NUTRITION FOR IMPROVED RECOVERY

Nutrients That Restore Your Brain And Body

TruthOfAddiction.com

A. Scott Roberts
Copyright Notice

This book contains content that is copyright protected. All content within this eBook belongs to A. Scott Roberts of Renewed Hope Publishing LLC.

Copying, modifying or disseminating any parts of this book is strictly forbidden. Our website and informational product(s) are regularly checked by Copyscape - A third party plagiarism checker - to protect the rights, authorship and ownership of this work and to ensure that the author’s work remains original, unmodified, and unaltered.


Please note: You do not have any resell rights to this book. This book is not a free book. If you purchased this book from anywhere other than www.TruthOfAddiction.com let us know at info@TruthOfAddiction.com. Thank you for your cooperation.
Disclaimer

The author has gone to great lengths to support the information contained in this publication. However, the author nor the publisher assume responsibilities of any errors, contradictory interpretations or omissions of the material found herein.

The author does not claim or attempt to claim a cure, treatment or prevent any disease through this publication. The use of this product is NOT intended to establish a patient/physician relationship. The content found on the Truth Of Addiction website is provided for informational purposes only, and is not intended to be a substitute for professional medical advice and is not intended to be relied upon for medication or treatment.

Always seek the advice of your physician or other qualified health provider if you have questions regarding a medical condition. Never disregard medical advice or delay in seeking it because of something you have read on the Truth Of Addiction website or in the informational products. Please consult your primary care physician before beginning any new program or lifestyle change.

By using the information available on the Truth Of Addiction website and its products, you agree to hold harmless, defend and indemnify Renewed Hope Publishing LLC, A. Scott Roberts and TruthOfAddiction.com from all valid or invalid claims, judgments, suits, losses, costs, proceedings, or expenses of any kind for which Renewed Hope Publishing LLC may become liable from the use or misuse of products sold through the TruthOfAddiction.com website.

©2013 Nutrients For Improved Recovery - A. Scott Roberts- All Rights Reserved
# Table of Contents

**Introduction** ...............................................................................................................................6

**Nutrients Important For Recovery** .................................................................................................7

**Symptoms Corrected by Nutrition** ....................................................................................................9

**Lacking Nutrients Feeds Addiction** .................................................................................................10

**Chapter 1 Chemical Messengers** ......................................................................................................12

  **Neurons** ........................................................................................................................................13

  **Neurotransmitters** ............................................................................................................................14

  **Catecholamines** ...............................................................................................................................16

  **Endorphins** .....................................................................................................................................17

**Chapter 2 Carbohydrates And Amino Acids** ..................................................................................22

  **What Are Carbohydrates?** .............................................................................................................23

  **Simple Carbohydrates** ..................................................................................................................23

  **Complex Carbohydrates** ...............................................................................................................24

**Chapter 3 Drugs And The Body** ....................................................................................................28

  **Alcohol** ........................................................................................................................................29

  **Opiates** .........................................................................................................................................31

  **Marijuana** .....................................................................................................................................32

  **Stimulants** .....................................................................................................................................32

  **Hypoglycemia** ...............................................................................................................................33

**Chapter 4 Vitamin And Mineral Deficiencies** ...............................................................................37

  **The Need for Vitamins And Minerals** ............................................................................................38

  **Vitamin C** .....................................................................................................................................38

  **Chromium** ....................................................................................................................................39

©2013 Nutrients For Improved Recovery - A. Scott Roberts- All Rights Reserved
Nutrition For Improved Recovery
Nutrients That Restore Your Brain and Body

By A. Scott Roberts
Introduction

There is proven success using nutrition during addiction recovery. This book will address the nutritional needs of those addicted and how to correct it. This book mostly focuses on getting proper nutrition from food instead of from supplementation, as many health practitioners believe the best source of nutrition comes from organic and unprocessed foods.

Nutrition is useful in practically any addiction recovery program. Some doctors and researchers believe it is necessary. The reason being, is that addiction causes a depletion of neurotransmitters (chemicals) in the brain, which can lead to food sensitivities, poor digestion, added stress on the body and has been shown to increase cravings, not just for the drug, but also for junk food.¹

Nutrition has shown to restore and improve the above mentioned nutritional deficiencies and symptoms. Neurotransmitters are synthesized by nutrition. If adequate amounts of nutrition are consumed, neurotransmitters boost, health improves and the body works at a more optimal level.

This guide can help those recovering from addiction, but also those who consume an average American diet. Another benefit of eating good nutrition during recovery, is that it has been shown to boost mood. Negative emotional states and poor mood has been shown to triggers cravings and often leads to relapse.²
Nutrients Important For Recovery

There are nutrients that need to be eaten in large quantities (macronutrients) and some in smaller quantities (micronutrients). Macronutrients include carbohydrates, proteins, fats and water. Some of these macronutrients are very necessary because they provide amino acids which create our body's structural material. They also provide us with both mental and physical energy.

Fats and carbohydrates are types of macronutrients that consist of hydrogen, carbon and oxygen atoms.

**Carbohydrates** have two classifications, simple and complex - depending on the structure of the carbohydrates. Simple carbohydrates are quickly absorbed into the body, while complex carbohydrates take longer to assimilate, resulting in a sustained energy level. Complex carbohydrates provide optimal health benefits over simple carbohydrates.

**Fats** consist of molecules that contain many fatty acids (long chain of hydrogen and carbon atoms). Fats have two classifications, saturated and unsaturated, depending on the structure of the fatty acids. Most fatty acids are not essential, which means that the body produces them as it needs them. However, humans require two fatty acids that are categorized as “essential fatty acids” which are called Omega 3 and Omega-6.

**Omega-3 and Omega -6 fatty acids** have been shown in some research to improve mental health conditions such as bipolar disorder and depression. Depression and addiction are common co-occurring conditions and when one improves, it usually results in the improvement of the other.

These two fatty acids are not produce by the body so people need to
regularly consume them because they are important for the body's digestion process, strengthening cells, regulating the nervous system and immune system. Research has shown that just adding Omega-3 and Omega-6 fatty acids into a recovery program dramatically improved recovery.\textsuperscript{4}

There are both physical and psychological components to addiction. Addiction is quite complex, stemming from many different sources, even genetic vulnerabilities. This is why using just a one-dimensional approach to treat addiction is not always the best option. Because of the increased physical, emotional, chemical and biological implications addiction has, a multidimensional approach is the best option. Integrating proper nutrition to restore the body's neurotransmitters and nutritional reserves, along with using other evidence-based practices, will produce successful outcomes.

Researchers now have a better understanding about addiction and how it causes biochemical changes which alters the function and structure of the brain.\textsuperscript{5} This throws off other brain and body systems. Many addicts suffer with mild to moderate mental health conditions such as depression or anxiety along with physical health conditions that may be unknown to the addict. Using correct nutrition has been shown to improve both mental and physical conditions.\textsuperscript{5,6}

Most notably with alcohol and drug addiction, addicts often develop glandular weaknesses and may not even realize it. It usually takes months to repair glands and to rebuild the body's nutritional reserves.

When starting a recovery program, it is also important to use proper nutrition to satisfy the body's state of weakness due to many deficiencies that are often overlooked. For example, withdrawal symptoms are manifestations of deficiencies that can be corrected or greatly improved with consuming proper nutrition including vitamins and minerals.\textsuperscript{7}
Symptoms Corrected by Nutrition

According to one physician, Finnegan (1989), most individuals struggling with addiction suffer from at least a few conditions. These conditions include:

- Troubles in mood regulation.
- Increase in craving food high in sugar.
- Mental and physical disorders.
- Increased depletion of vitamins, minerals and important amino acids from the body.
- Food sensitivities and allergies.
- Poor adrenal function and digestive problems.

When addicts start to eat better, they crave less and less junk food. This “restoring” of proper chemicals in the brain, may start to re-balance the brain and improve other bodily symptoms.

Because addiction to drugs and alcohol impair digestion and the functioning of the liver, particularly how the liver and intestine processes amino acids, recovering addicts should eat more protein and amino acids than non addicts. 

©2013 Nutrients For Improved Recovery - A. Scott Roberts- All Rights Reserved
Alcohol has a lot of calories. In fact only fat contains more calories – per gram. Alcoholics usually feel full after drinking, even if they hardly ate. The fullness one feels after consuming alcohol is really the empty calories which is leading one to malnutrition and contributes to poor eating habits.

In one study, animals that were placed in a cage with 2 bowls. One bowl was filled with water and the other was filled with alcohol. Researchers found a consistent trend. When the animals were healthy, they chose to drink from the water bowl. But when the animals lacked certain nutrients in their diet, they chose alcohol over the water.

This research was repeated several times and revealed the same results. The researchers were able to shift the consumption of alcohol over the water, based on deliberate increase or decrease of vitamins in their diet.

According to Finnegan (1989), the reason why most addicts suffer from nutritional, digestive and metabolic problems, is because they lack essential amino acids, vitamins and minerals when they need them most. Even the lack of essential amino acids, vitamins or minerals over a period of time may contribute to the inability to absorb nutrients and increase yeast growth.

Low blood sugar has also been shown to contribute to poor eating habits and negative emotional states such as depression, anxiety and panic. These emotional states furthers the addiction problem, triggering the addict to seek out their drug to make him/her feel better.
References:
5. Ross, Julia, M.A. The Diet Cure. (New York, New York: Penguin Group), 1999
6. Finnegan, John and Daphne Gray. Recovery from Addiction. (Berkeley, California: Celestial Arts), 1990
7. Finnegan, John and Daphne Gray. Recovery from Addiction. (Berkeley, California: Celestial Arts), 1990
Chapter 1
Chemical Messengers
Before understanding the chemicals in the brain, it is important to understand how they are transmitted. Neurons are known as an “electrical excitable cell” which not only transmits signals but processes them too. Neurons do this by a “synapse” which permits neurotransmitters (chemicals) to travel from one neuron to the other. Neurons are able to connect to other neurons, which forms pathways or “neural networks.”

Neurons are the central component to the nervous system (including the brain and spinal cord). Essentially, neurons have electricity which makes them excitable cells. Neurons do not divide, as other cells do, but are generated by stem cells.

These neurons are constantly working in the brain. They are at work while asleep and when awake. Neurons are responsible for a lot of activity in the brain. They are responsible for the transmission of signals. Because the brain is constantly at work in such important functions, the brain's neurons require nearly two times the amount of energy then other cells do.¹

Because of the amount of energy the brain uses, it has a high demand for fuel and needs to be fueled properly. Neurons get their fuel from glucose (blood sugar), which the body produces from carbohydrates. Neurons do not store glucose, so they need a constant supply of it in order to function optimally.

Those addicted to drugs or alcohol often feel a need for glucose and this need is typically met through processed food, snacks, soda, sugar, caffeine or nicotine. This is why, as mentioned previously, that cravings increase, not only for alcohol or drugs, but for sugary snack foods and sweets.

Consuming too many artificial snacks results in increased fluctuations of glucose
levels, which subsequently leads to imbalanced brain functioning, adrenal fatigue or hypoglycemia.²

**Neurotransmitters**

Neurotransmitters are chemicals that originate within an organism (endogenous). Neurotransmitters are tiny molecules that transmit signals by crossing between two neurons. When these neurotransmitters are released by one neuron, they cross over and bind to another “target” neuron.

Once the neurotransmitter is received by the target neuron, it is either reused by transmission of another message, or it is broken down and destroyed by the body's enzymes.

These neurotransmitters are synthesized by amino acids which come from one's diet. When you eat, amino acids are converted into neurotransmitters.

The neurons that are receiving a message, also known as the receptors, are very specialized and only respond to certain types of neurotransmitters and the messages sent. Like a key to a lock, the neurotransmitters will only fit into the proper docking site.

The chemical composition of drugs or alcohol either mimics or prolongs the natural chemical flow between receptor sites.

Addiction throws off many components of the brain starting with neurotransmitters. When an addict uses, chemicals are boosted in the brain. After some time of continually boosting chemicals through drugs (or other means), the brain starts to anticipate this over-stimulation. The brain then starts
to build a natural defense mechanism to prevent this over-stimulation. This results in making neurons less responsive.

When neurons are less responsive, the transmission of neurotransmitters (signals) is affected, whereby they cannot efficiently bind to the target receptors. This often results in mood dysregulation. This is manifested in many addicts when emotional responses seem inappropriate or do not fall within conventional range.

Angry outbursts, increased frustration, irritability, depression, anxiety and panic is all too common to an addict. These negative emotional states trigger the addict's brain to “crave” their drug or sugary foods to eliminate such uncomfortable feelings.

Neurotransmitters greatly contribute to relieving emotional or physical pain, reducing stress and shaping your life, by how you feel, act and think.
Catecholamines

Catecholamines are organic compounds derived by the amino acid, tyrosine. Tyrosine has a very special role in signal transduction (when a molecule activates a receptor, it creates a chain event which also leads to creating a response).

The most abundant types of catecholemines in the body are dopamine, norepinephrine and epinephrine. These catecholemines are greatly affected by addiction.

Dopamine is created in the body through specific catecholamine-secreting cells. These cells convert tyrosine to a chemical, L-DOPA, which then is converted to dopamine. Depending on the type of cell, dopamine can then convert into norepinephrine, and then through further metabolic modification, to epinephrine.3

Both dopamine and norepinephrine contribute to the functions of energy within the brain, including focus and alertness. Dopamine regulates short-term concentration and alertness, while norepinephrine controls the long-term or sustained focus.

Stimulant drugs interfere with the natural production of dopamine's recycling process in the brain. Amphetamines will bind right onto dopamine receptors and trick the brain into thinking that it is naturally-produced dopamine. Other drugs, such as cocaine, block dopamine from being reused or broken down and destroyed by the body. Subsequently, dopamine starts to build up at unusual high levels. This is what causes temporary euphoria.4
Endorphins

Endorphins are naturally occurring chemicals (more accurately neuropeptides) produced in the brain. When experiencing stress or pain, endorphins help you feel better. They are known as the body's “natural pain killers.” The term endorphins, is a short form of both words, endogenous (originates within the organism) and morphine. Thus the term “endorphins” means a morphine-like chemical that originates within the body.5

When endorphins are released, they affect how you feel. There are ways to naturally increase endorphins and increase your mood. Exercise, for example, may give you what many athletes call a “runner's high.” This is what happens when they push their body to the limit. Athletes also experience what they call “second wind” while running. They do not feel pain or exhaustion but start to feel more energized.

Although there is a demand for more research on this “endogenous morphine” produced in the brain, it is believed that endorphins enhance the immune system, reduce stress, relieve pain and postpone the aging process.

Drugs like alcohol, heroin, codeine, methadone, Demerol, marijuana and morphine have chemical structures that mimic the natural shape of the endorphins that is produced in the brain. This is why these chemicals structures of such drugs can bind directly onto the receptors that are specialized to only accept naturally produced endorphins.

Abusing the drugs mentioned above also interferes with the breaking down of the endorphins (a natural process). This would result in the drug occupying the receptor for an abnormally longer period of time, experiencing higher euphoria or pain numbing that normal.
Gamma-Aminobutyric Acid (GABA)

Gamma-Aminobutyric Acid or otherwise known as GABA, is a major inhibitory neurotransmitter within the brain. It plays a vital role in reducing excitability in neurons. It is a chemical that is associated with relaxing the mind. Researchers have called it a “natural Valium of the brain.” This is because when adequate amounts of GABA are present, it promotes deep sleep and calms mood by affecting the other chemicals: dopamine, norepinephrine and serotonin.

Drugs such as Valium, Xanax and alcohol help one to relax because the chemical structures of these depressants mimic the naturally-occurring GABA within the brain. A respite from anxiety, for example, can result by taking such drugs, but it also disrupts the normal production of GABA.

Glutamate is an amino acid that produces GABA. When glutamate levels are low it leads to difficulty relaxing, anxiety and troubles sleeping. A diet that is low in glutamate disrupts the production of GABA. Individuals that lack GABA often crave foods or substances that help them to relax them. This includes carbohydrates, nicotine, alcohol and pharmacological drugs such as Valium.
Serotonin

Serotonin is a chemical that is derived from tryptophan, an essential amino acid. Serotonin is responsible for contributing to feelings of happiness and well-being,\(^7\) as well as regulating pain perception, sleep, emotion and mood.

Serotonin contributes to cognitive functioning abilities, including learning and memory formation. Serotonin also plays a role in growing some cells which may increase the speed of healing wounds.

Researchers believe that serotonin also contributes to one's self-control. It has been called the "control" neurotransmitter. This is because it is an inhibitory chemical that helps to regulate impulses.

Researchers found that both serotonin and GABA play an important role in delaying gratification,\(^8\) something that is a valuable asset to an addict during recovery.

Serotonin is correlated with one's ability to control actions. By proper serotonin levels and a balance in the serotonergic system, the assumption is that more control over one's actions would result. When serotonin is at normal levels, this prevents you from getting caught up in your emotions and overreacting.

Drugs, such as Extacy (MDMA), disrupt a healthy and normal serotonin level. What this drug does is actually causes the serotonin chemicals to linger in the receptors longer than usual. This makes the receiving neurons to be continuously stimulated through artificial means.

Again, the brain sees this over-stimulation as though it is producing too much serotonin and then tries to combat this by slowing down the natural production.\(^9\)
Because serotonin is important to impulse control, low amounts of serotonin lead to emotional outbursts, short attention spans and increased depression.

Serotonin also greatly impacts cortisol (the stress hormone) production. People that lack adequate serotonin levels crave simple carbohydrates (sugar). When people eat sugary and highly refined foods, this increases the serotonin levels. This is why you may feel more comfortable and relaxed after consuming simple carbohydrates such as candy, cake or pie.\(^\text{10}\)
References:
9. Dr. John Krystal, Editor of Biological Psychiatry
Chapter 2
Carbohydrates And Amino Acids
What Are Carbohydrates?

The human body needs carbohydrates to survive. The body requires carbohydrates more than any other nutrient. However, not all sources of carbohydrates are nutritious.

Carbohydrates help to produce or maintain energy levels, mood and even body function. When carbohydrates are eaten they are broken down into glucose. Glucose is the fuel for the brain and body. Carbohydrates are classified into two categories, simple and complex.

Simple Carbohydrates

Simple carbohydrates are also called simple sugars. Addicts usually crave these simple sugars and consume them in high amounts. Essentially, simple sugars are carbohydrates that the body quickly absorbs and uses to produce energy. The “simple” classification comes from their being only one or two units of saccharides (sugar).

When carbohydrates are broken down into glucose, it can either be used right away for energy or can be stored until later use. However, simple sugars are broken down very quickly resulting in dramatic fluctuations in blood glucose levels. Whereas, complex carbohydrates take much longer to break down because they are structurally different.

Simple sugars are in both processed and natural foods. Fruits, vegetables and milk are a natural source of simple sugars because they contain fructose, maltose and lactose. However, these foods may also contain important vitamins and
minerals making them more nutritious than processed foods.

Processed foods are those that have refined or simple sugars that are added to enhance flavor. This includes high-fructose corn syrup, molasses, malt syrup and brown sugar. Candy, cakes, carbonated beverages and syrups contain highly-refined simple sugars. Often these foods are said to have “empty calories” because of how quick they are absorbed into the bloodstream and converted to energy, but contain very few essential minerals and vitamins.

**Complex Carbohydrates**

Complex carbohydrates are foods that contain over 3 simple sugars that are bound together. They are also called polysaccharides. Polysaccharides, as the name implies, are long chains of monosaccharides. Unlike the simple sugars or monosaccharides, which includes table sugar, polysaccharides are complex carbohydrates that require prolonged process of digestion because of their structure. This results in a slow, sustained and ideal energy for the brain and body.

When consuming complex carbohydrates, blood glucose levels are often stable and provides the body with sustained energy, instead of dramatic and abrupt fluctuations. Complex carbohydrate foods often have many nutrients and fiber.¹

**Amino Acids**

When the brain is artificially stimulated for an extended period of time by drugs, the addict's brain stops producing neurotransmitters. But amino acids, which are the building blocks of protein, are also the precursors to important
neurotransmitters related to addiction. This includes neurotransmitters such as dopamine, serotonin and norepinephrine. This means that the potential to treat addiction successfully through proper use of amino acids is very likely.

Alcoholics that go through withdrawal symptoms have a dramatic decrease in the neurotransmitter, norepinephrine. Phenylalnine (an amino acid) is the precursor to norepinephrine. This means that if an alcoholic in recovery eats certain foods that are high in phenylalanine, then this will meet his needs for the depleted neurotransmitter, norepinephrine. This results in the individual experiencing less withdrawal symptoms.

Using amino acids during recovery are becoming more popular. Some doctors will use amino acid therapy by using an injection. However, those in recovery do not need to have the amino acid injection if they are making the correct dietary choices to get the amino acids from the food they eat.

Chemical substances, such as alcohol and drugs, impairs digestion and disrupts the processing of amino acids. Addictions to drugs or alcohol impact the liver and small intestine which inhibits the liver, resulting in less protein secretions. Because of this, addicts should eat more protein and amino acids than non-addicts would.

It takes about 4 days for the blood platelets and the gastrointestinal tract to regenerate and 10 days for white blood cells to be replaced. Both of these processes that are necessary for optimal health requires amino acids.

There are over 100 studies at MIT and Harvard that have confirmed that using amino acids to increase neurotransmitters in subjects led to eliminating depression, cravings, anxiety and stress.

Alcohol and drugs can prevent the body from processing two amino acids, tryptophan and tyrosine- which are responsible for the production of the
neurotransmitters: dopamine, serotonin and norepinephrine. These neurotransmitters assist emotional well-being and mental clarity. When these neurotransmitters are depleted, behavior and mood are affected.

Tryptophan is important in the production of the neurotransmitter serotonin. Serotonin is important to sleep and has a certain calming effect. This amino acid is found in milk, turkey, sunflower seeds and bananas. Tyrosine is a precursor of dopamine and norepinephrine. Tyrosine is found in protein-rich foods like meat, seafood, poultry or tofu.\(^5\)

An addict will often consume too many simple carbohydrates and become deficient in complex carbohydrates.\(^6\)
References:
Chapter 3
Drugs And The Body
Alcoholism is one of the major causes of nutritional deficiencies in the United States and is one of the most abused substances. This is why special attention is given in this chapter to understand the deficiencies caused by alcohol and its biochemical effects on health.

Researchers have found that alcohol inhibits the breakdown of nutrients into usable molecules in the body because alcohol decreases the secretion of digestive enzymes from the pancreas.\textsuperscript{1} Alcohol also impairs nutrient absorption by damaging the cell's lining in the stomach and intestines. This results in disrupting the transportation of nutrients into the blood.\textsuperscript{2}

In addition to direct damage, nutritional deficiencies contribute to further absorption problems. Folate deficiency is common in alcoholics. Folate deficiency alters the cells that are lining the small intestine which impairs absorption of water, glucose and sodium.\textsuperscript{3}

Even if nutrients are digested and absorbed, alcohol can prevent them from being fully utilized because alcohol alters a nutrient's transport and storage.\textsuperscript{4}

Some alcoholics ingest as much as 50 percent of their total daily calories from alcohol, often neglecting important foods necessary for proper functioning of the body.\textsuperscript{5,6}

Because cells are made mostly of protein, an adequate protein diet is important for maintaining cell structure, especially if cells are being damaged. Research indicates that alcoholics need to eat more protein than usual because alcohol
causes impaired digestion of proteins and limits their conversion into amino acids. 7

Vitamins are essential to maintaining normal metabolism because they regulate many physiological processes. Chronic heavy drinking is associated with deficiencies in many vitamins because of decreased food ingestion, impairs absorption, metabolism, and utilization. 8, 9

For example, alcohol inhibits fat absorption and thereby impairs absorption of the vitamins A, E, and D that are normally absorbed with dietary fats. 10, 11 Vitamin A deficiency can be associated with night blindness, and vitamin D deficiency is associated with softening of the bones. 12

Deficiencies of minerals such as calcium, magnesium, iron, and zinc are common in alcoholics, although alcohol itself does not seem to affect the absorption of these minerals. 13 Rather, these deficiencies occur secondary to other alcohol-related problems: decreased calcium absorption due to fat malabsorption; magnesium deficiency due to decreased intake, increased urinary excretion, vomiting, and diarrhea; 14 iron deficiency related to gastrointestinal bleeding; 15, 16 and zinc malabsorption or losses related to other nutrient deficiencies. 17

Mineral deficiencies can cause a variety of medical consequences from calcium-related bone disease to zinc-related night blindness and skin lesions.

Although liver damage is caused primarily by alcohol itself, poor nutrition may increase the risk of alcohol-related liver damage. For example, nutrients normally
found in the liver, such as carotenoids, which are the major sources of vitamin A and vitamin E compounds are known to be altered by alcohol consumption.\textsuperscript{18,19} Decreases in such nutrients may play a role in alcohol-related liver damage.

Research suggests that malnutrition may increase the risk of developing alcoholic pancreatitis.\textsuperscript{20,21} Nutritional deficiencies can have severe effects on brain function. Specifically, thiamine deficiencies, often seen in alcoholics, can cause severe neurological problems such as impaired movement and memory loss.\textsuperscript{22}

**Opiates**

Opiates are a class of drugs that include morphine, oxycontin, heroin and methadone. These drugs primarily affect endorphin neurotransmitters. Opiate drugs cause a reduction in normal production of endorphins from the over-stimulation of the neurons caused by addiction. The brain starts to think that it is producing too many endorphins so it becomes less responsive. This down-regulation of naturally-occurring endorphins in the brain can result in long-term pain.

Endorphins (and enkaphalins) normally come from a diet of having several amino acids. When an addict takes opiates, it tricks the brain into thinking that the requirements for protein are satisfied. This often results in the addict forgetting to eat and overtime, the addict may suffer from malnutrition. There are several amino acids that create endorphins. These include tyrosine, phenylalanine, glycine, methionine and leucine.
Marijuana

Marijuana primarily affects dopamine which causes cravings for junk food. Many marijuana users eat poorly. The eating of too much junk food means that individuals are eating large amounts of trans fats that affects the normal cell membrane functioning and repair process.

Marijuana causes the brain to crave high-sugary and processed foods. What is unique with marijuana vs other drugs is that it directly affects the hunger center of the brain in the hypothalamus (limbic region) which releases a hunger hormone called ghrelin. This experience is what pot smokers often call the “munchies.”

Stimulants

Stimulants are drugs such as cocaine and Ritalin. Stimulants primarily affect the catecholamines: dopamine, norepenephrine and epinephrine. These stimulant drugs have a chemical composition that occupy the receptors and tricks the brain into thinking that the need for food is satisfied. This is why people addicted to stimulants often loose weight and suffer from malnutrition.

Stimulants overstimulate the reward center of the brain. Again, this results in decreasing the brain's ability to produce catecholamines naturally. Disruption of the naturally produced dopamine, norepenephrine and epinephrine results in anxiousness, panic and depression.

Stimulants also affect the catecholamine receptors within and by the heart. This often leads to heart palpitations and other complications of the heart. The over-stimulation in the brain and body from taking stimulant drugs also results in the inability to fall asleep or stay asleep.
Many recovering addicts suffer from hypoglycemia but do not realize it. In one study, researchers found that 85 percent of inmates have hypoglycemia. Hypoglycemia literally means “low blood sugar” and is the result of abnormally diminished glucose in the blood.

Some common symptoms include a state of uneasiness or dissatisfaction (dysphoria), agitation, anxiety, depression and can lead to more serious health issues including unconsciousness, seizures and brain damage. The reason that many of these symptoms affect the brain is because the main problems arising from hypoglycemia is the inadequate supply of blood sugar (glucose) to the brain.

Researchers have noted that there are certain illnesses (tumors and liver disease) that cause hypoglycemia, but most of the cases are caused by food consumption (functional hypoglycemia). This happens when an individual continues to consume relatively large amounts of food that contains high levels of refined sugar.

When food is taken into the body, it is broken down and converted to nutrients. From there, nutrients are absorbed by the bloodstream so that they can be used as the body’s fuel. Glucose (blood sugar) is one of the nutrients that the body needs. However, addicts often crave highly sugary and refined foods such as soda, alcohol, white bread, candy bars or donuts.

When these types of foods are eaten they are absorbed quickly by the blood and abruptly spikes blood sugar.

Just as the brain has its natural defense mechanism to detect and correct the
process of tolerance when detecting the over-stimulation of the reward center, the body reacts in a similar way manner. The body counteracts high surges of blood-sugar by increasing insulin which removes the blood sugar, but often removes too much, resulting in blood levels abruptly dropping.

Insulin is produced in the pancreas and is signaled to release when there is either a frequent or an abundant intake of sugars. But the body's natural defense removes too much sugar and often results in the cells within the body and the brain to be starved of glucose. The initial symptoms of this process can result in irritability, fatigue, shakiness and confusion. These are usually highly exacerbated for individuals with addictions.

When blood glucose levels drop, it also affects the adrenal glands which send a signal to the liver to release glycogen so that the insulin shock can be countered.

The consumption of high amounts of sugars throws off the body's system and its ability to properly manage the blood sugar levels. Hypoglycemia usually happens gradually over time as an addict, or anyone, with a poor eating habit continues to eat high levels of refined sugars. This process described, also makes the adrenals to work overtime.

Adrenal fatigue is a common symptom of recovering addicts, and the noted symptoms above contribute to why recovering addicts feel so poorly when trying to quit, impelling them to further self-medicate with drugs or high sugar foods to quickly make them feel better.

To correct hypoglycemia, the blood glucose level must be restored by ingesting dextrose or complex carbohydrate foods. Hypoglycemia can usually be managed and treated successfully by self-administering with balanced meals (to have glucose at a steadily rate). Balanced meals are particularly important for recovering addicts because they do not over-stimulate the body and brain with abrupt fluctuations of sugar foods.
It is important to replace the high-refined and high-processed foods, known as simple carbohydrates, with complex carbohydrates or starchy foods such as vegetables and whole grains. Also, adding protein and some fats into your diet helps the carbohydrates to become absorbed at a more steady rate. It is important to eat regularly throughout the day instead of skipping meals. This will also help regulate the blood glucose levels.
References:
Chapter 4
Vitamin And Mineral Deficiencies
The Need for Vitamins And Minerals

The body needs a small amount of vitamins and minerals each day so that it can function optimally. Vitamins and minerals help to boost cellular function within the body and they are needed to carry out nearly all complex body functions. Vitamins need minerals and minerals need vitamins to propel the body to optimal health.

Biochemical processes involving both vitamins and minerals boost health and functionality greater than any single vitamin or mineral on its own would. Vitamins and minerals work in a synergistic way, and if the body does not receive adequate amounts of one or the other, the effect is either nullified or reduced greatly.¹

Alcohol and drug addicts often lack adequate amounts of both vitamins and minerals. Notable minerals such as magnesium, calcium, zinc and vitamins, such as vitamin C, along with B vitamins are often greatly reduced in an addicts body and diet. Another reason is that addiction throws off the brain and the body's organs that process and synthesize these nutrients properly.²

Vitamin C

Vitamin C is an important nutrient that is required for developing and maintaining scar tissue, cartilage and blood vessels within the body. It also helps to rid the body of free radicals (toxins within the body). Vitamin C is also responsible for creating tyrosine, peptide hormones and dopamine. The body needs more Vitamin C when recovering from addiction.
Some researchers claim that Vitamin C is one of the best nutrient for addicts in treatment because it helps to detox the body from drugs and alcohol.³ Vitamin C has been shown to decrease the withdrawal symptoms associated with alcohol and drug abuse because it boosts the immune system, supports adrenal gland function and assists the brain chemicals to work normally by supporting the conversion of amino acids into neurotransmitters.

Vitamin C is flushed out quickly from the body, it is not stored. Therefore, individuals need to have a constant and steady intake of it, especially those going through recovery.

The best sources of Vitamin C are:
1. Yellow bell peppers
2. Guavas
3. Kale and other dark leafy green vegetables
4. Green kiwi
5. Broccoli (cooked)
6. Strawberries
7. Oranges and other citrus fruits
8. Tomatoes (cooked)
9. Peas
10. Papaya

**Chromium**

Chromium is an essential mineral that the body needs in trace amounts. Chromium helps to assist the insulin in delivering glucose to the body's cells so that the body can use it as energy. According to the University of Maryland Medical Center, nearly 90 percent of Americans have low chromium levels. This increases the risk of acquiring hypoglycemia and diabetes.
Chromium is especially important for recovering addicts because it helps to maintain and control blood sugar levels. As discussed earlier, many addicts crave highly processed and sugary foods and throws their blood sugar off, leading to hypoglycemia.

The best sources of chromium:
1. Broccoli (contains about half of daily requirement)
2. Tomatoes
3. Green beans
4. Romaine lettuce
5. Whole grains (oats and barley)
6. Apples
7. Bananas
8. Chicken
9. Brown rice
10. Eggs

Something to keep in mind is that the foods that rank high in simple sugars contain very low chromium.

**Zinc**

High consumptions of caffeine, sugar, drugs and alcohol, along with eating unbalanced meals, has been shown to eliminate zinc from the liver. Zinc is an important mineral that is required for body processes such as building proteins, maintaining a healthy immune system and helping cells to maintain proper neurotransmitter functioning.

Having deficiencies in zinc can produce a loss of appetite, headaches, nausea, vomiting and can disrupt the absorption of other minerals such as iron and trace minerals, such as copper.
The best foods high in zinc are:

1. Seafood (especially cooked oysters)
2. Lamb and beef
3. Wheat germ
4. Spinach
5. Pumpkin seeds
6. Nuts (such as cashews)
7. Chocolate or cocoa powder
8. Chicken and pork
9. Beans
10. Mushrooms

Calcium and Magnesium

The body needs calcium because it is necessary for bone formation, muscle contraction and nerve transmission. It is the most abundant mineral in the body. Magnesium is also needed in the body because it helps to calm the nervous system. Low calcium and magnesium levels are common in recovering addicts.

Consuming caffeine, drugs, alcohol and sweets contribute to muscular and nervous system pain that alcohol and drug addicts in recovery experience during withdrawal.  

The reason that many addicts are deficient in calcium and magnesium is because caffeine, drugs and alcohol has been shown to quicken the urinary excretion of calcium. Some researchers believe that calcium is one of the most needed nutrient for an addict during recovery. 

The foods high in calcium are:
1. Dark and leafy greens (such as watercress)
2. Nonfat mozzarella (and other low fat cheese)
3. Low fat yogurt and milk
4. Bok choy (Chinese cabbage)
5. Tofu (and other fortified soy products)
6. Cooked okra
7. Broccoli
8. Green snap beans
9. Almonds
10. Sardines (and other canned fish)

The foods high in magnesium are:
1. Raw spinach (and other dark and leafy greens)
2. Pumpkin seeds (and other nuts and seeds)
3. Mackerel (fish)
4. Soy beans (and other beans and lentils)
5. Brown rice (and other whole grains)
6. Avocados
7. Non fat yogurt
8. Bananas
9. Dried Figs
10. Dried apricots

Dark chocolate has the highest content of magnesium but one square of dark chocolate provides 145 calories and is often high in simple sugars.

**Selenium**

Selenium is important to the body because it helps the thyroid gland function properly and protects the body from free radical damage, reduces cancer and heart disease. Alcoholics have shown to have very low selenium levels.\(^6\)
Deficiencies in selenium also lead to joint and muscle pain, which is aggravated in those detoxing or going through withdrawal.

The best sources of selenium are:
1. Brazil nuts
2. Oysters
3. Tuna
4. Whole wheat bread
5. Sunflower seeds
6. Pork
7. Beef and lamb
8. Chicken and turkey
9. Mushrooms
10. Whole grains (such as rye)

Iron

Iron is a mineral that is essential for transporting oxygen through the body. Even a slight deficiency in iron can cause anemia (symptoms of weakness or fatigue). Many people that consume an average American diet are deficient in iron. However, addicts are even more deficient because alcohol and drugs can damage the liver which makes it harder for the body to absorb iron properly. This can lead to people suffering from anemia. Symptoms of iron deficiency include headaches, fatigue, and depression.

However, consuming other nutrients can help support improvement in iron deficiencies. Having other nutrients will help support iron assimilation.

Foods that are high in iron are:
1. Mollusks (clams or oysters)
2. Liver (from pork, turkey, beef or chicken)
3. Pumpkin seeds
4. Cashews, peanuts and almonds
5. Lean Lamb and beef tenderloin
6. White beans and lentils
7. Whole grains
8. Bran
9. Spinach and other dark leafy greens
10. Tofu

**Potassium**

A major problem with the average American diet is that it doesn’t have enough potassium and has too much sodium. Potassium is important because it helps to maintain electrolyte and fluid balance within the body. When potassium lacks, this leads to fatigue, increased blood pressure and irritability.

The best sources of potassium rich foods are:

1. White beans
2. Spinach
3. Backed potatoes (skin included
4. Apricots
5. Acorn squash
6. Yogurt
7. Salmon (and other fish)
8. Avocados
9. Mushrooms
10. Bananas
B-Complex Vitamins

There are 8 B Vitamins that are important in addiction recovery. Many of the B vitamins play an important role in breaking down carbohydrates for the body's energy. B vitamins also enhance the immune system and support the growth of cells.

When there are deficiencies in B vitamins, such as niacin or thiamin, this results in psychological symptoms of depression and hyperactivity. Niacin is very important for converting tryptophan into serotonin, which helps to improve depression and supporting a stable mood.

Because people going through recovery often consume high sugar and caffeine, as well as using drugs and alcohol that flushes vitamins out of the body, Vitamin B deficiencies are common. Those who eat an average American diet are usually deficient in Vitamin B, so deficiencies could have existed before the addiction and are now exacerbated by it. There were some experiments conducted in Finland that strongly supported that notion that Vitamin B deficiencies contributed to strong cravings.7

Below are the 8 B complex vitamins:
- Thiamine (B1)
- Riboflavin (B2)
- Niacin (B3)
- Pyridoxine (B6)
- Folate, folacin, or folic acid (B9)
- Cobalamin (B12)
- Biotin (B7)
- Pantothenic acid (B5)

**Thiamine** (Vitamin B1) is important for many organ and cellular functions.
Deficiencies of thiamine has led to the body degenerating, beginning with the circulatory and nervous system. Wernicke-Karskoff syndrome is a severe condition caused by thiamine deficiencies.

The best sources of Thiamine (Vitamin B1) are:

1. Trout (fish)
2. Lean Pork
3. Macadamia nuts
4. Sunflower seeds
5. Whole wheat bread
6. Green Peas
7. Acorn Squash
8. Cooked Asparagus
9. Edamame (roasted soy beans)
10. Navy beans

Riboflavin (Vitamin B2) is important for proper energy and supporting many different kinds of cellular processes. Deficiencies of riboflavin lead to mouth ulcers, reddening of the lips, mouth inflammation, sore throat and even iron deficiency.

The best sources of Riboflavin (Vitamin B2) are:

1. Cheese
2. Almonds
3. Lean beef and lamb
4. Mackerel (fish)
5. Eggs
6. Pork
7. Raw brown Italian mushrooms
8. Sesame seeds
9. Squid (seafood)
10. Spinach
Niacin (Vitamin B3) is essential for maintaining proper cholesterol levels as it regulates blood glucose levels and processes fat within the body. Niacin deficiencies result in dementia, delirium, diarrhea, dermatitis and amnesia. However, slight deficiencies cause irritability, anxiety, restlessness, fatigue, poor concentration and depression.

The best sources of Niacin (Vitamin B3) are:
1. Cooked yellowfin tuna
2. Cooked chicken and turkey
3. Cooked lean pork chops
4. Cooked lamb liver
5. Peanuts
6. Cooked lean beef
7. Grilled portobello mushrooms
8. Green peas
9. Sunflower seeds
10. Avocado

Pyridoxine (pyridoxal, pyridoxamine or commonly called Vitamin B6) is an essential vitamin that is necessary for the immune system, nervous system and maintenance of red blood cell metabolism. A deficiency in vitamin B6 can lead to depression, confusion, inflammation and anemia. Low levels of B6 can contribute to an increased risk of having a heart attack.

The best sources of Pyridoxine (Vitamin B6) include:
1. Sunflower seeds
2. Pistachio nuts
3. Tuna
4. Turkey and chicken
5. Lean pork
6. Dried prunes and apricots
7. Lean beef
8. Bananas
9. Avocados
10. Cooked spinach

**Folate** (folic-acid, folicin or commonly called Vitamin B9) is important for a variety of body functions including cell growth, cell division and DNA synthesis. Deficiencies in folate contribute to anemia in adults and poor development in children.

The best sources of Folate (Vitamin B9) include:
1. Black eyed peas (beans)
2. Lentils
3. Raw spinach
4. Cooked asparagus
5. Romaine lettuce
6. Avocado
7. Cooked broccoli
8. Mango (and other tropical fruits)
9. Oranges
10. Whole wheat bread

**Cobalamin** (Vitamin B12) is an important vitamin that is essential for preventing anemia and maintaining the nervous system. It plays a key role in DNA synthesis and neurologic functioning. Deficiencies in cobalamin have been shown to lead to psychiatric disorders such as mania, psychosis, depression and irritability.8

The best sources for Cobalamin (Vitamin B12) are:
1. Clams
2. Atlantic sardines
3. Jack mackerel
4. Sockeye salmon
5. Pink salmon
6. Light tuna
7. White tuna
8. Atlantic Cod
9. European anchovies
10. Shrimp

**Biotin** (Vitamin B7) assists the body's processing of fat and sugars. Biotin is important for the building blocks of the body and basic cellular functions. Deficiencies in biotin are quite rare because the daily requirement is low and biotin is in many foods. However, a visible sign of biotin deficiency is more commonly manifested as skin discolorations.

Some foods high in Biotin are:
1. Swiss chard
2. Carrots
3. Almonds
4. Walnuts
5. Eggs
6. Goat's milk
7. Cow's milk
8. Berries (and other fruits)
9. Halibut
10. Vegetables

**Pantothenic Acid** (Vitamin B5) is an important vitamin that the body uses to assist various cellular processes and the maintenance of fat. Deficiencies in vitamin B6 is normally rare, but with the average American diet of eating poorly coupled with the use of drugs, alcohol or tobacco, makes addicts especially vulnerable. Symptoms include fatigue, irritably, muscle cramps and numbness.

The best sources for Pantothenic Acid (Vitamin B5) are:
1. Cooked shiitake mushrooms
2. Gjetost cheese
3. Cooked trout
4. Avocados
5. Eggs
6. Lean pork
7. Beef and veal
8. Chicken and turkey
9. Sunflower seeds
10. Baked sweet potato

Poor Nutrition Increases Problem Behavior?

One researcher, Dr Stephen Schoenthaler, studied the affects of vitamins that were administered to inmates over the length of 29 years. His findings reveal that individuals who received the vitamin supplement had a 38% decrease in behavior problems. He concluded that a low concentration of essential nutrients in the body inhibits the brain to function properly, leading to poor behavior.

Another study from Dr. Bernard Gesch, found that improving young offenders diets resulted in a 25 percent reduction in criminal offenses. In another study, the behavior of inmates was reduced by the intake of proper vitamins and minerals.

Charles Grant, M.D., gave his patients that were struggling with addiction proper nutrition. He discovered that adding proper nutrients decreased addictive behaviors by 83%. Some research indicates that over 80% of people on probation who participated in a nutrition program, led crime-free lives.
Withdrawal results when either mental or physical dependence for a drug or addictive behavior increases. Withdrawal includes a set of symptoms that are triggered when an abrupt discontinuation of drug occurs. The severity of withdrawal symptoms depends on how long the person used their drug of choice, how much of it was used, the extent of damage it has caused within the body, and the individual’s biochemical makeup.

According to researchers, there is about 4 stages of withdrawal. Stage one starts shortly after the addict used their drug of choice. This is where anxiety, restlessness, agitation, irritability or loss of appetite starts to increase. When addicts begin to experience this initial state of withdrawal, researchers believe that the best thing to do here is to support the body through proper nutrition and decrease cravings as much as possible.

During the withdrawal, calcium and magnesium levels are low and contributes to irritability and nervous system/muscle pain. Increasing calcium and magnesium intake is important during this time.

Vitamin C can counterbalance the withdrawal symptoms as it helps to support the immune system, adrenals and the liver. Vitamin C also helps the chemicals in the brain to properly function and assists in the conversion of tryptophan into serotonin.

Using B-vitamins decrease withdrawal symptoms dramatically, decrease cravings and aid in supporting the liver and nervous system. Some have found B-vitamins to completely remove withdrawal symptoms.
References:

Chapter 5
How To Begin
Nutritional Guideline

To begin a nutritional program for recovery, the first step is to eliminate high sugar foods from your diet and add whole grain foods. Eliminating processed foods for a whole foods diet, is the foundation. Next, protein should be added as it is responsible for the production of amino acids to restore depleted and malfunctioning neurotransmitters.

Chose complex carbohydrates which are found in beans, proteins and grains and may need to be taken in ample amounts.

Good sources of proteins include meat, fish, chicken, beans, eggs, nuts, seeds and cheese.

How much you are eating and how often is an important factor. When you increase your protein intake you should space it out over the entire day instead of just one or two high protein meals. Make sure that all snacks and meals contain around 10 to 15 grams of protein. Constantly feeding the brain like this is important, not only for sustained energy, but to ward off triggers and cravings.

It is important to not get too hungry and to not get too full. Listen to your body and eat small meals every 2-4 hours. When you wake up, eat within 30 minutes. Recovering addicts should not go too long without eating. They should have healthy snacks on hand. This will help to maintain blood sugar levels and keep energy stabilized.

Our bodies also need both unsaturated and saturated fats. The best source of these fats are found in dairy products, meats, butter, eggs and fowl. While it is not good to have excessive amounts of cholesterol, a minimum amount (around
20% to 30%) is needed to enhance and build major body organs such as the liver. This also helps to strengthen cells as and improve absorption of calcium for bone health.

Cholesterol from saturated fats also have been shown to regulate emotions and mood because it impacts the serotonin receptors within the brain.¹

Unsaturated fats are usually made up of Omega-3 and Omega-6 fatty acids. These fatty acids produce heat and energy in our body as well as produce hormone like substances called prostaglandins which help regulate the immune system and nervous system.²

Doctors have used Omega-3 and Omega-6 fatty acids in recovery programs and have noted that it improved recovery.³

Flaxseed oil is a good source of the Omega-3 and Omega-6 fatty acids. It can be directly poured onto salads, vegetables, soups or grains. Adults are recommended to take 1 to 3 teaspoons daily. You can receive the adequate amount of Omega 3 fatty acid if you eat fresh fatty fish several times a week.⁴

You would want to get the best source of unrefined oils that are properly produced. These sources include: Omega Nutrition, Flora Inc and Arrowhead.

Mills/OmegaFlo. When shopping for oils, stay away from oils that are “hydrogenated” or “partially hydrogenated.”

Margarine is usually not a good choice. Cold pressed oils are best as they have been extracted by pressure, not heating, which destroys nutrients. Butter, olive oil or coconut oil are higher-quality fats.⁵
It is best to eat locally-grown vegetables and fruit that is in season. Research repeatedly tells us that vegetables and fruits that have become fully ripened on a vine or tree before consumption has more nutritional value than those that ripen at the supermarket. One study found that tomatoes that were ripened on the vine had over twice the amount of Vitamin C, compared to tomatoes that were machine picked.\textsuperscript{6}

The best way to find good fruits and vegetables are in local farmers markets. Local farmers markets usually have fruits and vegetables in season. Look for the fruits and vegetables that are colorful, because they usually have the greatest amount of nutrients.\textsuperscript{7}

Canned food and processed food miss many nutritional elements that are essential during recovery. Processed foods may be stripped of nearly 90 percent of nutrients.\textsuperscript{8}

Additives found in processed food have been shown to cause changes in the brain that may cause learning difficulties or hyperactivity.\textsuperscript{9} Aspartame, for example, can block serotonin synthesis.\textsuperscript{10}

Additives such as MSG, phenylethylamine, tyramine and xanthines are commonly found in processed meats, chips, sauces, chocolates, soft drinks or caffeine have been shown to cause mania, problems with attention and decrease problem-solving ability.\textsuperscript{11}

Those in recovery often turn to caffeine to boost their mood. Many support groups and 12 step meetings actually provide coffee. However, caffeine is simply another drug that can cause a chemical imbalance as well. It stimulates adrenal glands which can eventually lead to adrenal exhaustion manifested in symptoms such as lightheadedness, dizziness or fatigue.
Along with getting proper nutrients, getting adequate sunshine and exercise is important. Sunshine has vitamin D and exercise helps to push blood to the brain and throughout the body to help heal and repair.

How to Choose Foods

When going out to eat: If you go out to eat, avoid fried foods. Most chicken and other meats (other than lamb) will contain hormones and antibiotics. Some restaurants will have fresh meats. Request broiled or baked meats instead. Having broiled or baked meats with a side of rice or backed potato and fresh vegetables or salad would be the best choice.

Just some rice with a potato and some vegetables can be sufficient for an evening meal. Skip the dessert if you can. Most desserts are flour and refined sugar which are harder to digest and can cause a rapid change in blood glucose levels. They may also put added stress on the liver and pancreas. Best thing to avoid them all together.

Shopping List for Addiction Recovery:

- **Juice** - Choose 100% fruit juice that comes from fresh fruit. It will have more nutrition than the processed fruit juice and other fruit drinks.
- **Produce** - Frozen produce is a healthier choice because freezing food locks in the nutrients before preservatives or food coloring is added.
- **Meat** - Most fat in chicken is within the skin. The breading of fried chicken is usually loaded with unhealthy carbs. Choosing white meat is usually a better choice.
- **Bread** – Typically whole wheat bread has more vitamin E, B6, folic acid, zinc, magnesium and more fiber than white bread.
Dairy – Choosing 1 or 2 percent milk over whole milk will have less fat. Egg Beaters usually have lower cholesterol. Choosing low fat cheese is also a better option.

Oils and Fats - Monosaturated fats would be better than saturated fats. Saturated fats are in dairy products, meats, coconut and palm oils. Monosaturated fats are in peanut oil, olive oil and canola oils.

Take 8 to 12 ounces of 100% juice daily. It is best to get the juice from organic and pesticide free vegetables.

When choosing fruit juice: Fresh celery, carrot and beet juice is very good for the liver and helps to build blood. They are full of assimilable vitamins, enzymes and minerals. These juices can improve immune system function as well as correct adrenal problems.

A great mixture is 10 percent beet, 60 percent carrot and 30 percent celery juice. Some like a little parsley added as well.

Note: People that may have yeast overgrowth or those with hypoglycemia may want to avoid juices. Also, beet juice is a great liver cleanser and can cause a detox reaction. Make sure you drink a lot of water and dilute your juice with 50 percent water if you have a blood-sugar condition.

When choosing snacks: Having just three nutritious meals each day may not be sufficient. Having healthy snacks between meals may greatly improve an addict's nutritional needs. Having snacks between meals also decreases mood swings.

Snacks you should choose more often:
100% Fruit Juice
Crackers
Cheese
Fresh Fruit
Raw vegetables
Raisins (or other dried fruit)
Yogurt (low fat)
Pretzels
Canned fruit (in juice)

**Snacks you should choose less often:**
Corn Chips
Potato Chips
Canned Fruit In Syrup
Ice Cream
Cake
Donuts
Fruit Punch
Pastries
Brownies

Just eating healthy may not be enough for individuals to replenish severely depleted nutrients. One study in particular indicated that B-vitamin was given to recovering alcoholics and they were unable to absorb it. All of it was flushed out through their urine. It took roughly 10 weeks for the patients to readily absorb it.¹²
Addicts that are going through recovery experience mood swings, irritability, anxiety and depression. There are increasing studies that reveal food can influence mood. The reason, diets affect the changes in brain function. Much of the research suggests that tryptophan contributes to a stable mood because serotonin is synthesized from tryptophan. Serotonin, which has been called the “mood regulator” is produced in the brain from tryptophan, with the help from B vitamins.

Tryptophan is found in most all high protein foods. However, other amino acids are much better at passing into the brain from the bloodstream. What this means is that you can actually increase your tryptophan levels in the brain just by eating a greater amount of complex carbohydrates. Again, a good choice of carbohydrates include fruits, vegetables, whole grains and legumes.

Depression is a major and common experience among addicts when trying to maintain sobriety. This is because their history of using their drug of choice has overstimulated their reward system. Their drug of choice has actually fed depression, causing a depletion of brain chemicals.

However, researchers have found people who are depressed often lack fatty acids. Taking fish oils which contain high quantities of omega-3 fatty acids is a good choice. One study showed that participants that took only a gram of fish oil a day improved their anxiety, depression, sleep and negative thoughts.13

A good source of omega-3 fatty acids include:
Walnuts
Flaxseed
Salmon
Tuna

Eating a balanced breakfast also contributes to improved mood, memory and energy. Skipping breakfast may lead to fatigue and anxiety. The best breakfast should contain ample amounts of fiber, lean protein, whole-grain carbohydrates and good fats. This is a good combination because adding proteins and high-quality fats (such as fish, flax or olive oil) make carbohydrates to become assimilated more slowly.
References:
21. Participants in a 2002 study featured in the Archives of General Psychiatry