



### **Abstinence and Neurocognitive Deficits**

Research published in the September 2006 issue of *Alcoholism: Clinical & Experimental Research* suggested that alcoholics with long-term abstinence can recover many neurocognitive deficits. The study looked at alcoholics sober for six months to 13 years and found that with long-term abstinence, alcoholics can recover many, but not all, of their neurocognitive deficits.

George Fein, president of and senior scientist at Neurobehavioral Research, said: “We found that the cognitive and mental abilities of middle-aged alcoholics who had been abstinent for six months to 13 years are indistinguishable from those of age and gender comparable non-alcoholics . . . with the possible exception of spatial processing abilities.” Recovered neurocognitive functions would include short- and long-term memory, planning, learning, comprehension, etc. In other words, they would be able to support a normal home, work and social life; these people should be able to function cognitively normally.

One exception to the noted recovery of neurocognitive deficits among abstinent alcoholics was with spatial-processing abilities. These “visuospatial” abilities are important for many daily activities. The researchers suggest we might find that recovering alcoholics could have difficulties in reading a map, assembling things, and performing tasks that require spatial orientation such as driving. These findings provide tentative hope for recovering alcoholics and can be used to encourage abstinence from alcohol, but should be interpreted with caution.

George Fein said, "we cannot definitively say that these individuals had deficits when they stopped drinking. We don't have data on this. Furthermore, these people were middle-aged. We're not saying that you will have full recovery if you stop drinking in your 50s or 60s; we are saying that these people stopped drinking earlier, and they appear to have close-to-full recovery function." Researchers believe that the older

brain may be more vulnerable than the younger and middle-aged brain to the damaging effects of alcohol. Fein and his colleagues are now examining recovery of cognitive functioning among abstinent alcoholics 65 to 85 years of age who stopped drinking before the age of 50, between 50 and 60, and after 60 years of age. This data, said Fein, will address the degree to which alcohol abuse is more damaging to the older brain, as well as the extent of recovery of function with long-term abstinence among older alcoholics.

"The nature of alcoholism as a dynamic condition is largely underappreciated by most people, including clinicians," added Edith Sullivan, a professor in the department of psychiatry and behavioral sciences at Stanford University School of Medicine. She noted that cognitive and motor functions are "multifaceted and complex, and component processes;" and their functions can be impaired or recover piecemeal. "It may be that only when enough of the pieces recover to at least some minimum level that we can then observe improved function."

"Whatever their nature," said Sullivan, "follow-up and/or longitudinal studies are of the utmost importance because of the vast number of factors that can contribute to cognitive and motor abilities, such as pre-existing family history and genetic factors, education, gender differences, age at onset of drinking, drinking pattern, age of drinking, nutrition, non-alcohol substance abuse comorbidity, and psychiatric comorbidity, such as anxiety or depressive disorders."

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