Magellan Ambulatory Detoxification Monograph

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I. Ambulatory Detoxification*

The American Society of Addiction Medicine's clinical guide, *ASAM Placement Criteria for the Treatment of Substance-Related Disorders, Second Edition-Revised (ASAM PPC-2R),* notes that "detoxification refers to not only the attenuation of the physiological and psychological features of withdrawal syndrome, but also to the process of interrupting the momentum of compulsive use in persons diagnosed with substance dependence." The ASAM criteria also specify the goals of care in the medical detoxification phase of treatment as: "(1) avoidance of potentially hazardous consequences of discontinuation of alcohol and other drugs of dependence, (2) facilitation of the patient's completion of detoxification and linkages and timely entry into continued medical, addiction or mental health treatment or self-help as indicated, and (3) promotion of patient dignity and easing of patient discomfort during the withdrawal process." (ASAM PPC-2R, 2001, pp.5, 145)

Description and Levels of Intensity

The ASAM criteria define ambulatory detoxification as "an organized outpatient service" delivered in a variety of settings that may be performed *with* and *without* extended onsite monitoring. These distinct levels of service and intensity of treatment are described by ASAM as follows:

Level I-D: Ambulatory Detoxification Without Extended On-Site Monitoring – "Level I-D detoxification is an organized outpatient service, which may be delivered in an office setting, health care or addiction treatment facility, or in a patient's home by trained clinicians who provide medically supervised evaluation, detoxification and referral services according to a pre-determined schedule. Such services are provided in regularly scheduled sessions. Level I-D services should be delivered under a defined set of policies and procedures or medical protocols. Outpatient detoxification services should be designed to treat the patient's level of clinical severity and to achieve safe and comfortable withdrawal from mood-altering drugs (including alcohol) and to effectively facilitate the patient's transition into ongoing treatment and recovery." (ASAM PPC-2R, 2001, p. 145)

Level II-D: Ambulatory Detoxification With Extended Onsite Monitoring –
"Level II-D detoxification is an organized outpatient service, which may be delivered in an office setting, health care or addiction treatment facility by trained clinicians who provide medically supervised evaluation, detoxification and referral services. Level II-D services are provided in regularly scheduled sessions. They are delivered under a defined set of policies and procedures or medical protocols. Outpatient services are designed to treat the patient's level of clinical severity and to achieve safe and comfortable withdrawal from mood-altering drugs (including alcohol) and to effectively facilitate the patient's entry into ongoing treatment and recovery. Essential to this level of care is the availability of appropriately credentialed and licensed nurses (such as registered nurses or licensed practical nurses) who monitor patients over a period of several hours each day of service." (ASAM PPC-2R, 2001, p. 145)

In addition, the ASAM criteria specify "when the focus of care initially is on evaluation to determine the need for more or less intensive services, Level II-D may be provided in a '23-hour bed.' More often, however, this level of detoxification is conducted in addiction specialty treatment facilities and is fully integrated with Level II addiction services that address Dimensions 2 through 6 of the patient's condition. Thus, intensive outpatient and partial hospitalization facilities, or settings where such services are offered, are appropriate for Level II-D detoxification." ASAM criteria use dimensions of assessment as the framework to ensure a comprehensive patient evaluation as follows: (1) Acute Intoxication and/or Withdrawal Potential, (2) Biomedical Conditions and Complications, (3) Emotional, Behavioral or Cognitive Conditions and Complications, (4) Readiness to Change, (5) Relapse, Continued Use or Continued Problem Potential, and (6) Recovery/Living Environment.
(ASAM PPC-2R, 2001, pp. 4, 148)

Magellan concurs with the ASAM PPC-2R (p. 145 et seq.), on characteristics of treatment (i.e., setting, support systems, staff, therapies, assessments/treatment plan review and documentation) described as follows:
For Outpatient Detoxification:

- "This is an organized outpatient service, which may be delivered in an office setting, health care or addiction treatment facility, or in a patient's home by trained clinicians who provide medically supervised evaluation, detoxification and referral services according to a pre-determined schedule. Such services are provided in regularly scheduled sessions. These services should be delivered under a defined set of policies and procedures or medical protocols.

- Outpatient detoxification services should be designed to treat the patient's level of clinical severity and to achieve safe and comfortable withdrawal from mood-altering drugs (including alcohol) and to facilitate the patient's transition effectively into ongoing treatment and recovery.

- There should be the availability of specialized clinical consultation and supervision for medical, emotional, behavioral and cognitive problems. A comprehensive medical history and physical examination of the patient at should be done at admission. There should also be access to psychological and psychiatric consultation

as well as direct affiliation with other levels of care, including specialty addiction treatment, as well as general psychiatric services for additional problems identified through a comprehensive biopsychosocial assessment. There should be the ability to conduct and/or arrange for appropriate laboratory and toxicology tests and 24-hour access to emergency medical services as well as the ability to provide or assist in accessing transportation services.

- Outpatient detoxification treatment should be staffed by physicians and nurses, who need not be present in the treatment setting at all times. (In states where physician assistants or nurse practitioners are licensed as physician extenders, they may perform the duties designated for a physician.) Medical and nursing personnel should be readily available to evaluate and confirm that detoxification in the less supervised setting is relatively safe. The services of counselors, psychologists and social workers may be available through the detoxification program or may be accessed through affiliation with other entities providing outpatient detoxification services. All clinicians who assess and treat patients are able to obtain and interpret information regarding the needs of these persons, and are knowledgeable about the biopsychosocial dimensions of alcohol and other drug dependence. Such knowledge includes the signs and symptoms of alcohol and other drug intoxication and withdrawal, as well as the appropriate treatment and monitoring of these conditions and how to facilitate the individual's entry into ongoing care. Medical consultation is readily available in emergencies.

- Therapies include individual assessment, medication or non-medication methods of detoxification, involvement of family members or significant others in the detoxification process, and discharge or transfer planning. Therapies also may include physician and/or nurse monitoring, assessment and management of signs and symptoms of intoxication and withdrawal.

- Assessments and Treatment Plans include: an addiction-focused history, obtained as part of the initial assessment and reviewed by a physician during the admission process; a physical examination by a physician, physician assistant or nurse practitioner, performed within a reasonable time frame as part of the initial assessment; sufficient biopsychosocial screening assessments to determine the level of care in which the person should be placed and for the individualized care plan to address treatment priorities; an individualized treatment plan, and development of treatment goals and measurable treatment objectives for DSM-IV-TR Axes I - V, as well as activities designed to meet those objectives; daily assessment of progress during detoxification and any treatment changes (or less frequently, if the severity of withdrawal is sufficiently mild or stable); discharge/transfer planning, beginning at admission; and referral arrangements made as needed.

- Documentation which includes progress notes in the patient record that clearly reflect implementation of the treatment plan and the patient's response to treatment, as well as subsequent amendments to the plan; and detoxification rating scale tables and flow sheets (which may include tabulation of vital signs) are used as needed."

For 23-Hour Bed, PHP and IOP:

- "This is organized outpatient service, which may be delivered in an office setting, health care or addiction treatment facility by trained clinicians who provide medically supervised evaluation, detoxification and referral services. These services are provided in regularly scheduled sessions. They are delivered under a defined set of policies and procedures or medical protocols. Outpatient services are designed to treat the patient's level of clinical severity and to achieve safe and comfortable withdrawal from mood-altering drugs (including alcohol) and to effectively facilitate the patient's entry into ongoing treatment and recovery. Essential to this level of care is the availability of appropriately credentialed and licensed nurses (such as registered nurses or licensed practical nurses) who monitor patients over a period of several hours each day of service.

- When the focus of care initially is on evaluation to determine the need for more or less intensive services, these services may be provided in a 23-hour bed. More often, however, this level of detoxification is conducted in addiction specialty treatment facilities and is fully integrated with addiction services that address DSM-IV-TR Axes I – V of the patient's condition. Thus, intensive outpatient and partial hospitalization facilities, or settings where such services are offered, are appropriate for this level of detoxification.

- There should be the availability of specialized clinical consultation and supervision for medical, emotional, behavioral and cognitive problems. A comprehensive medical history and physical examination of the patient should be done at admission. There should also be access to psychological and psychiatric consultation as well as direct affiliation with other levels of care, including specialty addiction treatment, as well as general psychiatric services for additional problems identified through a comprehensive biopsychosocial assessment. There should be the ability to conduct and/or arrange for appropriate laboratory and toxicology tests and 24-hour access to emergency medical services as well as the ability to provide or assist in accessing transportation services.

- These levels of detoxification treatment should be staffed by physicians and nurses who need not be present in the treatment setting at all times. (In states where physician assistants or nurse practitioners are licensed as physician extenders, they may perform the duties designated for a physician.) Medical and nursing personnel should be readily available to evaluate and confirm that detoxification in the less supervised setting is relatively safe. The services of counselors, psychologists and social workers may be available through the detoxification program or may be accessed through affiliation with other entities providing this level of detoxification services. All clinicians who assess and treat patients are able to obtain and interpret information regarding the needs of these persons, and are knowledgeable about the biopsychosocial dimensions of alcohol and other drug dependence. Such knowledge includes the signs and symptoms of alcohol and other drug intoxication and withdrawal, as well as the appropriate treatment and monitoring of these conditions and how to facilitate the individual's entry into ongoing care. Medical consultation is readily available in emergencies.

- Therapies include individual assessment, medication or non-medication methods of detoxification, involvement of family members or significant others in the detoxification process, and discharge or transfer planning. Therapies also may include physician and/or nurse monitoring, assessment and management of signs and symptoms of intoxication and withdrawal.

- Assessments and Treatment Plans include: an addiction-focused history, obtained as part of the initial assessment and reviewed by a physician during the admission process; a physical examination by a physician, physician assistant or nurse practitioner, performed within a reasonable time frame as part of the initial assessment; sufficient biopsychosocial screening assessments to determine the level of care in which the person should be placed and for the individualized care plan to address treatment priorities; an individualized treatment plan, and development of treatment goals and measurable treatment objectives for DSM-IV-TR Axes I - V, as well as activities designed to meet those objectives; daily assessment of progress during detoxification and any treatment changes; discharge/transfer planning, beginning at admission; referral arrangements made as needed; and serial nursing assessments, using appropriate measures of withdrawal.

- Documentation which includes progress notes in the patient record that clearly reflect implementation of the treatment plan and the patient's response to treatment, as well as subsequent amendments to the plan; and, detoxification rating scale tables and flow sheets (which may include tabulation of vital signs) are used as needed."

*Note: Passages shown in quotation marks in the above section have been reprinted with permission from the American Society of Addiction Medicine, Inc.

Parameters Influencing Level of Care Determinations
The provider and clinician reviewer should consider the following parameters when making decisions about level of care:

- **Prior history of withdrawal complications.** If there is a prior history of significant withdrawal complications, such as generalized seizures or delirium tremens, then it is more likely that this individual will require intensive medical and nursing interventions on a 24 hour/day basis or in an experienced ambulatory detoxification facility.

- **Comorbid medical conditions.** If an individual has a chronic stable medical condition that the detoxification process would significantly exacerbate, more intensive medical and nursing supervision and intervention is in order. Additionally, when there is a history of an unstable medical problem (e.g., uncontrolled insulin-dependent diabetes, uncontrolled hypertension), or there is serious organ damage from the substance (e.g., acute alcoholic pancreatitis, hepatic decompensation), then more intensive medical and nursing supervision is indicated.

- **Comorbid behavioral conditions.** Patients who present with significant psychiatric comorbidities, with or without significant detoxification needs, present unique complexities concerning decisions of location of treatment. If the patient has a significant psychiatric disorder such as major depression with suicidal ideation,

combined with minimal detoxification needs, then the location for treatment would most likely be a psychiatric inpatient setting that could also manage the substance detoxification. On the other hand, if the same patient presented with a dangerous level of withdrawal needing intensive medical (non-psychiatric) supervision, then the likely location would be a medical (non-psychiatric) inpatient setting that could accommodate suicidal precautions.

- **Social support system.** Outpatient detoxification is recommended when the patient has a support person(s) capable of assuring that he/she will have transportation to the program. In addition, the support person(s) should not be actively involved in substance abuse.
- **Patient's level of motivation and cooperation.** For patients to effectively participate in outpatient detoxification programs, they must express and exhibit a willingness to adhere to program requirements and expectations.
- **Polysubstance dependence.** The patient abusing more than one substance presents certain challenges in determining the most appropriate level of care for the detoxification process. One of the more important considerations is the actual pattern of substance use preceding entry into the detoxification process. Individuals who are alcohol dependent but only sporadically use benzodiazepines may not have a dependence on the benzodiazepine, and hence may be safely managed on an ambulatory basis, depending on the other parameters. On the other hand, individuals actively dependent on alcohol and benzodiazepines will require an intensive level of medical and nursing supervision and intervention for detoxification and, as a general rule, may require an inpatient level of care.

II. Evaluation and Assessment of the Substance-Dependent Patient

Overview

Purpose

This monograph provides updated information on medical detoxification of patients physiologically dependent on substances of abuse. The goal is to assist providers and Magellan clinician reviewers in the delivery of high quality care for these patients.

Treatment Philosophy

The primary objective of medical detoxification is to provide the patient with a medically safe and comfortable withdrawal from the substance of dependence in the least restrictive setting possible.

Definitions

There is a lack of standardization of the definitions of many terms used in the field of substance abuse treatment. The future Diagnostic and Statistical Manual of Mental Disorders (DSM-V) is attempting to clarify this problem by eliminating the disease categories of Substance Dependence and Substance Abuse and classifying these conditions as Addictions and Related Disorders whereby the severity of these disorders will be determined by

appropriate clinical severity rating scales. (DSM-5 Development, 2010) Until such time, this paper will use the following working definitions:

1. **Physiologic Dependence.** A cellular neuroadaptation to the presence of a specific agent characterized by the development of **tolerance** (the agent produces diminishing biological or behavioral effects such that higher doses are required to achieve the same effects as the individual experienced initially) and **withdrawal** (a predictable constellation of signs and symptoms that result from abrupt removal of the agent).
2. **Substance Dependence.** According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), the essential features of substance dependence is a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues use of the substances despite significant substance-related problems. **Compulsive drug use** by itself, characterized by continued substance use despite significant adverse biopsychosocial consequences, is sufficient to warrant the diagnosis of dependence.
3. **Substance Abuse.** According to the DSM-IV-TR, the essential features of substance abuse is a maladaptive pattern of substance use manifested by recurrent and significant adverse consequences related to the repeated use of substances.
4. **Medical Detoxification.** The process by which an individual who is physiologically dependent on a substance is withdrawn from the substance using medical interventions and supervision. This process most commonly occurs by the gradual administration of decreasing doses (**tapering administration**) of an agent that is **cross-tolerant** (a substance of the same class that can be substituted to prevent withdrawal) to the drug of dependence, or by **symptom-targeted administration** of a cross-tolerant agent (the agent is given only when signs of detoxification are present- see CIWA-Ar, below). The primary objective of medical detoxification is to provide the patient with a medically safe and comfortable withdrawal from the substance of dependence in the least-intensive, least-restrictive setting possible, while at the same time optimizing the patient's acceptance of rehabilitation.
5. **Delirium Tremens (a.k.a. "DTs" or Alcohol Withdrawal Delirium).** A syndrome characterized by the onset of clouding of consciousness, difficulty sustaining attention, disorientation to surroundings and situation, agitation, excessive sweating and autonomic hyperactivity (vital sign instability with tachycardia, elevated blood pressure, and low grade fever) occurring upon the abrupt discontinuation of alcohol. In addition, one may experience hallucinations of a visual and/or tactile nature such as formication ('ants crawling all over me'). The onset of the DTs typically peaks within two days post cessation of alcohol and abates within four to five days. In unusual cases, the onset may not occur for three to five days post cessation and last up to 10 days. While death can occur from severe dehydration due to excessive sweating, this does not occur as frequently as in the past due to modernized treatment facilities.
6. **Alcoholic Hallucinosis.** The occurrence of auditory, visual, and/or tactile hallucinations in a clear sensorium.
7. **Blood Alcohol Level (BAL) or Blood Alcohol Content (BAC).** A quantitative measure of the content of alcohol in the blood as measured in either mg/dl or mg percent (100 mg/dl equals 0.1 mg percent, the limit of legal intoxication in many

states). BAL can be used to assess an individual's level of tolerance to alcohol and predict the relative severity of subsequent withdrawal. For example, an individual with a BAL of 300 mg/dl (0.3 mg percent) who doesn't have slurred speech or a gait disturbance, has a high degree of tolerance and can be expected to experience significant withdrawal symptomatology (400 mg/dl, or 0.4 mg percent would put many into a coma). As a rule of thumb, use of a quart of vodka, a gallon of wine, or a case of beer per day, or findings of a BAL over 150 mg/dl (0.15 mg percent) without external evidence of intoxication, demonstrates tolerance and are likely indicators of alcoholism.

Scope

The National Household Survey on Drug Abuse (NHSDA) is a nationwide survey that looks at the prevalence and incidence of illicit drug, alcohol, and tobacco use. According to the 2009 NHDSA, an estimated 22.5 million people (or 8.9 percent of the population) aged 12 or older were classified with substance dependence or abuse in the past year. Of these, about 3.9 million people were dependent on illicit drugs (and this figure does not take into account those individuals physiologically dependent on prescribed medication) and another 15.4 million people were dependent on alcohol. In addition, 3.2 million people were classified with dependence on or abuse of both alcohol and illicit drugs.

According to studies sponsored by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the White House Office of Drug Control Policy, the total economic costs of alcohol abuse and drug abuse in the United States totaled $328 billion in 1998. Alcohol abuse accounted for 56.3 percent of the total economic costs; 43.7 percent were attributable to drug abuse. More than 55,000 deaths were attributable to substance abuse, 65 percent of them to alcohol. Treatment of alcohol and drug dependence, including resources devoted to the process of medical detoxification, exacts a significant economic toll annually. Total medical costs related to alcohol and drug abuse ($31.8 billion) were approximately two-and-a half times that spent on substance abuse treatment ($12.9 billion)

The DSM-IV identifies 11 distinct classes of substances that can lead to a syndrome of substance dependence. After the release of DSM-IV, there has been more information published on withdrawal syndromes for other classes of substances – i.e., anabolic-androgenic steroids (AAS) and certain club drugs. (Kishner, 2008; Talih et al., 2007; Gahlinger, 2004; TIP 45, 2006) However, only the 10 drugs/classes bolded below are associated with withdrawal phenomena:

• **Alcohol**	• Inhalants
• **Amphetamines**	• **Nicotine**
• **Caffeine**	• **Opioids**
• **Cannabis**	• Phencyclidine

• **Cocaine**	• **<u>Sedative-hypnotics</u>**
• Hallucinogens	• **Club Drugs (i.e., GHB, Rohypnol and Ketamine**)
• **Anabolic-Androgenic Steroids (AAS)**	

Furthermore, of these classes of substances, only two (underlined above) are associated with potentially life-threatening withdrawal syndromes: alcohol and the sedative-hypnotics (benzodiazepines and barbiturates). In the case of alcohol withdrawal, only a small minority (5 percent) of this population will manifest life threatening seizures and/or delirium tremens. Grand mal seizures and delirium occur more frequently in the case of sedative-hypnotic withdrawal (up to 30 percent of high-dose withdrawal cases). Withdrawal from the remaining substances may be uncomfortable and unpleasant to varying degrees, but it is generally not life-threatening. This includes withdrawal from opioids.

Because of life-threatening safety concerns and the varying needs for medical and nursing supervision, the focus of this monograph will be placed on alcohol and sedative-hypnotic withdrawal. Opioid withdrawal also will be discussed due to the fact that there are occasions when medical detoxification is indicated. Withdrawal from other substances causing dependence does not generally require more than an outpatient level of care for safe medical detoxification.

Medical detoxification is not itself a treatment of substance dependence as it does not itself affect the course of the illness. It is merely the first of many interventions that the dependent individual will require to achieve and sustain abstinence.

Patient Evaluation

A. Psychosocial Assessment

1. **Substance Abuse Assessment.** This assessment focuses upon the frequency, quantity, and duration of use of various substances. This assessment also explores prior treatment episodes and responses, periods of abstinence, and circumstances that contribute to abstinence or relapse. This assessment also focuses on prior attempts at withdrawal and whether or not complications occurred. Finally, it explores family history of substance abuse/dependence.
2. **Psychosocial Assessment.** The importance of a psychosocial assessment in the medical detoxification process is primarily to determine the degree of family/significant other support for situations when the detoxification process occurs on a partial hospital or outpatient basis.
3. **Psychiatric Evaluation.** There is a high degree of psychiatric comorbidity associated with drug and alcohol abuse/dependence. Commonly seen are anxiety disorders and depression. What often is not clear is whether the psychiatric

condition is a result of the abuse/dependence (a substance-induced disorder), or would exist on its own.Other psychiatric comorbidities include bipolar disorder and schizophrenia. Individuals with these disorders are known to have higher rates of abuse and dependence than the general population. In addition, they often need specialized and integrated treatment interventions (i.e. - both mental health and substance abuse services).

General Physical Assessment

1. **Physical Examination.** The physical examination is important to determine the existence of potential comorbid medical conditions that might be exacerbated by the withdrawal process or may themselves become the primary focus of treatment requiring admission to a medical unit. Examples of alcohol-associated medical conditions requiring placement on a medical unit include hepatic decompensation (characterized by personality changes, impaired consciousness, hyperreflexia and the Babinski response) and acute pancreatitis (characterized by severe unremitting abdominal pain, nausea and vomiting, diaphoresis, tachycardia, elevations in serum amylase levels, white blood count, aspartate aminotransferase, and blood urea nitrogen).Of course, it is also important to assess physical signs of dependence and withdrawal (see below).
2. **Laboratory.** Urine drug screens (UDS) and BALs are important in identifying, and even quantifying, the substance(s) an individual may be taking but not divulging in an accurate history.

C. Sign and Symptoms of Withdrawal

1. **Clinical Institute Withdrawal Assessment for Alcohol, revised (CIWA-Ar).** This clinical assessment tool is a 10-item quantitative measure of both objective and subjective criteria that assists the clinician in making decisions about pharmacologic interventions. The CIWA-Ar, or other equivalently valid and reliable withdrawal assessment instrument, should be a standard part of any medically supervised alcohol detoxification program. As a general rule, CIWA-Ar scores of 10 or less do not require pharmacologic interventions. However, patients with a past history of withdrawal symptoms may be in the process of going into withdrawal while their symptoms are still minimal. Therefore, initiating medications to prevent severe withdrawal may be warranted prior to the intensification of symptoms.
2. **Clinical Opiate Withdrawal Scale (COWS).** An 11-item clinician-administered instrument used to assess a patient's level of opioid withdrawal and to make inferences about their level of physical dependence on opioids. The COWS, or other equivalently valid and reliable withdrawal assessment instruments, should be used to determine the appropriateness of office-based or other opioid agonist treatment as part of a comprehensive patient assessment.

III. Management of the Alcohol/Sedative-Hypnotic-Anxiolytic Withdrawal Syndrome in the Ambulatory Setting

Substance-Specific Signs and Symptoms

1. **Alcohol.** Withdrawal symptoms typically are triggered by the discontinuation of alcohol, but also may occur during drops in the BAL (so they may be seen even during continued alcohol consumption). Early signs and symptoms of mild to moderate alcohol withdrawal include anxiety, tremulousness, general irritability, nausea and vomiting occurring several hours after the last drink. Most individuals (95 percent) experience only mild to moderate withdrawal. These early symptoms can progress into tachycardia and hypertension. If these develop, vital signs should be continuously monitored. In less than 5 percent of cases, these symptoms can progress into delirium tremens, hallucinosis, or generalized seizures.

2. **Sedative-Hypnotics.** Although this group also includes barbiturates, this monograph will focus exclusively on the benzodiazepines as they are much more likely to be the reason an individual is seeking detoxification. Benzodiazepine withdrawal is of two types:

    a) **Low-dose benzodiazepine withdrawal (a.k.a. benzodiazepine discontinuation syndrome).** Occurs in individuals taking therapeutic dosages over an extended period of time. Many individuals can discontinue therapeutic doses of benzodiazepines without withdrawal symptoms. In those who develop withdrawal symptoms, onset occurs between one and seven days and can include agitation, anxiety, tachycardia, palpitations, anorexia, blurred vision, insomnia, nightmares, confusion, muscle spasms, paresthesias, and in some cases, psychosis. Some individuals develop a protracted withdrawal syndrome with symptoms that can wax and wane in intensity over several months.

    b) **High-dose benzodiazepine withdrawal.** Occurs in individuals taking higher than therapeutic doses over a period of at least a month. Onset begins one to two days after discontinuation of a short-acting benzodiazepine, and three to eight days after a long-acting benzodiazepine is discontinued. Symptoms can include anxiety, insomnia, nightmares, generalized seizures, psychosis, fever, and death.

3. **Opioids.** For short-acting opioids, like heroin, the onset of withdrawal generally begins with anxiety and craving about eight to 10 hours after discontinuation. This progresses to dysphoria, yawning, lacrimation, rhinorrhea, perspiration, restlessness, and insomnia. This is then followed by piloerection, hot and cold flashes, bone and muscle aches, muscle spasms (from which "kicking the habit" is derived), nausea, vomiting, diarrhea, abdominal cramps, weight loss, and low-grade fever. These symptoms peak within 36 to 72 hours and usually abate within five days. With longer-acting opioids, (methadone), symptoms are generally milder, peak between four and six days and abate within 10 to 12 days.

Treatment

A. General Principles of Medical Detoxification. Because the purpose of this monograph is to give a concise overview of medical detoxification, it does not go into great detail about specific detoxification protocols. Instead, it addresses the topic in more general terms:

Detoxification from Alcohol

Ideally, treatment interventions are guided by quantitative measures of withdrawal, like the CIWA-Ar. Individual level-of-care determinations have to be made using a variety of factors in the patient's entire clinical picture. However, general guidelines for the use of the CIWA-Ar follow. Individuals with CIWA-Ar scores below 10 may not need pharmacologic interventions and may usually be managed on an outpatient basis. CIWA-Ar scores between 10 and 20 usually require pharmacologic intervention and medical/nursing supervision, which may or may not be able to be managed on a less than 24 hour/day basis. CIWA-Ar scores of 20 or higher are candidates for consideration for a hospital level of medical detoxification.

- **Treatment with Benzodiazepines.** These medications are the most commonly used pharmacologic agents used to treat alcohol withdrawal. Diazepam, chlordiazepoxide and lorazepam are the most frequently used benzodiazepines to treat alcohol disorders and are equally efficacious. There are two basic approaches to the use of benzodiazepines:
  - *Fixed-schedule, tapering dosage method* - as the name indicates, the benzodiazepine is given at specified times throughout the day with the actual dosage of the benzodiazepine being decreased over time as the symptoms of alcohol withdrawal wane. For example, the physician may order 50 mg of chlordiazepoxide to be given twice daily for one day, followed by 25 mg of chlordiazepoxide given three times daily for two days, followed by 25 mg given twice daily for one or two days, and the last dosage of 25 mg to be given on the morning of the fifth or sixth day. In addition, prn dosages (25-50 mg) are written in case the fixed dosage regimen is not sufficient to control withdrawal symptoms.
  - *Symptom-targeted method* - the benzodiazepine is given only when symptoms warrant its administration (as determined by vital sign monitoring or CIWA-Ar scores, etc.). An article published in JAMA, vol. 278, No. 2, 1997 by Mayo-Smith titled "Pharmacological Management of Alcohol Withdrawal, A Meta-Analysis and Evidence-Based Practice Guideline," identifies this method as being preferable since significantly less medication is given over a significantly shorter time frame than in the tapering method.
- **Phenobarbital.** Prior to the availability of benzodiazepines, phenobarbital was perhaps the standard agent used for alcohol withdrawal. Although an acceptable substitute for benzodiazepines, it is rarely used any longer for alcohol withdrawal except in certain cases where resistant patients do not

respond to large doses of benzodiazepines. (McKeown, et al., 2010; Haynor et al., 2009; Gold et al, 2007)

- **Anticonvulsants.** Carbamazepine, gabapentin and valproic acid can be used as alternatives to benzodiazepines when withdrawal symptoms are mild to moderate (CIWA < 15). Carbamazepine has been successfully used in Europe for many years but has not been used widely in the United States due to the safety, efficacy and familiarity of benzodiazepines. Carbamazepine is superior to benzodiazepines in preventing rebound withdrawal symptoms and reducing post-treatment drinking. While shown to be effective for patients with a history of multiple withdrawal attempts, it is less useful in older patients or those with multiple medical problems because it interferes with medications that undergo hepatic oxidation metabolism. Valproic acid significantly affects the course of withdrawal and reduces the need for treatment with a benzodiazepine, but significant side effects (somnolence, GI disturbances, confusion and tremor) may limit its use. (Zullino et al., 2004; Gentry et al., 2002)

- **Other medications.** Alpha-adrenergic agonists, beta-blockers and calcium channel blockers have been used to control symptoms of acute alcohol withdrawal, but have demonstrated little efficacy in the prevention of seizures or DTs.

Detoxification from Benzodiazepines

- **Low-dose withdrawal.** Although the medication can sometimes be tapered quickly with minimal discomfort, it is not uncommon for the tapering process to require from one to four weeks.

- **High-dose withdrawal.** There are three general approaches:

  1) Substitute a long-acting benzodiazepine and taper it over two to six weeks – the favored regimen.

  2) Taper the dosage of the original agent of dependence; or

  3) Convert the dosage of the benzodiazepine in question into phenobarbital equivalents (tables exist for this purpose), and gradually withdraw the phenobarbital. Once the patient is stabilized on the phenobarbital, the dose is initially decreased by 30 mg weekly. After a daily dose of 60 or 90 mg is reached, subsequent reductions of 15 mg weekly are made. Individualization of this taper schedule is very important – acceleration or slowing of the taper should be considered depending on patient response. The movement, however, should be toward discontinuation rather than a permanent plateauing of the dose. (Schatzberg et al., 2010; McKeown et al., 2010; TIP No.45, 2006).

IV. Management of the Opioid Withdrawal Syndrome in the Ambulatory Setting

Detoxification from Opioids. The FDA defines two types of detoxification: short-term (less than 30 days in duration) and long-term (greater than 30 but less than 180 days in duration). We will focus on short-term detoxification, as long-term detoxification is essentially a slow tapering of methadone over 180 days.

- **Methadone tapering.** Individuals are given methadone up to 40 mg/day and dosages are decreased by 5 mg per day. The initial dose of methadone is usually 10 mg to 20 mg, and should not exceed 30 mg. On an inpatient basis, this process occurs over five to 10 days, but can be extended over a longer period on an outpatient basis to further minimize withdrawal symptoms and increase the likelihood of retention in the detoxification process.

- **Clonidine.** In this approach, the opioid is abruptly discontinued. As withdrawal symptoms emerge, they are attenuated by the administration of the alpha-adrenergic agonist, clonidine. Doses of 0.4 mg to 1.2 mg/day or higher reduce many of the autonomic components of the opioid withdrawal syndrome, but symptoms such as insomnia, lethargy, muscle aches and restlessness may not be adequately managed. Compared with methadone-aided withdrawal, clonidine has more side effects, especially hypotension, but is less likely to lead to post-withdrawal rebound.

- **Clonidine/Naltrexone (a.k.a. rapid opioid detoxification, or ROD).** This method combines a rapid, precipitated withdrawal by naltrexone producing severe withdrawal symptoms, with high doses of clonidine and benzodiazepines administered before and after the naltrexone to ameliorate the symptoms. While shortening the withdrawal to two to three days, evidence is lacking of longer abstinence or naltrexone retention.

- **Anesthesia/Naltrexone (a.k.a. ultra rapid opioid detoxification, or UROD).** The individual is anesthetized and while unconscious is given naltrexone, which initiates immediate withdrawal. When the individual is awakened, the acute withdrawal process is complete. Internationally, over a dozen deaths have been reported usually within 72 hours of this procedure with pulmonary edema a common complication. (Important: This procedure has been determined by Magellan to be an unproven technology with a recommendation to abandon use of this procedure due to significant patient safety concerns).

- **Buprenorphine.** Buprenorphine is a partial opioid agonist. Buprenorphine-containing agents are substituted for methadone or other opioids, a process that can be completed in as brief a period as three days. Detoxification is then accomplished by the tapering of buprenorphine. The subsequent withdrawal from buprenorphine is mild in nature and much better tolerated than withdrawal from a full opioid agonist, like methadone. On October 8, 2002, the FDA approved two sublingual agents containing buprenorphine. The first, **Subutex**, contains buprenorphine alone and is intended for patients who are pregnant or are nauseated by Suboxone. The second agent,

Suboxone, contains naloxone in addition to buprenorphine, and can be used for detoxification or for maintenance treatment of opioid addiction.

- **Naloxone.** Since naloxone antagonizes, or blocks, the effects of opioids when injected (naloxone is not effective when ingested orally), it is intended to minimize illegal diversion of the agent. Specifically, if a tablet containing buprenorphine plus naloxone is taken as directed (i.e., sublingually), the patient will experience a predominant buprenorphine effect. However, if an opioid-dependent individual dissolves and injects the combination tablet, then the antagonist effect of naloxone predominates because of its high parenteral bioavailability. Under such circumstances, the individual should experience a precipitated withdrawal syndrome. This should decrease the likelihood of misuse and abuse of the combination tablet by the injection route. One of the principle rationales for the recent introduction of these agents is to enable qualified physicians to conduct opioid detoxification (and maintenance, when appropriate) in their private offices (office-based opioid treatment, or OBOT). The intent is to increase access and availability of treatment to individuals requiring opioid detoxification while decreasing the stigmatization of the process.

  The Treatment Improvement Protocol (TIP) developed by the Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration (SAMHSA) - *Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addition (2004)* provides guidance to physicians on the office-based buprenorphine treatment of opioid dependence. The TIP consensus panel recommends that the buprenorphine/naloxone combination be used for induction treatment and stabilization/maintenance for most patients. However, pregnant women who are determined to be appropriate candidates for buprenorphine should be inducted and maintained on buprenorphine monotherapy. In addition, patients who desire to change from long-acting opioids to buprenorphine should be inducted using buprenorphine monotherapy before switching to combination buprenorphine/naloxone treatment for stabilization, tapering and discontinuance. Patients may initially request buprenorphine detoxification and then subsequently change their minds a few weeks later and request maintenance. This may not be an unreasonable request since the rate of relapse post-withdrawal is high. As buprenorphine is becoming more widely used, it has been noted that it is relatively easy to detoxify *with* buprenorphine than it is to detoxify *from* it. Therefore, withdrawal should not exceed 2-3 weeks, if maintenance is not the ultimate goal.

- **Buprenorphine Monotherapy Dosing:** (1) At induction, the patient should be in withdrawal off short-acting opioids for at least 12 to 16 hours; for long-acting ones at least 36 hours. (2) The initial dose is 2 mg to 4 mg; a second dose is given one hour later and then 4 mg given six to eight hours later. For patients with high tolerances and in withdrawal, these dosages may not be adequate requiring 24 mg on the first day. (3) If any dose worsens withdrawal symptoms, the buprenorphine should be temporarily halted and the symptoms treated with a dose of oral clonidine 0.1 mg to 0.2 mg. (4) By day

two or three, a dose of 12 to 16 mg is usually reached and resolves most withdrawal symptoms. (5) The usual maintenance dose of buprenorphine is 16 to 24 mg/day (although some patients are comfortable at 8 to 12 mg and others need 24 to 32 mg). (Ang-Lee et al., 2006; Hopper et al. 2005)

- **Combination Buprenorphine/Naloxone Dosing:** (1) An initial 4/1 mg dose of buprenorphine/naloxone is recommended and can be followed in two to four hours with a second dose of 4/1 mg. (2) Over the next two days, the dose of buprenorphine/naloxone should be increased to 12/3 to 16/4 mg per day, up to a maximum dose of 32/8 mg, if the patient shows continued withdrawal symptoms (3) The dose-reduction phase begins only after the patient has completely discontinued use of illicit opioids. (4) Detoxification takes place over a 10 to 14 day period, usually by gradually decreasing the initial stabilization dose by 2 mg every two to three days for a moderate-period reduction. (5) Short-period dose reduction is not generally recommended, but may be done over three days for patients with a compelling reason to achieve an opioid-free state quickly.

V. Management of Withdrawal from Other Substances in the Ambulatory Setting

Detoxification from Stimulants (cocaine and amphetamines). Stimulants, including cocaine, amphetamine and their various forms, are among the most common drugs of abuse in the United States. The U.S. National Institute on Drug Abuse (NIDA) estimates that at least 1 percent to 2 percent of the population currently abuses cocaine but that rates of amphetamine abuse are lower. Stimulant overdose or abuse represents a fairly common reason for emergency room visits and hospitalization in urban settings. In general, stimulant withdrawal does not directly cause life-threatening symptoms, seizures or delirium and no medications have been developed specifically for this purpose. Stimulant withdrawal syndrome is treated by observation alone, does not generally require any specific medications and a tapered withdrawal is not necessary. (Schatzberg et al., 2010; McKeown et al., 2010)

Patients who have been taking stimulants in large amounts (e.g., more than 50 mg of D-amphetamine or several doses of cocaine per day) often have a withdrawal syndrome consisting of the following: (1) depression, (2) fatigue, (3) hypersomnia, (4) anxiety, (5) irritability, (6) poor concentration, (7) psychomotor retardation, (8) increased appetite, (9) paranoia, and (10) drug craving. These symptoms often disappear after several days of stimulant abstinence but can persist for three to four weeks. Additionally, it is felt that the depression experienced by amphetamine users is more intense and they should be monitored closely during detoxification for signs of suicidality. (McKeown et al., 2010; TIP 45, 2006)

Stimulant withdrawal is not usually associated with medical complications. However, patients with recent cocaine use can experience persistent cardiac complications including prolonged QTc interval and vulnerability for arrhythmia and myocardial infarction. Therefore, it is recommended that anterior chest pain or cardiac symptoms

should be fully evaluated in these individuals. Similarly, persistent headaches should also be evaluated to rule out subdural, subarachnoid or intracerebral bleeding.

Finally, careful observation is warranted since these individuals may also be addicted to other substances and could be experiencing withdrawal symptoms from these other drugs – e.g., alcohol, sedatives or opioids.

Detoxification from Marijuana. Marijuana and hashish contain the ingredient THC (*delta-9-tetrahydro-cannabinol*) which may be associated with a withdrawal syndrome when there is a cessation of usage after a prolonged period of time. Currently, cannabis withdrawal is not included as a diagnosis in the Diagnosis and Statistical Manual of Mental Disorders IV (DSM-IV) but there is now a considerable amount of research supporting a withdrawal syndrome. In the current draft of DSM-V, the recommendation is made to establish a new diagnostic category for Cannabis Withdrawal. (DSM-5 Development, 2010; TIP 45, 2006)

THC abstinence syndrome usually starts within 24 hours of cessation. After a review of the clinical literature, Budney et al. proposed the following cannabis withdrawal syndrome criteria where common symptoms include: (1) anger or aggression, (2) decreased appetite, (3) irritability, (4) nervousness/anxiety, (5) restlessness, and (6) sleep difficulties including strange dreams. Other less common symptoms for cannabis withdrawal include: chills, depressed mood, stomach pain, shakiness and sweating. (Budney et al, 2004)

There are no medical complications of withdrawal from THC and medication is generally not required to manage withdrawal. There has been some reported success in using oral THC in a tapering schedule to decrease marijuana craving during abstinence but not as a relapse prevention drug. (Haney 2005) Generally, symptoms during the detoxification period are self-limiting but clinicians should observe for mental health problems including suicidal ideation. It is recommended that common problems in withdrawal be managed with non-addictive medications such as buspirone for persistent anxiety and trazodone for persistent sleeplessness.

Detoxification from Hallucinogens. Hallucinogens or psychedelics are drugs whose main effects are increased perceptual sensitivity, derealization, visual illusions and hallucinations and include LSD, mescaline, psilocybin and related drugs. There are known instances where the drug-induced perceptual changes are associated with a frank panic reaction ("bad trip"), depression or paranoid ideation. Users feel the effects of LSD within 30 to 90 minutes after ingestion and the effects last up to 12 hours. Though tolerance to LSD develops rapidly, it does not produce compulsive drug-seeking behavior that is seen with other addictive drugs, such as crack or heroin. Withdrawal syndromes have not been reported with these drugs but there are residual effects such as delayed perceptual illusions with anxiety ("flashbacks"), psychotic symptoms and long-term cognitive impairment. Medical detoxification is not necessary. (Schatzberg et al., 2010)

Acute intoxication and bad trips are managed by placing the individual in a protective, quiet and non-stimulating environment with direct supervision in order to keep the

patient from self-harm or hurting others. Patients who are experiencing hallucinogenic hallucinosis associated with panic should be talked down. Benzodiazepines (i.e., diazepam 10-20 mg) are used to decrease anxiety and allow the patient to sleep during the worst effects of the hallucinogen. Antipsychotics are no longer used because their anticholinergic effects can exacerbate the hallucinosis. (TIP 45; Schatzberg et al., 2010)

Detoxification from Phencyclidine (PCP). Originally developed as an anesthetic, PCP is no longer used or manufactured in the United States due to the unusually high incidence of psychotic symptoms experienced by those who ingest it. PCP is classified as a sympathomimetic dissociative anesthetic because the user feels his/her mind is separated from the body. It is common for PCP to be sold as LSD, THC or some other designer hallucinogen on the street. PCP withdrawal is very rare and no detoxification is necessary other than controlling the symptoms of intoxification. (TIP 45; Schmetzer et al., 2009; Schatzberg, 2010).

Good medical care requires that these users be hospitalized due to their high risk of violence to self and/or others during the drug-induced psychosis. Patients with acute intoxification to PCP may also present with hallucinations, delusions and manic behavior. Once the diagnosis is established, the treatment of choice is generally considered to be benzodiazepine tranquilization - i.e., starting at 10 mg, titrating diazepam until the patient is sufficiently sedated. Others recommend managing the agitation and violent behavior with high potency antipsychotics alternated with benzodiazepines. Also, it is important to monitor respiratory status along with frequent assessment of mood and cognitive effects. The behavioral management should occur in a controlled environment with limited stimuli and very close supervision. (TIP 45; Schmetzer et al., 2009; Schatzberg, 2010).

Detoxification from Volatile Substances (inhalants). Inhalants are a large and varied group of psychoactive substances that are inhaled for their specific effects – a short-lived "high" or "head rush" and loss of inhibition. Inhalants are commonly found in household, industrial and medical products such as adhesives (e.g., glue, cement), aerosols (e.g., hairspray, spray paint, air fresheners), anesthetics (e.g., nitrous oxide, halothane, ethyl chloride) and cleaning agents (e.g., dry cleaning and degreasing agents). Nitrates are used not only for their short-term intoxicating effects, but are also used to enhance sexual pleasure through vasodilation.

Inhalants do not cause any serious degree of physical dependence and withdrawal symptoms are uncommon. Intoxification with solvent, aerosols and gases can produce a syndrome similar to alcohol intoxication while some patients may exhibit symptoms more similar to sedative withdrawal. There is no specific detoxification protocol. (TIP 45) Recent research has identified an inhalant withdrawal syndrome with non-specific symptoms of irritability, insomnia and craving that has responded to baclofen. (Muralidharan et al., 2008)

Detoxification from Club Drugs. The most prominent "club drugs" are ***MDMA*** (3, 4-methy-lenedioxymethamphetamine), ***GHB*** (gamma-hydroxybutyrate); ***Rohypnol*** (flunitrazepam) and ***Ketalar*** (ketamine). They are known by this moniker because they are used at dance parties, raves and nightclubs in order to intensify social experiences by

giving a reported sense of physical closeness, empathy and euphoria. (Gahlinger, 2004; TIP 45)

- **MDMA or "ecstasy"**– This drug is structurally similar to the stimulant, amphetamine, and the hallucinogen, mescaline, without being addictive or causing psychosis. A high portion of MDMA pills are adulterated with substances such as caffeine, dextromethorphan, pseudoephedrine or other hallucinogens. The focus of clinical intervention is to manage the complications of intoxication and overdose but not withdrawal. Adverse effects of MDMA ingestion result in sympathetic overload (i.e., tachycardia, mydriasis, diaphoresis, tremor, hypertension, arrhythmias, parkinsonism, esophoria and urinary retention). The most serious side effect is hyperthermia and the associated "serotonin syndrome" as manifested by grossly elevated core body temperature, rigidity, myoclonus and autonomic instability. This can result in end-organ damage, rhabdomyolysis, acute renal failure, hepatic failure, adult respiratory distress syndrome and coagulopathy.
- **GHB** – This drug is a sedative-hypnotic and is easily manufactured from industrial and internet websites that offer instruction for home production and sell kits with the requisite materials. GHB overdose syndromes require airway and respiratory management. Chronic use of GHB may produce dependence and a withdrawal syndrome that includes anxiety, insomnia, tremor and, in severe cases, treatment-resistant psychoses. The withdrawal syndrome for GHB has the prolonged duration of symptoms as found in benzodiazepine withdrawal and delirium tremens appear early with peak manifestations occurring within 24 hours.Confusion, psychosis and delirium are the most prominent features of GHB withdrawal and the autonomic effects (i.e., tremor, diaphoresis, hypertension and tachycardia) are less severe than in alcohol withdrawal.The delirium may last up to 14 days. Mild cases of GHB withdrawal may be managed with benzodiazepines and supportive care. However, more severe withdrawal requires high doses of intravenous benzodiazepines or barbiturates.
- **Rohypnol or the "date rape" drug** – This drug is a benzodiazepine with 10 times the potency of diazepam which reduces anxiety, inhibition and muscular tension. Higher doses produce anterograde amnesia, lack of muscular control and loss of consciousness. The drug is frequently consumed along with alcohol or other sedating drugs. The withdrawal syndrome includes headache, tension, anxiety, restlessness, muscle pain, photosensitivity, numbness and tingling of the extremities and increased seizure potential. The principles of benzodiazepine withdrawal management apply for this drug along with administering its specific antidote, flumazenil.
- **Ketamine** – This drug was derived from PCP for use as a dissociative anesthetic without respiratory depression. Ketamine can cause bizarre ideations and hallucinations, which limited its medical use but appealed to recreational drug users. Other side effects that are considered desirable by drug abusers are sensations of floating outside the body, visual hallucinations and a dream-like state. Some chronic users become addicted and exhibit severe withdrawal symptoms that require detoxification. There is no current established protocol to manage withdrawal symptoms should they occur, but benzodiazepines may be administered.

There is no standard treatment regimen for club drug overdose. However, basic clinical management should include: (1) cardiac monitoring, (2) pulse oximetry, (3) laboratory tests - urinalysis/chemistry panel/toxicology screen, (4) seizure precautions, and (5) protection from self-injury and escape. Additionally, gastric lavage should be considered if ingestion occurred within less than one hour. Usually diazepam is used to manage anxiety or agitation with MDMA or ketamine and flumazenil for the depressant Rohypnol. (Gahlinger, 2004). All other medical complications such as severe hypertension, hyperthermia, serotonin syndrome and rhabdomyolysis must be managed in accordance with facility guidelines and as per medical discretion.

Detoxification from Anabolic-Androgenic Steroids (AAS). It is estimated that among men admitted to substance abuse facilities, some 13 percent had a history of anabolic-androgenic steroid use, while 25 percent of opiate users report earlier steroid use from treating excessive pain due to athletic training. However, steroid abusers rarely seek help because some of their behavioral effects are often seen as helpful to performance in sports and athletic training. Addiction to AAS has generally been described as a psychic addiction. Nevertheless, withdrawal effects do occur after stopping their usage, suggesting a physical addiction. Withdrawal symptoms include depression, fatigue, paranoia, suicidal thoughts/feelings along with a strong desire to continue abusing AASs even when facing negative consequences. (Kishner, 2008; Talih et al., 2007)

The psychiatric effects of anabolic-androgenic steroids include depression, mania, psychosis, aggression and insomnia. Treatment of psychiatric effects begins with stopping the steroids. One recommended protocol suggests tapering off high doses of steroids by substituting testosterone enanthate in gradually decreasing doses. Clonidine may also help in treating steroid withdrawal for their opiate-like withdrawal mechanism. A short course of an antipsychotic medication may be used to treat mania and psychosis, and benzodiazepines may be used to control symptoms of panic or anxiety. (Fernandez et al., 2009; Talih et al., 2007)

Clinical Institute Withdrawal Assessment of Alcohol Scale, Revised (CIWA-Ar)

Patient:_____ Date: _____ Time: _____ (24 hour clock, midnight = 00:00)

Pulse or heart rate, taken for one minute:_____ Blood pressure:_____

NAUSEA AND VOMITING -- Ask "Do you feel sick to your stomach? Have you vomited?" Observation.

0 no nausea and no vomiting
1 mild nausea with no vomiting
2
3
4 intermittent nausea with dry heaves
5
6
7 constant nausea, frequent dry heaves and vomiting

TACTILE DISTURBANCES -- Ask "Have you any itching, pins and needles sensations, any burning, any numbness, or do you feel bugs crawling on or under your skin?" Observation.

0 none
1 very mild itching, pins and needles, burning or numbness
2 mild itching, pins and needles, burning or numbness
3 moderate itching, pins and needles, burning or numbness
4 moderately severe hallucinations
5 severe hallucinations
6 extremely severe hallucinations
7 continuous hallucinations

TREMOR -- Arms extended and fingers spread apart. Observation.

0 no tremor
1 not visible, but can be felt fingertip to fingertip
2
3
4 moderate, with patient's arms extended
5
6
7 severe, even with arms not extended

AUDITORY DISTURBANCES -- Ask "Are you more aware of sounds around you? Are they harsh? Do they frighten you? Are you Hearing anything that is disturbing to you? Are you hearing things you know are not there?" Observation.

0 not present
1 very mild harshness or ability to frighten
2 mild harshness or ability to frighten
3 moderate harshness or ability to frighten
4 moderately severe hallucinations
5 severe hallucinations
6 extremely severe hallucinations
7 continuous hallucinations

PAROXYSMAL SWEATS -- Observation.

0 no sweat visible
1 barely perceptible sweating, palms moist
2
3
4 beads of sweat obvious on forehead
5
6
7 drenching sweats

VISUAL DISTURBANCES -- Ask "Does the light appear to be too bright? Is its color different? Does it hurt your eyes? Are you seeing anything that is disturbing to you? Are you seeing things you know are not there?" Observation.

0 not present
1 very mild sensitivity
2 mild sensitivity
3 moderate sensitivity
4 moderately severe hallucinations
5 severe hallucinations
6 extremely severe hallucinations
7 continuous hallucinations

ANXIETY -- Ask "Do you feel nervous?" Observation.

0 no anxiety, at ease
1 mild anxious
2
3
4 moderately anxious, or guarded, so anxiety is inferred
5
6
7 equivalent to acute panic states as seen in severe delirium or acute schizophrenic reactions

HEADACHE, FULLNESS IN HEAD -- Ask "Does your head feel different? Does it feel like there is a band around your head?" Do not rate for dizziness or lightheadedness. Otherwise, rate severity.

0 not present
1 very mild
2 mild
3 moderate
4 moderately severe
5 severe

AGITATION -- Observation.
0 normal activity
1 somewhat more than normal activity
2
3
4 moderately fidgety and restless
5
6
7 paces back and forth during most of the interview, or constantly thrashes about

ORIENTATION AND CLOUDING OF SENSORIUM -- Ask "What day is this? Where are you? Who am I?"
0 oriented and can do serial additions
1 cannot do serial additions or is uncertain about date
2 disoriented for date by no more than 2 calendar days
3 disoriented for date by more than 2 calendar days
4 disoriented for place/or person

Total **CIWA-Ar** Score _____
Rater's Initials _____
Maximum Possible Score 67

 This assessment for monitoring withdrawal symptoms requires approximately 5 minutes to administer. The maximum score is 67 (see instrument). Patients scoring less than 10 do not usually need additional medication for withdrawal.

Sullivan, J.T.; Sykora, K.; Schneiderman, J.; Naranjo, C.A.; and Sellers, E.M. Assessment of alcohol withdrawal: The revised Clinical Institute Withdrawal Assessment for Alcohol scale (**CIWA-Ar**). *British Journal of Addiction* 84:1353-1357, 1989.

OPIATE WITHDRAWAL SIGNS AND SYMPTOMS

Objective Signs (observable and not easily feigned)	***Subjective Symptoms*** (not directly observable and easily feigned)
• Increased blood pressure	• Nausea
• Increased pulse rate	• Muscle (bone) aches
• Increased temperature	• Abdominal (stomach) cramps
• Piloerection (gooseflesh)	• Irritability
• Increased pupil size	• Anorexia
• Rhinorrhea	• Weakness/tiredness
• Lacrimation	• Restlessness
• Tremor	• Headache
• Insomnia	• Dizziness/lightheadedness
• Diarrhea	• Sneezing
• Vomiting (sometimes may be self-induced)	• Hot or cold flashes
	• Drug craving

Clinical Opiate Withdrawal Scale

For each item, circle the number that best describes the patient's signs or symptoms. Rate on just the apparent relationship to opiate withdrawal. For example, if heart rate is increased because the patient was jogging just prior to assessment, the increase pulse rate would not add to the score.

Patient's Name:_____ Date and Time ____/_____/____:_____

Reason for this assessment

_____

Resting Pulse Rate: _____beats/minute *Measured after patient is sitting or lying for one minute* 0 pulse rate 80 or below 1 pulse rate 81-100 2 pulse rate 101-120 4 pulse rate greater than 120	**GI Upset**: *over last ½ hour* 0 no GI symptoms 1 stomach cramps 2 nausea or loose stool 3 vomiting or diarrhea 5 multiple episodes of diarrhea or vomiting
Sweating: *over past ½ hour not accounted for by room temperature or patient activity.* 0 no report of chills or flushing 1 subjective report of chills or flushing 2 flushed or observable moistness on face 3 beads of sweat on brow or face 4 sweat streaming off face	**Tremor** *observation of outstretched hands* 0 no tremor 1 tremor can be felt, but not observed 2 slight tremor observable 4 gross tremor or muscle twitching
Restlessness *Observation during assessment* 0 able to sit still 1 reports difficulty sitting still, but is able to do so 3 frequent shifting or extraneous movements of legs/arms 5 unable to sit still for more than a few seconds	**Yawning** *Observation during assessment* 0 no yawning 1 yawning once or twice during assessment 2 yawning three or more times during assessment 4 yawning several times/minute
Pupil Size 0 pupils pinned or normal size for room light 1 pupils possibly larger than normal for room light 2 pupils moderately dilated 5 pupils so dilated that only the rim of the iris is visible	**Anxiety or Irritability** 0 none 1 patient reports increasing irritability or anxiousness 2 patient obviously irritable anxious 4 patient so irritable or anxious that participation in the assessment is difficult
Bone or Joint Aches *If patient was having pain previously, only the additional component attributed to opiates withdrawal is scored* 0 not present 1 mild diffuse discomfort 2 patient reports severe diffuse aching of joints/ muscles 4 patient is rubbing joints or muscles and is unable to sit still because of discomfort	**Gooseflesh Skin** 0 skin is smooth 3 piloerection of skin can be felt or hairs standing up on arms 5 prominent piloerection
Runny Nose or Tearing *Not accounted for by cold symptoms or allergies* 0 not present 1 nasal stuffiness or unusually moist eyes 2 nose running or tearing 4 nose constantly running or tears streaming down cheeks	Total Score _____ The total score is the sum of all 11 items Initials of person completing assessment: _____

Score: 5-12 = mild; 13-24 = moderate; 25-36 = moderately severe; more than 36 = severe withdrawal

 Reference: Wesson DR, Ling W. The Clinical Opiate Withdrawal Scale (COWS). J Psychoactive Drugs 2003; 35(2):253-259.

SEDATIVE-HYPNOTIC-ANXIOLYTIC WITHDRAWAL SIGNS AND SYMPTOMS

Objective Signs	Subjective Symptoms
• Tremors	• Weakness
• Hyperreflexia	• Anorexia, nausea
• Agitation	• Irritability
• Hypertension	• Anxiety, restlessness
• Tachycardia	• Headache
• Insomnia	• Muscle aches
• Vomiting	• Depression
• Diaphoresis	• Tinnitus
• Cognitive impairment (memory loss, decreased ability to concentrate)	• Depersonalization
	• Paranoid delusions
• Seizures	• Hypersensitivity to touch, light, sound

ALCOHOL CALCULATIONS

(1.5 OZ. ALCOHOL = PHENOBARBITAL 30 MG)

TYPE OF DRINK	AMOUNT	VOLUME OF ALCOHOL IN OUNCES
Beer	12 oz	0.6
80 Proof Spirits	1.5 oz (cocktail)	0.36
	200 cc (6.8 oz.)	2.7
	500 cc (16.9 oz.)	6.8
	750 cc (25.4 oz.)	10.2
	1 liter (33.8 oz.)	13.5
Wine (11%)	750 cc (25.4 oz.)	2.8
	Standard wine glass 5.6 oz	0.62

Anxiolytics, Sedatives and Hypnotics Classified by Half-Life

Proprietary Name		Generic Name	Half-Life (hours)	Usual Adult Dosage	Usual Dosing Schedule
Short-Acting	Halcion	Triazolam	Short (<6)	0.125 mg or .250 mg/d	At bedtime
	Versed	Midazolam	Short (<6)	0.07-0.08 mg/kg IM (5 mg)	IM dose given 30-60 minutes before surgery /IV given immediately prior
Intermediate-Acting	Xanax	Alprazolam	Intermediate (6-20)	0.25mg – 0.5 mg Up to 4 mg/d	Three times per day
	Ativan	Lorazepam	Intermediate (6-20)	2mg-3mg 1mg – 10 mg/d	Two to three times per day
	Serax	Oxazepam	Intermediate (6-20)	10mg – 30 mg 120mg/d	Three to four times per day
	Restoril	Temazepam	Intermediate (6-20)	15mg-30 mg 30 mg/d	At bedtime

***Note**: Table is not a complete listing of anxiolytic, sedative or hypnotic drugs*

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This information is not a statement of benefits. Benefits may vary and individual coverage will need to be verified by the Plan.

Anxiolytics, Sedatives and Hypnotics Classified by Half-Life

Proprietary Name		Generic Name	Half-Life (hours)	Usual Adult Dosage	Usual Dosing Schedule
Long-Acting	Librium	Chlordiazepoxide	Demethylchlordiazepoxide (6-20) - Intermediate Demoxepam (20) - Long Nordiazepam (>20) - Long	5mg-10mg or 20mg-25mg 100mg/d	Three to four times per day
	Klonopin	Chlonazepam	Metabolites >20	0.125 to 0.25 mg 1mg/d (Up to 4mg/d)	Two times per day
	Tranxene	Clorazepate	Initial agent – 6; Nordazepam >20	7.5mg-15mg 30mg/d (Up to 60mg/d)	Two to three times per day
	Valium	Diazepam	Nordiazepam >20	2mg-10mg Up to 40 mg/d	Two to three times per day
	ProSom	Estazolam	4-hydroxyestazolam (6-20)	1mg-2mg/d	At bedtime
	Dalmane	Flurazepam	N-hydroxethylfluroazepam (< 6) - Short N-desalkylflurazepam (>20) – Long	15mg-30mg/d	At bedtime
	Centrax	Prazepam	Initial agent – 6; Nordazepam >20	10mg 10mg-60mg	Two to three times per day
	Doral	Quazepam	2-oxoquazepam-N-Desalkylflurazepam >20	7.5mg-15mg 15 mg/d	At bedtime

***Note**: Table is not a complete listing of anxiolytic, sedative or hypnotic drugs. Long Acting category: Initial agents may be of short or intermediate half-life, but metabolites are of long duration.*

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Non-Benzodiazepine Sedative-Hypnotics Classified by Half-Life

Proprietary Name	Generic Name	Half-Life (hours)	Usual Adult Dosage	Usual Dosing Schedule
Ambien	zolpidem	Short (<6)	5mg-10mg 10mg/d	At bedtime
Rozerem	ramelteon	Short (<6)	8mg/d	At bedtime
Sonata	zaleplon	Short (<6)	10mg-20mg 20mg/d	At bedtime
Lunesta	eszopiclone	Intermediate (6-20)	2mg-3mg 3mg/d	At bedtime
chloral hydrate	chloral hydrate	Metabolite trichloroethanol Intermediate (6-20)	.5g-1g/d	At bedtime

***Note**: Table is not a complete listing of non-benzodiazepine sedative-hypnotic drugs.*

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These guidelines are not intended to replace a practitioner's clinical judgment. They are designed to provide information and to assist practitioners with decisions regarding care. The guidelines are not intended to define a standard of care or exclusive course of treatment. Health care practitioners using these guidelines are responsible for considering their patients' particular situation in evaluating the appropriateness of these guidelines.