

After four years in New Jersey I decided to try for a job in New York again and I located one. However, prior to my switching jobs, I was hospitalized, this time for a cerebral concussion sustained in a bar fight.

When I started my new job I was terrified. It was a day job and the office was huge. I found the shyness had become such a block that I dreaded going into the office every day. More and more frequently the drinking was becoming a daily occurrence. After a year-and-a-half of this existence, I got drunk one day at my parents' house, blacked out and on the way home fell down a flight of subway stairs.

Two months after my discharge from the hospital for this episode I was out on a date and for some reason found myself being repulsed by the drink I held in my hand. I felt as if I were chained to alcohol and no longer had control of it. I decided then to see if I could stay away from a drink for just one period of twenty-four hours.

I did stay away from a drink for a day and decided to see if I could do it for two days. Gradually, I built up a week and then two weeks. But I was becoming more and more frightened. I was afraid to drink now because I thought if I did I would be killed in a blackout. Finally after almost a month-and-a-half of this, I was having dinner with a friend one night and he broke his anonymity, told me he was in AA, and suggested I give it a try. Within two weeks, I called A.A. Intergroup in New York and went to my first meeting. Fortunately I identified from the first night.

I began going to meetings regularly and within three months met the man who was to become my sponsor. I also discovered the Closed Step meetings and suddenly sobriety began to take on a new meaning for me. The program was making more sense and I began to experience a great deal of comfort from taking the Fourth and Fifth Step with my sponsor who was a counseling psychologist and Catholic priest as well as being an alcoholic himself.

Very slowly a new pattern of life began to emerge and even though I was still subject to rapid mood changes, going from deep depression to elation within minutes, and was still subject to violent fits of deep hostility, I was enjoying life more. The program now became for me a vital way of life, despite the depression, the elation and the extreme hostility. My sponsor had been helping a group of young men my own age and I quickly became fast friends with several of them. All of us seemed to share the same problems.

However, when I approached my second A.A. anniversary, I began to notice that the odd feelings of mood changes were becoming more and more pronounced and that I seemed to be very ill at ease at many meetings. I began to think this was to be my lot for the rest of my life, despite the fact that other men who came into the program about the same time I did, seemed to be enjoying a happy sobriety.

Finally, just about the time of my second anniversary, my sponsor met Drs. Abram Hoffer and Humphrey Osmond and heard their definitions of schizophrenia. He suspected that several of us whom he had been trying to help might also have this illness. I was given the HOD test in August 1966 and was diagnosed schizophrenic. I began taking massive doses of Vitamin B-3 and the other vitamins: C, E, B-1 and B-6 and a phenothiazine.

Within three months of taking niacin, I suddenly found myself free from the staggering fatigue from which I used to suffer. I felt more alert and more interested in daily life. Within six months I began to notice a release from the strange thoughts which had been with me all my life. These frequently took the form of bizarre sexual images and gave me a lot of trouble.

During this period I also noticed I enjoyed A.A. meetings much more than previously. We also formed a group called Schizophrenics Anonymous, and I found a great deal of relief in attending these meetings.

After a while I began to pay much more attention to the schizophrenia than to the alcoholism. I soon discovered a train of thought that had me thinking perhaps my real trouble all the time had been schizophrenia and not alcoholism. Fortunately, through the grace of God, I realized the danger in this rationalization and was able to accept that I was still an alcoholic as well as a schizophrenic.

Today, I find a great deal of help at both A.A. and S.A. Because of the chemical help I received from niacin, I am able to get much more from A.A. than I used to. My life is becoming more and more normal and stable and I do not suffer nearly as much from depression, paranoia, or the sudden mood changes.

John D.  
(35-years-old)

### STORY OF S.A. MEMBER - VINCENT C.

"Because I am a schizophrenic and recovering, thank God, my experience may be of value to others. As far back as I can remember it was extremely difficult being around people whom I did not know very well and to whom I could not express my feelings. My self-image was degrading to myself and I was usually a victim of fear. School was a most torturous experience, particularly mathematics. It was laborious to retain knowledge and to continue in the process of learning.

I was reared a baptized Roman Catholic and the training received became a source of pain, stress and confusion. There is no blame with my religious profession. It was just a matter of Jansenism. Most of the time I suffered from introversion, however, at other times I became grandiose. Depression and elation were the mainstay of my life. Rarely was I ever comfortable with myself. An occasional expression of humor helped me to prevent complete insanity.

A significant change came after my introduction to ethyl alcohol. The wonderful changes which took place through excessive consumption were a source of definite release. 'I am,' so I thought, 'free again from the prisoner of myself.' Consequently, I resorted to alcohol every opportunity I had. Many times I passed out and suffered blackouts but this I thought was a small price for the feelings I enjoyed while drinking. Drinking became the hub of my existence. My experiences with alcohol unmistakably pointed to the fact that I am alcoholic.

I am twenty-seven years old and sober three years in September. I drank excessively for ten years starting out on this path when I was fourteen. I went through many friends, many jobs. However I did graduate from high school. At a point of time the alcohol no longer was effective in releasing me from my miserable and distorted existence. I became very frightened. I did not wish to live and I could no longer consume alcohol safely. I felt completely lost and useless to myself and others.

Through the suggestive help of a friend I became a member of the fellowship of Alcoholics Anonymous. At my second A.A. meeting I met my sponsor who was to show me the way out and how to live. I tried very hard to work the A.A. program. The longer the distance from the last drink the worse I seemed to be getting physically and emotionally. The perception - distortion of the sense images, the suspicion, the lack of belief, depressions and paranoia became most severe without alcohol. I remained in my apartment most of the time and very rarely answered the phone or used it. Job situations became increasingly more painful and, consequently, I kept losing jobs when I thought there should have been more stability in my life. The 'locked-in' feelings deepened and cut off communication. After one-year-and-a-half of sobriety a breakthrough came.

My sponsor became acquainted with Abram Hoffer, M.D., Ph.D., who had been involved in research into the nature and causes and recovery from schizophrenia. Through my sponsor I came to know of Dr. Hoffer's chemo-therapy for schizophrenics - massive doses of niacin (Vitamin B-3) - massive doses of ascorbic acid (Vitamin C). I came to know of the effectiveness of the fellowship of Schizophrenics Anonymous, which follows the model of A.A. except for the emphasis on the disease of schizophrenia.

I took the H.O.D. test (Hoffer, Osmond Diagnostic test) for schizophrenia. The test measures (1) perceptual distortion, (2) paranoid feelings, (3) depression. I passed with 'flying colors.'

Now I know I am a schizophrenic, have been, and will continue to be even though recovered. Along with this I am also alcoholic, permanently addicted to alcohol, despite a day-to-day recovery. This knowledge brought me great relief and made clear to me many childhood disturbances. There was a great deal of work to do, however.

It was recommended as an essential step that I consult a doctor who prescribed the vitamin therapy for schizophrenia. My sponsor accompanied me to Dr. David Hawkins, who became my medical advisor.

Because the H.O.D. test score was 157 — very high in all three subdivided areas — perceptual distortion, paranoia, and depression — the doctor prescribed, in addition to Vitamin B-3 and C, Vitamin B-6 (pyridoxine) and a phenothiazine. The normal scores of the H.O.D. test is 1 — 30. It is very clear how ill I have been.

The periods of the recovery process were quite varied, and often painful: (1) immediate release, (2) awareness of organized reality, (3) a long flat period — a fearful loss of awareness and enthusiasm, (4) severe crippling depression, and (5) torturous paranoia.

Dr. Hawkins prescribed the following regimen to cope with these changes: (1) real massive doses of nicotinic acid — 14 grams, (2) 8 grams of Vitamin C, (3) one gram of B-1 thiamine, (4) 150 mg. of Vitamin B-6 (pyridoxine), (5) 800 international units of Vitamin E (natural) in capsule form, (6) increase in the regular doses of phenothiazine. The progress of the phenothiazine was in the following stages:

step one: ritalin and mellaril

step two: stellazine

step three: etrafon

Regular physical exercise was strongly suggested. I selected to swim four times a week. My diet changed from heavy carbohydrates to high protein and some fat. Rest of eight hours each day and one morning sleep in until 12:00 noon. A tepid bath each day — fresh clean clothes each day. My artistic ability to paint helped a great deal and, in addition, I am taking lessons on the guitar. Pleasant colors and sounds help enormously to reduce my anxiety.

I am very well now — one year after I began the chemo-therapy. My weekly meeting schedule is the following:

- (1) closed Schizophrenics Anonymous meeting on Sunday;
- (2) closed A.A. meeting on Thursday;
- (3) open A.A. meeting on Saturday.

I must say that I followed the doctor's orders and my sponsor's suggestions in detail.

There is continuous serious need for self-imposed discipline. Meals must be on time. The prescribed chemo-therapy has to be taken with regularity and at the times indicated.

All the areas of this simple but total therapy are interdependent. Physical well-being helps to lead to emotional maturity and both of these set the stage for spiritual growth.

In closing, I have never in my life felt as well as I do now — a world of reality completely new to me, filled with enthusiasm and challenge.

The H.O.D. score is below 30 now."

Vincent C.  
(27 years old)

## STORY OF S.A. MEMBER -- J. D.

This is my story as best as I can write it as a recovering alcoholic schizophrenic. As early as aged 6 or 6 I recall myself acting abnormally to which I now know as the disease of schizophrenia. A buzzing sound in my ear, afraid to be alone, and acute anxiety which has been dormant in my life. As I grew older my ability to concentrate on schoolwork, especially math, was nil.

I was also an orphan from the New York Foundling Hospital of Catholic Charities, and this added to my distorted look or existence in reality. I was living under the guidance of the Foundling Home until I was 16 and ran away from a place I believe now to be saturated in schizophrenia.

I quit high school at 16½ and went to a new foster home and to work. It was at this time that I took my first drink of alcohol. I got drunk nearly every time I was drinking and started to keep very late hours. I experienced my first freedom in this home in so much as I could come and go as I pleased.

I recall my speech impediment increased during these years and so did the anxiety. As I was always depressed, the feeling of nothingness was ever present. I always had the feeling that I was different but I rationalized it to be the orphan label.

I enlisted in the Navy at 17 years old and from this period on I drank quite heavily and was nearly drunk every day. My four years in the Navy was spent in bars, brigs and prisons. I was awarded a bad-conduct discharge for being AWOL for 47 days. The feeling of "I don't care" was on my mind most of the time. I just did not care for life or anything else.

In 1958 I was discharged from the Navy and was in my last five years of drinking. I lost every job I held during this time because of drinking. I could not stay employed longer than three months. I started to lose jobs quicker. It didn't take me long to get drunk any longer. I would lose my furnished rooms and sleep in cars and cellars.

In January 1963, I was given a notice to move from where I was staying and I had just lost another job. I had a \$40 unemployment check in the mail and had about \$4 in my pockets when I made that call to the A.A. Inter-Group. The gentleman asked me if I could live until 7 p.m. that evening without a drink and I said I could. That evening a man from Inter-Group, another alcoholic, came to see me. I've been sober since.

My life in A.A. started me anew or so I thought. However the first summer I was sober, 1963, I recall the feelings of anxiety, nervousness, depression, headaches. My emotional binges were increasing and so was the paranoia. I realize now that I was paranoid a great deal of the time. The feeling of being cut off from the world was getting very strong. I started to shove money in the bank like a squirrel.

I was feeling lousy with almost a splitting headache every day. In 1964, I moved to Manhattan. I thought I needed a change of scenery. About this time I started to experience bizarre sexual thoughts. I was most of the time all keyed up. I was also suffering from the guilt of coming to work late. I lost three consecutive jobs due to insomnia.

I met my present sponsor, Father Joe, at an A.A. Step meeting in Manhattan and asked him for help. One night Father Joe said he thought I might be a borderline schizophrenic. Anyway I held on as tight as I could. The bizarre thoughts, depression, hostility, fear, the inability to sleep normally, rocking me. I couldn't read a newspaper. I really don't know how I stayed away from alcohol. Nobody in the world knew what I felt like. About a year later, in May 1966, I read an article in the Herald Tribune concerning the treatment of schizophrenia with B-3 therapy or niacin.

About this same time, Father Joe was at Guest House, and was looking the B-3 therapy over with Dr. Hoffer. What Father Joe brought back with him was fantastic. I started taking 3 grams of niacin each day. In June 1966, I took the HOD test for schizophrenia and got a score of 127. I understand that 30 is normal. I increased the niacin to 6 grams and started taking ascorbic acid, B-1, and B-6. On some very hot days I've taken as much as 20 grams of niacin.

The relief came gradually. I wasn't as nervous as usual. My sleep was getting better. I started swimming as often as I could, usually three times a week. I started feeling really good, a daily bath and shave, doing my laundry and started to take care of myself and my clothes. I started to feel like living.

I have started taking Vitamin E and it helps me a good deal, sort of brings me together. It has been over a year now since I started the B-3 therapy. I attend a regular Schizophrenics Anonymous meeting every week. Life is worthwhile for me at last. I must thank you, Bill, for your indirect hand in my recovery from alcoholism. I thank my sponsor, Father Joe for his many hours of help and it was through him that I received the message of Schizophrenics Anonymous. I thank Dr. Hoffer and Dr. Osmond for all they have done for me.

J. D.  
(31 years old)

## THE "HOD" DIAGNOSTIC TEST

Many references have been made in these reports to the H.O.D. (Hoffer-Osmond-Diagnostic) test. Its value as a diagnostic tool of great effectiveness has been stressed repeatedly. At the back of this report Dr. El-Meligi of the Bureau of Research in Neurology and Psychiatry, Princeton, New Jersey, gives a technical description of its use and merits for the interested clinician. However a simple explanation in lay-terms might be useful for the general reader.

In their work, Hoffer and Osmond have proceeded on the organic hypothesis of schizophrenia. They reason that the intensity of the psychotic or neurotic manifestations would reveal itself to the degree that the perceptions — seeing, hearing, tasting, smelling, feeling, time sense, etc. — were affected.

Using normal responses as a baseline, they devised a questionnaire (the H.O.D. test) which reveals the kind and degree of perceptual distortions experienced by their patients. A normal "score" on this test was calculated to be under 40 in persons over 18. It was found that seriously ill schizophrenics would come up with scores ranging from 75 to as much as 150! Moreover, the severity of the illness in its various mental and emotional manifestations could be readily diagnosed.

Before being placed on the B-3 therapy and other supportive medications, the patient is routinely given the H.O.D. When, two months later, the patient again answers the identical questionnaire, it is usually found that his scoring has taken a marked drop toward normal. If, at this juncture, B-3 is withdrawn, it is found that within a similar period his score would have returned to the original figure, and he would be seen as sick as ever.

By means of HOD testing, research has revealed a large incidence of schizo-tendencies among classes of people who had not been previously diagnosed as such by ordinary psychiatric methods. For example, in a group of 50 diagnosed retarded children, 50 percent turned out to be schizophrenic and a number of delinquents tested 35 percent. Of 200 alcoholic admissions in the Saskatchewan hospital, 33 percent were shown to be alcoholics with schizophrenic tendencies. Some other hospitalized alcoholic groups have shown a higher percentage than this, and some lower.

These results strongly suggest that the incidence of undiagnosed schizophrenia of schizo-tendencies among alcoholics is many times greater than had been previously demonstrated although many psychiatrists have long suspected the existence of this relationship.

Most certainly, HOD testing is something that should be of interest to all engaged in the mental health field and in the treatment of alcoholics. It should be noted that in this connection a large scale investigation, using the HOD and B-3 therapy, is now being conducted on several hundred delinquent boys by Dr. Russell Smith, at a large state institution in Michigan.

The HOD test consists of a series of cards each with a question on it relevant to the perceptions, which the patient answers as "true" or "false." HOD testing consumes very little time, and can be accurately scored by almost anyone, including laymen. Indeed it will be noted in these pages that many members of Schizophrenics Anonymous, with the encouragement of their physicians, are scoring their own results to measure their progress or lack of it. The HOD also provides an effective way of checking when a patient "goes off," or "forgets" his vitamins. A relapse is often picked up by the tests much quicker than the individual or doctor can detect the regression. When the patient can see this for himself, the temptation to abandon his vitamins just because he "feels so much better" is greatly reduced.

The HOD testing kit (price \$26) along with full directions, can be obtained at:

Bell-Craig, Inc. \*  
41-14 27th Street  
Long Island City, New York

\* Bell-Craig does no HOD testing itself.

**HYPOGLYCEMIA:**  
**ITS WIDE INCIDENCE AMONG**  
**ALCOHOLICS AND SCHIZOPHRENICS**

As more and more B-3 therapy results are reported by individuals and physicians, it becomes apparent that about 70% of those trying the vitamin are receiving substantial benefits. This is suggested by the 70% B-3 re-orders at wholesale outlets. In view of the probability that no more than a fraction of this very large group can possibly be suffering from schizophrenia, it becomes evident that two-thirds or more of the alcoholics concerned are being helped by niacin for other reasons.

During the past year (1967) evidence has mounted that many of this larger group reporting recoveries from depression, anxiety, tension, etc., are actually hypoglycemics, people in whom B-3 was to a considerable degree preventing the abnormal drop of blood sugar which is characteristic of that malady.

Further evidence of this probability began to be received from several physicians who specialize in hypoglycemia, as well as in alcoholism or schizophrenia. Their reports and papers suggest about a 70% incidence of hypoglycemia, among all alcoholics, and about 40% among schizophrenics. To them it had been common knowledge that hypoglycemia of itself could cause or certainly aggravate, many neurotic symptoms.

Dr. Jack L. Ward, psychiatrist of Trenton, N. J. writes as follows:

"I do see a fair amount of alcoholics in my practice. I think that hypoglycemia is a frequent component of the alcoholic illness . . . If one takes a careful history, there often exists a diet high in carbohydrate and high in coffee. I think that this pattern is especially important in the episodic drinker who remains dry a good part of the time but who drinks to excess whenever he starts to indulge.

"I believe that this pattern is also important in drinkers who experience a definite personality change when they are drinking. It is easy to visualize the blood sugar or blood alcohol level being rapidly raised with a drink or two followed by a rapid fall. At this time the individual again takes in alcohol which is almost immediately effective in reversing the fall of the blood sugar temporarily. This however stimulates an even greater decrease in blood sugar. We now have a picture of a person attempting to shove his blood sugar up again, with each drink that he takes.

"I think that probably the cocktails before dinner pattern, which is so difficult for most individuals to break, also has a considerable amount to do with level of blood sugar, rather than habit only. Blood sugar levels usually are at the lowest point in the day sometime between 3 and 6 p.m. Undoubtedly some of the "unwinding" effect of alcohol taken at this time comes from the increase in blood sugar or blood alcohol.

"I have gone over my current records. Twenty-two alcoholics have had six hour glucose tolerance tests. Results are as follows:

Two had normal curves

The remaining twenty patients had combinations of the following or had just one of the abnormalities:

- 17 Relative hypoglycemia (greater than a 20 mg.% drop from fasting blood sugar)
- 6 Absolute hypoglycemia (values under 60 mg.%)
- 6 Diabetic type curves (these referred to an Internist with a recommendation that they are kept on Niacinamide)
- 1 Flat curve

"I wonder if the good response of the 'unhappy sobriety types' to the niacin or niacinamide reported by you is due at least in part to the effect of B-3 on the blood sugar level. I feel that B-3 is very helpful with hypoglycemia.

"On the general subject of treating alcoholics, I have found the following very useful: Niacinamide 1000 mg., Ascorbic Acid 1000 mg., Pyrodoxine 200 mg. intravenously. The following 3 cases are illustrative:

1. Relapse of an alcoholic dry for 3 years following one LSD treatment. Drank in excess of 1 quart of whiskey daily from October through March. Hospitalized and given the above intravenous twice daily plus Niacinamide 4 gm., Ascorbic Acid 3 gm. and Pyrodoxine 200 mg. by mouth. He had practically no withdrawal symptoms and stated that the inside shaking stopped about half an hour after receiving the intravenous.

2. Relapse of an alcoholic who drank great quantities of alcohol in the 4 days before his A.A. friends could bring him into the hospital. The intravenous on the night of his admission and early the next morning and the vitamins by mouth and some sedation produced little if any hangover and the patient could be discharged a day following this on vitamins and Antabuse.

3. An epileptic alcoholic extremely disturbed one evening, hallucinations, delusions, etc. Given the intravenous and the vitamins by mouth. The next day, he had no repetition of the psychotic state that evening or from then on. The intravenous has been very useful in two patients who had taken psychedelic substances the night before and who were still in the psychotic and panicky state the next day."

Knowing that Dr. M. H. an A.A. physician has had an extensive experience in treating alcoholics, I recently asked him to estimate the incidence of hypoglycemia among alcoholics, as a class. He replied that: "The incidence is certainly not lower than 70% and may amount to 90%; the conditions ranging from very mild to very serious.

"It has been my experience that most patients who followed the hypoglycemia diet . . . plus the vitamins, do very well and have no difficulty in maintaining their A.A. sobriety . . .

"The total number of alcoholic patients who have been placed on B-3, are 70. Of these, 57 have shown marked improvement, particularly in their ability to think more clearly. It is my considered opinion that B-3 is a valuable adjunct to the total management of the alcoholic."

Dr. Allan Cott, psychiatrist of New York City, in a recent report states . . . "Relative Hypoglycemia is known to mimic many neuro-psychiatric disorders. This study was begun in an attempt to determine the incidence of its recurrence among schizophrenics and alcoholics . . .

"It has long been recognized that hypoglycemia can be accompanied by marked psychic phenomena — i.e., depressive states, severe chronic exhaustion, anxiety and other symptoms which have so frequently been dismissed as ordinary neuroses. Derrick in his review, states that hypoglycemia, as a disease entity, should be kept in mind constantly by all physicians, particularly those doing neuropsychiatric work . . .

"Treatment for hypoglycemia consists primarily of diet high in protein and fat, and low in carbohydrates. Caffeine is prohibited because it stimulates the adrenal glands. Fructose or levulose sugars are utilized much more efficiently than dextrose, since fructose does not require insulin in order to be metabolized. The diet (for hypoglycemia) therefore calls for fruit and fruit juices at and between meals, which provides a source of immediate energy . . . All patients take niacin and ascorbic acid three to nine grams daily."

Dr. Robert Meiers, psychiatrist of Twin Pines, Belmont, Calif., comments as follows: "When I first became aware of Relative Hypoglycemia, I had ten psychiatric patients with whom I had been working for six months to two years without benefit. All were given a six-hour glucose tolerance test, and seven of them were positive. Five of this seven were helped by the treatment as described by Abram, Salzar, Beule, and others. Since then, 54 cases have been diagnosed. Of these, twelve were patients with schizophrenic reactions. The experience with this latter group strongly suggests that Relative Hypoglycemia is a contributing factor in precipitating the schizophrenic reaction. Also, the treatment of Relative Hypoglycemia appears to increase the patient's energy, clarify his thinking, and increase his sense of well-being."

## NIACIN AND THE HEART

As reported by Dr. Edwin Boyle —  
Research Director, Miami Heart Institute

In a preceding section (p. 5) brief attention was drawn to the great reduction of coronary recurrences among one group of 160 Dr. Boyle patients. This occurred over a 10-year period, and was the result of massive niacin therapy. The usual actuarial recurrence figures would have forecast 62 deaths in this particular group. To date, only 6 mortalities have been reported.

All told, Dr. Boyle and his colleagues have used niacin on more than 1,000 cases.

At the 1967 meeting of our International A.A. Doctors, Dr. Boyle was asked to speak about his work. His talk was taped, and the following excerpts may be of much interest to many practitioners.

Dr. Boyle: "For the past 11 years I have given niacin in continuous doses of 3 to 4 grams daily for hyperlipemia, hypercholesterolemia, and for occlusive vascular disease. My work was originally stimulated through the discovery by Altschule and Hoffer that niacin can reduce blood cholesterol. In the large percentage of my patients, niacin has been given for those atherosclerotic changes that fatally affect 7 out of 10 of us professional males.

"There are essential hyperlipemics, people with elevated triglycerides, who may, or may not, have concomitant elevated serum cholesterol. Of these hyperlipemics, the two major categories are the carbohydrate induced, and the fat induced — the exogenous hyperlipemics.

"The genetic studies on hyperlipemia go back to Holt's cases. To my mind there are at least 4 different types. I have spent time in trying to establish the therapeutic effectiveness of niacin in these several categories. This study is becoming still more interesting because of Fredrickson's recent reports differentiating the carbohydrate induced as against the fat induced hyperlipemia.

"My main interest in what nicotinic acid does in the human has been to study its effect on coagulation, lipid transport, and on atherosclerosis. This has seemed most important because 7 out of 10 professional white males die from occluded blood vessels, either of atherosclerotic type or of thrombotic occlusion.

"Niacin is not an anti-coagulant. It is, however, an antithrombotic agent. If you will observe the jelling time of shed blood in a glass tube you will see that polymerization of fibrinogen forms a clot which has a classical histological appearance as opposed to a thrombus which is a laminated structure of platelets and fibrin strands in an orderly fashion formed in a flowing stream of blood in the blood vessel. So there is not much relation between a clot and a thrombus. As I've said, nicotinic acid (niacin) has practically no effect on clotting, but it does have a favorable and marked influence on intravascular thrombosis.

"In my work, when I was trying to touch on some of the things not confined to the blood lipid changes, I became aware of the effect of niacin on the microscopic circulation. This is the marked effect of this vitamin on the circulation in the smaller blood vessels and the capillaries.

"For the past ten years I have been making routine observations through a slit lamp in the conjunctiva of the eye, the only place in the body where transparent covered blood vessels make this possible in a person not under anaesthetic. After about 2 to 6 weeks of niacin, a marked favorable influence on microscopic circulation can be clearly seen.

"The usual formation of 'sludging' has been described by Knisely. In it, the red cells glutenate in large masses, like clusters of grapes. These circulate around in large lumps like 90 weight dirty oil, with clear plasma spaces in between. The movement is so slow as to almost simulate a near dead person. People having marked 'sludging' show much increased symptoms of systemic vascular changes. However, under niacin, these people are apt to show vast improvements, either with decreased claudication, in peripheral vascular disease, or in angina pectoris with coronary disease. Just as the 'sludging' lessens, so do they get better, and feel improved clinically.

Dr. Abram Hoffer recently reported: "Several months ago I had twenty consecutive alcoholic patients of mine tested on a six-hour glucose tolerance basis. Every single one of them turned out to be hypoglycemic in some degree or another.

"Therefore, in addition to their niacin or nicotinamide, I have added the hypoglycemia diet, with special emphasis on virtually no sugar or coffee. The results have been surprisingly good — in fact, excellent."

Drs. David Hawkins and Russell Smith routinely prescribe B-3 and ascorbic acid, plus the hypoglycemia diet for all their alcoholic as well as schizophrenic patients. It is their belief, based on long experience, that hypoglycemia is present in the majority of these two patient groups.

The foregoing reports should be highly suggestive to us of Alcoholic Anonymous. For the benefit of A.A. laymen who may read this report, one of my medical friends explains:

"The main features of the hypoglycemic condition are easily understood. When the hypoglycemic takes sugar, his blood sugar curve rises rapidly to an abnormal height. In order to control this situation, the pancreas excretes a heavy charge of insulin, enough to rapidly force the blood sugar level far below normal. In the effort to remedy this condition, the adrenals then come into play, thus creating a state of hyperadrenalinism which in turn adds to the tension and discomfort. In short, the victim is alternately whipsawed between too much insulin and too much adrenalin."

Unconsciously, we alcoholics try to cure these conditions — first by sweets, and then by coffee. The sweets temporarily raise our blood sugar, and we feel better. Coffee also gives us a temporary boost because it lessens the shock of the blood sugar drop. In exactly the wrong way, we are unconsciously trying to treat ourselves for hypoglycemia.

If you are on B-3 and Vitamin C already, then add the dietary discipline. If you have hypoglycemia to any extent, the dividends are apt to be very large. You can easily find out — just try the regimen and see what happens.

For those who are general practitioners, as so many A.A. physicians are, it is hoped that this information will open a new dimension of treatment.

"Before treatment, these people will often say they are depressed, have no energy, and no enthusiasm for living. They drag around like classical hookworm or malaria cases. But after niacin, on looking at the conjunctiva, you can see why they feel better, some to the point of near euphoria. The flushing is gone or much decreased. The red cells can again do their work. Not only are the dangers of their condition much reduced; the patients feel really well.

"Here is another interesting matter: About 4 years ago we found answers to questions like these, 'Just what does nicotinic acid do?' and 'Why do people flush, and why, sometimes, are there stomach upsets?'

"The answers now seem pretty obvious. In my belief nicotinic acid does not directly cause the flushing or the acidity. These effects are directly due to the release of histamine from the mast cells and eosinophils. Were any of you to take a good jolt of histamine you would get exactly the same flush that you get from niacin. I'm sure, besides, that the histamine release has something to do with the GI effects. The small bowel difficulties I've observed in some people are due to delayed absorption which you find with nicotinic acid preparations like nicalex, (aluminum nicotinate) and enteric coated nicotinic acid medications.

"In these GI affected cases I find that potassium nicotinate is by far the best tolerated of the niacin preparations, even though the initial flushing may be a little more severe. Histamine is fairly rapidly burned and the amount of flush one gets depends upon the rate of its release from the mast cells; also on how much was there to be released at any given moment.

"Many patients complain that flushing is worst at breakfast time. The reason is plain. Let's assume a person is taking 3 grams a day; one gram each meal — say at 8 a.m., 1 p.m. and 6 p.m. Then they take one until breakfast next day — some 14 hours later. During the night they get well charged up with histamine, and so flush heavily with the breakfast dose. This can be helped in several ways: one-half gram can be taken at breakfast, 1 gram at lunch, and 1½ grams at dinner. Another gram (with cold milk) at bedtime will help prevent histamine accumulation during the night. If the flushing continues to be severe, cold milk or skimmed, if there is a weight problem) should be taken at the close of every meal. Periacin — 4 mg. — sometimes helps.

"On first taking niacin, heavy flushers can be really frightened. They call up and say 'I'm on fire, I'm burning up' or 'I'm having a stroke.' This is quite unnecessary if their physician properly instructs them. They can be told they may flush heavily; that this is normal; and that niacin will improve their circulation.

"Now the matter of circulation improvement. I fully agree with Dr. Hettesberg that niacin does not increase the volume of blood flow through the brain. But this is beside the point. The important fact is that the vitamin does favorably alter the distribution of the blood in the brain; this by reason of its ability to decrease or eliminate the condition called 'sludging.'

"Most of the 'sludge' particles go through the sinusoids and are shunted; whereas, when the red cells are in the individual erythrocyte form they repel each other electrically; their effective surface area is much greater and so, therefore, is their oxygen carrying capacity. The gallons of blood going through the head each hour do not alter. But it is now like 10 weight clean oil instead of 90 weight lumpy oil. Therefore it does a far better job in transporting oxygen to the tissues.

"I think that this much improved state of affairs may well have something to do with the sense of well-being, increased energy and favorable mood changes that we see in many patients who are placed on nicotinic acid. Indeed it wasn't until November of last year that I learned that niacin also does something specifically to the chemistry of the brain; this too, favorable to mental health.

"I would now like to mention a couple of contra-indications. One has to do with hyper-acidity and peptic ulcer cases — people who nevertheless need the B-3 therapy. Most of these cases can best be handled with potassium nicotinate. For example I currently have seven such cases. Every one of them are tolerating the potassium compound very well. Usual ulcer programs of diet and antacids should be observed.

"Regarding diabetics who need niacin, Dr. Paul Crank and I recently conducted a study of 42 such cases. Of these 50 percent required an increase of their insulin when taking nicotinic acid. However the

~~remainder~~ were not so affected. Of course this points up the need to follow up diabetics who are using niacin to see whether they are on proper insulin control. Probably by the same mechanism, reactive hypoglycemia disappears in some 'normal' people while on niacin.

"There is one other contraindication worthy of note — Patients who are taking medications of the 'Reserpine' type to lower blood pressure cannot at the same time use niacin safely. A full dose of niacin may produce much nausea and a marked drop in blood pressure — not necessarily dangerous, but extremely unpleasant.

"Let's look next at the question of possible liver damage. In my considerable 11-year experience with nicotinic acid, I have had only one patient who developed jaundice. This occurred some time after the vitamin had been discontinued. Her husband also developed jaundice. They both had hepatitis. Her's became chronic, and she later died. However, I can't say the niacin had anything to do with this; I believe it was entirely coincidental.

"Back around 1960 there was a big rash of doing liver function tests, following Rivden's report describing a case of jaundice supposedly produced in California by nicotinic acid. However there is a fact in this connection which may account for the widespread impression that niacin is liver damaging.

"It is quite true that a liver function test is altered so long as niacin is present in quantity. However it has turned out that this is a false-positive indication which shortly disappears when niacin is discontinued.

"Moreover, the liver biopsies that have been done in the conventional liver tests by Parsons indicate no structural damage at all to the liver by reason of large doses of nicotinic acid over long periods of time.

"There is another side effect I've noticed — this is a favorable one. In patients with cerebral vascular insufficiency — people often referred to neuro-surgeons for neurological complaints, have had marked improvement in ischemic symptoms on niacin therapy. Eleven patients with histamine headaches, or Horton's headaches, when placed on niacin because they were hyperlipemic have had dramatic cessation of chronic recurrent headaches when 'dehistaminized' by niacin therapy.

"Niacin is indeed a most interesting compound. I am trying to get into documenting its effect on platelet adhesiveness fibrinolysin and hope to explain just why it does prevent thrombosis.

"About all that I can tell you now is that in a large series of coronary patients of which we were due to have lost about 62 in the last ten years according to the insurance company mortality tables, only 6 are dead of coronary thrombosis as of today.

"Among the many compounds considered, nicotinic acid is one of four drugs selected for the National Coronary Drug Study by the National Heart Institute after due consideration of the facts by the leading heart specialists of the U. S.

"This large study will be carried out on 8,500 coronary patients over the next 5 years by 55 selected institutions. The study will be completely double blind, and it is now underway. Top scientists around the country are conducting the investigation.

"In the double blinds, nicotinic acid, estrogens, atromid, and thyroid will be compared to see what can be done to prevent coronary thrombosis in male patients who have already survived one or more attacks.

"Notwithstanding all that nicotinic acid may promise for schizophrenics, alcoholics and behavioral problems, I think we already have a strong case that this vitamin will have a profound effect on the formation of atherosclerosis and thrombosis — ills that add up to our nation's number 1 cause of death.

"Most certainly this excellent medication should never be lightly discarded; it should continue to be investigated from every possible angle.

"While niacin might not cure us of all ills, it might well make many of us feel better — and keep us around longer!"

## THE VITAMIN B-3 THERAPY: FOR ARTHRITIS AND OTHER JOINT DYSFUNCTIONS

Dr. Abram Hoffer first drew my attention to the merits of B-3 for arthritis. In 1954 he began to observe results among certain of his mental patients. Their relief from arthritis via niacin or nicotinamide had been a most surprising extra dividend of the B-3 therapy.

In my first communication to A.A. physicians, dated December 1965, I reported the recovery (via niacin) of a workman bedridden with rheumatoid arthritis. He is my housekeeper's husband and I recommended niacin to him after reading Dr. Hoffer's paper. At the time he started B-3, in March of '65, his condition was so grievous that his shoe size had increased from 7 to 11; wrists and fingerjoints were badly swollen. He could only lie abed, and treat himself with aspirin. Several doctors had pronounced him a probably hopeless rheumatoid case.

Two months later, after taking three grams of niacin a day, he was able to operate a steam crane. By the spring of 1966, all the swellings had disappeared. Since then, excepting only two brief occasions, there has been no return to his former condition. On those occasions he became convinced that he was "cured." He thought he could discontinue his niacin, and did so. In each instance, he soon began to experience severe pain, and swelling. But on taking his niacin again, these symptoms promptly disappeared. He has since remained completely free of any symptoms whatever. He has also found that one-and-a-half grams a day are now sufficient to maintain him in perfect condition. These facts scarcely support the assertion, made by one physician, that his remarkable recovery had been due to a "remission."

As the chain reaction increased from hundreds to thousands among A.A.s taking niacin for emotional troubles, we began to receive frequent reports to the effect that B-3 was also clearing up arthritis and bursitis aftermath, along with other aches and pains. In some situations the results had been marked, even spectacular. So I think Dr. Hoffer's experience with similar cases has been fairly well confirmed by our own observations among A.A.s.

In 1957 Dr. Hoffer received a letter from Dr. William Kaufman who turned out to be the pioneer in the use of B-3 for joint dysfunctions. His experience had extended to hundreds of patients; his results were excellent. Much impressed, Dr. Hoffer published a paper in 1959 which reviewed Kaufman's work. Just like many of Kaufman's prior publications, this one also left physicians quite unconvinced.

Therefore it may be useful to again recapitulate the observations of both Hoffer and Kaufman:

In 1941 Dr. William Kaufman of Connecticut, a specialist in joint disorders, commenced the use of nicotinamide in large doses for the treatment of his arthritic patients. In 1943, he published a monograph, reporting his observations upon 30 cases. The results were very favorable. Joint mobility was increased, stiffness decreased and joint deformity and pain alleviated. Much encouraged, Kaufman devised simple, objective methods of measuring joint mobility through special mechanical appliances — a really clinical approach.

By 1949 Kaufman could extensively report his use of nicotinamide as a therapeutic agent on 342 patients and, in 1955, on 663 patients. Without exception, he states, those patients who took adequate amounts of niacinamide continuously experienced clinically significant and measurable improvement. Then too, he reported there were additional B-3 benefits, such as gains in muscle strength and working capacity, decreased fatigability, improved sense of equilibrium, and the relief of certain emotional disorders including depression.

Dr. Kaufman's patients included those who had clinically obvious rheumatoid arthritis, or hypertrophic arthritis, or those who had the stiffness of increasing age which had not yet developed to a degree where it could be diagnosed on casual examination as hypertrophic arthritis. Various joint deformities, he reported, also lessened in severity, or disappeared.

The benefits of B-3 therapy continued for so long as the vitamin was used. Reduction in the amount of nicotinamide taken by the patient per day from the prescribed amount to lesser amounts

resulted in decreasing benefits. Cessation of the therapy resulted in the slow, moderate, or even rapid return of the pre-treatment status, including the reappearance of stiffness, swelling and discomfort in joint movement. Re-institution of adequate niacinamide therapy resulted in the reinstatement of all of the improvements previously listed.

Kaufman further reported: "There were no adverse side reactions or allergic, toxic or idiosyncratic effects from niacinamide therapy in the dosage range from 900 to 4000 mgs. per day."

Dr. Kaufman's 1949 publication was a book called "The Common Forms of Joint Dysfunction." In it he summarizes the excellent results attained among the greater part of 342 cases, describes his method of instrumental measurements of joint dysfunction, and presents numerous case histories in profuse detail. This report presents a convincing case for the use of nicotinamide in arthritic and other joint dysfunctions.

The foregoing material has been quoted or paraphrased from that volume. Regrettably this impressive work is out of print. Apparently Dr. Kaufman's professional colleagues paid little or no attention, either to his book or to his many other significant reports and papers.

In a letter to Dr. Abram Hoffer, written in 1957, he said: "Ever since 1943, I have tried to call my work on niacinamide to the attention of leading rheumatologists, nutritionists, and gerontologists, through conversations with them, or by sending them copies of my monograph and papers on this subject. Also by two talks given on the usefulness of niacinamide and other vitamins which I delivered at the International Gerontological Congress in 1951 and in 1954.

"I think that two factors have made it difficult for doctors to accept the concept that continuous therapy with large doses of niacinamide could cause improvement in joint dysfunction and give other benefits. The first difficulty was the advent of Cortisone and the second was the fact that my (massive) use of the vitamin was such a large departure from the recommended daily allowance for vitamins by the National Research Council."

Quite independently, Dr. Abram Hoffer had begun in 1954 to observe the effect of B-3 on arthritis. This he reported as follows:

"In 1954 I prescribed one gram of nicotinic acid per day for an elderly woman who had started to decline physically. A few months later, she reported that she was better and that the osteoarthritis of her hands, which had troubled her, was much improved. After that, I observed its anti-rheumatic effect in six cases with uniformly good results. Since my interest was in psychiatric research, I did not scan the literature very thoroughly to see whether anyone had made similar observations. In August 1957, after our paper on nicotinic acid in schizophrenia was published, I received my first letter from Dr. William Kaufman, directing my attention to his excellent long-term results."

In consequence of this communication Dr. Hoffer later wrote a paper that was published in the Canadian Medical Association Journal of August 15, 1959. This carefully summarized Kaufman's work and it presented six of Hoffer's own cases, by way of confirmation. The paper was entitled "Treatment of Arthritis by Nicotinic Acid and Nicotinamide."

A summation of Dr. Hoffer's six cases is interesting:

<u>Age</u>	<u>Diagnosis</u>	<u>Treatment Started</u>	<u>Present State (1959)</u>
68	Osteoarthritis	March 1954	Normal
14	Rheumatoid arthritis	December 1954	Nearly normal
44	Rheumatoid arthritis	November 1956	Normal
34	Rheumatoid arthritis	August 1957	Normal
37	Schizophrenia, arthritis	April 1958	Normal for both conditions
58	Vascular nodulitis	May 1958	Much improved

While progress is sometimes very rapid under the B-3 therapy, many sufferers will require long-term and persistent treatment for maximum results.

Large numbers of such case histories are, of course, available from the work of Kaufman and Hoffer; also out of the experience of A.A. members and their friends.

Joint dysfunction is still another area in which independent, scientific validation is much needed. It is therefore encouraging that at last a serious research program of this kind is going forward at a Michigan hospital. Since there are 13 million victims of arthritis in the U. S. alone, this effort seems most commendable.

It is to be hoped that the foregoing information will be of definite use to a great many physicians.

## ADDITIONAL POSSIBILITIES FOR B-3 EXPLORATION

In the areas of illness already reported, excellent results have been achieved. However there are several other conditions in which a certain amount of evidence for the efficiency of B-3 has turned up. I have had some doubts about including these fragmentary reports lest the case for the B-3 therapy be made to look quite incredible to some readers. However the hope is that the following information may stimulate others who are working in these particular fields.

Schizo Tendencies Among Students. Several years ago, HOD tests were given to a cross-section of 1,500 high school pupils. Perceptual distortions were observed in 10 percent of them. The possibility that schizo content in this group was high is further suggested by the considerable prevalence of "breakdowns" and suicides among high school and college students. The suicide rate among these young people is 5 times the average for adults. Further study, testing, and B-3 preventively applied to such a group, might well open up a new and effective therapeutic approach.

Criminal Insanity. Many savage and senseless murders are committed by diagnosed schizophrenics because of their premature release from institutions on the supposition that they have "recovered" — a state of affairs perhaps preventable by HOD testing, to reveal the extent of illness still present in the prospective parolee before his release. An insistence upon HOD testing and massive B-3 therapy before and after release, may further reduce the risks to the community.

Crimes Committed by Individuals Having "Undiagnosed Schizo Tendencies." There is evidence that many and various crimes are chargeable to this often hidden condition. These people are not legally insane. Yet they are subject to "compulsive" and often irresistible behavior patterns.

For instance, there was the young professor who to all appearances was in normal and happy pursuit of his career when he was suddenly arrested for taking nocturnal pot shots at cars passing on a main highway. Though fully aware of the nature and consequence of these acts, he complained of an unbearable "compulsion" to commit them. He was paroled into the care of Dr. Abram Hoffer, who found his HOD score was very high.

After a month of niacin, his compulsion evaporated and, excepting for one occasion, there was no further difficulty. At one point he discontinued "B-3" for a brief time. The compulsion began to return. Resuming the vitamins, it promptly disappeared and he has remained well ever since. He now occupies a prominent teaching position.

Dr. Hoffer has reported on 14 additional court referrals guilty of various crimes. Ten of these had high HOD scores. Eight of this group have made good recoveries attributed to the use of B-3. One recovered without niacin, and one case was a failure.

These cases are covered at some length in a comprehensive paper published by Hoffer. This document may be of much interest to those specializing in crime. The reference is — "Psychosomatic" — Volume XII — Sept.-Oct., 1966 — titled "Malvaria and the Law."

Delinquency. A group of delinquents were HOD tested and 35 percent showed perceptual distortions. Most of the few who were willing to try B-3 showed marked behavioral improvement. A research project in depth, testing this possibility has now started at a Michigan youth correctional institution — Director, Dr. Russell Smith.

LSD Psychosis. Niacin in large doses has been found highly effective in this connection by several institutions, and by young LSD users themselves.

Dr. Joseph Downing, Chief of San Mateo County's mental health services, revealed in San Mateo that "freakouts," terrifying LSD experiences, can be counteracted by Vitamin B-3. The story was published in the San Jose Mercury, April 22, 1967. Dr. Downing, who has experimented with LSD for the past six years, called Vitamin B-3 the "perfect antidote." "San Francisco health departments are distributing large amounts of niacin in San Francisco's Haight-Ashbury district, in cooperation with the YMCA," Dr. Downing said. He reported, "that it was not harmful, and could be bought cheaply in any drugstore. It was naturally well received by the hippies."

Dr. Russell Smith also confirmed this information from his experience with over 140 young people among his correctional charges who had taken LSD.

Delirium Tremens. Numerous reports have been received of fine recoveries from D.T.'s when very large doses of B-3 are administered: 10 grams of niacin, plus 10 grams of Vitamin C daily. Psychosis has been promptly reduced; death rates lowered. Less tranquilizers are needed.

Senility. There is evidence that senility can be checked, or even reversed in certain cases, especially where early treatment with B-3 is given. Dr. Hoffer describes 15 cases of elderly patients in this category in his book - "Niacin Therapy in Psychiatry" - Chapter 6 - Chas. Thomas Publisher, Springfield, Ill.

Malnutrition. A noted Canadian regiment was decimated by starvation at a Japanese prison camp in World War II. Six of the survivors, suffering invalidism from chronic malnutrition for many years, have been restored to good health by means of niacin. This report may merit a followup on the vitamin-deprived skid-row type of alcoholic. One judge, himself an A.A., is using B-3 on such a group.

## APPENDIX I

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### THE HOD TEST: A REVIEW\*

by

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### THE HOFFER OSMOND DIAGNOSTIC TEST

H.O.D.

The first attempt to quantify experiential disturbances has been undertaken by Hoffer and Osmond (1961) using a card sorting questionnaire called Hoffer Osmond Diagnostic Test, better known as the H.O.D. The author's experience with the psychological effects of hallucinogens and their vast knowledge of autobiographical accounts written by schizophrenics after recovery lead them to focus in their clinical practice upon dimensions related to the patient's umwelts, namely, their experiential worlds. They thus began to realize the prominence of sensory and time disturbances in schizophrenia. They also noted very early that perceptual disturbances are closely linked to biochemical abnormalities.

They felt the need for a psychological test to quantify perceptual dysfunctions and to relate it to affective and thinking disturbances.

They finally developed the HOD as a temporary form with the hope that psychologists who are better equipped for such work to develop a more sophisticated instrument. Crude as the H.O.D. certainly is, it gained remarkable popularity among clinicians in a relatively short time.

#### HOD Scales

##### (1) Perceptual disturbances (Per S):

This scale covers a wide range of disturbances in various sense modalities. A number of items related to time sense are also included.

##### (2) Paranoid scale (PS):

This scale covers a variety of paranoid experiences ranging from the most conspicuous such as delusions to the most subtle paranoid thoughts and feelings.

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\*From: "The HOD and the EWI — A New Concept in Psychological Testing." Accepted for Publication in the Journal of Schizophrenia.

### (3) Depression scale (DS):

Covers a variety of affective disturbances such as dysphoria, mood fluctuations, suicidal thoughts and suicidal intentions.

### (4) Thought changes:

This scale is made up of a number of items related to reasoning.

A Total Score (TS) is derived by weighing every item in the previous scale on the basis of the severity of pathology. In addition to the previous measures, a measure of the severity of illness irrespective of the area of dysfunction is derived in the following way: each item irrespective of its scale membership is weighed arbitrarily according to its pathological significance. The weights are then added up to yield a Total Score (TS).

A more detailed account of the test is provided by Kelm et Al. (1965a and 1965b).

### Reliability

The HOD has been administered to almost 4,000 psychiatric and non-psychiatric subjects at eight or more centers in Canada and the U. S. over the past six years.

Test-retest reliability based upon 2,794 psychiatric and non-psychiatric subjects is reported by Kelm, Hoffer and Hall (1967). Reliability estimates range from .87 to .99. Thus, the dependability of the sources is well established whether the test is used for psychiatric patients or for normal subjects.

### Diagnostic and prognostic value

In spite of its crudity the test differentiates schizophrenia from most other psychiatric groups (Hoffer and Osmond, 1961 & '62; Kelm et Al. 1965a; Kelm et Al. 1967 manual).

Hawkins (1968) found considerable agreement between HOD and the Organic Integrity Test (O.I.T.) in the diagnosis of schizophrenia.

In the same study, Hawkins showed that the extent of agreement of the diagnosis on the basis of HOD given upon admission and the final clinical diagnosis, is more than between the clinical diagnosis upon admission and the final clinical diagnosis.

Hawkin's findings argue in favor of the HOD as both a diagnostic and prognostic instrument.

Additional evidence is provided by Hoffer and Osmond (1962). They found that 1 out of 10 patients were readmitted to hospitals within six months after discharge, when their Total Score upon discharge was 40 or less, compared to 6 out of 10 readmitted when the score was 41 or more.

### Further refinements

The introduction of a new score, a ratio score (RS), showed that the diagnostic power of the test could be increased. The ratio score is calculated by dividing Depression Score into the Total Score and when the former is zero, multiplying Total Score by 2. (Kelm and Hoffer, 1965).

The rationale of this new score is that by minimizing the contribution of the Depression Score to the Total Score, the contribution of the Perception Score is maximized. This is in keeping with the theory that perceptual dysfunctions caused by a biochemical abnormality are the primary symptoms in schizophrenia (Hoffer and Osmond, 1963 and 1966).

Kelm and others (1966 Manual) undertook an item analysis of the HOD culminating in a 17-item scale which proved in two cross-validation samples to discriminate between schizophrenic and non-schizophrenic patients more sharply than the original 145 items. The authors suggest that these 17 items may be used as a quick "emergency scale" when time does not permit the administration and scoring of the whole test.

## HOD in biochemical and drug studies

It has been shown that HOD scores correlate significantly with a biochemical test, the mauve factor, which shows in schizophrenic patients more often than in controls, and in non-schizophrenic members of families of schizophrenics than in controls. (Hoffer and Osmond 1962). The test has also been reported to show the effects produced by LSD-25 in normal subjects (Hoffer and Osmond 1961 and 1966) and by trifluoperidol and trifluoperazine in acute schizophrenic patients (Sugerman and Williams 1965).

## HOD as a developmental instrument

In a sample of public school, high school and teachers college students, Hoffer (1963) showed that the HOD scores decrease systematically from age 13 to 26 years and over. He also showed that HOD scores were related to achievement in school (3). For example, a group of students all of the same age (15 years) showed that those in grade eight obtained a mean TS of 52; grade nine, 40; grade ten, 33; and grade eleven, 24.

A similar relationship between HOD Total scores and age has been found by Kelm and Hoffer (1967). They obtained median Total Scores for three diagnostic groups. Schizophrenic, non-schizophrenic psychotics and neurotics and character-behavior disorder in three age ranges: 13 to 17, 18 to 21, and 22 years and over. The data indicates that within corresponding diagnostic groups the two older age groups obtain similar scores, and that their scores are significantly lower than the 13 to 17 year group.

The results also show that the test was able to differentiate schizophrenics from each of the non-schizophrenic groups in each age range. Taking age into consideration constitutes further refinement of the HOD as a diagnostic instrument. As the authors suggest higher cut-off points must be used for adolescent (13-17 years) than for older patients.

## Evaluation

The usefulness of the test to the clinician resides in a number of characteristics that are inherent in the HOD.

(1) It is an unusually crude test. This peculiarity makes the clinical psychologist who is used to highly complex and sophisticated instrument rather sceptic about its value. The psychologists scepticism is compounded by the openness of the questions. The HOD calls upon that patient to convey the changes in his experience caused by the illness. According to the authors of the test, the shortest way to the patient's inner world is to ask the patient directly the relevant questions. The psychologist is trained in indirect questioning and inferential interpretation of highly complex profiles. He is also required by his traditional training to guard against lying, faking and other "test attitudes." The HOD may not meet the rigid criteria of usual personality questionnaires. While, the possibility of patients falsifying a given test is not excluded by the authors of the HOD, the authors, however, believe that most patients, schizophrenics in particular, are loyal to their worlds and more often than not are quite unable to falsify. Furthermore, the authors believe that too much time and effort are wasted in worrying about falsification for little pay-off to be gained from the "validity scales." We may as well add that the clinician is justified in his diagnostic procedures since his patients, unlike many subjects tested by psychologists, seek his services. The likelihood of willing patients to falsify medical tests is too little to justify any complication in the tests that he personally uses.

(2) The HOD is designed to fit into the medical model of a useful test. Not only is it easy to score, but it also allows multiple administrations. The HOD does to the psychiatrist what the EKG does for the cardiologist. Like the electrodiagram, it is helpful in diagnosing, in monitoring treatment and establishing prognosis.

The HOD seeks from the patient the information every clinician must have if he is to diagnose properly. The HOD can elicit these changes and has many advantages over the usual interview. These are economic and practical. Few physicians have sufficient time or patience to cover this rich area in great detail.

(3) The HOD like any other card sorting test has the advantage of allowing the subject to answer the test on his own. The patient taking the test is not in direct confrontation with another person. He acts as if he is thinking to himself. This is a common tendency for people.

This advantage is even more valuable in testing the overstimulated or the withdrawn schizophrenic patient who prefers working on his own. Very often schizophrenic patients refuse to answer questions when in direct confrontation with the interviewer or tester but would fill in a long questionnaire. They would even more readily sort a number of cards.

In my own practice, I have been sometimes unable to gain the cooperation of patients. I would leave an HOD with them and come back to find that they did the test while I was waiting outside the room.

Since it is very difficult to lie to oneself they are unconsciously honest on these tests. However, there must be a good doctor-patient relationship where the patient is convinced the results will be used to help him and not to, as he sees it, harm him. We have found many examples where a patient on verbal examination denied hallucinations yet on the test revealed them. On verbal re-examination, they spoke freely about them.

(4) Confused patients when asked a question may not hear it all or may forget its meaning before they can reply. It becomes very difficult to repeat the question over and over since this frustrates the therapist. But the same question printed on a card is repeated over and over in the patient's mind as often as he can read it. It sharpens his attention and can cut through the fog of his confusion which is not always possible with verbal queries.

(5) It taps dimensions pertinent to the phenomenal world. These dimensions are conspicuously absent in current personality questionnaires. The test focuses on sensory alterations and distortions. Items related to changes in time sense are also included.

(6) It focuses only on the experiences most pertinent to psychopathology. Thus the test is exclusively diagnostic. Unlike most diagnostic questionnaires, the HOD does not confuse the task personality assessment with diagnosis of illness. Hence, enquiry the patient's private life is sacrificed for the sake of the patient's psychopathology more specifically, schizophrenia. The emphasis is on the present condition of the patient rather than on his past life.

(7) It includes a wide range of minor disturbances, perceptual and otherwise. In the practice of psychiatry, there is almost exclusive interest in major disturbances such as hallucinations and delusions. In the opinion of authors of the test as indeed evidence from other sources indicates, minor disturbances are not only more frequent but also more crippling. Furthermore, minor disturbances show much earlier in illness and last longer after remission. Therefore, the detection of them should be of great prophylactic and rehabilitative value.

## APPENDIX II

### NIACIN AND NICOTINAMIDE WHOLESALERS

1. Canada

**Jules R. Gilbert, Ltd., 3701 Dundas Street West, Toronto 9.  
Telephone 416 - 766-9201**

2. U.S.A. - West Coast

**Kirkman Laboratories, Inc., 934 N.E. 25th Avenue, Portland, Oregon 97232  
Telephone 503 - 233-4441**

3. U.S.A. - East Coast

**Bell-Craig Pharmaceuticals, Inc., 41-14 27th Street, Long Island City, New York 11101  
Telephone 212 - 392-5070**



the remaining 474 participants is as follows:

	Poor	Fair	Good	Excellent	Total
Outpatient 1967	18	70	109	42	239
Group 1968	3	45	123	62	233
Hospital 1967	40	19	111	46	216
Group 1968	21	45	87	57	191
Sanitarium 1967	8	9	20	15	52
Group 1968	0	8	23	19	50

In a year's span, the major dropouts are as one would expect, from those groups getting the least results. It is somewhat surprising to see many in the poor and fair categories continuing niacin therapy. Many in these groups tenaciously insist they are benefiting despite any apparent subjective or objective improvement noticeable to the observers. Another interesting trend that is emerging, and is now statistically significant is that with longevity in therapy many individuals are increasingly benefited by B-3 therapy. This fact is evidenced by shifts from fair to good results, and from good to excellent results. Many of these individuals report attempts to return to resume drinking but the effect of alcohol plus B-3 was neither desirable nor tolerable. Others drank with somewhat more success but maintained their B-3 intake, and found withdrawal very minor in comparison with previous experiences.

Thus we have several reports of decisions to maintain abstinence because B-3 made drinking unrewarding. Among others there were longer periods of abstinence because the fear of withdrawal did not operate to prolong drinking bouts while on B-3 therapy.

At this point, the evidence convinces us that nicotinic acid participates in the physiology of alcohol tolerance and thus is a basic factor in understanding alcohol dependence.

During this past year we have begun an attempt to study the basic physiologic effects of nicotinic acid in the brain and body. Such studies are difficult and time consuming. However the results of our 2½ years of clinical experience with nicotinic acid well justify such an endeavor.

At this point in time, B-3 in our series has demonstrated marked ability to reduce the mood swings and insomnia common in alcoholics; it also stabilizes behavior in such a way that traditional alcoholism treatments function more efficiently; it reduces or changes alcohol's effect on the individual; it reduces alcohol tolerance, and the severity of withdrawal. Although B-3 is not of itself a cure for alcoholism, we are convinced it is an important adjunct to traditional treatment of three out of four alcoholics.

As a further demonstration of this probability please look once more

the final totals for 1967 and 1968. These are the figures:

<u>1967</u>			
<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>
66	98	240	103
<u>1968</u>			
<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>
24	98	233	138

Let me now indicate the progress of sobriety in the "excellent" and "good" groups during 1967 and 1968.

The group of 138, which was reported as "excellent" at the close of 1968, were alcoholics who had, for periods ranging up to two years, offered no relapses whatever; whose emotional readjustment had been rapid; and who had -- excepting for massive niacin -- received no other medication all.

At the close of 1968 the "good" group numbered 233. Many of this group had suffered relapses in 1967, usually in the first months of treatment. Their emotional recovery had been slower, and they had required various amounts of supportive medication.

However, at the close of 1967, when the "good" group numbered 240, a survey showed 239 of them to be sober at that time. When the "good" group was recently evaluated every single one of them was found sober -- and some were then moved into the "excellent" category.

Therefore, at the end of 1968, the "excellent" category stood at 138, and the "good" at 233 - a total of 371 alcoholics had achieved sobriety out of an original group of 507, all of whom had been previous treatment failures prior to 1967. A recovery rate of 71 percent had been achieved in a two-year period.

Nearly all these recoveries are today being maintained in AA.