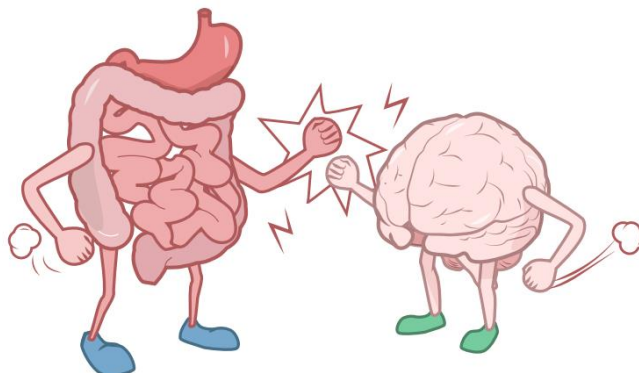


Disorders of Gut Brain Interaction (DGBIs): A Guide to the Brain and Belly Connection

How your brain is fighting your belly - You can fight back!

What is a disorder of gut brain interaction (DGBI)?

DGBIs are a group of conditions that affect the brain and belly, which constantly send signals to each other. When the brain senses stress or danger, the body responds with electrical and chemical signals. These signals may make the heart beat faster or the belly feel butterflies. Typically, when the stress or danger is gone, the brain tells the body to calm down. Kids with DGBIs have abnormal nerve pathways and continue to have physical symptoms even after the stress or danger is gone. Although the brain may not consider something dangerous or stressful, the body can still react with physical symptoms.



Belly & brain not getting along

What else might this be called?

Kids with DGBIs might be diagnosed with visceral hypersensitivity, somatic symptom disorder, chronic or functional abdominal pain, chronic nausea, chronic vomiting, impaired motility, or irritable bowel syndrome. They may go to multiple doctors' appointments and have tests, procedures, and treatments completed, without feeling better. They often come across many people who do not understand or believe their symptoms.

What are things that make the symptoms worse?

Poor diet and nutrition, some foods, dehydration (not drinking enough water), poor sleep habits, laying around all day (not moving enough), and stress or worry can make the symptoms worse. When the brain is responding to these things, life can be disrupted in many ways – sleep, school, friendships, hobbies, and other daily activities might suffer.

A focus on functioning:

Healthy Foundations

The best way to reduce the symptoms and feel better is to focus on doing day to day activities. Since feeling symptoms can sometimes get in the way of functioning, the care team is dedicated to helping kids learn skills to get back into their routine.

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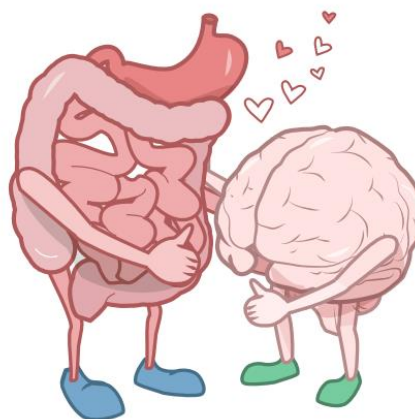
Kids will be encouraged to practice **SMART** lifestyle habits even when not having symptoms:

- **Sleep:** Go to sleep and wake up at the same time each day. Aim for 8 to 10 hours of sleep per night and avoid daytime naps. Turn off electronics 30 to 60 minutes before bed.
- **Meals and Fluids:** Keep a healthy, balanced diet and drink plenty of water.
- **Activity:** Practice regular physical activity and go to school every day. Start slowly. Increase the intensity and amount of exercise so that your body gets used to it.
- **Reduce stress:** Stress can be physical, environmental, mental, or emotional. Do things that help yourself relax such as the coping strategies listed below.
- **Thinking strategies:** Try not to worry or think too much about your symptoms as doing so can make it worse. Focus on things you can control, such as using the coping strategies below.

Nutrition: Strengthen Your Belly

Feeding can often cause a lot of discomfort at first because of nausea, pain, or bloating. When the belly receives the right nutrition, it builds new nerve pathways to the brain that reduce the symptoms. It may take some time, but the symptoms should get better in the long term.

Example: Touching Your Toes. The first time, you may not be able to reach your toes. It may be difficult, painful, and the muscles feel tight. When you keep trying, the muscles begin to stretch. It's less difficult, less painful, and you may reach them!



Coping Strategies: Strengthen Your Brain

Kids will be encouraged to identify strategies that help them cope with symptoms in the moment and feel in control. Some examples include:

- ☐ Distraction: music, arts and crafts, talk about things they enjoy, take a shower
- ☐ Take slow, deep breaths
- ☐ Use a stress ball
- ☐ Tighten and relax different parts of the body
- ☐ Journal
- ☐ Imagine a happy or relaxing place
- ☐ Grounding or mindfulness exercises, such as name things using the 5 senses
- ☐ Think about things going well or remember a time in the past that turned out okay
- ☐ Social support: talk to someone they trust about how they are feeling
- ☐ Have a snack or drink, such as ginger or peppermint candy, water, tea, or popsicle
- ☐ Aromatherapy: consider certain scents after talking with your doctor
- ☐ Add in your own: _____

Important reminders for your child:

Parents can help take the focus off symptoms by doing the following:

- Avoid asking questions or talking to your child about the symptoms.
- Let your child bring symptoms up to you. Trust that your child will come to you for help if needed.
- When your child complains of symptoms, acknowledge the feelings, and then distract your child.
- Encourage active coping strategies (see above).

Healing takes time

Keep in mind that it takes time for the symptoms to go away. Your child's symptoms will continue to improve over time when sticking to the care plan. Our care team is dedicated to following your child to check in, provide relief, and improve your child's functioning.

Kids take responsibility: "I can do this!"

Your child's treatment is set up to empower them to be in charge of their own treatment! Your child's care team will work with them to increase their independence and coping skills. Kids often feel out of control or controlled by their symptoms. By increasing their responsibility for their own treatment, kids can control their symptoms.

Who may be a part of your care team:

- **Medical Team:** Attending physicians, fellows, residents, nurse practitioners (NPs), and physician assistants (PAs) all specialize in the belly. These individuals examine your child and determine a workup and treatment plan.
- **Behavioral Health:** Psychologists, licensed clinical social workers, behavior analysts, and psychiatrists teach ways to cope with symptoms and help kids get back to the important and fun parts of life. Psychotherapy also helps your child identify and deal with stress. Psychiatrists may recommend medications to help address mood or anxiety.
- **Social Work:** Medical social workers identify community resources and other supports, such as school plans. Families can talk to them about stress and other problems that arise.
- **Nursing:** Nurses care for your child by following the treatment plan and encouraging kids to make progress towards their goals.
- **Child Life:** Child life specialists help prepare kids for medical procedures and provide coping support, education, and play during a hospital stay.
- **Integrative Health:** Integrative health clinicians use alternative, mind-body techniques that help improve symptoms and stress. They may use yoga, nausea bands, mindfulness, reiki, acupuncture, breathing techniques, aromatherapy, or massage.
- **Safety Observer:** This is a companion that helps to keep your child safe.
- **Pet Therapy:** Dogs visit kids in their hospital rooms to bring joy and comfort.
- **Creative Arts:** Art and music therapists teach effective, creative techniques to promote self-management of stress, chronic pain, and anxiety related to illness.



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