ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)
By Dr. Carolyn Dean

ADHD and hyperactivity are names used to describe children who don't quite fit into a "normal" pattern of behaviour. ADHD is the most commonly diagnosed behavioural disorder of childhood affecting 3-7 percent of children. It's defined as developmentally inappropriate levels of inattention, hyperactivity, and impulsivity. A child, however, can manifest one particular type of ADHD:

* Predominantly Inattentive Type
* Predominantly Hyperactive-Impulsive Type
* Combined Type (inattention, hyperactivity-impulsivity)

For all our ability to define this condition on paper, it is still a subjective diagnosis without any objective blood tests, MRI's, or other investigations to make a diagnosis. Children can exhibit a wide range of behaviour from being naturally inquisitive and asking endless questions; taking things apart and exploring their environment; to being downright violent. A child may be "acting out" to get attention from overly busy parents, even if it is negative attention they receive. The brain of a child with ADHD may be the equivalent of a "hunter" in a "gatherer" society where we expect all children to conform to a classroom of long hours of sitting in chairs at desks often with boring tasks.

Whether ADHD is a disease that warrants medication is cause for heart-wrenching debate. Autism and Asperger's syndrome occur in one out of 150 children. They are defined as neurological disorders and discussed in the section on Autism. Many researchers and parents feel that ADHD is at one end of a growing spectrum of Behavioural and neurological conditions that are affecting far more children today than 100 years ago. Some researchers blame genes but genes don't break down overnight. Now more people are looking at factors in our environment as the probable cause or causes.

What Causes ADHD

ADHD appears to have many possible causes:

* Industrial chemicals in our food, air, and water.
* Heavy metal toxicity – lead from car exhaust and paint; mercury from vaccinations, mercury dental fillings, and fish; aluminium from canned food, and deodorants.
* Our electrified environment/magnetic fields - fluorescent lighting, television, computers, video games, cell phones, and cell phone towers.
* A highly refined diet overloaded with sugar and white flour.
* A chemical diet of thousands of food additives.
* Nutrient deficiencies.
* Food allergies.

Peanut butter, the favourite food of most kids, can be highly allergenic due to a common mold; its oily nature makes it go rancid quickly, but it is often highly sweetened with sugar so you don't taste the rancidity. I visited a young couple with a two-year-old boy and witnessed the proverbial Dr. Jekyll Mr. Hyde transformation. Within minutes of spooning out peanut butter from the jar, this adorable child turned into a head-beating, rampaging monster. I shared the above information,

which at first shocked the parents but helped them adjust their son's diet; he became a normal person again.

Drugs for ADHD

The medical management of attention deficit/hyperactivity disorder (ADHD) focuses on the use of amphetamine stimulants, like the prescription drugs Ritalin, Dextroamphetamine, Concerta, and Adderall. The brain of an ADHD child is roughly explained as being wound up too tightly. However, under the influence of drugs like speed, it paradoxically unwinds. A child or adult without ADHD would become hyperactive on speed.

Amphetamines can pump up the heart rate, elevate blood pressure, cause stomach aches, dizziness, insomnia, and eye twitching. Agitation and hostility can appear with long-term use. ADHD drugs can also reduce appetite, which can stunt growth. In 1995 the U.S. Drug Enforcement Agency warned doctors about the shared chemistry of cocaine and Ritalin. Ritalin is regulated in the United States as a class II substance along with heroin, morphine, barbiturates, and cocaine. The multibillion-dollar sales of Ritalin have increased by 400 percent since 1995.

In the United States, 330 million doses of Ritalin are taken daily, while the rest of the world only consumes 65 million daily doses. As soon as a child reaches puberty, the effect of Ritalin often changes under the influence of hormonal surges to act like true "speed" with such devastating effects (violence, suicidal depression, and so on) that the child is often prescribed Prozac - "the frying pan into the fire routine," as Dr. Ann Blake of the International Coalition for Drug Awareness describes it.

In January 2000, the American Medical Association expressed alarm that children as young as two years of age are put on Ritalin and five-year-olds are on Prozac. The long-term effects on the growing brain are unknown; no long-term studies have ever been conducted. Evidence does, however, exist to show that long-term use of Ritalin significantly reduces blood flow to the brain, disrupts growth hormones, and can cause depression and insomnia.

ADHD and Adolescence

Let's look at ADHD and adolescence. There is a common misconception that ADHD improves with age, which has led to a lack of acknowledgment and support for teens in high school with this problem. In girls, talkativeness, inattention, and truancy are not viewed as ADHD but as a lack of discipline. In boys, impulsive behavior, drugs, truancy, and vandalism are labelled ADHD.

One of the symptoms of ADHD is a constant need for stimuli, mostly sound. So if the music isn't blaring or if they aren't on the telephone, teens conduct a non-stop monologue to fill up acoustic space. The added stress of puberty worsens an existing ADHD problem because hormones have their own way of creating mood swings.

Researchers using PET scans and specialized EEGs on ADHD children speculate that the problem of ADHD

is a "slowing of the brain waves." Whether this is true or not, it still doesn't explain what is causing the slowing, which is probably a combination of nutrient deficiencies, especially of EFAs, and environmental toxicity.

The need for brain balancing in your hyperactive or dyslexic child can be determined by finding out if he/she is using the same dominant eye as her/his dominant hand. Do this experiment: Punch a hole in a piece of plain paper with a

pencil. Simply ask your child to look through the hole at a distant object. Give no further instructions. He will obviously have to look through one eye and the eye he chooses will be his dominant eye. If he is right-handed and chooses his left eye, the right and left sides of the brain have to work a lot harder to pass information between the two sides.

Brain Gym, a small booklet written by Gail Dennison, provides "brain exercises" that help balance the right and left sides of the brain and enhances communication across the corpus collosum that divides the two. One theory that explains why boys have more ADHD than girls is that the male brain is left-brain dominant while the female uses both brain hemispheres equally and has a larger corpus collosum.

Essential Fatty Acid Research

Research by Dr. David Horribon shows that a deficiency in essential fatty acids (EFAs) may be the underlying cause of ADHD, dyslexia, and dyspraxia (severe clumsiness). Dr. Horribon was assisted in his research by Vicky Colquhoun and her daughter Sally Bunday in the United Kingdom who founded the Hyperactive Children's Support Group. They observed that ADHD children are thirstier than other children; they drink more but produce a lot less urine. They also have a higher incidence of asthma and much more dry skin and brittle hair. Since skin is waterproofed through the action of essential fatty acids, which must be replenished daily through food, it appears that ADHD children lose water rapidly through their skin - EFAs are somehow chronically depleted.

EFAs from food are converted through the liver and gut metabolism into polyunsaturated fatty acids (PUFAs). These PUFAs supply vital brain food without which perception, cognition, memory, attention, spatial behaviour, and the eyes simply cannot work properly. And to top it all off, ADHD appears to be due to a deficiency of EFAs that begins in utero if the mother is nutritionally depleted during her pregnancy.

The British government followed up on this work and studied 17,000 children from the time they entered school, for several years. Objective blood tests and extremely reliable predictive behaviour tests were developed to identify which kids developed these learning disabilities. Remedial action with EFA supplementation was taken with immense success.

In 1995 in the United States, Purdue University performed controlled studies providing undeniable proof of the EFA hypothesis. When research showed that human breast milk is rich in EFAs, but infant formula contained virtually none - resulting in highly significant differences in IQ - the American Society for Nutritional Sciences submitted a report to the FDA in 1998 that resulted in EFAs finally being legislated into infant formulas.

These EFAs can be obtained from fish oils, flaxseed oil, evening primrose oil, and borage oil. The overuse of inferior, rancid, fried, fake oils to the exclusion of EFAs explains why so many brains are slowing down, both young and old. A tablespoon or two of flaxseed oil on salad or cooked cereal, and a tablespoon of cod liver oil every day can provide most of the necessary essential oils. Your health food store carries special formulas containing omega-3, omega-6, and DHA in the refrigerator section.

Wiring Kids Brains

A 2004 study in the journal Paediatrics called "Early Television Exposure and Subsequent Attentional Problems in Children" found a higher incidence of ADHD in children who watched a lot of TV during the ages of one to three. It's not just the content of TV that we have to worry about; it's also the electromagnetic radiation from the TV set itself. Make sure your child's desk and bed are 3 feet away from any electrical outlets.

Diet:

All children should be limited in their intake of sugar or junk food; their developing brains and bodies need the most nutritious food you can find. If your child has ADHD symptoms, the most allergenic foods are dairy and wheat; they should also be avoided for two or three weeks to see if your child's behavior improves. Foods with coloring or additives are damaging to the brain. The worst ones are the "excitotoxins", aspartame and MSG, which excite brain neurons to the point of cell death.

Aspartame is an artificial sweetener made from two amino acids and wood alcohol. Many researchers are calling for a ban on the product due to its ninety-two documented side effects. In the initial testing of aspartame laboratory animals experienced seizures, several types of cancer including brain tumor. Chewing a single stick of aspartame-sweetened gum has induced seizures in susceptible children.

In the late 1980's a number of researchers set out to prove that sugar does *not* cause hyperactivity. A close reading of the studies showed that the placebo most often used in the studies was aspartame. In other words, one group of children were fed sugared products, another group was fed aspartame-sweetened products as the so-called inert substance. The results of these studies showed that the effects of aspartame and sugar on the behaviour of children were the same. Therefore, the conclusion was that sugar does not cause hyperactivity. Aspartame, however, is a powerful neurotoxin and can cause hyperactivity and aberrant behaviour. The researchers assumed that aspartame was benign but there were as many or more incidents of hyperactive behaviour due to aspartame, making sugar look good. See the sections on sugar addiction under Addictions and Detoxing Sugar and Aspartame for more information.

Monosodium glutamate (MSG) is a modified form of glutamic acid with one sodium atom added to the molecule. As an excitotoxin it also excites neurons to death. Dr. John Olney, a neuroscientist at Washington University in St. Louis, found that MSG is toxic to the retina, and a single dose can destroy specific cells in the hypothalamus. Dr. Olney went public with his findings and spent many years trying to convince the FDA to remove MSG from baby foods. Be sure to read labels for MSG and avoid hydrolyzed protein, which also contains MSG.

Books by Dr. Ben Feingold (*Why Your Child Is Hyperactive*) and Dr. Doris Rapp (*Is This Your Child? Discovering and Treating Unrecognized Allergies in Children and Adults*) are useful to investigate and understand the role of allergies and food additives (colours and dyes) in ADHD.

Dr. Feingold was the first to identify food additives as a cause of hyperactivity.

Thousands of children have benefited from following his diet. Doubt was intentionally cast on his approach when the food industry funded studies to show that food additives were not responsible for ADHD. They claimed they found no hyperactive behaviour in children by only studying ten food additives and using chocolate as the placebo. These were considered legitimate studies by the food industry in spite of the fact that there are thousands of food additives children can be exposed to and chocolate (with its ingredients of sugar and caffeine) can cause hyperactive behaviour. When the media was given erroneous conclusions of these false studies, parents were led to believe that there is no harm in the thousands of chemicals in their children's diets. The food industry would have us believe that the damage caused by sugar is only to our teeth but it ignores the rampant escalation of diabetes and numerous other nutritional deficiency diseases.

Supplements:

The dosages of nutrients for children are based on weight and should be supervised by a doctor who is familiar with treating ADHD.

* If dairy is avoided, calcium and magnesium should be provided. The section on Osteoporosis contains a list of calcium- and magnesium-rich foods.
* In puberty, the mineral zinc could be called an essential mineral. Zinc deficiency can be found using a zinc taste test in your naturopathic doctor's office. Hair analysis can also provide this information. Zinc is required for sexual development and often becomes deficient at puberty if not introduced in the diet with foods such as sunflower seeds, pumpkin seeds, and oysters. Zinc supplements might be necessary through early puberty.
* EFAs, specifically DHA and cod liver oil, are necessary for healthy skin and maintaining strong cell membranes as noted above.
* The B vitamins are also important as cofactors for thousands of metabolic functions in the body, including the complex functioning of the brain. They also help control mood swings at puberty. Specific forms of B vitamins become more important in the autistic child as you will see in the section on Autism.
* A natural multivitamin and mineral rounds out the supplement picture. Choose a brand in which the ingredients are at least partly derived from organic or natural sources and not completely synthetic. Strictly avoid vitamins sweetened with aspartame; many of them are.

Herbs:

Herbs that calm the nervous system include: Hops, valerian, skullcap, wild oat, and St. John's wort. They can be found as tea or tinctures at your local health food store. Developing a habit of drinking calming herb teas will keep your teens away from the stimulating effects of tea and coffee.

Homeopathy:

Homeopathy for behavioural problems can be very effective. However, apart from mild emotional problems, it is very difficult for a parent to identify the correct remedy for their child. A trained homeopath or naturopath should be consulted. I get frequent requests for such referrals because there is such a need and I do offer my wellness telephone consults on a limited basis.

* Arg nit is used for the hyperactive child with a sweet tooth. The child seems to have a high metabolic rate and is thin, pale, anxious, and can't sit still.

* Calc phos is suited to the child who likes to play pranks but is still shy and afraid. Physically there are swollen tonsils and abdominal gas.
* Chamomilla is used to calm the excessively agitated child who cannot sit still for one minute and literally wears himself out to the point of tears.
* Kali bromatum is for the case of the child who is constantly using his hands in some form and cannot keep them still.
* Lycopodium is used for the child who is exhausted but still can't sit still. There is irritability and restlessness, mostly around dinnertime, and lots of gastric distress.
* Stramonium is used for a severe case of hyperactivity with violence. There is a characteristic loud and frenetic speech pattern in such children.

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