

SUBSTANCE USE DISORDERS

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Although the prevailing view for many decades was that drug dependent patients simply suffered from character weakness, the persuasive data emerging from modern brain imaging techniques and the application of molecular biology methods to animal models of compulsive drug use indicate that this position is no longer tenable. The integration of a number of new technologies has allowed investigators to combine behavioral and neurobiological approaches to more completely evaluate multiple aspects of this difficult problem.

The following 16 chapters detail advances in the biology of substance use disorders, concentrating on those occurring during the 1990s, the decade of the brain. The section concentrates on advances most relevant to neuropsychopharmacology, integrating neurobiology, behavioral biology, and pharmacology. Knowledge of the pathophysiology of drug use disorders has greatly increased with the identification and cloning of receptors for the major drugs of abuse. There is also a much greater understanding of the brain circuits involved, including those common to different classes of drugs. The efficacy of treatment has also increased through the availability of effective medications for alcohol, heroin, and nicotine, as well as behavioral approaches used with cocaine abusers. Also, there is greater acceptance of the chronic disease model, which focuses on functional improvement as the realistic goal of treatment, rather than "cures."

The terminology used in this section deserves some comment. There is general agreement that there are degrees of

severity ranging from occasional drug use to a dangerous but moderately severe state called "abuse" in the American Psychiatric Association Diagnostic and Statistical Manual (DSM), to a severe compulsive state known as "dependence" or "addiction." There is disagreement, however, on the usefulness of the term "addiction" to denote this severe state that occurs only in the minority of users who lose control and become compulsive drug users with a chronic relapsing clinical course. The DSM-III Revision Committee narrowly voted not to use the term "addiction" because of its prejudicial connotations, opting instead for "dependence." This was continued in the current version, DSM-IV. The other point of view is that the term "dependence" creates confusion because it is already used to designate the state marked by drug-specific withdrawal symptoms that normally occur when regular drug use is abruptly terminated ("physical" dependence). Dependence also has a longstanding use as a personality disorder descriptor completely unrelated to drug use. Most important, patients with chronic pain receiving opiates often show signs of tolerance and withdrawal symptoms without any behavior that could be categorized as abuse. Physicians who are confused by "dependence" defined as a normal response and "dependence" as a disorder have been known to mistakenly withhold pain medication to "prevent addiction." We have opted to use the DSM terminology for the title of this section, but the reader will find that there is some inconsistency among the chapters in the use of the terms "addiction" and "dependence" reflecting the current variance in the field over proper terminology.