

Trevor B. was 10 years old when I saw him for the first time. His parents brought him to me because they thought he was depressed. He had seen a child psychiatrist intermittently for 3 years. The psychiatrist had recommended that the parents start their child on an anti-depressant in the SSRI category. The parents wanted a second opinion. With careful questioning, the following history unfolded.

Trevor was born to parents who had no major health problems. The father experienced chronic sinus congestion and the mother had adult-onset migraine headaches. The paternal grandfather was an alcoholic. Trevor's birth was normal and uneventful. His parents were filled with joy at his arrival. Although he was breast fed for several months, Trevor was a colicky baby who cried a lot and needed constant comforting. Before his birth, Trevor's parents had remodeled parts of their house. The baby's room had new carpeting and a fresh coat of oil-based paint. The cushions were treated with a sealant that made them water-resistant. The bedding was made of polyester and cotton. Because of an ant infestation, the family fumigated the house with an organophosphate insecticide shortly before the baby was born. And because the parents wanted to have a nice, soft lawn for the toddler to play on, they had a lawn care company apply herbicides periodically to kill the weeds. Trevor loved to roll in the grass with his dog.

Although he was above-average in intelligence, Trevor took no interest in school and had few friends. His energy was low and he complained of frequent stomach aches and headaches. Sometimes he would hold his head in his hands and cry out that he couldn't stand the pain in his head. The parents gave him Tylenol to relieve the pain. As Trevor got older he had recurrent ear infections and sore throats which were treated with antibiotics. The parents estimated that he had been on antibiotics about 20 times in his life. He periodically had rashes on his skin, including eczema, which was treated by the dermatologist with cortisone cream.

By the second grade, Trevor was diagnosed as having dyslexia. He was given a special tutor to help with reading. Around this time, he began to develop social problems that included hitting other children and calling them names. He was quick to anger but afterwards expressed great remorse at his behavior. Sometimes he lay on the floor and said he was too tired to move. His parents felt that these behaviors were an indirect expression of his dislike for his school. After thinking things over and talking to their friends, they decided to take their child out of the school he was in and transfer him to a brand new school that had opened in the fall.

At the new school, Trevor's symptoms worsened to the point that his teacher said that Trevor would be asked to leave the school if he did not get the help of a psychiatrist. They felt he was

an angry boy with serious emotional and behavioral problems that needed intervention.

After being in therapy for almost a year, the hitting and name calling stopped, but Trevor was apathetic and irritable. He constantly complained of being tired. He became increasingly forgetful and lost interest in most activities. In the month prior to his visit to my office, he confessed to the therapist that he occasionally thought that life wasn't worth living. The therapist spoke to the parents who were already alarmed by their boy's behavior. The therapist said the boy was deeply depressed and needed to return to the psychiatrist's office to see about obtaining anti-depressant medication.

While taking the history, I noted that Trevor sat silently slumped in his chair with his gaze toward the floor. On one occasion he furtively wiped away a tear. He looked the picture of depression. The mother did most of the talking. She spoke through her tears with an earnest, imploring voice. The father's tone ranged from annoyance and disappointment to resignation and compassion toward his son.

After the history taking, I explained to the family my approach to depression. I pointed out that most of Trevor's care had focused on looking at psychological issues which could be contributing to his depression. It was time now to focus on his biochemistry and environmental triggers. In reviewing the history, it became clear that Trevor's little body had been exposed to a number of toxic chemicals that could easily be contributing to his problems. Organophosphates, for example, are known to be neurotoxic and can lead to chronic neurological problems. (One of the most commonly used indoor pesticides is Dursban which has just been banned by the EPA for indoor use.) New carpeting can out-gas dozens of toxic chemicals for many months such as benzene, toluene, and styrene, some of which are known to cause cancer. I suspected that the chemical overload had led to severe allergies which probably contributed to his recurrent ear and throat infections and to the eczema and other rashes. I suspected the headaches might be caused by food allergies and/or chemical sensitivity.

To see if my suspicions were right, I asked the family to take Trevor camping in the wilderness for one week. They were instructed to eat mostly rice, freeze-dried vegetables, raw nuts and seeds, and fresh fish if they were able to catch any in the stream. They had a camping filter for water so they were able to drink the mountain stream water without fear of parasites. The test occurred during the mosquito season, so I asked the family to use netting instead of insect repellent.

When the family returned from their week-long experiment, they left a message on my answering machine saying that they were thrilled to see "...the real Trevor." By the end of the week, they reported that his chronic rash was almost gone, he had more energy than they remembered having ever seen, his mood seemed calm and happy, and there were no headaches or stomach aches. His father was pleased to report that Trevor had hiked and played ball with him and seemed to enjoy himself. There was no evidence of depression.

At this point the parents were both pleased and intrigued with the results of the experiment. The father, however, was not entirely convinced that the change in behavior was not related to simply being on vacation and wanted further testing. Trevor was sent to a local physician trained in environmental medicine who did intra-dermal provocation and neutralization (P/N) testing. The results showed that Trevor had dozens of allergies and chemical sensitivities. His food allergies included dairy, wheat, peanuts, eggs, corn, and sugar, to name a few. Inhalant allergies included juniper and chamisa pollens, dust, and various molds. The chemical sensitivities included formaldehyde, benzene, toluene, and other petrochemicals. During the testing, the mother noted that her son's symptoms returned when he was given food or chemical extracts to which he was allergic.

Armed with this information, the parents decided to begin their healing journey by hiring a "healthy home inspector" trained in Baubiology (see glossary) to test their house for mold, volatile organic compounds, electromagnetic fields, gas leaks, and other areas of potential problems. The family made the recommended changes which included taking out the carpets and replacing them with tile, removing the gas appliances and switching to electric ones, repairing leaks in the roof and under the sinks, cutting out areas of mold infestation in the drywall, installing water filters for the drinking water and the shower, and placing a HEPA and carbon air filter in the boy's bedroom to remove particulates and fumes in the air. They cancelled their lawn care treatments and disposed of their cans of insecticides and switched to non-toxic pest control. They also got rid of the air fresheners in the bathrooms and installed high-powered exhaust fans instead. A window was placed in one of the bathrooms for better ventilation. The family switched to non-toxic and unscented cleaning products and laundry detergents. They stopped using fabric softener which caused an immediate mood change in their son. The mother agreed to stop using hairspray and perfumes and the father stopped using his cologne.

At this point the parents realized that the new school they had sent Trevor to was probably even more toxic than their home because of the out-gassing of the new carpet, regular pesticide applications, non-operable windows, fluorescent lights, and fumes from industrial strength cleaning products, magic markers, and glues. The parents felt they needed to protect Trevor from these exposures so they withdrew him and sent him to a small private school where the teachers were happy to accommodate his needs. At the same time the family began making

changes to their home, they took their son off some of the foods to which he tested most positive, like those containing gluten (wheat, oats, rye, and barley), dairy products, and sugary foods. The parents also attempted to eat primarily organically grown food. After a few weeks there was a dramatic improvement in all of his symptoms, especially the depression. But Trevor was not able to stay on the restricted diet because he found it too difficult. He did, however, agree to follow a rotational diet in which he tried to avoid eating the severely allergenic foods two days in a row. Trevor told his parents that he was beginning to see the connection between the foods he ate and his symptoms. He noted that breads and pastas made him feel sleepy and depressed. The day after he had dairy products, he felt irritable and congested and his eczema flared up. Eggs gave him a headache. He also noted that sometimes he could eat a certain allergenic food and not have symptoms and other times the symptoms could be severe. This seemed to depend on his overall total toxic load. Trevor admitted to being addicted to sweet foods and had intense cravings for them. He found that the symptoms of withdrawal when he stopped eating sweets was almost unbearable.

Further testing showed the following results:

Routine testing showed a depressed white blood cell count. The rest of the complete blood count was normal. Chemistry and thyroid testing was normal.

Immune panel showed depressed natural killer count and activity. There was an abnormally high T4/T8 ratio of his lymphocytes.

Comprehensive digestive stool analysis showed high levels of fecal fat indicating malabsorption of fats. Trevor was advised to take pancreatic enzymes at the end of each meal. He also had a very low count of beneficial bacteria in the gut. This was treated with pro-biotics twice a day for one year. Mycology testing showed a heavy overgrowth of *Candida albicans*, along with two other types of yeast. Sensitivity testing revealed that the organisms were sensitive to Nystatin. Trevor was treated with Nystatin for 30 days.

Amino Acid testing showed abnormally low levels of many essential amino acids. A customized replacement formula for amino acids was compounded at College Pharmacy.(see Resources) He took one capsule a day for one year.

Red blood cell mineral testing revealed low levels of zinc and magnesium. A multiple vitamin and mineral formula was recommended that included high doses of B-complex. The formula included zinc piccolinate 30 mg daily. The magnesium was in the form of potassium magnesium asporotate 400 mg daily.

Red blood cell heavy metal testing and hair analysis revealed elevated levels of mercury and aluminum. He was advised to avoid drinking from aluminum cans, and his parents were advised to use stainless steel for cooking. After the second year of treatment, Trevor had his two silver/mercury amalgams replaced with composite material by a dentist who was experienced in mercury removal. For a year afterwards, Trevor took powdered chlorella on a daily basis to help chelate heavy metals. His parents were instructed to cook with cilantro and use abundant sulfur-containing foods such as onions and garlic, as well as foods from the cruciferous family such as cabbage, broccoli, cauliflower, brussel sprouts, and kale which are useful in removal of

heavy metals.

Essential fatty acid testing showed an Omega 3 deficiency. Once a day he was given either fish oil or flax seed oil capsules followed by pancreatic enzymes to help him digest the oils.

At the end of the first month of treatment Trevor reported that he had more energy and felt happier. His abdomen was no longer distended and he had less cravings for sweet foods. In the second month of treatment, Trevor reported that the rashes on his skin were gone and that he was free from headaches and stomach aches. The recurrent earaches and sore throats had disappeared. It was at this point that Trevor began EPD shots (see glossary) to desensitize him to the foods and chemicals that gave him problems. He took the shots once every 2 months at the office of the local environmental physician who had done the P/N testing. At the six month check up, Trevor's parents reported that he was doing well in school, had lots of friends, and enjoyed team sports for the first time. Trevor himself reported that he was happy to be alive and denied feelings of depression. And Trevor's father was pleased to report that he and his wife had also noted improvement in their own symptoms. The sinus infections came only rarely and the migraine headaches had almost disappeared.

Trevor is now 13 years old. His biggest concerns are those of a typical teenager. Occasionally he gets a recurrence of some of his symptoms if he has prolonged exposure to toxic chemicals or if he eats too often the foods he is allergic to; but is able to take the appropriate measures and manage his symptoms himself without the intervention of his parents.

Trevor's depression was clearly a symptom of a bigger problem. Had Trevor simply been treated with anti-depressants, the causes of his depression would have gone undetected and his health problems would likely have worsened. Using the environmental medical approach, Trevor's depression was found to be secondary to chemical exposures and food allergies and resolved with appropriate treatment.