

gut check

They don't call it "the second brain" for nothing. Your digestive tract is a smart system that is acutely sensitive to your feelings. Here's how to keep it healthy (and happy).

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Your gut is essential for more than just instincts. It has to make sure that your body gets fed, which is a very complex job: The stomach churns food; the small intestine breaks the mixture (called chyme) into smaller molecules so that the body can absorb nutrients; and the large intestine converts what's not needed into—well, you know. When the process works as it should, you're happily oblivious. But when one part goes awry, so can your quality of life. For the good of your gut, here's the full digest on what's normal and what's not.

the psychology of your stomach

Why do we have so little control over what goes on in the digestive tract? Because the gut has a mind of its own.

your other brain

The gut's nervous system, sometimes called "the second brain," is a network of more than 100 million neurons (cells that transmit information through electrical and chemical connections) that runs the length of the gastrointestinal tract. Of course, this "brain" doesn't generate emotions or hold on to memories. But it can operate the digestive system independently of the brain in your head, deciding when to move food from the stomach to the small intestine, when to release hormones, when to expel waste, and even when

to send food back from whence it came. (That's why you can't resist the urge to vomit when you're sick.) "The brain doesn't like to micromanage," says Michael D. Gershon, M.D., a professor of pathology and cell biology at Columbia University and the author of *The Second Brain*. "It leaves the details of digestion up to the gut."

To make these gut decisions, the second brain uses many of the same tools that the regular brain uses—chief among them, the neurotransmitter serotonin. In fact, 95 percent of the body's serotonin stockpile is in the gut. While the brain's serotonin helps create feelings of well-being, the serotonin in the gastrointestinal tract is its "sword and shield" against hostile agents, such as bad bacteria. "Serotonin in the gut can mobilize inflammation, detect potential invaders, and essentially get the gut to mount a full-fledged defensive reaction," says Gershon.

the mind-body link

"If your stomach disputes you, lie down and pacify it with cool thoughts," said the legendary baseball player Satchel Paige back in 1953. Turns out, he was on to something. The gut is intricately linked to your state of mind, as you know if



you've ever had butterflies before a big date or felt sick before an exam. The primary connection is the vagus nerve, which starts at the base of the brain, travels down the neck and across the chest, then branches throughout the gut. Most of the messages that travel the vagus nerve go from the gut to the brain, not vice versa. In a healthy person, they are mostly unconscious: benign updates about routine gut activity so that the brain can maintain equilibrium in the body. But in people with digestive issues the messages aren't so pleasant. Imagine that your gut is in distress—maybe you have painful bloating. "Now instead of sending nice messages that all is well, the gut is going to send the brain distress signals," says Gershon.

"It's possible that these unconscious warning messages will become so overwhelming that they'll materialize as anxiety and depression." You know the expression "Which came first, the chicken or the egg?" It's the same with digestive issues and anxiety. "We don't know whether stress is causing the bowel to go wrong or the bowel going wrong is causing mental stress," says Gershon. That said, there's no question that "adding a singular stressful event on top of chronic stress makes chronic digestive symptoms worse," says Yuri Saito, M.D., a gastroenterologist at the Mayo Clinic in Rochester, Minnesota.

the butterfly effect

This perpetual stress and distress is different from a plain old case of nerves. When you have a sudden bout of diarrhea before a big interview or presentation, your body is probably going into fight-or-flight mode. As your brain issues a surge of stress hormones, it signals the body to put all the focus on the problem at hand—leaving the regulation of digestion on the back burner. In response, your gut may go into overdrive (otherwise known as diarrhea or vomiting). Feeling butterflies in the stomach is just a milder version of the same reaction.

5 healthy gut strategies

Often it's the simple things that keep your system stable.

1. Commit to exercise.

Exercise gets the colon moving, helping you maintain regularity. It's also useful when dealing with irritable bowel syndrome, or IBS: A recent Swedish study published in the *American Journal of Gastroenterology* showed that people who exercised three to five times a week for 12 weeks had significant improvement in IBS symptoms; non-exercisers didn't see the same benefits.

2. Chew your food.

"To be happy, our gastrointestinal tract needs us to take time for our meals and chew our food thoroughly and slowly," says JJ Virgin, a certified nutrition specialist in Palm Desert, California, and the author of *The Virgin Diet*. Smaller, more frequent meals may also help you to avoid overwhelming the digestive system.

3. De-stress.

"Psychological interventions can be very helpful when it comes to treating gastrointestinal symptoms," says Saito. She suggests training in mindfulness, a simple meditation technique that involves focusing on the present moment and

reframing how you respond to stress. Talk therapy, yoga, and even hypnotherapy have also been known to help.

4. Take a probiotic.

The gut is home to tens of trillions of bacteria, of which about 10 percent are "bad" (causing digestive distress) and 90 percent "good" (controlling the bad bacteria). *Probiotics* is just another word for "good bacteria." Ingested regularly, they'll help skew the ratio of bacteria in your gut to the good. Some forms of yogurt and kefir contain probiotics, but in nowhere near the amounts that supplements deliver. How to pick one? Shekhar Challa, M.D., a

gastroenterologist in Topeka, Kansas, and the author of *Probiotics for Dummies*, recommends that you look for bottles with 5 billion or more CFU (colony-forming units) and at least five strains of bacteria (with tongue-twister names like *Lactobacillus acidophilus*). Each person's gut is different, so if you're taking a probiotic for relief from a squirrely gut and nothing changes after a few weeks, it's worth trying another one.

5. Keep an eye on it.

This may not sound appealing, but one of the easiest ways to check your gut health is to peek into the toilet before you flush. Red can indicate blood in the lower gastrointestinal tract, which could be a sign of

colorectal cancer, Crohn's disease, ulcerative colitis, or hemorrhoids. Black can point to upper-gastrointestinal-tract bleeding, such as stomach ulcers. (Just be aware that iron tablets and foods like beets can have harmless, color-altering effects.) Firm is good, hard could mean dehydration or constipation, and no shape means diarrhea. Skinny (pencil width) could also be a cause for concern. "It might indicate a narrowing in the colon, possibly from a tumor," says Lawrence J. Brandt, M.D., the chief emeritus of gastroenterology and a professor of medicine and surgery at the Albert Einstein College of Medicine, in New York City.

eat, the time you eat it, any symptoms you have, and the stress and emotions you experience each day. This will help you uncover your lifestyle and dietary triggers.

AND IF YOU'RE STILL HAVING TROUBLE

1. SEE A SPECIALIST. It's important to make sure that you don't have a serious problem, and a gastroenterologist can make that call. When lifestyle changes fail to calm your gut, prescription medication (such as anti-spasmodics, antibiotics, or antidepressants) can help.

2. KEEP AN FFS DIARY. "That stands for 'food, feelings, and symptoms,'" says Elaine Magee, a registered dietitian in Northern California and the author of *Tell Me What to Eat If I Have Irritable Bowel Syndrome*. Magee suggests writing down everything you

3. EAT MORE FIBER, AND DRINK MORE WATER. If you suffer from constipation, make an effort to consume 50 grams of fiber a day, suggests Virgin. Slowly increase your intake by 5 to 10 grams every couple of days until you reach your goal amount.

4. CUT BACK ON ALCOHOL AND CAFFEINE. These are digestive stimulants that can send you into turbo mode. If you have diarrhea, your digestion is already too fast—you don't want to speed it up any further.



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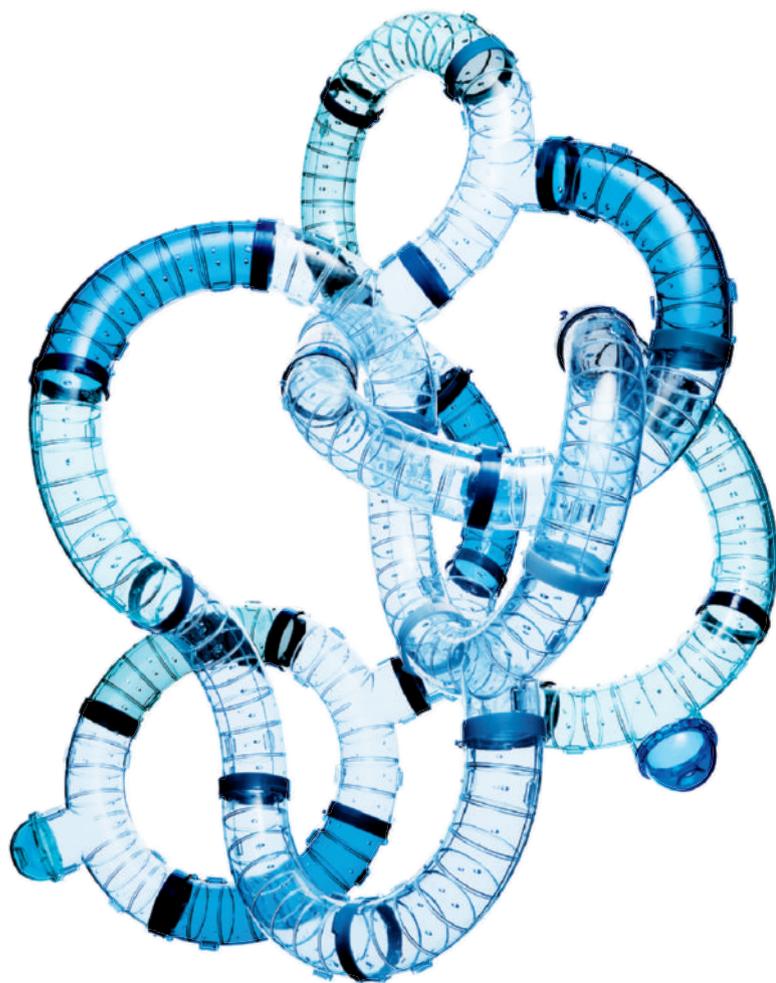
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gut gripes

Some digestive-system signals are perfectly normal.

“Every day around 11 A.M., my stomach gurgles. Loudly.”

A low growl when you're hungry or right after eating means gas and liquid are mixing together as your small intestine contracts. While it might seem like everyone in the conference room can hear it, “others usually don't notice,” says Brandt. If you're hearing loud, high-pitched squeals, or if the noises are accompanied by abdominal

pain, the healthy growling process is happening too aggressively, and you may want to see your doctor to find out why.

“I'm going three times a day.”

Has that always been the case? As long as you're on a regular routine and you don't have severe bloating or cramps between bathroom visits, you're good to, well, go. (The same is true if you go just a few times a week.) That said, if you're heading to the loo more than four times a day or fewer than three times a week and feel uncomfortable, consider consulting your physician to rule out a more serious problem.

“I feel so bloated at the end of the day.”

It's normal if your abdomen protrudes a bit by late afternoon. “At that point, your muscles have fatigued and are less capable of restraining your intestines, so they bulge slightly,” says Brandt. It's also no big deal to feel slightly swollen after a large meal. But an alarm should go off if your abdomen frequently gets measurably bigger and stays that way for hours. That may signal an intestinal obstruction, a problem with the way your intestine contracts, an electrolyte disorder (an imbalance of salts in the blood), or liver or ovarian disease.

“I got home just in time!”

If you've got to go when you hit your front door, it's not lucky timing. If you weren't at home, says Brandt, that urge may not have come at all. Our guts and brains are so connected that when you enter the place where you usually do your business, the brain alerts the gut to get moving. That's also why you may be constipated when traveling. Away from your home base, your brain may fail to send the “go” signal to your gut.

IF YOUR GUT IS ALWAYS GRUMPY

Everyone has diarrhea every now and then—from a bad turkey sandwich, say, or a handshake from someone who's sick, or a shift in schedule. And some constipation is normal with changes in routine or diet.

SIGNS OF TROUBLE

If you frequently suffer from diarrhea or constipation, or alternate between the two, you could have irritable bowel syndrome, or IBS. It's among the most common digestive diseases, affecting 10 to 15 percent of the population. IBS isn't just a catchall diagnosis for anyone with mild digestive distress. “The definition for it is chronic abdominal discomfort associated with altered bowel habits,” says Brandt.

While there's no hard-and-fast understanding of what causes IBS, one theory is that symptoms stem from an ultrasensitive gastrointestinal tract. “In people with IBS, the bowels are sensitive to the stimuli of normal digestion at a much lower level than in the average person,” says Brandt. “Their brains interpret those sensations—which a normal person wouldn't notice—as pain.” Symptoms ensue as a result.

MORE SERIOUS PROBLEMS

Frequently troubled digestion can signal other conditions, too. Check for blood in the stool, narrowing of the stool, unexplained weight loss, diarrhea for more than 48 hours, loss of bowel control, or awakening from sleep for bowel movements, any of which could indicate a serious (but often treatable) illness, such as inflammatory bowel disease, celiac disease, or colon cancer.