

# Dual Diagnosis

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## The gut-brain axis: The microbiome's role in brain disorders

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The gut-brain axis refers to the biochemical signaling taking place between the gastrointestinal tract (GIT) and the nervous system, often involving the intestinal microbiota (the microbiome), which have been shown to play an important role in healthy brain function. Antibiotics, antimicrobial cleaning agents, trauma and carcinogenic compounds in our environment, to name a few, have contributed to the destruction of the microbiome and host immunity. In brain disorders such as autism, the environmental onslaught has eroded the immature gastrointestinal tract and allowed pathogenic organisms like viruses, bacteria, and fungus to enter the bloodstream, penetrate the blood-brain-barrier (BBB) and effectively force a protective neuro-immune shutdown of blood flow to key parts of the brain. Research now shows that disturbances in the microbiome, resulting in gut permeability, is at the root of rheumatoid arthritis, allergies, asthma, eczema, Crohn's/colitis, diabetes, cancer and many other chronic conditions. This breakdown in the GIT and the consequential disruption of the BBB is the underlying biological process behind brain disorders such as autism, ADHD, schizophrenia, Alzheimer's, Chronic Fatigue Syndrome/Chronic Fatigue Immune Deficiency Syndrome (CFS/CFIDS), anxiety, depression, and more.

### Biography

Lisa M Stephenson has completed her undergraduate degree at the University of Toronto in 2003 and is certified to teach in Ontario and New York State. She has spent the last 6 years diligently researching and analysing the emerging medical research on autism and related brain disorders. She recently founded the Autism Revolution for Medical Intervention (ARMI), a nonprofit, volunteer led organization working towards redefining our understanding of autism and related brain disorders and currently serves as Principal and Executive Director.

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