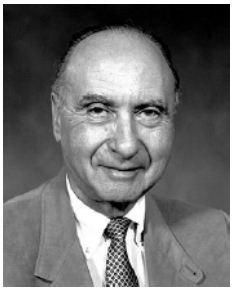
The Niacin (Vitamin B3) and Vitamin C Cancer Protocol

Cancer can only exist when the Krebs' Citric Acid Cycle of a person's body cells is broken. And this is due to adrenaline depletion (in phase 2), niacin deficiency (in phase 4) and vitamin C depletion (in phase 5), all of which are caused by prolonged chronic stress. Dr Abram Hoffer, the department head of psychiatry at a major hospital in Canada, started using niacin and high doses of ascorbic acid (vitamin C) to treat psychiatric patients and found (by accident) that it also effected a cure in some of his patients with cancer. He subsequently found of 132 patients he treated in his own private practice with so-called 'incurable cancer', 101 patients who followed his program (below) lived on average 16 times longer than the 31 patients who did not or could not follow his program. Dr Abram Hoffer and Linus Pauling presented the following study findings: "Mean survival time for the 31 patients who did not follow the regimen is 5.7 months. Of the others, who did follow the regimen, 20% were poor responders, with mean survival time 10 months, and 80% were good responders, with mean survival time 122 months for 32 patients with cancer of the breast, ovary, cervix, and uterus and 72 months for 47 patients with other kinds of cancer."



Dr Abram Hoffer recommended the following regime to his patients: **"The first thing I try to do is to cut their fat way down. So, I put them all on a dairy free program. I reduce, but I don't eliminate, meat and fish, and I ask them to increase their vegetables, especially raw, as much as they can. I think it's a good, reasonable diet, which most people can follow without too much difficulty. Having spent some time with them going over what they ought to eat, I begin to talk about the nutrients. The first one, of course, is vitamin C. The dose is variable. I find that most patients can take 12 grams per day without much difficulty, that's the crystalline vitamin C sodium ascorbate or calcium ascorbate. They take one teaspoon three times per day. If they do not develop diarrhea, I ask them to increase it until this occurs and then to cut back below that level. I think in many cases it would be desirable to use intravenous vitamin c. I also add vitamin B-3, either niacin or niacinamide. I prescribe from 500 mg to 1500 mg per day. I also add a B (vitamin) complex preparation 50 or 100. I think vitamin E is an extremely important anti-oxidant and I use that as well, 800 to 1200 I.U. They also get 25,000 to 75,000 units of beta carotene. (One cup of raw carrot juice contains 36,600 units of beta carotene, which converts to vitamin A). I sometimes use vitamin A. I like to use folic acid for lung cancer, and for cancer of the uterus. I use selenium, 200 mcg, three times per day. I use some zinc, especially for prostatic cancers and I do use calcium-magnesium."**

By Dr Abram Hoffer

Introduction (The Information presented herein is for educational purposes only.)

Between 1978 and March, 1999, I have seen over 1040 patients suffering from cancer who came to me for nutritional and psychiatric counselling. This is no longer a surprising combination, as it was when I first started to practice psychiatry in 1952. I attended my first annual meeting of the American Psychiatric Association in Los Angeles, in 1952. I did not meet another psychiatrist there with a PhD in Biochemistry. Since then many more scientists with the double degrees have become active in this field, but of these very few actively pursue this particular combination. Orthomolecular theory and practice drives these two together. I have retained my interest in the biochemistry and clinical aspects of nutrition, combining this with my education in medicine and later in psychiatry. The recovery of my first patient in 1960 from terminal bronchiogenic cancer of the lung arose from this coalescence of these two disciplines.

By 1960 my research group in Saskatchewan had discovered the first biochemical substance that was clearly related to the schizophrenias. Not knowing its structure we called it the mauve factor until it was later identified as kryptopyrrole. We tested thousands of patients and found that over 75% of all schizophrenic patients excreted this substance in their urine. It was also present in about 25% of other psychiatric groups, in about 10% of severely stressed physically ill patients and in about 5% of normal people but they were mostly first order relatives of schizophrenic patients. It disappeared with recovery of the patients no matter how they were treated. I was particularly interested in the fact that out of eight patients with cancer of the lung this factor was present in 5.

In 1960 a retired psychotic professor was admitted to our psychiatric department at University Hospital in Saskatoon. He had a bronchiogenic carcinoma of the lung and when he became psychotic it was concluded he had secondaries in his brain. He was placed on terminal care, expected to die in a month or so. Earlier he had been discharged to the care of his wife and a nurse, but after several weeks had to be readmitted since they could not cope with his behavior. As soon as I discovered he was on our ward I had his urine collected and we tested it for this factor. He excreted copious quantities which we were able to use to help us identify the substance. I then advised his resident to start him on niacin (vitamin b3) 1 gram after each meal and on ascorbic acid (vitamin c) 1 gram after each meal. By then I knew that this combination of vitamins used in mega doses was very helpful in treating any patient with this factor in their urine no matter what they were diagnosed. Fortunately for this patient, the resident accepted my advice (the patient was not under my care but I was Director of Psychiatric Research at the hospital). He was started on the two vitamins on Friday afternoon and he was mentally normal by the following Monday.

I knew this patient before he became ill as I had treated his wife. After he had recovered I advised him to remain on these two vitamins. In 1960 our research unit was the only one in Canada, and perhaps in the world, where 500 mg tablets of these vitamins were available. They were specially made for us. If smaller tablets were used in these large doses they would make our patients sick because they contained so much filler. I told him that if he would pick up a supply each month I would give it to him free. This meant he had to see me each month and this gave me the opportunity of assessing his psychiatric state. I did not

expect he would recover from his cancer. He had been told of his dismal prognosis and I did not contradict that. To my surprise he kept on coming back. About 12 months later I had lunch with the Director of the Cancer Clinic that had been following his case. He told me that the tumor had become less and less visible with each X ray every three months, and that it was now no longer present. He lived about 30 months after he was diagnosed terminal. I had hoped that when he died he would be autopsied at University Hospital. Unfortunately he died at another hospital and I did not hear this until several days later. He did not die from his cancer.

Two years later a woman I had treated for depression several years earlier consulted me again. This time she was depressed because her 16-year-old daughter had Ewing's tumor (a highly malignant sarcoma) in one arm and she was slated for surgery to amputate her arm. This was the standard treatment. I told her about the previous patient and his recovery and suggested that although there was no evidence it would help, it could do no harm and might possibly be of some value. Her daughter agreed to take niacinamide (niacin vitamin B3) 1 gram after each meal and ascorbic acid 1 gram after each meal. Her surgeon agreed to postpone surgery for a month. She recovered, and the last time I heard from her family she was married and leading a normal productive life, with both arms. I concluded that vitamin B-3 (niacin) was the most important component and that the vitamin C was helpful. In Saskatchewan under my direction we did the first double blind controlled therapeutic trials in psychiatry, completing six by 1960. Therefore I was aware of the powerful influence of placebo. However when two terminal patients recovered on the vitamins it became powerful evidence that there was more than placebo at work.

I did not see any more cancer patients until 1977 after I had established my practice in Victoria, BC. In British Columbia specialists will not accept patients until they have been referred by their general practitioners. As a psychiatrist I saw patients referred with psychiatric problems but in most cases the referring physicians would not indicate why the referral had been made and I would only discover the reason when I finally saw my patient.

AS, an elderly woman appeared in my office; when I asked her why she had come, she replied that she had cancer of the head of the pancreas. She had developed jaundice. Her surgeon discovered she had a large tumor at the head of the pancreas which occluded her bile duct. He promptly closed her up after created a by-pass, and when she recovered from the anesthesia he advised her that she had about 3 to 6 months to live. She worked in a book store. She had read Norman Cousins book "Anatomy of an Illness" and thought that if he was able to take so much vitamin C with safety she could too and she began to take 10 grams each day. The next time she consulted her doctor she told him what she was doing. He referred her to me since he was familiar with my interest in mega doses of vitamins. I reviewed her program and increased her vitamin C to 40 grams daily, trying to reach the sub laxative level. I had been using multi nutrients for my schizophrenic patients for many years and since I had no idea which, if any, of these vitamins might help, I reasoned that she would have a much better chance if she also were to take more than one nutrient. I then added vitamin B-3 (niacin), selenium, and zinc sulfate. Six months later she called me at home in great excitement. She had just had a CT scan. No tumor was visible. The CT scan was repeated by the incredulous radiologist. Her original bile duct had reopened and now she had two. She remained alive and well until she died February 19, 1999, nearly 22 years after she was told she would die.

Rarely, patients make a major contribution to medicine by their interest in a disease and their willingness to try innovative approaches. AS's recovery changed my professional career and I believe will make a major contribution to the complementary treatment of all cancer patients. Last year at a public meeting I thanked her publicly when I discussed her case before a meeting of Cancer Victors. She added that I had changed her life as well. She has also changed the life of hundreds of cancer patients who became victors, not victims.

By telling her friends, relatives and customers about her recovery, she changed the nature of my practice. That first year another five patients were referred. The second case was a man with a sarcoma of the prostate which was invading his pelvic bone. He was advised no treatment was available. His doctor referred him to me and I started him on a similar program. But he was only able to take about 10 grams of vitamin C daily. I asked his doctor if he would mind injecting him with 10 grams of vitamin C twice weekly. After six months his doctor wanted to know how much longer he would need to receive his vitamin C. He told me that the tumor was gone. He stopped the injection. The patient lived another 9 years and died at age 80, but not from his cancer.

More patients were referred to me each year. At first almost all of them were patient-generated and often it took remarkable persuasive powers for the patient to obtain the necessary referral. After assessing their physical and mental state I would talk to them about the therapeutic regimen. I outlined the program in detail describing each nutrient and why I thought they might be helpful. I added that there was no guarantee that the vitamins would be helpful but gave them hope by describing cases who had responded dramatically. I added that the vitamin mineral program would decrease the toxicity of the xenobiotic (chemotherapy and radiation) treatment and would increase the efficacy of the xenobiotic program. If they needed surgery they would heal faster afterwards. If they needed chemotherapy the program would make it more tolerable and less painful, and if they needed radiation the program would decrease the intensity of the side effects of the radiation and increase its efficacy. These comments were based on the literature which was developing rapidly. The program was designed to assist the body in controlling the cancer and was not a direct assault on the tumor. The attack on the tumor was carried out by the other physicians including their family doctor, the surgeons, the radiologist and oncologists. The diagnosis of the cancer and the xenobiotic treatment used was left entirely to the patient and their other doctors. I did not advise them whether or not they should take any other treatment. Very few did not receive xenobiotic therapy. After describing the program, I would arrange to see them once more unless they were very depressed and anxious, in which case I would see them more often. A few of the patients had been under my care before they developed their cancer and I continued to see them. I then sent a consultation report to each referring physician. After the second interview they were returned to the care of their family physicians. I had not planned on doing any follow up but after several years when I had treated about 50 patients I became aware that the patients who had followed the regimen consistently for at least two months lived much longer than the patients who did not start the program or did not take it for at least two months.

About this time I went to a Festschrift for Dr. Arthur Sackler at Woods Hole, Mass. We met in 1951 when I was starting our research program. He and his brothers were practicing in mid-Manhattan. They were probably the first orthomolecular psychiatrists in the United States. They were treating schizophrenic patients by injecting them with histamine. After I

returned home I repeated their studies and found that their observations were correct. Out of twelve patients I treated using their regimen, eight became normal. The treatment was difficult since they had to be given increasing amounts of subcutaneous histamine until their diastolic pressure decreased to 0. It was amazing to see how comfortable they could be with that low blood pressure. Treatments were given daily on week days until the series was completed. I did not continue this series because by this time I was using mega doses of vitamin B-3 which was much easier to administer and equally effective. The histamine flush was identical with the niacin flush. At that Festschrift, Dr. Linus Pauling delivered a vigorous and careful critique of the Mayo Clinic's attempt to repeat the studies he had done with Dr. Ewan Cameron in Scotland. The Mayo group claimed they had exactly repeated these studies but it was clear on reading their paper that they had not. Dr. Pauling did not object to their negatives findings. He objected to their statement that their conclusions resulting from a different method of administering the vitamin C were used to condemn his and Cameron's findings. In other words no scientist can claim to confirm or deny any study unless they really have repeated the original work as described by the original authors.

The next morning, after breakfast, I visited Linus Pauling who was staying in the room next to mine. When I walked in he was busy with a hand calculator. He told me he was working out the electron orbitals saying that he did not understand them unless he did the calculations himself. I told him that on the basis of my fifty patients I had concluded that he and Cameron were right, that vitamin C in large doses did improve enormously the outcome of treatment for cancer. Linus asked me if I intended to publish the data. I replied that I did not. I added that in my opinion there was little point in trying to do so since it would be impossible to gain entry into any medical journal, that they would not accept any paper that dealt favorably with mega dose vitamin therapy. The New England Journal of Medicine, which had published the Mayo Clinic attack on Pauling, refused to publish his rebuttal. Linus urged me to do a complete follow up study of every patient I had treated. I was flattered and agreed that I would. He said that he would see that the material would be published. When I returned home I decided not to do the follow up. It would have meant an enormous amount of work. I thought that Dr. Pauling was being kind to me. Two years later I received a letter from Linus in which he said bluntly, "Abram, where is the study?" I decided that he was serious about it. By then I had seen 134 patients. I apologized and promised to start the follow up immediately. I traced every patient and determined whether they were alive, where they were, and what had happened to their lives. I contacted the patients, their families, their doctors, and the cancer clinic where nearly all of them had been seen and treated. The Cancer Clinic in Victoria did a good job of investigation, diagnosis and treatment using only xenobiotic therapies.

Dr. Pauling developed an elegant method for determining the probable outcome of treatment using cohorts of patients who were or were not treated. After I had completed the follow up I sent the case histories, with identification of each patient removed, and the follow up study. We decided to use the duration of life as the only variable. This began when they first saw me and ended with the day of their death. There is increasing evidence that this hard measure of success is much more useful than trying to decide whether the tumor is slightly smaller or not, for patients have lived for a long time with slowly growing tumors. We agreed to publish as coauthors. I suggested that the first paper would be by Pauling and Hoffer. This was because it was his original idea to use mega doses of vitamin C, and the work I had done was merely to test his conclusions. He was very firm that he would not

consider this and insisted it would appear as Hoffer and Pauling. I think he felt that as a clinician who had done the clinical work I should be the senior author. He did not have an MD. Linus Pauling, in my opinion, was the most brilliant humanitarian scientist that ever lived. Over his life time in addition to his two Nobel Prizes, he was awarded nearly 40 honorary degrees, PhD's and DSc's. I am sorry he was never given an honorary MD. His contribution to human health has surpassed that of most physicians. We wrote the paper using his method for analyzing the data and my clinical material, but the Proceedings of the National Academy of Sciences refused to accept the paper. One of the criticisms of our paper came from some rumor which had reached the critic that I had solicited patients to come to be seen, implying I had selected only the best prognostic patients. On the contrary, I had nothing to do with the selection and I included every patient who had been referred. Eventually we published in the Journal of Orthomolecular Medicine. I am the Editor-in-Chief and I could not refuse to accept our work. That original paper was reprinted in the book by Ewan Cameron and Linus Pauling, "Cancer and Vitamin C". Updated and Expanded edition, Camino Books Inc, P.O. Box 59026, Philadelphia, PA 19102. 1993. Appendix IX is this report.

See attached study of 134 cancer patients: **Hoffer A & Pauling L: Hardin Jones biostatistical analysis of mortality data for cohorts of cancer patients with a large fraction surviving at the termination of the study and a comparison of survival times of cancer patients receiving large regular oral doses of vitamin C and other nutrients with similar patients not receiving those doses. J Orthomolecular Medicine 5:143-154, 1990.**

Anti Cancer Nutrition

A large number of special diets ranging from fasting (water only) to juice fasts to low fat and sugar free diets are used. Every one of the special diets have proponents who think they are very helpful, and patients who have been helped by them, but no one has ever conducted an experiment to compare all the diets to determine which is the best. Perhaps there will never be a "best". Because of the individuality of people it may turn out that each person will have to determine their own best diet. In my book, "Hoffer's Laws of Natural Nutrition", Quarry Press, P.O.Box 1061, Kingston, Ontario K7L 4Y5. Almost all the diets used by complementary therapists are lower in animal proteins, much more vegetarian, with emphasis on vegetables rich in bioflavonoids and fruits. I advise my patients to obey three rules: (1) To eliminate all junk food, i.e. food containing any added simple sugars like table sugar or glucose as in corn syrup. This simple rule, comprehensible even to children, will eliminate nearly 90% of the additives commonly added to processed foods. (2) To reduce fat levels, I think that dairy products are the chief villains. Nearly every study internationally has shown that countries with lower fat intake have fewer cases of cancer, particularly breast cancer. Milk is very rich in estrogens from the cow and in phytoestrogens from the grass they eat. (3) To eliminate all foods they know they are allergic to. These rules allow the diet to be varied, palatable and interesting.

Vitamin Supplements

It is advisable always to work with a knowledgeable physician. But if they cannot find any physician or orthomolecular nutritionist they should go ahead on their own using the information now readily available on nutrition and vitamin supplements. They should advise their doctors what they are doing and which supplements they are using. By listing the

vitamins and dose ranges I am not suggesting that every person need to take them all. This is an individual matter based on discussions with their doctor. The vitamin and mineral supplements are compatible with medication and with the diet.

Vitamin C: The dose range is anywhere from 3 to 40 grams daily in three divided doses. If the dose is too high it will not be absorbed by the intestines, will stay in the bowel and act like a laxative causing loose stools and gas. It is a good laxative. The best dose does not act like a laxative. Forms of vitamin C include the pure ascorbic acid (hydrogen ascorbate), and the mineral salts such as sodium ascorbate (slightly salty in taste), calcium ascorbate (slightly bitter), and other salts often found in combinations of the mineral ascorbates. In large doses it is best used as the powder dissolved in water or one of the juices. Do not use commercial grade vitamin C crystals or powders. Use CP grades as is found in drug stores or health food stores. Contrary to false rumors issued by some hostile critics of mega dose vitamin use, it does not cause kidney stones, does not cause pernicious anemia, and does not cause sterility. A recent suggestion in a letter to Nature, published in England, concluded that more than 500 milligrams of vitamin C daily could cause DNA damage. This was based on one of a possible 20 markers that could have been used which showed no damage and a 21st marker which is seriously questioned. Some of the key scientists in this field criticized these conclusions. My only comment is that if they were correct, why do my patients who take large doses of vitamin C live so much longer?

Vitamin B-3: There are two forms. Niacin lowers cholesterol, elevates high density lipoprotein cholesterol and reduces the ravages of heart disease, but causes flushing when it is first taken. The flushing reaction dissipates in time and in most cases is gone or very minor within a matter of weeks. Niacinamide, the other form, has no effect on blood fats (lipids) but is not a vasodilator. There have been seven international conferences on the theme niacin and cancer. This vitamin is an essential component of the enzyme systems that repair broken DNA molecules. The dose ranges from 100 milligrams three times daily to 1000 milligrams three times daily. Several studies in Detroit have found that the response rate of cancer around the head and neck was 10% on radiation alone but increased to 80% when patients were given large doses of niacinamide. Very rarely niacin will cause obstructive jaundice which clears when the niacin is stopped. For details see my book Orthomolecular Medicine for Physicians.

Vitamin E (d alpha tocopherol succinate): This water soluble form has the greatest efficacy in controlling cancer cell growth in the test tube and is the one I recommend should be used. The dose ranges from 400 to 1200 International Units daily. Vitamin E is the major fat soluble anti-oxidant in the body and plays a role by decreasing the concentration of free radicals which are thought to be involved in the creation of the cancer. It also decreases the risk of heart disease, thus confirming what was found over fifty years in Ontario by Drs. Wilfrid and Evan Shute.

The Carotenoids: Most people have heard of beta carotene but this is only one of a large number of carotenoids which are present in colored vegetables and fruits such as carrots, beets, tomatoes and greens. The evidence is very powerful that these mixed carotenoids as found in these foods will decrease the incidence of cancer, but there is a question about the efficacy of the pure beta carotene. There is still a vigorous debate about this. I prefer carrot juice to the beta carotene. Generally it is better to have a large variety of these natural anti

cancer factors. Beta carotene is very safe. The only question is whether it is the best form. Only a small portion is converted into vitamin A.

Folic acid: Several studies have found this important vitamin has anti cancer properties, for cancer of the cervix and of the lung in lung smokers. This does not mean it is safe to smoke. It does mean that smokers should take it and immediately start their campaign to stop smoking. Women should take ample amounts to prevent neural tube disorders such as spina bifida. The US government plans to add it to flour. Canada is still thinking about it. The dose range is from 1 to 30 milligrams daily. It can be taken on prescription.

Coenzyme Q10: Dr. Karl Folkers discovered this substance, also called ubiquinone; toward the end of his long and distinguished career he regretted that he had not called it a vitamin. It is an odd vitamin since young people are able to make enough from the lower numbered ubiquinones such as Q6 or Q8 whereas older people, and anyone ill, are not able to make enough. It thus becomes a vitamin later in life and when one becomes ill. A few clinical studies have shown that in large doses it has anticancer properties especially for breast cancer. These range from 300 milligrams to 600 milligrams daily.

Mineral Supplements

Selenium: The presence or absence of this trace element has the clearest relationship to the presence of cancer. People living on soils that are rich in selenium have a lower incidence. I recommend between 200 to 1000 micrograms daily. One of my patients took 2000 mcg with no side effects.

Calcium and Magnesium: These are generally very useful to take to maintain calcium levels in bones and blood. They have been found helpful in cases of bowel cancer. Women should receive 1500 milligrams of calcium daily from their food and supplements, and half as much magnesium. There are several forms of these minerals available. Usually a person will absorb into their body anywhere between 25 and 50% of the calcium.

Zinc and Copper: There is a reciprocal connection between these two. If blood zinc levels are too high the copper levels will be too low. Because zinc can shrink enlarged prostate glands and may be helpful in the treatment of this cancer. I have been using it routinely. Also, people in Victoria tend to be low in zinc levels because our water is soft, and dissolves copper more easily from copper plumbing.