

## Effects of Drugs of Abuse on the Aging Brain Explored

While substance abuse affects Americans of all ages, particularly youth and young adults, little focus has been given to substance abuse among older adults. However, the aging of the baby boomer generation may lead to a dramatic increase in the abuse of illicit, prescription, and over-the-counter drugs among older adults, due in part to their larger numbers and their lifetime histories of substance abuse. The present review, written by scientists from NIDA, examines current trends and projected prevalence estimates of substance abuse among older adults as well as how drugs of abuse affect the aging brain. Large knowledge gaps exist of how age-related changes in the brain interact with drugs such as marijuana, cocaine, and heroin and other opiates. While it is known that some of the same brain systems involved in substance abuse are affected by aging, it is unclear whether these changes affect responsiveness to drugs—laboratory studies exploring these changes have shown mixed results as to whether aging may sensitize or dull the brain to the effects of drugs. Research does suggest, however, that susceptibility to neurotoxicity induced by some drugs of abuse may increase with age. The effects of illicit drugs may also be impacted by the many medical conditions that increase in prevalence with age, such as heart or kidney disease, diabetes, and lung disorders. Additionally, because the body's metabolism and the rate at which drugs leave the body also decrease with age, "even moderate use of alcohol, many prescription and over-the-counter medications, and illicit drugs may have devastating consequences" in this population, state the authors. Few screening tools exist to identify older adults with substance abuse problems, compounding the difficulty doctors may have in recognizing this diagnosis. Improvements in diagnosis and outreach for older drug abusers are needed, especially since older adults who do receive treatment for substance abuse have outcomes as good as or better than younger adults. Authors suggest that positive treatment outcomes such as these "suggest that the primary barrier to recovery is diagnosis and treatment entry; however, meeting the challenges will require a better understanding of the scope and effects of drug abuse in this population." • Dowling GJ, Weiss SR, Condon TP. Drugs of abuse and the aging brain. *Neuropsychopharmacology*. 2008;33(2):209–218.