

## **Not a Cookie Cutter Problem: Attention Deficit Hyperactivity Disorder**

By Tracy Barnes, DC, Kentuckiana Children's Center

Observe any of the classrooms at Kentuckiana and at first glance all the children might appear to be "normal" school kids. But look a little closer into classroom one: there in the back at a table all his own is Chris. Chris' legs are constantly moving, his hands are always busy and his teachers have a difficult time keeping him focused on his work. He continually blurts out answers and pesters his classmates.

Chris is a 10-year-old student who was referred to the Center after being unable to perform in a mainstream public school. He tripped fellow students, played pranks on them and started a number of fights. Yet through all of his problem behavior, he seemed unwilling to take any personal responsibility for his actions. Chris is far from a dull boy. He has an IQ in the superior range relative to his peers.

Chris is a classic example of Attention Deficit Hyperactivity Disorder (ADHD). However, unlike many of the other children diagnosed with ADHD, Chris is not medicated. In his three years as a student in the Kentuckiana Special School, and as a patient in the Kentuckiana Clinic, his progress has been characteristically, "four steps up, two steps back; three steps up, two steps back," says Roberta Davis, M.Ed, director of Special Education at Kentuckiana. He is a prime example of the need for multidisciplinary care in cases of ADHD.

ADHD's main components are "developmentally inappropriate degrees of inattention, impulsiveness and hyperactivity."<sup>1</sup> It has been estimated that some 5-10 percent of school-aged children are affected.<sup>2</sup> They are commonly diagnosed before four years of age with males being six to nine times more likely than females to have the disorder. Approximately one-third of all ADHD cases have manifestations that progress into adulthood, although the numbers may be much higher.<sup>3</sup>

Work at Kentuckiana, as well as three known studies,<sup>4,5,6</sup> show the benefits of chiropractic adjustments on these children. The importance of the nervous system is certainly not to be overlooked. However, it has been our experience that the stability of chiropractic care is greatly enhanced when combined with other factors affecting the structural, chemical, and mental aspects of this complex disorder.

Among the many possible causes for ADHD, there are those that cannot generally be changed by the time these children enter our offices. The possible causes are fetal alcohol syndrome and fetal alcohol effect (FAS/FAE),<sup>7</sup> maternal prenatal smoking,<sup>8</sup> genetics,<sup>9</sup> and vaccination.<sup>10</sup>

There are, however, other predisposing factors to ADHD that must be acknowledged and investigated to ensure maximal success in treatment. These causes include candida albicans proliferation, temporomandibular joint dysfunction, heavy metal toxicity, food sensitivities, environmental allergies, neurologic disorganization, hearing problems, visual perceptual disorders, and multiple aspects of psychological disorders.

As William Crook, MD, describes in the vicious cycle of treating childhood infections with broad-spectrum antibiotics.<sup>11,12</sup> Yeasts, which are not affected by antibiotics, are allowed to multiply and release harmful toxins into the child's body. These toxins weaken the immune system, lower the body's natural resistance, and in turn set up the child to develop more infections.

Our student Chris had a history of repeated ear infections during his infancy. Even though this was some years ago, it is likely that he is still affected by the disruption of his normal flora caused by the antibiotics. In addition, Chris has a history of allergies to pollen, dust, ragweed, Johnson grass, eggs, wheat, milk, corn, and chocolate. His mother attributes Chris' recurring headaches and sinus infections to these allergies.

The role of allergies and the hyperactive child involves both food intolerance and environmental sensitivities. A recent study looked at 40 children with food-induced hyperkinetic syndrome. They found some 15 foods that provoked an increase in hyperkinetic behavior including chocolate, colorings, cow's milk, eggs, citrus, wheat, nuts, cheese, banana, tomato, apple, pears, beef, pork, and beans.<sup>13</sup>

Current literature is in debate as to the role of dietary sugar in hyperactivity. One recent study claims that sugar and Nutrasweet have absolutely no adverse effects on children's behavior.<sup>14</sup> However, other reports show sugar consumption to correlate significantly with restlessness and destructive-aggressive behavior.<sup>15</sup> Glucose metabolism has been shown to be hampered in hyperkinetic adults and children.<sup>16</sup> Other studies

show that sugar leads to an increase in deviant behavior primarily when sugar is in combination with a high carbohydrate meal. The negative effects are sometimes negated when sugar is eaten with a high protein meal.<sup>17</sup>

Having a complete recording of what each child eats for at least one week is the first step toward assessing the importance of dietary change. Questions concerning artificial sweetener consumption should also be included in the history-taking process since these have been linked to many symptoms common to ADHD.

Heavy metal toxicity is another important piece in the puzzle of hyperactivity. A complete history will also include information concerning where the child lives and plays, paying particular attention to areas of highly industrial nature. Toxic chemicals such as lead, copper, and aluminum can be found in high levels in many ADHD children.<sup>18</sup> Locating the source of the chemical toxicity is essential in effectively eliminating its harmful barrage on the nervous system.

Possible avenues for heavy metal ingestion include drinking water, beverages served in aluminum cans, and food prepared in aluminum cookware. In addition, children who are regularly exposed to second-hand smoke are at risk for increased cadmium intake. It is important to find out who takes care of the hyperactive child on a regular basis and whether or not tobacco smoke is part of the environment.

Other trace mineral imbalances to look for include mercury, calcium, magnesium, zinc, and chromium. Hair analysis is one method of screening for toxic metals and deficiencies of essential minerals. This analysis provides a way to functionally understand the body chemistry.

Chris' beginning trace mineral hair analysis showed a lead level of four parts per million (ppm). Levels as low as 1ppm have been shown to correlate with high attentional deficit ratings.<sup>19</sup> He also had increased levels of aluminum and cadmium. Chris comes from a home where his father smokes a pipe. On a retest analysis done approximately 19 months later, his aluminum went from 24ppm to 9ppm and his cadmium went from 0.80ppm to 0.26ppm. Nutritional supplements such as chelated proteinates can help to detoxify and stabilize these nutrient mineral imbalances.

A consistent temporomandibular joint problem is also a part of Chris' history. His head pain was so intense at times that he would bang his head against the wall. We have found with some children that addressing TMJ dysfunction has made marked improvement in their behavior. Upon examination of the ADHD child, the TMJ area should be evaluated as well as thorough inspection of the oral cavity. A high raised palate may

be found in many of them.

Another element for Chris is that he was adopted at 21 months. This kind of early disruptive experience can have lasting emotional effects on children.<sup>20</sup> For this reason, psychological evaluation can be helpful in determining the need for individual and family counseling. Support of the parents in all aspects of treatment can be the determining factor in any success with ADHD children. Mothers and fathers need to understand the full spectrum of ADHD care and realize the role that they play in its outcome. Parents may often be pushed by school administrators and others into thinking that they have somehow failed or that they lack proper parenting skills. While appropriate discipline is not to be underestimated, they need to know that ADHD children have a problem. It is our job to unravel the problem and theirs is to accept it. Together we can do something about it.

Getting good results with calming down an ADHD child takes time. This is evident in young Chris' story. In recent months, Chris has been improving academically, but his behavior continues to fluctuate. When accepting a case such as this, one must be prepared for extended care, frequent re-evaluations and perseverance. The need for research on this subject is evident.

Additionally, it has been our experience that those children who begin their course of treatment before the onset of puberty benefit the most. With the rush of hormones and the change in body chemistry, it becomes very difficult to affect positive changes after puberty sets in.

There is no cookie cutter approach to dealing with ADHD. No protocol can universally be applied to its treatment. As in all thorough care, each child must be individually assessed and evaluated to determine where the imbalances lie. In subsequent articles, we will be examining in detail some of the etiological factors of ADHD and suggest ways of helping the children and their families cope with this disorder.

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Editor's note: Lorraine Golden, DC, founder and executive administrator of Kentuckiana, notes that ADHD is only one of the many conditions treated at the Center: cerebral palsy, migraine headaches, autism, neurofibromatosis, sleeping disorders, and seizures are also treated. Kentuckiana has provided services free of charge for 37 years ago and employs a multidisciplinary treatment program with chiropractors as gatekeepers. If you would like to support Kentuckiana write or call:

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