



San Francisco Unified School District
Office of Public Engagement and Information
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September 9, 2004

Re: Public Records Request received August 30, 2004

Professor David Touretzky
Computer Science Department
Carnegie Mellon University
5000 Forbes Avenue
Pittsburgh, PN 15213

VIA FAX

Dear Mr. Touretzky

This letter responds to your Public Records Act request for various categories of San Francisco Unified School District ("SFUSD") documents. Below please find a list of your requests, and the District's response to each request.

1. The set of "presentation outlines" referenced in a letter from Tony Bylsma of Narconon Drug Prevention & Education to Kin Coates of the SFUSD School Health Programs department. This letter, dated June 12, 2004, was supplied to me in response to a previous open records law request. In the letter Mr. Bylsma promised that the presentation outlines would be supplied to Ms. Coates by June 24.

These documents are attached.

2. All other correspondence between SFUSD employees (including, but not limited to, Arlene Ackerman, Dan Kelly, Louise Renne, Esq., Kim Coates, Trish Bascom and Martha Adriasola) and Narcanon or Narcanon Drug Education & Prevention, Inc. (including, but not limited to, Clark Carr, Tony Bylsma, and Sigal Adini) or their parent organization, the Association for Better Living and Education (ABLE), from June 13, 2004 onward.

The internal SFUSD memos or correspondence sought by this request are protected from disclosure by California Government Code Section 6254(k), which exempts from production "[r]ecords, the disclosure of which is exempted or prohibited pursuant to federal or state law, including, but not limited to, provisions of the Evidence Code relating to privilege."

Section 1040 of the California Evidence Code provides that "[a] public entity has a privilege to refuse to disclose official information...if the privilege is claimed by a person authorized by the public entity to do so and...[d]isclosure of the information is against the public interest because there is a necessity for

preserving the confidentiality of the information that outweighs the necessity for disclosure in the interest of justice..." Similarly, the documents are exempt from disclosure pursuant to California Government Code Section 6255, because "the public interest served by not disclosing the record[s] clearly outweighs the public interest served by disclosure of the record[s]."

Disclosure of the requested correspondence would expose SFUSD's decision-making and deliberative process in such a way as to discourage candid discussion within the District and thereby undermine the District's ability to perform its functions. See Times Mirror v. Superior Court (1991) 53 Cal. 3d 1325, 1342.

Thank you for your patience and cooperation.

Sincerely,



Melissa A. Mooney
Public Relations Liaison

cc: Angela Miller, Deputy General Counsel



Narconon Drug Abuse Prevention and Education Program Elementary/Middle School Presentation

Curriculum Outline

OBJECTIVES

- 1) Students will understand some of the physical, mental and emotional risks of drug abuse.
- 2) Students will gain confidence in their own ability to resist forces such as peer pressure or media advertisement that might otherwise influence them toward drug abuse.
- 3) Students will gain confidence in their ability to help peers refrain from drug abuse.

DELIVERY FORMAT AND ACTIVITIES

The presentations are very lively and highly interactive in nature; students actively participate by responding to the presenter's questions, participating in role-play and filling out a questionnaire. Through the presentation, students are encouraged to arrive at their own conclusions of the data presented.

All content is presented with age-appropriate vocabulary and style.

PRESENTATION COMPONENTS

The eight components described below each fall into one or more of these three main categories:

- Drug education
- Dealing with outside influences and environmental factors
- Refusal skills

1. What are drugs?

- 1.1. A drug is any substance other than food which, when put into the body, alters the function of the body or mind.
- 1.2. Drugs have side effects (unintended effects in addition to the intended effects) and can be toxic in high enough dosages.
- 1.3. Some drugs have benefits in some medical applications. However, even medically prescribed drugs may have dangers, and directions must absolutely be followed and dosage not exceeded.

- 1.4. Drug abuse is the consumption of any illegal drug or the irresponsible use of any legal drug (including failure to follow prescribed instructions for medical drugs).
- 1.5. Characteristics and effects of specific drugs are drawn from the NIDA Research Report series (see references).

Activity: Students make a commitment to be responsible for what they put into their body and in particular to follow guidelines for use of prescription drugs.

2. Physical effects of drugs in the body

- 2.1. Drug Effects. The first (short-term) effects of drugs include acting as a stimulant, acting as a depressant, and also, depending on the dosage and the drug, acting as a toxin. The same drug, in different dosages or cumulatively over time, can have all of these effects, and of course combinations of drugs, even in small dosages, can be particularly toxic.
- 2.2. Drug Distribution. Drugs enter the bloodstream, circulate through the body and enter the body's tissues. Drugs are metabolized in the body but are not always completely eliminated or excreted; in some cases the resulting drug metabolites (residues) are stored in various tissues for varying lengths of time.
- 2.3. Long-term consequences of drug abuse. The cumulative effects of drug abuse include damage to liver, kidneys, heart and circulatory system, lungs, brain and nervous system, endocrine system and suppression of the immune system.

Activity: Discussion of experimentation with drugs as compared to long-term use and the risks of both.

3. Mental effects

- 3.1. The mind contains images of a person's experiences in life. One's ability to study and learn and to achieve success in life is dependent on ready access to memory and associated knowledge.
- 3.2. Drug abuse results in blank spots in a person's memory. A person who is on drugs will not record images properly, and will often have blank periods and difficulty recalling the period of time while on drugs (particular examples are blackouts from excessive alcohol and short-term memory loss from marijuana).
- 3.3. Hallucinogens distort perception and create a mixture of images of real-in-the-present moment, real-but-from-a-past-memory, and unreal-false-imagined. This mix-up of images, depending on the person's sensitivity to the drug and/or dosage taken, can create an acute psychotic state (in which the person is unable at all to control himself in the moment, with paranoia, anxiety, etc.). There is also long-term difficulty in the recall and computing of information.

Activity: Students asked to consider and discuss whether the possible social appeal of drug use is more important than preserving memory and mental ability.

4. Drug Addiction

- 4.1. Addiction means using a substance repeatedly, despite knowing and experiencing its harmful effects. The person using the substance cannot control the urge to use it and needs increasing amounts to achieve the effect he craves.**
- 4.2. Many drugs cause the body to use certain nutrients at an abnormally high rate. Once the drug has worn off, the body is somewhat depleted of nutrients, with associated negative symptoms. Continuing drug use further depletes body stores of vitamins, minerals and precursors to various cellular components including neurotransmitters. Symptoms associated with various vitamin deficiencies include: (a) cramping and difficulty sleeping (calcium deficiency) (b) nervousness and anxiety (magnesium deficiency) (c) slow healing of bruises (vitamin C deficiency).**
- 4.3. After repeated use of a drug, its absence leaves a person experiencing these imbalances and deficiencies. The drug may have either masked the discomfort or provided something that balanced the metabolism. A person will then seek out more drugs to relieve the discomfort and pain.**
- 4.4. Tolerance to a drug is a result of the fact that with repeated use the body requires a higher dosage of the drug to achieve the same effect. Eventually the person must use large amounts to produce any effect at all. In late stages for some drugs, the drug is taken only to avoid feeling pain or discomfort. In this later stage of drug use, the addict talks about taking drugs to "get well," not to get "high."**
- 4.5. With these points understood, addiction can be seen as a process of continual decline into a worse and worse condition, not a single destination. In other words, addiction is not a black or white condition, but a process of going from the pure white into darker and darker grays, the finality of black being perhaps death. (This helps the young student better to connect present happy-time drug usage with a continuum declining slowly--or not so slowly--towards misery, to catastrophe.)**

Activity: Role-playing to demonstrate the meaning of addiction.

5. Alcohol and media influences

- 5.1. Alcohol advertising is pervasive and specifically designed to provoke memorable, favorable responses. Often this occurs below the level of the person's awareness, as he or she sees a movie hero relax with a Budweiser, or sees on billboards that Crown Royal attracts beautiful women. By virtue of this design, alcohol advertisements make a strong impression on children. (Examples are given of various current alcohol advertisements that demonstrate young people's instant recognition.)**

5.2. Years of alcohol advertisement and promotion can create a positive association with alcohol without any negative connotations, and this can affect a young person's attitude toward alcohol consumption as they get older.

5.3. Although not direct advertisement, the demonstration of excessive and regular alcohol use in movies, television, music videos, and by peers, particularly where the damaging effects are not obvious to the observer, also promotes its use.

5.4. By knowing and understanding this information a person is able to view media promotion from a more objective viewpoint and, therefore, is less likely to succumb to false promises based on false images.

Activity: Students demonstrate their ability to use critical thinking skills to identify pro-alcohol messages.

6. Tobacco and nicotine

6.1. Nicotine causes damage to the lungs, heart and other vital organs.

6.2. Nicotine, like many other drugs, creates long-term unhealthful effects as it accumulates in and damages tissues.

6.3. Though overt tobacco advertising to young people is now restricted, the industry has turned to subtle product positioning to achieve the same effect. Most commonly this is seen in movies, where a hero might celebrate with a cigar or cute aliens chain-smoke Marlboroughs.

Activity: Students demonstrate their ability to use critical thinking skills to identify pro-tobacco messages.

7. Drugs and emotions

7.1. Human beings exhibit a range of emotions, each of which may be appropriate for specific circumstances. (Students participate in interactive demonstration of the emotions, utilizing role-play.)

7.2. A person's emotional state can predispose him to drug use. For example, an emotional state such as boredom can be very uncomfortable for young people, which makes a person more likely to experiment with drugs (in order to solve the problem of "being bored.") By becoming interested in more constructive parts of life, a person can keep or bring himself to a better emotional state. He will thus be less likely to turn to drugs, and life will be more fun and interesting, too.

7.3. Drug use affects the emotions, both when the drug is in use and especially as the drug wears off.

7.4. Change of behavior or attitude is a better way to solve an emotional discomfort than drug use. (Students are encouraged to get interested in an activity or hobby.)

Activity: Discussion of options and avenues to avoid or find relief for emotional discomforts, and the importance of a positive attitude.

8. Achieving one's goals in life

8.1. Setting and working toward a goal can keep one interested in life and less likely to turn to drugs as an entertainment source

8.2. Achieving goals is somewhat like making "goals" in a game. The principles of games apply thus somewhat to life. The major components of any game are freedom (to make an effort, to do things, to play by certain rules), barriers (obstacles which one must overcome in pursuit of the goal or winning the game), and purposes (why one wants to win the game, why the goal is important). (Discussion with examples from life, etc.)

8.3. Working toward a goal in a game one has chosen to play in life creates a positive and productive attitude toward life, strengthening a person's ability to say no to drugs because there are more important and rewarding things to do.

Activity: Discussion of examples of student goals and reflection on how their goals relate to their interests.



Narconon Presentation: Standards Correlation

The Narconon presentation is well aligned with the standards presented in the Health Framework for California Public Schools and those addressed in the NIDA publication *Preventing Drug Use Among Children and Adolescents*.

Health Framework Criteria

Presents current, accurate content: The information presented in the Narconon presentation is well validated by research on the effects of drugs and on the phenomenon of drug abuse. Appended to the presentation outline are references for each of the factual points of the presentation.

Recognizes similarities and differences among students: The design of the presentation recognizes that each student brings individual pre-conceptions and misconceptions about drugs into the classroom; thus opportunity is provided for students to reflect individually on the information and concepts presented. At the same time we know that certain pre-conceptions and misconceptions are likely to be common, and those are specifically taken up by the presenter.

Emphasizes not just health-related information but the importance of behavior: The presentation encourages avoidance of risk behaviors and adoption of protective behaviors, not only as related to interactions with drugs or drug-taking peers, but also with respect to dealing with emotions and embracing positive goals for one's life.

Makes the curriculum accessible: Narconon presenters are well aware that drug abuse "lectures" often go above students' heads through the use of unfamiliar terminology and/or didactic teaching approaches. We are careful to use language that students of the targeted age range or English proficiency level are likely to understand, and there are frequent opportunities for the presenter to informally assess the students' level of understanding.

Takes advantage of opportunities for active learning: The presentation format is highly participatory, with many opportunities for discussion.

Focuses on mental and emotional health throughout: Not only physical, but also short- and long-term mental and emotional effects of drugs are considered. The mental and emotional contributions to drug-seeking behavior are presented in an age-appropriate manner.

Emphasizes character development: Students are encouraged to think carefully about their behavior with respect to drugs in view of their own goals and their own integrity.

Focuses on meaning and thinking by connecting concepts in health education with other learning and experiences: Connections are made to what students already know about human physiology as well as nutrition.

Health Framework Standards

(Numbers refer to corresponding points of the "Narconon Drug Abuse Prevention and Education Program Elementary/Middle School Presentation Curriculum Outline".)

Standard	Correlated Narconon presentation elements
Grades 4 – 6: Concepts and content	
Because experimentation with alcohol, tobacco, or other drugs often begins in the upper elementary grades, students should develop the knowledge, skills, and strategies for choosing not to use a wide range of harmful chemical substances. They should learn ways to identify drugs; the effects of drugs on different parts of the body; the reasons for not using specific substances; and the effects and consequences of use.	1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 4.5, 6.1, 6.2, 7.3
Students should understand the influences that promote drug use and develop the skills necessary to resist those influences; know how and where to obtain help when confronted with potentially dangerous or harmful situations involving chemical substances; and make a commitment not to use or distribute alcohol, tobacco, or other drugs.	5.1, 5.2, 6.3
Grades 4-6: Skills and behavior	
Differentiating between the use and misuse of prescription and nonprescription drugs	1.3, 1.4
Avoiding, recognizing, and responding to negative social influences and pressure to use alcohol, tobacco, or other drugs	5.1, 5.2, 6.3
Exercising self-control	7.4
Distinguishing between helpful and harmful substances	1.3, 1.4
Middle School: Concepts and content	
The use of alcohol, tobacco, or other drugs frequently plays a role in the dangerous behaviors of adolescents and adults. Students should understand the short-term and long-term effects of using such substances, including those that may alter performance, such as steroids. Their effects on the health of unborn children should also be explored.	1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 4.5, 6.1, 6.2, 7.3
Students should develop their understanding of the concept of chemical dependency and the effects of such dependency on the body... They should also be taught to understand the influence of peers and the media on the use of alcohol, tobacco, and other drugs; develop knowledge, skills, and strategies for choosing not to use or distribute such substances; and learn strategies for avoiding drug-related risk-taking situations and should have opportunities to practice those strategies.	2.1, 2.2, 2.3, 4.1, 4.2, 4.3, 4.4, 4.5, 5.1, 5.2, 5.3, 5.4

Middle School: Skills and behavior	
Exercising self-control	7.4
Distinguishing between helpful and harmful substances	1.3, 1.4
Differentiating between the use and misuse of prescription and nonprescription drugs	1.3, 1.4
Avoiding, recognizing, and responding to negative social influences and pressure to use alcohol, tobacco, or other drugs	5.1, 5.2, 6.3
Identifying and participating in positive alternative activities, such as alcohol-, tobacco-, and drug-free events	8.1, 8.2, 8.3

NIDA Guidelines Reflected in the Narconon Presentation

Prevention programs should be designed to enhance protective factors and move toward reversing or reducing known risk factors.

Prevention programs should target all forms of drug abuse.

Prevention programs should include skills to resist drugs [to include "social competency"].

Prevention programs for adolescents should include interactive methods, such as peer discussion groups, rather than didactic teaching techniques alone.

Prevention programs should be age-specific.

When children understand the negative effects of drugs (physical, mental, emotional and social) and when they perceive their friends' and families' social disapproval of drug use, they tend to avoid initiating use.

Educating children about the negative effects of drugs, especially the most immediate adverse effects in their lives, is an important element in any prevention program.



Narconon Presentation: Science References

(Numbers refer to corresponding points of the "Narconon Drug Abuse Prevention and Education Program Elementary/Middle School Presentation Curriculum Outline".)

1 *What are drugs?*

- 1.2 Tabers Cyclopedic Medical Dictionary under the word "drug"
- 1.3 NIDA Research Reports.

2 Physical effects of drugs in the body

- 2.1 *Toxic effects of drugs:* Tabor's Cyclopedic Medical Dictionary, in its essay defining the word "drug", compares "toxic and allergic reactions" of all drugs, stating that the toxic reaction time may "occur with the first dose, or may be due to cumulative effects."

The 2004 Physician's Desk Reference provides a list of over 4000 drugs. EVERY entry includes side effects and adverse interactions with other drugs that are toxic in nature.

Further, comparative drug education materials describe the toxic effects of drugs: "Tips for Teens" flyers on tobacco, inhalants, club drugs, cocaine, steroids, heroin, etc. all describe these drugs as being toxic and "can kill you."

Sequence of effects:

The science behind the cellular response to drug dosage is quite complex. Every drug submitted for regulatory approval through the FDA is studied within a well-defined "pharmacological dose response curve" that defines the small, tightly controlled range of clinical or therapeutic dosages. It is also known that either within or outside this range that the first low-dose effect is stimulation followed by a high-dose inhibition. This also happens to be true of heavy metals and other poisons and of antibiotics.

This phenomenon was identified as early as 1888, and was called the Arndt-Schultz Law. A paper published in Science (Vol 302, 17, October 2003) states "The [cellular] receptor for a specific compound tends to come in two flavors: stimulatory or inhibitory. When the concentration of the drug is low, the stimulatory type of receptor is more likely to be activated; at higher levels, inhibition takes over. Opiates work this way, for example."

Standard literature on drugs reports repetitively this similar sequence with major drugs of abuse and alcohol. As example from the NIDA Research Report Series:

Cocaine: "Short Term Effects of Cocaine: Increased energy, decreased appetite, mental alertness, increased heart rate and blood pressure, constricted blood vessels, increased temperature, dilated pupils"... "Long Term Consequences: Addiction, irritability and mood disturbances, restlessness, paranoia, auditory hallucinations"... "Medical Consequences: Cardiovascular - disturbances in heart rhythm, heart attacks; respiratory - chest pain, respiratory failure; neurological - strokes, seizures and headaches..." etc. (pg 5)

Inhalant Abuse: "Short and Long-Term Effects: Although the chemical substances found in inhalants may produce various pharmacological effects, most inhalants produce a rapid high that resembles alcohol intoxication with initial excitation, then drowsiness, disinhibition, lightheadedness, and agitation. If sufficient amounts are inhaled, nearly all solvents and gases produce anesthesia, a loss of sensation and even unconsciousness." ... "Dizziness, drowsiness, slurred speech, lethargy, depressed reflexes, general muscle weakness, and stupor are other possible effects." (pg 5)

Heroin Abuse and Addiction: "Immediate (short-term) effects: ... Abusers typically report feeling a surge of pleasurable sensation, a 'rush.' The intensity of the rush is a function of how much drug is taken and how rapidly the drug enters the brain and binds to the natural opioid receptors.... After the initial effects, abusers usually will be drowsy for several hours. Mental function is clouded by heroin's effect on the central nervous system. Cardiac function slows. Breathing is also severely slowed, sometimes to the point of death."

2.2 *Drug Metabolism*: The Merck Manual Chapter 11 states:

"Drug distribution refers to the movement of drug to and from the blood and various tissues of the body (for example, fat, muscle, and brain tissue) and the relative proportions of drug in the tissues.

"After a drug is absorbed into the bloodstream, it rapidly circulates through the body; the average circulation time of blood is 1 minute. As the blood recirculates, the drug moves from the bloodstream into the body's tissues. "Once absorbed, most drugs do not spread evenly throughout the body. Drugs that dissolve in water (water-soluble drugs), such as the antihypertensive drug atenolol, tend to stay within the blood and the fluid that surrounds cells (interstitial space). Drugs that dissolve in fat (fat-soluble drugs), such as the anesthetic drug halothane, tend to concentrate in fatty tissues. Other drugs concentrate mainly in only one small part of the body (for example, iodine

concentrates mainly in the thyroid gland), because the tissues there have a special attraction for and ability to retain (affinity) the drug....

"Some drugs accumulate in certain tissues, which can also act as reservoirs of extra drug. These tissues slowly release the drug into the bloodstream, keeping blood levels of the drug from decreasing rapidly and thereby prolonging the effect of the drug. Some drugs, such as those that accumulate in fatty tissues, leave the tissues so slowly that they circulate in the bloodstream for days after a person has stopped taking the drug.

"Distribution of a given drug may also vary from person to person. For instance, obese people may store large amounts of fat-soluble drugs, whereas very thin people may store relatively little. Older people, even when thin, may store large amounts of fat-soluble drugs because the proportion of body fat increases with age."

(www.merck.com/mrkshared/mmanual_home2/sec02/ch011/ch011d.jsp)

Many scientific studies exist that describe the redistribution of specific drugs to adipose. The following are a selection of these studies that provide data on illicit drugs:

Levisky JA, Bowerman DL, Jenkins WW, Karch SB *Drug Deposition in adipose tissue and skin: evidence for an alternative source of positive sweat patch tests.* Forensic Sci Int 2000 May 8;110(1):35-46.

Kidwell DA, Holland JC, Athanaselis S. *Testing for drugs of abuse in saliva and sweat.* J Chromatogr B Biomed Sci Appl 1998 Aug;713(1):111-35.

Axelrod J, Brady RO, Witkop B and Evarts EV *The distribution and metabolism of lysergic acid diethylamide.* Ann NY Acad Sci 1957 66: 435-444.

Stoman A. *The absorption, distribution, and excretion of drugs and poisons and their metabolites.* Progress in Chem Tox Academic Press 1974 pp 1-99.

James SH and Schnoll SH *Phencyclidine: tissue distribution in the rat.* Clin Tox 1976 9: 573-582.

Nayak PK, Misra AL and Mule SJ *Physiological disposition and biotransformation of [³H] cocaine in acutely and chronically treated rats.* J Pharmacol & Exper Ther 1976 196: 556-569.

Dackis CA, Pottash ALC, Annitto W and Gold MS *Persistence of urinary marijuana levels after supervised abstinence.* Am J Psychiatry 1982 139: 1196-1198.

Friedman H, Ochs HR, Greenblatt DJ and Shader RI *Tissue distribution of diazepam and its metabolite desmethyl diazepam: A human autopsy study.* Clin Pharmacol 1985 25: 613-615.

M Shields MD, S Beckmann PhD, F Tennant MD, RM Wisner, *Reduction of drug residues: Applications in drug rehabilitation, Presentation at 123rd Annual Meeting of the American Public Health Association.* San Diego, 1995.

3. Mental Effects

- 3.1 Mind as mental pictures: (www.gis.net/~tbirch/mi5a.htm) "According to Kosslyn, mental images really should be understood in two ways: First, from the scientific standpoint, mental images are UNCONSCIOUS SPECIFIC DATA STRUCTURES THAT PLAY THE ROLE OF 'IMAGES' IN MENTAL COMPUTATIONS..." etc.

Additional References: "Images of Mind," MI Posner, ME Raichle; and "An Introduction to the Science and Philosophy of Mental Imagery," JTN Thomas, PhD (www.calstateja.edu/faculty/nthomas/home.htm)

- 3.2 Hallucinogens: www.nida.nih.gov/MOM/HALL/MOMHALL1.html
"Hallucinogens powerfully affect the brain, distorting the way our five senses work and changing our impressions of time and space. People who use these drugs a lot may have a hard time concentrating, communicating, or telling the difference between reality and illusion." Etc.

- 3.3 (See 3.2)

4 Drug Addiction

- 4.1 The World Health Organization definition of addiction is "Addiction means using a substance repeatedly despite knowing and experiencing its harmful effects. The person using the substance cannot control the urge to use it and needs increasing amounts to achieve the effect he craves."
<http://www.emro.who.int/mnh/whd/PublicInformation-Part3.htm>

- 4.1.1 Additional references:

(http://teens.drugabuse.gov/facts/facts_brain2.asp)

- 4.1.2 "How Many Times Does Someone Have to Take a Drug to become an Addict?" "No one know how many times a person can use a drug without changing his or her brain and becoming addicted..."

- 4.2 *Depletion of vitamin and minerals.* Extant science has shown that alcoholics, for example, are seriously deficient in vitamins A, E, C, B₁ (thiamine), and B₆. These deficiencies then impede cognition and further "can produce confusion

and psychotic symptoms" (as stated by Petrie and Ban in the 1985 issue of the journal Drugs.) Dosages of thiamine plus B₁₂ and folate have been shown to prevent alcohol-induced psychosis, or Wernicke-Korsakoff Syndrome. Depressant abuse addicts have been helped with a basic vitamin package plus amino acids phenylalanine and glutamine. Stimulant abuse patients have been helped with phenylalanine, tyrosine, and glutamine. Notes indicate that taurine calms down addicts coming off drugs and reduces their upset. Other work with simple orthomolecular treatment, including Calcium and Magnesium as well as other vitamins for the first week of withdrawal and amino acids later, showed rapid improvement in psychological test scores. Many experiments have shown the calming effects of Tryptophan with addicts in withdrawal.

The following references describe the above:

Mechanisms of vitamin deficiencies in alcoholism, Hoyumpa AM, Alcohol Clin Exp Res 1986 Dec 10:573-81.d

Bjornboe & Bjornboe, 1993, Alcohol and Alcoholism Vol 28: 111-116.

Odeleye et al, 1991, Alcohol Vol 8: 273-277.

Adult scurvy, Hirschmann JV, Raugi GJ, J Am Acad Dermatol 1999 Dec 41:895-906; quiz 907-10.

Merck Manual of Diagnosis & Therapy, Chptr 195 – Drug Use & Dependence: Alcoholism, 2002

Cognitive effects of nutritional deficiency, Rosenthal MJ, Goodwin JS, Adv Nutr Res 1985 7:71-100.

Vitamins in psychiatry. Do they have a role?, Petrie WM, Ban TA, Drugs 1985 Jul 30:58-65.

Mechanisms of vitamin deficiency in chronic alcohol misusers and the development of the Wernicke-Korsakoff syndrome, Thomson AD, Alcohol Alcohol Suppl 35 Suppl 1:2-7.

Methodology: Use of Orthomolecular Techniques for Alcohol and Drug Abuse in a Post-Detox Setting. Libby et al, 1982, Orthomolecular Psychiatry Vol 11: 277-288.

4.3 See 4.2

7. Drugs and Emotions

7.3 <http://www.nida.nih.gov/MOM/METH/MOMMETH2.html>

“Usually neurons recycle dopamine. But methamphetamine is able to fool neurons into taking it up just like they would dopamine. Once inside a neuron, methamphetamine causes that neuron to release lots of dopamine. All this dopamine causes the person to feel an extra sense of pleasure that can last all day. But eventually these pleasurable effects stop. They are followed by unpleasant feelings called a ‘crash’ that often lead a person to use more of the drug. If a person continues to use methamphetamine, they will have a difficult time feeling pleasure from anything. Imagine no longer enjoying your favorite food or an afternoon with your friends.”