



THE DISEASE OF ALCOHOLISM

by David L. Ohlms, M.D.

Much recent news from medical science seems to be discouraging: all kinds of everyday things have been found to cause cancer, heart disease, lung disease. There are even diseases turning up that we hadn't heard of a few years ago. But there is good news about one of mankind's oldest diseases -- alcoholism. Not too many years ago nearly everybody thought it was hopeless. We don't think so anymore.

I suppose the first part of the news is that alcoholism is a disease, a true disease, like cancer or diabetes or high blood pressure. It probably sounds strange to call that "good" news. But I can show you why it is good. And to do that, I have to tell you a story.

AA leads the way

The story begins in the late 1930's when people who were suffering and dying from alcoholism got tired of going to professionals (physicians, psychiatrists, psychologists) because the professionals couldn't seem to help them -- the alcoholics just kept on dying. Or wound up in lunatic asylums or jails. So alcoholics bonded together and formed an organization to help themselves -- Alcoholics Anonymous -- and lo and behold, they did discover a way to stop dying and make themselves better.

AA members not only stopped dying and got healthier; they discovered a method that let them give up drinking and lead as normal a life as anyone else. That's the second part of the good news. But in order to help fellow alcoholics, AA first had to decide that alcoholism was a treatable disease. Let's go back to that half of the good news now.

This is my favourite part of the story. You have to remember that early AA members weren't medical research scientists - they were businessmen, salesmen, carpenters, waitresses - and they were all seemingly hopeless drunks who only recently had been able to stop drinking. But the AA program was so successful that finally, after several decades, medical science felt forced to take a good look at it. Why did it work? Why was it that these ordinary people, doing what they did, were able to get well, while we professionals, treating them medically and psychiatrically, seemed to make them sicker rather than better?

The first thing we noticed was that Alcoholics Anonymous people were saying that alcoholism is a **primary** disease. It is its **own** disease. It causes its own symptoms -- it is not itself a symptom of some other disease -- and AA treated it this way. And medical science finally had to admit that AA was right! In 1956 the American Medical Association officially recognized alcoholism as a true disease -- an entity of and by itself, that created its own problems, its own symptoms, that had its own treatment -- and the AMA published this view in a major paper.

This turned a lot of things around. It led to legislation that required hospitals to admit alcoholic patients, whereas before they hadn't wanted anything to do with those "drunks". Before 1956, doctors would often have to fix alcoholics up with phoney diagnoses in order to get them hospitalized at all. And then alcoholic patients would often be treated for secondary illnesses - liver disease, for example -- while their major problem was ignored. So patients would go home with slightly improved livers -- and completely unimproved alcoholism which soon wrecked their livers all over again! But since 1956 treatment centers have been opened throughout the United States, and indeed throughout the world, where people can go and get decent and humane care for their alcoholism. This has been, believe me, the best possible news for livers.



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Tripping over Definitions

Now in order to go on with our story, we need to say something here about **disease**. I think we need to define it, and that's not easy to do. When I went to one of the very expensive medical dictionaries that I struggled to buy in medical school, it said that "disease is an illness". Very useful. When I looked up "illness" it defined illness as a "disease". I threw the book away and went and got a 99 cent pocket dictionary at a bookstore, and it had something I really liked. It defined disease as **anything that interferes with the ability of the human being to function normally**. That may be an infection such as tuberculosis, which can destroy your lungs. It may be the broken leg you got while pushing your car on an icy road. Whatever it is, however you caught it, a disease prevents you from living your life as efficiently as you ordinarily would.

And, from my point of view, a disease like alcoholism interferes with normal life even more than any other disease, because it lasts so long and because the person suffers from it for so many years before anybody really detects the problem and tries to give him help. The average adult alcoholic that I treat today has had at least 10 years of heavy alcohol abuse and significant physical and emotional problems caused by their drinking before they get help, before they enter treatment. The alcoholism has been there interfering for a long time and will continue to interfere as long as the alcoholic continues to drink. So I like that 99 cent definition very much.

But this definition is rather philosophical, and unfortunately philosophical definitions don't satisfy hardnosed critics. So we need to go a little further and deal with the concept of alcoholism as a disease -- but from a very scientific, very medical point of view. And if we're going to do that, we need to come up with some definitions of what alcoholism is. Here's the official AMA definition:

Alcoholism is an illness characterised by preoccupation with alcohol; by loss of control over its consumption, such as to usually lead to intoxication or drinking done by chronicity; by progression and by tendency to relapse. It is typically associated with physical disability and impaired emotion, occupational and/or social adjustments as a direct consequence of persistent and effective use.

Whew! Pretty wordy, isn't it? You could have four drinks while just reading the thing.

The Disease of Alcoholism

For this reason, the AMA definition is not a particularly good one. It's accurate, yes. Very valid, yes. But who could remember it if they really needed to?

There's a definition I use and one that I prefer:

Alcoholism is a chronic, progressive, incurable disease characterized by loss of control over alcohol and other sedatives.

Now let me explain some of the major words in this much shorter definition.

Chronic is self-explanatory. It lasts a long time. I've already mentioned that the typical adult alcoholic will have 10 or 15 years of sick drinking and lots of secondary problems before he gets help.

Progressive is fascinating. It's one of the unique features of the illness, and one of the reasons why most people in the helping professions -- medicine, counselling, etc. -- don't like alcoholics.

You have to remember that many helping professionals, like many of the rest of us, have at least one alcoholic somewhere in their family. They, just like the rest of us, have that Uncle Jack or Aunt Jane who never got better no matter what anybody did. Poor old Jack. Poor embarrassing Aunt Jane. The family tried everything it possibly could to help Jack and Jane and that poor wife or husband and those poor kids. An army of experts was brought in -- doctors, psychiatrists, psychologists, social workers, financial advisors, the people who were experts in child rearing and development -- and none of it helped because Jack or Jane (who didn't deserve much sympathy after a while) went right on drinking. Eventually Jack or Jane died or was "put away" in a "home", and the professional was secretly relieved by it. But now the professional is one of those experts himself -- and he's surrounded by Jacks and Janes on his job. Oh Lord! On one hand (in his head) he knows that the alcoholic is sick, that he or she can be helped if only some heed will be paid to the professional's years and years of expert training. On the other hand (in his heart, in his experience with the first Uncle Jack or Aunt Jane) the professional knows it's no good. This

disgusting person will start sneaking drinks again immediately after discharge from the hospital or other facility.

So that's part of the meaning of progressive -- it goes on and on and on. And it demoralizes everyone involved. It tends to make them say "What's the use?" almost from the beginning.

Alcoholism Doesn't Go Away

The other part of progressiveness that fascinates me is that, as already mentioned, as the alcoholic continues to drink the disease can only get worse: progressively worse. But let's say that Jack or Jane stops drinking. Maybe because of some formal treatment; maybe he or she just goes on the wagon, and there is a prolonged period of sobriety for, say, 10 or 15 or even 25 years. (In my own personal clinical experience I have had patients who were absolutely off alcohol for over 25 years.) And then for some reason, usually very trivial, Jack or Jane decides that they can drink again, and tries to return to the normal, social, controlled type of drinking that any non-alcoholic can get away with. But poor alcoholic Jack or Jane can't.

Within a short period of time, usually within 30 days, the symptoms that the alcoholic will show are the same symptoms showed when drinking was stopped 25 years before. And usually worse. It's almost as if the alcoholic hadn't had that 25 years of sobriety, as if they meant nothing. An alcoholic cannot stay sober for a while and then start over and have early symptoms of alcoholism. An alcoholic cannot enjoy a few years of good drinking before it gets as bad as it was before. It's right there waiting and takes up where it left off. I know this is shocking -- it has a hint almost of the supernatural -- but later I think I can give you a scientific explanation as to why it is a medical fact.

In Pursuit of Definition

But let's go on with the definition. Alcoholism is an incurable disease --that to me is undeniable. We've already touched on this in the paragraphs above. Uncle Jack or Jane can return to normal life, but only for as long as drinking is stopped. You will come upon an occasional rare medical study (the Rand Report, for example) that says differently -- that says an alcoholic can be taught to handle controlled social drinking. If you're an alcoholic, **don't believe it**. Science has so far given us no cure for alcoholism. Now we've said that alcoholism is a chronic, progressive, incurable disease characterized by loss of control over alcohol and other sedatives. It is characterized by loss of control. That may sound so obvious as to be trivial but is a very important medical definition. It's what makes this disease different from other chronic, incurable diseases such as diabetes and arthritis of some types. Loss of control does not mean, as many laymen and indeed professionals seem to think, that when an alcoholic takes a drink -- every time he takes a drink -- he's going to drink to excess and get drunk.

That's very rare. Alcoholics usually understand this far better than the professionals who treat them. Most of my patients tell me that there were times right before they landed in the hospital when they had a drink or two on a given occasion - and then stopped. They had no more alcohol that day. And if you would look at just that little 24 hour period, you would assume that such people were normal, controlled drinkers. But what loss of control means is that once the alcoholic takes that first drink after a period of being sober or abstinent, he can't predict with any reliability whether he's going to have normal or abnormal drinking episode.

Look at it this way. On Monday, Uncle Jack gets off work at 5:00 he plans to stop by the Circle Tap Barroom, have a couple quick ones with colleagues, and then get home in time for supper. And he does exactly that. On Wednesday -- it may have been a bad day, a good day, it doesn't seem to matter -- Jack drops by the Circle Tap and has the same first couple of shots with the same colleagues and the very same intentions. The next thing he knows, the bar is closing. His friends are long gone. He climbs in his car, gets a drunk driving ticket or kills somebody on the way home; or if he's lucky enough not to do that, he discovers, when he does get safely home, that the wife has packed her bags and left with the children.

Jack couldn't have told you that morning which way the day was going to go. The decision wasn't in his hands. He's lost the ability to predict his drinking behaviour, and that's what loss of control means. He no longer controls alcohol, as most of us do; it controls him.

Alcoholism - Sedativism

Now this is probably a good place to tell you that alcohol is a sedative and to point out the implications of that fact. Alcoholism is a chronic, progressive, incurable disease characterized by loss of control over alcohol and other sedatives. The alcoholic has lost control over not just the drug alcohol -- for alcohol is basically nothing more than a widely available, socially acceptable, non-prescription and inexpensive tranquillizer or sedative. It's one that you go buy in the liquor store or supermarket rather than a pharmacy. But if you look at it as a drug -- if you look at what it does to the brain -- it's a sedative. It works by putting brain tissue to sleep just like a tranquillizer or sleeping pill.

You can probably see that we've got a tricky issue here. Because if the alcoholic has lost control over alcohol, that's not the only drug he's lost control over; he's lost control over all other sedative drugs as well. And indeed, one of the really big problems in current treatment, at least among the patients I see, is that the majority (60%) are not only abusing ethyl alcohol. They're also abusing minor tranquilizers and sleeping pills - sedative drugs that, interestingly enough, they usually get by prescription legally from physicians who don't know they're treating alcoholics, or don't know how to treat alcoholism and don't recognize alcoholism as a disease that is characterized also by loss of control over the very drugs that they are prescribing.

So you can rapidly end up with someone who is not only addicted to ethyl alcohol but also hooked on tranquilizers and sleeping pills, and he'll probably switch back and forth from one to the other. Or he may stay dry but hooked on pills, in which case the basic disease goes right on destroying him. But the chances are that the alcoholic will mix liquor and pills, and that will only speed the destruction process. Mixing sedatives compounds the risks tremendously. Probably all of us have read in the papers about famous celebrities killed by accidental overdoses of combined sleeping pills, tranquilizers and ethyl alcohol. It's becoming an extremely common cause of death.

All right, we now know what alcoholism is: a chronic, progressive, incurable disease characterized by loss of control over alcohol and other sedatives. This is the definition I like to use clinically. If I have a patient sitting in my office and I'm trying to make the decision ("Does Jack or Jane have alcoholism?"), this is the definition I go to work with. Loss of control is the most important clinical factor. Does this individual have predictable behaviour when he drinks? If he does, then he's not alcoholic. But if his behaviour isn't predictable when he drinks -- if he simply can't tell what will happen next -- then I know the disease has got him in hand.

How Medicine Defines "Disease"

But then I'm a physician specializing in the diagnosis and treatment of alcoholism. Many doctors, maybe including your family physician, refuse to this day to believe that alcoholism is a disease; they see it as a character or moral flaw, a simple lack of will power. (And we understand why they do. Remember what we said about the reasons many helping professionals don't like alcoholics). So for them (and perhaps for the lingering doubters among you) we need to talk about alcoholism in a still more specific and scientific way. We need to do this because it can help rescue some people from alcoholism.

When we doctors talk about a disease we usually start off by asking about the cause or "etiology". But we're going to put that off for just a minute. Every good story needs a certain amount of suspense. Though doctors like to talk about a disease's etiology, necessity compels us to look first at signs and symptoms. Signs are the physical marks a doctor can literally see in a sick individual: the red welts on the skin we call hives, for example, or the fever that accompanies pneumonia or the sugar that a diabetic will have in his urine. Symptoms are the complaints that bring a sick person to the doctor's office in the first place. A diabetic will tell you that he's tired all the time or insatiably thirsty. Our question here, of course, is: Are there any unique signs and symptoms for the mysterious disease we call alcoholism?

Absolutely! There are probably more than for most diseases, and we now know a good deal about them. Forty years ago, Dr. E. M. Jellinek in this country and Dr. Max Glatt in England put together a precise description of the progression of alcoholism from early stages to middle and late stages. They had the symptoms down so well that they could see a patient only once and tell what stage of the disease he was in. The stages of a person's disease, incidentally, are what physicians call the pathogenesis.

I won't go through all the signs and symptoms -- there are 50 or 60 common ones, and many others no so common -- but I do want to mention a few that might be called highlights. In the **early stages**, for instance, you have what is known as relief drinking. An individual uses alcohol to get relief from something: physical pain, emotional pain, money worries -- it could be anything. Drunk driving commonly occurs in the early stages of alcoholism. Also memory blackouts. That's a period of amnesia that occurs while the person is drinking. Aunt Jane may look fairly normal -- you know she's been drinking, but she's still functioning, she's still working around the room carrying on conversations, etc. But tomorrow Jane will be amnesiac: she won't recall what happened the night before. It's a very common symptom of alcoholism, and indeed if you know an individual who's had that experience more than once or twice, the odds are that person is alcoholic. Relief drinking, drunk driving, blackouts -- these are all early stages symptoms.

Then we get to the middle stages of the disease. This is commonly called the **crucial stage**, because it's here that most alcoholics can be detected and gotten into treatment. It's also the period when, if you don't get them into treatment, the chances for recovery go way down; so it is in fact extremely crucial.

It's in this stage that we see the classic symptoms: absenteeism from work, poor job performance, financial problems, family problems, the changes in moral or ethical behaviour that tend to occur as the disease gets worse (and help the alcoholic to be so disliked). There are the signs and symptoms that make the disease fairly visible and detectable -- it could be a lucky time if the afflicted person somehow starts to get some treatment. And treatment is certainly needed because this is the beginning of alcoholism's physical problems as well. It's toward the end of this middle or crucial stage that the liver starts to go bad. Marital problems on a physical basis -- impotence -- begin to show up. The alcoholic is in sadder shape than even he knows now. The trouble is that he's probably not sober enough to know how much it hurts.

And we're about to cross a grey line here. Once the deterioration of the body starts, the alcoholic has entered the **late chronic stages** of the disease.

Most of us, when we think of an alcoholic, picture the chronic stage person: the semi-human down there with the body gone rotten, the liver shot, the brain only flickering a little and about to go out. Generally we picture the skid row bum who -- in fact -- makes up 3, maybe 4% of the alcoholics in the world today. Most alcoholics aren't fortunate enough to live to reach that stage. Most will die traumatically -- on a highway, or at home with a cigarette that they forgot to put out and it burns up their bed with them in it. You probably know how risky it is to spend even an evening drunk in the modern world. It takes 20 to 25 years of heavy drinking to reach the chronic stage. There aren't a lot of veterans.

Life Saving Value of Disease Concept

All right. We've now become very gloomy -- which is the natural pathogenesis of alcoholism when it goes its way without treatment. But the wonderful thing about the disease concept is that it allows us to detect the alcoholic's symptoms and get him into treatment before the damage is irreversible. And once in the proper treatment, complete and total recovery is highly probable.

So yes, there are signs and symptoms of alcoholism. I can take first year medical students and teach them the signs and symptoms in an hour, and then they will be able to make the right diagnosis. But -- I'm having to say but a lot in this story -- far too few medical students are taught to recognize alcoholism's signs and symptoms. Far too few, even today, are taught to recognize alcoholism as a disease. This, I honestly feel, is a national, indeed world-wide disgrace.

In the United States today roughly 34.5 out of every 36 people who have alcoholism are going to die from it, one way or another. It's going to kill them. And they will never have been treated for it. Oh, they will have been treated. They'll have been in a lot of hospitals -- they'll have been in there for all the physical problems that go with being an alcoholic: the stomach problems, the liver, the pancreas, the nerves. They may even have been frequently hospitalized in psychiatric units where all kinds of psychiatric labels are routinely attached to them. They will be "manic-depressives" because they have episodes of depression regularly. Well, I'd be depressed too if my wife had left me, if I'd lost my job and my body was rotting out from underneath me. I think I might have episodes of depression.

Alcoholics get all kinds of labels stuck on them. And a lot of treatment -- frequently with other sedative drugs which drives the addiction in even more deeply and shoves the alcoholic downhill even faster. Treatment is available but it's often simply the wrong treatment. Therefore, naturally ... the alcoholic dies.

The luckier ones die. About half of one percent of every 36 -- will go insane. They will wind up with physical brain damage: "wet brain", which you've probably heard about. So much of the brain tissue is destroyed in these late stages of alcoholism that the only thing to be done with the alcoholic is to put him in a state hospital or nursing home. There we feed him, clothe him, bathe him and try to keep booze out of his reach. He'll still be smart enough to sneak liquor, if that's in any way possible. But he won't have the brains to take care of anything else.

So a significant number of alcoholics will eventually have their minds destroyed by the disease. About 34 out of 36 will be killed by it in one way or another. One out of 36 will get treatment, will recover and get well. That's a tragic statistic. It's tragic because it's unnecessary. For **we do have the proper treatment now** -- the treatment of alcoholism as a primary disease -- and with proper treatment these awful numbers are changed completely around.

Look at these statistics. Let's say that we've caught someone in the throes of middle-stage alcoholism. The classic case is someone who is still employed but has been forced into treatment by an employer because of deteriorating job performance. In this situation, recovery rates are as high as 80%. **Eight out of ten middle stage alcoholics can get well!** We can't expect the same for late or chronic-stage alcoholics; but even there -- among skid row types, the worst cases you can think of -- the recovery rate runs from 25 to 30 to 35%. By "recovery", I mean people regaining their health and going back to normal, functioning, working lives. This is another strange aspect of the disease we call alcoholism. There are very few chronic, progressive, incurable illnesses where 25 to 80% of those who have them can get well again.

Alcoholism -- The Cause

Now we obviously have an interesting mystery here. We've described a certain disease, and we've said that without the proper treatment for it, the chances for recovery are almost nil. We've said that with the proper treatment, the chances for recovery are pretty good. Why on earth, then, aren't most alcoholics getting proper treatment?

Remember when several pages back we started to talk about the "etiology" --the cause -- of a disease? What causes alcoholism? Many laymen, and unfortunately many helping professionals, would ascribe it to the alcoholic's personal weakness, his lack of character and will power, his simple inability to say "No" to a temptation that the rest of us find the gumption to refuse. But we're mainly remembering obnoxious, often disgusting "drunks" when we think this way. Since its beginning in 1935 Alcoholics Anonymous has helped some two million people recover from severe drinking problems. Modern treatment centers have helped many more. How have these millions suddenly developed the will power to quit drinking? The weak character theory seems to raise more questions than it answers.

What causes alcoholism? We're not entirely sure, and we should admit that. I can't tell you I know the etiology of alcoholism, because I don't. But we do have more knowledge about what might cause it than we do about most other diseases. We certainly shouldn't say (as some doctors will) that because we don't know the cause of alcoholism, it can't be described as a real disease at all. If that were true, then cancer and diabetes and arteriosclerosis aren't real diseases either; because we don't really yet know what causes them. Yet every day I hear professionals say that about alcoholism. It's a backdoor way of saying that alcoholism is caused by weak character. Or it might be just the bad luck of the alcoholic. Or maybe a voodoo curse.

The Family Connection

What causes alcoholism? We don't know for sure, but we now have some pretty good ideas. Medical research has shown, for example, that alcoholism runs in families. (You've probably noticed that tendency from your own observation.) Family histories taken from patients indicate that, 95% of the time, yes indeed, the mother had a drinking problem, or the father did, or an uncle or brother. Usually, when there is one alcoholic in a family, you'll find many more in the

background. Nor is this largely a matter of environment -- the atmosphere one learns to drink in as one grows up. That question has been pretty well answered in the past 20 years, and especially in the research done in the 1970's. Heredity studies, done all over the world, clearly show that genetics is far more significant in determining whether or not you'll be an alcoholic than any other single factor examined. Genetics is more significant than any combination of social or environmental factors examined.

Now I'm not saying a person is born an alcoholic. No. I've never met an alcoholic who didn't drink. But I think it's conclusive that some people are indeed predisposed to alcoholism because of their heredity; and if they ever start drinking they run an unbelievably high risk of developing the disease.

TIQ -- Biochemical Culprit

Of course, in medicine we have a lot of diseases that work that way. Diabetes has a high family predisposition. So, probably, does heart disease. Now, when medical science notices a family predisposition toward a disease, it will look for some abnormality in body chemistry. What about the body chemistry of alcoholics? In just this past ten years we think we've found it. Here's a story within a story - another of my favorites.

It all started down in Houston, Texas, with a medical scientist who was doing cancer research. For her studies she needed fresh human brain -- which is not widely available; you don't run down to the store and buy it. So she'd ride out with the Houston Police in the early morning, and they would pass along Skid Row and collect the bodies of the winos who died overnight. The researcher would take the temperature of these bodies in a manner I'll leave to your imagination. The warm bodies, so to speak, were rushed back to her hospital; there she removed the brains for her cancer research. One day while talking to some doctors in the hospital cafeteria and telling them about some findings of her laboratory studies, she said; "You know, I never realized that all those winos used heroin as well as booze."

Now these were hardened emergency room doctors; they just laughed at her. "Come on" they told her. "These guys don't use heroin. They can barely afford a bottle of cheap muscatel."

She shut up and went back to her lab. But she was onto something, and she knew it. She had discovered in the brains of those chronic alcoholics a substance that is, in fact, closely related to heroin. This substance, long known to scientists, is called Tetrahydroisoquinoline - or (fortunately) - TIQ for short. When a person shoots heroin into his body, some of it breaks down and turns into this TIQ. But then these people hadn't been using heroin; they had just been simple alcoholics. So how did the TIQ get there? That's where the researcher's studies were to lead her for the next few years.

Now I'm sorry, but we're going to have to leave the intrepid researcher behind us here. Also -- don't flinch -- I'm going to have to teach you a little bit of biochemistry.

When the normal adult drinker takes in alcohol, it's very rapidly eliminated at the rate of about one drink per hour. The body first converts the alcohol into something called acetaldehyde. This is very toxic stuff, and if it were to build up inside us, we would get violently sick; and indeed we could die. But Mother Nature helps us to get rid of acetaldehyde very quickly. She efficiently changes it into acetic acid, which we know as vinegar, and then changes it a couple of more times -- into carbon dioxide and water -- which is happily eliminated through our kidneys and lungs. That's what happens to normal drinkers. It also happens with alcoholic drinkers, but they get what we might call a little extra.

What was discovered in Houston, which has been extensively confirmed since, is that something additional happens in the alcoholic. In them, a very small amount of poisonous acetaldehyde is not eliminated; instead it goes to the brain where, through a very complicated biochemical process, it winds up as this TIQ I mentioned before. Researchers have found out fascinating things about TIQ. Let me tell you a little about them here.

First, TIQ is manufactured right in the brain, and it only occurs in the brain of the alcoholic drinker; it doesn't happen in the brain of the normal social drinker of alcohol.

Second, **TIQ has been found to be highly addictive.** It was tried in experimental use with animals during the Second World War, when we were looking for a pain killer less addicting than morphine. TIQ was a pretty good pain killer, all right, but it couldn't be used on humans. It turned out to be much more addicting than morphine. So scientists had to forget about it, and they've left it all these years up on some dusty shelf.

The third fascinating item about TIQ also has to do with addiction. There are, as you might know, certain kinds of rats that cannot be made to drink alcohol. Put them in a cage with a very weak solution of vodka and water, and they'll refuse to touch it; they'll literally thirst to death before they agree to drink alcohol. But if you take the same kind of rat and put an unbelievably minute quantity of TIQ into the rat's brain -- one quick injection -- the animal will immediately develop a preference for alcohol over water. It will scurry across the cage to get to that vodka and water. In fact he'll be happier if you mix his drink with less and less water. So we've taken a teatotaling rat and turned him into an alcoholic rat. And all we needed was a smidgen of TIQ.

Other studies have been done with monkeys, our close animal relatives in medical terms. We've learned that once TIQ is injected into a monkey's brain, it stays there. You can keep a TIQed monkey dry, off alcohol, for as long as 7 years; then when you sacrifice him and study his brain, that weird stuff is still there. This, as you've probably already seen, takes us back to the progressiveness of the disease. Remember that person who's been sober for 10 or 25 years, and then suddenly starts drinking again? The alcoholic will immediately show the same symptoms displayed years before -- and it's no wonder! The human alcoholic is still carrying TIQ, like those man-made alcoholic monkeys and rats.

I caution the reader that TIQ involvement in the development of alcoholism is still a theory. The precise way TIQ, or other chemical or group of chemicals, influences the development of alcoholism might not be known for years. In my opinion, the discovery of the TIQ factor is important mainly because it has sparked literally hundreds of research projects into the neurochemical aspects of addiction disease and other behaviors. After hundreds of years of moral condemnation of the alcoholic, science is on the threshold of exorcising the mythic devils of addiction. After all, medical science has helped eliminate the myths and prejudice surrounding all kinds of historically misunderstood and despised diseases: epilepsy, leprosy and schizophrenia to name just a few. It shouldn't surprise us when science turns demon rum into a natural allergy.

Neurobiology - The Next Frontier

This booklet is much too short to tell you all the exciting things that are happening in the area of brain chemistry research into the basic nature of addiction. It should be enough to say that everything is pointing toward inherited abnormalities, or maybe I should say treacherous differences in the way some people respond to alcohol and other drugs. And these differences underlie the development of addiction. In fact, researchers like Dr. Robert Cloninger at Washington University in St. Louis and Dr. Kenneth Blum at the University of Texas have gone far beyond the TIQ theory. Blum has tied the development of addiction to lower levels of certain brain chemicals. Cloninger has actually identified different types of alcoholism. Blum has worked extensively with the alcohol-seeking rodents I mentioned earlier and has found marked differences in the alcoholic rodent's inherited ability to produce certain neurochemicals which make them feel good. These chemicals are called endorphins. The amazing thing is that both alcohol and TIQ can mimic our body's natural endorphins and make the brain feel it is perfectly alright, even desirable to ingest as much alcohol as possible. Of course, this behavior is highly addictive and plays havoc with the rest of our body and will utterly destroy our ability to live normal, happy lives. But at the neurochemical level, the brain neither cares nor knows what's going on. Some of the best research into alcohol addiction is being produced by Cloninger in his laboratory at Washington University Medical Center in St. Louis. Cloninger believes (as I do) that the evidence that alcoholism is a hereditary predisposition is conclusive. Cloninger has even identified "types of alcoholism such as early onset and late onset alcoholism. Early onset usually occurs in adolescence and early adulthood and involves extreme alcohol seeking behavior and rapid, troublesome addiction. Don't we see this all the time? Late onset is the gradual loss of control over a much longer period of time. Amazing! For years I've been seeing very young people who drink and show all the signs and symptoms of alcoholism practically from the first drink. I've also seen older adults who have had a number of years of more or less controlled drinking before losing

control. How do we explain this? Environment? Nope. All the research points to genetics and neurochemistry.

The Pieces Begin to Fit

You see how beautifully these laboratory findings fit in with what we specialists in alcoholism have long noticed in our clinics. Uncle Jack is brought in, and he's drunk again, and even though it's slowly killing him, he somehow can't stop drinking. When he's sober enough we'll get a family history. Yes, there are other alcoholics in his family; there's a family predisposition -- an abnormality in the family body chemistry -- which we only saw the shadow of before. But now we see it much more clearly: It's a predisposition toward making TIQ.

Now alcoholics don't intend to make TIQ when they start drinking. They don't mean for their brains to manufacture something stronger than morphine -- they've been warned about the evils of narcotics all their lives. But they've heard a good deal less about the evils of alcoholism. Most normal Americans take a drink now and then, and the young alcoholics-to-be want to be normal. So they take a drink now and then, too.

Unfortunately, the alcoholics-to-be aren't normal. That's bad for them but then it could have been a lot worse: they could have been born blind or with crippled arms or legs. On the other hand, of course, potential alcoholics certainly would know about the blindness or the crippling disability. But they don't know about the predisposition toward TIQ-making their brain chemistry has inherited. Nobody knew about it until fairly recently. So Jack and Jane and a new generation of alcoholics have their first few drinks, and everything seems cool.

The alcoholic has his or her early drinks, and now we can go back to our little lesson in biochemistry. The alcoholic's body, like yours and mine, changes the alcohol into acetaldehyde, and then it changes most of that into carbon dioxide and water, which in the end it kicks out through the kidneys and lungs. Except, of course, that alcoholics bodies won't kick all these chemicals out. The alcoholic's brain likes them for some reason and holds a few bits back and transforms them into TIQ.

So the alcoholic-to-be starts drinking, and he or she may well be very moderate at first. Just a few on Saturday nights. Maybe a couple of beers with football games on TV. Maybe a nip or two to calm down while fixing dinner for the family. Two or three drinks to quiet the jitters before high school graduation. In the beginning, the alcoholic-to-be only gets seriously drunk, say, once or twice a year. So far, so good. But all this time the alcoholic brain is humming away in there building its little cache of TIQ, just like the brains of our rats and monkeys. At some point, maybe sooner, maybe later, the alcoholic will cross over a shadowy line into a whole new way of life.

Now the medical science still doesn't know where this line is -- doesn't know how much TIQ an individual brain will pile up before the big event happens. Some predisposed people cross the line while they're teenagers -- or earlier! It won't occur in others until they're 30 or 40 or maybe even retired. But once it does happen, the alcoholic will be as hooked on alcohol as he would have been hooked on heroin if he'd been shooting that instead -- and for very similar chemical reasons! Now comes that loss of control we talked about early in this story. Now it's chronic, progressive, incurable nature is obvious to practically everyone who knows the alcoholic. Now it's all too clearly a disease. And now -- all too often -- it's a disease that will mainly get treated with other sedatives. Far too often alcohol addiction is treated with pills that keep the disease raging. When we're done, if the alcoholic is still alive, he'll be about as functional as a TIQed rat.

Good News

But then I did promise you good news, didn't I? Well, we're just about to it, and you may well understand it already. Alcoholism is a disease -- and that's good news. Alcoholism is not the alcoholic's fault -- and that's good news, too. Alcoholics can today get proper treatment for the disease, which is certainly good news, and that treatment begins when we tell them these facts. The alcoholic patients I see are usually hugely relieved to hear that it's not their fault, because they've been carrying tons of guilt along with the alcoholism -- and that guilt was often worse than useless.

Now instead of guilt, the alcoholic person can take on some **responsibility**. Now that the alcoholic knows the facts, he or she can, with treatment, take the responsibility of stopping the drinking; alcoholics can refuse to put more TIQ in their brains and they can refuse to reactivate the TIQ that's already there. Alcoholics can't get rid of their TIQ, but they can, with treatment, be taught how to control it.

Alcoholics can learn how to live like normal, healthy grown-ups again. That's good news for all of us. That's the best news any human being can ever expect.

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Dr. Ohlm's videos, films, booklets and other educational materials have become popular standards in the field of chemical dependency treatment and education in this country and abroad.

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Other booklets by David L. Ohlms, M.D.

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Simplicity is the key to Dr. Ohlms' booklet on cocaine. Ideal for patient and family orientation. Cocaine takes just a few minutes to read but leaves a lasting impression.

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THE PRESCRIPTION TRAP

It is critically important that those recovering from chemical dependency understand the dynamics of cross addiction. In THE PRESCRIPTION TRAP Ohlms explains the phenomenon of "cross tolerance" and the danger of innocently starting up the addiction cycle through the use of prescription and mood-altering over-the-counter drugs.