

# Gut: Lifestyle and Behavior

Hey, everybody, in this presentation we're going to talk about lifestyle and behavioral modifications for addressing gastrointestinal issues. So far, we've been talking about primarily diet and supplements and medications, but these lifestyle and behavioral changes can be every bit as important, and in some cases more important for particular patients.

It's really helpful to keep in mind that the gut is just one big bundle of nervous system tissue. Some have even referred to it as the second brain. There is 400 times more serotonin produced in the gut than in the brain and 500 times more melatonin produced in the gut than in the pineal gland. The intestinal mucosa is infiltrated by the myenteric plexus, which is a network of nerve fibers and neuron cell bodies that are influenced by signaling from the brain. Of course, we've anecdotally recognized this connection between the gut and the brain with sayings like, "I have a gut feeling" or "I have butterflies in the stomach," so this doesn't come as a surprise to most people, but it's interesting that it's only been an intensive subject of research probably for the past 20 or 30 years.

There is a family of peptides called corticotropin-releasing factors, CRF, that is responsible for coordinating the body's response to stress, and CRFs have potent effects on the gut through modulation of inflammation, increase of gut permeability, contribution to visceral hypersensitivity, increased perception of pain, and modulation of gut motility. Not only does stress affect the physiological function of the gut, but it has also been shown to actually cause changes in the composition of the microbiota, possibly due to the changes in neurotransmitter and inflammatory cytokine levels. Research recently in mice has found that exposure to stress led to an overgrowth of certain types of bacteria while simultaneously reducing microbial diversity, which is a key indicator of health, in the large intestine of the stressed mice. Furthermore, the disruption of the gut microbiota increases susceptibility to enteric pathogens, which of course would be expected with reduced microbial diversity.

Given this, stress reduction and stress management should be a crucial component of any gut healing program, but unfortunately it's often overlooked. It can really have profound effects, and as I said, in some patients those effects can exceed the benefit of any dietary, nutraceutical, or medical intervention. Stress management induces a parasympathetic response known as the rest-and-digest response in contrast to the fight-or-flight response, and you can see the whole unit on stress management in the exposome track for more general recommendations, but specifically I've found three modalities to be particularly helpful for gut-related pathologies. Mindfulness-based stress reduction, in particular the body scan, acupuncture, and hypnotherapy for IBS, particular IBS kind of hypnotherapy.

So there are several studies on mindfulness-based stress reduction (MBSR) and IBS. In one study, mindfulness training led to greater reductions in symptom severity than support group, both immediately after training and at three-month follow-up. Another study compared MBSR with being on a wait list, and the dropout list for the wait list group was 44 percent versus 23 percent for mindfulness-based stress reduction, and the MBSR group showed significant improvements at six-month follow-up. So mindfulness-based stress reduction, I think you've probably heard me

talk about it elsewhere in the program by now, but it's a system that combines mindfulness practice with yoga and meditation. One of the methods within the MBSR framework is called the body scan, and it's a system of coordinating breath with visualization, and it's really kind of a progressive relaxation technique, if you're familiar with that. I've found that to be especially helpful in my own experience and also with patients who are dealing with GI conditions. There are several videos that your patients can use to learn this technique online, and there are also classes in many local communities.

The acupuncture research is interesting. As a kind of side note, researching acupuncture is highly problematic, because it's almost impossible to get an adequate control or placebo, because even stimulating non-acupuncture points can have a physiological effect or just lightly stimulating acupuncture points can have a physiological effect, but be that as it may, there is some research that suggests that acupuncture can be helpful for IBS and other gut issues. So there was one interesting study with three groups: the first group was put on a wait list and just observed, the second group received placebo acupuncture only from a practitioner that was kind of cold and not really attentive, and the third group received placebo acupuncture plus a really warm and attentive interaction from a practitioner. So the outcome was that 28 percent of patients on the wait list reported significant relief, 44 percent of patients receiving placebo acupuncture, and I think in these cases these were acupuncture needles inserted at non-acupuncture points, which as I've argued on my series on acupuncture on my blog, would be expected to produce a physiological response. I wouldn't actually consider that to be a placebo treatment, I'd consider that to be an active treatment. But then, 62 percent of patients who received the placebo acupuncture plus the warm and caring interaction got better, so this is not only evidence that acupuncture can be helpful, but it's evidence of the importance of a warm and caring interaction in the treatment, in terms of the clinical outcome. If you look at the research overall for acupuncture, a lot of the studies show that the effects are not distinguishable from placebo for IBS, but as I just mentioned, there are some caveats to understanding that research, and one of the problems with this over-reliance on randomized clinical trials in allopathic medicine is they're an attempt to separate the effect of medicine from the relationship between the clinician and the patient, and that's not only impossible, it's actually not desirable in my opinion. We shouldn't be trying to eliminate or reduce the placebo effect, we should be celebrating it, encouraging it, studying it, and trying to amplify it. Of course, if you're a drug company and your main concern is getting your drug approved, then you hate the placebo effect, but if you're a clinician interested in helping patients and not causing harm, then learning to harness the placebo effect is a worthy use of time. In my clinical experience, acupuncture helps to settle the nervous system tremendously, and settling the nervous system can be very effective for addressing IBS, so the research is murky, but clinical experience suggests that acupuncture can be very helpful.

We covered the research on hypnotherapy and IBS earlier in the gut treatment protocols section. It's, according to the research, one of the most effective treatments available along with a low-FODMAP diet.

There are several other behavioral and lifestyle factors beyond stress management that are important. Mindful eating, eating in a way that supports healthy digestion, is very important for people that have digestive issues. Try to encourage your patients to minimize distractions while

eating, so not eating while they're in the car on the way to work, while watching TV or using the computer, advising them not to eat when they're very upset or they're in a fight-or-flight type of response, taking several moments to relax and breathe and slow down a little bit before eating, if that's the case, or just wait until those feelings have abated a little bit.

## Chew Chew Chew!

- 1 Take **smaller bites** of food to begin with (*easier to chew smaller pieces*)
- 2 Chew **slowly** and steadily
- 3 Chew until your mouthful of food is **liquefied** or lost all of its texture
- 4 **Finish chewing** and swallowing completely before taking another bite of food
- 5 Wait to **drink fluids** until you've swallowed

Source: mercola.com

Chewing well is very important in the context of mindful eating. Chewing breaks down your food from large particles into smaller particles that are more easily digested. Chewing also increases the exposure of food to saliva, which contains digestive enzymes including lipase and amylase, so the longer you chew, the more time these enzymes have to start breaking down your food, which makes digestion easier on your stomach and small intestine. The amount of chewing your food requires will obviously vary depending on its type and texture, but that said, there are some guidelines here on the slide. Take smaller bites of food to begin with, it's easier to chew smaller pieces. Chew slowly and steadily. Chew until your mouthful of food is liquefied or it's lost all or most of its texture. Finish chewing and swallowing completely before taking another bite of food, and then wait to drink fluids until you've swallowed your food. Some advise not really drinking much fluid at all with meals, and certainly not cold water, and that's something that can be helpful to keep in mind as well.

Another tip is to eat only until about three-quarters full. People with digestive problems often just have a reduced digestive capacity, they're just not able to process as much food at any given sitting, so eating until you're extremely full or overfull puts a lot of stress on the digestive system. Leaving some room in your stomach makes it easier to process your food.

Proper sleep is crucial to digestion, just as it's crucial to almost everything else. Given sleep's importance to the nervous system and the fact that the gut is nervous tissue, this relationship

shouldn't be surprising. A study found that morning IBS symptoms were increased when the quality of sleep was poor the night before and decreased when the subject had slept better. Another study of women with IBS found that sleep disturbance one night predicted gastrointestinal symptoms the following day. Disruption of biologic rhythms secondary to night shift work has been associated with gastrointestinal symptoms, so all of this of course suggests that sleep is especially important for gut health.

Exercise can also be helpful for patients with GI conditions. It reduces stress and promotes blood flow, both of which are really important. The type of exercise depends on the patient and their overall health condition. If the patient is very depleted, gentle exercises like yoga, tai chi, qi gong, walking, or swimming, maybe light cycling would be best. If the patient is robust overall, more intense forms of exercise could be tolerated, even beneficial.

## Summary of behavior & lifestyle modification recommendations

Intervention	Comments
Manage stress	MBSR, acupuncture, hypnotherapy
Eat mindfully	Chew food well, eat in relaxed environment until only 3/4 full
Get adequate sleep	7-8+ hours recommended
Exercise appropriately	Depends on overall health status of patient

So here's a summary of the behavior and lifestyle modifications that you want to keep in mind for patients with gut issues. Again, it's to manage stress with things like mindfulness-based stress reduction, acupuncture, and hypnotherapy; eating mindfully, chewing food well, eating in a relaxed environment until only three-quarters of the way full; getting adequate sleep, seven to eight hours recommended, you can see the unit on sleep in the exposome track for specific recommendations there; and then getting the appropriate amount and type of exercise, depending on the overall health status of the patient.

Okay, that's it for now, see you next time.