**Nutritional Aspects of Depression**

**Introduction**

Mental depression is one of the most common complaints noted in doctor's offices. Depression can cause loss of productivity, family discord and at times even suicide. While depression can certainly have psychological causes, our experience indicates that a surprisingly large percentage of depression today is associated with nutritional imbalances. Nutritionally related depression responds exceptionally well to scientifically designed nutrition programs.

**Nutritional Causes Of Depression**

Hair analysis research has allowed us to correlate mental depression with specific biochemical imbalances. Let us examine the most common of these:

**Energy Loss**

Loss of energy has profound effects on the central nervous system and is a common cause of depression. Energy loss is revealed on a mineral analysis by several mineral patterns:

**Fast Oxidation.** A faster-than-normal oxidation rate results in the inefficient use of glucose. This can result in a loss of energy and often feelings of depression. Fast oxidizers frequently experience spurts of energy that alternate with exhaustion. This type may be labeled manic-depressive or bipolar disorder.

Hair calcium and magnesium levels fall below normal values when the oxidation rate is rapid. Magnesium is essential for adenosine triphosphate (ATP) production within the body cells. Calcium is essential for normal nervous system activity. A copper deficiency is also commonly present in these individuals. Copper is essential for the normal functioning of the electron transport system, the series of chemical reactions where most energy generation occurs.

**Slow Oxidation.** A slower-than-normal rate of metabolic activity is closely correlated with fatigue, and often with mental depression. Adrenal and thyroid glandular activity is sluggish in the slow oxidizer. This can lead to depression for several reasons:

* Cortisol, a hormone produced by the adrenal glands, normally provides a euphoric feeling. A deficiency of cortisol secretion due to adrenal insufficiency is associated with depression.
* The adrenal glands also produce epinephrine and norepinephrine, two powerful neurostimulatory hormones. A deficiency of these hormones can result in underactivity of the nervous system, with resulting feelings of lethargy.
* Low cortisol levels result in low blood sugar levels, which can cause fatigue and depression.
* Diminished thyroid activity impairs the utilization of glucose, contributing to energy loss.
* Elevated tissue calcium and magnesium levels in the slow oxidizer have a sedating effect. Calcium increases the voltage at which nerve cells fire. The effect of excess soft tissue calcium is a depressing or numbing effect on the central nervous system.
* The slow oxidizer also commonly has a deficiency of *available* calcium and magnesium. This detrimentally affects cellular energy production.
* When the tissue calcium and magnesium levels are above **about 200 mg%,** we refer to the condition as a ***calcium shell*.** Individuals with this pattern are commonly defensive, withdrawn and mentally depressed. The calcium shell is an extreme coping mechanism, brought on by emotional or nutritional imbalances.
* Copper tends to accumulate in the tissues of the slow oxidizer, due to adrenal gland weakness. High tissue copper levels are intimately associated with depression. While the mechanism is not clear, it is known that monoamine oxidase is a copper-dependent enzyme. One class of anti-depressant drugs is monoamine oxidase (MAO) inhibitors.
* Low tissue potassium levels, commonly noted in slow oxidizers, can also contribute to fatigue and depression. Potassium is needed to sensitize the tissues to thyroid hormone and potassium is a key regulator of metabolism.

The slow oxidizer may also develop a bipolar disorder. One reason for this is that copper can have a stimulatory effect, causing fluctuations between manic and depression conditions.

**Imbalanced Calcium/Magnesium Ratio.**

A calcium/magnesium ratio above 8.49:1 or below 4.51:1 is indicative of a sugar and carbohydrate intolerance problem. Poor sugar utilization is a common cause of a low energy level and consequent depression. Diets high in refined sugar, or even excessive fruit and fruit juices, can impair carbohydrate metabolism and lead to low energy levels. Use of stimulants such as cola drinks combine excessive sugar with caffeine and other stimulants that also contribute to a derangement of the energy-generating systems of the body.

**Imbalanced Sodium/Potassium Ratio.**

A low hair sodium/potassium ratio (less than 2.5:1) is also associated with blood sugar imbalance, adrenal exhaustion and depression. This low ratio indicates excessive protein breakdown, usually as a result of an inability to properly burn glucose in the body cells. This serious imbalance commonly causes feelings of depression.

A low sodium/potassium ratio is often associated with feelings of frustration, resentment and hostility. When these feelings become overwhelming, depression can result.

Note: For accurate sodium and potassium measurements, the hair sample must not be washed by the laboratory.

**Imbalanced Neurotransmitters.** Low levels of catecholamines (epinephrine, norepinephrine, and dopamine) can result in depression. This may explain why nutritional supplements that enhance catecholamine production such as the amino acids phenylalanine and tyrosine, and vitamins B1, B3 and B6 are helpful for some individuals with depression. The slow oxidizer is particularly prone to catecholamine deficiency.

**Toxic Metal Poisoning.** Lead toxicity is often associated with depression. Lead can cause a calcium loss or interfere with zinc, copper or iron metabolism. These vital minerals are required for energy production.

Excessive accumulation of other toxic metals such as cadmium and mercury are also associated with depression. These toxic metals interfere with energy production and the synthesis of vital enzymes.

**Food Allergies or Sensitivity.** Ingestion of a particular food can bring on feelings of depression. The reasons for this are not clear. The cause may involve the nutrient content of the food, or to a chemical additive or other component in the food. One can be sensitive to any food, although chocolate milk, wheat, soy, eggs and yeast are the most common reactive foods.

Often, food sensitivity is due to underlying nutritional imbalances. Although the reactive food should be discontinued, efforts to balance or restore normal body chemistry often results in diminished food sensitivity.

**Depression As A Late Stage Of Burnout**

Common symptoms of depression include apathy, waking early in the morning, feelings of malaise and often despair. When questioned, most depressed people also report fatigue as a symptom. While in some cases depression causes fatigue, an important finding from hair analysis research is that a consequence of chronic fatigue is depression.

Biochemical depression is not an isolated disease entity as we are sometimes led to believe. Instead, in at least some cases, it is a late-stage symptom of a larger syndrome of exhaustion or burnout. We know this because as energy is restored on a nutrition program, many patients report a lessening of depression but a temporary increase in fatigue.

These people are retracing the cause of their depression, which began with fatigue. To recover from depression, they must pass back through a stage of greater awareness of fatigue. Viewed in this manner, depression is an adaptation to overwhelming stress. Let us examine this idea in more detail.

**Depression As An Adaptation To Chronic Overwhelming Stress**

An adaptation is a way in which the body alters itself to cope with stress.

Therapists often recommend that one fight depression. This approach may be correct advice in certain cases; however, if depression is due to exhaustion, as we commonly find, it makes little sense to waste one's energy fighting depression. Instead, it is more correct to understand depression as an adaptation or coping mechanism of the body. When the body is unable to generate sufficient energy to cope, it sends a signal to withdraw or slow down, causing the feeling that we refer to as depression. As a coping mechanism, depression is a positive effort on the part of the body to conserve energy and prevent further depletion of its energy reserves.

This adaptive depression will go away without any treatment at all when the need for the adaptation is removed by restoring cellular energy production.

**Nutritional Correction Of Depression**

Correction of depression depends upon identifying the cause. Tissue mineral analysis can be most helpful for this purpose. Once a person's abnormal mineral patterns have been identified, dietary modification and nutritional supplements can be recommended. Correction involves:

* ***Replenishing depleted mineral and vitamin reserves.*** This sounds simple, but can, in severe cases, take several years to accomplish. Medical science is well aware that nine months or more is often needed to replenish just one mineral such as iron. More time is often needed when five or six vital elements must be replenished.
* ***Removing toxic metals.*** Again, time is required because elimination can only proceed at a pace the body can handle safely.
* ***Normalizing thyroid and adrenal gland activity****.* Glandular balancing is often essential for the correction of depression. Specific foods and supplementary nutrients are very helpful to facilitate the process.
* ***Lowering excessively high tissue mineral levels, such as calcium and magnesium, by increasing their bioavailability.*** Slow oxidation commonly contributes to depression. Symptoms will not improve significantly in these cases until the excessive tissue calcium and magnesium levels are lowered to more normal levels.
* ***Avoiding foods that cause allergic reactions****.* Foods to which one is sensitive should be avoided for a while. An individualized nutrition program can also help restore digestion and absorption in order to reduce food sensitivities.
* ***Tailoring a diet to one's oxidation rate****.* The oxidation rate, its effects on behavior, and balancing the rate by means of foods and specific nutritional supplements was first published in Nutrition and Your Mind, by George Watson, Ph.D., in 1972. Dr. Eck has since expanded and refined Dr. Watson's original observations and conclusions. However, the basic principles remain valid.  
  Fast oxidizers require fat in their diet, and feel poorly when they eat sweets or even excessive amounts of fruit. On the other hand, slow oxidizers must have adequate protein together with a low-fat diet. Low-protein diets are one contributing cause of depression.
* ***Eliminating high-sugar foods and stimulants****.* Restoring glucose tolerance and normal sugar metabolism is often critical for complete recovery.

**Summary**

The hair mineral test has proven to be a valuable screening test for nutritional factors in depression. A properly performed and interpreted hair test can detect carbohydrate intolerance, an imbalanced oxidation rate, toxic metal poisoning, and several other causes for low energy levels.

Scientific nutritional balancing is a powerful method for correction and prevention of depression. In some cases, food allergy testing may also be necessary to detect allergic foods.

Not all cases of depression will respond to any one approach. However, correction of cellular energy production and other nutritional imbalances that affect the central and autonomic nervous system can improve many cases of even severe mental depression. Individualized nutrition programs based on mineral testing will also enhance the effectiveness of standard therapies for depression.

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