

## Alternatives to Traditional Treatment for Depression

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The most common complaint among my clients is depression. A large number of clients with chief complaints other than depression are already being treated with antidepressant pharmaceuticals such as Prozac, Zoloft, or Paxil. The purpose of this presentation is to define and discuss depression, explain the new classification of antidepressant medications and their possible side effects, and finally to offer alternatives to these drugs.

The two major classifications of depression are unipolar and bipolar. Unipolar depression is certainly the most common and usually presents with consistent complaints of melancholy, sadness, fatigue, hypersomnia, or the other extreme of agitation and insomnia. Bipolar disorder has historically been known as manic depression and is biphasic in nature. The manic episodes are described as a state of elation and high energy, but are followed eventually by extreme depression. People with bipolar disorder often refuse treatment because they actually enjoy the manic phase of the disease. For the sake of this discussion, we are going to focus solely on unipolar depression.

There are three categories of unipolar depression. The first one is *melancholic*, and is characterized by sadness, fatigue, weight loss, withdrawal, and indecisiveness. The second is "*agitated*" depression, and involves anxiety, pacing behavior, insomnia, obsessive focus on their situation, and as its name suggests, extreme agitation. The third category which is known as *atypical depression*, presents itself as hypersomnia, overeating, and extreme mood reactivity. People suffering from *atypical depression* usually are functional and their mood can be elevated by external events.

Depression may manifest itself in many different ways, and is divided into several

clinical subtypes which describe these various forms it may adopt. Depression which is mild but long term and not usually incapacitating is known as *dysthymic disorder*. Sometimes depression is masked by physical complaints, and may present itself as either pain or hypochondria. This clinical subtype is known as *masked depression*. Depression in the elderly may be the underlying cause for symptoms such as confusion, memory loss, and sleep disturbances, and may even be misdiagnosed as senile dementia. This form of depression is termed *involutional depression*. *Seasonal affective disorder* is a clinical subtype which has recently gained attention, and is caused by a biological disturbance created by lack of sunlight in the winter months. Maniacal symptoms sometimes appear in the sunlight rich summer months with SAD. Depression which occurs within a month after delivery is known as post partum depression. The symptoms may be extreme and include psychotic episodes such as delusions that the child is possessed or has special powers. This form may involve suicidal thoughts and/or tendencies, apathy and withdrawal from the infant, panic attacks, and spontaneous crying. The final clinical subtype of depression is *reactive depression*, which as its name suggests, involves a reaction to a situation which is overwhelmingly stressful, and/or involves extreme loss.

There is evidence of altered physiology in persons with depression. Autopsies on persons with a history of depression have frequently revealed a severe depletion of glial cells in the brain. Glial cells serve to both provide nutrients and growth hormone to the frontal cortex and to regulate glutamate. Glutamate appears to regulate excess stimulation of the limbic system which is concerned with processing emotions. It is also interesting to note that PET scans on individ-

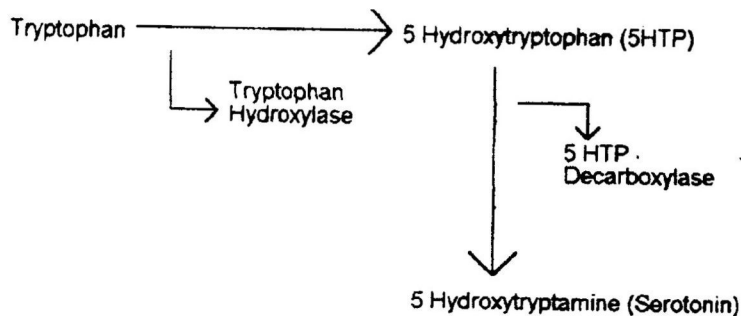
uals with depression tend to reveal extreme hypoactivity of the left frontal lobe. Among other symptoms, left frontal lobe lesions produce some consistent with those of depression which include apathy, lack of motivation, withdrawal, and loss of sexual interest.

The etiology of depression is believed to involve the neurotransmitters. Neurotransmitters are substances which relay messages from neuron to neuron within the brain. (Nerve cells are known as neurons.) Although several neurotransmitters are involved in depression, including GABA (gamma-aminobutyric acid), norepinephrine (NE), dopamine (DA), and serotonin (5-HT), the neurotransmitter which will be the main focus of this discussion on unipolar depression is serotonin.

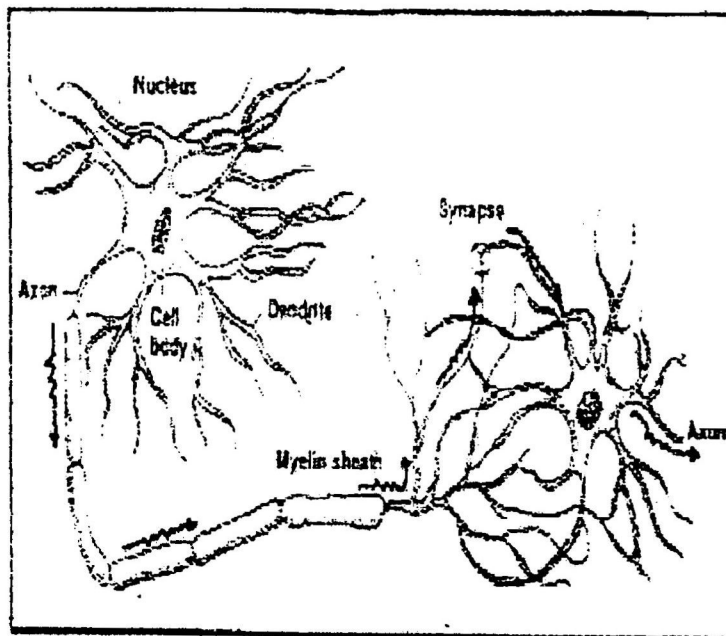
Serotonin has been the target of both research and pharmacological action in the treatment of depression. It has been isolated in the brain, blood serum, and gastric mucous membranes in both animals and humans. Its actions include vasoconstriction (constriction of blood vessels), stimulation of smooth muscles, transmission of impulses between neurons, and regulation of cyclic body processes, including the sleep-wakefulness cycle. Serotonin has also been associated with mood emotion and other limbic functions.

Its chemical formula is  $C_{10}H_{12}N_2O$ . It is manufactured from tryptophan, which in the presence of tryptophan hydroxylase is

converted to 5 hydroxytryptophan (5HTP), which in the presence of 5HTP decarboxylase becomes 5 hydroxytryptamine, or serotonin.

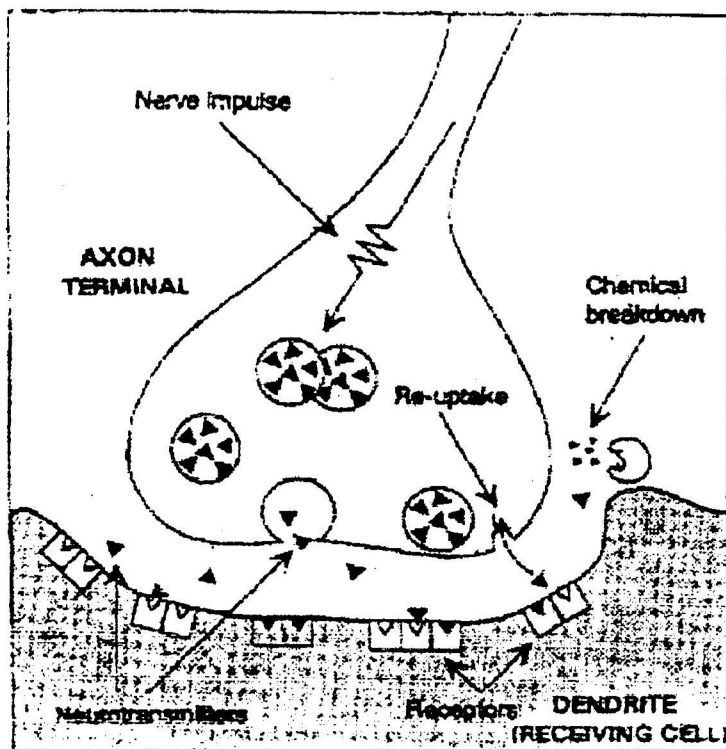


Comprehension of the pharmacological action of antidepressants requires knowledge of basic neural anatomy. The neuron is comprised of four basic components which include the soma (cell body), axon, dendrite, and the synapse. (NAMI 6.22)



The soma, or cell body, manufactures all of the proteins and other substances necessary for function and sustenance of the neuron. The nucleus, which contains the genetic blueprint of the person in the form of DNA, is also located in the soma. The axon is a tubular extension of the soma, varies in length, and has branches extending from it. It can usually be distinguished from the dendrites by noting that it is a single extension which is much longer than the dendrites. The axon carries the impulse from the cell body to the synapse, where the impulse can be transmitted to other neurons. The dendrites, in contrast to the axon, are multiple tubular extensions of the soma, and are the receivers of impulses from other neurons. The minute space between the axon of

the transmitting neuron and the dendrites of the receiving neuron is called the synapse, or the synaptic cleft. So the sequence of events is that the impulse travels from the axon of a transmitter neuron across the synapse where it is received by the dendrites of the receptor neuron. The impulse then travels along the neuron to the axon where the process is repeated with another connecting neuron. (NAMI, 6.23)



SOURCE: *The Biology of Mental Disorders: New Developments in Neuroscience.*

These impulses are transmitted across the synaptic cleft with the assistance of neurotransmitters. These neurotransmitters are stored in the terminal of each axon. There are specific receptors sites for each of these individual neurotransmitters located on the dendrites. That is, norepinephrine can only bind to norepinephrine receptor sites, dopamine can only bind to dopamine receptor sites, and serotonin can only bind to serotonin receptor sites. The neurotransmitter involved determines the specific neural pathway through which the impulse is conducted, and therefore the action achieved from the transmission of the impulse.

The role of the neurotransmitter, however, is to merely activate the receptors. After this action is achieved, the neurotransmitter unbinds itself to allow the receptor to accept another impulse. After the neurotransmitter is released, it is removed from the synapse. This removal process occurs in one of two ways. The first way is called reuptake, and involves a process of reabsorption whereby with the help of a protein transporter, the neurotransmitter is actually

reabsorbed from the synapse into the axon terminal. This method can be thought of as recycling. The second way is through metabolism, or the chemical breakdown of the neurotransmitter. Since norepinephrine, dopamine, and serotonin all belong to the category of neurotransmitters known as monoamines (named for their chemical compositions), the substance responsible for the breakdown of these specific neurotransmitters is known as monoamine oxidase (MAO).

The antidepressant medications work by interfering with the removal process of the neurotransmitters at the synapses. This can be accomplished either by blocking the re-uptake of the transmitter substance, or by interfering with its metabolism.

The first classification of antidepressants used to combat major depression were the tricyclic and tetracyclic antidepressants, named for their chemical compositions. These have been in use for about thirty-five years, and are still prescribed for the most severe cases of melancholia. The tricyclic and tetracyclic antidepressants are thought to inhibit the re-uptake of norepinephrine and/or serotonin in the synapse. Some of the more familiar names in this category of antidepressants are Norpramin, Tofranil, Aventyl, and Elavil. These are slow to act, taking approximately two to four weeks to realize the effects. The side effects are numerous and include dry mouth, tremors, blurred vision, bloating and weight gain, urinary retention, lightheadedness when standing

suddenly, sweating, constipation, decreased sexual function, cognitive impairment, memory loss, and confusion. Many of these side effects are because they also block the neurotransmitter called acetylcholine, which controls the cholinergic nervous system. (NAMI 6.25, 6.26)

The second major class of antidepressants is the monoamine oxidase inhibitors (MAOI). As their name suggests, they inhibit the action of monoamine oxidase and therefore prevent metabolism of the monoamine neurotransmitters, including serotonin. Included in this category are Nardil, Parnate, and Marplan. These are especially effective in atypical depression, which is the kind marked by anxiety, hypersomnia (over-sleeping), polyphagia (over-eating), weight gain, and insomnia. Some of the side effects include weight gain, dizziness, sleep disturbances, impaired sexual function, and edema. (NAMI 6.27)

The two new generation classifications on the market are the Selective Serotonin Re-Uptake Inhibitors (SSRIs), and the Selective Re-Uptake Inhibitors (SRIs). As their names imply, the SSRIs inhibit the re-uptake of only Serotonin, and the SRIs block the re-uptake of dopamine and/or norepinephrine. One of the greatest advantages of these new generation drugs is that unlike the tricyclics, the tetracyclics, and the MAO inhibitors, they pose no risk of lethal overdose. (NAMI 6.29)

Some of the SSRIs include Prozac, Zoloft, and Paxil. The side effects may involve anxiety, insomnia, nausea, headaches, depressed sexuality, weight loss, or they may trigger mania or psychosis. (NAMI 6.28)

Some of the SRIs are Wellbutrin, Serzone, and Effexor. These side effects are more specific. Wellbutrin may cause weight loss, agitation, risk of seizures, and relative absence of sexual function, but has a beneficial effect on sleep. Serzone causes a lesser incidence of sexual dysfunction and insomnia. However, it may cause mild dizziness, drowsiness, blurred vision, and constipation. It also has a beneficial effect on sleep. Effexor may cause transient nausea, nervousness, dizziness, sleepiness, constipation, decreased sexuality, and raises blood pressure in high doses. (NAMI 6.28)

Another allopathic treatment for depression is electroconvulsive therapy, or ECT. This involves the use of mild electrical stimulation to the brain to induce seizures. It is administered under a short acting general anesthetic, and is used when there is a high risk of suicide and immediate intervention is necessary, or with recurring depression which is not responding to medication.

The general approach to treating a person with melancholia is no different than treating a person with any other complaint. It includes interventions dealing with the mind, the body, and the spirit. When the body has all the essential support, it can and will heal itself. It is advisable to start with the least intrusive intervention and proceed according to degrees of invasiveness until harmony is achieved.

The first step necessary, of course, is to take a comprehensive history. This should include dietary and exercise habits, life style, stresses at work and at home, information regarding the onset of depression as well as what was happening at that time. The history should also encompass therapies which have been tried previously, their effectiveness, and any untoward reactions.

While the psychotherapeutic approaches is a subject unto itself, the one important observation which I have made in my practice is that the core issue with deep chronic depression is most often disconnection from God, or whatever that person happens to refer to the higher being as. People who consider themselves religious and who practice according to their prescribed beliefs are not exempt from experiencing this phenomenon. The disconnection occurs at a subconscious level, and may manifest itself because the individual holds unconscious beliefs that they are not deserving of God's love. They may also blame God for some trauma in their life, often leading to the perception that they were abandoned by God during this time of need. When a previously traumatized person is placed under hypnosis, a great deal of anger towards God sometimes surfaces. Once the anger is expelled the relationship with God can be healed and the connection restored. The depression then lifts. The healing techniques which achieve a heart connection with God are the most powerful since the outer levels of the

human energy field are the spiritual layers and the changes which occur at these levels also cause changes in all of the other layers, including the mental and emotional, and eventually the physical body. Working at the spiritual level truly changes people's lives.

Another consideration in the treatment of depression is exercise. Exercise can serve as a natural mood enhancer. However, people suffering from severe depression often lack both the energy and the motivation to begin a program. If this is not an appropriate intervention initially, interjecting exercise into the regimen at some point in recovery is highly recommended for sustenance. Exercise is the best way to stimulate the physical to strengthen the mental. It enhances cardiovascular function which increases oxygenation to the cells. Increasing oxygen to the brain improves both brain function and mood. Exercise also has been shown to stimulate the production of neurotransmitters as well as beta endorphins, which act as natural pain killers.

There are many dietary considerations in the treatment of people with depression since adequate nutrition is essential to proper nerve function. The first area of possible deficiency to contemplate is that of vitamin B complex. It is often recommended that the B vitamin intake be increased during stressful situations since anxiety depletes the B's.

Vitamin B<sub>1</sub> (thiamin) is known to prevent beriberi, a nervous system disease. Thiamin supplementation has been shown to relieve symptoms of mental confusion, memory loss, and fatigue. The need for B<sub>1</sub> increases as the carbohydrate intake increases. Foods which contain B<sub>1</sub> include rice bran, soy beans, dried beans, whole grains, wheat germ, milk, eggs, organ meats, pork, poultry, brown rice, barley, and seafood.. Some other sources include oatmeal, plums, dried prunes, raisins, and asparagus.

Vitamin B<sub>2</sub> (riboflavin) supplementation has also been demonstrated to relieve nervous system disorders. It aids in the metabolism of proteins, fats, and carbohydrates. Riboflavin is necessary for the metabolism of tryptophan, which as previously mentioned, is a precursor to serotonin. Some of the tryptophan is also

converted to niacin in the body. Some sources of riboflavin include milk, eggs, cheese, green leafy vegetables, fish, meat, poultry, and yogurt.

Vitamin B<sub>3</sub> (niacin) aids in the functioning of the nervous system. It helps to prevent and treat schizophrenia. Some of the niacin containing foods are meat, fish whole grain cereals, eggs, milk, cheese, broccoli, carrots, corn flour, potatoes, and tomatoes.

Vitamin B<sub>5</sub> (pantothenic acid) helps to maintain normal growth and health of the nervous system, and has been shown to be helpful in the treatment of anxiety and depression. In fact, it is often called the "antistress vitamin". It is necessary to convert choline into acetylcholine, which is necessary for proper brain function. It plays a major role in the production of the adrenal steroids, aids in vitamin utilization, and helps to convert fat, proteins, and carbohydrates into energy. It is required by every cell in the body and is concentrated in the organs. Pantothenic acid can be found in yeast, organ meats, eggs, molasses, whole grain cereals, brown rice, beans, meats, vegetables, and salt-water fish.

Vitamin B<sub>6</sub> (pyridoxine) is particularly important in the synthesis of serotonin. It can help alleviate symptoms of irritability, depression, insomnia, and obsessive-compulsive disorder. It is necessary for the formation of RNA and DNA which contain the blueprints for the reproduction of all cells. Another important function of pyridoxine is that it facilitates the absorption of vitamin B<sub>12</sub>. It is contained in meat, fish, milk, eggs, whole grain cereals, brewer's yeast, carrots, peas, spinach, sunflower seeds, walnuts, and wheat germ.

Vitamin B<sub>9</sub> (folic acid) is considered a brain food, and supplementation during pregnancy has been shown to decrease the incidence of neural tube defects such as spina bifida in the fetus. It has been tested on people with depression and demonstrated to help alleviate symptoms. Folic acid is necessary for the body to utilize both amino acids (the building blocks for proteins) and sugar. It may be found in green leafy vegetables, wheat germ, nuts, eggs, bananas, oranges, organ meats,

barley, beans, bran, brewer's yeast, lentils, meat, chicken milk, split peas, root vegetables, salmon, and tuna.

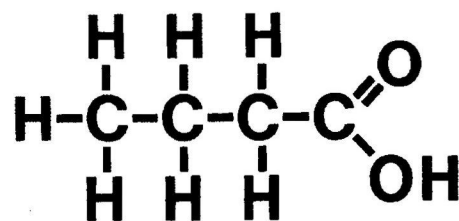
Vitamin B<sub>12</sub> (cobalamin) is necessary for the healthy metabolism of nerve tissue, and supplementation has been shown to prevent nerve damage. Deficiency can cause brain damage and other neurological disorders. It is required for proper protein synthesis and metabolism of carbohydrates and fats. A cobalamin deficiency can be caused by malabsorption, especially in the elderly. Vegetarians are more likely to be deficient in this vitamin. The symptoms of a deficiency include abnormal gait, memory loss, hallucinations, eye disorders, anemia, and digestive disorders. Aloe Vera is one of the few documented plant source of B<sub>12</sub>. Food sources include seafood, blue cheese, cheese, milk, eggs, organ meats, and meat.

Another dietary consideration when treating depression is Omega-3 oils. Omega-3 oils are one of two essential fatty acids, the other being Omega-6 oils. Essential fatty acids (EFA's) are those which are necessary to maintain function but not produced by the body. EFA's are components of cell membranes. They are involved in the production of and distribution of energy in the body. Although the mechanism is not well understood, it is believed that EFA's are involved in the transfer of oxygen from the lungs to the blood. The longer chain Omega-3 oils are necessary for proper brain function, and deficiency can lead to mental deterioration and affect mood. Modern diets are usually rich in Omega-6 oils, which are contained in a variety of foods including corn oil, olive oil, sunflower oil, and safflower oil. Omega-3 oils are found in flaxseeds, walnuts, and fish. The approximate ratio of Omega-6 oils to Omega-3 oils should be no more than 3:1, and ideally 1:1. In modern Western diets, the ratio is more likely to be 10:1-20:1. This is ten to twenty times more Omega-6 oils than Omega-3 oils. Most of the studies correlating Omega-3 deficiency and depression have been done using the longer chain Omega-3 oils found in fish. Psychiatrist and researcher Joseph R. Hibbeln, M.D. found a direct correlation between populations which still consume a lot of fish and a lower incidence of depression. Several biochemical studies have also been done to support the premise that Omega-3 deficiencies contribute to depression. In Melbourne, Australia, Peter B. Adams and his colleagues demonstrated that the severity of depression could be correlated to higher levels

of Omega-6 oils in relation to Omega-3 oils. In Belgium, Michael Maes was able to demonstrate that low levels of omega-3 oils were found in the blood serum of depressed patients. In the United Kingdom Malcolm Peet found that the red cell membranes of depressed patients were depleted of Omega-3 fatty acids.

The debate now is which is the best source of Omega-3 fatty acids. Andrew L. Stoll, M.D., in *The Omega-3 Connection* maintains that fish oil is the better source, especially for brain function since the nervous system requires the longer chain Omega-3 fatty acids found in fish versus the shorter chains found from plant sources. The body's ability to create the longer chain fatty acids is called into question by this author. Udo Erasmus, the author of *Fats that Heal and Fats that Kill* and the researcher that discovered faxseed oil as a source of Omega-3 fatty acids agrees but only to a point. Fish oil is the best source when fresh and raw, but heating these oils changes the configuration of the molecule so that the full benefit is not realized. Erasmus also maintains that most of us have no difficulty in the conversion of the shorter chain molecules to the longer ones.

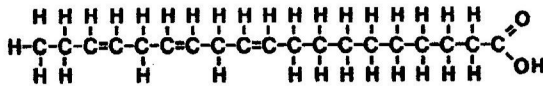
To evaluate the debate requires a knowledge of terms related to fatty acids. Andrew L. Stoll explains the term trans-fatty acids to be synonymous with hydrogenated fats. Udo Erasmus, however, distinguishes between saturated fats, unsaturated fats, cis-fatty acids, and trans-fatty acids. The fatty acid molecule is comprised of a carbon chain with hydrogen atoms linked to the carbons, a methyl group at one end (CH<sub>3</sub>) and an acid group at the other end (COOH).



**SATURATED FAT**  
(Butyric Acid)

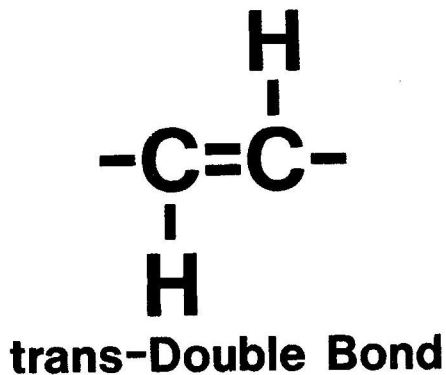
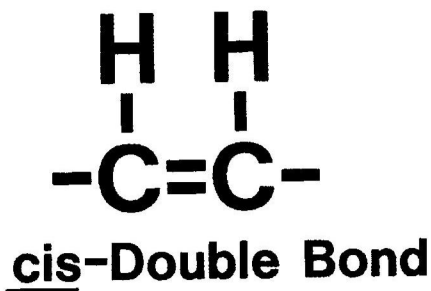
It is important to distinguish between a saturated fatty acid and an unsaturated fatty acid. In a saturated fat, each of the carbons in the carbon chain are bonded to two hydrogens. In an unsaturated fat, there is a double bond between two or more carbons, so that each carbon of a double bonded pair can

only bond with one hydrogen. Omega-3 fatty acids are named so because the first double bond falls between the third and fourth carbons on the chain. Respectively, an omega-6 fatty acid is named so because the first double bond exists between the sixth and seventh carbons on the chain. Omega fatty acids are unsaturated fats.



**POLYUNSATURATED FAT  
OMEGA-3 FATTY ACID  
(Alpha-linolenic Acid)**

Unsaturated fats can be configured as either cis-fatty-fatty acids or trans-fatty-fatty acids. The distinction is made by whether the two consecutive hydrogens attached to a double bonded carbon are located on the same or opposite sides of the molecule.



In cis-fatty-fatty acids, the hydrogens attached to the double bonded carbons are each on the same side of the molecule. The advantage of this is that these hydrogens repel each other, causing the molecule to bend in the area of each double bond. When these molecules are incorporated as part of the cell membrane, their shapes prevent them from conglomerating. In fact, a lot of space is left between the molecules which makes the membrane too fluid to protect the cell. In

response, cholesterol is absorbed from the blood and is incorporated into the structure of the membrane. The effect is to lower serum cholesterol levels.

Trans-fatty acids are unsaturated fats which behave like saturated fats. The hydrogens attached to the double bonded carbons in trans-fatty acids are on the opposite sides of the molecule. Heating the fats and/or partial hydrogenation can cause this phenomenon.

The hydrogenation process involves blowing hydrogen atoms into the fat in the presence of heat. The effect is to flip one of the hydrogens at the double bonds to the opposite side of the molecule, allowing the molecule to straighten up (partial hydrogenation), or to break the double bonds and allow each of the carbon atoms bonded to only one hydrogen to attach to another hydrogen, saturating the fat (complete hydrogenation). The advantage is that the molecule becomes more stable and the shelf life is increased. The disadvantage is that the molecule with the new configuration displays different chemical properties and also tends to stack up. Conglomeration of these molecules in the cell walls eliminates the cholesterol lowering effect of EFA's. Trans-fatty acids take up the space that cis-fatty acids should occupy in the body, yet they are unable to perform the same functions. Since the melting point of trans-fatty acids are much higher than that of cis-fatty acids, they are more sticky at body temperature. Saturated fats have an even higher melting point, and therefore are even more sticky than trans-fatty acids. This characteristic is especially important when the fats are incorporated into platelets, which assist in the clotting process. Sticky platelets can lead to thrombosis (blood clots) which can cause embolisms (blood clots which have moved, usually to the lungs, heart or brain). Embolisms can be fatal. Sticky platelets can also adhere to the walls of blood vessels, significantly contributing to plaque formation and arteriosclerosis. Trans-fatty acids also interfere with energy transfer from cell to cell. All life functions depend upon the flow of this electrical energy.

Another problem with processing oils is that exposure to oxygen allows them to become rancid. Oxygenation deteriorates the oil. Since the Omega 3 fatty acids in flax seeds are more

stable that those found in fish oil, Udo Erasmus maintains that fish oil is more prone to destruction from light, air, and heat. It is based upon these observations that he maintains that flax seeds are a superior source of supplementation than fish oil. . If used on foods, make sure the foods are cooled to room temperature first. If using raw flax seed as your source of Omega-3 oil it important to grind it first. A small coffee grinder will suffice. Although the outer husk of the flax seed is a wonderful source of dietary fiber, the body is unable to metabolize it to extract the Omega-3 rich oil inside. Omega-3 supplements should be contained in a dark receptacle to minimize exposure to light. They should also be kept refrigerated.

Another dietary consideration is amino acids. Amino acids are considered essential nutrients because they are necessary for body function but are not produced by the body. These are the building blocks for proteins, which comprise much of the body tissues. There are both plant and animal sources of amino acids, but vegetarians must learn to combine foods to achieve a complete intake (such as beans and rice). The amino acid necessary for formation of serotonin is L-tryptophan. L-tryptophan was sold in health food stores to induce relaxation until a number of people became ill from a tainted supply. Since then it has been banned, but is currently sold in combination with other amino acids. Some sources of amino acids are soy, brewer's yeast, and blue green algae.

Since L-tryptophan has been banned as a food supplement, the immediate precursor to serotonin, 5-HTP, has become a popular substitute. In a double blind study conducted by Dr. ban Praag at Albert Einstein College of Medicine it was determined that 5-HTP is superior to L-tryptophan in the relief of severe depression.

Double blind studies have also been done comparing the effects of 5-HTP to traditional antidepressant therapy. At the Psychiatric University Hospital in Zurich, Switzerland it was determined that 5-HTP was as effective as the tricyclic antidepressant imipramine, but with fewer side effects. Dr. van Praag tested 5-HTP against the tricyclic clomipramine and found that daily doses of 200 mg. 5-HTP was

as effective as clomipramine, but without the side effects. He also discovered that a combination of 5-HTP and clomipramine produced results better than each treatment alone. Since then other researchers have tried it in combination with some MAO inhibitors to demonstrate a synergistic relationship between 5-HTP and other MAO inhibitors. In Switzerland in 1991, Dr. Poldinger was able to demonstrate that the overall improvement in symptoms of depression was greater with 5-HTP than with the SSRI Luvox, and the onset of relief was faster with 5-HTP.

Herbs can also be used to alleviate the symptoms of depression. An herb which affects the MAO enzyme is ginkgo biloba. Michael Murray, N.D. suggests that using 5-HTP in combination with ginkgo biloba increases its efficacy.

An herb which has gained a lot of attention in the treatment of depression is St. John's Wart (hypericum perforatum). Although it was originally postulated that this herb acts as a MAO inhibitor, later research identified its actions as preventing the reuptake of serotonin, so it is more similar to the SSRI's such as Prozac. Michael Murray, N.D. also suggests using this herb in combination with 5-HTP.

Another less well noted herb which can be used to combat depression is black snakeroot. This is an old Indian remedy. They chewed this root to calm nerves and relieve depression.

Another intervention which I will discuss is SAM-e. This is a naturally occurring substance in the body and is contained within each cell. It is combined from the amino acid L-methionine and adenosine triphosphate (ATP). L-methionine is one of the essential amino acids which must be obtained from the diet. ATP is manufactured in the body from adenosine plus three acid groups. ATP produces energy in the body. Although this compound affects several aspects of health, I will focus on its effects on depression. SAM-e aids in the production of neurotransmitters in the brain. It is also necessary for the synthesis of melatonin from serotonin. Melatonin is a hormone which helps regulate the sleep-wakefulness cycles.



SAM-e's method of action is to transfer a methyl group from one molecule to another to stimulate many different biochemical reactions. This methyl transfer activates the production of neurotransmitters, especially serotonin, norepinephrine, and dopamine. Several double blind studies have demonstrated that SAM-e is as effective or more effective than traditional drug therapies for relieving symptoms of depression, the onset of action is quicker and the side effects are minimal. The only side effects reported have been mild nausea and headache. (Mitchell, 67)

Homeopathy should also be a consideration in treating patients with depression. Although there are numerous remedies to consider, there are four which are commonly used. A higher potency such as a 200 C works better at the emotional level, although if there is a threat of suicide, LM potencies only should be administered to eliminate the possibility of an aggravation (a slight and temporary intensification of symptoms). One pellet of the remedy can be placed in water and succussed for a very economic solution. Succussion is a process of briskly stirring the solution with a spoon, or if the water is in a container, the container can be shaken and struck against the palm of the hand. This process releases the energy of the remedy, and it is not necessary for the remedy to be dissolved.

Grieving is a frequent cause of depression. A history is necessary to determine the link between the onset of the depression and an event dealing with loss. People are not always consciously aware of the link between a loss and the ensuing depression. The most common

losses, of course, are a break up in a relationship or a death. Two remedies often used in combination for the relief of grieving are Ignatia and Natrum muriaticum. Ignatia ameliorates the feelings of loss, and Natrum muriaticum will allow the person to let go and move on. Ignatia does not eliminate the need to experience the stages in the grieving process, but acts as a catalyst to the transition from one stage to another when the person appears stuck. It also serves to lessen the impact of grieving on a person's life processes, decreasing the debilitation.

Premenstrual syndrome is also a common cause for depression in women. Along with irritability, many women report fantasies of leaving their families and going off to be alone. They withdraw and disconnect with loved ones during this period. The remedy of choice for these symptoms is Sepia. This is also effective for postpartum depression.

Deep chronic depression, especially in combination with heart problems is an indication for Aurum metallicum (gold). This can even be used in people who are suicidal, but in an LM potency. People who need Aurum metallicum are those that carry the burdens of others on their shoulders. They generally have high expectations of themselves, and rarely have the energy to perform to their standards. There is a disgust for life and a despondent melancholy. Hopelessness is also an indication for Aurum metallicum.

Both Bach flower remedies and aroma therapy can also be considered in the overall regimen for persons with depression. However, the specific symptoms of each case must be considered when selecting the appropriate remedy or essence, and therefore, these topics are too enormous for the sake of this discussion.

A Touch for Health balance serves to promote a sense of well being. Providing a client with a copy of the neurolymphatic chart and teaching them or a loved one to rub those points is an intervention which should be exercised in combination with any other therapy.

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