was given, after the treatment stopped the symptoms returned
 - o Very little study on this
- What's the treatment for chronic TBI?
 - o Physical/occupational therapy, speech/language therapy
 - o Board games, like categories
 - o Usually need a team of specialists to deal with the multiple symptoms and complexity
- Long term effects of TBI?
 - o Behavior, migraines
 - o Depends on injury, genetics, brain chemistry, and your mental health coping
 - o w/o help there is increase in uncharacteristic aggression, suicide, and memory problems
- Link between traumatic events and the microbiome?
 - o Causes anxiety for sure (Adverse Childhood Experience study)
 - o Link is there but not sure exactly what's going on
- How do you measure migraines or subjective experiences?
 - o There is a pain scale but it doesn't capture nuance to symptoms, like vision loss
 - o Many times relying on self-reporting but very hard to do if you have memory loss
- Doing any physical measurements of trauma?
 - o Would like to get but need to establish trust and community link before doing physical sampling
 - o Want to follow up with saliva cortisol and skin stress test
- TBI and incarceration and prison diets?
 - o No studies in prison diet and gut microbes that we know of
 - o Diet supplements improved prison behavior: <https://www.ncbi.nlm.nih.gov/pubmed/12091259>
 - o Gut microbiome and aggression in dogs: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6330041/>