Ambulatory Intoxication and Withdrawal Management: A Clinical Monograph

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I. Ambulatory Intoxication and Withdrawal Management

The American Society of Addiction Medicine’s clinical guide, The ASAM Criteria: Treatment Criteria for Addictive, Substance-Related, and Co-Occurring Conditions, Third Edition 2013 notes that the process of withdrawal management includes not only “attenuation of the physiological and psychological features of withdrawal, but also interrupting the momentum of habitual compulsive use in persons with addiction.” The ASAM criteria indicates that a “successful detox” encounter involves not only acute management of withdrawal, but also involves addressing the accompanying addiction process and helps reduce “readmission for detox” (ASAM, 2013, pp.128-9). In this new third edition of The ASAM Criteria, “detoxification services” are referred to as “withdrawal management,” involving management of intoxication episodes and withdrawal episodes. Intoxication management and withdrawal management are in contrast with “addiction management” services. With current medication protocols, ASAM notes that all but the most severe withdrawal syndromes can be managed effectively on an ambulatory basis.

Description and Levels of Intensity

The ASAM criteria describe five levels of withdrawal management, with a range of intensities of service. A particular withdrawal management can be provided separately from other treatment services in the adult criteria. ASAM criteria require that the patient with co-occurring problems be placed in the level of care appropriate to the most acute problem. A range of intensities of services allows patients to receive withdrawal management in the office or in more structured outpatient settings (without intensive nursing monitoring or the use of beds). Patients with significant risk in withdrawal may require intensive medical monitoring and others may need to be monitored in an outpatient setting before an appropriate determination is made. A more structured service, e.g., a “23-hour observation bed,” in Level 2-WM may be needed for monitoring risk. Withdrawal management programs may include only minimal medical monitoring or significant medical monitoring (ASAM, 2013).

The five levels of withdrawal management described by ASAM are Level 1-WM Ambulatory Withdrawal Management without Extended On-Site Monitoring; Level 2-WM Ambulatory Withdrawal Management with Extended On-Site Monitoring; Level 3.2-WM Clinically Managed Residential Withdrawal Management; Level 3.7-WM Medically Monitored Inpatient Withdrawal Management; and Level 4-WM Medically Managed Intensive Inpatient Withdrawal Management. Patients admitted to any level of withdrawal management must meet the diagnostic criteria for substance withdrawal disorder of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). An exception is for patients in Level 1-WM or Level 2-WM where alcohol or drug history is inadequate for the diagnosis and not substantiated. In that case, information provided by family members or legal guardians may indicate a high probability of the diagnosis. In this monograph, we are focusing on the first two levels of withdrawal management services, ambulatory (“outpatient”) services delivered in a variety of settings performed with and without extended onsite monitoring. These distinct levels of service and intensity of treatment are described by ASAM as follows:
Level 1-WM: Ambulatory Withdrawal Management without Extended On-Site Monitoring

“Level I-WM Withdrawal Management without Extended On-Site Monitoring is an organized outpatient service, which may be delivered in an office setting, healthcare or addiction treatment facility, or in a patient’s home by trained clinicians who provide medically supervised evaluation, withdrawal management, and referral services according to a pre-determined schedule. Services are provided in regularly scheduled sessions and should be delivered under a defined set of policies and procedures or medical protocols” (ASAM, 2013, p. 132).

- Examples of service delivery include: physician’s office or home healthcare agency.

- Support systems feature the following: specialized psychological and psychiatric consultation and supervision for biomedical, emotional, behavioral, and cognitive problems; ability to obtain a comprehensive medical history and physical examination of patient at admission; availability of affiliated specialty addiction treatments for additional problems identified through comprehensive biopsychosocial assessment; appropriate laboratory tests and toxicology tests arranged/conducted; if indicated, 24-hour access to emergency medical consultation services; and assistance with transportation services for patient lacking safe transportation.

- Staffing includes: physicians and nurses who may not need to be present in treatment setting at all times (physician assistants or nurse practitioners in some states); readily available medical and nursing personnel to evaluate and confirm that withdrawal management is safe in the less supervised outpatient setting; medical and nursing personnel are not required to be certified as addiction specialist physicians and nurses, but must be trained and have experience in assessing and managing intoxication and withdrawal management; available counselors, psychologists and social workers; and all clinicians assessing and treating patients are knowledgeable about the biopsychosocial dimensions of substance use disorders, including signs and symptoms of intoxication and withdrawal as well as appropriate treatment and monitoring of patients with substance use disorders.

- Therapies include: individual assessment, withdrawal management (medication or non-medical); patient education; non-pharmacological clinical support; involvement of family members/significant others in the withdrawal management process; discharge or transfer planning; and monitoring, assessment, and management of intoxication and withdrawal signs and symptoms by physicians and/or nurses.

- Assessment/treatment plan review includes: initial assessment including an addiction-focused history conducted or reviewed by a physician; a physical examination, as part of initial assessment, by physician, physician assistant, or nurse
practitioner; biopsychosocial screening assessment to determine patient’s placement in a level of care; an individualized treatment plan including treatment goals and objectives and a plan of how to meet the goals of management of the withdrawal syndrome; ongoing daily assessment of progress during withdrawal management; transfer/discharge planning; and referrals for counseling, medical, psychiatric and continuing care.

- Documentation services include: progress notes reflecting treatment plan implementation and patient’s response to treatment; and withdrawal rating scale tables and flow sheets.

- Patients in Level 1-WM withdrawal management services continue until one of the following conditions is met: resolution of withdrawal signs and symptoms so that patient can participate in self-directed recovery or ongoing treatment; withdrawal signs and symptoms have intensified and failed to respond to treatment necessitating patient to be transferred to a more intensive level of withdrawal management service; or patient’s inability to complete withdrawal management at Level 1-WM (for example, intense craving or insufficient coping skills to prevent continued use of alcohol, tobacco, and/or other drug use concurrent with the withdrawal management medication – indicates need for more intensive services).

**Level 2-WM: Ambulatory Withdrawal Management with Extended Onsite Monitoring**

“Level 2-WM Withdrawal Management is an organized service, which may be delivered in an office setting, a general healthcare or mental healthcare facility, or an addiction treatment facility by medical and nursing professionals who provide evaluation, withdrawal management, and referral services. Services are provided in regularly scheduled sessions and under a defined set of physician-approved policies and procedures or clinical protocols” (ASAM, 2013, p. 134).

- An example of service delivery is day hospital service.

- Support systems feature the following: specialized clinical consultation and supervision for problems (biomedical, emotional, behavioral, and cognitive); ability to obtain a comprehensive medical history and physical examination of patient at admission; access to consultation (psychological and psychiatric); availability of affiliated specialty addiction treatments for additional problems identified through comprehensive biopsychosocial assessment; appropriate laboratory tests and toxicology tests arranged/conducted, if indicated; 24-hour access to emergency medical consultation services; and assistance with transportation services for patient lacking safe transportation.

- Staffing includes: physicians and nurses who may not need to be present in treatment setting at all times (physician assistants or nurse practitioners in some states); medical and nursing personnel readily available to evaluate and confirm
safety of withdrawal management in the less supervised setting; no requirement that physicians be certified as addiction specialist physicians and no requirement that nurses be certified as addiction nurses, although training and experience in assessing and managing intoxication and withdrawal states is required; counselors, psychologists, and social workers may provide services through the withdrawal management service or be accessed through affiliation with other entities providing Level 2 services; clinicians assessing and treating patients are knowledgeable about obtaining and interpreting needs of patients and have understanding of the biopsychosocial dimensions of alcohol and drug addiction, including signs and symptoms of intoxication and withdrawal as well as appropriate treatment and monitoring of these conditions.

- Therapies include: individual assessment, withdrawal management (medication or non-medical); patient education; non-pharmacological clinical support; involvement of family members/significant others in the withdrawal management process; discharge or transfer planning; and monitoring, assessment, and management of intoxication and withdrawal signs and symptoms by physicians and/or nurses.

- Assessment/treatment plan review includes: initial assessment including an addiction-focused history conducted or reviewed by a physician; a physical examination, as part of initial assessment, by physician, physician assistant or nurse practitioner; biopsychosocial screening assessment to determine patient’s placement in a level of care; an individualized treatment plan including treatment goals and objectives and a plan of how to meet the goals of management of the withdrawal syndrome; ongoing daily assessment of progress during withdrawal management; transfer/discharge planning; referrals for counseling, medical, psychiatric and continuing care; and serial medical assessments.

- Documentation services to include: progress notes reflecting treatment plan implementation and patient’s response to treatment; and withdrawal rating scale tables and flow sheets.

- Patients continue in Level 2-WM withdrawal management services until one of the following conditions is met: resolution of withdrawal signs and symptoms so that patient can be safely managed at a less intensive level or care; withdrawal signs and symptoms have failed to respond to treatment (standardized scoring systems, e.g., CIWA-Ar, have confirmed that signs and symptoms have intensified) such that transfer to a more intensive level of withdrawal management service is needed; or patient’s inability to complete withdrawal management at Level 2-WM (for example, intense craving or insufficient coping skills to prevent continued use of alcohol, tobacco, and/or other drug use concurrent with the withdrwal management medication) indicates need for more intensive services.
Intensive Outpatient/Partial Hospitalization Services

There are 10 adult levels of care placements in the treatment of addictive, substance-related, and co-occurring conditions. Levels of care provided in the ambulatory setting are: Level 1 (Outpatient Services), Level 2.1 (Intensive Outpatient Services), and Level 2.5 (Partial Hospitalization Services).

- **Level 2.1 Intensive Outpatient Program (IOP)**

  There are nine to nineteen hours of structured programming per week (for adults) during the day or evening, and/or weekend. Patients placed in these services meet the diagnostic criteria for a substance use and/or other addictive disorder as defined in the DSM-5. Appropriately credentialed addiction treatment professionals, e.g., counselors, psychologists, social workers, and addiction-credentialed physicians, staff the IOP. Physicians should have experience in addiction medicine or addiction psychiatry and have specialty training. Staff should also be cross-trained to understand signs and symptoms of mental disorders. Intensive outpatient services are provided in settings meeting state licensure or certification criteria. The patients’ withdrawal needs are safely managed in this setting. These services may include counseling (individual and group), medication management, family therapy, educational, occupational and recreational therapy, motivational interviewing, enhancement, and engagement strategies. Programs include individual biopsychosocial assessment, physical examination if needed, an individualized treatment plan, and monitoring (including biomarkers and/or toxicology testing). A planned program of therapies is offered to patients with co-occurring addictive and mental disorders (ASAM, 2013).

- **Level 2.5 Partial Hospitalization Program (PHS)**

  These “day treatments” feature 20 or more hours of intensive programming per week. Appropriately credentialed addiction treatment professionals, e.g., counselors, psychologists, social workers, and addiction-credentialed physicians, staff the PHS. Physicians should have experience in addiction medicine or addiction psychiatry and have specialty training. Staff must be able to interpret information related to the patient’s biopsychosocial needs. They should also be cross-trained to understand signs and symptoms of mental disorders. The partial hospitalization programs provide access to psychiatric, medical, and laboratory services to meet needs which warrant daily monitoring or management. The day or partial hospital programs are offered in settings meeting state licensure or certification criteria. The patients’ withdrawal needs can be safely managed in this setting. Services include counseling (individual and group), medication management, family therapy, educational, occupational and recreational therapy, motivational interviewing, enhancement, and engagement strategies. Programs include individual biopsychosocial assessment, physical examination if needed, an individualized treatment plan, and monitoring (including biomarkers and/or toxicology testing). A planned program of therapies is offered to patients with co-occurring addictive and mental disorders. The difference between IOP and PHS is in the intensity of clinical services directly available. Intensive outpatient programs have less capacity than
partial hospitalization programs in effectively treating patients with substantial unstable medical and psychiatric programs (ASAM, 2013).

**Parameters Influencing Level of Care Placement**

According to ASAM, the level of care placement is not the initial step in the treatment process. Before considering a level of care placement, practitioners of the ASAM criteria determine priority dimensions, diagnoses, and dose and intensities through a comprehensive assessment. Assessment information comes from six admission criteria. They include Dimension 1: Acute Intoxication and/or Withdrawal Potential; Dimension 2: Biomedical Conditions and Complications; Dimension 3: Emotional, Behavioral, or Cognitive Conditions and Complications; Dimension 4: Readiness to Change; Dimension 5: Relapse, Continued Use, or Continued Problem Potential; and Dimension 6: Recovery/Living Environment (ASAM, 2013). Some of the parameters that the provider and clinician reviewer should consider when making decisions about level of care are:

- **Prior history of withdrawal complications.** If there is a prior history of significant withdrawal complications, such as generalized seizures or delirium tremens, 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 withdrawal management facility.

- **Co-occurring medical conditions.** If an individual has a chronic stable medical condition that the withdrawal management process would significantly exacerbate, more intensive medical and nursing supervision and intervention are 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.

- **Co-occurring behavioral conditions.** Patients who present with significant psychiatric co-occurring conditions, with or without significant withdrawal management 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 withdrawal management needs, then the location for treatment would most likely be a psychiatric inpatient setting that could also manage the substance withdrawal management. 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 withdrawal management 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 withdrawal management 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 withdrawal management process. One of the more important considerations is the actual pattern of substance use preceding entry into the withdrawal management 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 withdrawal management and, as a general rule, may require an inpatient level of care.

### II. Evaluation and Assessment of the Substance-Dependent Patient

**Purpose**

This monograph provides updated information on medical withdrawal management of patients whose substance use disorder has progressed to the point that physical dependence has developed. 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 withdrawal management is to “break the cycle” of substance use, providing the patient with a medically safe and comfortable withdrawal from the substance of dependence in the least restrictive setting possible.

**Definitions**

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5), published in 2013, includes several changes to addictions, substance-related disorders, and alcohol. Key changes include the addition of gambling disorder as a behavioral addiction, and the combination of substance abuse and substance dependence into single substance use disorders, further divided into mild, moderate, and severe subtypes based on the number of criteria endorsed. Accompanying the diagnostic criteria for substance use disorder are criteria for intoxication, withdrawal, substance-induced disorders, and unspecified substance-related disorders, where relevant. Diagnostic criteria for substance use disorder fit within overall groupings: impaired control, social impairment, risky use, and pharmacological criteria. Two or more of the 11 criteria must be met within a 12-month period for a diagnosis of a substance use disorder in DSM-5; one or more criteria were required for diagnosis of substance abuse and three or more required for diagnosis of substance dependence in DSM-IV. A new criterion, i.e., “craving or a strong desire or urge to use a substance,” has been added, and the “recurrent legal problems” criterion has been removed from DSM-5. New specifiers include “in a controlled environment” and “on
maintenance therapy.” Other new disorders in DSM-5 are cannabis withdrawal and caffeine withdrawal (American Psychiatric Association, 2013). Working definitions of terms used in this monograph include the following:

1. **Substance Use Disorder.** Features include a cluster of cognitive, behavioral, and physiological symptoms indicating that, despite substance related problems, the individual continues to use the substance. A characteristic of substance use disorder is an underlying change in brain circuitry.

2. **Substance Intoxication.** The predominant feature is a “reversible substance-specific syndrome due to the recent ingestion of a substance,” e.g., disturbances of perception, wakefulness, attention, thinking, psychomotor behavior, judgment, and interpersonal behavior.

3. **Substance Withdrawal.** Essential feature is a “substance-specific problematic behavioral change, with physiological and cognitive concomitants, that is due to the cessation of, or reduction in, heavy and prolonged substance use.”

4. **Medical Withdrawal Management.** Medical withdrawal management is the process by which an individual with a substance disorder is withdrawn from a 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 substance used, or by symptom-targeted administration of a cross-tolerant agent (i.e., the agent is given only when signs of withdrawal management are present - see CIWA-Ar, below). The primary objective of medical withdrawal management is to provide the patient with a medically safe and comfortable withdrawal from the substance 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.** Alcoholic hallucinosis is 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

According to the 2015 National Survey on Drug Use and Health (NSDUH), an estimated 20.8 million people (or 7.8 percent of the population) aged 12 or older had a past-year substance use disorder based on criteria specified in the DSM-5. Out of those with an SUD, 15.7 million people (or 75.6%) had a past-year alcohol use disorder, and 7.7 million (37.2%) had a past-year illicit drug use disorder. Also, 2.7 million people aged 12 or older had both and illicit drug use disorder and an alcohol disorder in the past year. Of the 7.7 million with a past-year SUD related to their use of illicit drugs, almost 52% had a past-year disorder related to marijuana use and almost 26% had a past-year disorder related to misuse of prescription pain relievers. Smaller percentages were related to the use of cocaine or heroin (SAMHSA, 2016).

The Surgeon General's Report on Alcohol, Drugs, and Health, Facing Addiction in America, reports that the estimate of the cost of substance use disorders, alcohol misuse, illicit drug use, and misuse of prescription medications is more than $400 billion in the United States (U.S. Department of Health & Human Services, 2016). Related costs include healthcare expenses, law enforcement, motor vehicle crashes, and lost workplace productivity. Binge drinking accounts for approximately 75% of the costs associated with alcohol use, of which about 40% of these costs are borne by taxpayers (paid by government). The Surgeon General’s Report also discusses direct and indirect health and consequences for individuals, e.g., “changes in mood and basic body functions, such as heart rate or blood pressure, to overdose and death” (U.S. Department of Health & Human Services, 2016, p. 1-12). Serious, and sometimes lethal, problems related to substance misuse include driving under the influence; overdose deaths; and intimate partner violence, sexual assault, and rape.

The DSM-5 identifies 10 substance classes (not fully distinct). More information has been published on withdrawal syndromes for other classes of substances – e.g., anabolic-androgenic steroids (AAS) and certain club drugs (Kishner, 2008; Talih et al., 2007; Gahlinger, 2004; TIP 45, 2006). However, only the drugs/classes bolded below are associated with withdrawal phenomena:

- Alcohol
- Caffeine
- Cannabis
- Hallucinogens (phencyclidine and other hallucinogens)
- Inhalants
- Opioids
- Sedatives (hypnotics, or anxiolytics)
- Stimulants (amphetamine-type substances, cocaine, and other unspecified stimulants)
- Tobacco
- Other (or unknown)

Of these classes of substances, only two 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 is on alcohol and sedative-hypnotic withdrawal. Opioid withdrawal associated with medical withdrawal management is included in this monograph. Withdrawal from other substances causing dependence does not generally require more than an outpatient level of care for safe medical withdrawal management.

Medical withdrawal management 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. Multidimensional/Biopsychosocial Assessment (ASAM, 2013)

1. Acute Intoxication and/or Withdrawal Potential. This assessment determines the type and intensity of withdrawal management services needed by exploring a patient’s past and current experiences of substance use and withdrawal. Considerations include: risk associated with the patient’s current level of acute intoxication; intoxication management services needed; risk of severe withdrawal symptoms, seizures, or other medical complications; current signs of withdrawal; scores from use of standardized withdrawal rating scales; patient’s vital signs; and patient’s supports to assist in ambulatory withdrawal management.

2. Biomedical Conditions and Complications. This assessment explores an individual’s health history as well as current physical condition to determine the need for physical health services. Considerations include: risk or potential for
treatment complications related to current physical illnesses; need for stabilization of chronic conditions, e.g., pain; presence of a communicable disease that may impact other patients; and whether the patient may be pregnant.

3. **Emotional, Behavioral, or Cognitive Conditions and Complications.** This assessment explores the patient’s thoughts, emotions, and mental health issues to determine the need for mental health services. Considerations include: current psychiatric illnesses or conditions that may complicate treatment; need for stabilization of chronic conditions; whether emotional, behavioral, or cognitive signs/symptoms appear to be autonomous, or a part of the addictive disorder; whether emotional, behavioral, or cognitive signs or symptoms are severe enough to receive mental health treatment; whether the patient is able to manage the activities of daily living; and whether the patient can cope with emotional, behavioral, or cognitive conditions.

4. **Readiness to Change.** A patient’s readiness and interest in changing is explored to determine whether motivational enhancement services are needed to begin the recovery process. Considerations include: whether the patient is aware of the substance use or behaviors and their negative consequences; the readiness or willingness of patient to make change to substance using or addictive behaviors; and whether the patient feels in control of his or her treatment services.

5. **Relapse, Continued Use, or Continued Problem Potential.** A patient’s unique relationship with relapse or continued use of problems is explored in this assessment. Considerations include whether addiction and/or psychotropic medications assisted in recovery before; the ability of the patient to cope with negative affects, peer pressure and stress without recurrence of addictive thinking/behavior; whether the patient is aware of relapse triggers and how to control addiction impulses; and whether the patient has recognition or understanding of addictive or co-occurring disorder to prevent relapse.

6. **Recovery/Living Environment.** An individual’s recovery or living situation, including the surrounding people, places, and things are assessed. Considerations include whether threats, e.g., family members, significant others, living situations, pose a threat to patient’s engagement in treatment; availability of supportive friendships and resources that can increase the likelihood of successful recovery; presence of transportation; and child care or other issues that need to be addressed.

B. **General Physical Assessments**

1. **Physical Examination.** The physical examination is important to determine the existence of potential co-occurring medical conditions that might be exacerbated by the withdrawal process or may 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.

**Signs and Symptoms of Withdrawal**

**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 withdrawal management. As a general rule, CIWA-Ar scores of 10 or less do not require pharmacologic interventions. However, patients with a 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. ASAM notes that the CIWA-Ar scale has only been validated for tracking the withdrawal management process and not for making level of care decisions.

**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.

Copies of these assessment tools are included in the appendix.

**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 blood alcohol level (BAL); symptoms 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 withdrawal management. 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**

**General Principles of Medical Withdrawal Management.** Because the purpose of this monograph is to give a concise overview of medical withdrawal management, it does not go into detail about specific withdrawal management protocols. Instead, it addresses the topic in more general terms:
Withdrawal Management from Alcohol

Ideally, treatment interventions are guided by quantitative measures of withdrawal, like the CIWA-Ar. Individual level-of-care determinations need 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 withdrawal management.

- **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 timeframe 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.

### Withdrawal Management 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

Withdrawal Management from Opioids. The FDA defines two types of withdrawal management: short-term (less than 30 days in duration) and long-term (greater than 30 but less than 180 days in duration). We are focusing on short-term withdrawal management, as long-term withdrawal management is essentially a slow tapering of methadone over 180 days. Gradually tapering doses of opioid agonists, e.g., methadone or buprenorphine, are used in the management of opioid withdrawal. Another method
for the management of opioid withdrawal includes "the use of alpha 2 adrenergic agonists (clonidine) along with other non-narcotic medications to reduce withdrawal symptoms (ASAM guidelines, 2015). ASAM considers the need for more research before accepting as standard practice the use of "combinations of buprenorphine and low doses of oral naltrexone to rapidly detoxify patients and facilitate the accelerated introduction of extended-release injectable naltrexone" (ASAM, 2015).

- **Methadone tapering.** Individuals are given oral 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. Federal mandates require that the initial dose be no more than 30 mg and not exceed 40 mg in one day (ASAM, 2015). On an inpatient basis, this process occurs over six 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 withdrawal management process. Long-term treatment may be needed, as relapse rates are high for many patients who drop out. Collaborative decisions between clinician and patient are considered in determining treatment duration (ASAM, 2015).

- **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 withdrawal management).** 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 withdrawal management).** 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 and withdrawal can
Withdrawal management 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 withdrawal management or for maintenance treatment of opioid addiction. A buccal film formulation of buprenorphine/naloxone, Bunavail, was approved by the FDA on June 6, 2014 for the maintenance treatment of opioid dependence, and on May 26, 2016, the FDA approved the first buprenorphine implant, Probuphine®, for the maintenance treatment of opioid dependence (FDA, 2016). The ASAM guidelines advise, “Patients should wait until they are experiencing mild to moderate opioid withdrawal before taking the first dose of buprenorphine to reduce the risk of precipitated withdrawal. Generally, buprenorphine initiation should occur at least 6-12 hours after the last use of heroin or other short-acting opioids, or 24-72 hours after their last use of long-acting opioids such as methadone. The use of the COWS can be helpful in determining if patients are experiencing mild to moderate withdrawal. A COWS score of 11-12 or more (mild to moderate withdrawal) is indicative of sufficient withdrawal to allow a safe and comfortable induction onto buprenorphine” (ASAM, 2015, p. 33).

- **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 withdrawal management (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 withdrawal management 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 Addiction (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 withdrawal management 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 6 to 12 hours; for long-acting ones at least 24 to 72 hours. According to the ASAM guidelines, sufficient withdrawal allowing a safe induction onto buprenorphine is indicated by a COWS score of 11-12 or more. (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) Withdrawal management 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

Withdrawal Management 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 2011 National Survey of Drug Use and Health (NSDUH) estimates that 0.5 percent of the U.S. population aged 12 or older are current users of cocaine but that rates of amphetamine abuse are lower (i.e., 0.2%). 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 withdrawal management 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.

Withdrawal Management 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.

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 withdrawal management 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.

**Withdrawal Management 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 withdrawal management 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).

**Withdrawal Management 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 withdrawal management is necessary other than controlling the symptoms of intoxication (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 intoxication 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).

Management Withdrawal 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. Intoxication 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 withdrawal management 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).

Withdrawal Management from Club Drugs. The most prominent “club drugs” are MDMA (3, 4-methylenedioxymethamphetamine), 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 withdrawal management. 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.

**Withdrawal Management 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).

Appendices

Relevant clinical tools and guides are presented on the subsequent pages.
### 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?" **Observation.**

- **0** not present
- **1** very mild
- **2** mild
- **3** moderate
- **4** moderately severe
- **5** severe
<table>
<thead>
<tr>
<th>AGITATION -- Observation.</th>
<th>ORIENTATION AND CLOUDING OF SENSORIUM -- Ask</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 normal activity</td>
<td>&quot;What day is this? Where are you? Who am I?&quot;</td>
</tr>
<tr>
<td>1 somewhat more than normal activity</td>
<td>0 oriented and can do serial additions</td>
</tr>
<tr>
<td>2</td>
<td>1 cannot do serial additions or is uncertain about date</td>
</tr>
<tr>
<td>3</td>
<td>2 disoriented for date by no more than 2 calendar days</td>
</tr>
<tr>
<td>4 moderately fidgety and restless</td>
<td>3 disoriented for date by more than 2 calendar days</td>
</tr>
<tr>
<td>5</td>
<td>4 disoriented for place/or person</td>
</tr>
<tr>
<td>6</td>
<td>7 paces back and forth during most of the interview, or constantly thrashes about</td>
</tr>
</tbody>
</table>

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

The CIWA-Ar is not copyrighted and may be reproduced freely. 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.

# Opiate Withdrawal Signs and Symptoms

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

____________________________________________________________

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<thead>
<tr>
<th><strong>Resting Pulse Rate:</strong></th>
<th><strong>GI Upset:</strong> over last ½ hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 pulse rate 80 or below</td>
<td>0 no GI symptoms</td>
</tr>
<tr>
<td>1 pulse rate 81-100</td>
<td>1 stomach cramps</td>
</tr>
<tr>
<td>2 pulse rate 101-120</td>
<td>2 nausea or loose stool</td>
</tr>
<tr>
<td>4 pulse rate greater than 120</td>
<td>3 vomiting or diarrhea</td>
</tr>
</tbody>
</table>

**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

---

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

## SEDATIVE-HYPNOTIC-ANXIOLYTIC WITHDRAWAL SIGNS AND SYMPTOMS

<table>
<thead>
<tr>
<th>Objective Signs</th>
<th>Subjective Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tremors</td>
<td>Weakness</td>
</tr>
<tr>
<td>Hyperreflexia</td>
<td>Anorexia, nausea</td>
</tr>
<tr>
<td>Agitation</td>
<td>Irritability</td>
</tr>
<tr>
<td>Hypertension</td>
<td>Anxiety, restlessness</td>
</tr>
<tr>
<td>Tachycardia</td>
<td>Headache</td>
</tr>
<tr>
<td>Insomnia</td>
<td>Muscle aches</td>
</tr>
<tr>
<td>Vomiting</td>
<td>Depression</td>
</tr>
<tr>
<td>Diaphoresis</td>
<td>Tinnitus</td>
</tr>
<tr>
<td>Cognitive impairment (memory loss, decreased ability to concentrate)</td>
<td>Depersonalization</td>
</tr>
<tr>
<td>Seizures</td>
<td>Hypersensitivity to touch, light, sound</td>
</tr>
</tbody>
</table>

## ALCOHOL CALCULATIONS

(1.5 OZ. ALCOHOL = PHENOBARBITAL 30 MG)

<table>
<thead>
<tr>
<th>TYPE OF DRINK</th>
<th>AMOUNT</th>
<th>VOLUME OF ALCOHOL IN OUNCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beer</td>
<td>12 oz</td>
<td>0.6</td>
</tr>
<tr>
<td>80 Proof Spirits</td>
<td>1.5 oz (cocktail)</td>
<td>0.36</td>
</tr>
<tr>
<td></td>
<td>200 cc (6.8 oz.)</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>500 cc (16.9 oz.)</td>
<td>6.8</td>
</tr>
<tr>
<td></td>
<td>750 cc (25.4 oz.)</td>
<td>10.2</td>
</tr>
<tr>
<td></td>
<td>1 liter (33.8 oz.)</td>
<td>13.5</td>
</tr>
<tr>
<td>Wine (11%)</td>
<td>750 cc (25.4 oz.)</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>Standard wine glass 5.6 oz</td>
<td>0.62</td>
</tr>
</tbody>
</table>
### Anxiolytics, Sedatives and Hypnotics Classified by Half-Life

<table>
<thead>
<tr>
<th>Proprietary Name</th>
<th>Generic Name</th>
<th>Half-Life (hours)</th>
<th>Usual Adult Dosage</th>
<th>Usual Dosing Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short-Acting</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Halcion</td>
<td>Triazolam</td>
<td>Short (&lt;6)</td>
<td>0.125 mg or 0.25 mg/day Total daily dose up to 0.5 mg</td>
<td>At bedtime</td>
</tr>
<tr>
<td>Versed</td>
<td>Midazolam</td>
<td>Short (&lt;6)</td>
<td>0.07-0.08 mg/kg IM (5 mg) 200-350 mcg/kg IV Total daily dose dependent on indication and route</td>
<td>IM dose given 30-60 minutes before surgery/IV given immediately prior</td>
</tr>
<tr>
<td><strong>Intermediate-Acting</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xanax</td>
<td>Alprazolam</td>
<td>Intermediate (6-26)</td>
<td>0.25 mg - 0.5 mg Total daily dose up to 10 mg</td>
<td>Two or three times per day</td>
</tr>
<tr>
<td>Xanax XR</td>
<td>Alprazolam XR</td>
<td>Intermediate (11-16)</td>
<td>0.5-1 mg Total daily dose up to 10 mg</td>
<td>Once daily</td>
</tr>
<tr>
<td>Ativan</td>
<td>Lorazepam</td>
<td>Intermediate (6-20) Age dependent metabolism</td>
<td>2 mg - 4 mg Total daily dose up to 10 mg orally. IM and IV dose is highly variable upon indication daily dose</td>
<td>Two to three times per day</td>
</tr>
<tr>
<td>Serax</td>
<td>Oxazepam</td>
<td>Intermediate (5-15)</td>
<td>10 mg - 30 mg Total daily dose up to 120 mg</td>
<td>Three to four times per day</td>
</tr>
<tr>
<td>Restoril</td>
<td>Temazepam</td>
<td>Intermediate (6-20)</td>
<td>7.5 mg - 30 mg Total daily dose up to 30 mg</td>
<td>At bedtime</td>
</tr>
</tbody>
</table>

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

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<table>
<thead>
<tr>
<th>Proprietary Name</th>
<th>Generic Name</th>
<th>Half-Life (hours)</th>
<th>Usual Adult Dosage</th>
<th>Usual Dosing Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Librium</td>
<td>Chlordiazepoxide</td>
<td>Chlordiazepoxide-Intermediate (5-30) Active metabolites – Long&gt; (14-100)</td>
<td>5 mg - 10 mg (mild-moderate symptoms) or 20 mg - 25 mg (severe symptoms) Total daily dose up to 300 mg for alcohol withdrawal; up to 100 mg recommended for anxiety</td>
<td>Three to four times per day</td>
</tr>
<tr>
<td>Klonopin</td>
<td>Clonazepam</td>
<td>Intermediate to long (19-50) Age dependent</td>
<td>0.25 mg - 0.5 mg Total daily dose up to 20 mg Daily dose up to 4 mg for psychiatric indications</td>
<td>Two times per day</td>
</tr>
<tr>
<td>Tranxene</td>
<td>Clorazepate</td>
<td>Active ingredient long: desmethyldiazepam (30-200) Active metabolite: Intermediate (3-21)</td>
<td>15 mg - 60 mg Total daily dose up to 90 mg for acute alcohol withdrawal; 60 mg total daily dose for anxiety</td>
<td>Two to three times per day</td>
</tr>
<tr>
<td>Valium</td>
<td>Diazepam</td>
<td>Diazepam long (30-60) Active metabolites short to long (5-100)</td>
<td>2 mg - 10 mg Total daily dose up to 40 mg for chronic ambulatory use</td>
<td>Two to four times per day</td>
</tr>
<tr>
<td>ProSom</td>
<td>Estazolam</td>
<td>Intermediate to long (10-24)</td>
<td>1 mg - 2 mg/day Total daily dose up to 2 mg</td>
<td>At bedtime</td>
</tr>
<tr>
<td>Dalmane</td>
<td>Flurazepam</td>
<td>Flurazepam short (&lt;6) Active metabolites short to long (2-100)</td>
<td>15 mg - 30 mg/day Total daily dose up to 30 mg</td>
<td>At bedtime</td>
</tr>
<tr>
<td>Doral</td>
<td>Quazepam</td>
<td>Long:2-oxoquazepam-N-Desalkylflurazepam &gt;20</td>
<td>7.5 mg - 15 mg Total daily dose up to 15 mg</td>
<td>At bedtime</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Proprietary Name</th>
<th>Generic Name</th>
<th>Half-Life (hours)</th>
<th>Usual Adult Dosage</th>
<th>Usual Dosing Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambien</td>
<td>Zolpidem</td>
<td>Short (&lt;6)</td>
<td>5 mg for females and 5-10 mg for males Total daily dose up to 10 mg</td>
<td>At bedtime</td>
</tr>
<tr>
<td>Ambien CR</td>
<td>Zolpidem</td>
<td>Short (&lt;6)</td>
<td>6.25 mg for females and 6.25-12.5 mg for males Total daily dose up to 12.5 mg</td>
<td>At bedtime</td>
</tr>
<tr>
<td>Zolpimist</td>
<td>Zolpidem</td>
<td>Short (&lt;6) for 5 mg dose Short-Intermediate for 10 mg dose (1.7-8.4)</td>
<td>5 mg for females and 5-10 mg for males Total daily dose up to 10 mg</td>
<td>At bedtime</td>
</tr>
<tr>
<td>Edluar</td>
<td>Zolpidem</td>
<td>Short (&lt;6)</td>
<td>5 mg SL for females and 5-10 mg SL for males Total daily dose up to 10 mg</td>
<td>At bedtime</td>
</tr>
<tr>
<td>Intermezzo</td>
<td>Zolpidem</td>
<td>Short &lt;6</td>
<td>1.75 mg SL for females and 1.75-3.5 mg SL for males Total daily dose up to 3.5 mg for men and 1.75 mg for women</td>
<td>Upon middle of the night awakening</td>
</tr>
<tr>
<td>Rozerem</td>
<td>Ramelteon</td>
<td>Short (&lt;6)</td>
<td>8 mg/day Total daily dose up to 8 mg</td>
<td>At bedtime</td>
</tr>
<tr>
<td>Sonata</td>
<td>Zaleplon</td>
<td>Short (&lt;6)</td>
<td>5-10 mg Total daily dose up to 20 mg</td>
<td>At bedtime</td>
</tr>
<tr>
<td>Lunesta</td>
<td>Eszopiclone</td>
<td>Intermediate (6-20)</td>
<td>1 mg - 3 mg Total daily dose up to 3 mg</td>
<td>At bedtime</td>
</tr>
</tbody>
</table>

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