

# INTRODUCTION TO PSYCHIATRY

**Johann Christian Reil** coined the term psychiatry.

Psychiatry covers the treatment, diagnosis, rehabilitation, research aspects related to brain, behaviour and mental health in general.

State of mental well being :

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A person who is able to cope with stress/hassles of life, be productive, is able to lead a meaningful life and contribute positively.

State of mental illness :

Behaviours, Emotions, Thoughts (cognitions) leading to significant distress (self or others) and significant amount of dysfunctionality at any or all levels.

Psychiatric illness :

- Psychotic vs neurotic.
- Functional vs organic.
- Common vs severe.

## Neurotic vs psychotic illness

00:04:56

Acronym : **JIPR**

Parameters	Neurotic illness	Psychotic illness
Judgement	Preserved	Impaired
Insight	Preserved	Reduced or absent
Personality	Intact	Deteriorated/changed
Reality contact	Intact	Lost

Neurotic illness : Generalised anxiety disorder, OCD, mild/moderate/severe depression.

Psychotic illness : Schizophrenia, psychosis unspecified, delusional disorder, severe depression with psychotic symptoms, mania with psychotic illness.

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Diagnosis of psychotic illness is made only when the patient has psychotic symptoms.

Severe depression + psychotic symptoms = Psychotic illness.

### Functional vs organic illness

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Typically all psychiatric conditions are functional in nature except **neurocognitive disorders**, which are organic disorders.

Neurocognitive disorders include :

- Delirium/ICU psychosis/acute organic brain syndrome (most common organic condition).
- Dementia.

Organic conditions are mostly diagnosed when the patients have **prominent visual hallucinations**.

MC type of hallucinations seen in schizophrenia : **Auditory hallucinations**.

MC type of hallucinations seen in organic conditions : **Visual hallucinations**.

### Common vs severe illness

00:11:59

Common psychiatric conditions (**Acronym** : SAD).

- **S**ubstance use disorder : most prevalent psychiatric problem in the community (nicotine > alcohol > cannabis).
- **A**nxiety and neurotic conditions.
- **D**epression : most burdensome psychiatric disorder.

60 Severe psychiatric conditions (treatable conditions) :

- Schizophrenia.
- Psychosis.
- Bipolar disorder.

### Importance of mental illness

00:14:30

**1 in 4 people** are having significant mental health issues.

most common age group affected : **30-49 years**.

Psychiatric conditions are one of the important reasons for premature deaths due to :

- **Suicides** : 1 in 100 people in the population have active suicidal ideas.
- Association of psychiatric illnesses with co-morbidities and medical conditions.
- Side effects of medications (cardiac arrhythmias and metabolic syndrome) can also lead to chronic morbidity and mortality.

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Substance use is twice more common when people have significant mental illness and stress.

### Biopsychosocial model

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most of the medical conditions including psychiatric conditions can be explained using this model.

It includes 3 important aspects of any illness :

- Biological risk.
- Psychological risk.
- Social risk.

This model was described by **George Engel**.

Example :

A patient who had attempted to end her life had family history (**genetic vulnerability**) and past history of depression (**recurrent biological problem**). She had constant stressors like exams, not working (**psychological stressor**), relationship issues (**social pressure**), family pressure and also history of abrupt stoppage of lithium due to increased acne as a side effect (**biological interplay**). All these aspects play a role in pathology of the disease and intervention is needed in all these aspects.

### Diathesis stress model

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Explains why mental illness is seen only in specific individuals and not in others.

Stress = Various experiences.

Diathesis = Predisposition.

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**Example 1 :**

Two individuals with same genetic predisposition undergo multiple traumatic events in life. The one goes beyond the illness threshold becomes sick.

more the experience (events), higher the chance of becoming sick.

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**Example 2 :**

Two individuals with different genetic predisposition to a psychiatric illness. The one who has got more genetic predisposition gets sick even with less trauma/stressors in life because he/she cross the illness threshold earlier.

**Diagnosis of psychiatric illness :**

- Establishing a clinical syndrome by taking detailed clinical history.
- Ruling out other medical conditions which can lead to psychiatric presentations.

Example : Patients with frontal lobe tumors present with abnormal behaviour and personality.

- Distress and dysfunctionality should be present.

**DSM 5 vs ICD 11**

00:27:40

DSM 5	ICD 11
By American Psychiatric Association.	By World Health Organization.
Followed in USA.	Followed all over the world.
For psychiatric illnesses only.	For all illnesses.
Implemented on May 2013.	Implemented on January 2022.

# PSYCHOPATHOLOGY

## Mental state examination (MSE)

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History taking.

- Informants (relatives, care-givers).
- Subjective experiences.
- Distress.
- Dysfunctionality.

Rule out organicity/other associated medical conditions.

MSE:

General appearance and behavior:

1. Dressing:

- Appropriate (over/under).
- Disinhibited manner.
- Illkempt (dirty/shabby)/well kempt (neat).

2. Built:

- muscular built (normal).
- Asthenic built (schizophrenia).
- Pyknic built (mood disorders).

3. Eye contact:

- maintained (normal).
- Down cast eyes (depression).
- Poor eye contact (autism).
- Avoid eye contact (social anxiety).

4. Rapport:

- In depression, the patient takes time to establish rapport.
- Guarded (paranoid/adolescent normal).

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## 5. Psychomotor activity :

Psycho : mind activity.

motor : muscle activity.

- Decreased (depression).
- High (mania).

## 6. Speech :

- Rate.
- Volume.
- Coherence (incoherent in psychiatric conditions).
- Prosody (emotional aspect of speech).

## 7. Thoughts :

Healthy thinking : **C**onstancy (topic) + **C**ontinuity (sentences) + **O**rganization.

Described by Schneider.

**Thought disorders**

00:17:44

## Form :

Formal thought disorder : Significantly compromised constancy, continuity & organization.

Loosening of association (connection between words and sentences lost → Jumbled speech/word salad/verbigeration).

Neologism (new words).

Seen in schizophrenia.

## Features of formal thought disorder :

- 1) Derailment.
  - 2) Omission.
  - 3) Substitution.
- } Transitory thinking
- 4) Drivelling (enmeshed thought processes → Drivelling thinking).
  - 5) Fusion (new thought process added → desultory thinking).

## Thought stream disorder

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### Stream :

Problem in continuity/tempo :

- 1) Flight of ideas : Pressurized speech (fast).  
Clang association (jumping from one rhyming word to another).  
Seen typically in **mania**.
- 2) Prolivity of speech (lively embellishment of speech).  
Seen in **hypomania**.
- 3) Retarded/slow tempo : Seen in **depression**.
- 4) Circumstantiality :  
Person beats around the bush and comes back to the topic.  
Circumstantiality & tangentiality seen in **schizophrenia**.

**Tangentiality** : Thought form disorder, where the topic is deviated. Person beats around the bush, but he doesn't come back to the topic.

### Continuity :

- 1) Perseveration : Persistence of a mental operation beyond a point of relevance.
- 2) Thought block : Block in thought process.

## Thought content disorders

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- 1) Delusion : False, fixed belief.
- 2) Idea : False, fluctuating belief.
- 3) Overvalued idea : Idea with too many emotions.

### Delusion of misidentification :

- Positive : Fregoli syndrome → Stranger is a persecutor (misidentification).
- Negative : Capgras syndrome → Known person appears like a stranger (delusion of doubles).

Delusion of self doubles : **Doppelganger**.

## Thought possession disorders

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### Possession :

1) Own thoughts : Normal.

a) Thought alienation : Seen in **schizophrenia**.

Thought insertion : They believe thoughts have been inserted into their brain.

Thought broadcast : They believe their thoughts are being broadcasted to everyone.

Thought withdrawal : Thoughts taken away by someone.

Obsessions-compulsions : Thought possession disorder.

### Obsession :

- One's own thoughts, repeated, distressing, anxiety provoking.
- Example : Fear of contamination/dirt.

### Compulsion :

- Can be a mental or physical act.
- Physical : Hand washing
- mental : Chanting something repeatedly (numbers/ prayers etc.) → seen in OCD.
- many times they are anxiety relieving.

## Mood vs affect

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Affect : Cross sectional.

mood : Over a period of time.

### mood :

#### 1. Quality :

- Euthymic or normal mood.
- mood down → **Dysthymia** (low form of depression).
- mood up → **Euphoria** → **Elation** → **Ecstasy**.
- **Dysphoric mood** → Irritability + Depression + Anger.



## 2. Subjective/objective :

- Subjective : How the person feels.
- Objective : How we feel the person is feeling.

## 3. Range :

- Levels of emotions people go through.
- Restricted emotions : Seen in **schizophrenia**.

## 4. Reactivity :

- mood keeps changing depending on the context.
- Reduced reactivity: Seen in **depression, schizophrenia**.

## 5. Congruence :

- what one talks should be congruent with their mood.
- Incongruent mood : Seen in **schizophrenia**.
- Patient always talks about sad things.

## Perceptuous disorders

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### 1. Illusions:

1) **Affect** illusions : Emotions leading to illusions.

2) **Completion** illusions : Completing something that's partially done.

3) **Pareidolia** : Patterns/faces recognition.

Sometimes seen in neurological conditions affecting parieto occipital areas.

Also seen in **normal** people.

### 2. Hallucinations :

Perception without stimuli.

Based on sensory system :

- Auditory : **Schizophrenia**.
- Visual : **Organic/neurocognitive disorders**.
- Gustatory : **Temporal lobe epilepsy**.
- Tactile : **Cocaine bugs** (formication/magnan syndrome).
- Olfactory : **Temporal lobe epilepsy**.

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## Special hallucinations

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1. **Extracampine hallucinations :**  
Patient has hallucinations beyond sensory fields.
2. **Reflex hallucinations :**  
Requirement of a stimulus.  
Process is called synesthesia (2 different modalities join together).
3. **Functional hallucinations :**  
Requirement of a stimulus.  
Stimulus and hallucination in the same modality.

## True vs pseudo hallucinations

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True hallucinations :

- Source of hallucination comes from outer objective space.
- Indicates a mental health disorder.

Pseudo hallucinations :

- Source of hallucinations inside the body itself.
- Could be normal or pathological.

Depersonalization vs derealization :

Depersonalization :

Inside the body (disconnected with oneself).

Derealization :

Outside the body (disconnected to the environment).

## Attention and concentration

01:10:03

Attention : Focusing on something.

Concentration : Sustained attention.

Orientation : To time, place, and person (orientation to time is lost first, followed by place and then to person).

memory :

- Working/immediate memory :  
Digit span test (forward or backward).  
Example : OTPs.

- Recent memory : 24 hour recalls.
- Remote memory : Days or months or years.

**Shortest** form of memory : **Sensory** memory (3 types).

1. Iconic memory (visual based).
2. Haptic memory (touch based).
3. Echoic memory (hearing related). ——— Lasts for 1-2 secs.

Judgement : Clinically assessed (personal, test and social judgement).

Abstract thinking :

- Similarities and dissimilarities given.
- Proverb test (explain the proverb).

Concrete thinking : Seen in schizophrenia.  
unable to explain something beyond the basic.

## Insight

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Insight also called **epiphany**.

Levels:

- Absent insight : Seen in **psychotic** patients.
- Can acknowledge some problem, but also deny it.
- Can acknowledge problem, but attribute to some other factors.
- Can acknowledge problem but think it is a physical health issue.
- ~~Can acknowledge problem~~ but do not take action (intellectual insight).
- Can acknowledge problem, accept and act (emotional insight : Highest level of insight).

Anosognosia:

Seen in neurological conditions (non dominant parietal lobe damage).

Also known as hemineglect.

Person not aware of their problem.

# PSYCHOTIC DISORDERS : PART - 1

Psychotic disorders does not always mean Schizophrenia. Patients with psychotic disorders present with unusual symptoms that are not routinely seen in the society.

## Components of a psychotic disorder

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- Loss of judgement.
- Lack of insight.
- Deteriorating/changing personality.
- Loss of contact with reality (imaginary talks).

Patients with psychotic disorders refuse to accept their illness/meet the doctor as they lack insight.

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Psychotic symptoms :

Helps in arriving at the diagnosis.

1. Delusions.
2. Hallucinations.
3. Disorganized behaviour (unusual behaviour not seen in majority of people).
4. Formal thought disorder (disconnected thought process : Incomprehensible).
5. Catatonia.
6. Talking, muttering to self, smiling at self.
7. Personality changes like withdrawal/aggression etc.

## Types of psychotic disorders

00:08:17

Primary psychotic disorder :

Sudden onset of psychotic symptoms in an otherwise normal individual.

Example : Schizophrenia.

Secondary psychotic disorder :

Psychotic symptoms in an already depressed/sad person. Also called as mood congruent psychotic symptoms.

Example : Auditory hallucinations in a depressed person.

Timeline of psychotic disorders :

ICD II	Duration of illness	DSM 5
Acute & Transient Psychotic disorder (ATP)	< 1 month	Brief psychotic disorder
Schizophrenia	> 1 month	-
-	1 - 6 months	Schizophreniform illness
-	> 6 months	Schizophrenia

## Schizophrenia

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Coined by Eugene Bleuler.

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Described 4A's to diagnose schizophrenia :

- Autism (social withdrawal/being alone).
- Ambivalence (inability to decide).
- Affective flattening (shows no emotion).
- Association loss/loosening of association (thought process is loosened causing disorganised speech/formal thought disorder).

Auditory hallucinations and automatism are not a part of 4A's of Bleuler.

Automatism is seen with temporal lobe epilepsy. Lip smacking, cloth picking behaviours are seen.

Emile Kraepelin described :

1. manic depressive psychosis - MDP (now called bipolar disorder) : Good prognosis and episodic in nature.
2. Dementia praecox (now called schizophrenia) : Poor prognosis and chronic course with significant cognitive decline. Dementia sets in earlier in these patients.

## First Rank Symptoms (FRS) of schizophrenia

00:23:12

Kurt Schneider described 11 first rank symptoms.

Called positive symptoms of schizophrenia.

Aids in diagnosis.

Includes :

- 3 auditory hallucinations.
- 3 made phenomena.
- 3 thought phenomena.
- Somatic passivity.
- Primary delusional experience.

3 auditory hallucinations :

1. First person auditory hallucinations/thought echo/  
thought sonarization :

Patient's own thoughts are heard out loud.

2. Second person auditory hallucinations :

Voices talk directly to the patient.

Commentary type	Commanding type
Voices are commentating their actions.	Patients act out the commands of hallucinating voices. Poses threat for patients & others.

3. Third person auditory hallucinations :

Voices do not talk directly to the patient.

multiple voices discussing/arguing/talking amongst themselves about the patient.

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**3 made phenomena**

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made impulse	made volition	made affect
Someone made the patient become impulsive. Brief act.	Complex planned behaviour of the patient. Patients say somebody made them do it.	Somebody makes the patient to feel in a particular way.
<b>Example :</b> Patient says he hit the person next to him because someone made him do it, though he did not want to.	<b>Example :</b> Instead of breaking the phone by throwing it on the ground, patient removes every part of the phone and then throws it.	<b>Example :</b> Patient jumps in joy and says he/she was made to feel so, by someone.

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3 thought phenomena :

Thought insertion	Thought withdrawal	Thought broadcast
Patient feels someone is inserting thoughts about something else into the patient.	Patient feels someone is taking away their thoughts about one thing.	Patient feels everyone in the world knows what they are thinking about.

Somatic passivity/delusion of control :

Soma : Body. Passivity : under external control.

Patient feels somebody else is responsible for movement of their body parts or any physical symptoms like cough, headache etc.

Example : Patient says he/she coughs because of infrared rays left around by terrorists.

Primary delusional experiences :

These are primary psychotic symptoms/primary delusions.

- Delusional idea : The patient is strongly convinced about a false idea despite an attempt to convince them.
- Delusional memory : Patient believes in a false memory of something that never happened.
- Delusional mood : vague feeling that something is going to happen.
- Delusional perception : They see something and believe there is a specific reason or meaning linked to it.

## Negative symptoms of schizophrenia

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1. Apathy : Lack of interest in surroundings.
2. Avolition : Lack of motivation/drive to do anything.
3. Anhedonia : Loss of pleasure in previously pleasurable activities. A very important symptom of depression.
4. Affective flattening.
5. Attention deficit.
6. Alogia/poverty of thinking/poverty of speech :  
Patients will have minimal interaction and will answer questions in one or two words.  
more the negative symptoms, poorer the prognosis.

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## Types of schizophrenia

00:45:11

Paranoid schizophrenia : **MC type.**

Typically presents with **first rank symptoms** with/without negative symptoms.

Simple schizophrenia : **Rarest type.**

Typically presents with **only negative symptoms.**  
Worst prognosis.

Hebephrenic schizophrenia : Patients present with silly smile , silly affect, disorganized behaviour.

Bad prognosis. Relatively common than simple schizophrenia.

Catatonic schizophrenia : **Best prognosis.**

**Timothy Crow** divided schizophrenia into 2 types :

	Type I	Type 2
Symptoms	Positive	Negative
Treatment	Responds well	Do not respond well
Prognosis	Good	Bad
Brain imaging	Normal	Abnormal

van Gogh syndrome : Named after the famous artist van Gogh (a patient himself, he had cut/injured his own ears).  
Schizophrenia patients with **self-mutilation behaviour.**

Pfiff's schizophrenia : Seen in children with **intellectual disability.**

## Paraphrenia

00:53:30

Late onset psychosis : Symptoms begin **after 40 years.**

**Very late** onset psychosis : Symptoms onset **after 60 years.**

Female preponderance.

Good prognosis.

Seen in old people who develop sensory deficits as they age.

Risk factors for schizophrenia :

- Perinatal insult (hypoxia, premature birth, maternal complications, infections & obstetric complications).

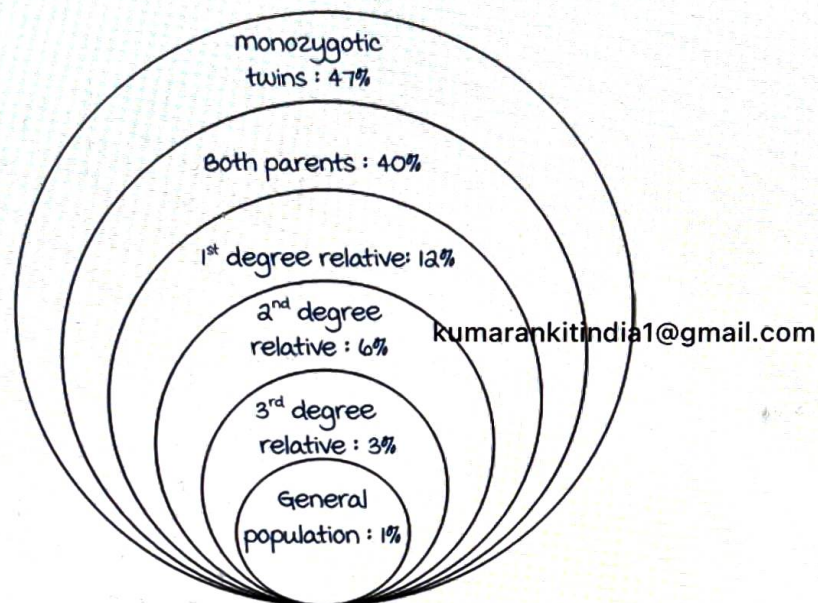


- Lower socio-economic status.
- urban settlement/polluted places.
- Genetic causes  $\leq 50\%$ .

velocardial facial syndrome (22q11 deletion).

very commonly linked to schizophrenia.

Individual's lifetime risk of developing schizophrenia if any of the below are affected :



Genetic contribution is only  $\leq 50\%$ .

Schizophrenia is **multifactorial** and can depend on the types of experiences, life style, use of substances etc.

### Stress diathesis model

01:02:07

When a person is hit at the **weakest link** during stressful times in life, tendency to develop schizophrenia is high.

Role of neurochemicals in development of schizophrenia :  
Increase in dopamine (major), serotonin (atypical antipsychotics are used), noradrenaline favors onset.

Glutamate toxicity/excitability leads to cognitive decline and GABA dysfunction (unnecessary excitation) also favors development.

## Prognostic factors of schizophrenia :

Good prognostic factors	Bad prognostic factors
Late onset	Early onset
Females	males
Acute onset	Chronicity
Positive symptoms	Negative symptoms
Affective/mood symptoms	H/o substance use disorder (SUD)
Less side effects to medications	Side effects to medications
Compliant to medications	Non-compliant to medications
Good family support	No family support
Family h/o mood disorder	Premorbid personality trait
Onset due to a precipitating event	Aggressive/violent patient
	multiple hospital admissions
	High negative expressed emotions

**Expressed emotions**

01:10:37

The way every family member communicates with the affected person.

Positive expressed emotion : Warmth (caring, kind).

Negative expressed emotions : Criticality, hostility and over involvement (bad prognosis). Chances of relapse is high.

Being critical by scolding creates a stressful environment.

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Family members become more aggressive towards the person leads to poor prognosis.

Over involvement is seen when family members take up responsibilities more than what is needed and cut off the individual's freedom.

## PSYCHOTIC DISORDERS : PART - 2

### Management of schizophrenia

00:00:16

Pharmacological management :

Antipsychotics :

- Typical antipsychotics : D<sub>2</sub> receptor antagonists (blocks completely).  
Example : Haloperidol, Chlorpromazine.
- Atypical antipsychotics : D<sub>2</sub> receptor antagonists (blocks 80%) & acts on 5HT (Serotonin) receptors. Lesser extra-pyramidal symptoms (EPS). Even though neurotoxicity is less, metabolic toxicity (dyslipidemia, hyperglycemia, weight gain, sedation) is more because of serotonin.
- Best antipsychotic : Clozapine. It is preferred only after failure of 2 antipsychotics.

Good side of Clozapine	Bad side of Clozapine	Ugly side of Clozapine
<ul style="list-style-type: none"> <li>• Effective.</li> <li>• Least EPS potential.</li> <li>• Less chance for hyperprolactinemia.</li> </ul>	<ul style="list-style-type: none"> <li>• Highly sedative.</li> <li>• weight gain.</li> <li>• Dyslipidemia.</li> <li>• Hyperglycemia.</li> <li>• Increased salivation &amp; decreased seizure threshold.</li> </ul>	<ul style="list-style-type: none"> <li>• Myocarditis.</li> <li>• Agranulocytosis.</li> </ul>

### Agranulocytosis

00:08:28

- Develops in 0.8 - 1.2 % patients on Clozapine.
- Absolute neutrophil count (ANC) < 500.
- Weekly blood tests for the first 6 months (total WBC count and differential WBC count → ANC can be calculated from these).

E.g. Total WBC = 10,000, Neutrophil = 40%

$$ANC = 40/100 \times 10000 = 4000.$$

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- Fortnightly blood tests : From 6 months to 1 year.
- monthly blood tests : After 1 year.

Treatment resistant schizophrenia :

- No improvement in symptoms even after trying  $\geq 2$  antipsychotics.
- Drug of choice : Clozapine.

Other atypical antipsychotics :

- Quetiapine : Leads to cataract formation.
- Risperidone, Olanzapine : Increased chance for stroke.
- Ziprasidone, Aripiprazole, Lurasidone : Weight neutral drugs.
- Least sedative drugs : Aripiprazole, Amisulpride.
- Least EPS seen in : Clozapine.
- Cardiotoxic drug : Ziprasidone.

Duration of treatment :

- minimum duration : 1 - 2 years (at least 6 months).
- < 1 - 2 years : High chance of recurrence.
- In case of repeated episodes : Long time basis/lifetime basis of treatment.

## Psychological interventions

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- Psychoeducation.
- Insight facilitation.
- Compliance enhancement.
- Cognitive Behavioural Therapy (CBT).
- Family therapy.
- Rehabilitation.

Psychotic disorders :

Delusional disorder/Persistent delusional disorder :

- At least 1 months of symptoms : DSM 5.
- At least 3 month of symptoms : ICD II.
- Delusions : False fixed belief.

Delusional disorder	Schizophrenia
Delusions predominantly.	Delusion + hallucination/Thought phenomena/ made phenomena/ First rank symptoms (FRS).
Delusions : Simple.	Delusions : Complex/bizarre.
Vegetative symptoms (sleep, appetite) : Normal.	Vegetative symptoms : Abnormal.
Functionality : Normal.	Functionality : Deteriorates.

### Named syndromes in delusional disorder

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#### magnan syndrome :

- Also known as cocaine bugs/cocaine psychosis/ fornication.
- Delusion of persecution + tactile hallucinations (insects crawling under the skin).

#### Cotard syndrome :

- Seen in patients with severe depression.
- Delusion of nihilism/nihilistic delusion.

#### De Clerambault's syndrome :

- Also known as delusion of love/erotomania (stalkers).

#### Othello syndrome :

- Commonly seen in alcoholics.
- Delusion of infidelity/delusional jealousy.

Commonest type of delusional disorder : **Paranoid delusions.**

#### Shared delusion :

- Deux : 2 people share delusions.
- Trio : 3 people share it.
- Familie : whole family shares it. [kumarankitindia1@gmail.com](mailto:kumarankitindia1@gmail.com)

#### Third psychosis :

1. Reactive psychosis : Development of psychosis in reaction to a grief, loss, or major life event.
2. Schizophreniform illness (1 - 6 months duration).
3. Schizoaffective disorder.

These 3 together form third psychosis.

## Schizoaffective disorder

00:31:51

- Diagnosis done based on
  1. Patient should have schizophrenia symptoms.
  2. Patient should have symptoms of major depressive disorder or bipolar disorder.
- Duration of symptoms : > 1 month.
- It is an episodic illness with both schizophrenia and affective (mania/depression) symptoms prominently.
- At least 2 weeks of only psychotic symptoms should be present in absence of affective symptoms.
- Types :
  - Depressive type.
  - Bipolar type.
- Treatment : Antipsychotics + mood stabilizers.

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# DEPRESSIVE DISORDERS

## Introduction

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Depression is a clinical syndrome.

ICD II specifies 3 core features to diagnose depression.

**mnemonic** : EMI

1. Low **E**nergy.
2. Low **M**ood.
3. Less Interest : **A**nhedonia (loss of pleasure in previously pleasurable activities).  
At least 2 of these should be present to diagnose depression.

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According to DSM, there are various important features to diagnose depression (**mnemonic** : DIGES CAPS).

1. **D**epressed mood ( $\geq 2$  weeks of sadness).
2. **I**nterest (anhedonia).
3. **G**uilt : Pathological guilt (unnecessary/too much guilt).
4. **E**nergy (less energy causing fatigue/tiredness).
5. **S**leep : **E**arly morning awakening/terminal insomnia is seen.
6. **C**oncentration (decreased attention).
7. **A**ppetite : Decreased appetite with poor taste sometimes. Decrease in body weight is seen.  
At least 5% decrease in ideal body weight in 6 months is significant weight loss. (characteristic of depression).
8. **P**sycomotor activity (retardation/agitation).
9. **S**uicidal ideation.  
5 out of 9 is required for diagnosis of depression & either depressed mood or anhedonia **must be present**.

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## Objective signs of depression

00:07:54

Omega sign	Veraguth fold
Described by Charles Darwin.	Described by Otto Veraguth.
Due to contracture of Procerus and corrugator muscles.	Due to contracture of Orbicularis oculi muscle.
Seen in the root of the nose (vertical and horizontal folds develop due to muscle contracture & looks like $\Omega$ )	Seen in the upper eyelid, where the muscles contract to form triangular fold. Looks like as if the patient is staring.


Grading of depression according to ICD II :

	mild	moderate	Severe
Symptoms of depression	Present	Prominent	Very prominent
Vegetative symptoms (sleep & appetite)	Not affected	Affected	Severely affected
Functionality	Not much affected	Just able to function	Severely affected

According to ICD II :

In moderate and severe depression, psychotic symptoms can be present along with it and are called **secondary psychotic symptoms/mood congruent psychotic symptoms**.

Important aspects of depression :

1. Some people will have single episode of depression in a lifetime. 

2. Many times, patients have 2 or more episodes of depression. 

It is called **RDD** (Recurrent Depressive Disorder) or **unipolar depression**.

3. Persistent depressive disorder :

Very mild sadness for  $\geq 2$  years : **Dysthymia**

Depression persisting for  $\geq 2$  years : **chronic major depression**.



## 4. Pre-menstrual dysphoric disorder :



Low mood state just before the menstrual cycle leading to dysfunctionality, change in quality of life. They are vulnerable to other forms of depression.

## 5. Seasonal Affective Disorder (SAD) :

Patient goes into depression **every winter**. Normal in other seasons.



## Atypical depression

00:18:52

Features of atypical depression :

- Hyperphagia, increased carbohydrate craving.
- Obesity.
- Hypersomnia.
- Interpersonal sensitivity (being upset with small things).
- **Lead**en paralysis (they don't move around because of heaviness).
- **Not responding** to tricyclic antidepressants.

Preferred drugs in atypical depression are

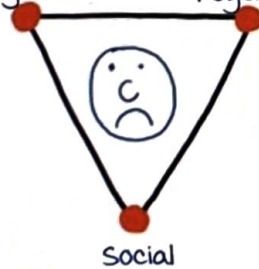
**MAO inhibitors > SSRIs.**

Biopsychosocial model:

kdmarankitindia1@gmail.com

Biological

Psychological



Biological factors contributing to depression :

- Family history : Genetic contribution (dysregulation of 5-HTT : Serotonin transporters expression).
- If biologically vulnerable, prone for recurrent depressive episodes.

Sometimes, no precipitating factor is needed other than biological vulnerability.

- Neurotransmitters like serotonin, norepinephrine & Dopamine are **decreased** in depression.
- Decrease in neuroplasticity, BDNF, synapse.
- Increase in inflammatory processes.

Active space

Psychological factors contributing to depression :

Aaron Beck postulated **cognitive triad of depression**.

1. Hopelessness (don't see a future).
2. Helplessness (they can't help anyone & themselves).
3. Worthlessness (fit for nothing despite being capable).

He described these as **cognitive/thought errors**.

Conflicts can lead to depression :

1. Loss of loved ones.
2. Anger turned inwards.
3. Ambivalence (inability to decide).
4. Introjection (blaming oneself).

Social factors contributing to depression :

- Relationship issues.
- Financial issues.
- Unemployment.
- Loneliness.

Biopsychosocial factors are interlinked and explain why some individuals are more vulnerable to get depressed than others.

Depression is one of the **most burdensome condition** because of :

1. Recurrence :
  - 1 episode of depression : **50%** chance of recurrence.
  - 2 episodes : **70%** chance of recurrence.
  - 3 or more episodes : **90%** chance of recurrence.
2. Resistance : 10-20% patients are resistant to treatment.
3. Chronic nature : Lasts between 2 weeks to 6 months. sometimes up to 9 months or even years.
4. Suicides : 10-15% patients succumb to suicide.

### Drugs causing depression

00:33:19

Active space

1. Beta blockers.
2. Oral contraceptive pills.
3. Interferons (**acute suicidal ideas**).
4. Barbiturates.
5. Steroids (**depression, mania**).

medical conditions leading to depression :

1. Hypothyroidism.
2. Vitamin B<sub>12</sub> / vitamin D / folic acid deficiency.
3. Chronic medical illness.
4. Chronic pain syndromes (like rheumatoid arthritis, fibromyalgia).

These conditions themselves decrease the quality of life.

management of depression :

Pharmacological intervention : Antidepressants.

1. SSRIs (Selective Serotonin Reuptake Inhibitors) :  
Increases 5-HT levels. most commonly prescribed.
  - Escitalopram/Citalopram.
  - Fluoxetine.
  - Paroxetine.
  - Sertraline.
  - Fluvoxamine.

SSRIs are well tolerated & effective.

Side effects of SSRIs :

- GI bleed (rare effect that can be prevented by adding Proton Pump Inhibitors with SSRI during initial days).
- Sexual dysfunction (decreased libido, erectile dysfunction, delayed ejaculation).
- Nausea/vomiting/diarrhoea.
- Insomnia/sedation/vivid dreams.

2. Dual acting antidepressants : SNRIs increases 5-HT & NE levels.

- Duloxetine.
- Venlafaxine.
- Desvenlafaxine.
- milnacipran.
- Levomilnacipran.

Used when the patient's drive, motivation, energy levels are low.

Long term use of Venlafaxine & Desvenlafaxine : may lead to hypertension by increasing noradrenergic tone.

Duloxetine, Milnacipran, Levomilnacipran : Used in chronic pain syndrome like fibromyalgia.  
SSRIs have equal efficacy as SNRIs.

## Sedative antidepressants

00:43:32

These include :

- Tricyclic Antidepressants (TCAs).
- Mirtazapine.
- Trazadone

SSRIs & SNRIs decrease sleep & increase dreams. Used in hypersomnia.

Antidepressants causing weight gain :

- Mirtazapine (maximum weight gain).
- SSRIs.
- SNRIs.
- TCAs.

Antidepressant that causes lesser weight gain : Bupropion >

Fluoxetine.

Bupropion :

- Increases NE & dopamine levels.
- Decreases depression & improves attention.
- Decreases seizure threshold. Do not consider for patients with past history of seizures/epilepsy.
- Worsens the psychosis in the patient (due to increased dopamine) kumarankitindia1@gmail.com
- Anxiogenic. Causes insomnia.
- Used in nicotine cessation : To reduce the craving for smoking.

Sexual issues in depression :

- Depression decreases libido.
- SSRIs & SNRIs are also important reasons for sexual dysfunction.

Antidepressants that do not affect sexual functioning :

- Bupropion (preferred).
- Mirtazapine.
- Trazadone : Causes priapism (painful sustained erection) as side effect.

- Vilazodone.
- Vortioxetine.
- Agomelatine.

Augmentation strategies to improve the effect of antidepressants :

- Adding antidepressants  
(venlafaxine + mirtazapine : **California rocket fuel**)
- Lithium.
- Antipsychotics.
- ECTs.
- Light therapy.
- Thyroxine. 60c6b3eaa8ded0e4e7e5ea7
- Folic acid supplementation.

### Duration of treatment

00:54:23

- It takes 2-3 weeks to show effect.
- minimum of 6-9 months after the symptoms remit.
- 2 or more episodes/RDD : Long term treatment/  
even lifetime treatment based on dysfunctionality.  
It is to stop recurrence.
- Clinically 9 - 12 months of treatment after 1 episode of depression.
- When the patient abruptly stops taking antidepressant, he/she will develop **withdrawal symptoms** : Irritability, anger, insomnia, agitation, headache, nausea, vomiting, sensory symptoms.
- Withdrawal symptoms can be differentiated from depression by means of physical symptoms and sensory symptoms that develop immediately after cessation of antidepressants.
- Withdrawal symptoms are more in the first 2 weeks & then it goes off.
- maximum withdrawal is seen in **paroxetine, venlafaxine & desvenlafaxine**.
- **Safest** ones : Fluoxetine, bupropion, agomelatine.

Psychological interventions :

mild to moderate depression patients can be treated only with therapy.

- **CBT** : Try to change cognitive errors/deeper schemas (deep rooted thinking).
- **Interpersonal psychotherapy** : Improves effective communication & increase help seeking.
- **Solution focussed therapy**.
- **Psychodynamic/psychoanalytical therapy** : Looks into deeper psychological conflicts.

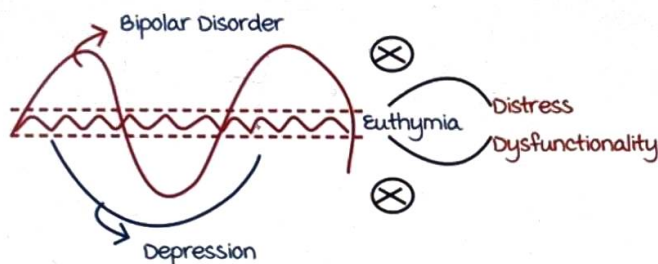
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# BIPOLAR DISORDER

## Euthymia

00:00:45

- Normal mood.
- No distress.
- No dysfunctionality.



Bipolar disorder :

- It is a type of mood disorder/affective disorder.
- Patients can be in
  1. mania/hypomania.
  2. Depression.
  3. mixed affective state (depressive + manic/hypomanic symptoms).

## Features of mania

00:03:05

Happy/elated/euphoric mood or irritable mood.

Mnemonic : DIGFAST.

- **D**istractibility.
- **I**mpulsivity.
- **G**randiosity (ideas → delusions).
- **F**light of ideas/Racing thoughts.
- **A**ctivities (increased psychomotor activities).
- **S**leep (decreased/need for sleep is less).
- **T**alkativeness.

Both depression & mania have decreased sleep. In depression, the patient wants to sleep but cannot. He will be tired & exhausted, however in mania, the need for sleep is less.

Active space

For diagnosis of mania :

- If in **happy mood** : 3 features should be present.
- If in **irritable mood** : 4 features should be present.
- **1 week of symptoms** should be present/requires hospitalization.

Hypomania :

- milder form of mania.
- For diagnosis : **4 days of symptoms** required.

Hypomania	mania
4 days of symptoms required.	One week of symptoms required.
mild.	Severe.
No psychotic symptoms.	Can have psychotic symptoms.
Functionality : Normal/ increased.	Functionality : Decreases.
No hospitalization.	Hospitalization may be required.
Seen in bipolar II/I.	Seen in bipolar I. Not seen in bipolar II.

## Bipolar disorder

00:10:58

Bipolar disorder : Type I & II.

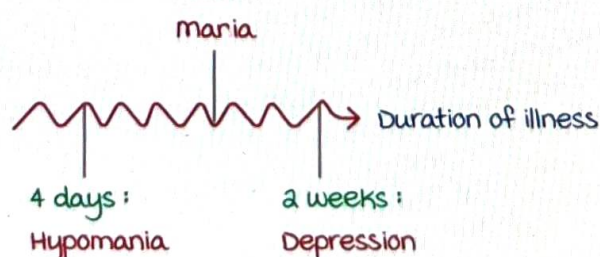
Type II : **Hypomania** + depression episodes (never goes beyond hypomania).

Even single episode of mania : Becomes type I.

Type I : **Rest** all episodes of bipolar disorder.

- mania.
- mania + hypomania.
- mania + depression
- mania + hypomania + depression.

Duration of illness : 1 week :





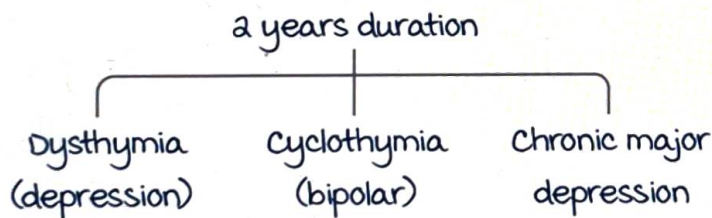
## Depression vs bipolar depression

00:13:35

Depression that is a part of bipolar disorder : Bipolar depression.

Bipolar depression	Depression
Previous history of mania/hypomania.	No such history.
Younger onset : 15 - 25 years.	Onset : 25 - 35 years.
Atypical depression features, substance use disorder, psychomotor retardation.	
Abrupt & episodic.	
Not responding to antidepressants.	
Family history of bipolar disorder.	

Persistent mood disorders: [kumarankitindia1@gmail.com](mailto:kumarankitindia1@gmail.com)



**Cyclothymia** : very mild form of bipolar disorder persistent for 2 years or more.

**Rapid cycling disorder** :

Type of bipolar disorder in which 4 or more episodes of mood problems happen in a calendar year.

Risk factors :

- Female bipolar patients.
- Hypothyroidism.
- Substance use.
- Antidepressants without cover of mood stabilizers.
- Bipolar type II patients.
- Cyclothymia patients.
- Hyperthymic patients.

Active space

**DMDD (Disruptive mood Dysregulation Disorder) :**

Diagnosed between 6 years - 18 years.

Features :

- Constant irritability.
- Tantrums : At least 3 times/week.

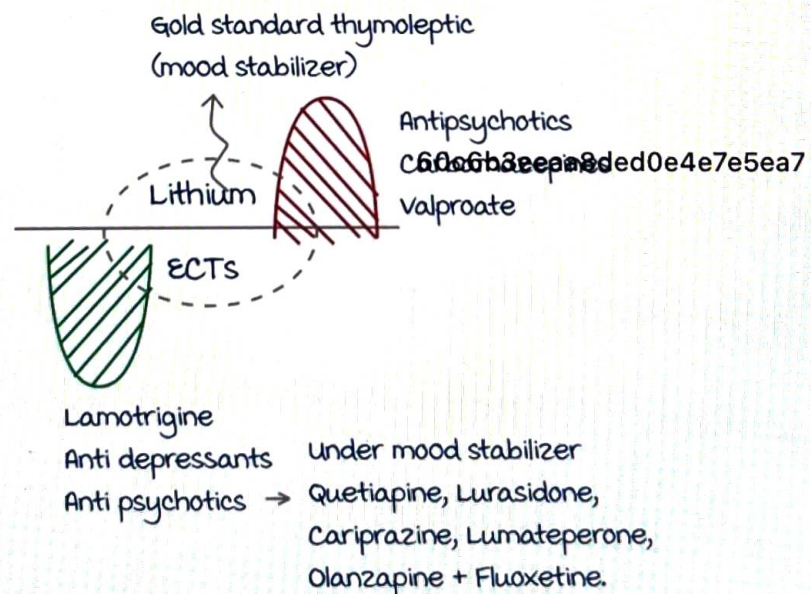
**Management of bipolar disorder**

00:24:01

Pharmacological interventions :

Acute management :

- Irrespective of the phase : Lithium & ECT can be used.
- Lithium : Gold standard thymoleptic (mood stabilizer).
- For mania : Valproate, Carbamazepine, anti psychotics.
- For depression : Lamotrigine, anti depressants under cover of mood stabilizer, anti psychotics.
- Antipsychotics for depression (FDA approved) :
  1. Quetiapine : 300mg/day.
  2. Lurasidone.
  3. Cariprazine.
  4. Lumateperone (yet to come in India).
  5. Olanzapine + Fluoxetine.

**Antidepressant induced switch/Bipolar Type III :**

Switch into mania because of antidepressants usage.

Hence, antidepressants should be used under the cover of mood stabilizers.

ECT : useful if patient is suicidal, extremely violent/disturbed.

Drug of choice in management of acute mania :  
Antipsychotics (works fast).

maintenance/prophylactic management :  
Continue same dose.

Aim : To prevent further episodes/relapse.

Drug of choice for typical/euphoric/classical mania : Lithium.

Drug of choice for atypical/dysphoric/irritable mania :

valproate (also useful in head injury, organic mood disorder).

valproate is preferred in cyclothymia & rapid cycling disorder.

### Bipolar disorder in pregnancy

00:34:30

Valproate, Carbamazepine : Not safe.

Lithium causes Ebstein's anomaly but doesn't increase risk much.

Safest mood stabilizer in pregnancy : Lamotrigine.

Suicidality in bipolar patients :

- 15% patients : Succumb to suicide.
- 2 drugs that decrease risk of suicide :  
Lithium, Clozapine.

Duration of medications :

- minimum treatment : At least 9 - 12 months after an episode. If stopped earlier, chances of relapse are high.
- In patients with 3 or more episodes in the past/ repeated hospitalisation/suicidal risk/affected functionality : Long term treatment.
- Drugs used for long term treatment :
  1. Lithium.
  2. Lamotrigine.
  3. Aripiprazole.
  4. Risperidone.
  5. Olanzapine.
  6. Quetiapine.
  7. Ziprasidone.

### Psychological interventions :

- Psychoeducation (look for early relapse signs) : helps to understand illness.
- Cognitive behavioural therapy (CBT) : useful mainly in depression. It helps to change cognition.
- IPSRT (Inter Personal Social Rhythm Therapy) : Focus mainly on building routines (sleep, habit), social rhythm. Helps in building healthy relationships.
- Family focused therapy : helps to build support.
- Group therapy : helps to identify yourself among other bipolar patients.

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Active space

# STRESS, TRAUMA AND RELATED DISORDERS

## Stress

00:00:34

A person can have significant amount of stress when,

- Their resources/abilities are tested.
- Their skills are tested.
- Status quo is challenged.

Two important types of stress are :

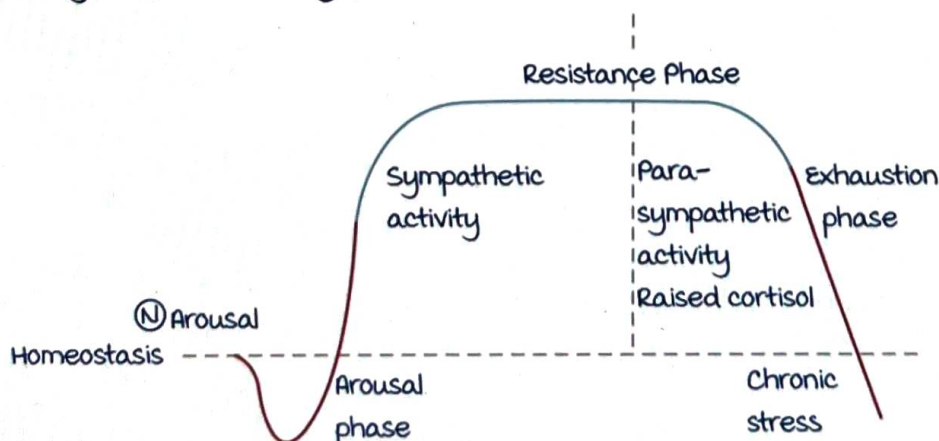
- **Eustress** : Normal and helpful (eg: exams help us study).
- **Distress** : Leads to dysfunctionality (eg : exam stress beyond helpful levels)

Father of stress research : **Hans Selye**.

He introduced the concept of **general adaptation syndrome**, which shows how body responds to stress through 3 phases.

- **Arousal phase** : Stage of shock (body tries to fight against stress), **sympathetic nervous system** activated.
- **Resistance phase** (body tries to resist the levels of stress) : Sympathetic system remains activated initially.
- **Exhaustion phase** : Predominant **parasympathetic activity** along with raised cortisol levels. This phase is known to happen when there is chronic stress.

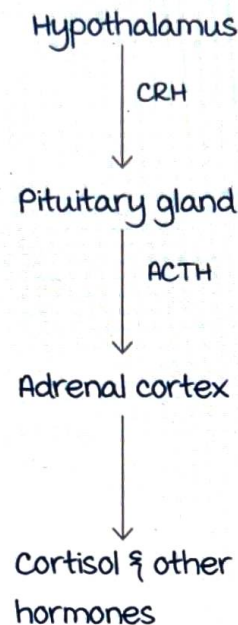
Chronic stress has a deleterious effect on the body like development of hypertension, diabetes, immune system dysfunction leading to cancer, infections etc.



## Hypothalamus-pituitary-adrenal cortex axis (HPA axis)

00:06:30

It is a neuro-endocrine axis. Stress can influence HPA axis significantly.



Increase in cortisol has a negative feedback effect on CRH and ACTH hormones, thereby decreasing cortisol levels & maintaining homeostasis.

Chronic stress leads to raised levels of cortisol over a long period of time causing :

- Body changes like muscle wasting and increased abdominal fat.
- Hyperglycemia.
- Dyslipidemia.
- Hippocampal atrophy.

### Dexamethasone suppression test :

Previously used to identify depression. Nowadays it is used more in the diagnosis of Cushing syndrome.

There is raised level of cortisol in depression.

Dexamethasone (synthetic corticosteroid), if given at 11pm → decreases cortisol levels by 8am, normally.

But in patients with depression and Cushing syndrome, the levels of cortisol remain high despite giving dexamethasone.

This is called positive dexamethasone suppression test.

Life events are important in mental health.

They can predispose or precipitate (in vulnerable population) a specific mental illness.

So they should be identified and addressed properly.



### Presumptive life event scale

00:12:12

Presumptive life event scale looks into life events at 4 levels :

- Desirable life events : Promotion, PG seat. (sometimes may not end up as desired).
- Undesirable life events : Sickness, business, financial loss.
- Personal life events : Death of a close relative.
- Impersonal life events : Covid pandemic, earthquake (we might be one amongst many affected).

This scale was introduced by Gurmeet Singh. kumarankitindia1@gmail.com

Life event which gets maximum importance in this scale is the death of a spouse.

Can one develop a mental illness without any specific psychosocial stressor ?

**Yes.** Physical illnesses (viral infection, pain, surgeries) are important precipitating factors for mental illness even more than the psychosocial stressors.

Important psychiatric conditions that require a precipitating/ causative factor :

Grief disorders.

Acute stress reaction.

Acute stress disorder.

Adjustment disorder.

Post Traumatic Stress Disorder (PTSD).

## Grief reaction

00:18:33

Due to loss of a loved person or an object.

Different stages of grief reaction given by Kubler Ross are :

Mnemonic : DABDA

**Denial** : One of the first reactions (eg : reaction of family members upon declaring the death of their relative).

**Anger** (eg : anger against nurses/doctors). Normal when a person is in grief.

**Bargaining** (eg : family members asking for other ways to prevent an inevitable event).

**Depression** (eg : thinking of that person, missing them).

**Acceptance** (eg : accepting the loss and moving on).

All these phases need not occur in a sequence. Each person goes through each phase at different times.

Types of pathological grief :

- Absent grief : Emotions are not shown out.
- Hypertrophic grief : Extreme emotions.
- Delayed grief : A delay of  $\geq 2$  weeks in reacting to the situation.

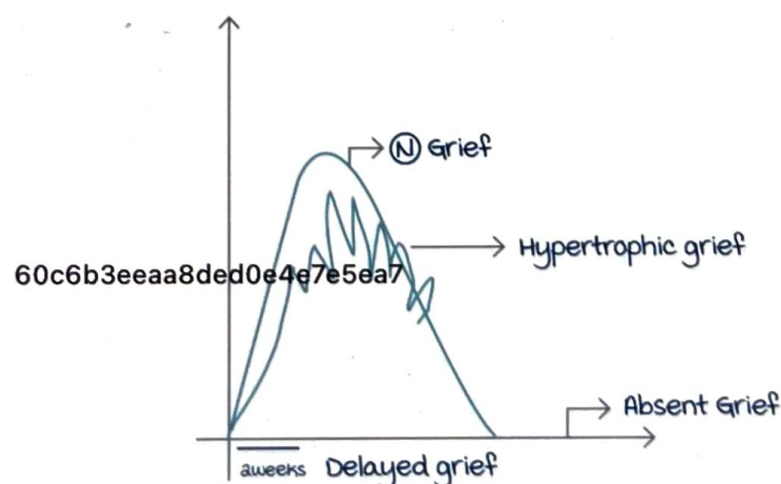
usually grief settles by 6 months after the incident (majority of the symptoms subside).

- Chronic grief : Persistence of grief for  $> 6$  months.

**Traumatic grief** : Combination of chronic and hypertrophic grief.

**Anniversary grief reaction** : Heightened emotional responses on every anniversary of an event.

mental health professional help may be needed only during times of significant distress/dysfunctionality.



Active space



## Acute stress reaction

00:29:04

Not mentioned in the current ICD-11 and DSM-5.

It is a very transient condition (< 48 hours).

Symptoms mimic shock like/dream like/dazed state.

Peaks immediately and comes down immediately as well.

Lasts from few hours to < 48 hours.

Acute stress disorder :

Symptoms lasts between 2 days and 1 month.

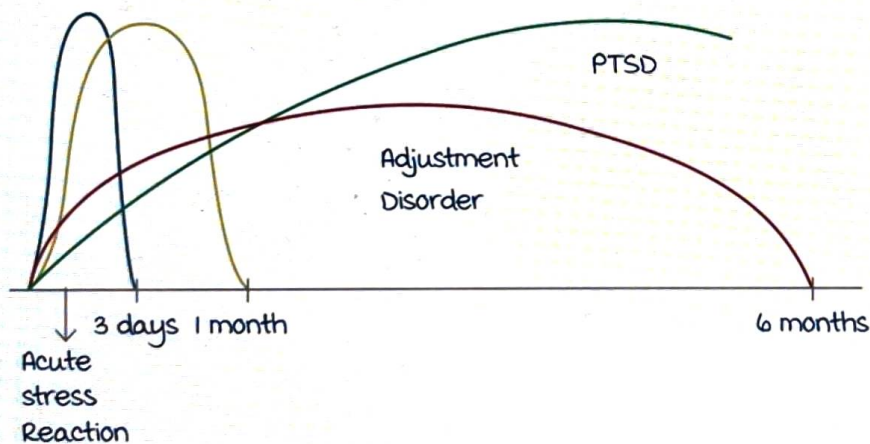
Patients will have autonomic arousal (hyperactive, agitation), pre occupied about stress, anxious and emotional.

(eg : Being worried/cautious about driving after an accident)

Adjustment disorder : Lasts for maximum upto 6 months.

mild depression and anxiety symptoms are seen.

It is the one of the most common psychiatric conditions seen in cancer/TB/newly diagnosed TADM, S.HTN, Stroke patients.



## Post Traumatic Stress Disorder (PTSD)

00:35:39

Diagnosed only if symptoms are present for > 1 month.

Hyper arousal symptoms (fright, agitation, nightmares, sleep disturbances) are seen.

Flashbacks/re experiencing episodes are very characteristic.

They tend to avoid scenarios which make them anxious.

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Risk factors :

- Female gender.
- Borderline personality disorder.
- Substance use disorder.
- Significant childhood adverse events.
- People with external locus of control.

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## Types of control :

- Internal locus of control.  
Example : Reckless driving leading to accident.
- External locus : Earthquakes, floods, terrorist attacks, sexual assault (our contribution to the event is less).

## management :

## Drugs to reduce arousal and agitation symptoms :

- $\beta$  blockers.
- Benzodiazepines.

Cannot be used for longer duration as BDZ causes addiction.

For maintenance therapy : SSRI >> SNRI.

Prazosin ( $\alpha_1$  blocker) : For nightmares.

## CBT (Cognitive Behavioural Therapy) :

One of the most effective evidence based therapies for mild to moderate cases.

Can be given alone or along with drugs.

## EMDR (Eye movement Desensitisation and Reprocessing) :

Specific psychotherapy technique used in patients with PTSD.

Effective treatment in PTSD : CBT > EMDR.

Specific treatment in PTSD : EMDR.

## Types of PTSD :

- Late PTSD : Develops after 6 months.
- Complex PTSD (mentioned in DSM-5 and ICD-11) :  
Patients have primary symptoms like

1. Hyperarousal.
2. Re experiencing.
3. Avoidance.

and also complex symptoms like [kumarankitindia1@gmail.com](mailto:kumarankitindia1@gmail.com)

4. Negative self concept.
5. Interpersonal sensitivity.
6. Emotional dysregulation.

Reactive attachment disorder : A child who has issues being close to the mother/primary care givers.

An emotional disconnect is seen.

Disinhibited social engagement disorder : A child who shows no distancing towards strangers.

Stranger anxiety is typically absent.

These two disorders are diagnosed between 9 months and 5 years of age.

Seen in children who grow in extremely traumatic/neglected environments.

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# ANXIETY DISORDERS

Anxiety :

Can be considered as body's reaction to stressful or challenging situations. Anxiety can be normal or abnormal based on :

- Intensity of symptoms.
- Duration of symptoms.
- Amount of dysfunctionality due to the symptoms.

Types of anxiety :

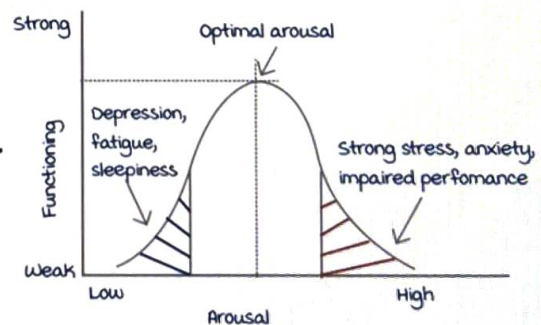
- State anxiety : Anxiety related to a specific state or situation and is relieved once the situation is gone.  
E.g. Sudden legal issues, financial issues causing anxiety.
- Trait anxiety : Anxiety that is inherently present in the person for a long time.

## Yerkes - Dodson curve

00:03:15

Functioning vs arousal :

As arousal increases, the functioning also increases. It reaches the maximum level, beyond which functioning decreases with arousal.



Yerkes - Dodson curve shows that too much or too little arousal can cause problems & emphasize on optimum level of arousal for proper functioning.

**Anxiety** : Too much arousal that causes very low functioning (not being able to concentrate).

**Depression** : Causes too less arousal leading to decreased functioning.

Generalized Anxiety Disorder :

Symptoms that persist for  $\geq 6$  months :

- motor tension/restlessness.
- Free floating anxiety (constant anxiety/worry loops).
- Inability to relax.
- Irritability.
- Sleep disturbance.

management of anxiety :

Pharmacological :

1. SSRIs : Paroxetine, Sertraline, Escitalopram. SNRIs can also be used.
2. Benzodiazepines : For symptomatic treatment  $\&$  short duration because of abuse potential. Used in an emergency setting.
3. Buspirone : 5-HT<sub>1A</sub> partial agonist. It is not a sedative, no abuse potential and has anti seizure effect. Takes longer time to act, therefore cannot be used in emergency setting.
4. Pregabalin is also used.

Psychological :

1. JPMR (Jacobson's Progressive muscle Relaxation Technique).
2. Deep diaphragmatic breathing techniques.
3. mindfulness based practices are useful.
4. Cognitive behavior therapy (CBT).
5. Guided imagery.

## Panic disorder

00:12:34

Recurrent de novo (without a reason/stimulus) brief panic attacks.

Symptoms of a typical panic attack :

- Light/heavy headedness.
- Dryness of mouth.
- Choking/breathlessness.

Active space

- Increased HR.
- Abdominal discomfort/butterflies in stomach.
- urgency to clear bowel or bladder.
- Tremors of hand/body.
- unsteadiness of gait.
- Think about impending doom/go crazy, mad or death (extreme cognition).

If 4 or more symptoms occur together, they are called as panic attack.

Panic attacks are brief, extreme and can last anywhere between 5-15 mins, even until 45 min.

One of the reasons for emergency presentation.

Substances inducing panic attacks :

- Caffeine.
- Theophylline.
- Cannabis.
- Cocaine.
- Carbon dioxide.
- Cholecystokinin.
- Sodium lactate.
- Yohimbine.
- Flumazenil (Benzodiazepine antagonist).

With recurrent panic attacks,

Patients develop **anticipatory anxiety** (afraid of developing another panic attack) and **agoraphobia** (fear of open spaces/spaces where safety is difficult to access).

The patient may remain home bound and refuse to travel fearing newer attacks.

**Diagnosis** of panic attack requires :

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Recurrent panic attacks + anticipatory anxiety ± agoraphobia.

Medical conditions mimicking panic attacks :

- Cardiac issues like arrhythmias.
- **Hypoglycemia**.
- Adrenal tumors.
- metabolic conditions.
- Drugs of abuse.

These conditions need to be ruled out before considering panic attack.

## Management of panic disorder

00:21:55

Pharmacological :

SSRIs : Paroxetine, Sertraline, Fluoxetine.

Benzodiazepines : Symptomatic treatment. Cannot be used for long term because of abuse potential.

SNRIs : Venlafaxine.

Bupirone is **not as effective** in panic disorder as it is in generalised anxiety disorder.

Psychological :

1. Cognitive Behaviour Therapy (CBT) is required to manage anticipatory anxiety and agoraphobia.
2. Somatic quietening exercise : Guided imagery, JPMR, deep breathing, body scan.
3. **Psychoeducation** to help the patients understand what a panic disorder is.

## Phobia

00:25:07

**Irrational fear** of anything for  $\geq 6$  months.

Phobia is of 2 types :

1. Generalized/Social phobia/social anxiety disorder.  
Patients are always worried about **negative scrutiny** (others negatively evaluating them) to the extent that they become extremely anxious about social interaction.
2. Specific : Phobia towards specific scenarios.  
**Mnemonic** : BANSO.  
Blood injection (blood or injection).  
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Animal (dog/cat etc).  
Natural environment (water bodies, hill station)  
Situational (Public speaking, claustrophobic places).  
Others.

management of phobia :

Pharmacological :

SSRIs : Paroxetine, Sertraline, Fluvoxamine (in social anxiety).

SNRIs : Venlafaxine.

Benzodiazepines : used for symptomatic relief only.

These drugs are useful in generalised phobia/social anxiety.

Beta blockers : Propranolol. useful in specific phobias.

To rule out bronchial asthma before prescribing beta blockers.

Psychological management :

- Behavioral Techniques :

**Flooding** : Expose person to aversive stimuli in one shot.

**Systematic desensitization** : Relaxation techniques are taught and graded exposure is done (relaxed body reduces anxiety). Typically done in patients with phobia.

- Relaxation.
- Cognitive behavior therapy.

## Separation anxiety disorder

00:35:45

It is normal for the primary care giver (mostly mother) & child to have anxiety while being separated for various reasons.

It is deemed abnormal when 3D's are present.

1. **Duration** : If anxiety persists for more than 1 month in children & > 6 months in adults.
2. **Distress** : Feeling alone, dumped, not cared for and become clingy towards the care giver.
3. **Dysfunctionality** : Not able to do day to day activities like going to school/college and stays at home.

**Selective mutism** :

Person is comfortable & communicates well at some places but is unable to, at some other places.

This lasts for atleast a period of 1 month or more (does not include the first month of schooling).

Leads to significant distress and dysfunctionality.

Commonly seen in children < 10 yrs but can be seen in others as well.



# OBSESSIVE-COMPULSIVE AND RELATED DISORDERS

ICD 11 describes obsessive compulsive or related disorders, which includes :

mnemonic : O<sup>a</sup>B<sup>a</sup>H<sup>a</sup>

- OCD.
- Olfactory reference syndrome.
- Body dysmorphic disorder.
- Bodily focused repetitive behavior disorder.
- Hoarding disorder.
- Hypochondriasis.

Olfactory reference syndrome :

Constant preoccupied worry about bad smell emanating from their body.

## Bodily focused repetitive behavior disorder

00:02:28

Condition with repetitive focus is on the body.

Conditions :

### 1. Trichotillomania :

Commonly seen in females.

Compulsive hair pulling behavior.



Common order of hair pulling :

Scalp hair > eyebrows > facial hair > hair of other parts.

Some of them eat the pulled hair, called Trichophagia leading to Trichobezoar (hair ball/accumulation of hair).

Causes intestinal obstruction (surgical complication).

Management : 60c6b3eeaa8ded0e4e7e5ea7

- Fluoxetine.
- Naltrexone.
- Lithium.
- Carbamazepine.

Habit reversal technique (HRT) : useful.

## 2. Excoriation disorder :

skin picking is so much that many **scars and active lesions** are present.

Urge to do so **cannot be resisted**.

**Cocaine and amphetamine users** (as part of substance use disorders) can have excoriation behavior.

Management :

- SSRIs.
- Combination of SSRIs , Antihistaminics , Benzodiazepines : reduces the urge.
- HRT.

## Body dysmorphic disorder :

Also known as **dysmorphophobia**.

Condition where a person is constantly worried about body for **more than 6 months**.

Concerned about shape, color or other issues related to body. Leads to **significant distress and dysfunctionality**.

## Hypochondriasis

00:09:50

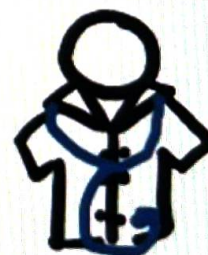
Also called **illness anxiety disorder (DSM-5)**.

Earlier called **medical student syndrome**.

Worried for **>6 months** about an **already diagnosed illness** & its **implication or developing an illness**.

Example : A patient diagnosed with diabetes having exaggerated worry about the disease and consults multiple doctors.

Pre-occupation about the diagnosed illness is high.



Prone to develop → Secondary anxiety disorders.  
→ Secondary depressive symptoms.

## Hoarding disorder :

Hoarding disease was considered a type of OCD earlier, not nowadays.

Cannot discard anything thinking that every item has value, even if **no room to move around the house**.

Leads to **distress and dysfunctionality**.

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ative space

### Diogenes syndrome or senile squalor :

mostly seen in elderly people who are alone, aloof, living in dirty places with decreased selfcare and increased self negligence.

Similar to hoarding syndrome which is seen in younger age group but this is seen in elderly.

## OCD

00:18:20

### Obsessions seen in OCD :

- Cleanliness related : very common.
- Aggressive: Believe they will involve in violent action like killing/hitting someone.
- Blasphemous : Believe some horrific inappropriate sexual content comes in their head and feel guilty about it. Common in young people.
- Symmetry related : Always looking for symmetry, walk in a particular direction, keep everything in symmetry. visuospatial impairment happens.

## Obsessions vs compulsions

00:20:09

Both are called disorders of thought possession/thought content.

### Obsession :

- It is one's own thought coming repetitively.
- Anxiety provoking.
- Distressful.
- Ego dystonic nature, which means that they don't want these thoughts, but it keeps coming repeatedly.  
Common obsession : Fear of contamination.

### Compulsions :

- Repetitive mental act or physical act.
- Anxiety relieving.
- Ego dystonic nature.
- mental compulsions like chanting verses to relieve stress.
- Physical compulsions like hand washing (most common).

## OCPD

00:24:04

OCPD is another type personality disorder.

OCPD: Obsessive compulsive personality disorder.

Not same as OCD.

Patients are very particular about rules, regulations, timings.

They are extremely organized and go by planning.

They look into minute details constantly.

## Management of OCD

00:25:08

### Pharmacological management:

SSRIs:

Fluoxetine is said to be more effective but clinically all are effective.

Generally, a combination of 2 SSRIs given.

Clomipramine is a Tricyclic Antidepressant (TCA):

It is different from other TCAs as is more serotonergic.

So, it is more effective than SSRIs but less preferred because of side effects (S/E).

Side effects: (Anticholinergics like side effects are seen).

- Dryness of mouth.
- Constipation.
- Weight gain.
- Cardiotoxicity.
- Sedation.
- Decreased seizure threshold.

Augmentation:

Combine multiple antidepressants like:

Low dose antipsychotics are commonly used especially Risperidone and Aripiprazole.

Low dose Clonazepam.

Bupropion/Lithium.

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Other lesser known strategies are available.

### Psychological management:

- Cognitive behavioral therapy (CBT).
- Exposure Response Prevention (ERP):  
Expose the patient but prevent the response.

For example,

Patient gets thought

(like of contamination) → Anxiety levels increases

↓  
Goes and washes hand  
← Anxiety decreases ← Again, thought comes

The cycle continues.

But in ERP, instead of washing, the hand is made to touch a dirty surface and prevented from washing, so the anxiety level increases.

By exposing to higher level of anxiety patient gets habituated to it.

After multiple sessions of habituation → anxiety does not increase

↓  
Eventually gets out of the cycle of OCD.

It is challenging as the patients are not motivated to go through exposure and response prevention.

In patients with moderate to severe OCD, ERPs are combined with medications.

### Surgical management :

Deep brain stimulation : In resistant OCD patients.

Limbic leukotomy : In resistant patients.

Involves 2 processes :

Anterior cingulotomy : A lesion created in anterior cingulate..

Sub caudate tractomy.

## PANDAS

00:34:45

PANDAS : Pediatric Autoimmune Neuropsychiatric Disorders

Associated with group A beta hemolytic Streptococci.

It is a condition linked with OCD.

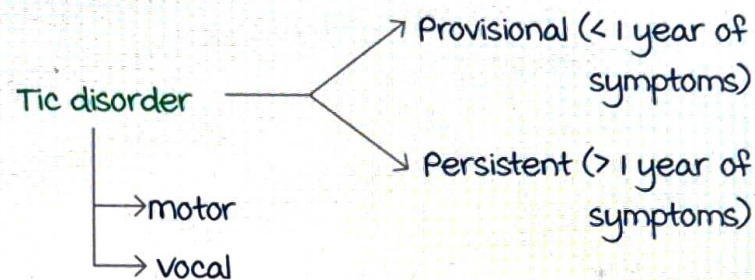
Clinical features : (mnemonic : PANDAS)

- Prepubertal onset of symptoms.
- In pediatric age group.

- Abrupt and episodic course.
- **Neurological symptoms especially tics.**
- Disorders like **anxiety disorder, ADHD, OCD.**
- Autoimmune condition so managed with **plasmapheresis, IV immunoglobulin.**
- Associated with H/O **Streptococcal infection** and confirming by blood investigations, **Anti-DNase B positivity, ASO titre, throat swab.**

## Tic disorder

00:38:26



### Tourette syndrome (Gille da la tourette) :

It is a type of tic disorder having both motor and vocal.

Classical vocal tic is **Coprolalia** (involuntary uttering of bad words).

Classical motor tic is **Copropaxia** (involuntary foul gestures).

**ADHD and OCD symptoms** are associated with it.

### Impulse control disorder :

- **Pyromania :**  
Pathological **fire setting** behavior at various places.
- **Kleptomania :**  
Pathological or compulsive stealing.  
Typically steal things of low or no value.  
Cannot stop the urge and stop stealing.
- **Oniomania :**  
Compulsive shopping.  
Addictive in nature.
- **Compulsive sexual behavior :**  
Not because pleasure but due to compulsive activity.

## Intermittent explosive disorder

00:42:39

Also called **Explosive Personality**.

Typically cause harm to others.

Diagnosis:

- If significant harm is done: minimum 3 episodes per year.
- If no significant harm is done: minimum 4-5 episodes per week for at least 3 months consistently.

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## SOMATISATION, DISSOCIATION AND RELATED DISORDERS

Conscious or subconscious narrative.

**Defense mechanism.**

Contempt to talk about stress.

Stereotypical thought process, societal pressure forces people to keep stress hidden and not talk about it.

**Somatisation :**

When stress is kept for long, stress comes out **subconsciously** presenting as multiple somatic/ physical complaints **involving various systems.**

Called as **Somatic symptom disorder** as per DSM5.

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Called as **Bodily distress disorder** as per ICD11.

Diagnosis only if symptoms is present for **>6 months.**

**Constantly pre occupied** about symptoms.

Presented as :

- many complaints.
- many consultations.
- many investigations but will be normal.
- many systems involved (like GIT, CVS).
- many stressors.

### **Munchausen syndrome**

00:06:13

Also called as **Doctor shoppers** and **Factitious disorder.**

Constantly worried about **fact** and **figures.**

**Argumentative**, so might get discharged against medical advice.

Will not be willing for investigations, treatment etc.

**Deliberately create symptoms** for no apparent reason.

**Peregrination :** Travels long distance for simple medical attention.

Can end up developing **Grid abdomen** (multiple surgical scars filled abdomen).



**munchausen syndrome by proxy** : where adult will bring the child.

Condition preoccupied by

Symptoms : Somatic symptom disorder.

Illness : Illness anxiety disorder/Hypochondriasis.

Facts/ figures : munchausen syndrome.

Body : Body dysmorphic disorder/ dysmorphia.

## Dissociation

00:11:06

Dissociation means dis-association/disconnection.

**Subconscious defense mechanism** to save one's own ego or identity.

Following a stress that could not be handled.

Disconnecting from reality by change in

- memory
- Perception
- Identity

Types :

1. Dissociative amnesia :

**Loss of traumatic memory.**

Temporary way of decreasing the immediate stress level.

Also called as **Catatathymic amnesia.**

Types of amnesia :

- **Generalized** : Global amnesia and forgets everything.
- **Circumscribed** : Remember everything except traumatic component forgotten.
- **Continuous** : Will remember everything until traumatic event happens and after that trauma, forget everything.
- **Selective** : Remember everything but only specific points forgotten.
- **Systematized** : Specific to one individual or occasion and things related to it also forgotten.

2. Dissociative fugue :

**Primary identity forgotten.**

**Purposeful wandering** occurs and takes up new responsibility of things.

## 3. multiple personality disorder :

Also called **dissociative identity disorder**.

Dissociative fugue	multiple personality disorder
2 alters (alternate ego)	>2 alters is typical.
The shift between identity takes long time like weeks or months.	Shift is frequent even within seconds.
The identities will not know about each other.	The primary identity person will not know about other identities, but other identities will know about existence of primary identity.

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## 4. Conversion disorder.

**Conversion disorder**

00:24:28

Called as **dissociative neurological symptom disorder** as per ICD II.

But in DSM 5 it is called **Functional neurological symptom disorder** and it comes under somatic and related disorder. Stress gets expressed in form of **bizarre unexplainable motor or sensory neurological complaints**.

**Asasia abasia :**

Bizarre unexplainable 'Gait presentation'.

Blocq's disease is the older term.

**Labelle indifference :**

Typically, **symptoms are prominent** but **associated concern is low**.

mood is indifferent to the level of presentation symptoms.

Seen in dissociate and conversion disorders.

**Malingering**

00:29:45

Is **conscious production of symptoms** for **conscious secondary gain** like

- money compensation.
- Leave compensation.
- Benefit by continuing the sick role.

## Ganser syndrome

00:31:00

Commonly seen in prisoners awaiting death by hanging. Nowadays, 40-50% who present with it will have an underlying organic condition (CVA, infection, metabolic).

Typically seen with

- Approximate answers called as **vorbeireden** (Greek word).
- Hallucinations.
- Conversion symptoms.
- Confusion.

## Gain

00:33:49

It includes,

- Primary gain :  
Happens by use of defense mechanism.  
Here, ego is taken care of.
- Secondary gain :  
Gain you get from others.  
In malingering, conscious secondary gain is seen.  
In factitious disorder **no secondary gain** as there is no apparent reason.
- Tertiary gain :  
Others take advantage of the situation.  
Like a family member get sick, other family members decide to share the property among themselves.

Tests :

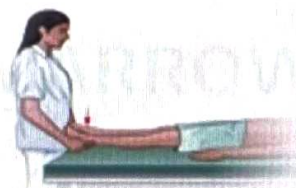
To differentiate organic or psychiatric like malingering or is actually diseased.

Hoover's Test

- Hoover's test :

Clinician's hand is kept under the paralytic leg and the person is asked to lift the other leg.

If no pressure is felt on the hand below paralytic limb : Limb is paralysed.  
But in normal limb, pressure is felt.



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- **Abductor test :**

Hand kept on both sides of limb and asked to abduct both limbs.

If paralytic : no pressure felt on hand.

If normal : pressure felt on hand.

- **For motor sensory complaints :**

Sensory deficits :

To differentiate between real neurological conditions

& psychological conditions **dermatomal involvement** is considered.

In real neurological conditions, dermatomal concept will be maintained.

In psychiatric conditions, **midline splitting** (can feel things on one side but cannot feel on the opposite side).

Like in dissociation, conversion, malingering.

motor deficits :

- **Pronator drift :**

To know whether real weakness is present or not.

Both hands are held outstretched (extended) and the eyes are closed.

Even if mild weakness is present, hand will turn (pronator drift).

If hand is held straight despite closing eyes, implies no weakness.

### **Dissociative trance : possession disorder**

00:45:51

Leads to distress and dysfunctionality.

Cannot focus on daily functioning.

- **The dissociative possession disorder :**

Feels somebody is there inside or making you do things externally (controlling the person from outside).

For example : there is God /ghost/ dead person in me.

- **The dissociative trance disorder :**

Feels trance like state or disconnected or disoriented state.

Constricted consciousness.

## Depersonalization or derealization disorder

00:46:56

**Depersonalization disorder** : Things happening **inside** the patient is an issue (inside the individual itself).

For example, sensations could not be sensed.

**Derealization disorder** : Things happening **outside** the patients (outside environment) is an issue.

For example, Chaotic things around the patient.

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# NEUROCOGNITIVE DISORDERS

## Introduction

00:00:16

Organic mental disorders.

Brain can have significant lesions like tumour, degeneration, cerebrovascular accidents (CVA) in neurocognitive disorders.

If cortical area of brain is damaged : A symptoms.

- Apathy.
- Avolition.
- Anomia.
- Aphasia.
- Alexia.
- Agnosia.
- Astereognosis.
- Apraxia.
- Agraphia.
- Acalculia.

Example : Alzheimer's dementia.

If subcortical area of brain is damaged :

- motor problems.
- movement problems.
- memory problems.

Example : Huntington's chorea.

Neurocognitive disorders types :

- Delirium.
- minor neurocognitive disorders.
- major Neurocognitive disorders.

Delirium :

It is the most common neurocognitive disorder.

Aka ICU psychosis/acute organic brain syndrome.

Visual hallucination is very characteristic of delirium.

Altered sensorium/disorientation to time, place and person (confusion).

Important features : **AAA SSS**.

- **Acute/emergency condition** (presents within 24-72 hours).

Dementia is a chronic condition with at least  $\geq 6$  months of chronic symptoms should be present.

- **Altered sensorium/disorientation** to time, place, person/ confusion.
- **Autonomic dysfunction** : Changes in HR, RR, bowel & bladder disturbances, changes in sweating, vomiting.
- **Sleep reversal**.
- **Sun downing** : Symptoms worsen with sun set.
- **Slowing of the waves on EEG**.

Generalised vs localised slowing of EEG waves :

1. **Generalised neuronal damage** : Generalised slowing of waves.
2. **Specific area of brain damaged** : Localised slowing of waves.

## MMSE (Mini Mental Status Examination)

00:09:51

**Bedside clinical tool** to assess delirium.

Developed by **Folstein**.

Total points : 30.

Patients with  $\leq 24$  points have significant brain dysfunction area.


**Drawback** : It is biased towards **dominant lobe** (majority of the questions assess only the dominant part of the brain with only few questions to assess the non dominant parts of the brain).

Basic domains checked in mmSE : **ORARL**.

- **Orientation** : To place and time mainly.
- **Registration** : Patients are asked to repeat the 3 disconnected words given by the examiner.
- **Attention** : It is checked by :
  1. 100-7 (serial subtraction test).
  2. Asking to tell the spelling of the word "world" in reverse order.
- **Recall** : Patient is asked to repeat the previous 3 words

which was given during assessing registration to check their recall.

kumarank@kimgmail.com Patients are asked to :

1. Write a sentence.
  2. Repeat a sentence.
  3. 3 command instruction.
  4. Naming of 2 objects.
  5. Drawing of intersecting pentagons 
- If unable to do it → constructional apraxia.

## Neurocognitive disorder severity

00:15:49

- **mild disorders** : Activities of daily living is preserved.
- **Severe disorders** : Activities of daily living is compromised.

Patients with mild neurocognitive disorders may progress to severe neurocognitive disorder due to the presence of multiple risk factors.

Typically neurocognitive disorders are seen in elderly population.

- > 65 years : 5% risk of developing neurocognitive disorder.
- > 85 years : 20% risk of developing neurocognitive disorders.

## Alzheimer's disease

00:17:33

50-60% of the neurocognitive disorders is linked to alzheimer's disease.

**Pathological features :**

- Intracellular **phosphorylated tau proteins**.
- Extracellular **beta amyloid plaques**.

**Risk factors :**

- Female gender.
- Lower education status.
- Diabetes.
- Hypertension.
- Dyslipidemia.
- Smoking history.
- Down's syndrome.



### Genetics :

- Chromosome 21 → Amyloid precursor protein (associated with down's syndrome).
- Chromosome 19 → Apolipoprotein E4 (increases the risk of alzheimer's disease).

Apolipoprotein E2 decreases the risk of alzheimer's disease.

- Chromosome 17 → Tauopathy.
- Chromosome 14 → Presenilin 1.
- Chromosome 6 → TREM 2 (Triggering Receptor Expressed on myeloid cells).
- Chromosome 1 → Presenilin 2.

**Familial alzheimer's disease :** Presents earlier and linked to presenilin 1 gene (major contributor) and presenilin 2 (minor contributor). Autosomal Dominant (AD) pattern of inheritance.

**Drugs used in alzheimer's disease :** Due to degeneration of acetyl choline neurons.

### Dementia symptoms :

1. Acetylcholine esterase inhibitors.
  - **Donepezil** : Non-competitive inhibitors, used in mild, moderate and severe types of dementia.
  - **Galantamine** : Competitive inhibitor, used in mild moderate dementia.
  - **Rivastigmine** : Non-competitive inhibitors, used in mild-moderate dementia.
2. NMDA antagonist - **memantine** : Typically used in patients with severe dementia symptoms.

### Behavioural problems <sup>60c6b3eeaa8ded0e4e7e5ea7</sup>

1. mood issues :
  - Depression : Antidepressants.
  - Bipolar/maniac symptoms : mood stabilizers.
  - Organic mood conditions : **valproate**.
2. Psychosis (paranoid delusions, hallucinations, etc.) :  
Antipsychotics.  
Antipsychotics carry a black box warning for elderly cause of the increased risk of sudden cardiac death due to arrhythmias or QT prolongation.
  - Sleep issues : Benzodiazepines (Z class drugs).  
SE : Drowsiness (risk of fall).

- Newer drug : **Aducanumab** (monoclonal antibody which reduces the progression of alzheimer's disease. Approved recently in July 2021.

## Vascular dementia

00:30:53

It is the 2<sup>nd</sup> most common type of dementia.

multiple infarcts are seen, so also called multi infarct dementia.

Atherosclerotic changes are seen in small and medium size blood vessels due to the presence of risk factors like chronic hypertension, age, male gender, diabetes mellitus, smoking, etc.

more common in males.

**Step-wise deterioration** is seen in these patients.

Focal neurological deficits are common.

Small infarct in basal ganglia leads to mild parkinsonian symptoms (multi-infarct stage).

## Frontotemporal dementia

00:34:17

The frontal and temporal areas are affected.

Frontal lobe symptoms :

- Apathy.
- Avolition.
- Personality changes.
- Echopraxia.
- Echolalia.
- Perseveration (persistence of a mental operation beyond a point of relevance). Example repeated asking for the name, constant switching the switch on and off.
- **Social incontinence**
- **Dis-inhibitory behaviour** (changing clothes in front of others, sexually inappropriate etc.).

Temporal lobe symptoms :

- Emotional problems.
- memory problems.
- Hyperphagia.

Pick bodies (intracellular argentophilic inclusions) are seen in these patients.

## Lewy body dementia

00:38:35

Important characteristic features :

- Prominent visual hallucinations.
- Severe Extra Pyramidal Symptoms (EPS).
- Fluctuating course of the disease.
- Increased sensitivity to antipsychotics.

Lewy bodies : Intracellular neuronal degenerative bodies made up of  $\alpha$ -synuclein.

## Huntington's chorea

00:41:36

Sub cortical type of dementia.

Mnemonic : D (4).

Autosomal Dominant.

Presents in the 4<sup>th</sup> decade of life.

Chromosome 4 is involved.

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Dementia is common.

Caudate and putamen nucleus (GABA neurons are affected which are inhibitory in nature).

So, involuntary and choreiform movements increase due to the lack of the inhibitory effect if GABA neurons affected.

Other feature : Chorea.

CAG trinucleotide repeats.

## Normal Pressure Hydrocephalus/NPH

00:44:08

Triad of :

- Dementia.
- Urinary disturbance.
- Gait disturbance.

Enlarged and prominent ventricles, but normal CSF pressure.

Thin brain tissue area around the ventricles.

If the gait improves on CSF tap : Shunting is done.

Gait : Apraxic gait/magnetic gait.

## Gerstmann syndrome

00:47:02

Features :

- Agraphia.
- Acalculia.
- Finger agnosia.
- Right left confusion.

Dominant parietal lobe lesion is seen.

Seizures VS Pseudo seizures

True seizure	Pseudo seizure
Can happen at any time and place or in the presence of any person	Generally happens in the presence of familiar people and in daytime and in relation to stress.
Tongue bite, urinary incontinence is common	Tongue bite and urinary incontinence is usually absent.
Common.	usually absent.
The attacks are similar in nature.	Attacks usually vary in presentations.
Plantars ↑ ↑	Plantar ↓ ↓
Cannot be induced except for photic stimuli or sleep deprivation.	Can be induced.
Prolactin levels are increased after seizure.	No effect on prolactin levels.
60% of cases are slow waves.	No slowing of waves seen on EEG.

## Pseudo dementia

00:52:34

Presents with dementia.

most common cause is **depression**.

Patients don't put any efforts to tell the answers and just reply don't know to all the questions asked.

Treatment : Antidepressants.

# EATING AND RELATED DISORDERS

Eating disorders and their involved age groups :

- Anorexia nervosa : Early adolescence.
- Bulimia nervosa : Late adolescence.
- Binge eating disorder : Young adults.

most common eating disorder is binge eating disorder.

## Anorexia nervosa

00:01:43

most dangerous in terms of mortality and morbidity.

Females have greater predisposition than males.

extreme fear of weight gain/distorted body image.

BMI < 18.5 (ICD 11), < 17.5 (DSM 5).

Types of anorexia nervosa :

Restrictive type : Restrict their food intake, eat very less.

Binge purge : Eat very little and purge all they have eaten.

Excessive exercises are done.

Amenorrhea in females can occur due to

hyperprolactinemia.

medical complications :

- Increased BUN (Blood urea Nitrogen).
- Increased lipid and cholesterol levels.
- Dyselectrolytemia.
- Increased SGOT/SGPT/liver enzymes.
- metabolic alkalosis.
- Lanugo hair.
- Cardiac arrhythmias.
- Cognitive decline.
- Seizures.
- Hyperprolactinemia.
- Bleeding tendencies.
- vitamin specific deficiencies.
- Increased risk of suicidal tendencies.

Active space

Binge eating is seen in both bulimia nervosa and binge eating disorder.

Characteristics of binge eating : **mnemonic** : BINGE

Eating **B**eyond fullness.

Eating in **I**solation.

**N**ot hungry but still eats.

**G**uilty after eating.

Eating rapidly.

**Bulimia nervosa** patients have **compensatory mechanisms**, i.e. they purge by inducing vomiting or using purgatives/laxatives. This is **not seen** in binge eating disorder.

Binge eating disorder : **BMI** is high.

Bulimia nervosa : **BMI** slightly higher or normal.

In patients of bulimia nervosa, we need to check for **Russell's sign**: Skin lesions on the dorsal aspect of the hand as they induce vomiting frequently.

**Mallory Weiss syndrome** :

Lower esophageal tear due to patient inducing vomit frequently, i.e. patients of bulimia nervosa.

**SCOFF questionnaire** :

Screening questionnaire to assess anorexia or bulimia nervosa.

**Sick feeling** : Do they feel sick after eating?

**Control** : Do they feel they've lost control over their eating habits?

**One stone** : Has the patient lost weight of 6.3 Kg in the last 3 months?

**Fat** : Do they perceive to be fatter than they normally are?

**Food** : Does food dominate the patient's life? Are they pre occupied by thinking of food?

If the **score is 2 or more**, then the patient might have anorexia nervosa or bulimia nervosa.

management of eating disorders :

- SSRIs : Fluoxetine.
- SNRIs : Naltrexone/Lithium/Carbamazepine.
- Olanzapine used especially in cases of anorexia nervosa.
- Diet/calorie charting.
- Supplementation.

## Other disorders

00:19:10

Refeeding syndrome :

Enthusiastic and oversupplementation of food instead of slow, gradual treatment in anorexic patients can lead to

refeeding syndrome. This is majorly due to

hypophosphatemia & fluid overload.

Features :

- Ileus.
- Seizures.
- Rhabdomyolysis.
- Cardiac arrhythmias.
- Fluid imbalance.
- Electrolyte imbalance.
- Metabolic acidosis.

To prevent complications of refeeding syndrome :

- Going slow with the diet plan.
- Small doses of protein and calories given initially and gradually increased.
- Monitoring fluids.
- Thiamine supplementation.

PICA :

Non nutritive substance ingestion for more than a month in an individual older than 2 years. This disorder is commonly seen in children with intellectual challenges, autism spectrum, anemia and pregnancy.

Patients eat substances like :

- Chalk.
- Eraser.
- Brick.
- Iron fillings.

Rumination-regurgitation disorder :

This disorder is diagnosed when symptoms last for more than a month and patient is older than 2 years of age.

Due to anti-peristaltic movements in the gastrointestinal tract of the patient, the food regurgitates back and this undigested food is kept in the mouth and chewed repeatedly (rumination). Nutritional deficiency and complications can be seen.

Globus Hystericus :

Also called as functional dysphagia or avoidant restrictive food intake disorder.

Patient dislikes food based on the consistency of the food.

## Obesity

00:27:36

Normal BMI : 18.5-25 kg/m<sup>2</sup>

Overweight : 25-30 kg/m<sup>2</sup>

Obesity : > 30 kg/m<sup>2</sup>

Obesity not only causes physical problems but also psychiatric problems as well.

- Body image issues.
- Self-esteem issues.
- Depression.
- mood disorder.
- Obstructive sleep apnea leading to depression and cognitive decline.

Certain drugs can worsen obesity.

medications used for obesity :

- Orlistat.



- Lorcaserin.
- Liraglutide.
- Bupropion + Naltrexone.
- Topiramate + Phentermine.

Cognitive Behavioural Therapy (CBT) and lifestyle modifications are important components of management along with medications.

most of the antipsychotic/depressant drugs cause significant weight gain **except** :

- Bupropion.
  - Fluoxetine.
  - Ziprasidone.
  - Lurasidone.
  - Cariprazine.
  - Aripiprazole.
  - Topiramate
- } Less prone to cause weight gain

Antidepressants/mood stabilizers that can cause weight gain :

- mirtazapine.
- TCAs.
- Valproate.
- Lithium.

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Active space

## SEX, GENDER AND RELATED DISORDERS

### Sex :

It is the biological aspect of an individual. It is based on hormones, external and internal genitalia and karyotype (xx, xy).

### Gender :

Gender is a **psychological construct** wherein individuals can identify themselves as male, female or non-binary (gender fluid). This is also referred to as gender identity which evolves around 3 years of age.

### Orientation :

Refers to the **sexual orientation** of a person i.e. towards which gender a person is attracted to.

### Gender role :

Roles and responsibilities taken up by people based on the gender they identify themselves with.

### Gender identity disorder :

Gender identity is normally established by about 3 years of age. Its absence is gender identity disorder (older term).  
Newer terms : **Gender dysphoria** (under DSM-5)/**gender incongruence** (under ICD11).

Normally, the assigned gender (at birth) and gender identity are the same.

In cases of gender dysphoria, the assigned gender and gender identity are **not the same**.

Example : Assigned male gender but exhibits female characteristics & gets identified as a female. Such individuals feel trapped and become dysphoric.

Onset can be during childhood, adolescence or in adulthood.  
These individuals

- Live with their assigned gender.
- Take up opposite gender roles.
- Take hormonal treatments.
- Undergo sex reassignment surgery. Now known as **sex affirmation surgery**.

Cross dressing :

Dressing according to their identified gender rather than the assigned gender. Sexual arousal is not seen.

Transvestic fetishism :

Individuals wearing opposite gender clothes **for sexual arousal**.

### Normal sexual activity

00:13:56

Components of normal sexual activity :

- Instinctive in nature.
- Consensual.
- Pleasurable for both partners.
- Involves intercourse/coitus
- Primary sex organ is the main focus of stimulation.

These components are not seen in sexual paraphilia, sexual dysfunction.

Some people indulge in sexual activity for pleasure, bonding, non sexual reasons (commercial workers). These are important in history taking to identify issues related sexual activities.

Stages of normal sexual response cycle (mnemonic : DEOR)

**D**esire.

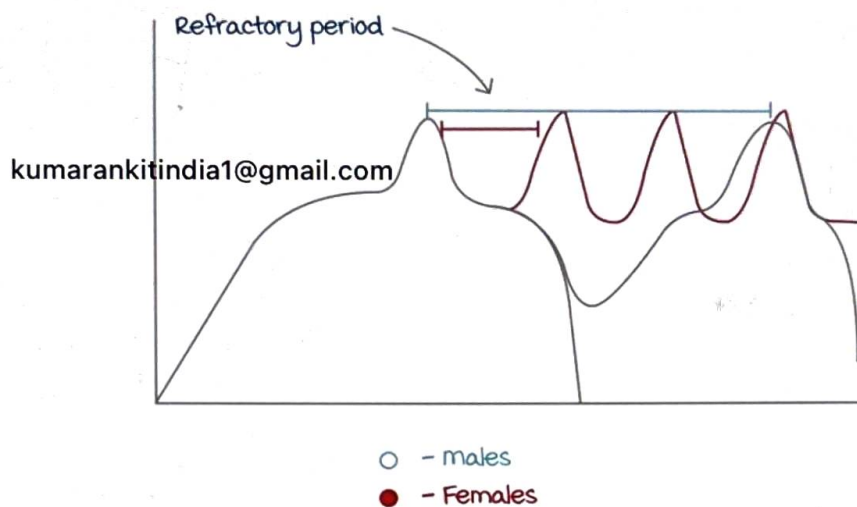
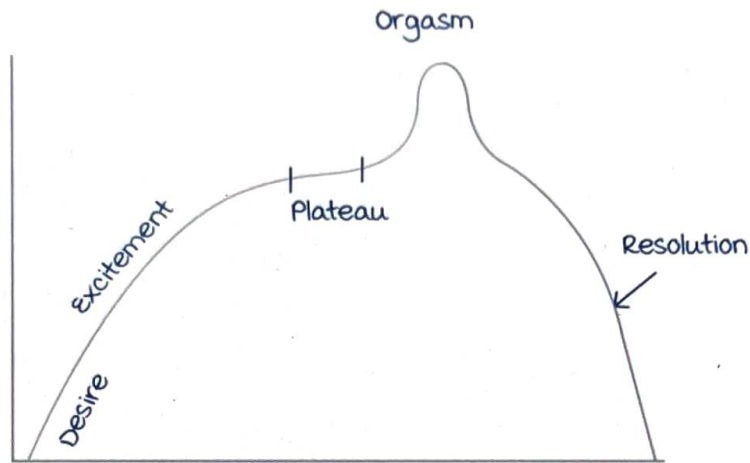
**E**xcitement.

**±** Plateau (seen in between excitement & orgasm).  
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**O**rgasm.

**R**esolution.

Active space



In males, there exists a significant **refractory time** between orgasm and next excitement stage as compared to females.

Therefore, multiple orgasms are **not seen** in males. Seen only in females.

Chemicals involved in sexual response cycle :

SSRIs, TCA (antidepressants) and anti psychotics can **decrease** libido.

Bupropion, Yohimbine, Cocaine, Amphetamines/MDMA and Selegiline can **increase** libido.

Hypoactive sexual desire disorder :

In **females**, drugs for treatment include :

**Flibanserin** : Post synaptic  $5\text{-HT}_{1A}$  agonist and  $5\text{-HT}_{2A}$  antagonist action.

Oral drug can cause severe orthostatic hypotension, especially with alcohol intake.

Also called as pink viagra.

**Bremelanotide** : Analogue of alpha-MSH (melanocyte Stimulating Hormone). Works on the melanocortin receptors. Given subcutaneously.

Orthostatic hypotension is insignificant while nausea is significant.

## Erectile dysfunction

00:25:36

Can be psychogenic or organic. Almost 90% of cases are psychogenic in nature.

Psychogenic dysfunction :

**Early morning erection** present. Penile tumescence shows **normal** results.

Organic erectile dysfunction :

Early morning erection absent. Penile tumescence shows **abnormal blood flow** and/or pressure.

Organic erectile dysfunction can be due to DM, HTN, alcoholism or medications.

Pharmacological management :

- **Phosphodiesterase 5 inhibitors** (mnemonic : TVS)<sup>60c6b3eeaa8ded0e4e7e5ea7</sup>
  1. **Tadalafil** (longest acting, works for 2-3 days).
  2. **Vardenafil**.
  3. **Sildenafil**.
- **Prostaglandin E analogue** : Alprostadil.

Premature ejaculation :

When ejaculation happens within 1 minute of penile insertion.

most common reason for this disorder : **Performance anxiety** leading to sympathetic arousal.

Active space

mild	30 sec to 1 min
moderate	15 sec to 30 sec
Severe	< 15 sec

Management :

- Pharmacological : SSRIs like Paroxetine and Dapoxetine. They cause delayed ejaculation.

- Non pharmacological :

**Squeeze technique** by Masters & Johnsons

Squeeze glans penis so that there is a delay in ejaculation.

**Start stop technique** by Seeman

Start the arousal and stop it just prior to ejaculation.

Can be done multiple times before ejaculating.

**Sensate focusing** :

Focus is on non coital activities like foreplay and

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deepening the relationship.

Patients should be educated about what is normal & abnormal.

PLISSIT model of psychoeducation :

**Permission** given to the person to talk about sexual issues.

**Limited Information** about the treatment is given.

**Specific Suggestion** is given on the issue.

**Intensive Therapy** is given, if required.

## Sexual paraphilias

00:36:07

**Deviant behaviour** that intends to focus on organs other than the primary sexual organs, causing **distress** to self and others leading to **dysfunctionality**.

Pedophilia is a criminal activity/illegal paraphilia.

- **Exhibitionism** : Flashing of genitalia/removing clothes in public for **sexual arousal**.
- **Voyeurism** : Also called peeping Tom and diagnosed only if it is persistent and seen in individuals **>18 years**. Younger people might perform out of curiosity.

- Fetishism : Sexual arousal by inanimate objects.
- Frotteurism : Sexual arousal from non consenting individuals.
- Sadism : Get pleasure by inflicting pain on others.
- masochism : Get pleasure by inflicting pain on self.
- Nymphomania : Increased sexual desire in females.
- Satyriasis : Increased sexual desire in males.

### Culture bound syndromes

00:41:54

**Dhat syndrome** : Normally, ejaculation can be due to masturbation, sexual activity or nocturnal.

Individuals with dhat syndrome believe blood is being lost in the ejaculate.

They also believe, they might lose fertility/virility/maleness.

Seen in young males with normal physical examination.

Individuals present with clinical depression.

**Koro syndrome** : Seen in south-east asian countries & some places in India.

Individuals believe that the size of penis is shrinking, penis is buried in the abdomen & will disappear one day. They remain anxious, worried & end up with depression.

**Run amok** : Seen among cannabis users. They become aggressive and extremely violent. Seen with some other substances as well.

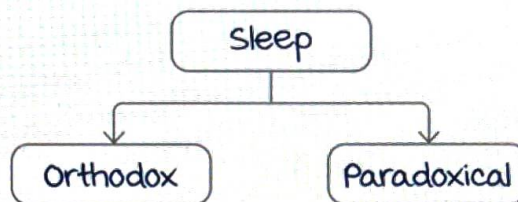
**Latah syndrome** : Startle response (shock like state) and significant catatonic symptoms are seen. Patients respond to minimal stimuli with exaggerated startles.

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## SLEEP AND RELATED DISORDERS

Phases of sleep :

- Orthodox.
- Paradoxical.



Orthodox sleep :

NREM sleep.

N1 (stage 1), N2 (stage 2) and N3 (stage 3+4) sleep.

Paradoxical sleep (sleeping person with active brain) :

- REM sleep.
- Also known as active sleep/desynchronized sleep/D-sleep.

Brain is very active during REM sleep.

- Blood flow to brain, metabolism of brain and oxygen consumption of brain are high.
- **Beta waves** are seen.

Average duration of sleep : 7.5 - 8 hours.

Light sleepers require < 8 hours.

Heavy sleepers require > 8 hours.

**Sleep latency** : Time from going to bed to onset of sleep.

Normally is about **20 minutes**. Beyond 40 minutes is abnormal (indicates poor sleep hygiene).

**REM latency** : Time from falling asleep to the start of REM phase of sleep. Normally is about **90 minutes**.

First 1/3<sup>rd</sup> of sleep : more NREM sleep (Bedwetting).

Last 1/3<sup>rd</sup> of sleep : more REM sleep (Nightmares).



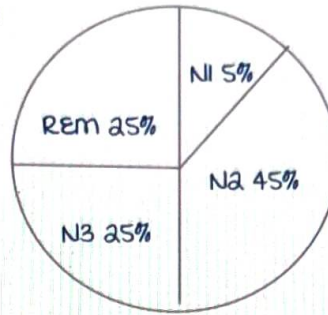
Contribution of each stage of sleep :

N1 : 5%.

N2 : 45%.

N3 : 25%.

REM : 25%.

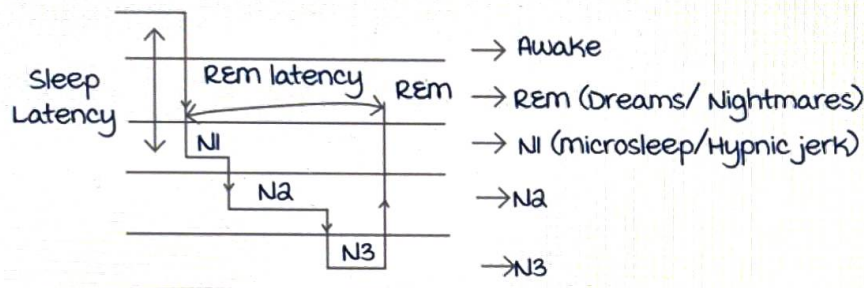


Longest duration of sleep is spent in N2 stage.

Shortest duration of sleep is spent in N1 stage.

Stage of sleep at which maximum threshold of stimuli is required to awaken a person is N3 stage.

Cycle of sleep :



After REM phase, person can either go into N1 phase or have brief microarousals. Quality of sleep is affected if person is not able to sleep within 20 minutes after microarousals.

In a whole night, there can be 3-4 cycles. Majority of time is spent in N2 stage. Least time is spent in N1 stage.

Important points :

- N3 stage is the deepest stage of sleep. It is also known as restorative sleep (adequate time should be spent in this phase to feel energetic/active next day).
- N3 stage decreases with age and hence the quality of sleep.
- Bruxism is seen in N2 stage.
- Frontal lobe epilepsy is common in N2 stage.
- Hypnic jerks are seen at N1 stage.
- Dreams, sexual arousal occurs at REM phase.

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Active space

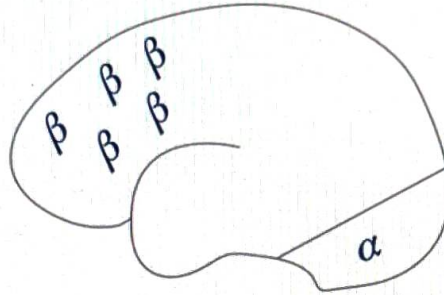
## Waves of sleep

00:15:13

Normal awake state :

Predominant waves are **beta waves**. Seen in frontocentral areas.

**Alpha waves** are seen to some extent in the occipital area.



**Alpha waves** increase all over the brain when one closes the eye & starts focussing (as while meditating)

Emergence of **theta waves** indicates onset of N1 sleep.

Alpha waves → 7 to 14 cycles/second.

Beta waves → >14 cycles/second.

Theta waves → 4-7 cycles/second.

Delta waves → <4 Hz.

To confirm if a person is actually sleeping, look for **Sleep spindles** and **K complexes**. Seen in N2 stage.

**Sleep spindles** : Alpha rhythm burst of waves of frequency 12-14 Hz comes and goes.

**K-complexes** : Large amplitude. Small negative deflection followed by positive high voltage wave.

**Sleep latency** as per polysomnography : Time from switching off lights to EEG recording of N2 stage of sleep (sleep spindles and K complexes).

N3 stage :

Deeper sleep.

**Delta waves** (< 4Hz) are prominent.

Also known as delta sleep/restorative sleep.

REM sleep :

**Saw tooth appearance of waves** are seen.



Chemicals influencing sleep :

- Sleep promoting chemicals : melatonin, adenosine (basal forebrain area), GABA, galanin.
- Wakefulness promoting chemicals : Dopamine, norepinephrine, serotonin, histamine, acetylcholine, glutamate.

Adenosine accumulation in basal forebrain area is important for sleep pressure when someone is lethargic and fatigue. Caffeine blocks the adenosine receptors promoting wakefulness.

Orexin (hypocretin) is a neuropeptide which stabilizes and maintains wakefulness for a long time.

Wakefulness : Increase in monoamines keeps one awake and alert.

NREM sleep : Because of increase in GABA.

REM sleep : Because of increase in acetylcholine.

In Alzheimer's disease, acetylcholinergic neurons are damaged. Hence, REM sleep decreases leading to insomnia.

## Sleep disorders

00:28:42

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### Parasomnia :

Disorders associated with sleep.

Example : Somnambulism (sleep walking), somniloquy (sleep talking), nocturnal bed wetting, night terrors, nightmare disorder.

### Dyssomnia :

Sleep itself is the problem.

Example : Insomnia, hypersomnia, narcolepsy, jet lag syndrome.

Night terrors vs Night mares :

Night terrors (Pavor nocturnas)	Night mares
Seen in N3 stage of sleep.	Seen in REM stage of sleep.
Seen in adolescents and younger children.	Seen in any age group.
Autonomic arousal is prominent (sweating, tachycardia, mouth dryness).	No autonomic arousal.
Amnesia.	They are remembered.
Confusion is present.	No confusion is noticed.

## Narcolepsy

00:35:12

Dyssomnia: **Recurrent REM sleep** during daytime.

Hypnagogic hallucinations: When going to sleep.

Hypnopompic hallucinations: When waking up from sleep.

Hallucinations are seen because of REM sleep.

**Cataplexy** (breaking down neuromuscular junction): Loss of muscle tone with extreme emotions. Patient need not collapse everytime. Thorough history is essential.

**Sleep paralysis**: One of the commonest presentation. Unable to move after waking from sleep. Frightening experience.

Narcolepsy is due to decrease in orexin (hypocretin):

**Orexin levels** in CSF are reduced.

**Type 1 narcolepsy (Typical/classical narcolepsy)**: All typical clinical features with decreased orexin is seen.

**Type 2 narcolepsy (Atypical narcolepsy)**: Excessive bouts of sleep. No cataplexy. Orexin levels are normal.

**Decreased sleep/REM latency** is a characteristic feature.

In a normal EEG in narcolepsy, saw tooth appearance is seen as REM latency is decreased.

**SOREM** (Sleep onset REM): Onset of REM sleep within few minutes. Sleep latency period is <8 minutes in these patients.

Investigations: Polysomnography, Multiple Sleep Latency Test (MSLT).

Treatment :

Armodafinil/modafinil.

## Restless leg syndrome

00:43:45

Also called **Ekbom syndrome/delusional parasitosis**.

It is a type of restless leg syndrome in which patients complain of insects crawling on their skin.

Seen in **females**, commonly around **40 years** of age.

Characteristic features :

- Lower limb movements.
- Sensorimotor condition → Some sensation in legs causes urge to move the legs.
- Nocturnal worsening is common leading to decreased sleep quality.

Primary restless leg syndrome : Idiopathic.

Secondary restless leg syndrome causes are **Anemia, uricemia and pregnancy**.

Patho-physiology :

- Dopamine dysregulation.
- Defect in ferritin transportation/storage (hence, seen in anemic patients).

Treatment :

Ropinirole.

Gabapentin Enacarbil.

Rotigotine.

Pramipexole.

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**Relaxis pad** (FDA approved) : Pad is kept below the legs while sleeping. It counter-stimulates and distracts the sensory stimulation and reduces the movements. Not available in India.

Ropinirole and pramipexole are used commonly in clinical practice.

## Insomnia

00:50:05

most common sleep problem for which patients see a physician.

**Diagnosis** :  $\geq 3$  months of symptoms leading to significant decrease in quality and quantity of sleep and affecting daily functioning.

Types :

Primary : Idiopathic.

Secondary : Psychiatric conditions (depression, mood disorders, psychosis, anxiety), chronic pain syndrome, chronic medical conditions.

Detailed history should be taken to rule out secondary causes before diagnosing as primary insomnia.

**Treatment** :

- Benzodiazepines : Alprazolam, Clonazepam.  
They have **abuse potential**. Can lead to dependence if used for longer time. Alprazolam is short acting and has much more abuse potential than clonazepam (longer acting). Best way is to avoid Benzodiazepines.
- Z class drugs : Zolpidem, zaleplon (shortest acting), Eszopiclone (longest acting).
- melatonin.
- Ramelteon/Tasimelteon : melatonin receptor agonists.
- **DORAs** : Dual acting orexin receptor antagonists.  
Example : Suvorexant, Lemborexant, Almorexant.
- Antidepressants : mirtazapine, Trazadone, tricyclic antidepressants.
- Antipsychotics : **Quetiapine**.
- Psychological management :  
Sleep hygiene principle : maintaining a consistent sleep-wake schedule.

Sleep efficiency : Normally, it should be  $\geq 85\%$ .

Amount of time one sleeps  $\times 100$

Amount of time on bed

Eg : sleep time of 6 hours and time on bed is 8 hours.

sleep efficiency =  $6/8 \times 100 = 75\%$

Gadgets emit blue light which drastically reduces melatonin levels and increases wakefulness.

**Stimulus control** : Bed should be used only for sleeping and sexual activity. It is best to get out of bed if sleep does not set in even after 20 minutes.

**CBTi** : Cognitive behavioral therapy for insomnia.

**Hypersomnia** :

Seen in atypical depression, bipolar depression patients.

Hypersomnia is associated with :

- **Kleine Levin syndrome** : Hypersomnia, hypersexuality and hyperphagia. Seen in adolescent males. Also known as sleeping beauty syndrome.
- **Kluver Bucy syndrome** : Hyperorality, hypermetamorphosis, hypersomnia, hyperphagia and hypersexuality. Occurs due to bilateral temporal lesion because of trauma/infection.
- Obstructive sleep apnea.

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Active space

# PERSONALITY AND RELATED DISORDERS

Small clusters of uniqueness  $\rightarrow$  Traits  $\rightarrow$  Personality.

## Traits

00:01:08

Big 5 personality factors :

Acronym : OCEAN

O : Openness.

C : Conscientiousness.

E : Extraversion.

A : Agreeableness.

N : Neuroticism.

16 personality factors :  
Given by Raymond Cattell

Openness : Willingness to try new things.

Conscientiousness : Rule based, organized, keep things in control.

Extraversion : Easy to make friends with, center of spotlight.

Agreeableness : Get into agreements and move on rather than get into conflicts, though they might not agree completely, they will move on for the sake of moving ahead.

Neuroticism : Stressed/tensed in nature, small shifts in timetable can affect them, quick anxiety prone or stress prone.

Traits : makes temperament.

Specific response  $\rightarrow$  Habitual response  $\rightarrow$  Traits  $\rightarrow$  Personality.

## Personality

00:06:20

Personality helps with :

- Intrapersonal relationship.
- Interpersonal relationship.
- Overall functioning ability.



## Personality disorders :

These are enduring : Pervasive patterns.

i.e. inflexible patterns, rigid patterns, enduring patterns.

which may lead to distress to self or to others.

## Ego syntonic manner

Significant dysfunctionality present related to condition.

## DSM – 5 clusters of PD

00:10:16

A : Odd/eccentric.

B : Emotional/dramatic/erratic.

C : Anxious/fearful.

### Cluster A : Odd/eccentric.

Paranoid personality disorder : Always paranoid, suspicious, revengeful, believe people are against them, cheat/harm them, minimal number of friends.

Paranoid is different form paranoid schizophrenia.

In paranoid schizophrenia : Delusion, hallucination, thought phenomenon, psychotic symptoms are present.

Schizoid personality disorder : Emotionally cold, no friends, alone/alooof/single.

Schizotypal personality disorder : Odd and eccentric in nature, minimal friends.

most potent to develop schizophrenia.

Can be treated with low dose antipsychotics.

## Cluster B

00:17:10

Extremely emotional, erratic and dramatic.

Borderline personality disorder : Aka emotionally unstable personality disorder (EUPD).

Extremely moody.

more common in females.

multiple boundary violations.

Poor emotional regulation.

Deliberate to **self harm** (previously known as **parasuicide**).

10% chance of suicide.

Treatment : **Dialectical Behavioral Therapy (DBT)**.

more prone for **bipolar disorder**.

**Histrionic personality disorder** : Drama queens.

more common in **females**.

Want to be always in the spotlight.

Attention seeking.

**Narcissistic personality disorder** : Love only themselves and don't listen to anybody. more common in males.

**Antisocial personality disorder** : Lacks empathy.

Involved in criminal activity.

Involved in high risk behaviors.

Extremely manipulative.

High chances of developing **addiction**.

more commonly seen in males.

### Cluster C

00:24:52

Anxious and fearful.

**Obsessive compulsive personality disorder aka Anankastic personality disorder**.

Extremely specific about rules and regulation.

Gives lot of information about minute details.

Everything needs to be planned or organized.

Frugal in nature.

**most prone for depression**.

**OCPD is different form OCD**.

In OCD : Obsessions and compulsions are present.

**Anxious avoidant personality disorder (AAPD)** : Patients of this disorder avoids **human interaction** which makes them **anxious**.

**Dependent personality disorder** : Dependent on others for decision. They don't want to take decision.

## ICD - 11

00:31:22

Classified into 3 types :

- mild.
- moderate.
- Severe.

5 main domains :

Mnemonics : ND<sup>3</sup>A.

- Negative affectivity.
- Dyssocial behavior.
- Disinhibition.
- Detachment.
- Anankastia.

This is known as dimensional approach to personality disorder.

Personality assessment :

Detailed clinical history.

Big 5 assessment tool.

16 personality factors (16 traits are looked at).

Minnesota multiphasic personality inventory (MMPI).

International personality disorder examination (IPDE) : used commonly in India.

Projective test : Rorschach test/thematic appreciation test (TAT).

## Personality types

00:37:13

Type A : most commonly known type.

Always in hurry or running against time.

Goals/workaholic/stressed/agitated.

more prone for MI or stroke.

Type B : Opposite of type A.

Calm/relaxed/mindful/balanced.

Type C : Cancer prone personality.

Active space

Keep emotions to themselves → Decreased immune functions → Cancer.

Type D: Depressive personality.  
Dysthymic in nature.

Type H: Hardiness personality.  
Control, challenge and commitment. (3Cs)

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## SUBSTANCE USE AND OTHER ADDICTIVE DISORDERS

**Teetotaler** : Someone who does not consume any alcoholic beverages.

**Gateway drug** : The first drug which is used before usage of any other hardcore drugs.

Nicotine was the gateway drug in the earlier years.

Nowadays, **cannabis** is the newer gateway drug.

Spectrum of usage :

- Experimental users.
- Recreational/social users (for joy/fun or in social events)
- Stage of abuse : usage of substance in order to get some kind of relief or benefit (eg. stress relief).
- Harmful use : Continuing the usage of substance despite the presence of harm.

Example : Continuing alcohol consumption even after developing liver cirrhosis.

- Dependence.

### Features of dependence

00:04:32

- Craving : Intense physiological urge to use substance.
- Loss of control : usage of the substance beyond what one intended to use.
- Tolerance : Requirement of higher dosage of substances to get the same effect.
- Withdrawal : Physical & Psychological reactions when a person withdraws from using the substance.
- Salience : Substance becomes more important than anything else in life.
- Harmful use.

≥ 3 out of the six features for ≥ 1 month indicates **substance dependence**.

Not everyone who use substances will become dependent. Multiple factors play an important role in establishment of dependence. These are called **Biopsychosocial factors**.

Biopsychosocial model explains harmful use to dependence pattern establishment.

Factors that favour establishment of dependence :

- Drug : Addictive potential of drugs  
(cannabis < alcohol < cocaine).  
Highest addictive potential : **Heroin and nicotine.**
- Genetics :  $1/3^{\text{rd}}$  to  $2/3^{\text{rd}}$  is the genetic contribution (family history) to the development of dependence. Peer group influence is a major contributor.
- Stressors like adverse life events.
- mental illness : People with mental illness have twice more risk to get involved in substance usage.

### Modes of drug administration

00:12:28

- Vaping/e-cigarettes : Same risk as compared to cigarettes. Has adverse effects on cognitive functions if started early in life.
- Snorting : Forceful inhalation of the drug.
- Chasing the dragon :  
Seen with cocaine and heroin usage.  
Inhalation of the fumes which is emitted after burning the powdered substance kept on a silver foil.  
users chase the fumes along their direction.
- main lining : Creating a direct IV access to the large central veins of the body as peripheral lines are thrombosed, more prone for infections and risk of bleeding.
- Skin popping : Drug is injected subcutaneously resulting in small pops over the skin.

### Addiction is a brain disease

00:17:09

Three D's linked to addiction :

- Dynorphin : It is an endogenous opioid which numbs the nucleus accumbens (plays a role in reward system), resulting in tolerance and progression of addictive behaviours.

- Dopamine : Its release leads to incentive salience (too much importance is given to the feeling of high after using the substance).
- Disinhibition : Normally, pre-frontal area of the brain inhibits subcortical areas & limbic system.  
Inhibitory control is lost with constant use of substances.

most common psychotropic substance used : Caffeine.  
 most common psychotropic substance abused : Nicotine.  
 most common illegal psychotropic substance used : Cannabis.  
 most common psychotropic substance for which treatment is sought : Alcohol.  
 most common OTC (over the counter) drug abused : NSAIDs.  
 most common prescription drug abused : Benzodiazepines.

### Substance use disorder/SUDs

00:24:23

SUDs can arise due to : 60c6b3eaa8ded0e4e7e5ea7

Harmful use.

Dependence pattern.

Intoxication.

Withdrawal.

Substance induced disorders like

- Psychosis.
- mood disorder.
- Anxiety disorder.
- Sleep disorder.
- Sexual disorder.
- Delirium.
- Neurocognitive disorder.

In substance induced disorders,

Collect significant history of substance use like :

1. Dependence pattern of substance use.
2. Recent intoxication/withdrawal history.

**Reverse tolerance** : In few genetically vulnerable patients, even a small amount of substance use can cause to significant effects.

It is common in cocaine users.

Active space

## Substance induced psychosis

00:28:28

- Alcohol.
- Cannabis : Hemp insanity/Run Amok.
- Cocaine : Cocaine bugs (psychosis)/formication/  
magnan's syndrome.
- Phencyclidine.
- LSD : Causes flashbacks.
- Amphetamines : Paranoid schizophrenia like symptoms.
- Psilocybin.

Types of substances :

- Depressants.
- Stimulants.
- Hallucinogens.

Date rape drugs : Drugs facilitated sexual assault.

- Flunitrazepam (roofies/rohypnol).
- GHB (Gamma Hydroxy Butyrate).
- Amphetamine.
- Ketamine.
- Chloral hydrate.
- In vulnerable individuals : Alcohol, zolpidem,  
Benzodiazepines can cause amnesia.

## Cannabis

00:32:47

Cannabis, though has medical uses, is not a benign drug. It leads to :

- Panic attacks.
- Amotivation syndrome.
- Cannabis induced psychosis (Hemp insanity, Run Amok).
- Neurocognitive disorders.

Can cause physical dependence and withdrawal symptoms.

medical uses of cannabis (under experiment) :

- Glaucoma.
- Cancer cachexia.
- Chemotherapy induced vomiting.
- Neuromuscular spastic conditions.



- movement disorders.
- Resistant seizures.
- HIV related anorexia.

Synthetic cannabis (drugs) currently available :

- Dronabinol.
  - Nabilone.
- kumarankitindia1@gmail.com

2.5 % of the population actively use cannabis.

Oral bioavailability is 25%.

3 important species of cannabis plants. mnemonic : SIR.

- Sativa.
- Indica.
- Ruderalis.

Components of cannabis :

- $\Delta$ -9 tetra hydro cannabinol : Psychoactive component.
- Cannabinoids : used for medical reasons.

Different forms of cannabis :

- Bhang : It comes from the uncultivated plants.
- Ganja : Twice as potent as bhang. From flowers of cultivated/fluorescent plants.
- Hashish : 10 times as potent as bhang,  
It is a resinous exudate.
- Hash oil : 25 times as potent as bhang. Lipid soluble plant extract.

Endocannabinoids : Can lead to retrograde neurotransmission.

- Anandamide : Acts on CB<sub>1</sub> receptors.
  - 2-AG (2- Arachinodyl glycerol)
  - 2-AG ester.
  - N-Arachidonyl dopamine.
  - Virodhamine : Acts on CB<sub>2</sub> receptors.
- Rest all work on both the receptors.

## Alcohol

00:43:34

Problems : withdrawal, psychosis, alcohol related emergency.

Withdrawal related problems :

- Within 1 day : Simple withdrawal symptoms (tachycardia, increased sweating, tremors, sleeplessness, agitation, restlessness), **Rebound REM phenomenon** (REM phase of sleep is suppressed with regular alcohol intake. When alcohol is stopped, there is REM rebound).
- Within 2 days : Seizures (**GTCS**).
- Within 3-5 days : Vulnerable people develop Delirium tremens.

**Lilliputian hallucinations** (everything looks very small) is a component of delirium tremens.

Alcohol related emergency :

- Delirium tremens.
- Wernicke's encephalopathy due to thiamine deficiency.

**mnemonic** : GOA

1. **G**lobal confusion.
2. **O**phthalmoplegia.
3. **A**taxia.

**Pathology** : Periaqueductal grey matter area and mammillary body show petechial haemorrhages.

It is an acute phenomenon.

**Treatment** : Thiamine. [kumarankitindia1@gmail.com](mailto:kumarankitindia1@gmail.com)

Korsakoff's psychosis :

- Chronic phenomenon.
- **Confabulation** : Filling gaps in the memory with imaginary stories.
- **Anterograde amnesia** : Not able to remember new things.

Anterior thalamic nuclei and mammillary nuclei are commonly affected in Korsakoff's psychosis.

Psychosis :

- Delirium tremens can lead to psychotic symptoms. Visual hallucinations are common with altered sensorium.
- **Alcoholic hallucinosis** : Clear sensorium with hallucinatory experiences (mostly auditory).

Pathological drunkenness/blackouts :

Patients who get significant effects after taking very little amounts of alcohol.

Effects : **Amnesia, aggression.**

It is suggestive of **early reversible brain damage.**

Irreversible brain damage leading to neurocognitive disorders is seen, if alcohol usage is not stopped.

### **Marchia Fava Bignami syndrome**

00:53:37

It is commonly seen in chronic alcoholics.

**males** are more prone.

Demyelination of **corpus callosum.**

**Sandwich sign** : Sagittal MRI of brain showing normal dorsal and ventral areas and demyelination of the middle areas giving rise to 3 layered structure.

Biochemical/lab markers for chronic alcoholism :

- Decreased MCV.
- Increased uric acid.
- Increased SGOT and SGPT.
- Increased Gamma Glutamyl Transferase (GGT) is seen in recent excessive alcohol intake.
- **Carbohydrate deficit transferrin (CDT)** : most specific marker.

### **CAGE questionnaire**

00:58:11

Screening questions used to assess alcoholism.

- **Cut down** : Have you ever tried to cut down alcohol and failed?
- **Annoyed** : Have you or others around you got annoyed because of your alcohol behaviours?
- **Guilty** : Have you been feeling guilty because of alcohol use?  
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- **Eye opener** : Is alcohol one of the first things you take in the morning? Do you need alcohol to feel better in the morning?

If the answer to  $\geq 2$  questions is yes, then significant alcoholism is present.

Stages of motivation/stages of change : By Prochaska & DiClemente (mnemonic : PCDAMR).

- **Precontemplation stage** : The patient is still in denial.
- **Contemplation stage** : Patients accept and acknowledge the problem.
- **Decision stage/planning stage** : Patients take steps towards abstaining from alcohol.
- **Action stage** : Patients start taking the necessary actions like following doctor's advise.
- **Maintenance stage** : Patients continue to act for > 6 months.
- **Recovery stage/relapse.**

Recovered : 0% temptation and 100% self-control/efficacy.

## Alcohol use disorder management

01:04:16

Withdrawal management : **DOC** is Benzodiazepines.

In liver dysfunction, elderly patients (mnemonic : LOT)

- Lorazepam.
- Oxazepam.
- Temazepam.

Anti psychotics can be given as an add on drug for symptomatic relief.

Aversive drug : **Disulfiram** (irreversible aldehyde dehydrogenase inhibitor) which increases the levels of aldehyde, serotonin, histamine, and dopamine.

Leads to disulfiram ethanol reaction.

Patient develops nausea, vomiting, GI distress, foul odour, seizures, hypotension, and rarely patients die.

Should be used only in motivated patients after taking their consent.

Disulfiram should be started 12-24 hours after the last drink.

The effect of Disulfiram remains for 2 weeks after stopping it.

Anticraving drugs (mnemonic : ANTSOB)

- Acamprosate.
- Naltrexone.

- Topiramate.
- SSRIs.
- Ondansetron.
- Baclofen.

Advantage to aversive drug : No severe reactions.

Useful in patients who has binge pattern of drinking and non-motivated patients.  
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Acamprosate, Naltrexone, Topiramate & Baclofen are routinely used in clinical practice.

Psychological interventions :

Brief interventions using FRAMES approach.

- Feedback about present condition & what it means.
- Responsibility towards personal ownership & using doctor for guidance.
- Advice on how to quit alcoholism.
- Menu : Giving multiple options of management.
- Empathy.
- Self-efficacy.

Motivational interviewing : motivating the person while he/she is being interviewed.

Assertiveness training : Training the patient to say no.

Craving management : Craving comes and goes in cycles. Very intense 3-4 cycles/day in the initial days of quitting is seen. It can be managed by

- Deep breathing.
- Drink fluids (other than alcohol).
- Distracting themselves (get to a place without alcohol).
- Delaying the urge.

Urge surfing is an important craving management technique.

Relapse prevention : Identifying the stressors and being ready by learning stress management strategies.

Cognitive Behaviour Therapy.

Alcoholics anonymous : Self-help groups.

Narcotic anonymous deals with other substances.

## Nicotine management

01:23:24

### Nicotine replacement therapy (NRT) :

Nicotine in cigarettes leads to addiction because Nicotine reach the neurons in 11 seconds.

They are replaced with medical nicotine which reduces withdrawal symptoms and craving to use cigarettes.

NRT : Patch (21 mg/14 mg/7 mg), lozenges (2 mg/4 mg), gums (2 mg/4 mg).

Right way of using gums : Chew and park method to increase the effectiveness and decreasing the side effects.

Advantage of patch : Nicotine is released throughout the day. Can be removed and newer one can be added.

### Anticraving drugs :

- Bupropion (antidepressant) : It increases norepinephrine and dopamine levels.
- varenicline ( $\alpha_4\beta_2$  partial agonist) : most efficacious drug.

It is **avoided** in patients with neuropsychiatric symptoms (worsens the symptoms).

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- Clonidine.

### Brief intervention approach (SA's approach) :

- **Ask**.
- **Advice**.
- **Assess**.
- **Assist**.
- **Arrange** for follow up.

## Behavioural addictions

01:32:00

- Gambling disorder : Under DSM 5.
- Gaming disorder.

ICD 11 mentions both as behavioural addictions.

Both online or offline types are considered.

# CHILD, ADOLESCENT AND RELATED DISORDERS

## Developmental delay

00:00:28

Could be global or specific.

Specific developmental delay :

1. Expressive speech delay :

- Delay in speech. Other areas are normal.
- Hyperactivity : Symptoms of ADHD.
- Refer to ~~speech therapist~~ <sup>60c6b3eaa8ded0e4e7e5ea7</sup> to improve speech.  
Improvement of speech results in alleviation of hyperactivity.
- Earlier intervention → Better results.

2. motor :

Cerebral palsy.

- motor system development arrest.
- Intellectual decline is not significant in classical cerebral palsy.

3. Learning :

Specific learning disorder (dyslexia)

Problems in learning : writing/reading/comprehension/  
mathematics (arithmetic problems).

Area of brain involved in dyslexia : Angular gyrus.

Treatment :

- Assess for learning disability : Rule out emotional issues, loss of interest.
- Remedial training is a useful strategy → Teach using multimodal sensory stimulation.

4. Social :

Autism spectrum disorders (Older term : Pervasive developmental disorders) includes :

## Autism

- **Stereotypic behaviors** → Repetitive behaviors.
- **Socialization deficits** → Poor eye contact, less interaction with other people, treating other human beings in room as objects.
- **Speech problems** (not considered as an important diagnostic criteria) → Echolalia, echopraxia, poor communication abilities.

Kanner syndrome (Infantile autism/infantile psychosis/autistic disorder/childhood autistic disorder):

- Commonly seen in **males**.
- Classical and severe autism features.

Rett syndrome:

- Exclusively seen in **females**.
- Affected gene is **MECP<sub>2</sub>**. It is **X-linked**.
- Normal development for 6 months to 3 years. Then regression of milestones occur.
- Associated with **microcephaly**, **midline stereotypic behaviours**.

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Asperger syndrome:

- Commonly seen in **males**.
- Speech is preserved to some extent.
- **Idiot savant syndrome** is a type of Asperger syndrome. Special abilities such as mathematical abilities, decoding etc. may be present.

Heller syndrome (dementia infantilis):

- Commonly seen in **males**.
- Have **bowel bladder symptoms**.
- For about 2 years, development is normal. Then regression of milestones occur (**regressive psychosis**).
- Also known as childhood disintegrative psychosis.

## Global developmental delay

00:15:38

Intellectual developmental disorder (DSM 5)/Disorder of intellectual development (ICD 11):  
mental retardation is an old term.



$IQ = \text{mental age} / \text{Chronological age} \times 100$

Normal average IQ = 90 to 114.

70-89 : Borderline intelligence.

$\leq 69$  : Intellectual developmental disorder/Disorder of intellectual development.

Four grades of intellectual developmental disorder/disorder of intellectual development :

Grades	IQ	Disability benefit	Percentile (ICD II)
mild (85%)	50-69	50%	0.1 - 2.3 (2-3 SD)
moderate	35-49	75%	0.003-0.1 (3-4 SD)
Severe	20-34	90%	< 0.003 ( $\geq 4SD$ )
Profound (1%)	< 20	100%	< 0.003 ( $\geq 4SD$ )

SD : Standard deviation.

Adaptive functioning is checked at lower IQ levels.

If the child is able to communicate some needs (crying, hunger) : Severe disorder.

If the child is **not able** to communicate anything : **Profound** intellectual disorder.

most common reason for intellectual developmental disorder :

Perinatal asphyxia.

Chromosomal causes : Down's syndrome.

Inherited causes : Fragile X syndrome.

## Intelligence tests

00:25:20

Used worldwide :

WAIS (Weschler's Adult Intelligence Scale).

WISC (Weschler's Intelligence Scale for Children).

Used in India :

BKT (Binet Kamat Test for intelligence), [kumarankitindia1@gmail.com](mailto:kumarankitindia1@gmail.com)

Bhatia's test for intelligence : Assesses **performance intelligence**. Can be used for illiterate population.

Other tests :

Seguin form board test :

used for children < 10 years of age (most of the times 3-6 years of age).

Different shapes (stars, moon, triangles etc.) are cut on a board. Cut pieces are kept outside. Pieces should be matched into right place. Speed of completion gives an idea of intelligence.

Group intelligence tests :

Raven's progressive matrices : Logical problems are given to solve (completion of a sequence/series).

Raven's coloured progressive matrices.

## ADHD

00:30:55

3 core features :

- Attention deficit.
- Hyperactivity.
- Impulsivity.

At least 6 symptoms should be positive for attention deficit and 6 symptoms for hyperactivity/impulsivity.

Onset of symptoms should be < 12 years of age.

ADHD symptoms should be positive in > 2 settings.

Symptoms :

Attention deficit :

- Difficulty in looking at details.
- Difficulty in focusing on single aspect.
- Easy distraction.
- Organization problems.
- Avoids slower tasks.
- Gets lost in conversation.

60c6b3eaa8ded0e4e7e58a7 Fail to finish.

- Forgetful.
- Losing objects.

Hyperactivity/Impulsivity :

- Restlessness.
- unable to wait for their turn.
- Jump/run/fall (injuries are common).
- Interruption.
- High energy.
- Agitation.

40-50% children with ADHD may develop ADHD symptoms in adulthood.

For adults, 5 positive symptoms are considered as significant compared to 6 positive symptoms in children.  
However, onset should be < 12 years of age.

Adults can have mood fluctuations, temper tantrums/rage, procrastination. They are usually disorganized, impulsive and have stress intolerance.

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management of ADHD :

medications :

**Stimulants** : methylphenidate (only drug available in India), Lisdexamfetamine, Dextroamphetamine.

**Non-stimulants** :

- **Atomoxetine** (SNRI) : Lesser abuse potential. Preferred as initial choice in adult ADHD.
- Clonidine (alpha 2 agonist).
- Guanfacine (alpha 2 agonist).
- Bupropion.
- Lithium.

Behavioral management :

- Increase sitting tolerance.
- Increase distress tolerance.
- Small, committed timer activities.
- Reduce distractions (notifications etc).
- Lifestyle modification.
- CBT processes.

## Oppositional Defiant Disorder (ODD)

00:44:10

2 important features :

- Opposition.
- Defiance.

Children exhibit hostility, negativity and defiance.

Childhood onset ODD develops at < 10 years of age.

Adolescent onset ODD develops after 10 years of age.

Symptoms should be present for > 6 months.

Requires counselling and therapy for individuals and family.

Conduct disorder :

Defiant, deceitful and destructive behavior.

**Destructive** : Violates rights of others. Involvement in violence, gang activities.

**Deceitful** : Lying, cheating, stealing.

Symptoms should be present for **7-6 months** kumarahkitindia@gmail.com

Children can develop **Anti Social Personality Disorder (ASPD)** in the future.

**Mc Donald's triad** :

3 important features : **Enuresis, fire setting and animal cruelty.**

Predicts future violent behavior.

**Elimination related disorders** :

**Enuresis** : Soiling of clothes with urine. minimum age required for diagnosis is **5 years.**

**Encopresis** : Soiling of clothes with faeces. minimum age required for diagnosis is **4 years.**

**Non-organic enuresis (Nocturnal enuresis)** :

Bedwetting at least **2 times per week** for at least **3 months** duration. minimum age is **5 years** (mnemonic :  $2+3=5$ ).

**Primary type** : Never attained bladder control.

**Secondary type** : Loses bladder control after attaining control for **6 months.** may be due to child sexual abuse, sibling rivalry, medical conditions.

**Treatment** :

**Drugs** :

Desmopressin, imipramine (avoided in young children).

**Behavioral modifications** :

- Restrict fluid intake in the latter half of the day.
- Voiding and emptying the bladder before sleeping.
- Keeping alarm and waking child up at approximate time of enuresis.

**Differential reinforcement strategy** :

- maintaining star chart. Example : Drawing sun on dry days and umbrellas on wet days. Giving reward for dry days.
- Alarm technique : Alarm rings when undergarments become wet → Child wakes up and goes to bathroom.

## EMERGENCY PSYCHIATRY

Violence against mentally ill patients are higher than them inciting violence.

10-25% of patients who reach the OPD have violence as an important issue to be addressed.

To address violence, certain restrains are used.

**Verbal restrain :**

Talking down or de escalating the emotions of the acutely agitated patient.

Ensure the safety of the medical personnel first.

**Chemical restrain :**

Antipsychotics /benzodiazepines (BZD) can be given to an acutely agitated patient.

Example : Haloperidol can be given IM or IV. Olanzapine (IM), Ziprasidone (IM).

Respiratory depression should be taken care of when using benzodiazepines (BZD)

**Paradoxical agitation :**

Normally, when BZDs are used, the patient calms down and relaxes. But in certain group of patients, they can become **more agitated** with the use of BZD.

**Physical restrain :**

mental health care act, 2017 instructs that least usage of physical restraint has to be observed. Within 24 hrs after restraint, the nominated representative should be informed about the restraint.

Also, minimal force must be used.

Chaining has been banned.

This should be attempted as **last resort** and when resolution found, the person must be released immediately.

## Suicide

00:07:31

Public health importance :

In India around, 1,30,000 suicides occur in a year. In 2020, the suicide rate increased to 11.3 from previous 10.3.

Worldwide, 1 suicide occurs every 40 secs.

For every suicide that occurs, there would be 20 times more suicide attempts.

National mental Health Survey in India : 1 in 100 people have active suicidal ideas.

Risk factors for suicide :

- male gender.
- Unemployment.
- Family problems/marital problems.
- mental illness.
- 15% of people with mood disorders can succumb to suicide.
- 10-12% of schizophrenic person can succumb to suicide.
- 10% people with substance use disorder can succumb to suicide.
- 10% people with anorexia nervosa can succumb to suicide.
- 10% people with borderline personality disorder can succumb to suicide.
- Access to means and methods of suicide (e.g doctors who can access lethal drugs)
- Hopelessness.
- Past attempts of suicide.

most important predictor of suicide : Past attempt of suicide.

most common method of suicide : Hanging (based on NCRB statistics) > Poisoning > Drowning > Self immolation.

Self immolation is usually seen among young women (dowry related issues), political agenda or acts of hero worship.

management of suicidal individuals :

Suicide watch : Constantly keep an eye on them and keep them safe.

Additionally devoid the person access to suicidal tools.

Treatment :

Electroconvulsive Therapy (ECTs) are extremely useful in these patients.

Only 2 drugs are known to decrease suicide risk :

Lithium & Clozapine.

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Paradoxical suicide :

In a small fraction of people, when SSRIs are given, instead of decreasing depression, during the initial days of treatment, these patients have an increase in suicidal ideas, get agitated and could commit suicide.

Their medication must be changed to a different SSRI.

Parasuicide :

Deliberate self harm or non suicidal self injury (NSSI).

Harming oneself with no intention to die.

most common mode of parasuicide : Slashing the wrist.

Parasuicidal behavior is commonly seen in :

- EUPD/Borderline personality disorder.
- Histrionic patients.
- Anti Social Personality disorder (APSD).
- Depression.

## Catatonia

00:19:50

most common reason for catatonia : mood disorder (mania >> Depression).

Catatonia can be part of psychosis or neurocognitive disorders (organic brain conditions).

Active space

Components of catatonia :

- Mutism.
- Decreased oral intake.
- Posturing.
- Catalepsy (standing in same posture for long time).
- Psychological pillow (form of posturing where the patient holds his head above the bed even when pillow is not present).
- Automatic obedience (the patient obeys commands regardless of consequences).
- Waxy flexibility.
- Gegenhalten : Reciprocal resistance.
- mitgehen : The patient does not resist force exerted on them.
- mitmachen : Extreme form of mitgehen where there is exaggerated cooperation.
- Angel poise lamp : The limbs of the patient remains in the same position as adjusted by others.

management :

- Antipsychotics.
- Antidepressants or mood stabilizers.

Lorazepam test :

Lorazepam when given, a dramatic improvement is seen in 48-72 hrs in the patient. If no improvement is seen, then ECTs are considered.

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Lithium toxicity

00:28:

When the level of lithium is  $> 1.5 \text{ meq/L}$ , the patient presents with lithium toxicity.

Coarse tremors are seen commonly. Fine tremors are seen as a benign side effect of lithium (not indicative of toxicity).

Other features include :

- Ataxia.
- Nystagmus.



- myoclonic jerks.
- urinary incontinence.
- Seizures.
- Coma.
- Death.

Causes of lithium toxicity : Accidental, suicidal, hyponatremia, dehydration, drug reaction by thiazides, ACEI, NSAIDs (except aspirin).

If the level of lithium  $\geq 4 \text{ mEq/L}$ , then dialysis must be considered.

### TCA toxicity

00:31:56

TCA works on cholinergic, serotonin, norepinephrine, histamine and alpha adrenergic receptors.

TCA is known as dirty drug as it causes side effects by acting on all these receptors.

Features of TCA toxicity :

- Hypotension.
- Cardiac arrhythmias.
- Tachycardia.
- QTc prolongation.
- Respiratory suppression.
- Seizures.
- Altered sensorium.
- Dryness of mouth.
- Constipation.
- Blurred vision.

Treatment for TCA toxicity : IV Sodium bicarbonate.

**Cheese Reaction :**

Not so common these days due to decreased use of MAO inhibitors. Irreversible MAO inhibitors (Tranylcypromine) are more commonly known to cause cheese reaction than reversible MAO inhibitors.

Tyramine in our diet is usually broken down by mono-amine oxidase. MAO inhibitors cause increased levels of tyramine which causes vasopressor effect and lead to **hypertensive crisis**.

**Treatment of cheese reaction :**

Involves withdrawal of offending drug and alpha blockers such as **Phentolamine/Chlorpromazine** can be used. Beta blockers can be used to calm the patient.

## **Opioid poisoning**

00:37:07

Individual overdosing themselves with opioid.

Features include :

- miosis.
- Respiratory depression.

Antidote/treatment involves :

- **Naloxone** given IV.
- **Naltrexone** oral or depot form (once in 3 months).

**Serotonin syndrome** : Surge in serotonin due to use of SSRIs or other serotonergic drugs.

Serotonergic drugs include :

- SNRI.
- Tramadol.
- Triptans (theoretically).
- Lithium.
- **Ergot alkaloids**.
- Anti depressants.

Features :

- Patients present in 1-3 days, i.e. acute presentation.
- mental status issues (dull or disoriented).
- Autonomic dysfunction (severe tachy/bradycardia).
- **Neuromuscular changes** (hyperreflexia, myoclonus).

Treatment of choice - **cyproheptadine**.

It also has antihistaminic property.

## Neuroleptic malignant syndrome

00:42:58

Triad of symptoms :

- Delirium.
- Lead pipe rigidity.
- Hyperthermia.

Other features include :

- myoglobinuria.
- Raised CPK levels.
- Total WBC count is raised.

Treatment (mnemonic : BADE)

Bromocriptine.

Amantadine.

Dantrolene (drug of choice).

ECTs

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Active space

# PSYCHOPHARMACOLOGY

## Important neurotransmitters and their sources

00:00:34

Acetylcholine : Nucleus of basalis/nucleus of meynert.

Norepinephrine : Locus coeruleus.

Dopamine : Substantia nigra.

Serotonin : midline raphe nucleus.

Histamine : TMN (Tubero mammillary nucleus).

Glutamate : Prefrontal neurons.

Orexin : Lateral hypothalamus.

melatonin : Pineal gland.

Depression : Low serotonin, dopamine, norepinephrine levels.

marker for suicidal behavior : 5 Hydroxy Indole Acetic Acid (SHIAA), which is reduced in patients who have recently succumbed to suicide/ attempted a suicide.

mania : High serotonin, dopamine, norepinephrine.

Alzheimer's disease : Decreased acetylcholine.

Schizophrenia : Raised dopamine, serotonin and glutamate (leads to neurotoxicity) levels.

GABA dysfunction also happens in schizophrenia patients.

Narcolepsy : Low orexin levels.

Bupropion : Improves norepinephrine and dopamine levels.

SSRI : Improves the serotonin levels.

## Psychotropics

00:07:20

- Agonists : GABA-A receptor agonists (Benzodiazepines).
- Antagonists : Antipsychotics.
- Partial agonists :  $\alpha_4$ - $\beta_a$  partial agonist like varenicline (tobacco cessation).

- 5-HT<sub>1A</sub> partial agonist : **Buspirone** (anxiolytic).
- Inverse agonists : **Pimavanserin** (specifically licensed for Parkinsonism related psychosis), it is an inverse agonist of 5-HT<sub>2A</sub> receptor.

## Depot antipsychotics

00:11:32

Strategy by which medications are given for much longer duration with a single injection in patients with poor compliance.

Biggest challenge with depot injections is the cost.

**Types :**

**Typical :** Haloperidol, Fluphenazine, Flupentixol, Zuclopenthixol.

**Atypical :** Risperidone, Paliperidone (metabolite of Risperidone), Aripiprazole, Olanzapine, Iloperidone.

Side effect of **Olanzapine :** Post injection confusion syndrome (so patients should be monitored for some time after the injection of the drug).

**Paliperidone :** Available as 1 month, 3 month and 6 month dosage.

**Penfluridol** (typical antipsychotic) : Oral depot which can be given weekly once.

## Dopamine pathways

00:16:00

Four important dopamine pathways :

- **mesocortical pathway :** Negative symptoms of schizophrenia.  
Hypo functioning of dopamine.
- **mesolimbic pathway :** Positive symptoms of schizophrenia.  
Hyper functioning pathway.
- **Nigrostriatal pathway :** Extrapyramidal symptoms.

Active space

- **Tuberoinfundibular pathway** : Increases the prolactin levels leading to decreased libido (common side effect) and amenorrhea.

## Extrapyramidal symptoms (EPS)

00:18:47

### Acute EPS :

- **Akathisia** : most common EPS.

Patient complains of inner restlessness and lower limb movements.

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Presents 10 - 14 days of starting antipsychotics (acute presentation).

Akathisia, if not treated, can increase the risk of suicide because of agitation.

managed with  $\beta$  - blockers like Propranolol (m/c)  
> Benzodiazepines > Trihexyphenidyl.

- **Acute dystonia** : Spasm of some muscle groups.

Types :

1. Oculogyric crisis (extraocular muscles start squeezing).
2. Lingual dystonia (tongue starts protruding outside).
3. Torticollis (spasm of neck muscles).
4. Truncal dystonia.

History of recently started/changed antipsychotics, recent intake of anti-emetic like metoclopramide can be elicited.

### Chronic EPS :

- **Chronic akathisia** : Present for a very long time.
- **Tardive akathisia** : It presents after few months.

1. Tardive dystonia : Prominent muscle spasms.
2. Tardive dyskinesia : Prominent involuntary movements like perioral tremors (rabbit syndrome).

Drugs used in patients with Tardive dyskinesia :

- a) **Valbenazine**: VMAT2 (Vesicular monoamine transporter 2 inhibitor).
- b) Deutetrabenazine or Tetrabenazine.

### Lethal EPS:

- **Laryngeal dystonia** (acute in nature): Leads to laryngospasm and asphyxia.
- **Neuroleptic malignant Syndrome (NMS)**.

## Atypical antidepressants

00:28:50

### Vilazodone:

- **SPARI**: 5-HT<sub>1A</sub> partial agonist, serotonin transporter inhibitor.
- It has a faster onset of action.
- **SPARI**: Serotonin Partial Agonist & Reuptake Inhibitor.

### Vortioxetine (multimodal serotonergic agent):

It works in multiple ways to play a role in serotonin modulation by:

- Serotonin transporter reuptake inhibitor.
- 5-HT<sub>1A</sub> agonist action.
- 5-HT<sub>1B</sub> partial agonist.
- Antagonist at 5-HT<sub>1D</sub>, 5-HT<sub>3</sub>, 5-HT<sub>7</sub> (procognitive antidepressant) receptors.

### Mirtazapine (NaSSA):

- Noradrenergic and Specific Serotonin Antagonist.
- $\alpha_2$  antagonist.
- H<sub>1</sub> antagonist (increased sleep).
- 5-HT receptor antagonist on 5-HT<sub>2A</sub> (sleep), 5-HT<sub>2C</sub> (weight gain), 5-HT<sub>3</sub> receptors.

**Trazodone** (SARI: Serotonin receptor antagonist and reuptake inhibitor).

- 5-HT transporter inhibitor. 60c6b3eaa8ded0e4e7e5ea7
- 5-HT receptor antagonist of 5-HT<sub>2A</sub> and 5-HT<sub>2C</sub>.

Active space

- It can be used as a sedative at small doses (due to H<sub>1</sub> and  $\alpha$ <sub>1</sub> receptor blockade) and thus used in patients with insomnia.

**Agomelatine** (melatonin receptor agonist) :

- m<sub>1</sub> and m<sub>2</sub> melatonin receptor agonist (influences circadian rhythm).
- Antagonist effect on 5-HT<sub>2A</sub> and 5-HT<sub>2C</sub> (antidepressant effect).

### Newer medications for bipolar management

00:40:22

For patients with mania/ mixed episodes : **Endoxifen** (developed in India).

It is a direct PKC (protein kinase C) inhibitor.

It has lesser metabolic complications.

Known to cause insomnia so day time dose is preferred.

It is available only in one dosage i.e., 8 mg dose.

**Lithium** :

Narrow therapeutic index : 0.5 - 1.5 mEq/L.

maximum effectiveness at 0.1 mEq/L.

Blood test is done after 5 days because t<sub>1/2</sub> of

Lithium is 24 hours and it takes 5 half lives for the drug to stabilize in the body.

Blood test is usually done after 10 - 12 hours after the last dose (trough levels).

Once trough levels are reached, levels are tested once in 3-6 months.

**Long term complications** :

- Diabetes insipidus nephropathy.
- Hypothyroidism.

Two important types of tremors caused by Lithium :

- Fine tremors (benign tremors).
- Coarse tremors (malignant tremors).



mechanism of action of Lithium :

- Inhibits GSK - 3, MARCKS, IMPase, IPPase enzymes.
- Inhibits dopamine effects.
- Inhibitory effect on glutamate.
- Stimulatory effect on GABA.

Renal excretion is important for :

- Lithium.
- Acamprosate : Anti craving agent.
- Amisulpiride : Antipsychotic.

## Issues in pregnancy

00:49:43

50% of the pregnancies could be unplanned.

Pregnancy is not 100% safe (3 - 4% of the pregnancies can have major malformations).

2 - 7% (gestational diabetes).

11 - 12% (premature delivery).

Pregnancy and mental illness : Post partum psychosis, bipolar disorder, depression.

Post partum onset of psychiatric problems :

- <4 weeks (DSM - 5).
- <6 weeks (ICD - 11).
- upto 1 year (clinically).

Mnemonic : BPD.

Baby blues : within 2 weeks of pregnancy.

Seen in 50% of the pregnancies.

It is usually transitory and symptoms go away within 2 weeks.

Psychosis : Between 2 - 4 weeks of pregnancy.

Rare : Seen in 1 in 1000 patients.

Depression : between 4 weeks to 1 year post pregnancy.

Safer drugs in lactating woman :

- Antidepressant : Sertraline.  
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Paroxetine is avoided.
- mood stabilizer : Lamotrigine > Lithium (Epstein)

anomaly seen rarely, Lithium toxicity due to fluid imbalance after the delivery).

Valproate and carbamazepine is avoided.

## Newer updates

00:58:19

### Brexenalone :

It is a progesterone metabolite.

GABA -A receptor allosteric modulator.

Used in postpartum depression.

Drawback : It has to be given as an infusion over 60 hours.

It is a neurosteroid.

In resistant depression : Esketamine (available as a nasal spray).

Used in extremely suicidal patients.

### GABA :

Glutamate  $\xrightarrow{\text{GAD}}$  GABA  
 (stimulatory substance)                      (inhibitory substance).

**GAD** : Glutamic acid decarboxylase.

Types of GABA receptors :

**GABA A** : Ion channel gated receptor.

**GABA B** : G - protien coupled receptor.

**GABA C** : Ion channel gated receptor.

Drugs acting on GABA -A : Benzodiazepines, Barbiturates,

Z - class drugs.

Drugs acting on GABA -B : Baclofen.

GABA -A receptor has an  $\alpha$  subunit.

- Benzodiazepines act on multiple subunits of GABA receptors.
- Z - class drugs work only on  $\alpha_1$  subunit and thus it prevents addiction.

# SOMATIC TREATMENTS IN PSYCHIATRY

## Electroconvulsive therapy

00:00:16

modified Electroconvulsive therapy (ECT) :

As per mental healthcare act 2017, it is the only legal way to give ECT.

Short acting anaesthetic agent + Short acting muscle relaxant (MR) is given to the patient before the ECT procedure.

- useful in giving amnesia to the patient.
- The MR reduces the violent movements which used to lead to orthopaedic complications earlier.

Anaesthetists are required to monitor vitals and care for the patient under anaesthesia.

modified ECT is the preferred mode.

Drug of choice (DOC) for short acting anaesthetic agent : methohexital.

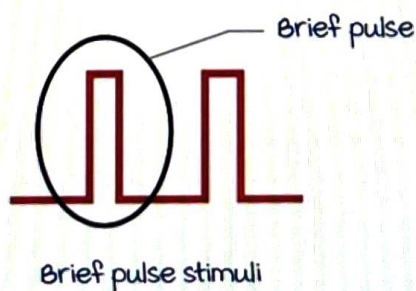
**Brief pulse stimuli** : Current strategy being followed.

Brief jolts of current are given for a short duration and then stopped.

The brain tissue is only exposed to a small amount (brief pulse) of current.

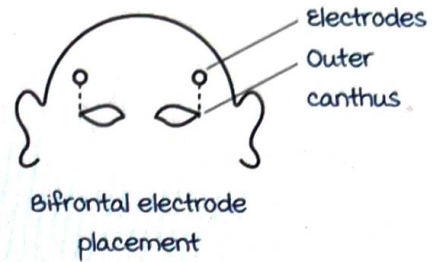
Lesser side effects and safer.

Sine wave stimuli : Strategy that was followed before.



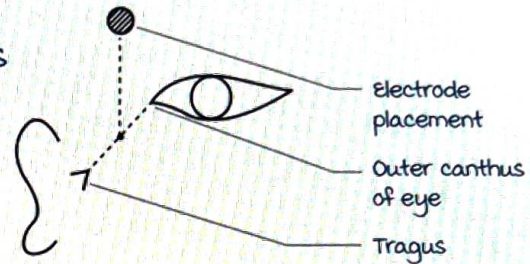
### Electrode placement :

- **Bifrontal** : The frontal electrodes are placed few cms vertically above the outer canthus of eye.



- **Bitemporal/bifrontotemporal** : mc strategy of electrode placement.

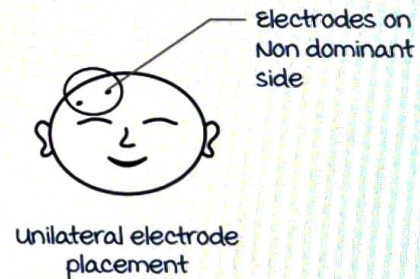
An imaginary line is drawn between outer canthus of eye and tragus of ear, 2-4 cm above the



mid point of the imaginary line is the point of electrode placement where the electrical stimuli is given.

- **Unilateral** : The electrodes are kept on the non dominant side.

It is used in reducing cognitive decline especially in very elderly patients (as giving ECT may cause further decline in cognitive function in patients already suffering from it).



### Indications :

- Severe mood disorders.
- Suicidal patients.
- Catatonic patients.
- Neuroleptic malignant syndrome (NMS).

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Relative contraindications :

- When potential of **raised intracranial tension (ICT)** is present.
- Patients in which anaesthesia is not tolerated.

ECTs are the safest and effective procedure in psychiatry.

Adverse effects :

- Body ache.
- Headache.
- memory problems (retrograde >> anterograde).

Generally reversible within 48 hrs (to some months) of stopping ECTs.

mechanism of action is not clear.

However, **increased BDNF** (Brain derived neurotrophic factor) is constantly noted in patients responding to ECT.

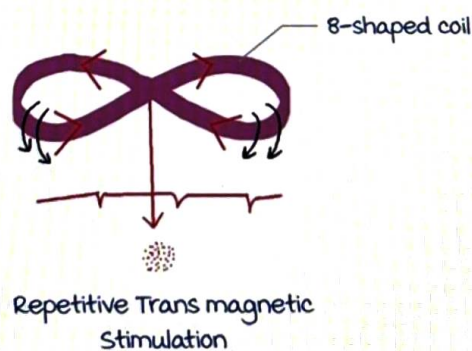
The mechanism accepted currently :

Increased BDNF leads to **neuroplasticity** → Causing ECT effectiveness.

### Repetitive Trans Magnetic Stimulation (rTMS)

00:11:08

Current passes through  
**8-shaped coil**  
↓  
Leading to production of  
magnetic field around it  
↓  
magnetic field gets  
focussed few cms below the  
8-shaped coil at a particular  
point leading to stimulation  
in the cortical tissue  
↓  
rTMS



rTMS <<< ECTs.

No need for anaesthesia.

mainly used in :

- Depression patients who do not want ECT.
- Resistant depression patients.
- Patients with resistant auditory hallucinations.

Daycare procedure.

Costlier than ECT.

Important area stimulated in rTMS is **Dorso Lateral Prefrontal cortex (DLPFC)**.

DLPFC can be identified by :

- MRI and being marked by skin marker and then rTMS can be given.
- EEG electrode placement marking can be done → **F3/F4** electrodes placements correlate to DLPFC.
- Identifying the motor strip with the 8 shaped coil → stimulation of motor strip → jerky movements in the body seen → identify the thumb area of the motor strip (thumb movements will be seen) → the area present 8-10 cm in front of the thumb area is DLPFC.

## Light therapy

00:15:38

Also called **photo therapy**.

Light source → UV-filtered light used (5,000-10,000 Lux units).

Patients sits in front of the light source for 15-90 min as per requirement.

useful in :

- **Seasonal affective disorder** : Typically occurs in winters. Patients feel depressed (no other causes for depression present)..
- Augmentation strategy for resistant depression patients (regular treatments are not working).

### Vagus nerve stimulation :

Initially used in intractable epilepsy patients → mood elevation was noticed.

FDA approved strategy for resistant depression patients.  
Invasive and costly procedure.

Keep pacemaker in upper chest area and try stimulation of left sided vagus nerve.

Left sided vagus nerve : Predominantly afferent nerve

→ Stimulation of tractus solitarius area → Surrounding Serotonin and norepinephrine areas are also stimulated → Reduction of depressive symptoms.

Side effects :

- Hoarseness of voice.
- Neck pain.

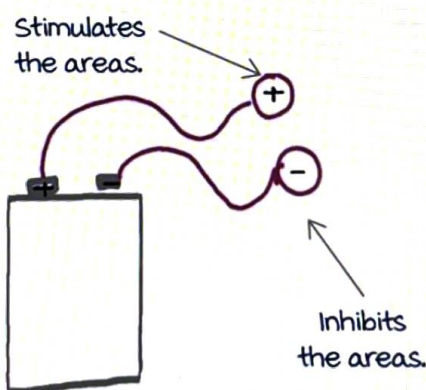
### Transcranial Direct Current Stimulation /tDCS

00:19:61

Small pocket sized battery operated device.

1-3 mA current is used to stimulate particular areas of brain.

The positive electrodes will stimulate the areas where as negative electrodes will inhibit the areas.



tDCS device  
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Sites for stimulation : Still unclear.

used in :

- Depression.
- Dementia.
- Delirium.
- Resistant psychosis.

Still being researched extensively and yet to be routinely used in practises.

Since direct current is used → **Polarisation** of neurons occurs → modulation of the threshold → modulation of functioning of brain areas.

### Deep Brain Stimulus (DBS) :

Used in :

- Parkinson's disease (well established treatment).
- Resistant depression.
- Resistant OCD patients (several studies).

Invasive procedure → Electrodes are placed deep in the brain (burr hole and local anaesthesia required) → Electrode acts as a pacemaker and stimulates/inhibits surrounding areas.

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## Neurosurgery for mental disorders

00:24:08

Psychosurgery : Outdated term.

Egas moniz won nobel prize for inventing prefrontal lobotomy.

Walter Freeman used to perform **ice pick method** (cone shaped ice cubes would be put through the orbital areas to the frontal areas and cause damage).

Surgeries currently used :

- Stereotactic microablation surgeries.
- $\gamma$  - Knife surgery.

These surgeries may take long duration (months to years) to show their effect.

used in :

- Resistant depression : Specific area is targeted and **capsulotomy** is done.
- Resistant OCD : **Limbic leucotomy** is done.

Limbic leucotomy → Anterior cingulotomy  
 → Subcaudate tractotomy



## Biofeedback

00:27:58

Strategies used :

- EEG.
- EMG.
- Galvanometer : Skin conductance/resistance.

All these strategies help in gathering information for some physiological parameters (HR, muscle tension etc.,) which are sent back to the individual.

These help in knowing the state of autonomic system/  
nervous system → modulation of self to change the  
parameters.

Neuro biofeedback focusses more on EEG patterns.

used in :

- Anxiety disorders.
- ADHD patients.

Active space

# PSYCHOLOGY

Sigmund Freud described mind using two different theories :

Structural theory :

3 components : Id, ego and super ego.

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Topographical theory :

3 components : Conscious, preconscious and unconscious.

Structural theory of mind :

Id :

- Seen from birth.
- Works on pleasure principle (being happy, satisfied).
- Instinctive, impulsive and looks for immediate gratification.
- makes us think (i want means i want).

eg : Child cries for food irrespective of time.

Ego :

- Starts to develop at 4 - 6 months.
- Works on reality principle.
- Tries to balance the reality component.
- Defence mechanisms seen are functions of ego.

eg : when child is being told mom can't be around all the time.

Super ego :

- Develops 2 - 3 years onwards.
- Works on morality principle.
- Right/wrong/correct/legal/ethical : such moral components are described by super ego.

It is the individual's conscience which is structured by childhood stories told by family members.

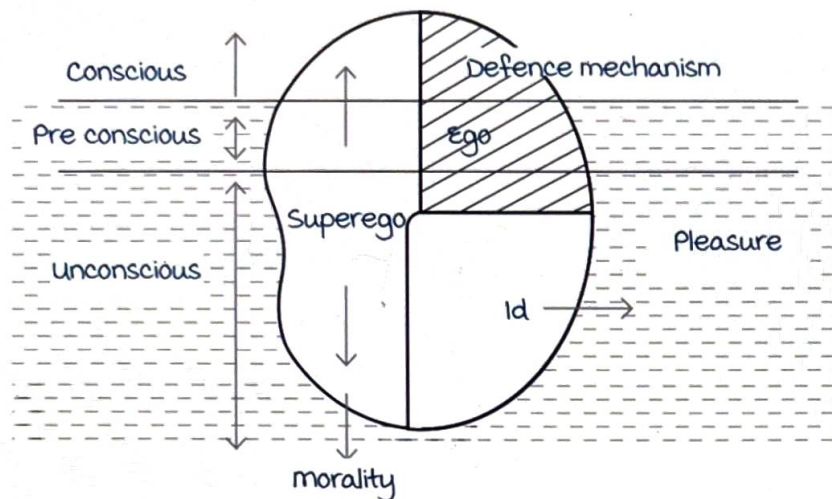
Topographical theory of mind :

3 components : Conscious, preconscious and unconscious.

majority component is **unconscious**.

Part of mind that is always unconscious is **Id**.

Ego and superego components can be there in **conscious/preconscious/unconscious** parts.



Ego acts as a defence mechanism because Id always work in pleasure & superego works in morality and to balance between them, Ego is needed.

## Defence mechanisms

00:10:50

mature defence mechanisms (works well) :

Helps to grow up and become better. Does not have **negative consequences**. (mnemonic : HAAASS)

- **Humor** : making a joke of the situation and moving on. Taking things on a lighter note.
- **Anticipation** : Planning ahead. Example : Carrying umbrella expecting rain, preparing for exams.
- **Altruism** : Philanthropy/giving charity.
- **Asceticism** : Renouncing all the worldly pleasures. Detach from materialistic things & taking a spiritual path.
- **Sublimation** : Expression of emotions in an acceptable way rather than non-acceptable way. Example : Expression of anger in music/art rather than on person.
- **Suppression** : **Conscious** defence mechanism. Has 2 components - Forgive and forget.

**Repression** (complaining now about the wrong doings in the past) is not a mature defence mechanism.

Psychotic defences (narcissistic defenses) :

- **Denial (ostrich phenomenon)** : Denying a true fact.
- **Distortion** : Distortion of reality.
- **Projection** : Reason for problems in one person is pointed towards others.
- **Splitting** : Black/white (dichotomous/all or none) thinking. Either yes or no and nothing in between.

Immature defences :

- **Regression** :  
Example : An adult who has undergone trauma behaves like a young child due to emotional impact (wanting mother to feed him, feeling homesick).
- **Somatization**.

Neurotic defences :

- **Repression** :  
Subconsciously pushing the information to unconscious components of the mind (never forgotten).  
Called as **mother of all defences**.  
most commonly used defence mechanism.
- **Intellectualization** :  
Thinking so much and not doing anything.  
Also called as Analysis paralysis.

### Defence mechanisms in OCD

00:23:48

Reaction formation :

Going the opposite way and overdoing it.

Example : Washing hands 10 times irrespective of contamination.

Undoing :

Finding solution even before the problem arises.

Example : Washing hands even before contaminating.

Isolation :

Ego dystonic thinking is seen in **OCD**.

Emotionally isolating from behaviours.

Example : Paediatric surgeon emotionally isolates himself while performing surgery on children.

Defence mechanisms in substance use disorders :

- Minimization :  
Example : Saying the smallest amount when asked about usage of substance, even if the amount used is significant.
- Denial : Denial of the fact.
- Projection : Projecting other people as reason for substance abuse.
- Rationalization : Giving some reason for substance abuse.

Defence mechanisms in phobia (mnemonic : DAP)

- Displacement : Showing emotions onto something/someone else.
- Avoidance : Avoidance of fearful stimuli.
- Projection.

## Psychosexual stages of development

00:31:27

Described by Sigmund Freud.

Mnemonic : OAPLG.

Oral phase : Birth to 1.5 years.

Anal phase : 1.5 to 3 years (age of toilet training).

Phallic phase : 3 to 6 years, gender identity develops.

Latency phase : 6 years to puberty.

Genital phase : Post puberty.

Oral fixation : Seen with problems of **addiction** (thought process is similar to a child of that age).

Anal fixation : Seen in patients with **OCD** (fear of contamination begins when children are teased/abused during toilet training).

These theories are not believed nowadays.

Phallic phase :

2 important complexes : Electra's complex and oedipus complex.

**Electra's complex** : Seen in female children. Attracted towards father, then realizes it is wrong. Also have penis envy.

**Oedipus complex** : Seen in male children. Attracted towards mother, then realizes it is wrong. Also have castration anxiety.

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### Psychosocial stages of development

00:38:45

Erik Erikson described 8 stages from birth to death.

At every stage, there are conflicts and challenges. Most people grow through the challenge and learn something from them.

- Stage 1 : Birth to 1.5 years. Trust vs mistrust. Child develops hope based on trust. Trust is developed based on care provided by caregivers.
- Stage 2 : 2 to 3 years. Autonomy vs shame. Child develops will power.
- Stage 3 : 3 - 5 years. Initiative vs guilt. Child develops purpose.
- Stage 4 : 5 - 11 years. Industry vs inferiority. Development of competence.
- Stage 5 : Teen age. Identity vs role confusion. Development of fidelity/commitment.
- Stage 6 : Young adult. Intimacy vs isolation. Development of love.
- Stage 7 : Middle age. Generativity vs stagnation. Development of care.
- Stage 8 : Old age. Integrity vs despair. Development of wisdom.

### Cognitive stages of development

00:48:04

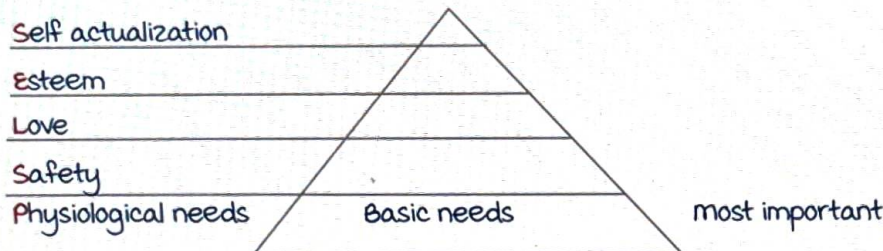
Concept given by Jean Piaget.

- Birth - 2 years : Sensorimotor stage. Exploring world with various sensations.  
Object permanence develops at 6 - 9 months.  
(Child's ability to understand the object's presence even when someone plays peek-a-boo with the object).
- 2 - 6 years : Pre operational stage. Egocentric thinking (thinking about themselves) or fantasy thinking (imagining things).
- 6 - 11 years : Concrete operational stage. Volume

conservation (ability to understand 2 bottles of different sizes may be of same quantity) and category concept develops.

- > 11 years : Formal operational stage. Abstract thinking. Concrete thinking is seen in schizophrenia.

**Hierarchy of needs/maslow's hierarchy** : Concept described by Abraham maslow.



Physiological needs are the basic needs of life (food, water and shelter).

Safety refers to the safeness of the basic needs.

Love refers to being taken care of, supportive family.

Esteem refers to gaining respect, being liked by others.

Self actualization refers to looking beyond own-self and meeting the needs of community/world.

## Learning

00:58:13

Classical learning (Pavlovian conditioning) :

Learning happens because of pairing.

Conditioned stimuli is paired with unconditioned stimuli over a period of time in order to obtain conditioned response.

Example :

Salivating (unconditioned/physiological response) on seeing sweets (unconditioned stimuli). Ringing of bell is paired with sweets multiple times. Salivating upon hearing the bell is conditioned response.

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Operant learning (Skinnerian conditioning) :

Operate and learn. Learning by the results.

Example :

1. A child initially asks father and mother for something. Father doesn't buy & scolds but mother buys. This

happens many times & child slowly stops asking father and asks only mother if something is needed.

2. Rat in a cage : There are 2 buttons. Pressing black button causes shock. Food is given on pressing white button. Rat presses buttons randomly initially. Over a period of time, rat presses only white button.

## Reinforcement

01:04:19

means increasing the desirable behaviour.

Positive reinforcement :

Giving rewards/recognition/prizes or praising the work, more work, bigger rewards.

Negative reinforcement :

Being put in a discomforting situation till task is completed.

Punishment is not a negative reinforcement because it is given to reduce a behaviour.

**Grandma's rule** (Premack's principle) :

Example :

High frequency behavior : Kid eating ice cream.

Low frequency behavior : Kid eating vegetables.

Once child finishes eating vegetables, ice cream is offered.

Child is made to complete a low frequency behaviour before a high frequency behaviour.

Done to enhance low frequency behaviour.

## Attachment

01:10:30

Attachment is seen in any relationship which is committed for a long time.

4 important types :

- Anxious attachment : Being anxious about one person. Attachment due to anxiety.
- Avoidant attachment : Avoiding being close.
- Ambivalent/ambiguous attachment : Little bit of anxiety and avoidance.
- Disorganized attachment : Complex attachment.



### Transitional object :

An object to feel secure/comfortable when primary caregiver is not around (does not last long).

Children carrying a particular object (such as a toy, bed sheet, dress) with them for comfort (almost equivalent to a caregiver).

4 types of parenting are :

- Neglected : Gross neglect.
- Permissive : No restraint (giving everything asked for).
- Authoritarian : What the parent says is an order. Does not give explanation.
- Authoritative : **Best** parenting. Indulging in a conversation and giving autonomy to kid.

## Memory

01:18:55

3 important processes of memory :

- Encoding.
- Storage.
- Retrieval.

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memory issues occur if there is decreased attention/concentration leading to poor encoding. People with anxiety/depression/significant stress have memory problems.

Types of memory :

**Declarative memory** : People can declare/tell what they remember.

It could be :

- Based on experience : **Episodic memory**.  
Autobiographical memory (remembering one's past),  
flash bulb memory (remembering a traumatic event in extreme detail).
- Based on facts/figures : called **Semantic memory**.

**Non declarative memory** : People show that they remember but finds it difficult to express.

Example :

- Procedural (muscle) memory : Swimming, cycling, driving.
- Priming : Remembering something from a cue.
- Conditioning.

Interference of memory (affects recall and memory) :

**Retroactive interference :**

Example : Suppose a 2 months course is taken in language A and a 2 months course in language B. Language B (learnt later) interferes with recall of language A (learnt earlier).

**Proactive interference :**

Example : Suppose a 2 months course is taken in language A and a 2 months course in language B. Language A (learnt earlier) interferes with the recall of language B (learnt later).

**Primacy effect :** The first item in a list is remembered well.

**Recency effect :** The recent (last) item in a list is remembered well.

# PSYCHOLOGICAL THERAPIES AND ASSESSMENTS

## Doctor patient relationship

00:00:16

Types of questions to be asked to the patients are :

Open ended questions :

Gives opportunity to explore multiple points.

used maximally and preferred in the beginning of a conversation.

Example : What made you come here? Do you have any unusual experiences to talk about ?

Leading questions :

used mid conversation to get more specific details.

Does not allow to explore multiple points (limited options).

Example : Tell me about your hallucinations.

Closed ended questions :

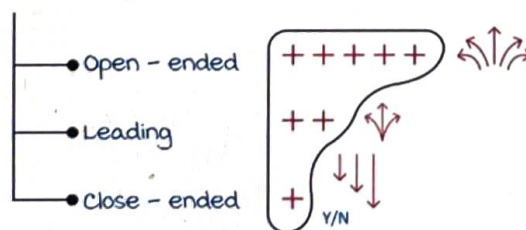
minimally preferred.

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Example : Are you hearing voices ?

Yes/no/may be are the only possible answers.

Types of questions



## Basic counselling skills

00:04:01

Communication → Verbal : what to say, how to say.  
 → Non-verbal : How to sit, see, behave, gesture.

Ensure privacy and a confidential space.

Active space

Being non judgemental is essential.

Active listening like nodding your head, paraphrasing is needed.

Being empathetic is very important.

Remain silent and give space for the patient to talk as this would help them understand and interpret the situation better.

## Breaking bad news

00:08:09

The doctor should be able to convey the bad news and be supportive to the patient/family members at the same time.

The term delivering bad news can be preferred to breaking bad news.

Strategy : SPIKES protocol.

Setting up.

Finding/creating time to deliver the news.

Ensure important people of the patient are present in a confidential setup (private room) before disclosing.

Perceptions.

Understanding patient's ideas about the illness and treatments offered for the disease.

Invitation.

Crucial members of the family should be involved in decision making.

Asking them how much or what (they want to know) about the illness, whom should be informed about patient's condition.

Knowledge.

Share facts, figures as they are & give reality based hope (Wishful things should not be told).

Reduce medical jargons.

Emotions.

Deal with emotions of patient, relatives, medical team.

Summarization.

Giving a gist about the illness, treatment modalities etc.

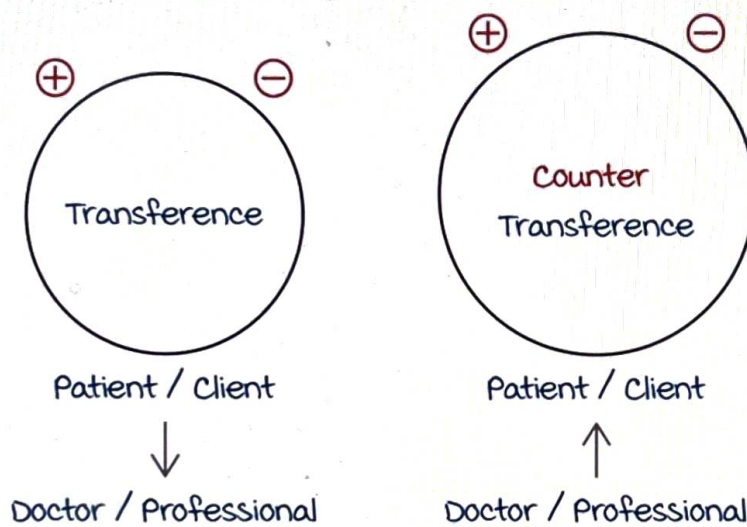
## Transference & counter transference

00:14:09

A component of doctor-patient relationship.

Transference : Seen in patient/client towards the professional/doctor.

Counter transference : Seen in professional/doctor towards the patient/client.



**Negative transference** : Negative feelings (anger) shown towards the doctor.

**Positive transference** : Positive feelings (gratefulness) shown towards the doctor.

**Positive counter transference** : Positive feelings towards patients who follow advises, who respects doctors etc.

**Negative counter transference** : Negative feelings (anger, irritation, sadness) shown towards patients.

## Therapy session

00:17:21

One of the basic aims during a therapy session is to establish a rapport.

Rapport is the mutual comfort, respect, trust between the client and the therapist.

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Active space

If possible, therapeutic alliance should be achieved :

**Ultimate goal.**

It involves deeper elements than rapport.

Therapist and the client reach an unwritten contract with common goals, willingness to change and commitment to put efforts towards getting better.

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Therapy will never work without establishing therapeutic alliance. Establishing connect might take some time.

**Catharsis (ventilation) :**

Emotions/feelings are expressed/shared.

eg : Patient saying - Thanks for the time/listening.

**Abreaction (extreme reaction) :**

Sudden unexpected outflow of emotions, when questioned.

3 approaches to psychological therapies :

- **Psycho education :** It is the basic therapy.  
Not only for psychiatric conditions but also for any ailments like carcinoma, DM etc.  
Describe about illness, treatment options, prognosis, complications, need for help, pros and cons of disease.
- **Therapy :**  
Deals with deeper conflicts.
- **Counselling :**  
For **current crisis intervention** and moving on.

Counselling	Therapy
Superficial current crisis.	Deeper conflicts/pattern.
Problem solving/coping strategies.	Relapse prevention is focussed on.
Specific issues are focussed on.	Overall growth, understanding, well being of individual are focussed.

## Types of psychotherapy

00:25:43

- Individual based.
- Couple based : To deal issues between them.
- 60c6b3ee-1b0e-47e5-9a77-5e97: In married couples.
- Family therapy.
- Group
  - Run by professionals.
  - Self help group.

## Tools of psychotherapy

00:27:20

Different tools are available including :

- Unconscious or subconscious conflicts :
  - Psychodynamic psychotherapy.
  - Psychoanalytic psychotherapy.
- Client oriented Psychotherapy :
  - major focus is given to client.
  - Promoted by Carl Rogers.
- Logo therapy :
  - Based on finding **the meaning** for suffering.
  - Promoted by Viktor Frankl.
- Gestalt therapy :
  - Pioneered by Fritz Perls.
  - Looks at the **problem as a whole** and a part of bigger picture.
- Rational Emotive Behavioral Therapy (REBT) :
  - Developed by Albert Ellis.
- Cognitive Behavioral Therapy (CBT) :
  - Proposed by Aaron Beck.
- Others :
  - Solution focused therapy.
  - Insight facilitated therapy.

Active space

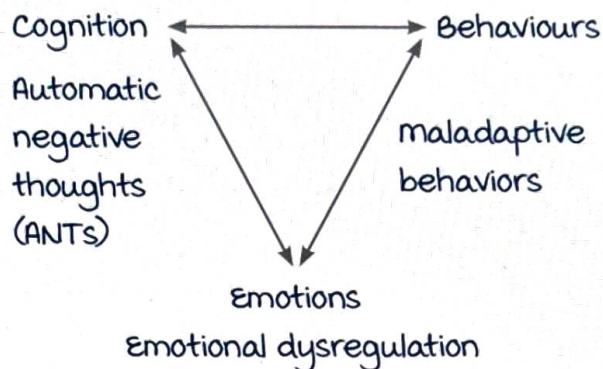
## Cognitive behavioral therapy (CBT)

00:31:14

CBT triangle :

It is a **bidirectional process**. ksmarankitindia1@gmail.com

3 factors : Cognition. Behavior. Emotions. } All are interlinked and inter influenced by each other

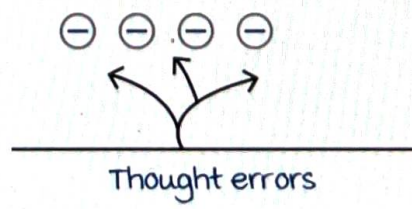


Aids in :

Changing maladaptive behavior and avoidance.  
Developing good amount of emotional regulation.

Problems dealt with CBT are :

- Automatic Negative Thoughts (ANTS).  
multiple involuntary rapid thoughts that keeps coming to the awareness, having negative connotations.  
Easiest to deal with.  
It leads to **emotional reasoning** (feeling upset/frustrated) & irrational behaviors.  
For example : If the partner does not pick the phone call, multiple thoughts run through ones mind.
- Thought/cognitive errors : ANTs arise from them.  
If negative thoughts are identified, a pattern towards thought errors can be drawn.





Types of thought error :

Over generalization :

Eg : Calling oneself a failure in life as he/she failed in an exam.

Negative abstraction :

Picking only the negative aspect in spite of multiple positive things.

Fortune telling :

Trying to predict future. Causes emotional disturbances.

People stop putting efforts.

Schemas : Deep rooted patterns/thinking process.

most difficult to deal with in CBT.

## Dialectical behavioral therapy

00:39:43

Developed by Marsha Linehan.

It is adapted from CBT to deal with borderline personality disorder/Emotionally Unstable Personality Disorder (EUPD).

4 important aspects (mnemonic : MEDI)

Mindfulness (being in the moment/non judgemental).

Emotional regulation.

Distress tolerance.

Interpersonal effectiveness

m mindfulness	ε Emotional regulation
D Distress tolerance	I Interpersonal effectiveness

## Habit reversal disorder (HRT)

00:41:53

used in patients with

- Tic disorder.
- Trichotillomania.

Sensory experience → Urge to pull hair → Relieved once done. This cycle keeps on repeating.

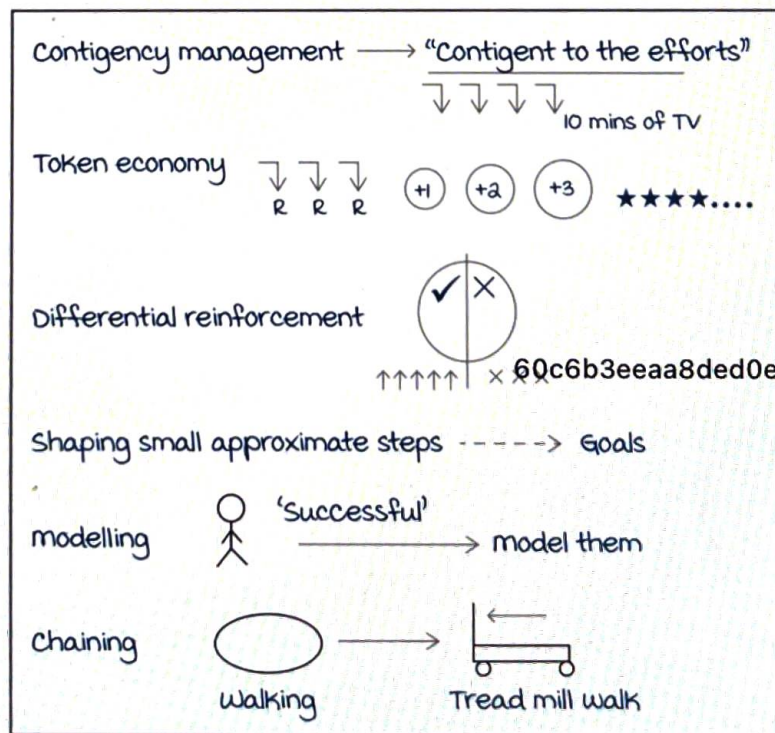
In order to break the cycle :

- Patient is **made aware** of the issue which leads to a compensatory behavior or counter response that helps in breaking the cycle.
- Relaxation techniques are taught.
- Work on motivation (to keep practising).
- Constantly work on awareness and continuing the loop.

**Behavioral strategies**

00:45:01

- Contingency management :  
**Reward** is given contingent to the efforts put forward.  
 Eg : If a child with intellectual issues learns to brush teeth, allow the child to watch TV for 10 minutes.
- Token economy :  
 Tokens are given as recognition.  
**Stars/points** are added for every effort. They can later be redeemed as a reward.



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- Differential reinforcement :  
 Eg : If a child is doing lot of good and bad things, ignore the bad things and enhance the good things. Ignoring negatives & focussing on positives.

- Shaping :  
Small approximate steps towards a big goal.
- modelling :  
Show a successful person and ask clients to **mimic** their strategies to achieve success.
- Chaining :  
Trying to chain one behavior to another.  
Eg : Going for regular walk to reduce weight. Also wanting to do treadmill.  
Both these can be combined by getting onto the treadmill minutes before finishing off the walk.

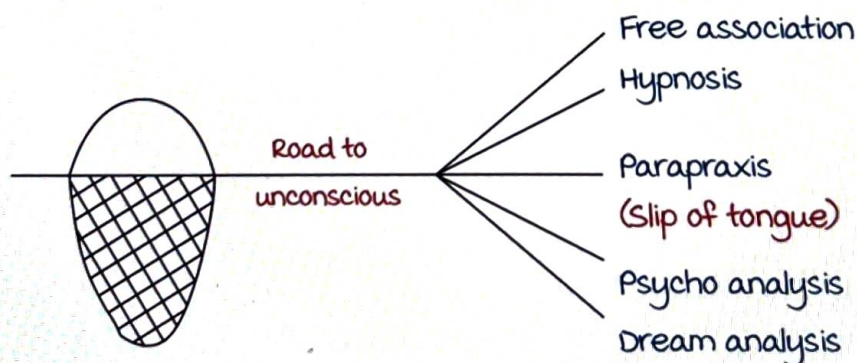
## Road to unconscious mind

00:50:39

Sigmund Freud described the important aspects of road to unconscious mind :

- Free association :  
The person says out loud whatever is in the mind.  
A therapist needs to comprehend the words.  
Needs long duration of therapy.  
Not practiced now a days.

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- Hypnosis :  
used to access unconscious mind.  
Simple relaxation technique. Takes lesser time.
- Parapraxis (slip of tongue).
- Psychoanalysis.
- Dream analysis :

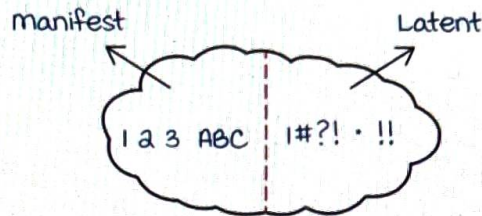
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2 components of a dream are :

manifest content : Can be understood.

Latent content : Has cryptic content and is difficult to understand.

Latent content is used in dream analysis.



A dream goes through 2 processes :

Primary process :

Defence mechanisms {  
 Condensation : multiple things come in a dream.  
 Symbolism ( Eg : red colored dress suggesting anger).  
 Displacement.

Displacement. Eg : Dreams of killing a known person. Some similar person's face is remembered upon waking (may be less distressing).

Secondary process :

It is a **review/censor process**.

Parts of a dream felt inappropriate are removed.

## Projective test

00:57:48

Tries to access the unconscious mind.

To assess psychosis without florid psychotic symptoms/ a mind with multiple conflicts.

Tests :

- Rorschach's ink blot test :

Stimuli used is Rorschach's card with ink blot.

Expects some particular answer on what the blot looks like but deviant answers suggest psychosis and other conditions.

- Thematic apperception test :  
Cards have human pictures and patients are asked to make a story before & after the picture was taken. Also a story on what's in the picture.  
Helps understanding thought processes.
- Sentence completion test :  
multiple sentences are written with blanks which are to be filled.
- Draw a person test :  
Only instruction given is to draw a person.  
Abnormal picture hints about underlying conditions.
- Object sorting test :  
Lot of commonly used objects will be kept and are asked to sort.  
Look for normal and abnormal patterns.

## Neuropsychological testing

01:03:54

**Bender Gestalt test** : To assess for organic damage in brain.

It is a visuomotor test.

A detailed neuropsychological analysis can be done using,

AIIMS Neuropsychological battery.

NIMHANS Neuropsychological battery.

Luria Nebraska battery.

Halstead Reitan battery.

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# PUBLIC HEALTH AND LEGAL ASPECTS RELATED TO MENTAL HEALTH

## Mental Health Care Act (MHCA) 2017

00:00:22

Two important authorities :

1. **Central mental Health Authority (MHA)** : Deals with the central institutions.
2. **State MHA** : Deals with state government hospitals and private establishments.

Features of the Act :

- **mental Health Review Board (MHRB)** :  
Functions as a **quasi judicial body** (magistrate court like) in every district (currently not in every district but should be).
- **De-criminalization of suicide** :  
**Section 115** of MHCA states that suicidal people behave as such because of **severe stress** and require mental health professional's help.  
Earlier if someone had attempted suicide and survived, they would be liable to 1 year punishment or 10,000 INR fine.  
**IPC 306** : Abetment of suicide still remains (one is liable for forcing other to commit suicide).
- **Chaining** is not allowed.
- **Sterilization** procedures, unless medically required, are not acceptable.
- Any other form of **electroconvulsive therapy** (other than modified ECT) is not allowed.
- **ECTs** (electroconvulsive therapy) in minors is not allowed.
- **Advanced directive** : Has 3 important aspects.

1. How the patient wants to be treated.
2. How the patient does not want to be treated.
3. Who the nominated representative of the patient would be.

These documents have to be registered under the mental health review board and are validated.

- **mental Health Establishment (MHE)** is the term used in place of mental hospital.
- Terms voluntary/involuntary admission are changed to Independent/supported admission respectively. Supported admission means a nominated person can make decisions in place of the patient for the patient's welfare.

A psychiatric patient can only be admitted in hospitals registered under **mental Health Care Act (2017)** and **MHRB**.

But in cases of emergency, psychiatric patients can be admitted for up to **72 hours** at any general hospital.

- All mental health admissions must be reported to MHRB within **72 hrs** for women and minors and within **1 week** for others.

### Rights of persons with disabilities act (RPWD) 00:10:27

Earlier known as National Disability Act. Now replaced by **RPWD (Rights of Persons with Disability Act)**.

RPWD:

Covers around 21 conditions (earlier it was just 7 conditions).

1. Includes mental illness and intellectual developmental disorder/disorder of intellectual development (used instead of mental retardation).
2. Autism.
3. Specific learning disorder.

For intellectual developmental disorder, IQ assessment is

done. For mental illness, IDEAS is used.

**IDEAS** : Indian Disability Evaluation & Assessment Scale.

Scale used to assess the disability due to mental illness

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which covers factors such as :

1. Duration of mental illness.
2. Working abilities.
3. Interpersonal activities.
4. Self care.
5. Communication and understanding.

**MH GAP** : WHO initiative which targets **MNS** problems.

**M** : mental (depression, anxiety, psychosis).

**N** : Neurological (epilepsy).

**S** : Substance use disorders (alcohol, nicotine).

**14%** of disease burden is contributed by **MNS** diseases and the bigger challenge being the treatment gap which is as high as **75%** (75% of the diseased cannot/do not approach a professional for help).

- **IPC 84 : McNaughton's rule (insanity defence)** : If an individual does not understand the consequences or nature of the act due to unsoundness of the mind, then the person can claim defence under insanity.
- **IPC 82** : Nothing is considered as an offence if the child is less than **7 years of age**.
- **IPC 83** : Ability of the child's judgement (**7 to 12 years**) needs to be looked into, to understand whether its an offence or not.
- **IPC 85** : Deals with **involuntary intoxication** (if a person commits crime after being intoxicated against will, he/she is not held liable for the crime).
- **IPC 86** : **Voluntary intoxication**.

**Lucid interval** : Time of normality between 2 episodes of problem. Seen in **head injury and mental illness** patients. mental illnesses are episodic in nature.

During the "problem" phase : Individual can **claim defence**.



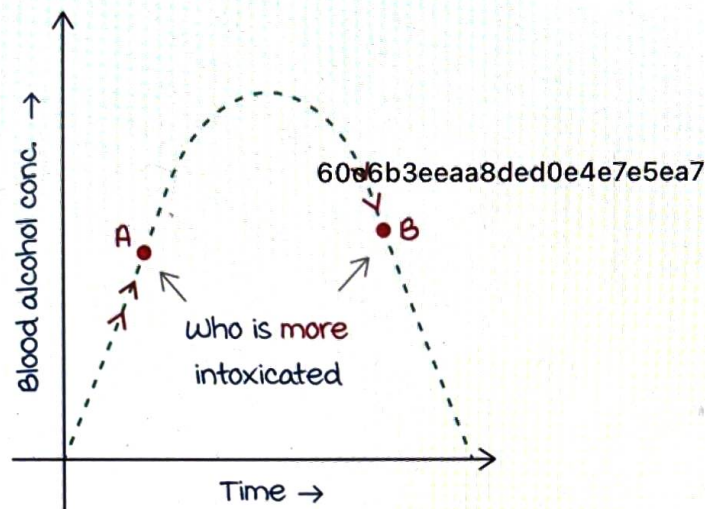
During the lucid interval phase : Individual is liable.

Legal limit of alcohol in blood while driving : 30mg/100ml blood.

According to recent researches, texting & driving is equally unsafe as drinking & driving.

### Mellanby effect

00:24:03



At a glance, both A and B might seem to be equally intoxicated but they are not, even though they have the same blood alcohol concentration.

When there is raising concentration of alcohol, intoxication is higher and when there is decreasing concentration of alcohol, intoxication is lesser.

Therefore A is more intoxicated than B.

COTPA :

Cigarette and other Tobacco Products Act. This act tries to reduce the accessibility of tobacco and cigarettes to young people atleast.

- Cannot sell cigarette and tobacco products to anyone less than 18 years of age.
- Cannot sell cigarettes in loose form and only in packs (as packs are costly).
- Cannot be within 100 yards of schools and colleges.
- Smoking is injurious to health board must be put up at every place of sale.

- No smoking in public spaces.
- Smoking zone should be used to smoke in areas such as airports.
- All kinds of **direct/indirect marketing** of tobacco products are banned.

## POCSO

00:29:56

Protection of Children from <sup>60c6b3eeaa8ded0e4e7e5ea7</sup> Sexual Offences Act.

This act is **gender neutral** and applies to those < 18 years of age. This act tries to make legal processes child friendly, deliver severe punishments to perpetrators and covers a larger range of offences.

Includes :

- Sexual harassment : Any action done online/offline, with **sexual intention**.
- Sexual assault :
  1. Non penetrative assault.
  2. Penetrative assault.
  3. Aggravated sexual assault : When the person uses their **power/place/position** to commit a penetrative/non penetrative assault.

As per WHO, **sexual abuse** is reported in 1 in 4 girls and 1 in 7 boys.

NDPS Act :

Narcotic Drugs and Psychotropic Substances Act.

Covers small & commercial quantities of drugs and their **punishments accordingly**.

Ganja/marijuana :

- 1 Kg : Small quantity.
- 20 Kg : Commercial quantity.

Heroin :

- 5 gms : Small quantity.
- 250 gms : Commercial quantity.

Cocaine :

- 2 gms : Small quantity.
- 100 gms : Commercial quantity.

Important Dates :

- March 30<sup>th</sup> : World Bipolar Day.
- April 2<sup>nd</sup> : World Autism Day.
- April 7<sup>th</sup> : World Health Day.
- May 24<sup>th</sup> : World Schizophrenia Day.
- May 31<sup>st</sup> : World No Tobacco Day.
- Sept 10<sup>th</sup> : World Suicide Prevention Day. [kumarankitindia1@gmail.com](mailto:kumarankitindia1@gmail.com)
- Sept 21<sup>st</sup> : World Alzheimer's Day.
- Oct 10<sup>th</sup> : World mental Health Day.
- Dec 3<sup>rd</sup> : International day for persons with disabilities.

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