

# Nutrition: Anxiety, Depression and Cognitive Disorders - Part 6

There are a lot of other potential underlying causes of depression and mental health disorders. We don't have time to go into great detail here, but one would be infection. Pathogens, either bacteria, viral, or fungal, are associated with many mental health conditions. These could be systemic or localized infections, and the primary mechanism there is probably inflammation. Examples of common infections would be Lyme disease, *Borrelia burgdorferi* or other tick-borne illnesses like bartonella or babesia, *Clostridium difficile*, *Toxoplasma gondii*, West Nile virus, Epstein-Barr, candida or fungal infections, and herpes virus or other viral infections. Dental caries and gum disease or periodontitis are also associated with chronic inflammation and mood disorders. Any infection that's present should be treated appropriately while controlling for diet and lifestyle factors.

Biotoxins from mold, algae, bacteria, or yeast can cause a chronic inflammatory response. Mold exposure is, unfortunately, much more common than is typically understood. Up to 50 percent of buildings in the US are water damaged, and when relative humidity is above 60 or 65 percent, mold will form within 24 to 48 hours after water damage, so it's a big problem that's, unfortunately, under recognized.

Heavy metal exposure is another possible cause of mental health disorders. Metals like mercury, aluminum, and lead can cause toxicity in the central nervous system. They interfere with uptake and release of certain neurotransmitters. They contribute to demyelination of nerves, autonomic dysfunction, and abnormal neuronal migration. They interrupt excitatory amino acid pathways, causing neurotoxic accumulation of serotonin, aspartate, and glutamate. They can cause overstimulation, anxiety, and hyperactivity. Symptoms of toxicity could include neuropathy, ataxia, spasticity, memory loss, dementia, and impaired hearing or vision, as well as depression, anxiety, and then Alzheimer's or Parkinson's-like symptoms. So you want to get your patients tested for this and look out for high consumption of seafood that contains more mercury than selenium and dental amalgams that are made from mercury.

In some, if not many, cases where depression or mental illness is severe, you'll want to refer your patient to a mental health professional. Psychotherapy and just good, solid support are very often necessary for full recovery to happen. Most of us as functional medicine providers aren't trained to do that, and it's not appropriate for us to play that role. I firmly believe that this idea that we have that there's a separation between where you can say that this problem is primarily psychological or emotional and not physical, or vice versa, that this is a primarily a physiological problem and not emotional or psychological. Those are just artificial distinctions. In reality, there's no separation between physical, emotional, and psychological. They all occur together. If someone is experiencing depression and anxiety, it's certain that there's physiological involvement, and it's also certain that there are psychological and emotional effects are in play, so I think most patients with these conditions should be seeing a skilled therapist of some type. Which type of therapist they see may

not be the most important. I think that should be tailored for the individual. Some do well with cognitive behavioral therapy. Others do well with a different kind of therapeutic approach, but whatever the case, I would highly recommend that they see someone, and it's a good idea to cultivate a network of different kinds of practitioners in your area that you can refer to.

OK, let's do a quick case study here. Aaron, a 34-year-old male, came to see me, complaining of depression. He had suffered from it on and off for years, but it had gotten worse during the year leading up to our visit. He had tried over-the-counter remedies like St. John's wort and SAMe, but they didn't help, and he really wanted to avoid antidepressants if possible, so he asked me if there was anything else he could do.

I noticed that he had started a strict Paleo diet right around the time his symptoms worsened. He was passionate about CrossFit, and he was eating large amounts of protein to support his workouts. He had been told by the personal trainer that introduced him to Paleo to focus on lean meats and avoid saturated fat. He also consumed whey protein shakes and avoided egg yolks because he had a family history of heart disease and was worried about his cholesterol.

I explained to Aaron that his diet was rich in methionine and low in glycine and that this imbalance could be contributing to his depression. His body wasn't able to produce adequate serotonin on a diet like that, so I asked him to start eating fattier cuts of meat and egg yolks and reduce his consumption of whey protein. I also prescribed a grass-fed animal gelatin supplement to provide extra glycine, as well as a high-vitamin cod liver oil to provide fat-soluble vitamins.

Aaron was skeptical that such simple dietary changes could have any effect, given everything else he had tried, but after about six weeks on this new regimen, his mood improved significantly, and after three months, his depression was completely gone. His sleep also improved, and he felt calmer and more at ease throughout the day.

The second case study was Rick, a 28-year-old male who came to see me, complaining of brain fog, mental fatigue, depression, and malaise. He previously, when he was younger, was a very energetic person, enthusiastic, and he felt like he had really become a different person. He was just kind of going through the motions of life. Rick worked for a high-tech company in Silicon Valley, and according to him, that's about all he did. On most days, he would arrive at the office at about 8:30 and wouldn't leave until after 9 p.m. He also worked on weekends and on vacations when he got around to taking them, which was only once every two or three years over the past five or six years.

During the intake, I asked Rick more about his childhood and what he loved to do. I noticed that almost everything he mentioned involved contact with nature. He used to love to go camping. He was a surfer and snowboarder. He liked to go hiking in the mountains, etc. I suspected he was suffering from nature deficit disorder, as it's now called by some people, and so I prescribed a regular program of getting outside and interacting with the natural world. At lunch, he drove to a hiking trail not far from his office and took a walk. He cut back on his work schedule and started surfing a few days a week. He enrolled in a tai chi class in Golden Gate Park, which is a big urban

park in San Francisco, on the weekend, and he scheduled a regular camping trip once every three months for a long weekend.

Over the course of the year, these changes started to make a difference. He gradually regained his enthusiasm for life. He didn't dread getting out of bed like he used to, and he looked forward to his days. At the same time, he also started to realize that the job that he was working in was really a huge contributor to his depression and other health problems, and he started looking for other opportunities and different ways to scale back or find a different job entirely. This is an example of how even small changes can have a big impact. It's also an example of how the choices we make around work and our professional lives are a major, major player in our overall health and our mental health, and in some cases, it's not easy, but a patient may need to change their job and do something different if they really value their health. It's a big decision to make, and it can cause a kind of crisis in a way, but it's a discussion that you have to have with some patients.

OK, that's it for now. I'll see you next time.