

## Brain Disease Model of Addiction

Among the many difficulties faced in substance abuse treatment of any kind is the oft-held prejudice that the addict is just a morally weak individual who chooses not to control his or her compulsive behavior. Compelling research, performed in this country primarily by or under the auspices of the National Institute on Drug Abuse indicates that addiction is actually a *brain disease* in that many individuals have a genetic propensity to become addicted to one or several substances and/or behaviors. Other studies clearly show that even if an individual does not have the genetic predisposition for addiction, substance use and abuse can permanently alter brain chemistry and function.

So if addiction is a disease, then why have treatment? The answer is simply, because it is a treatable disease just like diabetes and heart disease. It is fairly well known that both of these common maladies carry genetic components and through lifestyle changes (and when appropriate pharmacologic interventions) both are manageable. Interestingly enough, the percentage of insulin dependent diabetics and cardiac patients who choose not to maintain the recommended lifestyle modifications and therefore are often re-hospitalized for various morbidities is relatively equal to the percentage of addicted individuals who relapse after treatment.

But is addiction really a disease even if research shows there may be a genetic predisposition or even brain chemistry changes? Allopathic medicine generally considers that to be a primary disease, a syndrome must exhibit these characteristics:

- a genetic component,
- it is chronic,
- its course is progressive, and
- if left untreated it can become fatal.

In terms of addiction, as already mentioned, there is mounting evidence that shows there is a genetic component. Because of the long-term nature of this syndrome and the high tendency for relapse it is fair to say that, similar to diabetes and cardiac disease, addiction is chronic in nature. In regards to the addicted individual, this chronic component often shows up as, "I used to get high to feel good, now getting high keeps me from feeling good."

Addiction also displays the progressive characteristic in that the individual begins to exhibit tolerance (manifesting as needing more of the substance to get the same high or that the same amount yields a diminished effect). In the life of the addict, this can be seen as initially the drug use interfered with his or her life, which then progresses to life interfering with the substance abuse.

Lastly, just like diabetes and heart disease, there is little doubt that the individual who does not receive treatment and remains abstinent does indeed face the risk of death, either directly from an overdose or indirectly from HIV/AIDS, hepatitis C, drunk driving, liver or cardiac disease, cancer, etc.

So given that addiction exhibits the four characteristics of a primary disease, it can now be concluded that it is indeed a disease, a disease that is treatable albeit one that requires lifestyle changes in order for it not to progress and become fatal. But from where does the brain part come in? Interestingly enough, it is through the neurobiological study of addiction that much of the brain mapping has taken place.