



What's

Superbug wreaks havoc in hospitals and beyond: how to help people overcome *C. diff* infections

Charlie, an engineer in his early 60s, first came to see me because he was diagnosed with *Clostridium difficile*, or *C. diff*, for short. When this strain of bacteria overgrows in the gut, it can lead to severe—even lethal—infection.

C. diff is a relatively modern problem, with major outbreaks first occurring in the early 2000s. Often acquired in hospitals or long-term care settings, it tends to strike people after antibiotics have wiped out the “good” intestinal flora. The main symptom is debilitating diarrhea, which is triggered by toxins given off by the bacteria. According to the Centers for Disease Control and Prevention, *C. diff* is responsible for more hospital infections than any other bacteria; each year about half a million people in the U.S. get infected—and nearly 30,000 people die from it.

C. diff infection can be hard to treat once it takes hold. The usual first-line treatment is, ironically, more antibiotics to target the *C. diff* bacteria. But this approach doesn't work for many people, and the infection keeps coming back. A growing number of *C. diff* strains have become resistant to antibiotics, having morphed into “superbugs” that even the most powerful antibiotics do not eradicate.

In fact, Charlie had a similar story to tell. He'd had a *C. diff* infection two years

before he came to see me and again a year before that. He was treated aggressively with antibiotics for each bout of *C. diff* and had seemingly recovered ... until the problem returned.

Roots of susceptibility

When a patient comes to me with *C. diff* or other serious infection, I am pretty sure there is something in their past that instigated the issue, such as a hospital stay, use or overuse of antibiotics, or some other experience that weakened the immune system and created susceptibility to acquiring this infection. In Charlie's case, he had been struggling over the previous decade with chronic sinus infections and painful diverticulitis. In the previous 5 years alone, conventional care providers had prescribed 20 to 25 rounds of antibiotics for him—Charlie could not recall the exact number.

The more we learn about antibiotic overuse, the worse the news is. By some estimates, it takes upwards of ten months to rebuild the gut flora diversity to its pre-antibiotic levels after a *single* course of antibiotics.(1) For Charlie, with one after another prescription, we can only guess the extent of imbalance of his gastrointestinal flora. And an imbalance in GI flora can lead to lowered overall immunity.

the Diff?

Charlie was horrified at his third *C. diff* diagnosis. With each bout, the loose stools, abdominal cramping, residual pain, and overall feeling of illness and fatigue had gotten worse. Given these dreadful symptoms and his time lost from work, Charlie's life felt intolerable to him.

A lifelong athlete and health food enthusiast, Charlie was disappointed in his body. He was especially disappointed—to the point of anger—at his host of health care providers. He felt they were only treating his symptoms at any given moment in time but had never seemed able, or interested for that matter, to get to any underlying cause of his chronic infectious ailments. Because that understanding was never achieved, treatment approaches were never aimed in a way that would end the ongoing cycle of infection/inflammation leading to further antibiotic usage. Charlie was several weeks into another antibiotic prescription when he came to my office, but he had seen no improvements in his symptoms.

Sinusitis, diverticulitis, antibiotics

Aside from Charlie's disturbing current pattern of illness, he had been quite healthy for most of his life. His sinus infections began in his 50s, and he was not sure why—he could not pinpoint any factors that might have predisposed him to infections. To try to relieve the

sinus symptoms, he used antihistamines, nasal sprays, and decongestants, and he sometimes got by without an antibiotic. But when the mucus and attendant pain “socked in,” as he called it, he felt antibiotics were his only solution.

Years before, on a routine colonoscopy, Charlie had been diagnosed with diverticulosis (the presence of small pouches, or diverticula, in the lining of the colon), but he'd never been symptomatic. His first experience of diverticulitis (when the diverticula became inflamed or infected) laid him out flat. He was “sick as a dog,” with abdominal pain, fever, and nausea. The twin complaints of sinus infections and diverticulitis, intermittent but coming closer together in the past decade, kept landing him with a bottle of antibiotics in hand.

So, this was the backdrop for and, in hindsight, easy-to-see path to susceptibility to *C. diff*. It's not as if Charlie had developed *C. diff* out of the blue!

Getting the whole story


I spent a long time collecting Charlie's health history and his story, in order to clearly understand the arc of his ailments. That kind of history-taking helps point me to the right homeopathic remedy, while also guiding my recommendations about many other essential and effective naturopathic approaches.

Along with gathering information on Charlie's current ailments, I asked ques-

by AMY ROTHENBERG, ND



In the previous 5 years alone, conventional care providers had prescribed 20 to 25 rounds of antibiotics for him.



The more we learn about antibiotic overuse, the worse the news is... it takes upwards of ten months to rebuild the gut flora diversity.

tions related to a “head-to-toe” review of his bodily systems to learn how he was functioning physically in other areas (e.g., eyes, ears, musculoskeletal, cardiovascular, etc.). For someone who came to me for help with such severe physical symptoms as his, the overall review of his bodily systems was remarkably unremarkable.

I also asked Charlie to describe his basic temperament and how people might describe him. He was a self-defined “control freak” both in his home, which he shared with a longtime partner, and at work. His workspace and car were immaculate. Charlie ran a tight ship. He was punctual and “did not suffer ignorance gladly.” He said that those who worked under him respected him but probably did not like him. He had always worked long and hard; he greatly valued his work and the contribution he felt it made to the world. He had never been interested in a family life *per se*, and he knew early on he’d not have children.

His current GI symptoms included terrible cramping in the lower abdomen that was better with warm applications. At some hours of the day he had diarrhea, and at others he felt constipated. He would often sit on the toilet and be unable to pass stool, loose or hard. When he did evacuate, he never felt completely finished.

Charlie and his infection

I decided on the homeopathic remedy *Nux vomica* for Charlie. Some of the remedy’s indications that matched his symptoms included his constipation alternating with loose stools and the classic *Nux vomica* symptom of ineffectual urging, which is often described as: “wants to, but can’t.” With his current bout of *C. diff*, Charlie was more irritable than usual, and he could not warm up, two substantial confirmatory symptoms for the remedy *Nux vomica*. I believe that *Nux vomica* is the remedy Charlie needed

during this acute moment of illness AND that it was also his constitutional remedy, the one that fit his overall constitutional state before he became acutely ill.

When some people become acutely sick, they shift from needing their constitutional remedy to needing a different remedy targeted at their acute ailment—but not so Charlie. I knew this because the nature of his presenting acute symptoms fit within what I knew *Nux vomica* could treat. Also, his physical general symptoms (e.g., chilly body temperature and emotional tendency toward irritability) were not only still the same as they were before he got sick—they were worse. That underlying *Nux vomica* constitutional state was illustrated by his fierce commitment to work, his punctuality, and his overall controlling nature. The tendency for sinus complaints with headaches and the GI symptoms related to diverticulitis also fall well within the purview of *Nux vomica* complaints. I prescribed *Nux vomica* 12c twice a day.

Also-ran remedies

In selecting a remedy for Charlie, I initially considered *Colocynthis*, which is indicated when there is diarrhea and abdominal pain, with cutting or cramping, where the person is often very irritable, as Charlie was. However, people needing this remedy need to bend over double and apply hard pressure to the abdomen to find relief, and they are aggravated by eating—neither of which was true for Charlie.

Arsenicum album, a major constitutional remedy often useful in acute diarrhea cases, was another remedy on my differential list, especially with Charlie’s fastidiousness, his chilliness, and his direct way of talking. But Charlie lacked any anxiety whatsoever, which would be uncommon in a person needing *Arsenicum album* who was as symptomatic as he was.

3 Essential Steps to a Healthy Gut

Tried-and-true natural medicine strategies

by AMY ROTHENBERG, ND

When a person comes to me for help with a *C. diff* infection, I offer a two-pronged approach: homeopathic treatment to address the whole person (as illustrated in the accompanying case of Charlie), as well as naturopathic medical approaches to support the person's immune system. Below are some naturopathic suggestions in three broad areas that I consider essential for anyone suffering with a *C. diff* infection. Please note that these are *general* prescriptions; in practice, I tailor recommendations to the varying needs of each individual.

1) Stress less!

We know that the mind impacts the nervous system, and the nervous system impacts the immune system. Add to that, we now know that large parts of the nervous system and the immune system actually reside in the gut. So, stress—either ongoing stress or big ticket stress items—can make people more vulnerable to infections such as *C. diff*. I work with patients to figure out where the stress is in their lives and what they might do to reduce it, whether that means cutting back on overtime work, hiring a housecleaner, or asking a family member for help. We also discuss ways to cultivate activities known to help dissipate stress, as well as to raise one's threshold for feeling it! Think here: daily exercise, hobbies, time with loved ones, meditation, prayer, mindfulness practices, and so on.

2) Rebuild gut flora!

Much of my efforts are aimed at rebuilding healthy flora in the gut, since the lack of flora diversity and robustness is what allowed the *C. diff* bacteria to take hold in the first place.

- First off, I recommend high quality probiotics. I suggest two different brands, one to take in the morning and one in the evening.
- I also recommend a botanical medicine combination that helps to kill off the “bad bacteria.” I use a product called GI MicrobX™ by Designs by Health (with which I have no affiliation). It is a blend of botanical extracts with a long history of use supporting healthy gastrointestinal microbial balance, including *Tribulus* extract, Magnesium caprylate, Berberine sulfate, Bearberry extract, Black walnut powder, Barberry extract, and Artemisinin.
- Another terrific natural antibiotic to target the “bad bacteria” is garlic, which can be eaten liberally. Eating it in food is always best, but taking it by pill can work, too.
- If a person eats and tolerates dairy products, and has the time and inclination, I encourage them to make yogurt at home. I recommend starting with full-fat milk and fermenting upwards of 24 hours. The longer it ferments, the more diverse and robust the bacteria count. It will also be more sour. Eating one-quarter to one-half cup of that yogurt each day would be excellent.
- I encourage people to eat cultured foods throughout the day because of the healthy bacteria they provide. You do not need bowls full but rather forkfuls with each meal. Things like kimchi (a Korean appetizer), raw sauerkraut, other fermented vegetables, miso soup, and kombucha help to bring further diversification and numbers of healthy flora to the gut.

3) Soothe the gut!

- I also prescribe a few things to help build healthy gut tissue, such as the mineral zinc and the amino acid glutamine.
- Oatmeal is a good food to eat, as it's very soothing to an irritated gut.
- I suggest avoiding alcohol and caffeine, which are gut irritants.
- Drinking plain water, herbal teas, or miso broth (as mentioned earlier) is ideal. The best herbal teas are those that are soothing to the gut such as slippery elm, licorice root, and marshmallow root. One commercially prepared tea with this combination of herbs is Throat Coat® by Traditional Medicinals (which can soothe both the throat and gut). Teas made from peppermint and fennel are also calming for the digestive tract; these herbal teas can be purchased alone or in combination products, such as Traditional Medicinals' Belly Comfort™ Peppermint tea, or Celestial Organics' Digestion tea.

Essential complements

In addition to prescribing *Nux vomica*, I advised Charlie on some naturopathic approaches that I consider essential for anyone with *C. diff*. First and foremost, because the stress in Charlie's life was considerable (especially in the realm of work, managing employees, and financial considerations) and because we know that stress makes a person more vulnerable to the type of infection Charlie was experiencing, it was going to be his job to figure out how to both reduce the stress in his life and to cultivate activities that help to dissipate stress and raise his threshold for feeling it! These might include exercise, hobbies, mindfulness practices, spending more time with loved ones, and so forth. I also advised him on a plan for eating foods and taking botanical supplements that support a healthier balance of intestinal flora, as well as soothing the GI tract. For the details, see “3 Essential Steps to a Healthy Gut” at right.

If all else fails...

For patients with recurrent *C. diff* infections who are not getting better with conventional or naturopathic approaches, a fecal transplant may well be indicated. Beyond the *ick* factor, increasingly we understand that changing over the person's whole microbiome may be the best approach, by transplanting fecal matter from a healthy screened individual to the patient in question. Insurance often covers this procedure for people with *C. diff*, and certified “microbiota stool banks” exist for this purpose. Research has found fecal transplants to be about 90% effective in eliminating *C. diff*—which is strong evidence of the importance of having balanced and diverse intestinal microflora.(2)

An overnight success

We never needed to go that route with Charlie. When I called him one week later to check in, he told me the diarrhea had abated the day after our visit. He also reported that he was “following our plan to a T” (not a surprise, considering his disciplined nature and strong motivation) with regard to foods, supplements,

Superbugs & Antibiotic Resistance

This year in the U.S., at least 2 million people will be infected with bacteria that are resistant to antibiotics. "We're in the post-antibiotic era," says the CDC's Dr. Arjun Srinivasan. "We are literally in a position of having a patient in a bed who has an infection, something that five years ago we could have treated, but now we can't." We are warned to "get in and out" of hospitals as quickly as possible, to avoid picking up antibiotic-resistant superbugs, such as *C. diff* (*Clostridium difficile*) or MRSA (Methicillin-resistant *Staphylococcus aureus*).

Dr. Srinivasan explains antibiotic resistance this way: "There are lots of bacteria... And whenever you have that many of an organism, it's likely that one among them will be resistant to an antibiotic. If you use an antibiotic, then that one among the group that is resistant becomes the predominant one. ... So the more antibiotics we put into people, we put into the environment, we put into livestock, the more opportunities we create for these bacteria to become resistant..."

"We really should think about antibiotics the way we think about the environment. ... If I misuse antibiotics, it can have a negative impact on you."

Antibiotics are prescribed unnecessarily up to 50% of the time, says the CDC. So what can you do about antibiotic resistance? Save antibiotic use for serious or life-threatening infections only. Question your practitioner about antibiotics prescribed for you; ask for a culture test first to determine the type of bacteria, then ask for an antibiotic that narrowly targets that bacteria, not a broad-spectrum antibiotic.

What about our food? While Tyson and McDonald's have largely stopped allowing antibiotics in chicken production, antibiotics are still routinely fed to cattle and hogs. Antibiotic-resistant bacteria from manure can contaminate groundwater and spread to plants grown with this water. And when animals are slaughtered, antibiotic-resistant bacteria from their intestines can contaminate the meat. So choose your food wisely, opting for small producers and organic sources whenever possible.

SOURCES:

- "Dr. Arjun Srinivasan: We've Reached 'The End of Antibiotics, Period,'" Hunting the Nightmare Bacteria, *Frontline*, by Sarah Childress, October 22, 2013. <https://www.pbs.org/wgbh/frontline/article/dr-arjun-srinivasan-weve-reached-the-end-of-antibiotics-period/>
- "It's Been One Year Since the World Took On Superbugs. Here's What's Changed." By Alexandra Sifferlin, *Time*, 9/22/2017.

I advised him on a plan for eating foods and taking botanical supplements that support a healthier balance of intestinal flora.

and stress reduction, and he felt like he was starting to regain his energy.

At the one month mark, Charlie told me he'd been having normal bowel movements each day, no constipation or loose stools, and no abdominal cramping. He also said he had decided he was going to start working four days a week, instead of five, as this would allow him to do more of the good things we'd talked about to enjoy his life more—hiking, cooking, and spending time with friends and his extended family.

Charlie's improvement from *C. diff* came very quickly, literally overnight! My other *C. diff* patients have improved also but usually over a longer timeframe. Charlie's fast reaction shows me that it was the homeopathic remedy itself that had helped him the most, as opposed to our other interventions and naturopathic approaches—because changes in diet, supplements, botanicals, and stress reduction typically do not work overnight.

Increased wellness

That said, Charlie's commitment to our overall plan, which we periodically tweak, has served him well. It's been over seven years since that last bout of *C. diff*, and he has had no return of the infection. As a bonus, he has had many fewer sinus infections, too. When he gets one or the beginning signs of one, Charlie calls me. I often repeat the homeopathic remedy *Nux vomica*, which still fits his constitutional makeup, although I would say he's now in a much healthier constitutional state for someone needing that remedy. Occasionally, I have given Charlie a different remedy, one more focused on the acute sinus issues, but often it's back to the *Nux vomica*. We also use a number of botanical and food approaches to help with his tendency towards sinus problems, such as limiting dairy, eating more fermented foods, and

limiting refined sugars. He has not taken an antibiotic since we first began working together many years ago.

Homeopathy & natural medicine

C. diff is a serious infection that can be very difficult to treat. Fortunately for Charlie and for other *C. diff* sufferers, homeopathy has a clear role to play within a natural medicine approach.

- If you need to find a homeopath in your area, start by checking the National Center for Homeopathy's online *Practitioner Directory*, which lists NCH members who have identified themselves as homeopathic practitioners:
www.homeopathycenter.org/find-homeopath.
- If you need to find a naturopathic doctor in your area, see the American Association of Naturopathic Physicians website:
www.naturopathic.org/AF_MemberDirectory.asp?version=2

(1) Kiger, Patrick, "How long does it take gut flora to recover from antibiotics?" <https://health.howstuffworks.com/medicine/medication/long-does-it-take-gut-flora-to-recover-from-antibiotics.htm>, retrieved 10/4/17

(2) Burke KE, Lamont JT (August 2013). "Fecal Transplantation for Recurrent *Clostridium difficile* Infection in Older Adults: A Review. *Journal of the American Geriatrics Society*. 61(8): 1394–8.

ABOUT THE AUTHOR



Amy Rothenberg, ND, the American Association of Naturopathic Physicians 2017 Physician of the Year, practices in Connecticut www.nhcmcd.com. She blogs for the Huffington Post www.huffingtonpost.com/amy-rothenberg-nd/ and authored the book, *The A*

Cappella Singer Who Lost Her Voice & Other Stories From Natural Medicine. Dr. Rothenberg and husband Paul Herscu, ND, MPH, teach through the New England School of Homeopathy www.nesh.com, with new courses beginning in 2018. She raised three wonderful children and can often be found in her art studio, in the garden, and on the ballroom dance floor.