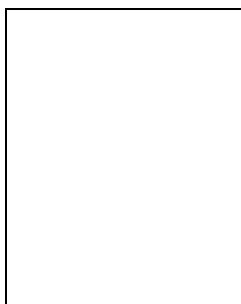


"Nutritional Alternatives to Drug Therapy" for ADD/ADHD.

by Dr. Terry Neher and Albert Beiser



Forward

Perhaps you or a loved one have been diagnosed as having Attention Deficit Hyperactivity Disorder, or you may feel that you or a loved one has ADHD. In either case, if you are seeking a nutritional alternative to the problems associated with traditional drug therapies, we offer you one.

Drug therapies have two primary disadvantages: 1) The stimulants generally prescribed are potentially harmful, and 2) Their mechanism of action in ADHD treatment is unknown. For instance, the manufacturer of Ritalin, Novartis, states, "**Reported side effects include insomnia, nervousness, skin rash, anorexia, nausea, dizziness, headaches, blood pressure and pulse changes, cardiac arrhythmia, abdominal pain and weigh loss, slowed or interrupted growth, etc.**" They also state, "**There is neither specific evidence which clearly establishes the mechanism whereby Ritalin produces its mental and behavioral effect in children nor conclusive evidence regarding how these effects relate to the condition of the central nervous system.**"

The alternative described in this book is formulated from ingredients known to be safe and is based their choice upon the physical structure and function of the brain and its nutritional requirements, i.e. *a method of action*.

Nutritional Alternatives to ADHD Drug Therapy is intended solely for informational and educational purposes and not as medical advice. Please consult a medical or health professional is you have questions about your health.

An Old Problem, A New Name

With Self Given Evaluation Tests

Until the last couple of decade's *problem children, incorrigibles, bad seeds*, etc. were labels given by a community to describe people whose behavior was unacceptable. It was assumed by nearly all to be correctable by punishment. This position changed with recent more liberal thinking. There were those who blamed it on the person's rearing, environment and physical status. There were others who assumed it could be corrected by medication or even surgery. And, of course, there were those who felt it was both physical and behavioral. It is now believed to be brought on by physical problems which lead to "bad habits" while the person is still a child.

Hyperactivity is not a diagnosis. Hyperactivity and attention problems are symptoms of an imbalance(s) in brain biochemistries and the resulting irrational behavior.

The purpose of this book is to show what can often be done to correct the physical problems. The "habit" correction is generally left to psychological advice or therapy. To begin the search for understanding ADHD, please consider the following brief statements. They will be followed by a variety of tests which can be self given or answered by a parent. The concluding material will discuss the mechanisms in the brain which are usually functioning differently from others in the ADHD individual.

Attention Deficit and Hyperactivity "Disorders" (ADHD) are conditions labeled *disorders* by the medical community. This multidimensional cluster of symptoms is being "diagnosed" and "treated" with stimulant drugs, tricyclic antidepressant drugs, anticonvulsant drugs, high blood pressure medication and the "Prozac" family of antidepressant drugs. Children are being subjected to brain scans such as Positron Emission Tomography and Single Photon Emission Computed Tomography to indicate imbalances in the function of the neurochemistry's in various regions of the brain, and a choice is made to practice prescribing medications to effect different areas to somehow allow this child or adult to interact "normally" in his or her setting (while under the influence of drugs).

It is not possible to repair damage to our human physiology created by decades of decreasing nutrient quality and increased environmental stressors simply with drugs. We must begin to restore the availability of quality building blocks for quality feelings, behavior processes, even thoughts, and, over time, gain control over our problems.

Prior to accomplishing this task, it is possible, through the use of quality nutritional supplements, to assist our neural functions in regaining a balance of chemistries. This will result in a normal set of feelings and behaviors.

A formula has been designed to specifically build this balance of neurochemical elements. Numerous reports and studies have verified the results of this natural method. These reports have all recorded extremely positive results. Equally as important, no side effects, such as retarded growth patterns, feeling "wired" or sleep problems have been reported. And, there is no stigma of being labeled with having a "disorder."

The importance of this work is perhaps better understood by considering the causes which have brought us to this point.

Prior to the early 1950's the use of drugs, prescription or not, to effect mind, mood and behavior was at a minimum in our society. Our diet included foods which contained sufficient vitamins, minerals and amino acids to provide the building blocks required by those systems in our brains which produce healthy responses, thoughts, feelings and behaviors.

As a result of the intense stress suffered by our society beginning in the 1920's and culminating with World War II, we began, as a people, to exhibit increased symptoms of stress related effects on our biochemistries. Overeating issues and weight gain by Americans were significant, and in 1949-1950 physicians began prescribing amphetamine (speed) drugs for appetite control. These amphetamines were available from the huge stockpiles of the drug accumulated by Japan and the United States and used by soldiers to stay alert during battle. Pharmaceutical companies saw the "market potential", and we were on our way to the intense use of drugs we see today to alter mind, mood and behavior.

Thousands, perhaps millions, of Americans became dependent upon Amphetamines for appetite and weight control as they used increasing amounts of food (and alcohol) to change the way they were feeling as the result of increasing stressors in everyday life.

Our population began to explode and demands for increased amounts of food products increased dramatically. Quantity became the issue. Produce and store became the business norm. *As a result of the lack of attention paid to the need of our production soils, the nutrient values of our foods steadily decreased* as the soils were overly depleted and nutrients were not returned to the earth with the same concern our ancestors had shown.

The nutrient value of the processed, quick fix, meal in a box food of today is typically incapable of providing the building blocks necessary for healthy, balanced biochemistry. Without a healthy biochemistry, we begin to see the symptoms of what we have termed and labeled "maladaptive behaviors" and various "disorders" of mind and mood.

When we turn to physicians for help with such issues as behavior problems, they offer us what they have been trained to do: identify symptoms and prescribe drugs to alter mind, mood and behavior.

For several decades, and in particular the last 15 or 20 years, there is an increasing dissatisfaction with drug use as the only solution. We have become increasingly aware that simply treating symptoms with a drug or drugs may have more consequences than we are willing to accept. The evolution of natural medicine approaches, while ridiculed by traditional "treat the symptom" medicine, has in fact gained millions of followers due to success and reduced side effects.

The history of "attention deficit hyperactivity disorders", as we have just seen, is parallel to medicine in general. The work of many people has lead to the successful treatment/s devised by this booklet's authors: Each has entered the field through research that began before the term Attention Deficit Hyperactivity Disorder had become well known. Dr. Neher has practiced his art both as a counselor and as a researcher. Both authors' contributions are briefly outlined later in this booklet.

The Pharmaceutical Fallacy

For decades, medications have been used to treat the symptoms of ADHD. Three medications in the class of drugs known as stimulants seem to be the most effective in both children and adults. These are methylphenidate (Ritalin), dextroamphetamine (Dexedrine or Dextrostat) and pemoline (Cylert). For many people, these drugs dramatically reduce hyperactivity and improve the ability to focus, work and learn. In some individuals these drugs may improve physical coordination, such as used in handwriting and certain sport activities.

Ritalin may help Johnny focus on and complete tasks for the first time. Dexedrine may help Mary to sit quietly, focus her attention and participate in class so she can learn. Both Johnny and Mary may also become less impulsive and aggressive, and along with other changes in their behavior, they may begin to make and keep friends. Life seems good.

Unfortunately, when people see such an improvement, they often think the drug is all that is needed. But these drugs do not cure the disorder; they only temporarily control the symptoms. The drugs alone can not help people feel better about themselves, do not increase knowledge or improve academic skills, or help them cope with the problems of everyday life. The precise pathophysiology of ADHD has yet to be determined, and the indications are that ADHD is not of homogeneous neurochemical or anatomical origin. Thus, it is difficult to predict to which drug an individual will best respond. Health care professionals have no cookbook recipe or cure for ADHD.

Stimulant drugs, such as Ritalin, Cylert and Dexedrine, when used with medical supervision, are usually considered safe. These drugs may be addictive in children and can be addictive to teenagers and adults if misused. Different doctors prescribe the drugs in slightly different ways. Cylert is prescribed in a dosage range of 5 to 10 mg/day, which lasts 5 to 10 hours. Ritalin and Dexedrine come in short-term tablets that last about 3 hours, as well as longer-term preparations that may last the entire school or work day. For both Ritalin and Dexedrine, the dosage is 10 to 60 mg/day.

As with all drugs, no two individuals react to the same drug in the same way, and with some people stimulants do not work. Antidepressants and other drugs may be used. In some cases, antihistamines, beta-blockers and other adjuncts may be tried.

The antidepressants, Norpramin (desipramine) and Tofranil (imipramine), effectively increase attentiveness and reduce distractibility in children and adults. Tricyclic antidepressants exert their effects by acting upon norepinephrine and dopamine, the two major neurotransmitters in the attention system. They block the re-uptake of norepinephrine and dopamine into the presynaptic neuron and indirectly modify the rate of release, thus increase the activity of these two chemicals on the brain. Another antidepressant that is being used to treat ADHD is Wellbutrin (bupropion), which is a potent dopamine re-uptake inhibitor. The amount of Norpramin prescribed ranges from 5 to 40 mg/day, while the range for Tofranil ranges between 5 to 10 mg/day. No matter how effective the stimulants or tricyclics are in increasing the ability to focus, common symptoms of many individuals with ADHD are mood swings, irritability and depression. This is especially true in teenage girls and women who suffer from PMS.

Two other drugs, often prescribed for ADHD, are the serotonergic agents BuSpar (buspirone) and Prozac (fluoxetine). The daily dosage for BuSpar is 10 mg/day and 20mg/day for Prozac. Prozac has been used to reduce the obsessive/compulsive symptoms some individuals develop in response to their ADHD. Both BuSpar and Prozac are highly addictive and the duration and dosage must be limited to days or weeks.

Beta-blockers are used to decrease anxiety and tension. They also reduce hyper-responsiveness to stimulation and the agitation that predisposes many ADHD individuals to impulsive behavior and tantrums. Corgard (nadolol) is preferable to Inderal (propranol) because it can be taken once a day. Lithium, Depakoate (valproate) and Tegretol (carbamazepine) have been prescribed for violent and difficult to manage ADHD patients.

Another drug used in the treatment of ADHD is Clonidine, an agent which alters alpha-adrenergic functioning. Clonidine, a drug normally used to treat hypertension and Tourette's syndrome, increases calmness and frustration tolerance, particularly in an individual who can not take beta-blockers because of a past history of asthma. Clonidine can be administered by pill or by skin patch and has different side effects than stimulants.

In recent years a number of other drugs, such as fenfluramine, L-dopa and amantadine, have been used to treat ADHD. These may be useful drugs in cases where others fail, but neither current research nor clinical experience has shown these drugs to be effective. These drugs are being used as a last resort if other drugs fail.

The use of all drugs in the treatment of ADHD has sparked a great deal of controversy. A growing division in the medical community has developed over the potential dangerous side effects of these drugs versus their potential benefits. While on these drugs, children lose weight, have less appetite and to stop growing or grow more slowly. Additionally, others have problems falling asleep, staying asleep and dreaming. Ten percent of individuals on Ritalin complain of headaches. There is growing evidence that these drugs and others being used to treat ADHD may also make the symptoms of other conditions, such as Tourette's syndrome, anxiety, depression and seizures dramatically worse.

Some doctors recommend that children take "drug holidays" now and then to see if the child still needs to be on the drug. These "drug holidays" are usually during school holidays and summer vacations. The fallacy of a "drug holiday" is that drugs do not cure the disorder; they only temporarily control the symptoms. Thus "drug holidays" are one method doctors can use to try and lessen dangerous side effects of these drugs.

Another debate is whether Ritalin and the other drugs used to treat ADHD are prescribed unnecessarily for too many children. Current data indicates at least 10 to 15 percent of those children being treated for ADHD are overactive, impulsive or inattentive due to such things as anxiety, problems at home or school and those normal growing up behaviors we associate with the teenage years. Critics argue that many children who do not have true attention disorder are medicated as a way of controlling their disruptive behaviors. In recent months numerous stories have circulated in the national press concerning school districts across the country that are demanding parents either medicate or remove their child from school due to repeated discipline problems. As a society, have we come to the point where we would rather drug than discipline our children?

It is natural for parents to be concerned about whether taking a drug is in their child's best interests. Parents need to be clear about the potential benefits and risks of using these drugs. During the past decade, a growing number of doctors, researchers and other health care providers have been working on an effective, no-drug therapy for ADHD. In the next chapter, you will relive the steps leading to this historical break through.

How it Works

The project that ultimately led to the solution of the ADHD Problem began in 1928. At the time the medical profession received some clues to a problem as old as medicine itself. *Why does psychological stress cause physical damage to the human body?* Hans Selye, a college professor at the University of Montreal, had resolved that the damage was being done by an excessive release of adrenaline. His first thought was to remove the adrenal glands of some cattle. The cows died within a very short time. Obviously, adrenal gland removal was not the way to fix the problem!

At this point, of course, the first questions to be answered were:

- (1) Which diseases are caused by the release of excessive adrenaline?
- (2) Is this the only way stress causes damage?

These questions sparked a great deal of research. Some of it followed the classic scientific method: Analyze a problem and synthesize a solution from the factors presented. Other knowledge came from accidental discovery. For instance, a team of heart disease specialists were asked by an upholsterer, "Why are only the front edge of the chairs in your waiting room worn out?" The answer to the question led to the "A" and "B" personalities. The A's were found to release a large amount of adrenaline. The adrenaline release caused the patients to be highly excitable, and thus, they sat on the "edge of their chair". The adrenaline caused high blood pressure which in turn caused heart attacks and strokes.

The research became more and more intense. In the five years from 1985 to 1990, there were 20,000 scientific papers reporting new stress related diseases. But still the solution to the problem was as illusive as it had been to Selye.

In 1984, Dr. Kenneth Blum, who held a double Chair in the pharmacology department at the University of Texas Health Science Center, Dr. Michael Trachtenberg, who held a full professorship in the medical school at Harvard, and Albert H. Bieser, a researcher, joined in a project. They set about to make use of Dr. Blum's discovery that the craving for alcohol can be taken away through the use of the amino acid d-phenylalanine. Further research showed a craving reduction could be increased by adding the amino acids l-phenylalanine, l-glutamine and l-tryptophan. A couple of definitions may be useful here. Amino Acids are the building blocks used by man's and animal's bodies to make proteins. That is, when we eat meat and certain plants, our bodies break the food down into amino acids. Our many and various manufacturing cells, in turn, use the amino acids, as a manufacturing plant used raw materials, to make the proteins which ultimately become tissue and fluids within us. The amino acids include:

Alanine
Arginine
Asparagine
Aspartic Acid
Cysteine
Cystine
Glutamic Acid

Glutamine
Glycine
Histidine*
Isoleucine*
Leucine*
Lysine*
Methionine*
Ornithine

Phenylalanine*
Proline
Serine
Threonine*
Tryptophan*
Valine*

* It is essential that we ingest 8 of the 21 amino acids as the body cannot manufacture them. One of these is l-tryptophan which is currently banned by the FDA. Catalysts are often used which make much more efficient use of the tryptophan in food.

All of this brings us to the relationship between stress and attention deficit disorder. Perhaps the place to start is to explain the use of the brain chemicals made from the amino acids, which are used in the emotion centers of the brain, the hypothalamus and the hippocampus. To do this let us describe a situation and then see how the subsystems in the brain's emotion centers chemically respond.

The situation: Imagine the thoughts going through the mind of Mr. Herbert Schneider, a forest manager in the Yellowstone National Park. He has decided this evening to take a hike along one of his favorite mountain trails.

Just as he gets to the midway point, he hears what sounds like the growl of a cougar from somewhere in the dark underbrush of the forest. He remembers his supervisor warning that an aged cougar is believed to have walked to Yellowstone from the Grand Tetons in Wyoming. He knows that if that growl is what he thinks it is, he has a BIG problem. He breaks into a trot, and then a run as he hears the big cat break through the thicket and head toward him.

At this point, the 50 year old Herbert's only hope is to run the hundred yards to small cave entrance in less than 9 seconds. The cave has a bush at its entrance which Herbert believes will confuse the cat just long enough to allow a large stone to be placed in the entrance from inside the cave.

The central nervous system's (brain) reaction to this situation is often called the "fight or flee response". In it, five different emotional sensations are triggered by as many brain chemicals. This chemical type is referred to as neurotransmitters.

1) The first of these is the neurotransmitter group called the **opioids**. The greatest number of them are in the enkephalin molecule. If the opioids are forced to fall into short supply, one experiences a sense of urgency, a good thing to have when one is under attack. Incidentally, if the opioids are forced into over supply, one experiences euphoria and a reduction of any mild pain, such as that which may follow strenuous exercise.

2) The second sensation is caused by the neurotransmitter called **gamma amino butyric acid or GABA**, for short. When the opioids are reduced by stress, they force GABA levels down. The result is a feeling of anxiety, a good thing to have when under attack.

3) The combined feeling of urgency and anxiety could cause feelings of defeatism. However, when the opioids go down, a third neurotransmitter is released. This brain chemical is called **dopamine**. When it is brought into action, it causes feelings of being invincible. However, when it is overused to a point of short supply, one experiences a reduction in attention span and has feeling of a lack of caring about anything. He or she would have no ability to appreciate music or the beauty of, for instance, a sunset. This can grow to include a lack of ability to love pets, friends, family or even romantic love. Ultimately, the person becomes completely anhedonic.

4) The fourth neurotransmitter, **norepinephrine**, is perhaps, the most important one. It is released when GABA levels go down. Norepinephrine release causes a “rush” feeling that many people find pleasurable. It also causes the adrenal glands to release adrenaline into the blood stream. The adrenaline, in turn, causes oxygen and energy to be taken from the internal organs and delivered to the muscles by way of the blood stream. To speed this delivery the adrenaline also causes the heart to beat both harder and faster. This provides our 50 year old friend, Herbert, with the ability to run the necessary 100 yards in 9 seconds, a feat he could not otherwise possibly do. Thus, the adrenaline gives him the ability to save his life. In a well know actual example, it allowed a mother to pick a car up, off her trapped child.

5) The norepinephrine release cause levels of the fifth neurotransmitter, **serotonin**, to decrease. Serotonin enables sleep and feelings of well being. Thus, if the attack were a prolonged one, such as in war time, the young soldier, who would otherwise sleep anytime he became physically quiet, in nonetheless able to stand watch and not fall asleep.

The reduction of serotonin causes a further decline in the opioids. This is essential in an attack situation that lasts several hours. However, in the case of 20th century stress this can actually cause death!

For example, during breakfast, Ms. Smith learns her daughter needs braces which the family cannot afford. She gets on the freeway in rush hour traffic. At her job, the pressure is on, as it always is, and her livelihood seems threatened. And, so it goes all day long. The result is that she is always in a stressful situation. Her blood pressure is thus caused to remain high and her internal organs to be continually deprived of oxygen and energy. This situation has been shown to cause over 20,000 different diseases, which includes, among others, disorders and diseases of the kidney, stomach, colon, high blood pressure, strokes and heart attacks.

This means of avoiding these disorders and diseases can best be understood by considering the following: A politician is about to speak before a large audience. He steps to the microphone and snaps his fingers. The sound is picked up by the microphone and amplified by the sound system, which causes the loud speaker the back of the hall to make a sound strong enough to travel back to the microphone. The result is a loud high pitched sound which left unattended would cause everyone to leave. The very system put there to make communication possible in now making the entire hall unusable.

The problem is fixed by simply turning the volume control down to a point at which the sounds from the loud speakers are not picked up by the microphone.

Similarly, the brain uses the neurotransmitters (and their related enzymes and hormones) to do the equivalent of turning down the volume control. They set the point at which stress causes the fight or flee response to begin. However, if neurotransmitters are used too long and/or too often, the body runs out of them and they can no longer keep the adrenaline release limited to times of actual physical attack. The result is health deterioration to a point it can cause the person to die.

The solution is to give the person “raw materials” his body needs to allow it to make as much of the brain chemicals as it requires. It’s as simple as that, and we may now relate all of this to alcoholism, stress and attention deficit disorder.

In 1988, Dr. Kenneth Blum scientifically proved that roughly 80% of American alcoholics are genetically linked to that disease. Further research led to the knowledge that such people have a shortage of the ability to produce sufficient opioid, serotonin and/or GABA. This shortage of the opioids ultimately causes a shortage of dopamine and norepinephrine. Sufficient nutritional “raw materials” are required to produce all five of these neurotransmitters. These nutritional materials include the amino acids, d/l-phenylalanine, l-glutamine and l-tryptophan. Between 1985 and 1989 over 60,000 alcoholics achieved a lessening or even complete elimination of the compulsion to drink alcohol through the use of these supplements.

By 1991 it had been learned that stress activates the fight or flee response. This response causes much the same neurochemical shortages as are found in the alcoholic. The Blum amino acids formula was then improved by reformulation and could now also be used to prevent psychological stress from causing physical damage to the body.

In 1992, Dr. Terry Neher, a researcher in the State of Washington, observed that his patients, suffering from attention deficit and/or hyperactivity disorders, had shortages of the same neurotransmitters as did the people suffering from extreme stress. He, therefore, tried this new formulation on 16 patients who were on Ritalin. Over 60% of them did far better on this nutritional supplement formulation, trade named beCALM’d.

His theory was that the child or adult whose hyperactivity is caused by a shortage of the opioids (and usually with this a shortage of serotonin and GABA) has a strong sense of urgency all of the time. Sooner or later, this person learns that exercise helps. This is because exercise releases endorphin, one of the stronger opioid neurotransmitters. Of course, such release further depletes the opioid reserves, and in the end the person must spend a great deal of time in exercise routines to “self medicate” away the bad feelings caused by the neurotransmitter shortages.

Often such a person learns that the norepinephrine (adrenaline) rush will mask these feelings, and that he can achieve this type of self medication by doing anything dangerous. The child or young adult will risk being physically disciplined, pick fights, drive recklessly or engage in other dangerous behaviors. The adult may take up sky diving, bungee jumping, car racing or risky sexual behavior, just for this effect.

Dr. Neher further explained that attention deficit disorder is often caused or at least intensified by a shortage of dopamine. This shortage, with or without the usually accompanying shortages of norepinephrine and serotonin, causes a short attention span. Most of us have an attention span of at least 50 minutes. This is why classes are set for that period. However, patients with an extreme shortage of dopamine have been observed to have attention spans as low as 10 seconds.

In a more typical example, an individual’s attention span might be between 5 and 10 minutes. By the end of that much time in class, he can no longer concentrate on the class proceedings. He may then daydream, fall asleep, etc. If his problem includes hyperactivity disorder, as a child he or she will be likely to move about and do things calculated to bring on punishment. As an adult, he or she will move from one activity to another and rarely finish anything. This person will often have a low anger threshold, have trouble sleeping and exhibit hypertension.

American Medical Association statistics show that:

- a) Roughly 7% of the American population is alcoholic.
- b) Between 75% and 80% of the cases seen by internists and family physicians are caused by stress.
- c) As many as 30% of the children in our schools suffer from ADHD.

These related problems thus effect nearly all of us directly or indirectly. The solution to these related problems begin with nutritional supplementation. Once the brain's chemical balance has been established (or reestablished, as the case may be) the bad habits learned while the unbalance existed can then (and often only then) be *unlearned* through training and group support.

Dr. Neher Succeeds

In late 1991, Dr. Terry Neher began a clinical study to see if certain amino acids might be useful as an adjunct to the treatment of ADHD. For this study he chose the same amino acid commercial formulation, beCALM'd, that he used for other patients with similar symptoms. The results of this study were dramatic. All of Dr. Neher's patients had been taking Ritalin. Of them, 62.5% exhibited endorphin and or dopamine deficiency. He gave all of them four capsules a day. After the first month, it became obvious that those not exhibiting these deficiencies did much better on Ritalin. The study was stopped on this group, and they were placed back on Ritalin. The 62.5% group, however, did as well the first month on beCALM'd as they had on Ritalin. By the end of the second month, they were more symptom free than their parents could remember they had ever been and by the end of the third month, there was little difference between patients and the general (non ADHD) population.

Word of these results passed from one parent to another and the product, of its own volition, began to receive national recognition. Dr. Neher received numerous phone calls, as did beCALM'd manufacturers, telling of similar successes. One of the mothers sent a letter containing data from what amounted to a study with only one subject. Her letter is below. The details of her letter are available from the publisher upon request.

Dear Dr. Neher,

Our son is twelve years old. We adopted Andy when he was eight months old. His biological mother was alcoholic. She was also on medication for Schizophrenia. When he was nine years old, he was diagnosed as having "Attention Deficit Disorder", a common side effect of Fetal Alcohol Syndrome. Andy has been on Ritalin for the last three years.

After taking a class that explained the side effects of Ritalin, we took Andy off Ritalin around the middle of October 1992. This class also taught me about neurotransmitters and amino acids. After talking to the instructor, Dr. Terry Neher, I put Andy on a combination of amino acids, vitamins and minerals called beCALM'd, a formula designed to reduce the effects of stress.

The first thing I noticed was that when we put Andy to bed he was asleep within a short period of time. This has not been the case in the previous twelve years. He would usually lay awake from one to two hours. After taking beCALM'd, he wakes up in the morning refreshed and in a much better mood. He also seems more "at ease" and things don't seem to bother him. His is able to handle stressful situations and not get upset.

Andy's schooling has also improved. Before putting him on beCALM'd, we would get reports home from the teachers stating that he was up and moving around the classroom when he should be working on assignments at his desk. He wasn't completing his schoolwork or homework assignments. He was also complaining that he didn't like school, and he came home from school with very low self-esteem. Once we put him on beCALM'd he started staying in his seat at school, finishing assignments and started feeling better about school and himself.

When we put Andy on beCALM'd, we had Andy's teachers keep a daily log showing if he was acting like normal kids his age, more active than kids his age or below kids his age. The following charts will show Andy's improvement since starting on beCALM'd. [Note that the next to last day of the study was the day before the beginning of "winter holidays" and candy was being given out. Andy are quite a little of this with predictable results.]

Sincerely,

Mrs. [G.F.] [Charts have been omitted but are available on request from the publisher.]

Another mother was so excited that she called us to tell us her adopted Son's story. She and her husband adopted and F.A.S. boy whose parents were both alcoholic. He was a problem for his new family and even their neighbors. The mother told us that she needed to send him to day school as she could not "stand" to be around him 24 hours a day.

The day the bottle of beCALM'd arrived she gave him a whole capsule, rather than the half capsule per day recommended. She then drove him and his five year old foster brother to her husband's place of work to deliver lunch. On the way the three year old was his usual incorrigible self. He pulled his brother's hair, wrestled with him and distracted his foster mother to such an extent it nearly caused an accident.

Half an hour later, on the way home, he was a totally different child. He laughed and played with his brother and proved to be a joy with.

His mother's story was interrupted at this point to tell us that this was not the important part of her story. It was what follows:

A week later, one of her neighbors stopped to ask the question, "What caused the miracle with your son? In a week he has changed from someone whom none of us would let in our homes to the child we'd most like have to visit us. *How did you do it?*"

Dr. Neher's treatment relies heavily on giving the patient's body the nutrition it requires to provide for that individual's special needs. Giving the body the nutrition it needs to function normally very often leads to reducing anti-social behavior. Never-the-less, it is important to remember that most people learn socially unacceptable habits while their brain chemistry lacks balance. Unlearning these habits can require time, patience, understanding, and, most difficult of all, the exercise of "tough love".

An example is found in an event commonly reported by those who use beCALM'd or those clinicians who recommend its use. When the opioid and serotonin levels are low, unreasonable anger usually occurs. A person with this disorder learns that exhibiting anger enables control of people who dislike confrontation. Thus, the disorder can lead to generally unproductive, bullying behavior. Correcting this trait, while the lack of chemical balance exists, is rarely possible. The lack of these neurotransmitters causes a continual feeling of impatience. Under these conditions, the smallest imperfection in performance, or refusal to perform as demanded trigger further stress which in turn further reduces the opioids. Being tolerant is out of the question.

Once the balance had been restored, correcting the bully trait through psychological retraining is usually very effective. For the youngster, this can be as simple as the exercising of a little parental tough love and good example.

As was mentioned above, following the publishing of Dr. Neher's 1991 clinical trials, he received literally hundreds of calls from parents all over the U.S. with similar stories. Please remember, however, one is always well advised to check with any attending physician before making changes in drugs he or she has been prescribed. Further, while it is generally dangerous to presume a disease diagnosis and then self-medicate it. Never-the-less, when one receives the diagnosis of Attention Deficit or Hyperactivity Disorder, it is often useful and comforting to learn something of the disorder and its treatment. Therefore, the Appendices include discussions of the "screening" tests often used by Dr. Neher, a more thorough discussion of the development of the nutritional formula he uses and his recommended dosages.

The material in this book is not intended to be a complete discussion of the topic. Such a compendium would require many volumes. We do hope that it will give you some guidance and will encourage you to combine this information with a sound nutritional diet. Once the brain's chemical balance is achieved, the ADHD individual will need positive support to change the habit caused by his former disorder.

APPENDICES

ADHD Criteria Often Used By Dr. Neher

Diagnostic Criteria for Attention-Deficit/Hyperactivity Disorder

Inattention (low attention span)

Six or more of the following symptoms of inattention have persisted for at least 6 months to a degree that is maladaptive and inconsistent with the development level:

_____ Often fails to give close attention to details or makes careless mistakes in schoolwork or other activities.

_____ Often has difficulty sustaining attention in tasks or play activities.

_____ Often does not seem to listen when spoken to directly.

_____ Often does not follow through on instruction and fails to finish schoolwork, chores or duties in the workplace (not due to oppositional behavior or fail to understand instructions.)

_____ Often had difficulty organizing tasks and activities.

_____ Often avoids, dislikes or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework.)

_____ Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools.)

_____ Is often easily distracted by extraneous stimuli.

_____ Is often forgetful in daily activities.

Hyperactivity

Six or more to the following symptoms of hyperactivity-impulsivity have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

- a) Often fidgets with hands or feet or squirms in seat.
- b) Often leaves seat in classroom or in other situations in which remaining seated is expected.
- c) Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults may be limited to subjective feelings of restlessness.)
- d) Often has difficulty playing or engaging in leisure activities quietly.
- e) Is often “on the go” or often acts as if “driven by a motor”.
- f) Often talks excessively.

Impulsiveness

Two or more of the following symptoms of hyperactivity-impulsivity have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

- g) Often blurts out answers before questions have been completed.
- h) Often has difficulty waiting turns.
- i) Often interrupts or intrudes on others (e.g., at school or work and at home.)

Additional Considerations

- A. Some hyperactive-impulsive and inattentive symptoms that caused impairment were present before age 7 years.
- B. Some impairment from the symptoms is present in two or more settings (e.g., at school or work and at home.)
- C. There must be clear evidence of clinically significant impairment in social, academic or occupational functioning.
- D. The symptoms do not occur exclusively during the course of a Pervasive Development Disorder, Schizophrenic or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder or a Personality Disorder.)

General Adult ADHD

Symptom Checklist

In conjunction with other diagnostic techniques the following general adult ADHD checklist helps further define ADHD symptoms. No ADHD adult has all of the symptoms, but if you notice a strong presence of more than 20 of these symptoms, there is a strong likelihood of ADHD.

Please read this list of behaviors and rate yourself (or the person who has asked you to rate him or her) on each behavior listed. Use the following scale and place the appropriate number next to the item.

0 = never; 1 = rarely; 2 = occasionally; 3 = frequently; 4 = very frequently

IMPORTANT: This is not a tool for self-diagnosis. Its purpose is simply to help you determine whether ADHD may be a factor in the behavior of the person you are assessing using this checklist. An actual diagnosis can be made only by an experienced professional.

Past History

_____ 1. History of ADHD symptoms in childhood, such as a distractibility, short attention span, impulsiveness or restlessness. ADHD doesn't start at age 30.

_____ 2. History of not living up to potential in school or work (report cards with comments such as not living up to potential).

_____ 3. History of frequent behavior problems in school (mostly for males).

_____ 4. History of bed-wetting past age 5

_____ 5. Family history of ADD, learning problems, mood disorders or substance abuse problems

Short Attention Span/Distractibility

- _____ 6. Short attention span, unless very interested in something.
- _____ 7. Easily distracted, tendency to drift away (although at times can be hyper focused).
- _____ 8. Lacks attention to detail, due to distractibility.
- _____ 9. Trouble listening carefully to directions.
- _____ 10. Frequently misplaces things.
- _____ 11. Skips around while reading or goes to the end first, trouble staying on track.
- _____ 12. Difficulty learning new games because it is hard to stay on track during instructions.
- _____ 13. Easily distracted during sex causing frequent breaks or turnoffs during love making.
- _____ 14. Poor listening skills.
- _____ 15. Tendency to be easily bored (tunes out).

Restlessness

- _____ 16. Restlessness, constant motion, legs moving, fidgety.
- _____ 17. Has to be moving in order to think.
- _____ 18. Trouble sitting still, such as trouble sitting in one place for too long, sitting at a desk job for long periods, sitting through a movie.
- _____ 19. An internal sense of anxiety or nervousness.

Impulsiveness

- _____ 20. Impulsive in words and/or actions (spending).
- _____ 21. Say just what comes to mind without considering its impact (tactless).
- _____ 22. Trouble going through established channels, trouble following proper procedure, an attitude of, "Read the directions only if all else fails."
- _____ 23. Impatient, low frustration tolerance.
- _____ 24. A prisoner of the moment.
- _____ 25. Frequent traffic violations.
- _____ 26. Frequent, impulsive job changes.
- _____ 27. Tendency to embarrass others.
- _____ 28. Lying or stealing on impulse.

Poor Organization

- _____ 29. Poor organization and planning, trouble maintaining an organized work/living area.
- _____ 30. Chronically late or chronically in a hurry.
- _____ 31. Often has piles of stuff.
- _____ 32. Easily overwhelmed by tasks of daily living.
- _____ 33. Poor financial management (late bills, checkbook a mess, spending unnecessary money on late fees)
- _____ 34. Some adults with ADHD are very successful, but often only if they are surrounded with people who organize them

Problems Getting Started and Following Through

- _____ 35. Chronic procrastination or trouble getting started.
- _____ 36. Starting projects but not finishing them, poor follow through.
- _____ 37. Enthusiastic beginnings but poor endings.
- _____ 38. Spends excessive time at work because of inefficiencies.
- _____ 39. Inconsistent work performance.

Negative Internal Feelings

- _____ 40. Chronic sense of underachievement, feeling you should be much further along in your life than you are.
- _____ 41. Chronic problems with self-esteem.
- _____ 42. Sense of impending doom.
- _____ 43. Mood Swings.
- _____ 44. Negativity.
- _____ 45. Frequent feeling of demoralization or that things won't work out for you.

Relational Difficulties

- _____ 46. Trouble sustaining friendships or intimate relationships, promiscuity.
- _____ 47. Trouble with intimacy.
- _____ 48. Tendency to be immature.
- _____ 49. Self-centered; immature interests.
- _____ 50. Failure to see others' needs or activities as important.
- _____ 51. Lack of talking in a relationship.
- _____ 52. Verbally abusive to others.
- _____ 53. Proneness to hysterical outburst.
- _____ 54. Avoids group activities.
- _____ 55. Trouble with authority.

Short Fuse

- _____ 56. Quick responses to slights that are real or imagined.
- _____ 57. Rage outbursts, short fuse.

Frequent Search For High Stimulation

- _____ 58. Frequent search for high stimulation (bungee jumping, gambling, race track, high stress jobs, ER doctors, doing many things at once, etc).
- _____ 59. Tendency to seek conflict, be argumentative or to start disagreements for the fun of it.

Tendency To Get Stuck (thoughts or behaviors)

- _____ 60. Tendency to worry needlessly and endlessly.
- _____ 61. Tendency toward addictions (food, alcohol, drugs, work).

Switches Things Around

- _____ 62. Switches around numbers, letters or words.
- _____ 63. Turn words around in conversations.

Writing/Fine Motor Coordination Difficulties

- _____ 64. Poor writing skills (hard to get information from brain to pen).
- _____ 65. Poor handwriting, often prints.
- _____ 66. Coordination difficulties.

The Harder I Try The Worse It Gets

- _____ 67. Performance becomes worse under pressure.
- _____ 68. Test anxiety or during tests your mind tends to go blank.
- _____ 69. The harder you try, the worse it gets.
- _____ 70. Work or schoolwork deteriorates under pressure.
- _____ 71. Tendency to turn off or become stuck when asked questions in social situations.
- _____ 72. Falls asleep or becomes tired while reading.

Wake/Sleep Difficulties

- _____ 73. Difficulties falling asleep, may be due to too many thoughts at night.
- _____ 74. Difficulty coming awake (may need coffee or other stimulant or activity before feeling fully awake).

Low Energy

- _____ 75. Periods of low energy, especially early in the morning and in the afternoon.
- _____ 76. Frequently feeling tired.

Sensitive To Noise Or Touch

_____ 77. Easily startled.

_____ 78. Sensitive to touch, clothes, noise and light.

.....

When you have completed the above checklist, calculate the following:

1. Total Score: _____
2. Total Number of Items with a score of three (3) or more: _____
3. Score for Item #1: _____
4. Score for Item #6: _____
5. Score for Item #7: _____

More than 20 items with a score of three or more, indicates a strong tendency toward ADHD. Items 1, 6, and 7 are essential to make the diagnosis.

APPENDICES

One of the most common ways to diagnose ADHD in adult's follows parents reluctantly indicating that they have tried their child's medication and that they found it very helpful. They will usually also report it helped them concentrate for longer periods of time. They became more organized and were less impulsive. However, please note that taking another person's medication is never recommended!

Development of the Formulae

As was seen in the "How It Works" Chapter, there are five, interrelated neurotransmitter groups involved in ADHD behavior.. The relationship between them, stress, and the *fight or flee* mechanisms was shown in detail. The following table gives a more complete listing of the uses of these neurotransmitters in emotional response and the amino acid precursor used in the body's manufacture of the neurotransmitter. Having this list is sometimes helpful in attaining a better understanding of the ADHD behavioral response.

Neurotransmitter/Amino Acid	General Functions	Deficiencies Result In:
<u>Serotonin</u> l-tryptophan plus catalysts	Emotional stability	Lack of rational emotion Feelings of irritability Sudden unexplained tears Sleep problems Free floating anxiety;
<u>GABA</u> l-glutamine	Staying calm	Fearful, insecure feelings Feelings that things are closing in Unexplained panic
<u>Enkephalins</u> d-l phenylalanine l-glutamine l-tryptophan methionine folic acid	Euphoria and Sense of urgency	Feelings of incompleteness Lack of fulfillment Feelings of inferiority Never feels "Equal"
<u>Dopamine</u> l-phenylalanine	Pleasure, reward towards others. Maternal & paternal love	Good feelings Anhedonia – no pleasure in life World looks colorless Inability to "love" No remorse about misbehavior
<u>Norepinephrine</u> l-phenylalanine	Arousal, Energy, Drive	Lack of drive, ambition, energy Unexplained depression.

Most of the above effects were known more than 20 years ago. However, the interrelationships were not known until quite recently. The importance of this (patented) concept is seen in the following example: A Russian experiment completed 25 years ago showed that two kilograms of d-phenylalanine each day could eliminate the effects of stress nearly as well as the formula used by Dr. Neher. However, these levels of d-phenylalanine can cause euphoria. Perhaps more important, d-phenylalanine costs about \$250 per Kilogram (current wholesale price) and thus its use is economically infeasible. However, when combined with l-glutamine, l-tryptophan and/or l-tryptophan as little of is as 0.000150 kilograms is sufficient.

The exact quantities of each used is relatively unimportant from an overall (patent) point of view.

Nevertheless, the formula has been "fine tuned" over the years for maximum results. Its most recent version is given below:

BeCalm'd Capsule Ingredients:

Supplement Facts:

Serving Size 1 Capsules / Serving Per Container 90

Each Capsule Contains:	Amount Per Serving	%USRDA
Calcium (from Calcium Chelate/carbonate)	50 mg	6
Magnesium (from Magnesium Chelate/oxide)	25 mg	6
Vitamin B-6 (as Pyridoxal-5- Phosphate)	1 mg	50
Folic Acid (as Folacin)	0.1 mg	12
DL-Phenylalanine	300 mg	*
L-Glutamine	150 mg	*
5HTP (natural l-tryptophan)	5mg	*

*Daily Value Not Established

Other Ingredients: gelatin, cellulose, silica and vegetable stearate.

*U.S. Recommended Daily Allowance has not been established.

Guaranteed: No fillers, no sugar, no starch, no salt, no milk, no yeast, no preservatives or chemical additives, no artificial dyes, colors or flavors.

Directions: One or two capsules taken as a dietary supplement before meals. Store at 40 F. to 120 F., preferably at 75 F.

Warning: Phenylketonurics, contains phenylalanine. Not intended for use by phenylketuronurics, pregnant or lactating women. Do not take with MAO inhibitor antidepressant drugs. Keep all bottles out of the reach of children.

The above is known by the trade name:

beCALM'd Stress Formula

U.S. Patent Numbers

4,761,429 and 5,189,064 and Others Pending

Dosages

The FDA has never established Recommended Daily Allowances (RDA) for amino acids and many other common nutrition factors. Further, until a recently passed bill, often called the Health Education Act, only FDA approved drugs could have recommended dosages published. With the passage of this bill, we are able to pass on to you're the dosages recommended by many of the clinicians who advocate beCALM'd. The amino acids, vitamins and minerals it contains are all natural, pharmaceutically pure and produced in FDA inspected and approved facilities.

In all cases the product should be taken on an empty stomach – half an hour or more before meals or two or more hours after a meal. The quantities above relate to adults. Children should take proportionately less.

The only known contraindications to the formula used by Dr. Neher are: It should not be taken by phenylketonurics, pregnant or lactating women or people who are taking monoamineoxidase (MAO) inhibitor antidepressants.