

A photograph of a person with dark hair sleeping at a bar. In the foreground, there is a bottle of alcohol, a glass, and some other items on the bar counter. The scene is dimly lit, with a bright light source visible in the background.

# Why Alcoholism is a **DISEASE**

A 3D rendering of a DNA double helix structure, glowing with a blue and white light. The structure is shown in a curved, dynamic pose, suggesting movement or a process.

## Why Alcoholism is **HEREDITARY**

A photograph of a modern, open-air building with a thatched roof. The building has large white columns and is surrounded by lush greenery and trees. The interior of the building is visible, showing a comfortable and relaxing environment.

### Treating Alcoholism in **INPATIENT REHAB**

# Why Alcoholism is a **DISEASE**



**For many years, people believed that alcoholism stemmed from a lack of willpower - that the people who experienced addiction to alcohol should be able to 'just quit' when they began to see the negative effects it was having on their life. That's not the case, however, and those affected by alcoholism will likely tell you that while they know drinking is the reason they lost their job, the reason they can't maintain a decent relationship, and the reason why they constantly feel unhealthy, depressed and alone - they just can't stop picking up the bottle.**

What these people are experiencing is not a lack of willpower, but instead they are affected by an internationally recognized complex brain disorder known as addiction - or more specifically in this case - alcoholism.

In 1956, the American Medical Association (AMA) defined alcoholism as an illness, but not everyone was quick to agree. It wasn't until 2004 that the World Health Organization (WHO) put together a comprehensive report titled "Neuroscience of Psychoactive Substance Use and Dependence" in which the WHO states that "substance abuse has not previously been recognized as a disorder of the brain, in the same way that psychiatric and mental illnesses were previously not viewed as such. However, with recent advances in neuroscience, it is clear that substance dependence is as much a disorder of the brain as any other neurological or psychiatric illness."

Before delving into the complicated world of neuroscience, it's important to understand the basic elements of the disease. Alcoholism has four main symptoms which include craving (a strong need to drink), loss of control (the inability to decline a drink, or limit consumption), physical dependence (the presence of withdrawal symptoms following a heavy drinking episode, such as sweating, shakiness, anxiety and nausea) and tolerance (the need to drink more and more to achieve the same "high" that lesser amounts could achieve previously).

With the introduction of brain imaging tools such as the MRI and PET scans, medical researchers have been able to get a better understanding of how alcoholism manifests in the brain. The brain is made of specialized cells (neurons) that transmit signals to and from the brain. Every person is hardwired to obtain life-sustaining resources such as food and water, shelter and mates. When a person obtains one of these things, the chemical dopamine is transmitted to the brain, letting it feel pleasure, relief and an overall feeling of satiety. In a sense, it allows the brain to relax and stop searching – at least for a while.

One of the ways addiction is caused is when a person consumes alcohol; it creates a surge of the chemical dopamine creating highly increased levels of pleasure in the brain. The brain then remembers this feeling and wants it repeated. When the person allows their brain this simple pleasure once again, the desire to repeat gets stronger and stronger. With frequent consumption of alcohol, including the overabundance of dopamine it provides the brain, the body begins to decrease its own natural production of dopamine - depending on the alcohol effects to create the rest. With low levels of dopamine being created in the body, the person will soon feel sad and/or depressed, possibly anxious, and will likely look to the one fix they know will make them feel better – alcohol. Eventually, the need to consume alcohol will outweigh the need for literally everything else in life, and the dopamine stores in the body will reach such low levels, that even the alcohol will no longer be able to give them the 'high' they so sorely desire.

At the same time, the alcohol consumed is having detrimental effects on the part of the brain that controls the ability to make good decisions, to see the 'bigger picture' and to control desires and emotions. In these areas, MRI and PET scans can show the physical difference in brains affected by alcohol and brains that are not. At this point, the disease has taken over, and no matter what life throws him – loss of job, loss of relationships, life-threatening situations, or anything else – he is physically incapable of putting down the bottle.

But then what sets apart those affected by alcoholism, and those who are not? There are plenty of people in the world that can enjoy an occasional drink on holidays, and even people who drink heavily every weekend but don't end up with alcoholism. Recent findings have suggested that people are genetically predisposed to alcoholism – or rather – it is in their DNA.



# Why Alcoholism is **HEREDITARY**

**According to the American National Council on Alcoholism and Drug Dependence (NCADD), the most reliable risk indicator for alcoholism is family history. While many people used to believe that alcoholism passed from parents to children was due solely to environmental factors during upbringing – that those around alcohol abuse would grow up to do the same – recent studies have proven that genetics account for up to 60% of the risk factors for developing alcoholism.**

In recent years, scientists have been able to locate certain genes that contribute to the susceptibility of alcoholism in a person. What these scientists are actually finding are biological differences in the genetic makeup of addicted persons compared to non-addicted persons. In some diseases, such as sickle cell anemia or cystic fibrosis, the biological difference comes from a single gene and is therefore easy to detect. Most other diseases, however, are considered genetically complex in which several genes play a part in making up the disease – as is the case with alcoholism.

That being said, scientists have been making fast progress over the past decade and have been able to pinpoint several gene factors that contribute to alcoholism. In a study done by the University of Utah, it was found that people addicted to alcohol are more likely to carry the A1 allele of the dopamine receptor gene DRD2, while for people who carry two copies of the ALDH\*2 gene, alcoholism is rare.

This does not mean, however, that a child who is born with these gene variations will automatically become an addict. Look at heart disease for example. Chronic heart disease is considered a hereditary disease, and while a child may be born with the genetic variations that could cause heart disease in his future - that child can eat properly, keep up an exercise program and monitor his heart on a regular basis to help ensure that heart disease does not strike. Alcoholism is the same. The genes may be in a person's body, but they don't have to develop into the disease – which brings us back to the old nature vs. nurture debate.

To drive the nature (genetic) point home, scientists have done many twin and adoptive child studies to see whether nature or nurture is a stronger factor in developing alcoholism. According to a report called "The Genetics of Alcohol and Other Drug Dependence" by Danielle M. Dicks, Ph.D., and Arpana Agrawal, Ph.D, several studies on both identical and non-identical twins in families with a history of alcoholism in the parents tipped the scales in favour of nature. Identical twins, who share the exact same gene pool and were subjected to the same environmental upbringing showed a higher level of concordance (similarity) than non-identical twins. The report also claims that children born from one or more alcoholic parents and then adopted in infancy, were 4 times more likely to be alcoholic than those who were born of non-alcoholic parents.

Since genetic tests for alcoholism are not regularly carried out at childbirth, it leaves the main indicator for possible development of alcoholism as family history. However, deciding whether or not your mother or father suffers from alcoholism is often hard to judge from the perspective of the child who quite likely views their own parents' behaviour as normal. Thus, they may not be aware of the possible problems in their future if they consume alcohol.

For many, going out on the weekends with their friends and indulging in alcohol consumption is normal social behaviour. For most of the people in that group, they can binge on the weekend, and remain sober during the week or even several weeks with no problem. For those predisposed to alcoholism, however, it's not so simple. They may only partake in heavy alcohol consumption a handful of times before they feel the slide toward dependence. And once it hits – the corruption of the brain by the alcohol makes it nearly impossible for the drinker to stop and for many – rehab is the only solution.



# Treating Alcoholism in INPATIENT REHAB

**Statistically speaking, inpatient rehab is the most effective way to treat alcoholism, and studies show that those who spend 28 days or more at an inpatient treatment facility can nearly double their chances for long-term sobriety with less chance of relapsing.**

The problem with inpatient treatment centres, however, is that many people dealing with alcoholism don't understand what goes on behind their closed doors, and it can be a very frightening idea to pack up your stuff and go to a facility you don't know anything about. Often, alcoholics and other addicts wonder if it will feel like jail, if they'll be fed well, if they can have contact with their friends and family, and the list goes on. Another major question is of course – what happens during their stay?

First of all, contrary to popular belief, inpatient rehabilitation centres are not set up like jails with locked doors and security guards walking the halls. Instead, the environment is designed to encourage its patients to relax, be comfortable, and interact with the staff and other patients on a regular basis.

Most centres offer a minimum stay of 28 days. The first seven days are usually assigned to detoxing as many patients who enter the facility still have alcohol in their system. This is something that can be very dangerous for the addict to do on their own as alcohol withdrawal symptoms can be quite severe including tremors, heart palpitations and even seizures. For this reason, inpatient facilities have medical staff on site 24 hours a day to ensure a safe environment to fully detoxify the body.

Once the physical detox has been carried out, the remaining time at the centre will focus on the psychological addiction to alcohol that still remains. This second phase of the program will be integrated seamlessly into daily routines such as group therapy sessions, individual therapy sessions, support group meetings and medical appointments. The days are somewhat strictly regimented in an effort to keep the addict's mind away from the alcohol they still desire. Not to fret, however, the days do not go by without a bit of fun. The days at the centre will also typically include daily group exercise, optional classes in art, health or even cooking, and also outings to local sites and more. Each day, the addict will be surrounded with medical, psychological and very importantly, peer support.

All food is usually taken care of on-site by an in-house chef and/or restaurant facility. That being said, there are thousands of facilities to choose from all over the world which vary widely in the services they provide, and you often get what you pay for. From sterile hospital-type decor and arrangements, to exotic locations with fine dining and Egyptian cotton sheets, no inpatient centre is exactly the same as another.

The good news is, however, that the high-end treatment centres don't only exist in places like Malibu, California and they don't have to cost one or two arms and a leg. There are many high-end treatment centres in other parts of the world that offer tropical climates, luxury accommodations and world-class medical support at up to one-third of the cost of similar facilities in the West.

But budget aside, it's important to attend a treatment facility that uses an appropriate method of treatment for the addict. Some centres use treatment programs that have a strong tie to Christianity or certain religious beliefs, which not everyone is comfortable with. Other facilities take an approach focused more on medicine and individual psychology. In any facility, however, it is very important to check the credentials of the counsellors and medical staff, and to check for reviews and testimonials from previous addicts. Unfortunately, there are many facilities around the world that make promises they can't keep which is why research is important. For any addict looking to enter a treatment facility it may be a good idea to enlist family and friends to help research the facilities available and find the one that appears best suited for that individual. Being comfortable and at ease in a qualified treatment centre is an important step of recovery and could be the difference between being successful in recovery, or not.

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