KAP KEYS Based on TIP 45
Detoxification and Substance Abuse Treatment

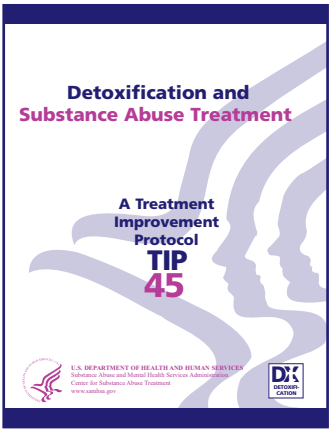
Knowledge Application Program

KAP Keys

For Clinicians

Based on TIP 45

Detoxification and Substance Abuse Treatment



DETOXIFICATION

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
Center for Substance Abuse Treatment
www.samhsa.gov

Introduction

KAP Keys were developed to accompany the Treatment Improvement Protocol (TIP) Series published by the Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA). These KAP Keys are based entirely on TIP 45 and are designed to meet the needs of the busy clinician for concise, easily accessed "how-to" information.

Other Treatment Improvement Protocols (TIPs) that are relevant to these KAP Keys:

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**

Symptoms and Signs of Conditions That Require Immediate Medical Attention

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- Change in mental status
- Increasing anxiety and panic
- Hallucinations
- Seizures
- Insomnia
- Changes in responsiveness of pupils
- Significant increases and/or decreases in blood pressure and heart rate
- Abdominal pain
- Upper and lower gastrointestinal bleeding
- Temperature greater than 100.4°F (these patients should be considered potentially infectious)
- Heightened deep tendon reflexes and ankle clonus, a reflex beating of the foot when pressed rostrally (i.e., toward the mouth of the patient), indicating profound central nervous system irritability and the potential for seizures

Intoxication and Withdrawal From Cocaine, Methamphetamine, and Other Stimulants

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Fast Facts:
- Cocaine and amphetamines (such as methamphetamine) are the most frequently abused central nervous system stimulants.
- Stimulants are intensely rewarding and are actually self-administered by laboratory animals to the point of death.

Symptoms of Cocaine and Other Stimulant Intoxication
- Dilated pupils
- Profuse sweating, often with chills
- Elevated blood pressure
- Elevated temperature
- Increased heartbeat
- Slowed heart action
- Teeth grinding
- Tremors
- Seizures—mostly for cocaine users

Withdrawal Symptoms of Cocaine and Other Stimulants
- Depression
- Hypersomnia or insomnia
- Fatigue
- Anxiety
- Psychomotor retardation (slow reflexes)
- Paranoia
- Drug craving

Management of Withdrawal From Cocaine, Methamphetamine, and Other Stimulants
- No medication has been developed for treating stimulant withdrawal.
- The most effective means of treating stimulant withdrawal involves establishing a period of abstinence from these agents.
- Stimulant withdrawal is not usually associated with medical complications.
- 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, such as selective serotonin reuptake inhibitors, can be prescribed for the depression that often accompanies methamphetamine or other amphetamine withdrawal.

Intoxication and Withdrawal From Alcohol

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Fast Facts:

- The clinical presentation of intoxication from alcohol varies widely depending in part on blood alcohol level and level of previously developed tolerance.
- Since the elimination rate of alcohol from the body generally is 10mg to 30mg percent per hour, the goals for the treatment of alcohol intoxication are to preserve respiration and cardiovascular function until alcohol levels fall into a safe range.

Symptoms of alcohol intoxication	
Blood alcohol level is 20mg-100mg percent	• Mood and behavioral changes • Reduced coordination • Impairment of ability to drive a car or operate machinery
Blood alcohol level is 101mg-200mg percent	• Reduced coordination of most activities • Speech impairment • Trouble walking • General impairment of thinking/judgment
Blood alcohol level is 201mg-300mg percent	• Marked impairment of thinking, memory, and coordination • Marked reduction in level of alertness • Memory blackouts • Nausea and vomiting
Blood alcohol level is 301mg-400mg percent	• Worsening of above symptoms with reduction of body temperature and blood pressure • Excessive sleepiness • Amnesia • Nausea and vomiting
Blood alcohol level is 401mg-800mg percent	• Difficulty waking the patient (coma) • Serious decreases in pulse, temperature, blood pressure, and rate of breathing • Urinary and bowel incontinence • Death

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Alcohol Withdrawal Symptoms

- Restlessness, irritability, anxiety, agitation
- Anorexia, nausea, vomiting
- Hallucinations (auditory, visual, or tactile)
- Insomnia, intense dreaming, nightmares
- Grand mal seizures
- Hyperthermia
- Increased sensitivity to sound, light, and tactile sensations
- Delusions, usually of paranoid or persecutory varieties
- Tremor, elevated heart rate, increased blood pressure
- Poor concentration, impaired memory and judgment
- Delirium/disorientation with regard to time, place, person, and situation; fluctuation in level of consciousness

Management of Withdrawal From Alcohol

- The course of alcohol withdrawal is unpredictable; it is hard to tell who will or will not experience life-threatening complications.
- 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.

- 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.
- Several medications used in the treatment of alcohol withdrawal are: benzodiazepine, barbiturates, anticonvulsants, beta blockers/alpha adrenergic agonists, antipsychotics, relapse prevention agents.

Intoxication and Withdrawal From Heroin and Other Opioids

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Fast Facts:
- Opioids are highly addicting.
- Chronic use of opioids leads to withdrawal symptoms that, although not medically dangerous, can be highly unpleasant and produce intense discomfort.

Signs and Symptoms of Opioid Intoxication

Opioid Intoxication Signs
- Slow pulse
- Low body temperature
- Pinpoint pupils
- Slurred speech
- Low blood pressure
- Sedation
- Slowed movement
- Head nodding

Opioid Intoxication Symptoms
- Euphoria
- Pain-killing effects
- Calmness

Signs and Symptoms of Opioid Withdrawal

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

Opioid Withdrawal Symptoms
- Abdominal cramps
- Vomiting
- Nausea
- Diarrhea
- Anxiety
- Bone and muscle pain

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Management of Withdrawal From Heroin and Other Opioids

- It is not recommended that clinicians attempt to manage significant opioid withdrawal symptoms without effective detoxification agents.
- The management of opioid withdrawal with medication is most commonly achieved through the use of methadone.
- The initial dose requirements for 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.
- Clonidine can also be used to treat opioid withdrawal, but it is usually ineffective for common symptoms such as insomnia, muscle aches, and drug craving.

Intoxication and Withdrawal From Cannabis (Marijuana)

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Fast Facts:
- Marijuana and hashish are the two substances containing THC (delta-9-tetrahydrocannabinol) commonly used today.
- The THC abstinence syndrome usually starts within 24 hours of cessation. The amount of THC that one needs to ingest in order to experience withdrawal is unknown. It can be assumed, however, that heavier consumption is more likely to be associated with withdrawal symptoms.

Symptoms of Cannabis Intoxication
- Impaired short-term memory
- Impaired attention, judgment, and other cognitive functions
- Impaired coordination and balance
- Increased heart rate

Cannabis Withdrawal Symptoms
- Anxiety
- Restlessness
- Irritability
- Sleep disturbance
- Change in appetite
- Tremor
- Sweating
- Elevated heart rate
- Nausea, vomiting, diarrhea

Management of Withdrawal From Cannabis
- There are no medical complications of withdrawal from THC, and medication is generally not required to manage withdrawal.
- Screening the patient for suicidal ideation or other mental health problems is warranted.
- The patient should be encouraged to maintain abstinence from THC as well as other addictive substances.

Nicotine
Two issues regarding tobacco smoking merit consideration by staff of substance abuse detoxification programs. The first is the program management's desire to establish a smoke-free treatment environment to comply with workplace ordinances and to safeguard the health and comfort of patients from exposure to second hand smoke. The second issue is the patient's dependence on nicotine as a drug of abuse.

Drugs That Do Not Produce a Withdrawal Syndrome
Chronic use of PCP can cause toxic psychosis that takes days or weeks to clear; however, PCP does not have a withdrawal system. LSD and ecstasy do not produce physical dependence.

Polydrug Use
People who abuse substances rarely use just one substance. Typical combinations and preferred modes of treatment are as follows:
- Alcohol and stimulant: Treat alcohol abuse.
- Cocaine and opiate: Treat opiate dependence.
- Cocaine and amphetamine: No detoxification protocol is known.

Biomedical	
General Health History	What is the patient's medical and surgical history? Are there any psychiatric or medical conditions? Are there known medication allergies? Is there 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 any medical or psychiatric disorders of immediate concern.
Temperature, Pulse, Blood Pressure	These are important indicators and 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 was used and how frequently?
Urine Toxicology Screen	For commonly abused substances.
Past Substance Abuse Treatments or Detoxification	This should include the course and number of previous withdrawals, as well as any complications that may have occurred.

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Psychosocial	
Demographic Features	Gather information on gender, age, ethnicity, culture, language, and educational level.
Living Conditions	Is the patient homeless or living in a shelter? What is the living situation? 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 medications 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?

Recommended Areas for Assessment to Determine Appropriate Rehabilitation Plans

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Domain	Description
Medical Conditions and Complications	Infectious illnesses, chronic illnesses requiring intensive or specialized treatment, pregnancy, and chronic pain
Motivation/Readiness to Change	Degree to which the client acknowledges that substance use behaviors are a problem and is willing to confront them honestly
Physical, Sensory, or Mobility Limitations	Physical conditions that may require specially designed facilities or staffing
Relapse History and Potential	Historical relapse patterns, periods of abstinence, and predictors of abstinence; client awareness of relapse triggers and craving
Substance Abuse/Dependence	Frequency, amount, and duration of use; chronicity of problems; indicators of abuse or dependence
Developmental and Cognitive Issues	Ability to participate in confrontational treatment settings, and benefit from cognitive interventions and group therapy
Family and Social Support	Degree of support from family and significant others, substance-free friends, involvement in support groups
Co-Occurring Psychiatric Disorders	Other psychiatric symptoms that are likely to complicate the treatment of the substance use disorder and require treatment themselves, concerns about safety in certain settings (note that assessment for co-occurring disorders should include a determination of any psychiatric medications that the patient may be taking for the condition)

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Domain	Description
Dependent Children	Custody of dependent children or caring for noncustodial children and options for care of these children during rehabilitation
Trauma and Violence	Current domestic violence that affects the safety of the living environment, co-occurring posttraumatic stress disorder or trauma history that might complicate rehabilitation
Treatment History	Prior successful and unsuccessful rehabilitation experiences that might influence the decision about type of setting indicated
Cultural Background	Cultural identity, issues, and strengths that might influence the decision to seek culturally specific rehabilitation programs, culturally driven strengths or obstacles that might dictate level of care or setting
Strengths and Resources	Unique strengths and resources of the client and his or her environment
Language	Language or speech issues that make it difficult to communicate, or require an interpreter familiar with substance abuse

Type	Examples	Chemicals in Inhalant
Adhesives	Airplane glue	Toluene, ethyl acetate
	Other glues	Hexane, toluene, methyl chloride, acetone, methyl ethyl ketone, methyl butyl ketone
	Special cements	Trichloroethylene, tetrachloroethylene
Aerosols	Spray paint	Butane, propane (U.S.), fluorocarbons, toluene, hydrocarbons, "Texas shoe shine" (a spray containing toluene)
	Hair spray	Butane, propane (U.S.), chlorofluorocarbons (CFCs)
	Deodorant; air freshener	Butane, propane (U.S.), CFCs
	Analgesic spray	CFCs
	Asthma spray	CFCs
	Fabric spray	Butane, trichloroethane
	PC cleaner	Dimethyl ether, hydrofluorocarbons
Anesthetics	Gaseous	Nitrous oxide
	Liquid	Halothane, enflurane
	Local	Ethyl chloride

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Type	Examples	Chemicals in Inhalant
Cleaning agents	Dry cleaning	Tetrachloroethylene, trichloroethane
	Spot remover	Xylene, petroleum distillates, chlorohydrocarbons
	Degreaser	Tetrachloroethylene, trichloroethane, trichloroethylene
Solvents and gases	Nail polish remover	Acetone, ethyl acetate
	Paint remover	Toluene, methylene chloride, methanol acetone, ethyl acetate
	Paint thinner	Petroleum distillates, esters, acetone
	Correction fluid and thinner	Trichloroethylene, trichloroethane
	Fuel gas	Butane, isopropane
	Lighter	Butane, isopropane
	Fire extinguisher	Bromochlorodifluoromethane
Food products	Whipped cream	Nitrous oxide
	Whippets	Nitrous oxide
"Room odorizers"	Locker Room, Rush, Poppers	Isoamyl, isobutyl, isopropyl or butyl nitrate (now legal), cyclohexyl

Source: Balster, R.L. The pharmacology of inhalants. In: Graham, A.W., Schultz, T.K., Mayo-Smith, M.F., Ries, R.K., and Wilford, B.B., eds. *Principles of Addiction Medicine.* 3d ed. Chevy Chase, MD: American Society of Addiction Medicine, 2003. pp. 295–304.

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Management of Withdrawal From Inhalants

- 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.

Ordering Information

TIP 45

Detoxification and Substance Abuse Treatment

Three Ways to Obtain Free Copies of All TIPs Products

1. Call SAMHSA's National Clearinghouse for Alcohol and Drug Information (NCADI) at **800-729-6686**, TDD (hearing impaired) **800-487-4889**.
2. Visit NCADI's Web site at **www.ncadi.samhsa.gov.**
3. You can also access TIPs online at: **www.kap.samhsa.gov.**

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