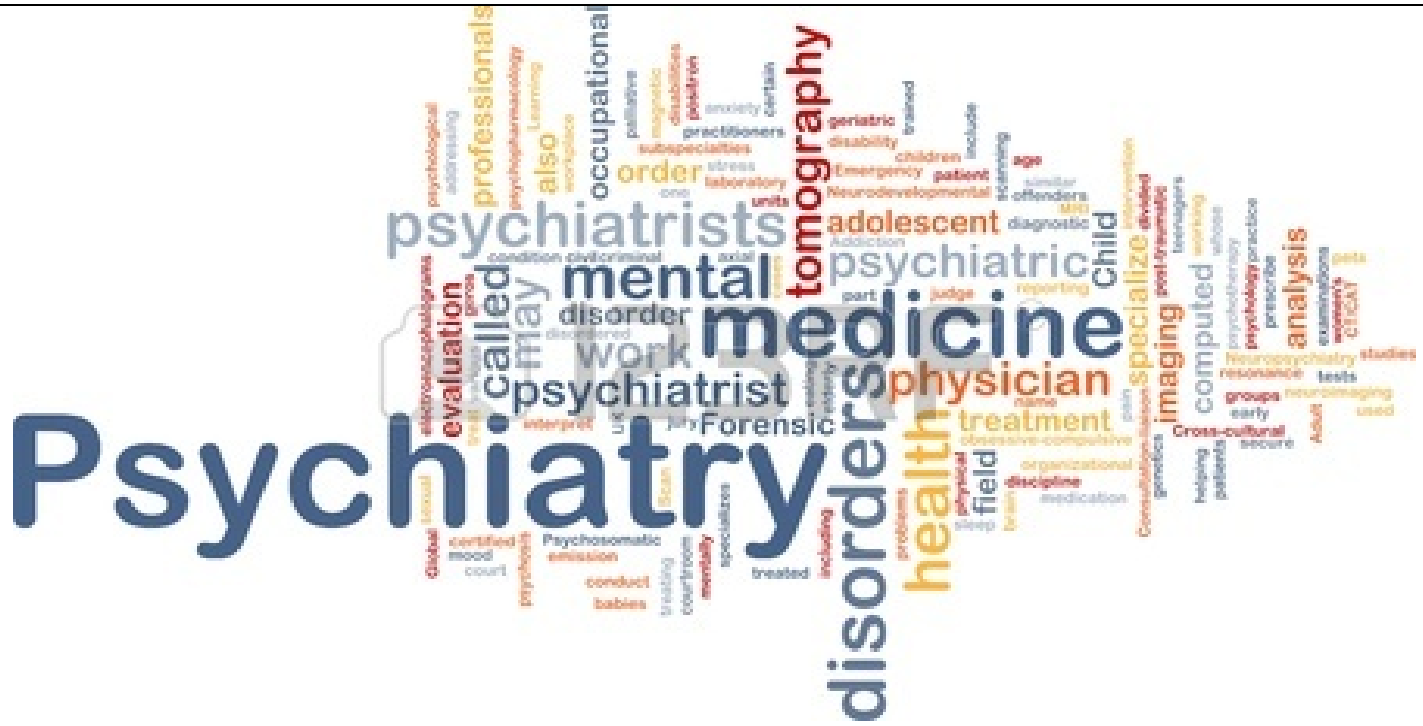

Substance Abuse

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Doctor's note Team's note Not important Important Book's note

Mind Map

CNS Suppressants

Alcohol – Sedatives – Inhalants – Opioids

CNS Stimulants

Amphetamine – Cocaine

Cannabis

Introduction

What is addiction…?

1. A social problem.
2. A moral problem.
3. A criminal problem.
4. A primary chronic brain problem.
5. A behavioral disorder occurs as the result of other causes such as emotional or psychiatric problems.

Addiction is not solely related to substance misuse and it is in fact, a chronic brain disease.
At its core, addiction it just not a social problem or a moral problem or a criminal problem. It's a brain problem whose behaviors manifest in all these other areas.

Terminology in psychoactive substance abuse:

- **Abuse:** Self-administration of any substance in a culturally disapproved manner that causes adverse consequences.
- **Intoxication:** The transient effects (physical and psychological) due to recent substance ingestion, which disappear when the substance is eliminated.
- **Withdrawal:** A group of symptoms and signs occurring when a drug is withdrawn or reduced in amount.
- **Tolerance:** The state in which the same amount of a drug produces a decreased effect, so that increasingly larger doses must be administered to obtain the effects observed with the original use.
- **Dependence:** The physiological state of neuro-adaptation produced by repeated administration of a drug, necessitating continued administration to prevent the appearance of the withdrawal state.
- **Addiction:** A nonscientific term that implies dependence and associated deterioration of physical and mental health as well as a high tendency to relapse after discontinuation.

What is the different between Dependence and Addiction..?

- **Addiction is a nonscientific term. It's a general term and the addict person is known to be dependent on the substance.**

Abuse > dependence > addiction

Patient's Assessment:

- Collateral history. They are often difficult to detect and evaluate and are unreliable. Therefore, it is necessary to obtain information from other sources, such as family members, because these patients are usually unreliable.
- Urine screening tests.
- Blood screening tests (alcohol, barbiturates).

Urine and blood screening tests are useful in confirming suspected substance use. Most drugs are well detected in urine and are often positive for up to 2 days after taking most drugs.

For each psychoactive substance consider the following:

What? (Type, dose, route, effect: nature and duration).
How? (Frequency, duration, how long, source, and situation).
Why? (Psychosocial problems).

Dependence:

- Persistent abuse despite harmful effects.
- Tolerance.
- Withdrawal on abstinence.

Complications:

- Psychosocial: social isolation, depression, anxiety, psychosis…etc.
- Physical: e.g. thrombophlebitis, bacterial endocarditis, acquired immune deficiency syndrome (AIDS), infectious hepatitis, abscesses.

Alcohol Abuse

❖ **Case scenario:**

A 43-year-old admitted into the hospital for an elective minor surgery. Five hours post–surgery he showed high blood pressure (180/110), a sharp increase in the pulse rate to 120, and a **gross tremor** to both hands. An interview with the wife documented **history of alcohol abuse.**

Risk factors of Alcohol abuse:

- **Vulnerable personality:** impulsive, gregarious, less conforming, isolated or avoidant persons.

- **Vulnerable occupation:** senior businessmen, journalists, doctors.
- **Psychosocial stresses:** social isolation, financial, occupational or academic difficulties, and marital conflicts.
- **Emotional problems:** anxiety, chronic insomnia depression.

Substance abuse frequently coexists with personality disorders (e.g. borderline, antisocial), and with other psychiatric disorders such as depression, anxiety or psychotic conditions

Alcohol abuse may mean any one of the following specific terms:

- **Excessive consumption:** harmful use.
- **Problem drinking:** drinking that has caused disability, but not dependence.
- **Alcohol dependence:** This usually denotes alcoholism.
- **Alcohol-related disability:** physical, mental and social.

Alcohol is the major substance of abuse all over the world. Mixed abused of alcohol and other substances is very common. Recreational alcohol drinking gradually grades into problem drinking and dependence. Most alcohol abusers go unrecognized by clinicians until their physical health and psychosocial life have been significantly harmed; therefore, early recognition is important. Many people go through prolonged periods (average 15 – 20 years) of gradual dependence on alcohol before clinical symptoms or signs are evident. Alcohol depresses the central nervous system. Clinically, it may appear to be a stimulant because of early disinhibition due to suppression of inhibitory control mechanisms. Alcohol drinking may occur in the late teens but dependence is most common in those aged 40 – 55 years.

Detecting patients with alcohol problems:

It is important to recognize alcohol problems as soon as possible, because treatment is more likely to be successful in early stages of alcohol abuse. Clinician should have high index of suspicion of alcohol abuse in the following circumstances:

1. **High-risk groups** (vide supra)
2. **Psychiatric conditions** associated with alcohol abuse: e.g., memory impairment, sexual dysfunction, and morbid jealousy.
3. **Medical conditions**: GI (nausea, vomiting, gastritis, peptic ulcer, or liver disease) or CNS (headache, sweating, flushing, blackouts, peripheral neuropathy, fits, or repeated falls).
4. **Social conditions**: poor work records, interpersonal problems (with parents, spouse or children), financial stresses, isolated life style.
5. **Legal conditions:** e.g. reckless driving.

The stages of alcohol dependence:

Stage	Comment
1st; The early stage	The drinker has not lost control of his health. Relatives and friends do not find anything unusual. He drinks for stress relief or mood elevation.
2nd ; Stage of excessive consumption	He drinks so much and for no reasons, loses control of physical and mental capacity, and sometime may become a nuisance. Relatives and friends become aware that he has a problem with alcohol and he still believes that he can quit alcohol at any time.
3rd; Stage of complications	The chronic stage of alcoholism; physic and mental complications. Trails to stop drinking with repeated failure.

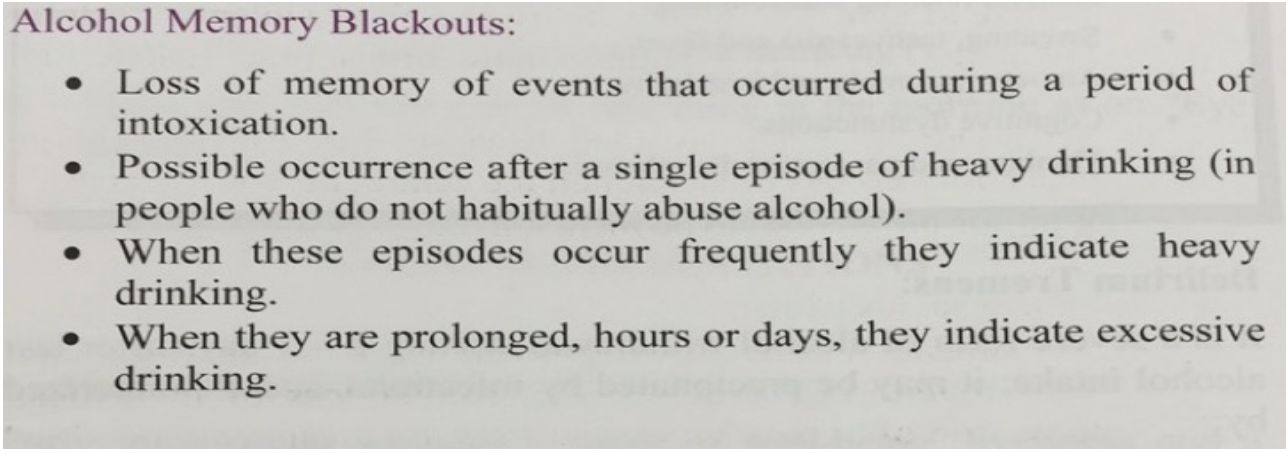
CLINICAL PRESENTATIONS:

- **Alcohol intoxication:** Early intoxication includes a sense of well-being, liveliness and a smell of alcohol on the breath, grading into emotional lability, irritability, and incoordination, which grades into apathy, ataxia, and slurred speech. Heavy intoxication (blood alcohol level above 300 mg/ml) can lead to alcoholic coma. Alcohol acute intoxication may mimic many psychiatric conditions (panic attacks, depression, and acute psychosis with delusions +/- hallucinations).

Blood Alcohol levels and Impairment:

Level	Impairment
20 - < 30 mg/dL	Slowed thinking and motor performance.
30 - < 80 mg/dL	Observable cognitive and motor impairment.
80 - < 200 mg/dL	Deterioration in cognition with impaired judgment and mood lability.
200 - < 300 mg/dL	Marked slurring of speech, ataxia , nystagmus, and alcoholic blackouts. specific term for alcohol which means can't remember anything after waking up
>300 mg/dL	Impaired autonomic nervous system functions, disturbed vital signs, coma and possible death.

Book's definition of blackouts: it is important to know


Alcohol Memory Blackouts:

- Loss of memory of events that occurred during a period of intoxication.
- Possible occurrence after a single episode of heavy drinking (in people who do not habitually abuse alcohol).
- When these episodes occur frequently they indicate heavy drinking.
- When they are prolonged, hours or days, they indicate excessive drinking.

- **Laboratory Tests:**

- **Identify acute and/or heavy drinking (≥ 5 drinks/day):**
  - Blood Alcohol Levels (BAL).
  - Gamma-glutamyltransferase (GGTP > 35 IU/L).

  GGT has good sensitivity and specificity (around 70-80% sensitive and specific), and generally is the first of the liver enzymes to elevate with heavy drinking (i.e., 6-12 drinks/day for several weeks).

  - Erythrocyte mean corpuscular volume (MCV >91.5 μ^3).

  MCV (mean corpuscular volume), a measure of how big the RBCs are, also increases with heavy drinking.

  - High AST/ALT.

  Suspect alcohol related causes in patients with high AST and ALT.

- **Screening – CAGE questionnaire Cut Annoyed Guilty Eyes**

Have you ever:

1. Wanted to *cut* down on your drinking?
2. Felt *annoyed* by criticism of your drinking?
3. Felt *guilty* about drinking?
4. Take a drink as an *"eye-opener"* to prevent the shakes?

- ≥ 2 "yes" answers are considered a positive screen.
- One "yes" answer should arouse suspicion of abuse.

- **Complications of Chronic Alcohol Abuse:**

Medical	Psychiatric	Social
Neurological Cerebellar degeneration Seizures / head trauma Peripheral neuropathy Optic nerve atrophy **Alimentary** Gastritis, peptic ulcer. Pancreatitis/hepatitis / cirrhosis. Tumors (esophagus, liver..) **Others:** CardiomyopathyComa/ Death Anemia / Obesity. Impotence / Gynecomastia.	• amnestic disorder • delirium • dementia • psychosis • depression • reduced sexual desire • insomnia • personality deterioration • increase risk of suicide • morbid jealousy Violent behavior	• social isolation • job loss • marital conflicts • family problems • legal troubles • social stigma • others

- **Treating Alcohol Intoxicated Patient**

- **The conscious patient:**

- Observation, with protective and supportive approach.
- In case of agitation, hyperactivity or risk of violence: restrain the patient and give antipsychotic drugs (e.g. haloperidol 5 – 10 mg IM).
- Avoid sedatives because they may potentiate depressant effects of alcohol on CNS.
- Wait for the alcohol to be metabolized.

- **The unconscious patient: ABC support**

- Hospitalization is required: protection of the airways, vital signs monitoring, prevention of further loss of body heat, correction of hypovolemia, and forced diuresis with maximal alkalinization of the urine. In extreme situation, hemodialysis is necessary.

❖ **Detoxification (Planned Alcohol Withdrawal)**

People with alcohol-related disorders usually come to treatment because of fear that continued drinking would have a fatal outcome, or because of pressure from a spouse or an employer. A sudden cessation of drinking may cause severe withdrawal state with serious complications including seizures, delirium tremens or coma. Therefore, detoxification should be carried out under close **medical** supervision.

Long-acting benzodiazepines (e.g. diazepam or chlordiazepoxide) are generally prescribed to reduce withdrawal symptoms because of lower risk of abuse compared to short-acting benzodiazepines & the smooth reduction of the drug levels in the blood (a smooth course of withdrawal).

Benzodiazepines are then gradually discontinued over 2-3 weeks; otherwise, the patient may become dependent on them.

- Vitamin supplements, especially vitamin B1 (thiamine).
- Monitoring of vital signs, consciousness and orientation.
- Good hydration and glucose intake.
- Anticonvulsants may be used to control seizures.

❖ **Maintaining Abstinence:**

- **Disulfiram (anta-abuse)** helps those whose drinking pattern is impulsive and who are highly motivated to stop drinking. It blocks the oxidation of alcohol so that acetaldehyde accumulates with consequent unpleasant flushing of the face, choking sensations, headache, nausea, vomiting, tachycardia and anxiety. There is a risk of cardiovascular complications. Therefore, the drug should be used in specialist practice and should not be within 12 hours after the last ingestion of alcohol.
- **Citrated calcium carbimide** is another drug used in maintaining abstinence; it induces a milder reaction with alcohol, and has fewer side effects.

Naloxone – reduces alcohol-induced reward. **Acamprosate** – anti-craving effects.

- **Psychological treatment:** To explore the reasons for drinking, alternative ways are worked out. For instance, instead of using alcohol in social situations to reduced anxiety, learn anxiety management and assertiveness techniques. Provision of information about the hazards of alcohol. Group therapy: about 7-12 patients and a staff member in a specialist unit attend regular meetings. It provides an opportunity for frank feedback from other members of the group concerning the problems that the patient faces and to work out better ways of coping with their problems.

- **Alcohol withdrawal:** Occurs in the dependent state, in those who have been drinking heavily for years and who have a high intake of alcohol **(e.g. when patient is admitted into hospital and has no access to alcohol)**. The symptoms may begin after six hours of cessation or reduction of alcohol and peak by 48 hours. They follow a drop in blood concentration; characteristically appear on waking from sleep, after the fall in concentration during sleep. The symptoms subside over the course of 5 - 7 days. **Epileptic generalized tonic-clonic seizures may develop within 12 - 48 hours after cessation of alcohol intake. Delirium tremens may develop after about 48 hours.** The minimal quantity and frequency of alcohol consumption that may lead to physical dependence and withdrawal is not known. Severe withdrawal is more likely with the higher the levels of chronic alcohol consumption (e.g. 150 grams of alcohol per day), but individuals with lower levels can experience severe withdrawal and withdrawal complications. The severity of withdrawal is only moderately predicted by amounts of alcohol consumed. Duration of heavy alcohol use for 6 years or longer increases the odds of developing withdrawal symptoms 15 times.

The stages of alcohol withdrawal syndrome:

Stage	Onset	Features
I	6 - 8 hours	**Autonomic hyperactivity**, tremor, agitation, diaphoresis, anxiety, tachycardia, , nausea, vomiting, anorexia, headache, insomnia, and craving for alcohol.
II	10-30 hours	**Hallucinations** (auditory or visual, tactile, olfactory or mixed), illusions, disordered perception, + autonomic hyperactivity of stage 1.
III	12 - 48 hours	**Grand mal seizures**; 3-4% of untreated patients progress to stage 3; more than 50% have multiple seizures; >30% have Delirium Tremens if untreated.
IV	≥ 2-3 days	**Delirium tremens** (DTs), see below.

❖ Delirium Tremens (DTs)

- **Definition & Criteria:**

It is a ***severe form of alcohol withdrawal*** starting 2 – 3 days after last alcohol intake; it may be precipitated by infections, and characterized by: **delirium, gross tremor (tremens),** and **other features**: electrolyte disturbances & dehydration, autonomic disturbances (fever, dilated pupils & unstable BP, pulse and respiratory rates), and insomnia.

- **Course:**

It usually peaks on 3rd or 4th day, lasts for 3 – 5 days, worsens at night, and followed by a period of prolonged deep sleep, from which the person awakes with no symptoms and has amnesia for the period of delirium.

- **Complications include:**

Violence (may lead to homicide or suicide), Seizures (may lead to aspiration, chest infection, & coma), and Death (it can be due to: suicide / cardiac arrhythmias / electrolyte imbalance /aspiration / chest infection / volume depletion. Mortality rate: 5-15%.

- **Treatment:**

1. It should be in **an ICU or a medical word** because it is a serious **medical emergency.**
2. Avoid antipsychotics (because they lower seizure threshold).
3. Guard against seizures; benzodiazepines (e.g. diazepam) +/- magnesium sulfate & an anticonvulsant Rx.
4. Rehydration is a vital step.
5. Thiamine (B1) supplement is essential for glucose metabolism (B1 is usually low in DTs patients).
6. Keep the patient in a quiet, well lit-room; avoid over and under stimulation. Frequently reorient, reassure and explain procedures clearly to the patient. Adjust surroundings.

Abuse of Sedatives, Hypnotics, and Anxiolytics

This class of substances includes all controlled antianxiety and sleeping medications:

- Benzodiazepines (e.g. clonazepam, lorazepam).
- Benzodiazepine - like drugs (e.g. zolpidem, zopiclone).

Clonazepam (Rivotril), alprazolam (Xanax) and flunitrazepam (Rohypnol) have become drugs of abuse.

These substances are brain depressants. Like alcohol, they can produce very significant levels of physiological dependence, marked by both tolerance and withdrawal.

- **Intoxication**: Similar to alcohol intoxication, features include:
  - Slurred speech, incoordination, unsteady gait, nystagmus or ataxia.
  - Impaired attention, memory, stupor or coma.

  Abuse of sedative and hypnotic drugs causes clinically significant maladaptive psychological or behavioral changes, e.g. disinhibited behavior.

- **Withdrawal:** Similar to alcohol withdrawal, features include:
  - Autonomic hyperactivity (e.g. sweating, tachycardia).
  - Nausea, vomiting, anorexia.
  - Insomnia.
  - Anxiety / agitation.
  - Perceptual disturbances (e.g. illusions...).
  - Seizures.
  - Delirium.

The timing and severity of the withdrawal syndrome differ depending on the specific substances and its pharmacokinetics and pharmacodynamics. For example, withdrawal from substances with long-acting metabolites (e.g. diazepam) may not begin for 24 - 48 hours or longer; whereas withdrawal from substances with short-acting substances that are rapidly absorbed and have no active metabolites (e.g. triazolam) can begin within 4 - 6 hours after the substance is stopped. Withdrawal can be life-threatening which often requires hospitalization.

These substances are often taken with other brain depressants, like alcohol, which can produce additive serious effects (e.g. respiratory depression). Alcohol and all drugs of this class are cross-tolerant and cross-dependant, i.e., one drug is able to suppress the manifestations of physical dependence produced by another drug and to maintain the physical dependant state.

Abuse of Inhalants (Volatile Solvents) "التشفيط"

❖ **Case scenario:**

Adeeb is a 16-year-old boy lives with his divorced mother, presented with slurred speech, facial rashes, incoordination and nausea.

Inhalants are volatile organic substances (most are aromatic hydrocarbons) that can be inhaled for psychotropic effects. The active compounds in these inhalants are usually **acetone, benzene or toluene**.

The types of solvents, cleaners, and glues are numerous and include: gasoline, lighter fluids, spray paints, cleaning fluids, glues, typewriter correction fluids & fingernail polish removers. These agents generally act as brain depressants (similar to alcohol and sedative hypnotics in their effects).

Use of inhalants occurs mainly among adolescents in lower socioeconomic groups, usually as occasional experimentation. This is often a group activity. Inhalants are inexpensive, easily available and legal substances. These factors contribute to the high use of inhalants among people who are poor. People often use inhalants with a partially closed container (e.g. a can), a plastic bag, a tube or an inhalant soaked cloth through which a user can sniff the volatile substance through the nose or huff and puff it through the mouth. Therefore, a recent abuse of inhalants can be identified by unusual breath or odor, rashes around the nose and the mouth or the residue on the face, hands or clothing.

Other less specific identifying features include irritation of the patient's nose, mouth, eyes and throat. Inhalants are rapidly absorbed through the lungs and delivered, through the blood, to the brain. Their effects usually appear within 5 – 10 minutes and may last for several hours.

- **Intoxication:** symptoms of mild intoxication are similar to intoxication with other brain suppressants (e.g. alcohol).
- **In small doses**, these agents produce the attracting features: euphoria, excitement, pleasant floating sensations, and disinhibition.
- **High doses can cause:** disturbed consciousness, perceptual disturbances, impulsiveness, assaultiveness, impaired judgment, sedation, slurred speech, nystagmus, ataxia, incoordination, nausea, and vomiting.

- **Complications:**
  - **Physical**: irreversible multi-organ damages (brain, lungs, liver, kidneys, muscles, peripheral nerves and bone marrow).
  - **Psychological**: depressions, conduct or personality disorders...etc.
  - **Social**: broken or abusive family life.
  - **Death** may occur during intoxication because of: respiratory depression, asphyxiation, aspiration of vomitus, cardiac arrhythmia or serious injury.

- **Treatment:**

A full range of biopsychosocial assessment and treatment is needed including physical and psychiatric rehabilitation. There is no specific drug treatment for inhalant abuse, but psychiatric complications (e.g. psychosis, depression) may require drug treatment. Teenagers should receive education and counseling about the general topic of substance abuse.

Abuse of Opioids

❖ **Case scenario:**

A 53-year-old man was referred for psychiatric consultation by his physician who discovered him abusing large quantities of a codeine-containing medicine. He had come into the hospital for a severe abdominal pain which is relieved only by methadone or morphine (he claimed). His condition fluctuates during the day.

Opioids include several narcotic substances:
(opium, heroin, morphine, codeine, pethidine and methadone).

The pharmacological effects of opiates are mediated through interaction with endogenous opioids (enkephalins, endorphins and dynorphins) and opiate receptors (mu, kappa and delta) which are involved in many mental functions: pain perception (analgesics), mood (feeling of pleasure).The medical use of opioids is mainly for their **powerful analgesic effects.** They are abused for **their powerful euphoriant effects** (especially when taken intravenously).

❖ **Opioid Intoxication:**

- **Initial Phase:** euphoria, analgesia, and relaxation.
- **Then:** apathy, dysphoria, drowsiness, slurred speech, psychomotor retardation (or agitation), disturbed consciousness, impairment in attention, memory, and judgment.
- Sexual desire diminishes with repeated use.
- Opioids effects on the pupils; (Important in the clinical assessment of the degree of opioids intoxication).
    - Pupillary constriction.
    - In severe overdose: Pupillary dilatation.

- **Treatment:** In ICU:

- Monitor vital signs, give antidote (naloxone) to normalize respiration and to restore consciousness.
- Open airway - oxygen - IV fluids.

youtube.com/watch?v=5g9-55XxTlU

❖ **Opioid Withdrawal:**

- Features:

- Rhinorrhea (runny nose).
- Lacrimation.
- Pupillary dilation.
- Yawning.
- Insomnia.
- Fever / sweating / piloerection.
- Muscle / joint aches.
- Nausea or vomiting.
- Diarrhea.
- Dysphoric mood.
- Craving (desperate searching for opioids).

- **Treatment:**

- **Short-term:** painkillers, sedatives, & observation. Clonidine can be used to control the release phenomena (sympathetic overactivity, nausea, vomiting and diarrhea).
- **Long-term:** *methadone harm reduction strategies:* methadone is used as a patch for heroin addicts. It provides a slow, steady delivery that replaces the sharp highs and drops. Thus, it allows addicts to stabilize their cravings that are hard to resist. It can also be taken as syrup once a day.
- Frequent Counseling.

Tolerance develops rapidly (especially in IV usage) leading to rapid dependence and withdrawal (6 hours after the last dose, reach a peak after 36 - 48 hours, and then wane). However, untreated withdrawal results in no serious medical sequence and rarely threatens the life of someone in a reasonable physical health, though they cause great distress.

Tolerance also diminishes rapidly and this can result in immediate death (an accidental overdose during time of IV self-injection because of immediate serious respiratory depression). This occurs when a previously tolerated high dose is resumed after a drug-free interval (e.g. after a stay in hospital or prison).

- **Complications of IV Usage:** AIDS, hepatitis, endocarditis, septicemia.

youtube.com/watch?v=NaMgdlUcsko

CNS Stimulants: amphetamine [captagon], cocaine [crack]

❖ **Case scenario:**

Rakan is a 20-year-old male brought to Emergency Department by police who arrested him because of reckless driving (drifting with high speed) and violent behavior. He looked over-suspicious, agitated, and over-talkative.

- **Main features:**

- Hypervigilance / hyperactivity / agitation.
- Suspiciousness >>>>>>> paranoid delusion.
- Overconfidence >>>>>> grandiosity.
- Aggression & violence.
- Insomnia.
- Euphoria or irritable mood.
- Hallucinations (visual more than auditory).
- Confusion and incoherence.

- **Treatment:** Inpatient setting.

- Symptomatic use of an antipsychotic medication e.g. olanzapine 10-20mg. For 4- 6 months). Upon abstinence some patients develop headache and depression, and may require antidepressants (e.g. paroxetine 20 mg/day or 6 months).
- Psychotherapeutic methods (individual, family, and group psychotherapy) are usually necessary to achieve lasting abstinence.

However, it can be indistinguishable from functional psychosis (e.g. brief psychotic disorder, schizophreniform and schizophrenia) and only the resolution of the symptoms in a few days or a positive finding in a urine drug screen test eventually reveals the diagnosis.

Cannabis (marijuana/hash/ hashish)

❖ **Case scenario:**

Bandar is a 32-year-old male brought to outpatient clinic by his concerned wife because of recurrent brief periods of being over-suspicious, euphoric, and talkative. He admitted abusing cannabis in the week-ends.

- **Main features:**

- Euphoria / heightened perception / talkativeness / sensation of slowed time & disinhibition.
- Physical effects :
  - Red conjunctiva / dry mouth / mild tachycardia / increased appetite respiratory tract irritation & impaired motor coordination.
- Impaired cognitive functions & judgment.
- Anxiety +/- panic attacks with depersonalization and derealization (in high doses).
- Brief psychosis (transient paranoid ideation is more common than florid sustained psychosis).

Features may be correlated with preexisting personality traits (e.g. borderline / paranoid /…).

- **Treatment:** Usually outpatient setting.

- An antipsychotic medication (e.g. risperidone 3 mg /day) for 6 months.
- Psychotherapeutic methods (individual, family, and group psychotherapy) are usually necessary to achieve lasting abstinence.

Cannabis may trigger anxiety / panic attacks & can induce delirium. Following discontinuation of cannabis, some patients may develop depressive features. Chronic use of cannabis can lead to a state of apathy and amotivation (amotivation syndrome) but this may be more a reflection of patient's personality structure than an effect of cannabis.

Next page from doctor's slides

- **Hallucinogens:**
  - These are group of substances that induce hallucination and produce loss of contact with reality.
  - Natural and synthetic substances that are also called *psychedelics* or *psychotomimetics.*
  - Natural e.g. psilocybin (magic mushroom) or synthetic like lysergic acid diethylamide (LSD).
  - No medical use and high abuse potential.

- **<u>Clinical effects:</u>**

Psychological	Physical
Marked perceptual distortion (changing shapes and colors) Hallucination (visual and tactile) False sense of achievement and strength Euphoria, anxiety, panic Paranoid ideation Homicide and suicide tendencies Flashbacks Delirium	Tachycardia Hypertension Cerebellar signs Wide pupils Hyperemic conjunctiva Blurred vision Hyperthermia

❖ **Lysergic Acid Diethylamide (LSD)**

- **Effects of LSD:**

Effects of drug come on in about 30 min:

- First signs are autonomic activation.
- Followed by overt behavioral signs - loosening of emotional inhibitions.
  - Giddiness, laughter for no reason.
  - Mood euphoric and expansive, but labile mood swings notable.
- Abnormal color sensations, luminescence.
- Colors reported as more brilliant.

- **Tolerance/Dependence:**

- Not significant producers of tolerance or dependence.
- No withdrawal either.
- Problems related to the things people do while under the influence.
  - Accidents.
  - Suicide.
  - Aggression/violence.
  - Toxic reactions.

Summary

Substance	Main features	Withdrawal	Treatment
Alcohol	Emotional lability, irritability, incoordination, apathy, ataxia, and slurred speech. blackouts	- Autonomic hyperactivity. - Hallucinations. - Grand mal seizure. - Delirium tremens.	- Conscious: supportive, antipsychotic if agitated. - Unconscious: ABC.
Sedatives, Hypnotics, and Anxiolytics	Similar clinical to alcohol	Similar withdrawal to alcohol	A patient should not be deprived of a benzodiazepine drug when it is clinically indicated (e.g. anxiety, insomnia, akathisia)
Inhalants	Brain depressants	-	There is no specific drug treatment for inhalant abuse, but psychiatric complications (e.g. psychosis, depression) may require drug treatment.
Opioids	- Euphoria. - Relaxation. - Analgesia. - Disturbed Consciousness. - Small pupil. - Bradycardia. - Reduced appetite. - Constipation. - Respiratory depression.	- Lacrimation, rhinorrhea & yawning. - Dysphoric mood. - Insomnia.	ICU: - Monitor vital signs. - Naloxone. - Open airway – oxygen – IV fluids.
Amphetamine [captagon], cocaine [crack]	Hypervigilance/Hyperactivity/Agitation/ Suspiciousness. - Euphoria or irritable mood. - Hallucinations (visual more than auditory). - Confusion and incoherence.	-	- Antipsychotic medication e.g. olanzapine 10-20mg. For 4- 6 months). - Psychotherapeutic methods.
Cannabis	Euphoria/heightened perception/talkativeness/sensation of slowed time & disinhibition.	-	- An antipsychotic medication (e.g. Risperidone 3 mg /day) for 6 months. - Psychotherapeutic methods.

MCQ's

1. A 41-year-old businessman came to the emergency department complaining of insomnia for 3 days after he ran short of his sleeping pills. He was asking for a specific drug manufactured by ROCHE Company. He knows that each tablet is 2 mg. He said he uses 5 tablets each night to sleep. The most likely problem of this patient is:

A. Heroin abuse.
B. Benzodiazepines abuse.
C. Methadone abuse.
D. Abuse of painkillers.

2. A 33-year-old single man was caught by police officers and put in prison because he was driving his car recklessly with high speed at 3am in the highway. Next day he started to show excessive lacrimation, runny nose, repeated vomiting, and abdominal cramps. However, his consciousness was intact. The most likely problem of this patient is:

A. Cannabis abuse.
B. Methadone intoxication.
C. Abuse of naloxone.
D. Opioid withdrawal.

3. A 32-year-old man became increasingly irritable, insomniac, hypervigilant for the past 4 weeks with unpredictable mood and accusing his wife with extramarital sexual relationships. The most likely diagnosis is:

A. Heroin abuse.
B. Generalized anxiety disorder.
C. Amphetamine abuse.
D. Paranoid Schizophrenia.

4. A 43-year-old man has episodic behavioral disturbances including; euphoria, talkativeness, and disinhibition. His eyes look red most of the time. The most likely diagnosis is

A. Alcohol abuse.
B. Cannabis abuse.
C. Amphetamine abuse.
D. Cocaine abuse.

5. A 16-year-old boy presented with slurred speech, incoordination and nausea. Physical examination revealed facial rashes around his mouth and nose. When asked about substance abuse his reply was affirmative. The most likely substance is:

A. Cannabis.
B. Alcohol.
C. Volatile substance.
D. Morphine.

Answers:

1	2	3	4	5
B	D	C	B	C

For any suggestions:

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