



Life Habits and Exposures

Many of us regularly use substances that can add to chemical disequilibrium and therefore adversely affect our moods. These include caffeine, alcohol, cocaine, tobacco and some prescription medicines. They are prevalent in our culture, are part of our daily activities, and can undermine the effectiveness of the amino acid program described in this book.

CAFFEINE

Caffeine is the most widely used drug in the world, and is popular because it is mentally stimulating.

It is found in coffee, tea, soft drinks and some over-the-counter pain pills, and in the energy producer "Guarana," which is sold in health food stores. Very recently, colas replaced coffee as the number one source of caffeine intake in our country. This is especially worrisome because children, who consume so much of these beverages, are very susceptible to the adverse effects of caffeine.

Caffeine is a potent, addicting drug. Abrupt discon-

tinuance may cause headaches and other withdrawal symptoms. Caffeine use affects your brain, nerves, heart, circulation, digestion, the release of adrenaline from your adrenal glands, and the degree of tension in your muscles.

It can adversely affect certain medical conditions and should be entirely avoided in the following circumstances: high blood pressure or heart irregularities; insomnia and anxiety; ulcers, gastritis, or other stomach problems, because it stimulates gastric acid secretion; pregnancy, because it has been associated with birth defects and abnormal pregnancies; hypoglycemia; fibrocystic breast disease; and pancreatic cancer.

Small doses of 65 to 130 mg enhance physical and mental performance and induce alertness, wakefulness, talkativeness and water elimination. Larger doses, over 150 to 250 mg, can produce toxic effects including insomnia, anxiety, panic attacks, restlessness, irritability, delirium, ringing in the ears, flashes of light, gastrointestinal disturbances, tense or trembling muscles, fast or irregular heart beat, low-grade fever, headaches, fatigue, dizziness, weakness, and mood fluctuations with depression.

Depending on your weight and associated health conditions, your daily intake should not exceed 150 to 200 mg. You can use the caffeine-free alternatives when you have reached your self-assigned quota.

CAFFEINE AND THE BRAIN AMINES

Psychiatrists are seeing the toxic effects of caffeine enough to have included a diagnosis of caffeine intoxication, or "caffeinism," in the diagnostic manual (DSM-III).

AVERAGE CAFFEINE CONTENT OF BEVERAGES

	CAFFEINE/OZ	8 OZ CUP	12 OZ
Brewed coffee	15-30 mg	120-240 mg	
Instant coffee	13-20 mg	104-160 mg	
Tea	2-10 mg	16-80 mg	
Over the counter stimulants:			
Mountain Dew			50 mg
Tab			41 mg
Diet Shasta Cola			38 mg
Shasta Cola			38 mg
Sunkist Orange			38 mg
Dr. Pepper			37 mg
Pepsi-Cola			35 mg
RC Cola			34 mg
Coca-Cola			32 mg
Diet Pepsi			32 mg
Pepsi Light			31 mg
King Cola			29 mg

*Abstracted from Woodrow Monte and Samy Ashoof, "Caffeine Content of Selected Soft Drinks," *Journal of Applied Nutrition*, Vol. 37, No. 1, 1985.

Caffeine stimulates the release of norepinephrine and other brain amines. This release takes place in the brain and body, and is the reason a small amount of caffeine may give a lift. Chronic use of larger amounts will result in depletion of the amines unless there are plenty of precursors for replacement. Under the conditions of depletion, a caffeine user will progress to feeling nervous and fatigued.

Caffeine also importantly affects mood by interfering with vitamin B₁ absorption and metabolism. Thus, chronic high intake could ultimately result in a vitamin B₁ deficiency.

One study also presented evidence that 300 mg of caffeine caused a 50 percent increase in the loss of

magnesium (which is related to depression) and a 100 percent increase in the loss of calcium and sodium in the urine. Dietary magnesium and calcium intakes are often low anyway, so caffeine adds an additional mineral-exhausting stress to your system.

Aside from the problems of caffeine, coffee and tea significantly inhibit iron absorption when taken with a meal or up to one hour following a meal. Tea blocked iron intake by 87 percent in studies of the absorption of radioactive iron. Since low iron can contribute to depression, this is another mood altering hazard of these popular drinks.

I always ask my patients about their use of caffeine and the importance of doing this was underscored when a woman visiting the United States from her native Japan came to see me. Her complaints were depression, withdrawal, insomnia, fatigue, weakness, muscle tension, irritability and racing thoughts. When we talked, I learned she owned and operated a gourmet coffee shop and drank about fifteen cups of brewed coffee daily. The primary treatment I prescribed was that she discontinue the coffee and add B vitamins; all her symptoms cleared in several weeks.

FROM BOOZE TO BLUES

Alcohol affects our moods as well as our general well-being. Alcoholism is also our nation's number-one health problem and third largest killer. We have about twelve million alcoholics and many more million heavy drinkers, meaning they consume more than fourteen drinks a week.

Most studies indicate that more men than women are alcoholic, whereas twice as many females as males are depressed. Many of the male alcoholics

appear to have a depression that is masked by the alcohol problem. Because it is hard for many men to admit depression, they may turn to substance abuse or antisocial behavior to escape their psychological pain.

Even though inner conflict and stress can precipitate heavy drinking, we now feel fairly certain that alcoholics fall prey to their illness because they metabolize alcohol differently from nonalcoholics. This is either secondary to a genetic predisposition or to the disruptive biochemical effects of heavy drinking.

ALCOHOL AND NUTRITION

If we look at the destructive effects of regular drinking from a purely nutritional point of view, we see that, like sugar, alcohol gives you "empty" calories, with no vitamins, minerals or amino acids. It induces malabsorption of many nutrients and creates a greater need for them. Alcoholics have deficiencies of all the B complex vitamins, of amino acids and of some minerals. In fact, even small amounts of alcohol taken regularly will create vitamin B complex problems because alcohol decreases the absorption of vitamins B₁, B₂ and folic acid. Vitamins B₆ and C are destroyed by acetaldehyde, a breakdown product of alcohol produced by the liver. Alcohol also increases urinary excretion of zinc, magnesium, calcium, and vitamin B₁₂, and thus leads to depletion of those substances as well.

As we have seen, almost all these substances can be related to mood, and many of them help form the brain amines. Recent studies of brain amine metabolism have shown alcohol reduces the synthesis of neurotransmitters from tyrosine. And, it should be

noted, a significant number of alcoholics have an associated depression.

If you are not alcoholic but do have daily drinks, you need supplementation to offset the drain on your body's nutritional status. Occasional social drinking should not pose this kind of nutritional threat and does not require the same replacement efforts.

The nutritional approach to treating depression works well in drinkers because it is totally safe to mix nutrients with alcohol and because the alcoholic needs the nutrients anyway. On the other hand, the mixture of traditional antidepressant drugs with alcohol can be very dangerous, making orthodox treatment risky. Even when counseled to avoid alcohol, there is no guarantee a person will do so, and a number of suicides have eventuated from the combination of alcohol with antidepressant medication or tranquilizers.

Many drinkers, especially those involved in AA (Alcoholics Anonymous) programs, are advised by their support groups to avoid psychiatric medication of any kind. This can create problems for those who need biochemical help to eliminate depression. The nutrient program poses no such dilemma.

After treatment with specific diets and nutrients, many alcoholics naturally lose the craving and compulsion to drink. Therefore, the self-discipline required is in taking the supplements, more than in avoiding the alcohol.

COCAINE

We've all heard about the widespread use of cocaine among professionals and athletes, and in the white collar sector.

We also know that a new cocaine trend is cause for

much greater alarm. The villain is "crack," a cheap, smokable, readily available form of cocaine that is highly addictive and is considered to be far more dangerous than the usual powdered, snorted variety used by the older crowd.

A 1985 University of Michigan survey indicated that 17 percent of high school students had used cocaine. What will happen to this number now, when cheaper, more addictive forms of cocaine spread across our land? And what will happen to the moods and psychology of our teenagers, who are already on biochemically induced emotional roller-coasters from sugar, alcohol, tobacco, caffeine and other drugs?

The following set of symptoms is common among cocaine users: blurred vision, panic attacks, hyperactivity, severe headaches, weight loss, nasal problems, paranoia, convulsions, *depression* and precipitation of manic states.

Because of its high or euphoric effect, many people use the drug to counteract drops in mood and energy or, ironically, to treat their own depression. In fact chronic cocaine usage creates depression. Cocaine causes our brain cells to release the stored neurotransmitters norepinephrine and dopamine into the space between nerve cells (synapse) where they chemically interact with the next cell to produce stimulatory effects. Cocaine not only causes increased release of these neurotransmitters but also decreases the reuptake of norepinephrine, dopamine and serotonin back into their storage cells. Cocaine also temporarily inhibits the enzyme that breaks down the neurotransmitters. The net effect is to keep this system of nervous pathways excited and "on" in an unnatural way. But when the neurotransmitters are finally metabolized, not only is there an end to the high, there is also a deficiency

until the body produces more, or until another cocaine dose stimulates release of the gradually depleting "stores" of neurotransmitters. When cocaine use is repeated a sufficient number of times without adequate nutrient replacement of the neurotransmitter precursors, a final depressed, depleted, exhausted state can occur.

Several studies have reported successful treatment of cocaine addiction using the amino acids L-tyrosine, L-tryptophan, L-glutamine, and L-phenylalanine, plus vitamins and minerals. These nutrients replace the depleted neurotransmitters and relieve the underlying mood disorder that may often lead to the addiction in the first place.

TOBACCO

Smoking depletes your body of vitamins A, B₁, B₆, B₉, C and E, and of the amino acid cysteine. Smokers tend to have vitamin C levels about half that of non-smokers; they also have lower vitamin B₆ levels. These deficiencies are importantly connected with depression. Tobacco may contribute to mood fluctuations from an allergic standpoint as well.

For these reasons, among other important medical considerations, it's important to stop smoking. However, those who do smoke particularly need to replace their depleted vitamins and amino acids with a supplemental nutrient program.

DRUGS THAT MAY CAUSE DEPRESSION

The following substances may cause depression. (The generic name is listed first and the trade names are in parentheses.)

Antibiotics

(When you take antibiotics, be sure to take vitamin B complex daily also.)

Cycloserine (Seromycin)

Gram negative antibiotics

Sulfonamides (Bactrim, Azo Gantanol, Cotrim, Septra, Sulfatrim, Sulfa Methoxazole)

Neomycin

Tetracyclines

Metronidazole (Flagyl)

Antimalarials

Sulfadoxine

Pyrimethamine (Daraprim, Fansidar)

Arthritis or Pain Medicines

Phenylbutazone (Azolid, Butazolidin)

Indomethacin (Indocin)

Piroxicam (Feldene)

Sulfasalazine (Azulfidine)

Aspirin (including Bufferin, Anacin, Ascriptin)

Phenacetin (A.P.C. with Codeine, Propoxyphene Compound, Soma Compound)

Birth Control Pills and Other Hormones

Estrogens

Progesterone

Steroids (may also cause euphoria or even mania)

Chemotherapy

Vinblastine sulfate (Velban)

Methotrexate

Procarbazine hydrochloride (Matulane)

Diet Pills

Amphetamines (Obetrol, Dexedrine, Desoxyn)

Benzphetamine (Didrex)

Diethylpropion hydrochloride (Tenuate, Tepanil)
Phenmetrazine hydrochloride (Preludin)
Mazindol (Sanorex, Mazanor)
Fenfluramine hydrochloride (Pondimin)
Phendimetrazine tartrate (Plegine, Melfiat, Bontril)
Phentermine (Ionamin, Fastin, Adipex-P)

Diuretics

Furosemide
Triamterene (Dyazide, Dyrenium)

Heart Medicines

Digitalis (Digoxin, Lanoxin, Cedilanid, Crystodigin)
Procainamide (Pronestyl, Procan SR)

High Blood Pressure Medicines

Hydralazine (Apresazide Apresoline)
Methyldopa (Aldomet, Aldoclor, Aldoril)
Clonidine hydrochloride (Catapres, Combipres)
Guanethidine (Ismelin, Esimil)
Propranolol hydrochloride (Inderal, Inderide)
Bethanidine
Reserpine (Chloroserpine, Regroton, Diupres,
Diotensen-R, H-H-R Tabs, Hydropres, Serpasil,
Unipres, Ser-Ap-Es, Naquival, Metatensin,
Hydromox, Hydro-Fluserpine)

Medication for Parkinson's Disease

Amantadine hydrochloride (Symmetrel)
Levodopa (Larodopa, Sinemet) (may also cause
mania)

Drugs for Psychosis

Phenothiazines, (Compazine, Phenergan, Sparine, Stelazine, Tamaril, Thorazine)
Haloperidol (Haldol)
Thioxanthene (Navane)

Seizure Medicines

- Succinimide derivatives (Celontin, Zarontin, Milontin)
- Carbamazepine (Tegretol)
- Mephenytoin (Mesantoin)

Tranquilizers and Sleeping Medicines

- Librium, Valium, barbiturates, other sleeping pills

Miscellaneous

- Disulfiram (Antabuse)
- Physostigmine (Antilirium)
- Tagamet (ulcer treatment; creates various nutritional deficiencies if taken for a long time)
- Choline (a nutrient supplement good for memory, but large doses can cause or exaggerate low moods. Consequently, it is helpful to give this to a manic person to help lower the mood to normal)
- Lecithin (this is a nutrient combination of choline and inositol)
- Penicillamine
- Cholestyramine

Do not stop any of these medications without consulting your doctor.