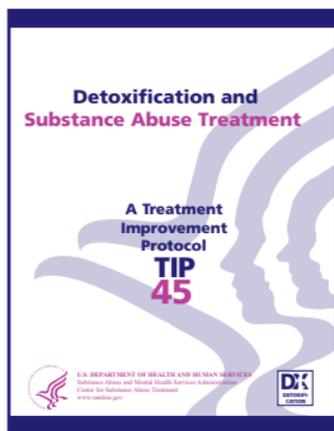


Quick Guide

For Clinicians

Based on TIP 45 ***Detoxification and*** ***Substance Abuse Treatment***



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
Center for Substance Abuse Treatment
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This Quick Guide is based entirely on information contained in TIP 45, published in 2006, and based on information updated through January 2006. No additional research has been conducted to update this topic since publication of the TIP.

WHY A QUICK GUIDE?

This Quick Guide was developed to accompany *Detoxification and Substance Abuse Treatment*, Number 45 in the Treatment Improvement Protocol (TIP) series published by the Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA). This Quick Guide is based entirely on TIP 45 and is designed to meet the needs of the busy clinician for concise, easily accessed “how-to” information.

The Guide is divided into nine sections (see *Contents*) to help readers quickly locate relevant material. For more information on the topics in this Quick Guide, readers are referred to TIP 45.

NOTE: This Quick Guide cannot substitute for clinical guidance in the management of detoxification. It is meant only as an abbreviated overview of the general features of detoxification. The details required for the clinical management of patients going through withdrawal are dealt with more fully in TIP 45.

WHAT IS A TIP?

The TIP series has been in production since 1991. This series provides the substance abuse treatment and related fields with consensus-based, field-reviewed guidelines on substance abuse treatment topics of vital current interest.

TIP 45, Detoxification and Substance Abuse Treatment

- Provides clinicians with up-to-date information and expands on issues commonly encountered in the delivery of detoxification services.
- Focuses on what the substance abuse treatment clinician needs to know and provides that information in an accessible manner.

See the inside back cover for information on how to order TIPs and other related products.

INTRODUCTION

Prior to the 1970s, public intoxication was commonly treated as a criminal offense. People arrested for it were held in “drunk tanks” where they often underwent withdrawal with no medical intervention. As society moved toward a more humanitarian view of people with substance use disorders, several methods of detoxification evolved.

The “medical model” of detoxification is characterized by the use of physicians and nursing staff and the administration of medication to assist people through withdrawal safely. The “social model” relies more on a supportive non-hospital environment than on medication to ease the passage through withdrawal.

Definitions

Detoxification is a set of interventions aimed at managing acute intoxication and withdrawal. It denotes a clearing of toxins from the body of the patient who is acutely intoxicated and/or dependent on substances of abuse. Detoxification seeks to minimize the physical harm caused by the abuse of substances.

Detoxification alone is not sufficient in the treatment and rehabilitation of substance use disorders.

Evaluation entails testing for the presence of substances of abuse in the bloodstream, measuring their concentration, and screening for co-occurring mental and physical conditions. Evaluation also includes a comprehensive assessment of the patient's medical, psychological, and social situation.

Stabilization includes the medical and psychosocial process of assisting the patient through acute intoxication and withdrawal to the attainment of a medically stable, fully supported, substance-free state.

Fostering the patient's entry into treatment involves preparing a patient for entry into treatment by stressing the importance of following through with a complete continuum of care.

Guiding Principles/Assumptions

The panel of experts who created TIP 45 agreed to the following assumptions, which served as a basis for their work:

1. Detoxification alone is not sufficient treatment for substance dependence but it is one part of a continuum of care for substance-related disorders.
2. The detoxification process consists of the following three components:

- Evaluation
- Stabilization
- Fostering patient readiness for and entry into treatment

A detoxification process that does not incorporate all three critical components is considered incomplete and inadequate by the consensus panel.

3. Detoxification can take place in a wide variety of settings and at a number of levels of intensity within these settings. Placement should be appropriate to the patient's needs.
4. Persons seeking detoxification should have access to the components of the detoxification process described above, no matter what the setting or the level of treatment intensity.
5. All persons requiring treatment for substance use disorders should receive treatment of the same quality and appropriate thoroughness and should be put into contact with a treatment program for substance use disorders after detoxification.
6. Ultimately, insurance coverage for the full range of detoxification and follow-up treatment services is cost-effective. If reimbursement systems do not provide payment for the complete detoxification process, patients may be released prematurely, leading to medically or socially unattended withdrawal.

7. Patients seeking detoxification services have diverse cultural and ethnic backgrounds as well as unique health needs and life situations. Organizations that provide detoxification services need to ensure that they have standard practices in place to address cultural diversity.
8. A successful detoxification process can be measured, in part, by whether an individual who is substance dependent enters, remains in, and is compliant with the treatment protocol of a substance abuse treatment/rehabilitation program after detoxification.

Overarching Principles for Care During Detoxification Services

- Detoxification services do not offer a “cure” for substance use disorders; they are often a first step toward recovery and a “first door” through which patients pass to treatment.
- Substance use disorders are treatable and there is hope for recovery.
- Substance use disorders are brain disorders and not evidence of moral weakness.
- Patients should be treated with respect and dignity at all times.
- Patients should be treated in a nonjudgmental and supportive manner.
- Services planning should be completed in partnership with the patient and his or her social

support network, including family, significant others, or employers.

- All health professionals involved in the care of the patient will maximize opportunities to promote rehabilitation and maintenance activities and to link the patient to appropriate substance abuse treatment immediately after the detoxification phase.
- Active involvement of the family and other support systems, while respecting the patient's right to privacy and confidentiality, are to be encouraged.
- Patients should be treated with due consideration for individual background, culture, preferences, sexual orientation, disability, vulnerabilities, and strengths.

LEVELS OF CARE AND PATIENT PLACEMENT

In addition to the general placement criteria for the treatment of substance-related disorders, the *Patient Placement Criteria, Second Edition, Revised* (PPC-2R) of the American Society of Addiction Medicine (ASAM) also indicates a second set of placement criteria, which are more important for the purposes of TIP 45 and this Quick Guide—the five “Adult Detoxification” placement levels of care within Dimension 1 (ASAM 2001). These “Adult Detoxification” levels of care are

1. *Level I-D: Ambulatory Detoxification Without Extended Onsite Monitoring* (e.g., physician’s office, home health care agency). This level of care is an organized outpatient service monitored at predetermined intervals.
2. *Level II-D: Ambulatory Detoxification With Extended Onsite Monitoring* (e.g., day hospital service). This level of care is monitored by appropriately credentialed and licensed nurses.
3. *Level III.2-D: Clinically Managed Residential Detoxification* (e.g., non-medical or social detoxification setting). This level emphasizes peer and social support and is intended for patients whose intoxication and/or withdrawal is sufficient to warrant 24-hour support.

4. *Level III.7-D: Medically Monitored Inpatient Detoxification* (e.g., freestanding detoxification center). Unlike Level III.2.D, this level provides 24-hour medically supervised detoxification services.
5. *Level IV-D: Medically Managed Intensive Inpatient Detoxification* (e.g., psychiatric hospital inpatient center). This level provides 24-hour care in an acute care inpatient settings.

It is important to note that ASAM PPC-2R criteria are only guidelines, and that there are no uniform protocols for determining which patients are placed in which level of care. For further information on patient placement, readers are advised to consult TIP 13, *The Role and Current Status of Patient Placement Criteria in the Treatment of Substance Use Disorders* (CSAT 1995).

BIOMEDICAL AND PSYCHOSOCIAL ISSUES

Detoxification presents an opportunity to intervene during a period of crisis and to encourage a client to make changes in the direction of health and recovery. Hence, a primary goal of the detoxification staff should be to build a therapeutic alliance and motivate patients to enter treatment. This process should begin as the patient is being medically stabilized.

Symptoms and Signs of Conditions That Require Immediate Medical Attention

- Change in mental status
- Increasing anxiety
- Hallucinations
- Temperature greater than 100.4⁰F (these patients should be considered potentially infectious)
- Significant increases and/or decreases in blood pressure and heart rate
- Insomnia
- Abdominal pain
- Upper and lower gastrointestinal bleeding
- Changes in responsiveness of pupils

- Heightened deep tendon reflexes and ankle clonus, a reflex beating of the foot when pressed rostrally, indicating profound central nervous system irritability and the potential for seizures

Immediate Mental Health Needs

The following are mental health issues that require immediate attention:

Suicidality

- Patients receiving detoxification services should be evaluated for suicide risk.
- During acute intoxication and withdrawal, it is important to provide an environment that minimizes opportunities for suicide attempts.
- Frequent safety checks should be implemented.
- Patients at risk for suicide should be placed in areas monitored by staff.

Anger and aggression

- All patients who are intoxicated should be considered potentially violent.
- Symptoms associated with increased risk for violence include hallucinations, paranoia, anxiety, and depression.
- Physical restraint should be used as a last resort.

Initial Biomedical and Psychosocial Evaluation Domains

An initial evaluation will help detoxification staff foresee any variables that might complicate withdrawal. The following is a list of biomedical and psychosocial domains that can affect the stabilization of the patient.

Biomedical Domains

- *General health history:* What is the patient's medical and surgical history? Are there any psychiatric or medical conditions? Any known medication allergies? A history of seizures?
- *Mental status:* Is the patient oriented, alert, cooperative? Are thoughts coherent? Are there signs of psychosis or destructive thoughts?
- *General physical assessment with neurological exam:* This will ascertain the patient's general health and identify medical or psychiatric disorders of immediate concern.
- *Temperature, pulse, blood pressure (should be monitored throughout detoxification).*
- *Patterns of substance abuse:* When did the patient last use? What were the substances of abuse? How much of these substances were used and how frequently?
- *Urine and toxicology screen for commonly abused substances.*
- *Past substance abuse treatments or detoxification.*

Psychosocial domains

- *Demographic features*: Gather information on gender, age, ethnicity, culture, language and education level.
- *Living conditions*: Is the patient homeless or living in a shelter? Are significant others in the home (and, if so, can they safely supervise)?
- *Violence, suicide risk*: Is the patient aggressive, depressed, or hopeless? Is there a history of violence?
- *Transportation*: Does the patient have adequate means to get to appointments? Do other arrangements need to be made?
- *Financial situation*: Is the patient able to purchase medication and food? Does the patient have adequate employment and income?
- *Dependent children*: Is the patient able to care for children, provide adequate child care, and ensure the safety of children?
- *Legal status*: Is the patient a legal resident? Are there pending legal matters? Is treatment court ordered?
- *Physical, sensory, or cognitive disabilities*: Does the client have disabilities that require consideration?

Considerations for Specific Populations

Adolescents

- Adolescents are more likely to drink large quantities of alcohol in a short period of time, making it important that staff be alert to escalating blood alcohol levels.
- Adolescents are more likely to use drugs they cannot identify, to combine multiple substances with alcohol, to ingest unidentified substances, and to be unwilling to disclose drug use.
- Asking open-ended questions and using street terminology for drugs can be helpful in both establishing rapport and in obtaining an accurate substance use history.

Parents with dependent children

- It is of vital importance to ensure that the children of someone receiving detoxification services have a safe place to stay.
- Working with patients to identify supportive family or friends may uncover temporary childcare resources.
- A consult or referral to the treatment facility's social services while the patient is being detoxified is indicated when the care of children is uncertain.

Victims of domestic violence

- Staff should know the signs of domestic violence and be prepared to follow procedures to ensure the safety of a patient.
- Trained staff can help the victim create a long-term safety plan or at least make a proper referral.
- All printed information about domestic violence should be disguised and none should be kept by the patient when leaving the safe facility.
- It may be important that the abused person not be allowed to talk to the abuser while in detoxification.

Culturally diverse patients

- Cultural sensitivity is tremendously important.
- Expectations of detoxification, feelings about the healthcare system in general, and social and community structures vary according to cultural backgrounds.
- The practitioner should avoid defining the patient in terms of his culture; over- or under-emphasizing the patient's race or ethnicity can be detrimental.
- For a list of questions that can guide a practitioner to better understand a patient's cultural framework, see Figure 3-4 in TIP 45.

STRATEGIES FOR ENGAGEMENT AND RECOVERY

It is essential that all clinicians offer hope and the expectation of recovery. Throughout detoxification, staff should be unified in their message that detoxification is only the beginning of the treatment process and that rehabilitation and maintenance activities are critical to sustained recovery.

Educate the Patient on the Withdrawal Process

- During intoxication and withdrawal, it is useful to provide information on the typical withdrawal process based on the particular drug of abuse.
- Providing information concerning withdrawal symptoms may reduce discomfort and the likelihood the individual will leave detoxification prematurely.
- Settings that routinely encounter individuals in withdrawal should have written materials available on drug effects and withdrawal from specific drugs. This material should also be available for non-English-speaking patients.
- Interventions that assist the client in identifying and managing urges to use also may be helpful in retaining the client in detoxification and ensuring the initiation of rehabilitation.

Use Support Systems

- The use of client advocates to intervene with clients wishing to leave early is often an effective strategy for promoting retention.
- Visitors should be instructed about the importance of supporting the individual in both detoxification and substance abuse treatment.
- If available and if the patient is stable, he or she can attend onsite 12-Step or other support group meetings while receiving detoxification services.

Maintain a Drug-Free Environment

- Maintaining a safe and drug-free environment is essential to retaining clients in detoxification.
- Providers should be alert to drug-seeking behaviors.
- Visiting areas should be easy for staff to monitor.
- Explain to patients and visitors why substances are not allowed in the facility.

Consider Alternative Approaches and Motivational Enhancement

- Although the effectiveness of alternative treatments in detoxification has not been validated in well-controlled clinical trials, alternative therapies that bring patients into detoxification and

keep them there may have utility beyond any therapeutic value offered.

- Motivational enhancements are particularly well suited to promoting initiation in rehabilitation and maintenance activities. For more information on enhancing motivation for change, see TIP 35, *Enhancing Motivation for Change in Substance Abuse Treatment*.

Foster a Therapeutic Alliance

- A relationship between the clinician and patient that is supportive, empathic, and nonjudgmental is the hallmark of a strong therapeutic alliance.
- Efforts to establish a therapeutic alliance should begin upon admission.

REFERRALS AND LINKAGES

Once an individual passes through the most severe withdrawal symptoms and is safe and medically stable, the focus of the psychosocial intervention shifts toward preparing the patient for substance abuse treatment. These interventions include

- Assessment of the patient's characteristics, strengths, and vulnerabilities that will influence recommendations for substance abuse treatment.
- Preparing the patient to participate in treatment.
- Successfully linking the patient to treatment as well as other needed services and resources.

Evaluation of the Patient's Rehabilitation Needs

The American Society of Addiction Medicine's Patient Placement Criteria, Second Edition, Revised (2001) provides a widely used model for determining the level of services needed to address substance-related disorders. The criteria used to determine the most appropriate level of rehabilitation are based on six dimensions:

1. Acute Intoxication and/or Withdrawal Potential
2. Biomedical Conditions and Complications

3. Emotional, Behavioral, or Cognitive Conditions or Complications
4. Readiness to Change
5. Relapse, Continued Use, or Continued Problem Potential
6. Recovery/Living Environment

Detoxification programs should focus their evaluation on areas that are essential to make an appropriate linkage to substance abuse treatment. The following are recommended:

- Medical conditions and complications
- Motivation/readiness to change
- Physical, sensory, or mobility limitations
- Relapse history and potential
- Substance abuse/dependence
- Development and cognitive issues
- Family and social support
- Co-occurring psychiatric disorders
- Dependent children
- Trauma and violence
- Treatment history
- Cultural background
- Strengths and resources
- Language

Providing Linkages to Treatment and Maintenance Activities

Research indicates that patients are more likely to initiate and remain in treatment if they believe the services will help them with specific life problems. The following are strategies that detoxification personnel can use with their patients to promote the initiation of treatment:

- Perform an assessment of urgency for treatment.
- Reduce time between initial call and appointment.
- Call to reschedule missed appointments.
- Provide information about what to expect at the first session.
- Provide information about confidentiality.
- Offer tangible incentives such as the prospect of improved relations with family and friends and improved self-image.
- Engage the support of family members.
- Introduce the client to the counselor who will deliver rehabilitation services.
- Offer services that address basic needs, such as housing, employment, and child care.

BIOPSYCHOSOCIAL SCREENING AND ASSESSMENT

This section covers more complex psychosocial and biomedical assessments that may occur after initial contact as an individual undergoes detoxification. The following is a list of instruments useful in characterizing the intensity of specific withdrawal states.

Drug of Dependence	Instrument	Notes
Alcohol	CIWA-Ar (not valid for decision-making with history of serious alcohol withdrawal or when benzodiazepine dependent)	10 items, 2-5 minutes to complete
Cocaine	CSSA	18 items, 10 minutes to complete
Opioids	SOWS	16-item questionnaire
Opioids	OOWS	Rater observes patient for 10 minutes, indicates if any of 13 manifestations of withdrawal are present

The CIWA-Ar is available for free from CSAT and is reprinted in TIP 24, *A Guide to Substance Abuse Services for Primary Care Physicians*. Appendix C of TIP 45 provides further information on how to acquire and use the CSSA, SOWS, and OOWS.

Biochemical Markers and Drug Testing

Biochemical markers are laboratory tests that detect the changes in biochemistry and physiology related to the presence or absence of alcohol or other substances of abuse. Comprehensive medical drug testing for specific substances may be able to identify recent use, quantify the level of recent use, or may be able to quantify recent cumulative use. Forensic or worksite drug testing should not be equated to or confused with the more comprehensive range of sensitive tests available for medical drug testing.

Medical drug testing and testing for biochemical markers are essential components of a comprehensive clinical assessment.

Common use of biochemical markers and drug tests are:

1. In the initial screening setting to support or refute other information that leads to proper diagnosis, assessment, and management.
2. For forensic purposes.

3. In detecting secret or hidden use of alcohol and other substances in therapeutic settings where abstinence, rehabilitation, and treatment are being promoted.

There are several different types of drug tests and biochemical markers:

- Blood alcohol content
- Breath alcohol levels
- Urine drug screens (in addition to alcohol, urine drug screens can be effective for detecting benzodiazepines, barbiturates, cocaine, amphetamines, opioids, and PCP)
- Gamma-glutamyltransferase (GGT)
- Carbohydrate-deficient transferrin
- Mean corpuscular volume (MCV)
- Alcohol metabolites
- Toxicological drug tests for general and specific opiates, stimulants, hallucinogens, benzodiazepines, barbiturates, marijuana, other controlled substances, and other drugs that are compounded with controlled substances (e.g. aspirin and acetaminophen).

DETOXIFICATION SERVICES FOR SPECIFIC SUBSTANCES OF ABUSE

Alcohol Intoxication and Withdrawal

The following symptoms of alcohol intoxication can vary greatly with the patient's level of tolerance.

Blood alcohol level is 20–100mg percent

- Mood and behavioral changes
- Reduced coordination
- Impairment of ability to drive a car or operate machinery

Blood alcohol level is 101–200mg percent

- Reduced coordination of most activities
- Speech impairment
- Trouble walking
- General impairment of thinking and judgment
- Somnolence, combative or “psychotic” behavior
- “normal” mental status

Blood alcohol level is 201–300mg percent

- Marked impairment of thinking, memory, and coordination
- Marked reduction in level of alertness
- Memory blackouts
- Nausea and vomiting/aspiration

Blood alcohol level is 301-400mg percent

- Worsening of above symptoms with reduction of body temperature and blood pressure
- Excessive sleepiness/comatose
- Amnesia
- Nausea and vomiting/aspiration
- Death

Blood alcohol level is 401–800mg percent

- Difficulty waking the patient (coma)
- Serious decreases in pulse, temperature, blood pressure, and rate of breathing
- Urinary and bowel incontinence
- Death

The signs and symptoms of acute alcohol withdrawal generally start 6 to 24 hours after the patient takes his last drink. Acute withdrawal may begin when the patient still has significant blood alcohol concentrations. The signs and symptoms may include the following and are highly variable:

- Restlessness, irritability, anxiety, agitation
- Anorexia, nausea, vomiting
- Tremor, elevated heart rate, increased blood pressure
- Insomnia, intense dreaming, nightmares
- Poor concentration, impaired memory and judgment
- Increased sensitivity to sound, light, and tactile sensations

- Hallucinations (auditory, visual, or tactile)
- Delusions, usually of paranoid or persecutory varieties
- Grand mal seizures
- Hyperthermia
- Delirium/disorientation with regard to time, place, person, and situation; fluctuation in level of consciousness

Management of alcohol withdrawal without medication

- Indications for the management of alcohol withdrawal without medication have not been established through scientific studies or evidence-based methods.
- The course of alcohol withdrawal is unpredictable; it is impossible to tell who will or will not experience life-threatening complications.
- Positive aspects of the nonmedication approach are that it is highly cost-effective and provides inexpensive access to detoxification for individuals seeking aid.

Social detoxification

Social detoxification programs are short-term, non-medical treatment service for individuals with substance use disorders. A social detoxification program offers room, board, and interpersonal support to intoxicated individuals and individuals in substance use withdrawal. Social detoxifica-

tions programs vary widely in services offered, but there should always be medical surveillance, including monitoring of vital signs.

The TIP provides several guidelines for social detoxification programs:

- Such programs should follow local governmental regulations regarding licensing and inspection.
- It is highly desirable that individuals entering social detoxification be assessed by primary care practitioners with some substance abuse treatment experience.
- An assessment should determine whether the patient is currently intoxicated and the degree of intoxication, the type of withdrawal syndrome, severity of the withdrawal, information regarding past withdrawals, and the presence of co-occurring psychiatric, medical, and surgical conditions that might require specialized care.
- Particular attention should be paid to individuals who have undergone multiple withdrawals in the past and for whom each withdrawal appears to be worse than previous ones (the so-called “kindling effect”). Patients with a history of severe withdrawals are not good candidates for social detoxification.
- All social detoxification programs should have personnel who are familiar with the features of substance use withdrawal, have training in

basic life support, and have access to an emergency medical system that can provide transportation to emergency departments.

Management of alcohol withdrawal with medications

It is believed that only a minority of patients with alcoholism will go into significant alcohol withdrawal requiring medication. Identifying that small minority is sometimes problematic, but there are signs and symptoms of impending problems that can alert the caretaker to seek medical attention.

Deciding whether or not to use medical management for alcohol withdrawal requires that patients be separated into three groups:

1. Clients who have a history of the most extreme forms of withdrawal, that of seizures and/or delirium. The medication treatment of this group should proceed as quickly as possible.
2. Patients who are already in withdrawal and demonstrating moderate symptoms of withdrawal also require immediate medication.
3. The third group includes patients who may still be intoxicated, or who have, at the time of admission, been abstinent for only a few hours and have not developed signs or symptoms of withdrawal. A decision regarding medication

treatment for this group should be based on advancing age, number of years with alcohol dependence, and the number of previously treated or untreated severe withdrawals. If there is an opportunity to observe the patient over the next 6 to 8 hours, then it is possible to delay a decision regarding treatment and periodically reevaluate a client in this category.

Benzodiazepine treatment for alcohol withdrawal

These drugs remain the medication of choice in treating withdrawal from alcohol. The early recognition of alcohol withdrawal and prompt administration of a suitable benzodiazepine will prevent further withdrawal reaction from proceeding to serious consequences.

- *Loading dose of a benzodiazepine.*

Administration of a metabolized benzodiazepine may be carried out every 1 to 2 hours until significant clinical improvement occurs or the patient becomes sedated. In general, patients with severe withdrawal may receive 20mg of diazepam or 100mg of chlordiazepoxide every 2 to 3 hours until improvement or sedation prevails. The treatment staff should closely monitor blood pressure, pulse, and respiratory features.

- *Symptom-triggered therapy.* Using the CIWA-Ar or similar alcohol withdrawal rating scales,

medical personnel can be trained to recognize symptoms of alcohol withdrawal, make a rating, and based on the rating administer benzodiazepines to their patient only when signs and symptoms reach a particular threshold. A typical routine of administration is as follows:

Administer 50mg of chlordiazepoxide for CIWA-Ar >9 and reassess in 1 hour. Continue administering 50mg chlordiazepoxide every hour until CIWA-Ar is <10 .

- *Gradual, tapering doses.* Once the patient has been stabilized, oral benzodiazepines can be administered on a predetermined dosing schedule for several days and gradually tapered over time. One example of this regimen is that patients might receive 50mg of chlordiazepoxide or 10mg diazepam every 6 hours during the first day of treatment and 25mg of chlordiazepoxide or 5mg diazepam every 6 hours on the second and third days.
- *Single daily dosing protocol.* According to studies, this regimen may be attractive in community or social detoxification settings, particularly if patients could be monitored between doses.

Limitations of benzodiazepines in outpatient treatment

The interaction of benzodiazepines with alcohol can lead to coma and respiratory suppression, motor incoordination, and abuse. Abuse is usually

in the context of the concurrent use of alcohol, opioids, or stimulants. There are two other limitations as well:

- Although benzodiazepines have been studied for 30 years and are effective for suppressing alcohol withdrawal symptoms, their ability to halt the progressive worsening of each successive alcohol withdrawal is in question.
- Benzodiazepine use to treat outpatients in alcohol withdrawal may “prime” or reinstate alcohol use during their administration.

Other medications

The following is a list of other medications sometimes used in detoxification from alcohol:

- Barbiturates
- Anticonvulsants
- Beta blockers/alpha adrenergic agonists
- Antipsychotics
- Relapse prevention agents

Management of delirium and seizures

The major goal of medical detoxification is to avoid seizures and a special state of delirium called delirium tremens (DTs) with aggressive use of the primary detoxification drug. Death and disability may result from DTs or seizures without medical care.

For patients with a history of DTs or seizures, early benzodiazepine treatment is indicated at the first clinical setting. Patients with severe withdrawal symptoms, multiple past detoxifications (more than three), and co-occurring unstable medical and psychiatric conditions should be managed similarly.

DTs

- Giving the patient a benzodiazepine should not be delayed by waiting for the return of laboratory studies, transportation problems, or the availability of a hospital bed.
- Once full DTs have developed, they tend to run their course despite medication management.
- Patients presenting in severe DTs should have emergency medical transport to a qualified emergency department and generally will require hospitalization.

Seizures

- Seizures usually occur within the first 48 hours after cessation or reduction of alcohol, with peak incidence around 24 hours.
- Someone experiencing a seizure is at greater risk for progressing to DTs, whereas it is extremely unlikely that a patient already in DTs will also then experience a seizure.
- The occurrence of an alcohol withdrawal seizure happens quickly, usually without warning to the

individual experiencing the seizure or anyone around him.

- Predicting who will have a seizure during alcohol withdrawal cannot be accomplished with any great certainty.
- Patients having a seizure can be treated with intravenous (IV) diazepam or lorazepam and advanced cardiac life support protocol procedures.
- Patients who have had a single witnessed or suspected alcohol withdrawal seizure should be immediately given a benzodiazepine, preferably with IV administration.
- Benzodiazepine and/or barbiturate intoxication needs to be treated and assessed differently, given the potentially life-threatening implications of withdrawal from either substance in combination with each other and/or alcohol. (See section titled *Intoxication and Withdrawal From Benzodiazepines and Other Sedative-Hypnotics* later in this Quick Guide for more information.)

Wernicke-Korsakoff's Syndrome

- Wernicke-Korsakoff's Syndrome is composed of Wernicke's encephalopathy and Korsakoff's psychosis.
- Wernicke's encephalopathy is an acute neurological disorder featuring oculomotor dysfunction (bilateral abducens nerve palsy—eye

muscle paralysis), ataxia (loss of muscle coordination), confusion, and weakness.

- Korsakoff's psychosis is a chronic neurological condition that includes retrograde and anterograde amnesia (profound deficit in new learning and remote memory) with confabulation (patients make up stories to cover memory gaps).
- Both syndromes are related to thiamine deficiency.
- Thiamine initially is given parenterally (in a manner other than through the digestive tract, as by intravenous or intramuscular injection). Afterward, oral administration is the treatment of choice.
- *Always* give thiamine prior to glucose administration.

Opioid Intoxication and Withdrawal

Opioids are highly addicting, and their chronic use leads to withdrawal symptoms that, although not medically dangerous, can be highly unpleasant and produce intense discomfort.

Signs and symptoms of opioid intoxication and withdrawal

Opioid intoxication signs

- Slow pulse
- Low blood pressure
- Low body temperature

- Sedation
- Pinpoint pupils
- Slowed movement
- Slurred speech
- Head nodding

Opioid intoxication symptoms

- Euphoria
- Pain-killing effects
- Calmness

Opioid withdrawal signs

- Fast pulse
- High blood pressure
- High body temperature
- Insomnia
- Enlarged pupils
- Abnormally heightened reflexes
- Sweating
- Gooseflesh
- Increased respiratory rate
- Tearing (as in crying)
- Yawning
- Runny nose
- Muscle spasms

Opioid withdrawal symptoms

- Abdominal cramps
- Nausea
- Vomiting

- Diarrhea
- Bone and muscle pain
- Anxiety

Medical complications associated with opioid withdrawal can develop and should be quickly identified and treated. Unlike alcohol and sedative withdrawal, uncomplicated opioid withdrawal is not life-threatening.

Management of withdrawal without medication

It is not recommended that clinicians attempt to manage significant opioid withdrawal symptoms without the effective detoxification agents discussed below. Even mild levels of opioid use commonly produce uncomfortable levels of withdrawal symptoms. Management of withdrawal without medications can produce needless suffering in a population that tends to have limited tolerance for physical pain.

Management of opioid withdrawal with medications

The management of opioid withdrawal with medication is most commonly achieved through the use of methadone, buprenorphine, or clonidine.

Methadone

Methadone is a long-acting agonist at the μ -opioid site that displaces heroin (or other abused opioids) and restabilizes the site, thereby reversing opioid withdrawal symptoms.

- If maintained for long enough, this stabilizing effect can reverse the immunological and endocrinologic defects caused by long-term heroin use.
- The initial dose requirements of methadone are determined by estimating the amount of opioid use and gauging the patient's response to administered methadone.
- Methadone can be given once daily and generally tapered over 3 to 5 days in 5 to 10mg daily reductions.
- For detailed information on methadone maintenance, readers are referred to TIP 43, *Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs*.

Clonidine (Catapres)

There are several advantages to treating opioid withdrawal using clonidine rather than methadone:

- Clonidine does not produce opioid intoxication and is not reinforcing.
- The FDA does not classify clonidine as having abuse potential, though some abuse has been reported.

- Detoxification with clonidine occurs without opioids.
- No special licensing is required for the dispensing of this medication.

Although clonidine alleviates some symptoms of opioid withdrawal, it usually is relatively ineffective for insomnia, muscle aches, and drug craving.

An appropriate protocol for clonidine is 0.1mg administered orally as a test dose. A dose of 0.2mg might be used initially for patients with severe signs of opioid withdrawal or for those patients weighing more than 200 pounds. The sublingual route of administration may also be used. Clinicians should check the patient's blood pressure prior to administration and should withhold clonidine if systolic blood pressure is lower than 90 or diastolic blood pressure is below 60.

Clonidine (0.1 to 0.2mg orally) can be given every 4 to 6 hours on an as-needed basis. Clonidine detoxification is best conducted in an inpatient setting, as vital signs and side effects can be monitored more closely in this environment.

Buprenorphine

- Buprenorphine is a partial μ -opioid agonist that has recently been approved by the FDA in an

injectable form as a detoxification agent and for opioid maintenance treatment.

- Buprenorphine is available in an oral form called Subutex; it is meant for patients who are starting treatment for drug dependence.
- Suboxone, another oral form of buprenorphine, contains buprenorphine and naltrexone; it is intended for persons dependent on opioids who have already started and are continuing medication therapy.
- An advantage to buprenorphine is safety. Because of the partial agonist action, buprenorphine has a ceiling effect with regard to overdose potential. Also, it can be administered in a doctor's office.
- For more information on buprenorphine, see TIP 40, *Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction*.

Intoxication and Withdrawal From Benzodiazepines and Other Sedative-Hypnotics

Patients intoxicated with sedative-hypnotics appear similar to individuals intoxicated with alcohol: slurred speech, ataxia, and poor physical coordination are prominent. When benzodiazepines are ingested alone, intentionally, or accidentally in overdose, they rarely lead to death by

themselves. Unfortunately most individuals who ingest benzodiazepines also may be using alcohol, other sedative-hypnotics, or other drugs of abuse, which in combination with benzodiazepines could be fatal if not managed appropriately.

General points about withdrawal

- Management of benzodiazepines and other sedative-hypnotics in overdose is in part supported following principles of advanced cardiac life support, with attention to ventilation.
- Removal of benzodiazepines from the gastrointestinal tract using lavage and a cathartic is generally carried out, particularly if the overdose is recent.
- Flumazenil (Romazicon) is a competitive antagonist that acts as a benzodiazepine receptor. It can reverse the sedative and overdose effects of benzodiazepines but not of alcohol or other sedative-hypnotics.
- Assessing the severity of benzodiazepine and other sedative-hypnotic abstinence syndrome is based primarily on information from the patient, significant others, and physical assessment.

Management of withdrawal with medication

- One strategy that is appropriate is to begin with a slow taper of the benzodiazepine that the patient is already taking. This taper may be con-

ducted over several weeks or perhaps even months.

- Switching to another benzodiazepine in a patient who has had a serious abuse problem with his primary agent may be therapeutic.
- Switching to another benzodiazepine with a long half-life can be effective; chlorodiazepoxide and clonazepam are recommended.
- Switching to a long-acting barbiturate like Phenobarbital can be effective.
- A variety of cognitive and behavioral techniques have been proposed to assist a medication taper.
- Anticonvulsants such as carbamazepine and valproate, as well as sedating antidepressants such as trazodone and imipramine, have been advocated for use in withdrawal.
- Preparing patients for starting detoxification during a period of low external stressors, with patient commitment to tapering and a plan to manage underlying anxiety disorders, are also important in detoxification.

Intoxication and Withdrawal From Cocaine, Methamphetamine, and Other Stimulants

Cocaine and amphetamines (such as methamphetamine) are the most frequently abused central nervous system stimulants. Individuals dependent on stimulants experience profound loss of control over stimulant intake, presumably

in response to the stimulation and disruption of endogenous reward centers. Alcohol and cocaine together can result in cardiac arrest secondary to cocaine-induced arrhythmias. Patients intoxicated on both cocaine and ethanol may need to be monitored for changes in QT interval.

Stimulant withdrawal symptoms

- Depression
- Hypersomnia or insomnia
- Fatigue
- Anxiety
- Irritability
- Poor concentration
- Psychomotor retardation
- Paranoia
- Drug craving

While most clinicians believe that alcohol, benzodiazepine, barbiturate, and opiate withdrawal should be treated aggressively with detoxification, there has been little emphasis on treating symptoms of stimulant withdrawal. No medication has been developed for this purpose. The most effective means of treating stimulant withdrawal involves establishing a period of abstinence from these agents.

Medical complications of stimulant withdrawal

- Stimulant withdrawal is not usually associated with medical complications.
- While both cocaine and amphetamines (such as methamphetamine) often produce depression in users during withdrawal, the period of depression experienced by amphetamine users is more prolonged and may be more intense. Consequently, amphetamine users should be monitored closely during detoxification for signs of suicidality and treated for depression if appropriate.
- Some patients with recent cocaine and alcohol use can experience persistent cardiac complications, including prolonged QTc interval and vulnerability for arrhythmia and myocardial infarction through the production of cocoethylene.
- Seizures may also be a complication of stimulant abuse and can occur during detoxification.

Management of withdrawal with medications

Although there are no medications proven to treat stimulant withdrawal, researchers have investigated medications for cocaine detoxification:

- Disulfiram and Amantadine may help reduce cocaine use in patients with more severe withdrawal symptoms.
- Modafinil, an anti-narcolepsy agent with stimulant-like action, is currently under investigation

by one research group as a cocaine detoxification agent.

- Antidepressants can be prescribed for the depression that often accompanies methamphetamine or other amphetamine withdrawal.

Intoxication and Withdrawal From Inhalants and Solvents

The term “inhalants” is used to describe a large and varied group of psychoactive substances that all share common characteristics of being inhaled for their effects.

Commonly abused inhalants

The following is a list of commonly abused inhalants and examples of each.

Adhesives

- Airplane glue
- Special cements

Aerosols

- Spray paint
- Hair spray
- Deodorant/air freshener
- Analgesic spray
- Asthma spray

Anesthetics

- Gaseous
- Liquid
- Local

Cleaning agents

- Dry cleaning
- Spot remover
- Degreasers

Solvents and gases

- Nail polish remover
- Paint remover
- Paint thinner
- Correction fluid and thinner
- Fuel gas
- Lighter
- Fire extinguisher

Food products

- Whipped cream
- Whippets

Withdrawal from inhalants

- Dependence on inhalants and subsequent withdrawal symptoms are both relatively uncommon phenomena.
- There are no specific or characteristic withdrawal symptoms that would include all drugs in the inhalant class.

- There are no specific assessment instruments available to measure inhalant withdrawal symptoms.
- Most inhalants produce some neurotoxicity with cognitive, motor, and sensory involvement.
- Damage to internal organs including the heart, lungs, kidneys, liver, pancreas, and bone marrow has been reported.

Management of withdrawal

- It is crucial to provide the patient with an environment of safety that removes him or her from access to inhalants.
- Patients presenting with only inhalant withdrawal are unusual; clinicians should promptly ascertain if the patient has been abusing other substances and proceed with appropriate detoxification as clinically indicated.
- No systemic detoxification protocol has been established for inhalant abuse.

Detoxification and Withdrawal From Nicotine

Nicotine dependence in the form of cigarette smoking accounts for approximately 450,000 deaths/year; or more deaths than AIDS, alcohol, cocaine, heroin, homicide, suicide, motor vehicle crashes, and fire combined. Smokers are at increased risk for several medical problems, including cancer, emphysema, chronic obstructive lung disease, chronic bronchitis, myocardial

infarction, coronary artery diseases, hypertension, stroke, and peripheral vascular disease.

Withdrawal symptoms associated with nicotine

The following are the symptoms of nicotine withdrawal as delineated by the *Diagnostic and Statistical Manual of Mental Disorders 4th Text Revision (DSM-IV-TR) (2000)*:

- Abrupt cessation of nicotine use, or reduction in the amount of nicotine used, followed within 24 hours by four or more of the following signs:
 - Dysphoric or depressed mood
 - Insomnia
 - Irritability, frustration, or anger
 - Anxiety
 - Difficulty concentrating
 - Restlessness
 - Decreased heart rate
 - Increased appetite or weight gain
- These symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- The symptoms are not due to a general medical condition and are not better accounted for by another mental disorder.

For diagnostic considerations based on the DSM-IV-TR, please see Figure 4-9 in TIP 45.

Assessing severity

Since 1978, a standard instrument used to measure physical dependence on nicotine has been the eight-item Fagerstrom Tolerance Questionnaire (FTQ). A later revision known as the Fagerstrom Test for Nicotine Dependence (FTND) has been reduced to six questions. The six-question version appears in Figure 4-10 of TIP 45.

The Glover-Nilsson Smoking Behavioral Questionnaire (GN-SBQ) is an 11-question, self-administered test that evaluates the impact of behaviors and rituals associated with smoking. It was designed to assist in identifying and quantifying behavioral aspects of smoking that play a role in maintaining nicotine dependence, which can then help the clinician develop a cessation strategy. The GN-SBQ appears in Figure 4-11 of TIP 45.

Medical complications of withdrawal from nicotine

There are no major medical complications precipitated by nicotine withdrawal itself. However, patients frequently experience uncomfortable withdrawal symptoms within a few hours of cessation. Some of these symptoms—*anxiety, irritability, depression, and others*—can be confused as other psychiatric conditions.

During detoxification from nicotine, some medications will have their metabolism altered, including:

- Theophylline
- Caffeine
- Tacrine
- Imipramine
- Haloperidol
- Pentazocine
- Propranolol
- Flecainide
- Estradiol

Management of withdrawal without medication

The U.S. Public Health Service's *Treating Tobacco Use and Dependence: Clinical Practice Guideline* (2000) is a comprehensive review of smoking cessation literature. The nonpharmacological interventions it discusses can be broken down into two categories: self-help interventions and behavioral interventions.

Management of withdrawal with medications

A U.S. Public Health Service panel recommends that all primary care physicians offer active medication that has been approved for assisting in smoking cessation to all smokers who want to quit. The following are different types of medication that can be used with patients who wish to quit smoking.

Nicotine Replacement Therapy (NRT)

Nicotine polacrilex gum was approved by the FDA in 1984. In the 1990s other NRTs received FDA approval including the nicotine transdermal patch, the nicotine nasal spray, and the nicotine inhaler. After the acute withdrawal period, patients are weaned off the medication until they become nicotine free. It is clear that constituents of tobacco other than nicotine are responsible for causing cancer, and no ill effects have been attributed to long-term use of nicotine replacement therapy.

Bupropion SR

Bupropion SR's exact method of action is unknown, but it is not a nicotine substitute or replacement like the NRTs. The recommended dose is 150mg daily for 3 days and then 150mg twice daily for 7 to 12 weeks. Typically patients set their quit date 1 to 2 weeks from the time they start the medication. This is an ideal time for the patient to focus on making behavioral changes and enlisting social support to augment the quit attempt.

Other non-nicotine pharmacotherapy

There are several other medications currently being looked at for their effectiveness in assisting with smoking cessation. They include:

- The alpha-2 agonist antihypertensive, clonidine

- The tricyclic antidepressant, nortriptyline
- The monoamine oxidase inhibitor (MAOI) antidepressant, moclobemide
- The serotonin 5-HT_{1A} agonist anxiolytic, buspirone
- The antihypertensive CNS nicotine receptor blocker, mecamylamine
- Oral dextrose tablets

Although none of these agents have been approved by the FDA for smoking cessation, clonidine, nortriptyline, and moclobemide have been found to be effective treatments.

Combination drug therapies

NRT products typically provide less than half of the nicotine plasma levels that cigarette users achieve through smoking. To increase nicotine levels, several clinical trials have evaluated combinations of different NRTs. There is moderately strong evidence to conclude that combining various NRTs is more efficacious than a single form of nicotine replacement.

Intoxication and Withdrawal From Anabolic Steroids

Anabolic steroids are male hormones and subject to abuse as a means of increasing muscle mass. These agents also can produce aggressive, manic-like behavior that may include delusions.

Withdrawal symptoms associated with steroids

- Withdrawal symptoms include craving for more steroids, fatigue, depression, restlessness, anorexia, insomnia, reduced libido, headaches, and nausea.
- It is not known how commonly this syndrome occurs, but steroid withdrawal appears more likely in heavy users.

Medical complications and management of steroid withdrawal

- Due to long duration of action with anabolic steroids, side effects that might emerge cannot be quickly reversed by discontinuing substance use.
- Other side effects may require management beyond the simple recommendations that steroids be immediately discontinued; there is no recommended detoxification protocol—the key medical goal is cessation of steroid use.

Intoxication and Withdrawal From Club Drugs

Club drugs are illicit drugs used in the settings of nightclubs, dance clubs, parties, and raves. Use of these drugs among adolescents and young adults has risen significantly in recent years. Although withdrawal syndromes have been reported with some of these drugs, this is not the most common clinical problem. Intoxication and severe intoxication with overdose are more frequent.

Hallucinogens

- Hallucinogens are a broad group of substances that can produce sensory abnormalities and hallucinations.
- Hallucinogens are also referred to as psychedelics and psychomimetics; they include LSD, mescaline, MDMA, MDA, and DOM.
- The prominent effects during intoxication are sensory distortions with illusions and hallucinations; visual distortions are more common than auditory or tactile ones.
- “Bad trips” involve anxiety including panic attacks, paranoid reactions, anger, violence, and impulsivity.
- Withdrawal syndromes have not been reported with hallucinogens.
- Acute intoxication and bad trips usually can be managed with placement of the individual in a quiet, nonstimulating environment with immediate and direct supervision so that the patient does not cause harm to himself or to others.

Gamma-hydroxybutyrate (GHB)

- GHB intoxication may look like alcohol or sedative-hypnotic intoxication, and case reports of GHB withdrawal have occurred.
- Management of withdrawal has been with supportive care and benzodiazepines such as lorazepam.

Ecstasy

- Patients using ecstasy (MDMA) or related compounds frequently are hyperactive and hyperverbal, reporting heightened tactile and visual sensations.
- Hyperthermia, dehydration, water intoxication with low sodium rhabdomyolysis, renal failure, cardiac arrhythmia, and coma have been reported.
- Clinicians are likely to have to manage complications of intoxication and overdose but not withdrawal.

Ketamine and PCP (Phencyclidine)

- Withdrawal symptoms from PCP include depression, drug craving, increased appetite, and hypersomnolence.
- In clinical settings, syndromes of acute intoxication with hallucinations, delusions, agitation, and violence are the most pressing problems.
- In clinical settings, ketamine and PCP require management for the agitation and psychotic features produced during acute use; occasional oral or parenteral uses of sedating medications such as benzodiazepines will be required.
- Occasionally patients will have such large overdoses that they will require airway management and ventilatory support for some hours.

Ordering Information

TIP 45

Detoxification and Substance Abuse Treatment

TIP 45-Related Products

KAP Keys for Clinicians

Quick Guide for Administrators

Quick Guide for Primary Care Clinicians

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2. Visit NCADI's Web site at **www.ncadi.samhsa.gov**.
3. You can also access TIPs online at:
www.kap.samhsa.gov.



Other Treatment Improvement Protocols that are relevant to this Quick Guide:

- **TIP 33:** *Treatment for Stimulant Use Disorders*
BKD289
- **TIP 35:** *Enhancing Motivation for Change in Substance Abuse Treatment* **BKD342**
- **TIP 40:** *Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction* **BKD500**
- **TIP 43:** *Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs*
BKD524

See the inside back cover for ordering information for all TIPs and related products.