Signs and symptoms of withdrawal can be reversed immediately by giving the drug producing the dependence. Therapeutic withdrawal, which is more comfortable and safer, can be managed by gradually reducing dosage over several days. Clonidine, an antihypertensive drug, is sometimes used to relieve withdrawal symptoms associated with sympathetic nervous system overactivity.

Ideally, the goal of treatment for opiate abuse is abstinence from further opiate usage. Because this goal is rarely met, long-term drug therapy may be used to treat heroin dependence. One method uses opioid substitutes to prevent withdrawal symptoms and improve a lifestyle that revolves around obtaining, using, and recovering from a drug. Methadone has long been used for this purpose, usually a single, daily, oral dose given in a methadone clinic. Proponents say that methadone blocks euphoria produced by heroin, acts longer, and reduces preoccupation with drug use. This allows a more normal lifestyle for the client and reduces morbidity and mortality associated with the use of illegal and injected drugs. Also, because methadone is free, the heroin addict does not commit crimes to obtain drugs. Opponents say that methadone maintenance only substitutes one type of drug dependence for another. In addition, a substantial percentage of those receiving methadone maintenance therapy abuse other drugs, including cocaine.

Another drug approved for maintenance therapy is levomethadyl acetate hydrochloride, also called LAAM. LAAM (Orlaam) is a synthetic, Schedule II opioid indicated only for the treatment of opiate dependence. It is metabolized to long-acting, potent metabolites. After oral administration, effects occur within 90 minutes, peak in about 4 hours, and last about 72 hours. Its main advantage over methadone is that it can be given three times weekly rather than daily. However, if given on a Monday/Wednesday/Friday schedule, the Friday dose may need to be larger to prevent withdrawal symptoms until the Monday dose can be given. Also, initial dosage needs careful titration to prevent withdrawal symptoms but avoid overdosage when peak effects occur. Patients must be informed about the delayed effects of the drug and the risks of overdosage if they take other opiates. LAAM has proarrhythmic effects and an electrocardiogram should be done prior to starting the drug and periodically during therapy.

A third treatment option is naltrexone (ReVia), an opioid antagonist that prevents opiates from occupying receptor sites and thereby prevents their physiologic effects. Used to maintain opiate-free states in the opiate addict, it is recommended for use in conjunction with psychological counseling to promote client motivation and compliance. If the patient taking naltrexone has mild or moderate pain, nonopioid analgesics (eg, acetaminophen or a nonsteroidal anti-inflammatory drug) should be given. If the patient has severe pain and requires an opioid, it should be given in a setting staffed and equipped for cardiopulmonary resuscitation because respiratory depression may be deeper and more prolonged than usual. In addition, patients needing elective surgery and opioid analgesics should be instructed to stop taking naltrexone at least 72 hours before the scheduled procedure.

CENTRAL NERVOUS SYSTEM STIMULANTS

Amphetamines and Related Drugs

Amphetamines and related drugs (see Chap. 16) are used therapeutically for narcolepsy and attention deficit-hyperactivity disorder (ADHD). Except for the use of methylphenidate in treating ADHD, however, the drugs are more important as drugs of abuse than therapeutic agents.

Amphetamine-Type Dependence

Amphetamines and related drugs (eg, methylphenidate) produce stimulation and euphoria, effects often sought by drug users. The user may increase the amount and frequency of administration to reach or continue the state of stimulation. One of the drugs, methamphetamine, may be chemically treated to produce potent crystals (called "ice"), which are then heated and the vapors smoked or inhaled. Psychological effects of amphetamines are similar to those produced by cocaine and are largely dose related. Small amounts produce mental alertness, wakefulness, and increased energy. Large amounts may cause psychosis (eg, hallucinations and paranoid delusions). Tolerance develops to amphetamines.

Acute ingestion of these drugs masks underlying fatigue or depression; withdrawal allows these conditions to emerge in an exaggerated form. The resulting exhaustion and depression reinforce the compulsion to continue using the drugs. Users may take them alone or to counteract the effects of other drugs. In the latter case, these drugs may be part of a pattern of polydrug use in which CNS depressants, such as alcohol or sedative-type drugs ("downers"), are alternated with CNS stimulants, such as amphetamines ("uppers").

Treatment of Amphetamine-Type Abuse

Treatment of amphetamine-type abuse is mainly concerned with overdosage because these drugs do not produce physical dependence and withdrawal as alcohol, opiates, and sedative-hypnotic drugs do. Because amphetamines delay gastric emptying, gastric lavage may be helpful even if several hours have passed since drug ingestion. The client is likely to be hyperactive, agitated, and hallucinating (toxic psychosis) and may have tachycardia, fever, and other symptoms. Symptomatic treatment includes sedation, lowering of body temperature, and administration of an antipsychotic drug. Sedative-type drugs must be used with great caution, however, because depression and sleep usually follow amphetamine use, and these after-effects can be aggravated by sedative administration.

Cocaine

Cocaine is a popular drug of abuse. It produces powerful CNS stimulation by preventing reuptake of neurotransmitters (eg, dopamine, norepinephrine, serotonin), which increases