

Table of Contents

SCOPE OF THE GUIDELINES	4
BACKGROUND.....	6
PREVALENCE OF ALCOHOL DEPENDENCE IN INDIA	7
I. WHEN TO SUSPECT/ RECOGNISE?.....	8
Introduction	8
Case definition	9
II. DIAGNOSIS.....	10
Alcohol dependence	10
Alcohol intoxication and alcohol withdrawal	10
Differential Diagnosis	12
III. PREVENTION AND COUNSELING.....	14
IV. DIAGNOSTIC CRITERIA, INVESTIGATIONS, TREATMENT & REFERRAL CRITERIA.....	15
ASSESSMENT.....	15
Screening.....	15
History.....	18
Physical examination.....	18
Mental Status Examination (MSE).....	20
INVESTIGATIONS.....	21
TREATMENT	22
Phases of treatment.....	22
Short- term management phase	22
Aims.....	22
Setting	23
Simple alcohol withdrawal	23
Complicated alcohol withdrawal.....	24
Medications.....	25
Treatment regimen	25
Management of alcohol withdrawal seizures	28
Management of delirium tremens	28
General Nursing Care	29
Motivational Enhancement Therapy (MET)	29
Long-term management phase.....	31
Aims.....	31
Setting	32
Medications.....	32
Psychosocial interventions.....	35
REFERRAL CRITERIA.....	37
VI. WHO DOES WHAT AND TIMELINES	38
VII. Clinical Pathways for Management of Alcohol Dependence	38
VIII. How these Guidelines were developed.....	40
FURTHER READINGS AND REFERENCES.....	47

List of Figures and Tables	
Box 1. Diagnostic criteria for alcohol dependence syndrome as specified in The ICD-10 Classification of Mental and Behavioral Disorders (adapted for alcohol)	11
Table 1. Diagnostic criteria for alcohol harmful use (as per ICD 10)	13
Table 2. Screening tools for problem alcohol use	15
Table 3. Chronic medical conditions that are associated with problematic alcohol use (list is not all inclusive)	19
Table 4. Investigations along with indications in a patient with alcohol dependence (list is not all inclusive)	21
Table 5. Specific investigations along with indications (for higher centers)	22
Table 6. Approximate therapeutic dose equivalent of different benzodiazepines commonly used in management of alcohol withdrawal	25
Table 7. Different regimens for alcohol withdrawal management (detoxification)	27
Table 8. Common side-effect of the medicines used in long term management phase for alcohol dependence	34
Table 9. List of available guidelines on management of alcohol dependence and the guidelines referred to for the purpose of the current guideline.	42
Table 10. Status of the adoption/ adaptation for the various recommendations used in the current guideline	43

SCOPE OF THE GUIDELINES

The areas that will be addressed by the guideline on alcohol dependence are described in the following sections.

Population

Groups that will be covered

The guideline will cover the individuals with alcohol dependence who require medical management for their alcohol use disorders. This will include those diagnosed with alcohol dependence. It will cover those individuals who require medical services per se for their alcohol use disorder. It will not cover the groups as specified in the subsequent section.

Groups that will not be covered

The guideline will not cover the management of the medical conditions associated with alcohol use. The guideline shall also not specifically cover individuals with co-morbid alcohol use disorders, psychiatric disorders and alcohol (methanol) poisoning. Although, the clinicians might find these guidelines useful while planning management for these patients as well.

Healthcare setting

The guideline will cover care provided in primary, secondary and tertiary hospital settings.

Clinical management

- The guideline will provide advice on diagnosis of individuals presenting with alcohol dependence.
- The guideline will provide advice on investigations to be carried out while managing a patient with alcohol dependence.
- The guideline will provide advice on short-term medical management of individuals with alcohol dependence.
- The guideline will provide advice on long- term medical management of patients with alcohol dependence.
- The guideline will provide advice on psycho-social interventions for patients with alcohol dependence.

- The guideline will provide advice on situations that warrant in-patient care as well as indications for referral.
- The guideline will provide advice on patient psycho- education to improve patient and care giver satisfaction.

BACKGROUND

- Excessive use of alcohol is a major public health problem. It causes 5.9% of all deaths globally and is responsible for 5.1% of the DALYs (Disability Adjusted Life Years) (WHO, 2014). Excessive use of alcohol is a component cause of more than 200 disease and injury conditions. Excessive use of alcohol is preceded only by tobacco as the largest modifiable risk factor for morbidity and mortality globally. Alcohol use has been identified as one of the priority modifiable risk factors to bring down burden due to NCDs.
- It has been estimated that around one-fourth to one-third of male population in South Asian countries drink alcohol. Additionally, an increasing trend of alcohol use among women has been observed in these countries. Disease burden per litre consumption of alcohol has been found to be relatively higher among Low and Middle Income countries (LMIC). It has been recommended that addressing excessive alcohol use shall serve as a low cost effective strategy to reduce the burden of disease in LMIC.

PREVALENCE OF ALCOHOL DEPENDENCE IN INDIA

The National Household Survey of Drug Use was the first systematic effort to document the nation-wide prevalence of (psychoactive) substance use in India. **Alcohol was the primary substance used (apart from tobacco) in 21.4% of the subjects** (Ray, 2004). Additionally, 17- 26% of alcohol users qualified for ICD- 10 diagnosis of dependence. This corresponded to an average prevalence of about 4%. The alcohol use prevalence varied across different states of the country with a low of 7% (for current use) in Gujarat to a high of 75% (for current use) in Arunachal Pradesh. The **National Family Health Survey (NFHS)** suggested an increase in alcohol use among males in the NFHS-3 as compared to NFHS-2. The **Drug Abuse Monitoring System reported data from the government de-addiction centres** across the country. Alcohol was reported as the most commonly used substance (apart from tobacco) with 43.9% of the treatment seekers reporting its current use. According to the **Global Status Report on Alcohol and Health 2011**, 25% and 15% of male and female drinkers, respectively were identified as heavy episodic drinkers. Additionally, it has been estimated that unrecorded alcohol consumption is at least two thirds of all alcohol consumption in the Indian subcontinent.

There has been limited literature from India that has explored the problems associated with alcohol use. As per the reports of the industry association sources, 15% to 20% of absenteeism and 40% of accidents at work are due to alcohol consumption. **Hospital-based studies from India report alcohol-related problems to account for over a fifth of hospital admissions.** It has a disproportionately high association with **deliberate self-harm, high-risk sexual behavior, human immunodeficiency virus (HIV) infection, tuberculosis, esophageal cancer, liver disease, and duodenal ulcer.**

I. WHEN TO SUSPECT/ RECOGNISE?

Introduction

Alcohol use disorders are a major contributor to global burden of disease. Problematic alcohol use is associated with significant morbidity and mortality. Patients with problematic alcohol use are common in all kinds of medical care settings. Often, those seeking treatment for their medical or surgical conditions in other clinical departments/ specialities may have an underlying alcohol dependence that may be complicating the medical/ surgical condition. Moreover, many cases of alcohol dependence go undetected for years because of poor motivation on part of the patient as well as failure of the treatment providers to screen for it. At times, individuals with alcohol dependence are brought to the treatment setting after they have come in conflict with law as in case of drunken driving.

Alcohol dependence represents a set of biological, psychological and social manifestations. It represents a maladaptive pattern of alcohol use that leads on to clinically significant impairment or distress or both. One can suspect possibility of alcohol dependence when alcohol use turns problematic.

A history of intense, irresistible, compulsive desire to use alcohol (known as **craving**); a gradual increase in amount of alcohol used over time because of reduction in the effect experienced with previous amount (known as **tolerance**); and appearance of **withdrawal symptoms** including sweating, increased pulse rate, hand tremor, nausea, vomiting, insomnia, psychomotor agitation, anxiety, transient visual, tactile, or auditory hallucinations or illusions on stopping or reducing the amount usually consumed are indicators of psychological and physical dependence on alcohol.

An individual with alcohol dependence tends to plan the day around procuring, using and experiencing its effects. **History of neglect of other pleasures and responsibilities** at school, home or work and loss of control over the amount or pattern of use are pointers towards possibility of alcohol dependence. **Use that persists in spite of being aware of the harms associated with alcohol** use is another pointer towards dependence on alcohol.

Presence of one or more of the aforementioned is an indicator for evaluation for possibility of alcohol dependence. Interpersonal difficulties consequent to alcohol use, difficulties at work place, and emergence of a physical or mental disorder commonly associated with alcohol use also suggest possibility of heavy alcohol use, and should raise the suspicion for possibility of alcohol dependence.

Case definition

An individual presenting with history of excessive (regular/ periodic) use of alcohol, especially when associated with medical, psychological, vocational, financial, familial and social problems needs to be assessed for presence of alcohol dependence. Presence of craving, tolerance and/or withdrawal symptoms lends further support to the possibility of alcohol dependence and warrants detailed evaluation for presence of alcohol dependence.

II. DIAGNOSIS

Alcohol dependence

As mentioned in the previous section, alcohol dependence represents a maladaptive pattern of alcohol use that leads on to clinically significant impairment or distress or both. One can suspect possibility of alcohol dependence when alcohol use turns problematic.

A history of craving; tolerance; appearance of withdrawal symptoms on stopping or reducing the amount usually consumed are indicators of psychological and physical dependence on alcohol. An individual with alcohol dependence tends to plan the day around procuring, using and experiencing its effects. History of neglect of other pleasures and responsibilities at school, home or work and loss of control over the amount or pattern of use are pointers towards possibility of alcohol dependence. Use that persists in spite of being aware of the harms associated with alcohol use is another pointer towards dependence on alcohol.

A description of criteria for diagnosis of alcohol dependence syndrome as specified in the WHO's ICD-10 Classification of Mental and Behavioral Disorders is provided in Box 1.

Alcohol intoxication and alcohol withdrawal

Presence of clinical features associated with alcohol dependence make the diagnosis of the condition fairly straight forward. These features are unlikely to be confused with any other psychiatric disorder. However, at times it might be challenging to reach at a diagnosis of alcohol dependence if the adequate information is not available. **A patient who is unavailable for interview due to being under intoxication or withdrawal might require a reassessment once the acute medical condition has settled** and the patient is in a position to participate in the interview. Even during such conditions of intoxication and withdrawal, **presence of clinical features associated with intoxication (along with alcohol on breath) and withdrawal can help establish the diagnosis of alcohol intoxication and alcohol withdrawal, respectively.**

Alcohol intoxication is characterized by disinhibition, argumentativeness, aggression, lability of mood, impaired attention, impaired judgment, interference with personal functioning, unsteady gait, difficulty standing, slurred speech, nystagmus, decreased level of consciousness (e.g. stupor,

coma), flushed face, and conjunctival injection. These clinical features develop following recent use of alcohol at sufficiently high dose levels to be consistent with intoxication.

Box 1. Diagnostic criteria for alcohol dependence syndrome as specified in The ICD-10 Classification of Mental and Behavioral Disorders (adapted for alcohol)

A cluster of physiological, behavioral, and cognitive phenomena in which the use of alcohol takes on a much higher priority for a given individual than other behaviors that once had greater value. A central descriptive characteristic of the dependence syndrome is the desire (often strong, sometimes overpowering) to take alcohol. There may be evidence that return to alcohol use after a period of abstinence leads to a more rapid reappearance of other features of the syndrome than occurs with nondependent individuals.

A definite diagnosis of alcohol dependence should usually be made only if three or more of the following have been present together at some time during the previous year:

- (a) a strong desire or sense of compulsion to take alcohol;
- (b) difficulties in controlling alcohol-taking behavior in terms of its onset, termination, or levels of use;
- (c) a physiological withdrawal state when alcohol use has ceased or been reduced, as evidenced by: the characteristic withdrawal syndrome for alcohol; or use of alcohol (or a closely related) substance with the intention of relieving or avoiding withdrawal symptoms;
- (d) evidence of tolerance, such that increased doses of alcohol are required in order to achieve effects originally produced by lower doses;
- (e) progressive neglect of alternative pleasures or interests because of alcohol use, increased amount of time necessary to obtain or take alcohol or to recover from its effects;
- (f) persisting with alcohol use despite clear evidence of overtly harmful consequences, such as harm to the liver through excessive drinking, depressive mood states consequent to periods of heavy alcohol use, or alcohol-related impairment of cognitive functioning; efforts should be made to determine that the user was actually, or could be expected to be, aware of the nature and extent of the harm.

Alcohol withdrawal is characterized by tremors of the outstretched hands, tongue or eyelids, sweating, nausea, retching or vomiting, tachycardia or hypertension, psychomotor agitation, headache, insomnia, malaise or weakness, transient visual, tactile or auditory hallucinations or illusions, and generalized seizures. These features **develop on recent cessation or reduction of alcohol after repeated, and usually prolonged and/or high-dose use**. At times, patient develops what is known as **complicated withdrawal**. It is characterized by presence of seizures or delirium (known as delirium tremens) along with other features associated with alcohol withdrawal.

Alcohol intoxication is not a direct indicator of alcohol dependence and can occur independent of it. Similarly, while alcohol withdrawal is one of the clinical features of alcohol dependence, in itself is not sufficient (or necessary) to make a diagnosis of alcohol dependence. However, those presenting with alcohol intoxication or withdrawal should be assessed for presence of alcohol dependence.

Differential Diagnosis

- **Sedative/ hypnotic/ anxiolytic dependence**

Features of alcohol intoxication and withdrawal have some overlap with other depressant psychoactive substances such as sedatives/ hypnotics/ anxiolytics. However, history of use of these substances, along with clinical features specifically associated with these can help differentiate dependence on these substances from alcohol dependence. **Sedative/ hypnotic/ anxiolytic intoxication** is characterized by slurred speech, incoordination, unsteady gait, nystagmus, impairment in attention or memory, stupor or coma during, or shortly after their use. Sedative/ hypnotic/ anxiolytic withdrawal is characterized by autonomic hyperactivity in form of sweating, increased pulse rate; hand tremor; insomnia; nausea; vomiting; transient visual, tactile, or auditory hallucinations or illusions; psychomotor agitation; anxiety and grand mal seizures. These features follow cessation of (or reduction in) sedative/ hypnotic/ anxiolytic use that has been heavy and prolonged.

- **Alcohol abuse and harmful use**

Harmful use (used in ICD 10) represents a maladaptive patterns of alcohol use that leads to some kind of harm. Harmful use of alcohol refers to a pattern of alcohol use that leads to either physical or psychological harm. On the other hand, **alcohol abuse refers to a**

pattern of alcohol use that leads to failure to fulfill major role obligations; or recurrent use in situations in which it is physically hazardous; or associated with recurrent substance-related legal problems; or continued use despite having persistent or recurrent social or interpersonal problems. The diagnostic criteria for alcohol, harmful use and alcohol abuse have been presented in table 3.

Table 1. Diagnostic criteria for alcohol, harmful use (as per ICD 10)
<p>I. Diagnostic criteria for alcohol, harmful use (as per ICD 10) (adapted for alcohol)</p> <p>A pattern of alcohol use that is causing damage to health. The damage may be physical or mental. The diagnosis requires that actual damage should have been caused to the mental or physical health of the user.</p>

Co-morbid conditions

- **Psychiatric disorders**

Excessive use of alcohol, particularly in dependent pattern, is associated with different psychiatric disorders collectively known as **alcohol induced disorders**. These include **dementia, amnesic disorder, psychotic disorder (with delusions or with hallucinations), mood disorder, anxiety disorder, sexual dysfunction, sleep disorder**. These need to be differentiated from independent psychiatric disorders. Alcohol induced psychiatric disorders resemble their independent counterparts in terms of clinical features. However, these tend to have temporal association with pattern of alcohol use, are usually short lasting, and tend to remit with abstinence. However, in clinical practice it might be difficult to differentiate between the two. Consequently, those presenting with any of the psychiatric disorders should be assessed for presence of underlying alcohol dependence as well.

III. PREVENTION AND COUNSELING

Prevention has been recommended as an important public health intervention to address the problem of alcohol dependence. Prevention helps by preventing the onset of alcohol use or problematic alcohol use (in case alcohol use has set in).

Some of such strategies include:

- Raising awareness and commitment among the general public regarding harmful effects of alcohol use
- Health services response;
- Community action;
- Strict action against drunk-driving;
- Regulating availability and marketing of alcohol;
- Alcohol pricing policies;
- Reducing the negative consequences of drinking and alcohol intoxication;
- Reducing the public health impact of illicit alcohol and informally produced alcohol;
- Monitoring and surveillance of sell of alcohol

Counseling plays a key role in management of alcohol dependence both during the short term as well as long term phase of management. It has been described in greater details in the subsequent sections.

IV. DIAGNOSTIC CRITERIA, INVESTIGATIONS, TREATMENT & REFERRAL CRITERIA

ASSESSMENT

While assessing an individual for alcohol dependence, it is important to carry out complete clinical assessment. This includes medical history, physical examination, mental status examination (MSE) and investigations. Assessment is targeted:

- To ascertain the diagnosis of alcohol dependence
- To establish rapport with the patient
- To assess complications associated with alcohol use (including physical and psychological)
- To assess level of motivation
- To assess support and resources available
- To assess suitable setting for management
- To assess need for referral

Screening

There is a significant time lag between emergence of alcohol dependence and treatment seeking for the same. It is not uncommon for the patient with alcohol dependence to come in contact with medical facility for some unrelated medical condition. It is important for the clinician to enquire about alcohol use from every patient. Simple, brief and validated tools can be used to screen those with problem drinking. Those who screen positive on these instruments should then be assessed in greater detail for alcohol dependence. Two such screening instruments include CAGE questionnaire and the Alcohol Use Disorders Identification Test (AUDIT) (Table 4)

Table 2. Screening tools for problem alcohol use

CAGE questionnaire

Items

1. Have you ever felt that you should Cut down on your drinking?
2. Have people Annoyed you by criticizing your drinking?
3. Have you ever felt bad or Guilty about your drinking?
4. Have you ever had a drink first thing in the morning to steady your nerves or get rid of

a hangover (Eye-opener)?

Interpretation#

Answering Yes to 2 questions ó Strong Indication for alcohol dependence

Answering Yes to 3 questions ó May be taken as evidence for alcohol dependence

The Alcohol Use Disorders Identification Test (AUDIT)

Read questions as written. Record answers carefully. Begin the AUDIT by saying "Now I am going to ask you some questions about your use of alcoholic beverages during this past year. Explain what is meant by 'alcoholic beverages' by using local examples of beer, wine, vodka, etc. Code answers in terms of 'standard drinks'. Place the correct answer number in the box at the right.

1. How often do you have a drink containing alcohol?

- (0) Never [Skip to Qs 9-10]
- (1) Monthly or less
- (2) 2 to 4 times a month
- (3) 2 to 3 times a week
- (4) 4 or more times a week

2. How many drinks containing alcohol do you have on a typical day when you are drinking?

- (0) 1 or 2
- (1) 3 or 4
- (2) 5 or 6
- (3) 7, 8, or 9
- (4) 10 or more

3. How often do you have six or more drinks on one occasion?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

4. How often during the last year have you found that you were not able to stop drinking once you had started?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

5. How often during the last year have you failed to do what was normally expected from you because of drinking?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

9. Have you or someone else been injured as a result of your drinking?

- (0) No
- (2) Yes, but not in the last year
- (4) Yes, during the last year

10. Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?

- (0) No
- (2) Yes, but not in the last year
- (4) Yes, during the last year

Skip to Questions 9 and 10 if total score for questions 2 and 3 = 0

Interpretation-

Total scores of 8 or more are recommended as indicators of hazardous and harmful alcohol use, as well as possible alcohol dependence. AUDIT scores in the range of 8-15 represent a medium level of alcohol problems whereas scores of 16 and above represented a high level of alcohol problems.

History

Sources of information

While assessing an individual for alcohol dependence, the information can be obtained from the patient, family members, significant others including friends and treatment records. Denial and minimization are commonly observed among individuals with alcohol dependence. It is helpful to corroborate the information from different sources. However, even in case the clinician suspects that the information is being withheld by the patient, it should not become a barrier to the therapeutic process. More information can be expected during the subsequent interviews.

Information to be obtained

Apart from socio-demographic details, information should be obtained with regards to pattern of alcohol use, type of alcohol beverage used, duration of use, features of alcohol dependence, alcohol related complications (physical, psychological, familial, social, vocational, financial, legal), past abstinence attempts, and level of motivation. Information should also be obtained for possible high- risk sexual behavior.

Past history of any medical illness, psychiatric disorder, family history and personal history should also be obtained. All this information is important in psychosocial management.

Physical examination

A thorough general and systemic examination must be carried out for all patients with alcohol dependence. Physical examination can reveal features of alcohol intoxication or withdrawal (described in the previous section).

Additionally, physical examination helps identify presence of physical complications associated with alcohol use. Since patients with alcohol dependence may suffer from other medical

disorders, physical examination helps identify the associated medical conditions. One needs specifically to look at:

- Pulse: Could be low (intoxication) or high (withdrawal)
- Blood Pressure could be low (intoxication) or high (withdrawal or hypertension as a medical complication)
- Pallor: Seen in co-morbid anaemia
- Icterus: Indicative of hyperbilirubinemia (hepatic dysfunction)
- Generalised oedema: Indicates hypoproteinaemia (due to hepatic dysfunction)
- Abdomen examination: Look for hepatomegaly and signs of portal hypertension (caput medusa)

Chronic medical conditions that are associated with problematic alcohol use are listed in table 5. It is recommended to look for presence of clinical features associated with these medical conditions.

Table 3. Chronic medical conditions that are associated with problematic alcohol use (list is not all inclusive) (Shield et al, 2013)

A. Chronic medical conditions that may be attributed to alcohol

- Alcoholic gastritis
- Alcoholic liver disease
- Alcoholic fatty liver
- Alcoholic hepatitis
- Alcoholic fibrosis and sclerosis of liver
- Alcoholic cirrhosis of liver
- Alcoholic hepatic failure
- Alcoholic liver disease, unspecified
- Alcohol-induced acute pancreatitis
- Alcohol-induced chronic pancreatitis
- Alcoholic polyneuropathy
- Degeneration of nervous system attributed to alcohol
- Amnesic syndrome
- Psychotic disorder
- Residual and late-onset psychotic disorder
- Other mental and behavioral disorders
- Unspecified mental and behavioral disorder

- Alcoholic myopathy
- Alcoholic cardiomyopathy
- Fetus and newborn affected by maternal use of alcohol
- Fetal alcohol syndrome (dysmorphic)

B. Chronic medical conditions for which alcohol consumption is a component cause

- Hypertensive heart disease
- Ischemic heart disease and ischemic stroke
- Alzheimer's disease and other dementias
- Epilepsy
- Unipolar depressive disorders
- Diabetes
- Cancer of various organs

Mental Status Examination (MSE)

Mental Status Examination (MSE) includes following assessments.

- General appearance and behaviour: Gait incoordination, abusiveness, dressing pattern, smell of alcohol from the body or during conversation
- Psychomotor activity: Increased or decreased
- Speech: Coherence/relevance
- Affect: Irritable, depressed
- Thought: Presence of any delusions, ideas of hopelessness, helplessness, worthlessness, suicidal ideation and risk
- Perception: Visual/auditory hallucinations
- Orientation: Disorientation to time/place/person in alcohol withdrawal delirium
- Attention and concentration, memory, intelligence, abstraction
- Judgment- intact/impaired
- Insight
- Level of motivation.

MSE identifies presence of any co-occurring psychiatric disorders, level of motivation and presence of complicated alcohol withdrawal.

INVESTIGATIONS

The **diagnosis of alcohol dependence is clinical** and is based primarily on the information obtained from history. Findings from the physical examination and MSE can help support the diagnosis. Investigations do not **help establish or refute presence of diagnosis of alcohol dependence. However, the investigations are warranted in a case of alcohol dependence for the following reasons-**

- To assess presence of **medical illness** (secondary to alcohol use or independent)
- To monitor side effects/ adverse effects associated with medications used for management of alcohol dependence
- To rule out possible differential diagnosis of complicated alcohol withdrawal (delirium tremens)

The choice of investigations is guided by the information obtained from history and findings during examination. These can include biochemical investigations such as liver function test, neuroimaging such as CT scan, other radiological investigations such as endoscopy. Table 6 summarizes the important investigations indicated in a patient with alcohol use disorder.

It is recommended to get a base line haemogram (including haemoglobin, total leucocytes count, differential leukocyte count, peripheral blood smear); random blood sugar; liver function tests (serum bilirubin, SGOT, SGPT); and renal function test (serum creatinine, blood urea) for all patients with alcohol dependence.

Investigations	Indications
Haemoglobin	Nutritional deficiency
Peripheral blood smear	Nutritional deficiency
Total Leucocyte Count and Differential Leucocyte Count	Infection (possible cause of delirium)
Blood glucose	Hypoglycaemia (possible cause of delirium)

Serum electrolyte levels	Dyselectrolytemia (possible cause of delirium)
Serum bilirubin	Hepatic dysfunction
SGOT/ SGPT	Hepatic dysfunction

Table5. Specific investigations along with indications (for higher centres)	
Investigations	Indications
Prothrombin time	Hepatic dysfunction
Serum albumin/ globulin ration	Hepatic dysfunction
CT scan- Head	Head injury (possible cause of delirium)
USG abdomen	Hepatic damage
Upper Gastro-intestinal tract endoscopy	Oesophageal varices
Fibroscan	Cirrhosis of liver

TREATMENT

Phases of treatment

Treatment of alcohol dependence can be discussed under two distinct, but complimentary phases- the initial short- term management phase (also known as detoxification) and the later long- term management phase.

Short- term management phase

As mentioned earlier, the short- term management phase is also known as **detoxification**.

Aims

Aims of detoxification are as follows-

- To manage alcohol withdrawal
- To prevent complicated alcohol withdrawal
- To manage complicated alcohol withdrawal
- To manage the associated medical (including psychiatric) complications
- To establish rapport with the patient
- To prepare the patient for the long term management phase

Setting

The treatment for alcohol dependence can be carried out in the out-patient as well as in-patient settings. The choice for the setting can be guided by the patient, clinician as well as treatment facility related variables. **Some of the indicators for in-patient management are as follows-**

- Presence of **severe alcohol dependence** (drinks over 30 units of alcohol per day or regularly drinks between 15 and 30 units of alcohol per day and have significant psychiatric or physical co-morbidities)
- Presence of or **anticipated severe withdrawal**
- Presence of complicated withdrawal (withdrawal with seizures or delirium)
- History of complicated withdrawal (withdrawals with seizures or delirium)
- Co-occurring significant physical illness
- Co-occurring significant psychiatric disorder
- Concurrent abuse/ dependent use of other psychoactive substances including benzodiazepines
- Poor psychosocial support
- Distance from treatment centre that precludes regular follow up
- Failure of out-patient detoxification in past
- Pregnancy
- Children and adolescents
- Elderly
- Personal preference for in-patient treatment

Simple alcohol withdrawal

Specific assessment for alcohol withdrawal is based on clinical history and examination (physical and mental status) of the patient.

There is history of recent cessation of alcohol use that has been heavy and prolonged. Additionally, there is **presence of clinical features associated with alcohol withdrawal**. These include tremor of the outstretched hands, tongue or eyelids, sweating, nausea, retching or vomiting, tachycardia or hypertension, psychomotor agitation, headache, insomnia, malaise or weakness, transient visual, tactile or auditory hallucinations or illusions, and grand mal convulsions.

Alcohol withdrawal **typically develops 6 to 8 hours after the cessation of drinking**. Tremulousness is usually one of the earliest signs of alcohol withdrawal. The **psychotic and perceptual symptoms begin in 8 to 12 hours after cessation of alcohol** use. The withdrawal reaches peak intensity on the second or third day, and markedly diminishes by the fourth or fifth day.

It is important to rule out other causes of the clinical presentation based on history, examination and relevant investigations.

Complicated alcohol withdrawal

At times, patient with alcohol dependence develops what is known as **‘complicated withdrawal’**. It is observed among **3-5% of dependent users**, and is characterized by presence of **seizures or delirium** (known as delirium tremens) along with other features associated with alcohol withdrawal.

The alcohol withdrawal seizures typically develop 12 to 24 hours after cessation of drinking. These are generalized and tonic-clonic in character. Patients often have more than one seizure 3 to 6 hours after the first seizure. Status epilepticus is relatively rare.

Delirium tremens develops between 2- 5 days of cessation of alcohol use, but can appear even up to a week after stopping alcohol use. It is characterized by disturbance of consciousness, reduced ability to focus, to sustain, or to shift attention, a change in cognition (such as memory deficit, disorientation, or language disturbance), and perceptual disturbance. Additionally there can be disturbance of mood or sleep wake cycle, impairment in recent memory, delusion and

evening worsening of symptoms, with severe agitation and coarse tremors of limbs and body. Delirium is potentially life threatening if left unattended.

It is important to exclude other possible causes of delirium like fluid and electrolyte disturbance, physical conditions like hepatic dysfunction, possibility of head injury, etc.

Medications

Benzodiazepines share tolerance with alcohol (cross tolerance) and hence can be used for management of alcohol withdrawal. Several meta-analyses have supported efficacy of benzodiazepines in reducing the severity of withdrawal, prevention of delirium and withdrawal seizures. These are recommended as the first line of treatment of alcohol withdrawal. Long acting benzodiazepines (such as chlordiazepoxide and diazepam) are preferred over short acting benzodiazepine for this purpose. Short acting benzodiazepines (such as **oxazepam and lorazepam**) are preferred in liver damage, in elderly and in people with cognitive dysfunction. However, the short acting benzodiazepines have to be administered more frequently to manage withdrawal. The equivalent dose of different benzodiazepines that are commonly used in management of alcohol withdrawal have been provided in table 8.

Table 6. Approximate therapeutic dose equivalent of different benzodiazepines commonly used in management of alcohol withdrawal	
Benzodiazepine	Dose equivalent (mg)
Chlordiazepoxide	25
Diazepam	10
Lorazepam	2
Oxazepam	30
<i>#Dosing frequency, duration and dose reduction depends on the regimen used for withdrawal management</i>	

Treatment regimen

Benzodiazepines for management of alcohol withdrawal (detoxification) can be administered using either of the three administration regimens. These include **fixed dose schedule, symptom triggered dosing, and front loading schedule (table 7).**

A **fixed dose schedule** involves starting treatment with a standard dose determined by the recent severity of alcohol dependence and/or typical level of daily alcohol consumption, followed by reducing the dose to zero usually **over 7 to 10 days**. The starting dose of benzodiazepine is guided by the severity of dependence and expected severity of the withdrawal. The starting dose of benzodiazepine can vary **from 15 mg four times a day (q.d.s.) to 50 mg four times a day (q.d.s.) of chlordiazepoxide dose equivalent (or 10 mg three times a day to 25 mg three times a day of diazepam dose equivalent)**. The same dose is usually maintained over the next two days. The dose reduction is made at the rate of 20% every day or 25% every alternate day.

A **symptom triggered dosing approach involves monitoring of the patient on a regular basis and pharmacotherapy** is administered according to the patient's level of withdrawal symptoms (ranging from 10-20 mg dose equivalent of diazepam per administration). Pharmacotherapy continues as long as the patient is displaying withdrawal symptoms and the administered dose depends on the assessed level of alcohol withdrawal. The severity of the alcohol withdrawal and response to treatment can be assessed objectively using structured rating scales. One of the most commonly used and recommended instrument for this purpose is revised **Clinical Institute Withdrawal Assessment for Alcohol Scale (CIWA-Ar)**. It includes 10 items which are the common symptoms and signs of alcohol withdrawal- nausea and vomiting, tremor, paroxysmal sweats, anxiety, agitation, tactile disturbances, auditory disturbances, visual disturbance, headache, orientation and clouded sensorium. All items are scored from 0-7 with the exception of the orientation category, scored from 0-4. Scoring is done as 0-9 absent or minimal withdrawal, 10-19 mild to moderate withdrawal, and severe with score greater than 20.

A **front-loading regimen involves providing the patient with an initially high dose of medication (30-40 mg dose equivalent of diazepam)**, and then using either a fixed dose schedule or symptom triggered dosing approach. Usually, very little additional medication is necessary after initial loading in this regimen.

Table 7. Different regimens for alcohol withdrawal management (detoxification)		
Fixed dose schedule	Starting treatment with a standard dose determined by the recent severity of alcohol dependence	Reducing the dose to zero usually over 7 to 10 days at the rate of 20% every

	and/or typical level of daily alcohol consumption	day or 25% every alternate day
Symptom triggered dosing	Pharmacotherapy is administered according to the patient's level of withdrawal symptoms.	Pharmacotherapy continues as long as the patient is displaying withdrawal symptoms and the administered dose depends on the assessed level of alcohol withdrawal
Front loading schedule	An initially high dose of medication is administered and subsequently either a fixed dose schedule or symptom triggered dosing approach is used	Depends on the regimen used.

There is some evidence to indicate the superiority of symptom-triggered regimens. The use of fixed dosing schedule is recommended for general care in community and symptom triggered dosing is preferred when close observation is possible. Symptom triggered dosing is not recommended in the patients with a past history of withdrawal seizures.

Benzodiazepine doses **may need to be reduced by about 50% in the geriatric population**, and in persons with liver impairment.

Dose and duration of drug treatment depends on quantity of alcohol daily used/last dose, time elapsed after the last dose of alcohol, severity of alcohol withdrawal symptoms at the initiation of treatment, presence of medical co-morbidities (specifically liver dysfunction) and psychiatric co-morbidities. So, the dose and duration needs to be individualized.

Along with benzodiazepines, the alcohol withdrawal management includes general nursing care in form of maintaining **hydration and nutritional** status. There is no consensus on adequate dose and duration of thiamine supplementation during management of alcohol withdrawal. In all cases of alcohol detoxification it is recommended to give **oral thiamine for minimum of three months**. All patients in alcohol withdrawal should receive at least **250 mg thiamine by the parenteral route once a day for the first 3-5 days**. Those with **suspected**

Wernicke's encephalopathy should receive 500 mg/day thiamine for 3-5 days. The symptoms of Wernicke's encephalopathy are confusion, ataxia and nystagmus. Ophthalmoplegia may occur in severe cases. After receiving the parenteral thiamine, the supplementation can then be continued orally. Also, any parenteral administration of glucose during withdrawal management should not be done without addition of thiamine.

Management of alcohol withdrawal seizures

Effective management of alcohol withdrawal is preventive against emergence of withdrawal seizures. **The alcohol withdrawal seizures can be managed by both short acting (lorazepam- considered to be more effective by some) and long acting (diazepam) benzodiazepines.** Benzodiazepines can be given either orally or parenterally. However, diazepam should only be given through intravenous route if administered parenterally because of their erratic absorption by intra-muscular route.

Seizure prophylaxis with lorazepam 2 mg intravenously must be given to all patients with seizures in the current withdrawal period at presentation and also in those with past history of withdrawal seizure. The dose should be tapered down starting at a high dose that should be gradually reduced once the seizures have been controlled. Sufficient benzodiazepines should be given to keep the patient calm and sedated, and manage other alcohol withdrawal symptoms.

Prophylactic use of anticonvulsants such as phenytoin is not recommended except in cases of co-occurring (non- alcohol withdrawal related) seizure disorder and alcohol use. A thorough neurological and general medical evaluation should be done to exclude any other possible cause of seizures among all patients who develop seizures during alcohol withdrawal.

Management of delirium tremens

Delirium tremens should be managed in inpatient setting. The patient should be kept under close supervision. Safety of the patient against any physical harm should be ensured. Water and electrolyte balance and nutritional status should be maintained. **The benzodiazepines are more effective than antipsychotic medicines in reducing mortality in alcohol withdrawal delirium.** These can be administered through parenteral route in sufficient dosages with an aim

to make the patient calm and sedated. An initial **dose of 10 mg diazepam is given intravenously**. Further doses of 10 mg can be **repeated every 5-20 min interval**. **The aim is to make the patient calm and sedated**. The dose can be increased to 20 mg per bolus for the subsequent boluses if the first two boluses do not calm the patient down. The patient with delirium tremens can have lucid intervals in between. Hence it is important to be vigilant about reemergence of the clinical features of delirium. Subsequently the patient can be shifted to oral benzodiazepines and the dose can be gradually tapered down.

General Nursing Care

Nurses should consider patient safety and injury prevention. The patient should be appropriately monitored and emergency airway equipment kept at the bedside, especially for those who require injectable benzodiazepines.

- **Restraints:** The critically ill patient experiencing moderate to severe AWS symptoms may require both chemical and physical restraints to avoid immediate threat behavior to self and others. Use of bed rails is advisable.
- **Managing behavioural disturbance:** If the patient is confused and disoriented or hallucinating, a supportive and reassuring approach is to be used and patient should not be confronted.
- **Managing environment.** The patient's room should be kept quiet everyone should move around quietly. Interaction should be minimal and questions limited.
- **Nutritional needs.** The patient may be malnourished, causing folate, thiamine, or vitamin B12 deficiency. If the patient is unable to eat, tube feedings or total parenteral nutrition (TPN) should be initiated early. If a feeding Ryle's tube is used it is taped at the nose and cheek area, with the tubing running toward the head and behind the bed.
- **Involving family:** A complete care plan should involve family members in a therapeutic alliance to provide optimal symptom relief and formulate acceptable behavior objectives for the patient.

Motivational Enhancement Therapy (MET)

Patients with alcohol dependence can be in different stages of change with regards to their alcohol use. These include **pre-contemplation stage** (when an individual has not yet

contemplated bringing in a change), **contemplation stage** (when an individual is still debating the pros and cons of continuing with alcohol use or quitting it), **preparation stage** (when an individual has recognized the need to change and is making preparations towards the same), **action stage** (when an individual, has taken steps towards quitting alcohol use, e.g. seeking treatment) and **maintenance stage** (when an individual has modified his alcohol use pattern and maintaining the same). The short-term management phase for alcohol dependence can be used to further enhance the motivation of the patient and strengthen the commitment to change towards an alcohol-free life style. **Motivational enhancement therapy (MET)** can help achieve this. It utilizes different principles such as **expressing empathy through reflective listening, developing discrepancy between clients' goals or values and their current behavior, avoiding argument and direct confrontation, adjust to client resistance rather than opposing it directly, supporting self-efficacy and optimism.**

Appropriate motivational strategies for each stage of change could be as follows:

Precontemplation: Establish rapport, build trust. Raise doubts or concerns in the person about substance using pattern. Explore the meaning of events that brought the patient to treatment or the results of previous treatment. Elicit the patient's perception of the problem. Give factual information about the risk of substance use. Provide personalized feedback about assessment findings. Explore the pros and cons of substance use. Examine the discrepancies between the patient and others perception of the problem behavior. Express concern and keep the door open.

Contemplation: Normalize ambivalence; help the patient tip the decisional balance scale towards change by eliciting and weighing pros and cons of substance use and change. Change extrinsic and intrinsic motivation. Examine the patient's personal values in relation to change. Emphasize the choice of responsibility and self-efficacy. Elicit self-motivational statements of intent and commitment. Elicit ideas regarding perceived self-efficacy and expectations towards treatment. Summarize self-motivational statements.

Preparation: Clarify the patient's own goal and strategies for change. Offer a menu of options. With permission, offer advice. Negotiate a change or treatment plan and behavior contract. Counter and lower barriers to change. Help the patient enlist social support. Explore treatment expectancies and the patient's role. Elicit what has worked in the past for him

others whom he knows. Assist the patient to negotiate finances, child care, work or other barriers. Have the person publicly announce plans to change.

Action: Engage the patient in treatment and reinforce the importance of remaining in recovery. Support a realistic view of change through small steps. Acknowledge difficulties for the person in early stages of change. Help in identifying high risk situation and develop appropriate coping strategies to overcome them. Assist in finding new reinforcers of the change. Help in assessing whether the person has strong family and social support.

Maintenance: Help in identifying and sample drug free sources of pleasure. Support life style change. Affirm person's resolve and self-efficacy. Assist in practicing the use of new coping strategies to avoid return to drug use. Maintain supportive contact. Develop a "fire-escape" plan if the patient resumes substance use. Review long term goals (Substance Use Disorder Manual).

Long-term management phase

While the short-term management phase is an important and essential stage in management of alcohol dependence, it in itself is not sufficient to achieve the long-term abstinence from alcohol. In order to reduce the risk of relapse and improve treatment outcome, it is important to **integrate the short-term management phase into the long-term management phase**. There is no clear-cut demarcation between the short-term and long-term management phases, but long-term management phase usually begins, once the initial withdrawal management from alcohol has been achieved and the patient is reasonably comfortable to participate in the long-term management phase.

Aims

Aims of the long term management phase are as follows-

- To consolidate the progress made during the short-term management phase
- To maintain abstinence from alcohol
- To prevent and delay relapse
- Management of physical and psychological complications associated with alcohol use
- Vocational rehabilitation
- Addressing other familial, social and legal complications associated with alcohol dependence

Setting

The long-term management phase does not require hospitalization and can be carried out from the **outpatient setting**. However, in case a patient requires longer hospitalization (e.g. due to management of a medical complication of alcohol use), the long-term management phase can start in the in-patient setting itself.

Medications

Various medications that can be used in long-term management of alcohol dependence include **acamprosate, naltrexone, disulfiram**.

Acamprosate: Acamprosate is an **anti-craving medication** that is used for **long-term management of alcohol dependence**. It is hypothesized that it acts as a functional glutamatergic NMDA antagonist. It has been found to be more effective than placebo in maintaining abstinence and in preventing relapse in meta-analysis. It is relatively safe in mild to moderate hepatic dysfunction.

It is available as 333mg tablets. The usual **daily dose of acamprosate ranges from 1332 mg/day (body weight < 50 kg; dosing schedule- Tab. Acamprosate (333 mg) 1-1-2- one tablet each in morning and afternoon and two tablets at bedtime) to 1998 mg/day (body weight > 50 kg; dosing schedule- Tab. Acamprosate (333 mg) 2-2-2, two tablets thrice a day).**

Disulfiram: Disulfiram is a **deterrent medication**, used for long-term management of alcohol dependence. It is an irreversible inhibitor that **blocks aldehyde dehydrogenase**, causing accumulation of acetaldehyde if alcohol is consumed, resulting in what is known as **disulfiram-ethanol reaction (DER)**.

Disulfiram should always be started after a **written informed consent** of the patient. The patients using disulfiram also need to be informed to **avoid all forms of alcohol containing items (including alcoholic beverages, after shave lotions, food items containing vinegar, medications such as metronidazole etc.)**.

The usual dose of disulfiram is 250 mg/ day. The first dose of disulfiram should be administered at least 24 hours after the last dose of alcohol. It is advisable to administer the dose under supervision. In case a patient fails to experience DER with 250 mg/day, the dose can be increased to 500 mg/ day, which can further be increased up to 750 mg/ day. However, one should ensure compliance prior to hiking the dose.

The **DER** includes **sweating, warmth and flushing, hyperventilation, respiratory difficulty, respiratory depression, blurred vision, throbbing headache**, thirst, nausea, vomiting, chest pain, palpitations, hypotension, tachycardia, cardiovascular collapse, arrhythmia, myocardial infarction (in individuals with preexisting coronary artery disease), acute congestive heart failure (in individuals with preexisting myocardial dysfunction), vertigo, syncope, marked uneasiness, confusion, seizures, unconsciousness, death (rarely, in case of very severe reaction).

Severity of DER depends on the amount of alcohol consumed and individual related variables. There is potential for a reaction with alcohol for up to 2 weeks after stopping disulfiram. The fall in blood pressure should be controlled on a priority basis. If DER is mild, assurance and oral fluids suffice. In patients with moderate or severe DER, intravenous fluids and, in some patients, dopamine infusion is necessary to control the severe hypotension.

Liver function tests (especially SGOT and SGPT levels) should be carried out at base line prior to initiation of disulfiram and then every 2 weeks for the first 2 months of therapy. Subsequently it can be performed once every three months.

Naltrexone

Naltrexone is another anti-craving agent used for long-term management of alcohol dependence. It is thought to act by preventing the opiate receptor mediated euphoric and rewarding effects of alcohol by blocking the opioid receptors. Oral naltrexone has been shown to reduce return to heavy drinking.

Oral Naltrexone is given at dose of 50mg/ day.

It is recommended to get baseline liver function tests prior to starting naltrexone. Liver function test should be repeated periodically (monthly for the first three months, and subsequently once every three months) to monitor for emergence of hepatic side effects of the medication.

Additionally, naltrexone and acamprosate can be used in combination. Also, disulfiram can also be used in combination with naltrexone and acamprosate.

Table 10 summarizes some of the common side effects and contraindications to use of these medications.

Table 8. Common side-effect of the medicines used in long term management phase for alcohol dependence				
Medicine	Common side-effects and contraindications to use	Dose	Frequency	Duration
Acamprosate	Diarrhea with abdominal pain, nausea, vomiting, pruritus Contraindications- hypersensitivity reaction, pregnancy and breastfeeding, renal insufficiency (serum creatinine more than 120 micromoles per litre), severe hepatic failure FDA pregnancy category C	1332 mg/day (body weight < 50 kg) to 1998 mg/day (body weight > 50 kg)	TDS	One year
Disulfiram	Drowsiness, fatigue, abdominal pain, headache, nausea, diarrhea, allergic dermatitis, metallic or garlic like after taste Contraindications (absolute)- hypersensitivity reaction , pregnancy and breast feeding Contraindications (relative)- cardiovascular problems, severe personality disorder, suicidal risk,	250mg/day	OD	One year

	psychosis FDA pregnancy category C			
Naltrexone	Nausea, headache, abdominal pain, reduced appetite and tiredness Contraindications- acute liver failure (caution is suggested when serum aminotransferases are four to five times above normal) FDA pregnancy category C	50 mg/day	OD	One year

Duration of treatment

There is limited consensus on duration of use for medications used in long term phase of management of alcohol dependence. It is **advisable to continue these medications for a period of 9-12 months**. These can be continued even longer if deemed appropriate by the clinician and the patient. Risk of relapse, status of rehabilitation of the patient and patient's confidence to live without the support of the medications are some of the factors that can help decide on the duration of treatment.

Psychosocial interventions

It has been shown that **utility of pharmacological therapies** can be enhanced when combined with non-pharmacological interventions. It is recommended to offer pharmacological interventions for alcohol dependence in conjunction with psychosocial interventions.

The **goal of psychosocial interventions in long term management of alcohol dependence include improved therapeutic adherence, achieving sustained drug free status, encouraging and supporting drug free life style and rehabilitation** of the patient.

Psycho-social interventions include **motivational enhancement therapy (MET), cognitive behavior therapy (CBT), relapse prevention (RP), contingency management (CM) and family therapy**.

MET has been discussed in the section on short-term management of alcohol management.

CBT is based on the social learning theories aimed at improving self-control and social skills. This leads to promotion of a drug free life style.

RP is aimed at helping the alcohol dependent individuals to delay lapse and prevent relapse. It involves various steps used to help patients develop greater self-control over alcohol use behaviors.

CM is a behavioral therapy that helps support alcohol free life style by making rewards contingent of alcohol free status.

Family therapy help address the issues in the context of family of alcohol dependent individual. These include inter-personal problems, expressed emotions, etc.

Additionally, it is important to help the patient with vocational rehabilitation.

Timing of psychosocial interventions

The **psychosocial interventions should be started as early as possible in the management of alcohol dependence.** The relevant psychosocial interventions can be initiated once the patient is physically comfortable and in a position to attend the sessions. This can be done even during the short-term phase of management.

Settings for psychosocial interventions

The psychosocial interventions can be offered both in inpatient as well as outpatient settings. When a patient receives the short-term management for alcohol dependence in inpatient setting, psychosocial interventions can start in the inpatient setting and then can be continued on the outpatient basis.

Brief interventions (BI)

Those who are using alcohol but not in a dependent pattern could also be at increased risk of experiencing harms associated with alcohol use in immediate future or even later. Individuals having harmful or hazardous pattern of alcohol use can benefit from Brief

Intervention (BI). Such individuals usually do not require medicines and can be helped using short term interventions aimed at changing their behavior by helping them understand how their alcohol use puts them at risk and to reduce or give up their alcohol use. Brief Interventions usually last from 5 minutes of brief advice to 15-30 minutes of brief counseling. While BI help address the problematic or risky substance use, these are not intended to treat people with alcohol dependence.

The consistent features in BI have been summarized by Millerand Sanchez (1993) using the acronym **FRAMES: Feedback, Responsibility, Advice, Menu of options, Empathy and Self-efficacy (confidence for change).**

- The provision of giving personally relevant feedback after assessment such as individual's drug use and problems and associated personal risks is a key component of brief intervention.
- Personal responsibility is emphasized so as to bring about change in behavior.
- Advice about changing the drug taking behavior is given in a non-judgemental manner.
- Alternative strategies to cut down or stop their substance use are given.
- Empathic counselling and understanding approach to encourage the patient's confidence so as to promote self- efficacy in their behaviour is used.

REFERRAL CRITERIA

The following are the indications for referral to a higher centre:

- Presence of **co-morbid psychiatric condition** that cannot be managed at the primary care or secondary care level
- **Physical comorbidity of serious nature** for which adequate infrastructure and support may not be available (e.g., decompensated cirrhosis with imminent risk of hepatic encephalopathy; actively bleeding peptic ulcer; pancreatitis, uncontrolled seizures, etc.). In such circumstances, liaison should be made for transfer to other specialist departments or to emergency services for stabilization of patient's physical condition first.
- **Presence of a co-morbid substance use disorder** for which treatment is not available at primary/secondary hospital setting (e.g. opioid substitution therapy for opioid dependence)
- Non-availability of professionals to administer psycho-social interventions

VI. WHO DOES WHAT AND TIMELINES

The roles and responsibilities of various members of treatment team in management of alcohol dependence are as follows-

a. Doctor

The doctor shall be the overall in-charge of the treatment team. The doctor coordinates and supervises other members of the treatment team. Additionally, he will be responsible for the clinical assessment (history taking, physical examination, MSE), formulation of management plan, selection of investigations, initiation and continuation of the pharmacological treatment. The doctor shall also make the decision regarding the requirement of referral to a higher center.

b. Clinical psychologist/ counsellor

The clinical psychologist/ counselor is responsible for psychosocial assessment and interventions.

c. Nurse

The nurse is responsible for general nursing care, regular observation and monitoring of the patient, administration of medications, offering feedback to the team regarding the patient based on observations made.

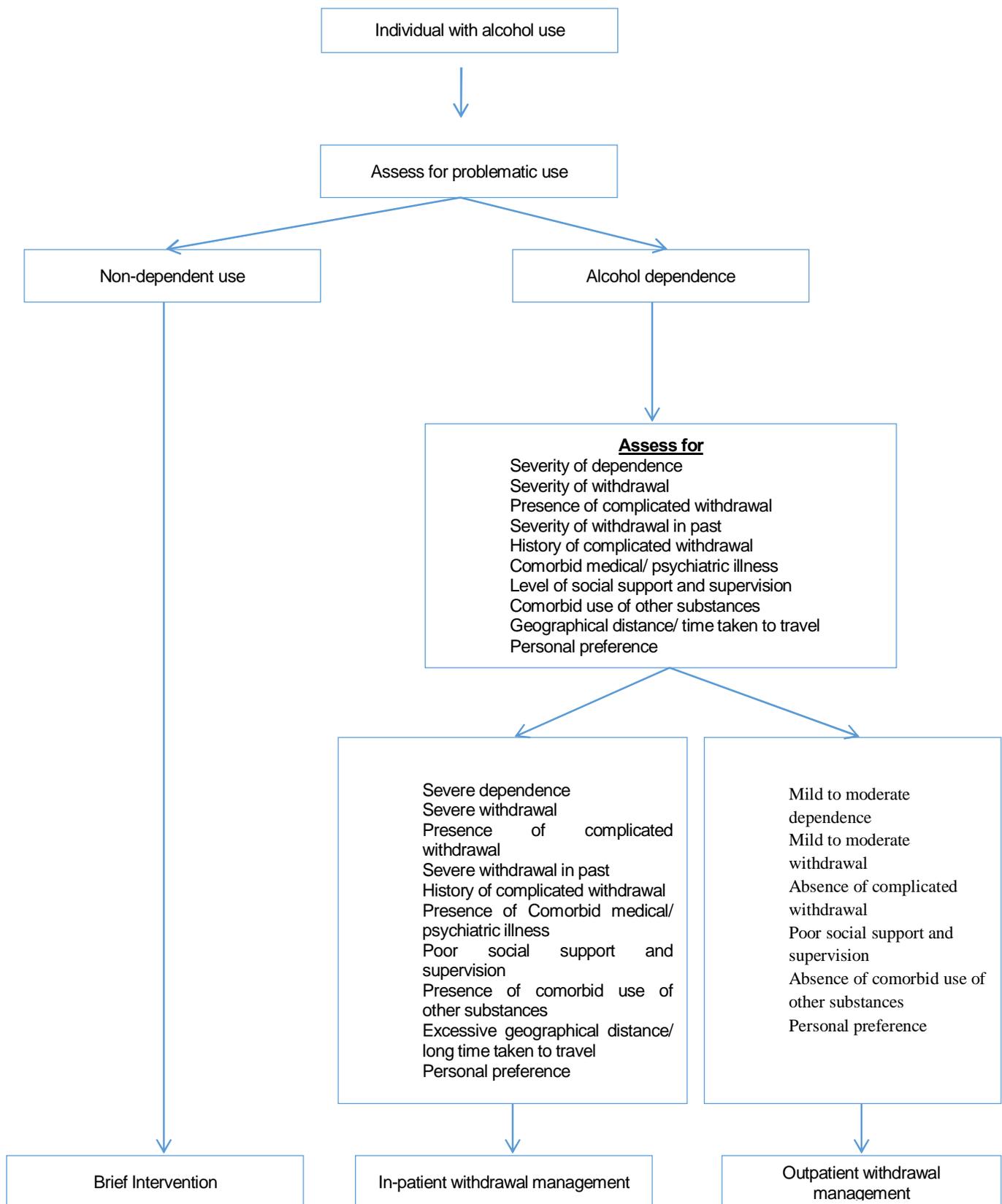
d. Medical Social Worker (MSW)

The Medical Social Worker (MSW) carries out assessment of the patient on psychosocial issues and helps the patient in vocational rehabilitation. MSW also establishes contact with the family members/ significant others and contacts the patient in case of treatment drop out.

Timeline of various activities/ interventions

A suggested time line for various activities/ interventions in the management of alcohol dependence is shown in figure 1. It can be modified and individualized, based on the requirements of a particular patient based on the clinical judgment of the patient.

VII. Clinical Pathways for Management of Alcohol Dependence



VIII. How these Guidelines were developed

Background

A Task Force was constituted in December 2014 to guide the development of Standard Treatment Guidelines (STG) in India for application in the National Health Mission. The Task Force subsequently approved the draft STG development manual of India (Part 1) for development of adapted guidelines. In addition, it approved a list of 14 topics recommended by a subgroup of the task force appointed to select prioritized topics for STG development. These 14 topics are from 10 clinical specialties for which the first set of STGs will be developed. The topic of Management of Alcohol Dependence was included in this first list and was the dealt with by the Psychiatry clinical subgroup.

Formation of STG Group on Psychiatry

A multidisciplinary group composed of a mix of primary care practitioners, academicians and practicing psychiatrist was constituted with Dr. Rakesh Chadda as the facilitator of the group. Following were the members of group-

Coordinator	Dr Rakesh Chadda Professor of Psychiatry AIIMS, New Delhi drrakeshchadda@gmail.com
Experts	Prof Rakesh Lal Professor of Psychiatry Deptt of Psychiatry & National Drug Dependence Treatment Centre (NDDTC) AIIMS, New Delhi 110029 rakeshlall@rediffmail.com Prof Debashis Basu Professor of Psychiatry PGIMER, Chandigarh 160012 db_sm2002@yahoo.com Dr Nitin Gupta Associate Professor Department of Psychiatry Govt Medical College & Hospital, Chandigarh nitingupta659@yahoo.co.in Dr Yatan PS Balhara Asstt. Professor Deptt of Psychiatry & NDDTC AIIMS, New Delhi 110029

	<p>mailto:rakeshlall@rediffmail.com mypsbalhara@gmail.com</p> <p>Dr Rachna Bhargava, Asstt. Professor in Clinical Psychology Deptt of Psychiatry & NDDTC AIIMS, New Delhi 110029 rachnabhargava@gmail.com</p> <p>Dr Bichitra Nanda Patra, Asstt Professor Department of Psychiatry, AIIMS, New Delhi 110029 patrab.aiims@gmail.com</p> <p><u>Dr Sandhya Gupta</u> <u>Lecturer, College of Nursing</u> <u>AIIMS, New Delhi 110029</u> <u>drsandhyag407@gmail.com</u></p>
--	--

The group was constituted 7 August 2015. All the members signed the declaration of Interest. First face to face Meeting was held on 17 August 2015 attended by Drs Chadda, Lal, Balhara, Rachna,, Bichitra. Scope decided as guidelines on alcohol dependence for use in different settings. Uncomplicated cases can be managed as outpatient and management does not differ across different setting. Complicated cases and those with co morbid problems need specialist input and can be managed only in secondary or tertiary care. First draft got ready on 10th Sept 2015; shared on email amongst the group. Second Face to Face Meeting was held on 13 Sept 2015. Draft modified as per discussion and submitted on 6 Oct 2015 to the Internal Harmonization Group of STG Taskforce. The draft document was reviewed by Internal Harmonization Group on 24th of October 2015 consisting of Dr. Sangeeta Sharma (IBHAS), Dr. Anil Gurtoo (LHMC), Dr. Om Sai Ramesh (LHMC), Dr. Babban Jee (ICMR) and Dr. Nikhil Prakash (NHSRC). The comments of internal harmonization group were received on 8th of November 2015. Third Face to Face Meeting was called on 13 Nov 2015 Attended by Drs Chadda, Lal, Balhara, Rachna,, Bichitra. The Revised draft was prepared and further discussed meeting on third 3 Dec 2015.

Search and Selection of Evidence Based Guidelines

In view of the paucity of time available to develop this guideline, a decision was taken by the Task Force for the Development of STGs for the National Health Mission that these STGs would be adopted and/or adapted from existing evidence based guidelines to make them relevant to our context, resource settings and priorities.

A search was conducted for evidence based guidelines which had been framed using evidence based methodology and using international guideline development

criteria. Following guidelines were selected for Adapting/Adopting recommendations based strength of evidence, currency of guidelines and suitability to Indian context.

Table 9. List of available guidelines on management of alcohol dependence and the guidelines referred to for the purpose of the current guideline		
List of the available guidelines	Guidelines consulted for the current guideline	Rationale for considering the source guideline
Alcohol use disorders- Diagnosis, assessment and management of harmful drinking and alcohol dependence. NICE clinical guidelines. National Institute for Health and Clinical Excellence, UK, 2011.	Alcohol use disorders- Diagnosis, assessment and management of harmful drinking and alcohol dependence. NICE clinical guidelines. National Institute for Health and Clinical Excellence, UK, 2011.	These guidelines are evidence based, have been created systematically, are some of the most recent documents on this topic, represent diverse settings across various countries including India and cover various aspects related to management of alcohol dependence.
Clinical practice guideline for Management of Substance Use Disorders (SUD). Department of Veterans Affairs Department of Defense, USA, 2009.	Clinical practice guideline for Management of Substance Use Disorders (SUD). Department of Veterans Affairs Department of Defense, USA, 2009.	
Clinical Practice Guidelines for the assessment and management of substance use disorders. Indian Psychiatric Society, 2014.	Clinical Practice Guidelines for the assessment and management of substance use disorders. Indian Psychiatric Society, 2014.	
Detoxification and Substance Abuse Treatment. <i>Treatment Improvement Protocol (TIP) Series, No. 45</i> . Center for Substance Abuse Treatment. Substance Abuse and Mental Health Services Administration (US); 2006.	Detoxification and Substance Abuse Treatment. <i>Treatment Improvement Protocol (TIP) Series, No. 45</i> . Center for Substance Abuse Treatment. Substance Abuse and Mental Health Services Administration (US); 2006.	
Drug and Alcohol Withdrawal Clinical Practice Guidelines ó NSW. Mental Health and Drug & Alcohol Office, NSW Department of Health, Australia, 2007.	Global strategy to reduce the harmful use of alcohol. World Health Organization, 2010.	
Global strategy to reduce the harmful use of alcohol. World Health Organization, 2010.	Guidelines on treatment of alcohol problems. Australian Government Department of Health and Ageing, The University of Sydney, Australia, 2009.	
Guidelines on treatment of alcohol problems. Australian Government Department of Health and Ageing, The University of Sydney, Australia, 2009.	Incorporating Alcohol Pharmacotherapies Into Medical Practice. <i>Treatment Improvement Protocol (TIP) Series, No. 49</i> . Center for Substance Abuse Treatment. Substance Abuse and Mental Health Services Administration (US); 2009.	
Incorporating Alcohol Pharmacotherapies Into Medical Practice. <i>Treatment Improvement Protocol (TIP) Series, No. 49</i> .	Manual for Long Term Pharmacotherapy. NDDTC, AIIMS, New Delhi, 2013.	

Center for Substance Abuse Treatment. Substance Abuse and Mental Health Services Administration (US); 2009.		
Manual for Long Term Pharmacotherapy. NDDTC, AIIMS, New Delhi, 2013.	Quick reference guide to the treatment of alcohol problems. Australian Government Department of Health and Ageing, The University of Sydney, Australia, 2009.	
mhGAP Intervention Guide for mental, neurological and substance use disorders in non-specialized health settings. Mental Health Gap Action Programme. World Health Organization, 2010.	Substance Use Disorders. Manual for Physicians. NDDTC, AIIMS, New Delhi, 2013.	
Naltrexone and Alcoholism Treatment. Treatment Improvement Protocol (TIP) Series, No. 28. Center for Substance Abuse Treatment. Center for Substance Abuse Treatment. Substance Abuse and Mental Health Services Administration (US); 1998.	The Maudsley Prescribing Guidelines in Psychiatry, 2015.	
Practice guideline for the Treatment of Patients With Substance Use Disorders, Second Edition. American Psychiatric Association, USA, 2006.		
Quick reference guide to the treatment of alcohol problems. Australian Government Department of Health and Ageing, The University of Sydney, Australia, 2009.		
Substance Use Disorders. Manual for Physicians. NDDTC, AIIMS, New Delhi, 2013.		
The Maudsley Prescribing Guidelines in Psychiatry, 2015.		

Adoption/Adaption of Recommendations

Recommendations selected from various source guidelines are considered for adaptations/Adoption. Following is the summary of adaption/adoption of the key recommendations.

Recommendations in the source guidelines	Whether adopted/ adapted	Rationale for adaptation
The diagnosis of alcohol dependence can be done using ICD-10 diagnostic criteria	Adapted	While some of the guidelines did not specify the process of reaching at a diagnosis of alcohol dependence, others recommended use of DSM. Since ICD- 10 is the WHO approved nosological system

		the same has been recommended for diagnosing.
<p>The indicators for in-patient management during the short term phase of management are as follows:</p> <ul style="list-style-type: none"> -Presence of severe alcohol dependence (drinks over 30 units of alcohol per day or regularly drinks between 15 and 30 units of alcohol per day) -Presence of or anticipated severe withdrawal or complicated withdrawal (withdrawal with seizures or delirium) -Co-occurring significant physical and psychiatric illness -Poor psychosocial support -Distance from treatment centre that precludes regular follow up -Failure of out-patient detoxification in past -Pregnancy, children and adolescents and elderly 	Adopted	
Benzodiazepines are recommended as the first line of treatment of alcohol withdrawal.	Adopted	
Long acting benzodiazepines (such as chlordiazepoxide and diazepam) are preferred over short acting benzodiazepine for this purpose.	Adopted	
Short acting benzodiazepines (such as oxazepam and lorazepam) are preferred in liver damage, in elderly people.	Adopted	
<p>Benzodiazepines for management of alcohol withdrawal can be administered using either of the following three administration regimens.</p> <ul style="list-style-type: none"> -Fixed dose schedule -Symptom triggered dosing -Front loading schedule 	Adopted	
Along with benzodiazepines, the alcohol withdrawal management includes general nursing care in form of maintaining hydration and nutritional status.	Adopted	
In all cases of alcohol detoxification it is recommended to give oral thiamine for minimum of three months.	Adopted	
All patients in alcohol withdrawal should receive at least 250 mg thiamine by the parenteral route once a day for the first 3-5 days.	Adopted	
Any parenteral administration of glucose during withdrawal management should not be done without addition of thiamine.	Adopted	
<p>Management of alcohol withdrawal includes general nursing care aimed at:</p> <ul style="list-style-type: none"> - Keeping the environment quiet - Prevention of injury to the patient and others - Maintaining hydration and nutrition 		
<p>Management of alcohol withdrawal seizure:</p> <ul style="list-style-type: none"> -Effective management of alcohol withdrawal is 	Adopted	

<p>preventive against emergence of withdrawal seizures.</p> <p>-The alcohol withdrawal seizures can be managed by both short acting (lorazepam- considered to be more effective by some) and long acting (diazepam) benzodiazepines.</p> <p>-Benzodiazepines can be given either orally or parenterally.</p>		
<p>Management of delirium tremens:</p> <p>-Delirium tremens should be managed in inpatient setting. Safety of the patient against any physical harm should be ensured.</p> <p>-Water and electrolyte balance and nutritional status should be maintained.</p> <p>-The benzodiazepines are to be administered through parenteral route in sufficient dosages with an aim to make the patient clam and sedated.</p> <p>-An initial dose of 10 mg diazepam is given intravenously. Further doses of 10 mg can be repeated every 5-20 min interval. The dose can be increased to 20 mg per bolus for the subsequent boluses if the first two boluses do not calm the patient down.</p> <p>-Subsequently the patient can be shifted to oral benzodiazepines and the dose can be gradually tapered down.</p>	Adopted	
<p>Long-term management phase:</p> <p>The aim is to maintain abstinence from alcohol and to prevent and delay relapse.</p>	Adopted	
<p>The medications that can be used for this phase include acamprosate, naltrexone, disulfiram, baclofen.</p>	Adopted	
<p>Recommended psycho-social interventions:</p> <p>-Motivational enhancement therapy</p> <p>-Cognitive behavior therapy</p> <p>-Relapse prevention</p> <p>-Contingency management</p> <p>-Family therapy</p>	Adopted	
<p>Referral criteria:</p> <p>-Presence of co-morbid psychiatric condition that cannot be managed at the primary care or secondary care level</p> <p>-Physical comorbidity of serious nature for which adequate infrastructure and support may not be available</p> <p>-Presence of a co-morbid substance use disorder for which treatment is not available at primary/secondary hospital setting</p> <p>-Non-availability of professionals to administer psycho-social interventions</p> <p>-A complete care plan should involve family members to identify treatment options, appropriate supportive care beyond medication and monitoring may help decrease morbidity and mortality rates.</p>	Adopted	
<p>Prevention strategies:</p> <p>-Raising awareness and commitment among the</p>	Adopted	

<p>general public regarding harmful effects of alcohol use</p> <ul style="list-style-type: none"> -Health services response; -Community action; -Strict action against drunk-driving; -Regulating availability and marketing of alcohol; -Alcohol pricing policies; -Reducing the negative consequences of drinking and alcohol intoxication; -Reducing the public health impact of illicit alcohol and informally produced alcohol; -Monitoring and surveillance of sell of alcohol 		
--	--	--

FURTHER READINGS AND REFERENCES

- Alcohol-use Disorders- Diagnosis, assessment and management of Harmful drinking and Alcohol dependence. National Clinical Practice Guideline 115. National Institute for Health & Clinical Excellence, The British Psychological Society and The Royal College of Psychiatrists, 2011.
- Clinical Practice Guidelines for the assessment and management of substance use disorders. Eds: Basu D, Dalal P. Indian Psychiatric Society, Hyderabad, 2014.
- Global status report on alcohol and health 2014. World Health organization, Geneva.
- Global strategy to reduce the harmful use of alcohol, 2010. World Health Organization, Geneva.
- Manual for Long Term Pharmacotherapy. Eds: Dhawan A, Jhanjee S. NDDTC, AIIMS, New Delhi, 2013.
- Ray R. The extent, pattern and trends of drug abuse in India: National survey. Ministry of Social Justice and Empowerment, Government of India & United Nations Office on Drugs and Crime, Regional Office for South Asia, 2004.
- Shield KD, Parry C, Rehm J. Focus On: Chronic Diseases and Conditions Related to Alcohol Use. In: Jürgen Rehm and Ralph Hingson (eds) Measuring the Burden of Alcohol: Evolving Impact on Individuals, Families, and Society. Alcohol Research: Current Reviews 2013, 35, 2, 155.
- Substance Use Disorders. Manual for Physicians. Ed: Lal R. NDDTC, AIIMS, New Delhi, 2013.
- The Maudsley Prescribing Guidelines in Psychiatry, 12th edition. Eds: Taylor D, Paton C, Kapur S. Wiley-Blackwell Publishing, 2015.