**PIONEERS IN THE FIELD OF PSYCHIATRY**

- **Emil Kraepelin:** Divided major mental illness into Dementia precox and Manic depressive insanity
- **Sigmund Freud:**
  - Founder of Psychoanalysis
  - Dream interpretation
  - Theory of infantile sexuality
  - Structural and topographical model of mind
  - Theory of instincts
  - Ego defence mechanisms
  - Id, ego and superego
  - Stages of psychosexual development
- **Eugen Blueler:** Gave 4 A's of schizophrenia. (Autism, Affective flattening, Ambivalence, loosening of Association)
- **Leo Kanner** defined autism
- **Skinner** – operant conditioning
- **Pavlov**- classical conditioning
- **John F cade** - Lithium
- **Reserpine** – First drug used in treating psychosis
- **Ugo Cerletti and Lucio Bini - ECT**
- Egas Moniz and Almenda Lima – Psychosurgery (prefrontal leucotomy)
- **Emil Durkeim** – Sociology theory of suicide
- **Thomas Sydenham** – Hysteria
- **Adolf Meyer**: founder of psychobiology
- **John Broadus Watson:** founder of behaviorism
- **Philippe Pinel:** abandoned forceful restraints, proposed morale & humane Rx of the mentally ill.
- **Paolo Zacchia** – first forensic psychiatrist
- **Johann Weyer** – Father of modern psychiatry

| Personality | Coined the term |
|---|---|
| Eugen Bleuler | Schizophrenia |
| James Braid | Hypnosis |
| Reil Johan Christian | Psychiatry |
| Eward Hecker | Hebephrenia |
| Emil Kraeplin | Dementia precox |
| Sigmund Freud | Free association<br>Oedipus complex, Electra complex<br>Penis envy, Psychoanalysis<br>Ego defence mechanism<br>Pleasure principle, Reality principle |
| Alfred Adler | Inferiority complex |

**Diagnosis and Classification in Psychiatry**

**The Five Axes of DSM-IV-TR**

- AXIS I: Clinical Psychiatric Diagnosis
- AXIS II: Personality Disorder and Mental Retardation
- AXIS III: General Medical Conditions
- AXIS IV: Psychosocial and Environment Problems
- AXIS V: Global Assessment of functioning: Current and in past one year (Rated on a scale)

**Normal experiences**

- Hypnagogic hallucinations (Abnormal perception at the time of falling asleep)
- Hypnopompic hallucinations (Abnormal perception at the time of waking up)
- Near death experiences (complex hallucinatory phenomenon in people who perceive death to be imminent)
- Pseudo hallucinations
- Ideas of reference
- Panoramic memory

**THINKING PROCESSES**

- **Abstract thinking:** thinker can conceptualize or generalize, understanding that each concept can have multiple meanings.
- **Concrete thinking:** thinking is limited to what's in front of the face, and the here and now.

**Freud's Primary and Secondary thinking processes:**

**Primary Process:**

- Drive-dominated, prelogical, preverbal, imaginative thinking
- Consists of those mental processes which are directly related to functions of the primitive life forces associated with the **Id**
- The **Id** has no contact with reality and works on the **Pleasure Principle.**
- Primary Process is characteristic of **unconscious mental activity**; marked by **unorganized, non-logical thinking** and by the tendency to seek **immediate discharge and gratification** of instinctual urges.
- When Primary Process plays a significant role in a person's thinking he is incapable of being inner-directed.

**Secondary Process:**

- Reality oriented, goal-directed, logically ordered, rational, concrete and/or abstract conceptual thinking
- Consists of those mental processes which are directly related to **learned and acquired functions** of the **Ego**
- Characteristic of **conscious and preconscious mental activity**; marked by **logical thinking** and by the tendency to **delay gratification by regulation** of the discharge of instinctual demands.

**TERMINOLOGIES IN PSYCHIATRY**

- **Apraxia**: Inability to perform skilled motor movements in the presence of normal comprehension, muscle strength and coordination
- **Aphasia**: Loss or impairment of linguistic ability as a result of brain damage
- **Agnosia**: Deficits in self-experience **(anosognosia – denial of illness)**
- **Anhedonia**: Lack of interest in pleasurable activities (depression)
- **Catastrophic reaction:** Sudden agitation, anger when **demented persons or persons with head injury** are asked to perform tasks beyond their capacity
- **Compulsion:** An act performed repeatedly to reduce anxiety in response to obsessive thought
- **Confabulation**: falsification of memory in clear consciousness (Korsakoff's psychosis)
  - Due to hypothalamic-diencephalic lesions
  - **Does not occur in bilateral hippocampal lesions** (insight also preserved)
  - **Two types:**
    1. Momentary - brief in content and has to be provoked; can be traced to a time-dislocated true memory

2. Fantastic - sustained; spontaneous and stereotyped with grandiose, fantastic content

- **Coprolalia:** Forced vocalization of obscene words or phrases **(Tourette's syndrome)**
- **Deja vu:** Familiarity of unfamiliar situation
- **Jamais vu:** Unfamiliarity of the familiar situation **(temporal lobe epilepsy/schizophrenia)**
- **Echolalia**: Repetition of phrases or sentences (schizophrenia/Mental retardation/learning disability/dementia/head injury/Tourette's syndrome)
- **Echopraxia**: Repetition of acts done by examiner
- **Perseveration:** Persisting with same reply beyond point of relevance (Organic brain lesions) "where do you live?", "London", "How old are you", "London"...
- **Palilalia** – perseverated word is repeated with increasing frequency
- **Logoclonia** – perseveration of the last syllable of the last word
- **Neologism**: New word formation (schizophrenia)
- **Palimpsest**: Also called as **alcoholic black out**
- **Stereotypy:** Repetitive and bizarre movement, non- goal directed (schizophrenia, autism)
- **Verbal stereotypy** - repetition of a word or phrase (Stock word) which has no immediate relevance to the context.
- Abreaction: A process by which repressed material, particularly painful experience or a conflict is brought back to consciousness.
- **Alexithymia**: Inability to describe or being aware of one's emotions.
- **Mood** is the pervasive feeling tone which is sustained (lasts for some length of time) and colours the total experience of the person.
- **Affect** is the outward objective expression of the immediate, cross-sectional experience of emotion at a given time.

**Neurotransmitters & Associated Disorders**

- **OCD**: decrease in serotonin.
- **Alzheimer's disease**: decrease in Ach & Nor-adrenaline.
- **Schizophrenia**: increased serotonin, nor adrenaline & dopamine.
- **Depression**: decreased serotonin, nor adrenaline & dopamine.

| Features | Psychosis | Neurosis |
|---|---|---|
| Judgment<br>Insight<br>Personality<br>Contact with reality | Lacking or impaired | Present |
| Delusions/ Hallucinations | Common | Usually not present |
| Examples | 1. Schizophrenia<br>2. Delusional disorder<br>3. Mood disorder<br>➢ Mania<br>➢ Depression<br>➢ Bipolar disorder | 1. Phobia<br>2. Dissociative disorder<br>3. Conversion / somatoform disorder<br>4. OCD (Obsession Compulsive Disorder)<br>5. Anxiety: Generalized anxiety & Panic disorder |

**DISORDERS OF PERCEPTION**

- **Hallucination**
- **Illusion**
- **Derealization**
- **Depersonalization**

**Hallucination**

- Perceptions which arise in the absence of any external stimulus.
- Characteristics:
  - Unwilled - not subject to conscious manipulation
  - Has the same qualities of a real perception, i.e. Vivid, solid

  - Perceived as being located in the external objective space or the sensory modalities (auditory, visual, olfactory, gustatory, tactile)
- **Auditory** hallucination — **commonest type in psychiatric disorders**
- **Visual** hallucination - Suspect **organic** etiology/ withdrawal states)
  - Unformed hallucinations - flashing or steady spots, colored lines and shapes
  - Formed hallucinations - vivid objects, flowers, animals and persons
  - **Visual hallucinations** of **temporal lobe** are usually complex, **formed hallucinations**
  - **Unformed hallucinations** are common with disorders of the **occipital lobe**
- **Olfactory** hallucination- **Temporal lobe epilepsy**
- Tactile hallucination - Cocaine/alcohol abusers
- Gustatory hallucination - schizophrenia/**temporal lobe epilepsy**/ Lithium/disuifiram users
- Hypnagogic hallucinations (Abnormal perception at the time of falling asleep)
- Hypnopompic hallucinations (Abnormal perception at the time of waking up)
- **Extracampine hallucinations: hallucinations outside the field of sensory perception (eg: outside visual field).**

| HALLUCINATIONS | PSEUDOHALLUCINATIONS |
|---|---|
| Bright vivid perception just like reality | The lack of vividness (e.g., impossible to distinguish male and female voices) |
| Patient gets it with natural way of perception (with eyes, ears etc.) from the real perpetual space (extra-projection) | Patient got it with other perception (internal vision or hearing) from out of perpetual space (e.g., intra-projection) |
| Confidence in the fact that other people have the same perceptions | Ideas of distant influence organized especially for the patient |
| Excitement or attempts to act with the false objects. More frequent in the evening and night | Indifferent behavior or passive defence (e.g., attempts to shield with metal net or screen) |
| Typical delirium and other organic disorders | Typical for paranoid schizophrenia |

**Charles Bonnet Syndrome (CBS)**

- A disorder in which patients with normal cognition experience consistent or periodic complex (formed) visual hallucinations
- Have no evidence of dementia, drug abuse, neurological or psychiatric abnormalities

**Illusion three types**

- A type of false perception in which the perception of a real world object is combined with internal imagery to produce a false internal perception
- **Affect illusion:** Misperception + heightened emotion (e.g., while walking across a lonely park at night, briefly seeing a tree moving in the wind as an attacker)
- **Completion illusion:** it depends on inattention such as misreading words in newspapers
- **Pareidolic illusion:** These are meaningful perceptions produced when experiencing a poorly defined stimulus (seeing faces in fire or clouds)

**Depersonalization-Derealisation syndrome**

- Depersonalization - alteration in the **perception of self**, so that feeling of one's own reality is temporarily changed or lost
- The person affected is not delusionally convinced about the change, and instead describes it to have occurred, as-f
- Derealisation – alteration in the **perception of the external world**, so that feeling of reality of external world s temporarily changed or lost
- Both are **'as – if' phenomenon**
- **Insight is present**
- Episodes occur in the presence of a clear sensorium

- Thought insertion/withdrawal
- Thought broadcast
- Delusion
- **Passivity phenomenon:** Made action/Made impulse/Made affect

**DELUSION**

- **Disorder of thought**
- **Fixed, (usually) false or firm unshakeable idea, held in the face of evidence to the contrary, and out of keeping with the patient's social milieu'**

**Primary (Autochthonous) delusions**

- **Arise de novo**
- Cannot be explained on the basis of other experiences or perceptions
- Characteristic of schizophrenia (early stages)
- **Types**
  - *Delusional intuition (autochthonous)*
  - *Delusional perception*
  - *Delusional atmosphere*
  - *Delusional memory.*

**Secondary delusions**

- **Commonest type**
- Can be seen in other psychoses
- **Types:**
  - **Persecutory (most common type) –** believe that people are conspiring against them.
  - **Grandiose** – believe they have a special ability or mission.
  - **Poverty** – believe they have been rendered penniless.
  - Guilt – believe they have committed a crime and deserve punishment.
  - Nihilistic – believe they are worthless or non-existent.
  - Reference – believe they are being referred to by magazines/television.
  - Amorous – believe another person is in love with them.
  - Passivity experiences – believe they are being made to do something, or to feel emotions, or are being controlled from the outside; somatic passivity – feel as though they are being moved from outside.
  - **Capgras syndrome (Delusion of doubles) – thinks that** a familiar person is replaced by an identical looking stranger
  - **Fregoli syndrome** – thinks that a stranger is replaced by a familiar person
  - **Othello syndrome or Conjugal paranoia:** When the content of delusion is predominantly jealousy or infidelity involving the spouse
  - **Hypochondriacal paranoia or Delusional dysmorphophobia –** delusion of body parts being ugly
  - **Clerambault's syndrome or Erotomania**
    - Mostly in women
    - She thinks that a person (usually a higher status) is in love with her

**Catatonia (Karl Kahlbaum, 1874)**

- Predominantly **motor disorder** thought to be related to affective disorder
- May be found as part of chronic schizophrenia and occasionally in organic cerebral disorders
- Core features are
  - **Posturing**
  - **Stereotypies**
  - **Waxy flexibility**

- Absence of relational functions, i.e. **action and speech**
- Usually involves **clouding of consciousness**
- Occurs in:
  - **Schizophrenia (30 %)**
  - **Depression** (25 %)
  - Psychological trauma (psychogenic stupor)
  - Mania
  - Organic brain lesions (20 %):
    - Diencephalon and upper brain stem
    - Frontal lobe
    - Basal ganglia
- The **'locked** in' syndrome is due to lesions in the ventral pons
- Severe stupor seems to have a better prognosis
- Spontaneous resolution occurs in 30 % of cases

**Sigmund Freud's psychoanalytic theories**

**Topographic theory of mind**

Mind is divided into

- The unconscious
- The preconscious
- The conscious

**Structural theory of mind**

The mental apparatus is divided into

- **The Id**
- **The Ego**
- **The Super-ego**

**COMMONLY USED EGO DEFENSE MECHANISMS:**

| | **Defense Mechanism** | Clinical situations |
|---|---|---|
| **Narcissistic** | **Denial** | Psychoses<br>Alcohol dependence |
| | **Projection** | Persecutory delusions<br>Hallucinations |
| | **Distortion** | Hallucinations<br>Delusion of grandiosity |
| **Immature** | **Acting out** | Impulse control disorders |
| | **Hypochondriasis** | Hypochondriasis |
| | **Introjection** | Depression |
| | **Regression** | Neuroses, Psychoses<br>Severe, prolonged physical illness |
| | **Schizoid fantasy** | Schizoid personality disorder<br>Schizotypal personality disorder |
| | **Somatization** | Somatoform disorders |
| **Neurotic** | **Displacement** | Phobia<br>OCD |
| | **Inhibition** | OCD<br>Phobia |
| | **Reaction formation** | OCD |
| | **Dissociation** | Dissociative disorders disorder |
| | **Isolation** | Obsessional thoughts |

| | | |
|---|---|---|
| | **Repression** | Psychogenic amnesia |
| | **Conversion** | Conversion disorder (Hysteria) |
| | **Undoing** | Compulsive acts in OCD |
| | **Others: Intellectualization, Rationalization, Externalization, Controlling, Sexualization** | |
| **Mature** | **Altruism**<br>**Anticipation**<br>**Asceticism**<br>**Suppression**<br>**Sublimation**<br>**Humour** | |

**Theory of Psychosexual development**

| | | |
|---|---|---|
| **Oral phase** | Birth – 18 months | Mouth is the site of gratification (schizophrenia, mood disorder, alcohol dependence) |
| **Anal phase** | 1– 3years | Involved in bladder and bowel control Fixation at this phase leads to<br>OCD |
| **Phallic phase** | 3 – 5 years | Genital area is the site of satisfaction.<br>**Oedipus complex** – fear that the wish to get rid of the rival father will result in retaliatory castration |
| **Latency phase** | 5 to 11 years | Formation of superego |
| **Genital phase** | 11 years – adulthood | Capacity for true intimacy |

**Duration criteria of Mental illness (ICD-10)**

| | |
|---|---|
| **Adjustment disorder** | Onset < 1 month till 6 months |
| **Persistent delusional disorder** | 3 months |
| **Acute psychosis (brief psychotic disorder in DSM-** | 2 weeks (less than 1 month in DSM IV) |
| **Dementia** | 6 months |
| **Schizophrenia** | 1 month (6 months as per DSM IV) |
| **Schizotypal disorder (included under personality disorders in DSM-IV and under schizophrenia in ICD-10)** | 2 years |
| **Somatisation disorder** | 2 years |
| **PTSD** | Onset within 6 months of trauma, Duration of the disturbance is more than 1 month. |
| **Acute stress reaction** | Onset within minutes of life event resolves within 3 |
| **Hypomania** | 4 days |
| **Mania** | 1 week |
| **Obsessive compulsive disorder** | 2 weeks |
| **Panic disorder** | 1 month |
| **Dysthymia** | 2 years |
| **Depression** | 2 weeks |

**Kubler-Ross stages of Death and Dying**

- **Stage 1: Shock and Denial**
- **Stage 2: Anger**
- **Stage 3: Bargaining**
- **Stage 4: Depression**
- **Stage 5: Acceptance**

| Syndrome | Emergency Manifestations | Treatment Issues |
|---|---|---|
| Abuse of child or adult | Signs of physical trauma | Management of medical problems; |
| Acquired immune deficiency syndrome (AIDS) | Changes in behavior secondary to organic causes; changes in behavior secondary to fear and anxiety; suicidal behaviour | Management of neurological illness; management of psychological concomitants; reinforcement of social support |
| Adolescent crises | Suicidal attempts and ideation; substance abuse, truancy, trouble with law, pregnancy, running away; eating disorders; psychosis | Crisis-oriented family and individual therapy; hospitalization if necessary; consultation with appropriate extrafamilial authorities |
| Agoraphobia | Panic; depression | Alprazolam, propranolol; antidepressant medication |
| Agranulocytosis (clozapine-induced) | High fever, pharyngitis, oral and perianal ulcerations | Discontinue medication immediately; administer granulocyte colony-stimulating factor |
| Akathisia | Agitation, restlessness, muscle discomfort; dysphoria | Reduce antipsychotic dosage; propranolol; benzodiazepines; diphenhydramine orally or IV; benztropine IM |
| **Alcohol-related emergencies** | | |
| Alcohol delirium | Confusion, disorientation, fluctuating consciousness and perception, autonomic hyperactivity; may be fatal | Chlordiazepoxide; haloperidol |
| Alcohol intoxication | Disinhibited behavior, sedation at high doses | With time and protective environment, symptoms abate |
| Alcohol persisting amnestic disorder | Confusion, loss of memory even for all personal identification data | Hospitalization; hypnosis; amobarbital interview; rule out organic cause |
| Alcohol persisting dementia | Confusion, agitation, impulsivity | Rule out other causes for dementia; no effective treatment; hospitalization if necessary |
| Alcohol psychotic disorder with hallucinations | Vivid auditory (fat times visual) hallucinations with affect appropriate to content (often fearful); clear sensorium | Haloperidol for psychotic symptoms |
| Alcohol seizures | Grand mal seizures; rarely status epilepticus | Diazepam, phenytoin; prevent by using chlordiazepoxide during detoxification |
| Alcohol withdrawal | Irritability, nausea, vomiting, insomnia, malaise, autonomic hyperactivity, shakiness | Fluid and electrolytes maintained; sedation with benzodiazepines; restraints; monitoring of vital signs; 100 mg thiamine IM |
| Idiosyncratic alcohol intoxication | Marked aggressive or assaultive behaviour | Generally no treatment required other than protective environment |
| Korsakoff's syndrome | Alcohol stigmata, amnesia, confabulation | No effective treatment; institutionalization often needed |
| Wernicke's encephalopathy | Oculomotor disturbances, cerebellar ataxia; mental confusion | Thiamine, 100 mg IV or IM, with MgSO4 given before glucose loading |
| Amphetamine (or related substance) intoxication | Delusions, paranoia; violence; depression (from withdrawal); anxiety, delirium | Antipsychotics; restraints; hospitalization if necessary; no need for gradual withdrawal; antidepressants may be necessary |

| | | |
|---|---|---|
| Anorexia nervosa | Loss of 25% of body weight or more norm for age and sex | Hospitalization, electrocardiogram (ECG), fluid and electrolytes; |
| Anticholinergic intoxication | Psychotic symptoms, dry skin and mouth, hyperpyrexia, mydriasis, tachycardia, restlessness, visual hallucinations | Discontinue drug, IV physostigmine 0.5 to 2 mg, for severe agitation or fever, benzodiazepines; antipsychotics contraindicated |
| Anticonvulsant intoxication | Psychosis; delirium | Dosage of anticonvulsant is reduced |
| Benzodiazepine intoxication | Sedation, somnolence, and ataxia | Supportive measures; flumazenil, 7.5 to 45 mg a day, titrated as needed, should be used only by skilled personnel with resuscitative equipment available |
| Bereavement | Guilt feelings, irritability; insomnia; somatic complaints | Must be differentiated from major depressive disorder; antidepressants not indicated; benzodiazepines for sleep; encouragement of ventilation |
| Borderline personality disorder | Suicidal ideation and gestures; homicidal ideations and gestures; substance abuse; micropsychotic episodes; burns, cut marks on body | Suicidal and homicidal evaluation (if great, hospitalization); small dosages of antipsychotics; clear follow-up plan |
| Brief psychotic disorder | Emotional turmoil, extreme lability; acutely impaired reality testing after obvious psychosocial stress | Hospitalization often necessary; low dosage of antipsychotics may be necessary but often resolves spontaneously |
| Bromide intoxication | Delirium; mania; depression; psychosis | Serum levels obtained (>50 mg a day); bromide intake discontinued; large quantities of sodium chloride IV or orally; if agitation, paraldehyde or antipsychoticis used |
| Caffeine intoxication | Severe anxiety, resembling panic disorder; mania; delirium; agitated depression; sleep disturbance | Cessation of caffeine-containing substances; benzodiazepines |
| Cannabis intoxication | Delusions; panic; dysphoria; cognitive impairment | Benzodiazepines and antipsychotics as needed; evaluation of suicidal or homicidal risk; symptoms usually abate with time and reassurance |
| Catatonic schizophrenia | Marked psychomotor disturbance (either excitement or stupor); exhaustion; can be fatal | Rapid tranquilization with antipsychotics; monitor vital signs; amobarbital may release patient from catatonic mutism or stupor but can precipitate violent behavior |
| Cimetidine psychotic disorder | Delirium; delusions | Reduce dosage or discontinue drug |
| Clonidine withdrawal | Irritability; psychosis; violence; seizures | Symptoms abate with time, but antipsychotics may be necessary; gradual lowering of dosage |

| | | |
|---|---|---|
| Cocaine intoxication and withdrawal | Paranoid ideation; severe anxiety; manic state; delirium: schizophreniform psychosis; tachycardia, hypertension, myocardial infarction, cerebrovascular disease; depression and suicidal ideation | Antipsychotics and benzodiazepines; antidepressants or ECT for withdrawal depression if persistent; hospitalization |
| Delirium | Fluctuating sensorium; suicidal and homicidal risk; cognitive clouding; visual, tactile, and auditory | Evaluate all potential contributing factors and treat each accordingly; reassurance, structure, clues to orientation; |
| | hallucinations; paranoia | benzodiazepines and low-dosage, high- potency antipsychotics must be used with extreme care because of their potential to act paradoxically and increase agitation |
| Delusional disorder | Most often brought in to emergency room involuntarily; threats directed toward others | Antipsychotics if patient will comply (IM if necessary); intensive family intervention; hospitalization if necessary |
| Dementia | Unable to care for self; violent outbursts; psychosis; depression and suicidal ideation; confusion | Small dosages of high-potency antipsychotics; clues to orientation; organic evaluation, including medication use; family intervention |
| Depressive disorders | Suicidal ideation and attempts; self-neglect; substance abuse | Assessment of danger to self; hospitalization if necessary, nonpsychiatric causes of depression must be evaluated |
| L-Dopa intoxication | Mania; depression; schizophreniform disorder, may induce rapid cycling in patients with bipolar I disorder | Lower dosage or discontinue drug |
| Dystonia, acute | Intense involuntary spasm of muscles of neck, tongue, face, jaw, eyes, or trunk | Decrease dosage of antipsychotic; benztropine or diphenhydramine IM |
| Group hysteria | Groups of people exhibit extremes of grief or other disruptive behavior | Group is dispersed with help of other health care workers; ventilation, crisis- oriented therapy; if necessary, small dosages of benzodiazepines |
| Hallucinogen-induced psychotic disorder with hallucinations | Symptom picture is result of interaction of type of substance, dose taken, duration of action, user's premorbid personality, setting; panic; agitation; atropine psychosis | Serum and urine screens; rule out underlying medical or mental disorder; benzodiazepines (2 to 20 mg) orally; reassurance and orientation; rapid tranquilization; often responds spontaneously |
| Homicidal and assaultive behavior | Marked agitation with verbal threats | Seclusion, restraints, medication |

| | | |
|---|---|---|
| Homosexual panic | Noted with individuals who are comfortable with their sexual orientation; occurs in those who adamantly deny having any homoerotic impulses; impulses are aroused by talk, a physical overture, or play among same-sex friends, such as wrestling, sleeping together, or touching each other in a shower or hot tub; panicked person sees others as sexually interested in him or her and defends against them | Ventilation, reinstructuring, and, in some instances, medication for acute panic (e.g., alprazolam, 0.25 to 2 mg) or antipsychotics may be required; opposite-sex clinician should evaluate the patient whenever possible, and the patient should not be touched save for the routine examination; patients have attached physicians who were examining an abdomen or performing a rectal examination (e.g., on a man who harbors thinly veiled unintegrated homosexual impulses) |
| Hypertensive crisis | Life-threatening hypertensive reaction secondary to ingestion of tyramine-containing foods in combination with MAOIs; headache, stiff neck, sweating, nausea, vomiting | Adrenergic blockers (e.g., phentolamine); nifedipine 10 mg orally; chlorpromazine; make sure symptoms are not secondary to hypotension (side effect of monoamine oxidase inhibitors [MAOIs] alone) |
| Hyperthermia | Extreme excitement or catatonic stupor or both; extremely elevated temperature; violent hyperagitation | Hydrate and cool; may be drug reaction, so discontinue any drug; rule out infection |
| Hyperventilation | Anxiety, terror, clouded consciousness; giddiness, faintness; blurring vision | Shift alkalosis by having patient breathe into paper bag; patient education; antianxiety agents |
| Hypothermia | Confusion; lethargy; combativeness; low body temperature and shivering; paradoxical feeling of warmth | IV fluids and rewarming, cardiac status must be carefully monitored; avoidance of alcohol |
| Incest and sexual abuse of child | Suicidal behavior; adolescent crises; substance abuse | Corroboration of charge, protection of victim; contact social services; medical and psychiatric evaluation; crisis intervention |
| Insomnia | Depression and irritability; early morning agitation; frightening dreams; fatigue | Hypnotics only in short term; e.g., triazolam, 0.25 to 0.5 mg, at bedtime; treat any underlying mental disorder; rules of sleep hygiene |
| Intermittent explosive disorder | Brief outbursts of violence; periodic episodes of suicide attempts | Benzodiazepines or antipsychotics for short term; long-term evaluation with computed tomography (CT) scan, sleep- deprived electroencephalogram (EEG), glucose tolerance curve |
| Jaundice | Uncommon complication of low-potency phenothiazine use (e.g., chlorpromazine) | Change drug to low dosage of a low-potency agent in a different class |
| Leukopenia and agranulocytosis | Side effects within the first 2 months of treatment with antipsychotics | Patient should call immediately for sore throat, fever, etc., and obtain immediate blood count; discontinue drug; hospitalize if necessary |

| | | |
|---|---|---|
| Lithium toxicity | Vomiting, abdominal pain; profuse diarrhea; severe tremor, ataxia; coma; seizures; confusion; dysarthria; focal neurological signs | Lavage with intestinal irrigation; osmotic diuresis; medical consultation; may require ICU treatment |
| Major depressive episode with psychotic features | Major depressive episode symptoms with delusions; agitation, severe guilt; ideas of reference; suicide and homicide risk | Antipsychotics plus antidepressants; evaluation of suicide and homicide risk; hospitalization and ECT if necessary |
| Manic episode | Violent, impulsive behavior; indiscriminate sexual or spending behavior; psychosis; substance abuse | Hospitalization; restraints if necessary; rapid tranquilization with antipsychotics; restoration of lithium levels |
| Marital crises | Precipitant may be discovery of an extramarital affair, onset of serious illness, announcement of intent to divorce, or problems with children or work; one or both members of the couple may be in therapy or may be psychiatrically ill; one spouse may be seeking hospitalization for the other | Each should be questioned alone regarding extramarital affairs, consultations with lawyers regarding divorce, and willingness to work in crisis- oriented or long-term therapy to resolve the problem; sexual, financial, and psychiatric treatment histories from both, psychiatric evaluation at the time of presentation; may be precipitated by onset of untreated mood disorder or affective symptoms caused by medical illness or insidious-onset dementia; referral for management of the illness reduces immediate stress and enhances the healthier spouse's coping capacity; children may give insights available only to someone intimately involved in the social system |
| Migraine | Throbbing, unilateral headache | Sumatriptan 6 mg IM |
| Mitral valve prolapse | Associated with panic disorder; dyspnea and palpitations; fear and anxiety | Echocardiogram; alprazolam or propranolol |
| Neuroleptic malignant syndrome | Hyperthermia; muscle rigidity; autonomic instability; parkinsonian symptoms; catatonic stupor; neurological signs; 10% to 30% fatality; elevated creatine phosphokinase | Discontinue antipsychotic; IV dantrolene; bromocriptine orally; hydration and cooling; monitor CPK levels |
| Nitrous oxide toxicity | Euphoria and light-headedness | Symptoms abate without treatment within hours of use |
| Nutmeg intoxication | Agitation; hallucinations; severe headaches; numbness in extremities | Symptoms abate within hours of use without treatment |
| Opioid intoxication and withdrawal | Intoxication can lead to coma and death; withdrawal is not life-threatening | IV naloxone, narcotic antagonist; urine and serum screens; psychiatric and medical illnesses (e.g., AIDS) may complicate picture |

| | | |
|---|---|---|
| Panic disorder | Panic, fear, anxiety | Must rule out all medical and psychiatric anxiety- producing disorders, both medical and psychiatric; ECG to rule out mitral valve prolapse; propranolol (10 to 30 mg); alprazolam (0.25 to 2.0 mg); long-term management may include an antidepressant |
| Paranoid schizophrenia | Command hallucinations; threat to others or themselves | Rapid tranquilization; hospitalization; long-acting depot medication; threatened persons must be notified and protected |
| Parkinsonism | Stiffness, tremor, bradykinesia, flattened affect, shuffling gait, salivation, secondary to antipsychotic medication | Oral antiparkinsonian drug for 4 weeks to 3 months; decrease dosage of the antipsychotic |
| Perioral (rabbit) tremor . | Perioral tumor (rabbitlike facial grimacing) usually appearing after long-term therapy with antipsychotics | Decrease dosage or change to a medication in another class |
| Phencyclidine (or phencyclidine-like intoxication) | Paranoid psychosis; can lead to death; acute danger to self and others | Serum and urine assay; benzodiazepines may interfere with excretion; antipsychotics may worsen symptoms because of anticholinergic side effects; medical monitoring and hospitalization for severe intoxication |
| Phenelzine-induced psychotic disorder | Psychosis and mania in predisposed people | Reduce dosage or discontinue drug |
| Phenylpropanolamine toxicity | Psychosis; paranoia; insomnia; restlessness; nervousness; headache | Symptoms abate with dosage reduction or discontinuation (found in over-the-counter diet aids and oral and nasal decongestants) |
| Phobias | Panic, anxiety; fear | Treatment same as for panic |
| Photosensitivity | Easy sunburning secondary to use of antipsychotic medication | Patient should avoid strong sunlight and use high-level sunscreens |
| Pigmentary retinopathy | Reported with dosages of thioridazine (Mellaril) of 800 mg a day or above | Remain below 800 mg a day of thioridazine |
| Postpartum psychosis | Childbirth can precipitate schizophrenia, depression, reactive psychoses, mania, and depression; affective symptoms are most common; suicide risk is reduced during pregnancy but increased in the postpartum period | Danger to self and others (including infant) must be evaluated and proper precautions taken; medical illness presenting with behavioral aberrations is included in the differential diagnosis and must be sought and treated; care must be paid to the effects on father, infant, grandparents, and other children |

| | | |
|---|---|---|
| Posttraumatic stress disorder | Panic, severe anxiety, flashbacks | Reassurance, hospitalization, return to responsibilities; avoid hospitalization if possible to prevent chronic invalidism; monitor suicidal ideation |
| Priapism (trazodone [Desyrel]-induced) | Persistent penile erection accompanied by severe pain | Intracorporeal epinephrine; mechanical or surgical drainage |
| Propranolol toxicity | Profound depression; confusional states | Reduce dosage or discontinue drug; monitor suicidality |
| Rape | Not all sexual violations are reported; silent rape reaction is characterized by loss of appetite, sleep disturbance, anxiety, and, sometimes, agoraphobia; long periods of silence, mounting anxiety, stuttering, blocking, and physical symptoms during the interview when the sexual history is taken; fear of violence and death and of contracting a sexually transmitted disease or being pregnant | Rape is a major psychiatric emergency; victim may have enduring patterns of sexual dysfunction; crisis-oriented therapy, social support, ventilation, reinforcement of healthy traits, and encouragement to return to the previous level of functioning as rapidly as possible; legal counsel; if a woman, methoxyprogesterone or diethylstilbestrol orally for 5 days to prevent pregnancy; if the victim has contracted a venereal disease, appropriate antibiotics; witnessed written permission is required for the physician to examine, photograph, collect specimens, and release information to the authorities; obtain consent, record the history in the patient's own words, obtain required tests, record the results of the examination, save all clothing, defer diagnosis, and provide protection against disease, psychic trauma, and pregnancy; |
| | | |
| Reserpine intoxication | Major depressive episodes; suicidal ideation; nightmares | Evaluation of suicidal ideation; lower dosage or change drug; antidepressants of ECT may be indicated |
| Schizoaffective disorder | Severe depression; manic symptoms; paranoia | Evaluation of dangerousness to self or others; rapid tranquilization if necessary; treatment of depression (antidepressants alone can enhance schizophrenic symptoms); use of antimanic agents |
| Schizophrenia | Extreme self-neglect; severe paranoia; suicidal ideation or assaultiveness; extreme psychotic symptoms | Evaluation of suicidal and homicidal potential; identification of any illness other than schizophrenia; rapid tranquilization |
| Schizophrenia in exacerbation | Withdrawn; agitation; suicidal and homicidal risk | Suicide and homicide evaluation; screen for medical illness; restraints and rapid tranquilization if necessary; hospitalization if necessary; reevaluation of medication regimen |

| | | |
|---|---|---|
| Sedative, hypnotic, or anxiolytic intoxication and withdrawal | Altered mood, behavior, thought-delirium; derealization and depersonalization; untreated, can be fatal; seizures | Naloxone for treatment of opioid intoxication; slow withdrawal with phenobarbital or sodium thiopental or benzodiazepine; hospitalization |
| Seizure disorder | Confusion; anxiety; derealization and depersonalization; feelings of impending doom; gustatory or olfactory hallucinations; fuguelike state | Immediate EEG; admission and sleep- deprived and 24-hour EEG; rule out pseudoseizures; anticonvulsants |
| Substance withdrawal | Abdominal pain; insomnia, drowsiness; delirium; seizures; symptoms of tardive dyskinesia may emerge; eruption of manic or schizophrenic symptoms | Symptoms of psychotropic drug withdrawal disappear with time or disappear with reinstitution of the substance; symptoms of antidepressant withdrawal can be successfully treated with anticholinergic agents, such as atropine; gradual withdrawal of psychotropic substances over two to four weeks generally obviates development of symptoms |
| Sudden death associated with Antipsychotic medication | Seizures; asphyxiation; cardiovascular causes; postural hypotension; laryngeal-pharyngeal dystonia; suppression of gag reflex | Specific medical treatments |
| Sudden death of psychogenic origin | Myocardial infarction after sudden psychic stress; voodoo and hexes; hopelessness, especially associated with serious physical illness | Specific medical treatments; folk healers |
| Suicide | Suicidal ideation; hopelessness | Hospitalization, antidepressants |
| Sympathomimetic withdrawal | Paranoia; confusional states; depression | Most symptoms abate without treatment; antipsychotics; antidepressants if necessary |
| Tardive dyskinesia | Dyskinesia of mouth, tongue, face, neck, and trunk; choreoathetoid movements of extremities; usually but not always appearing after long-term treatment with antipsychotics, especially after a reduction in dosage; incidence highest in the elderly and brain-damaged; symptoms are intensified by antiparkinsonian drugs and masked but not cured by increased dosages of antipsychotic | No effective treatment reported; may be prevented by prescribing the least amount of drug possible for as little time as is clinically feasible and using drug-free holidays for patients who need to continue taking the drug; decrease or discontinue drug at first sign of dyskinetic movements |
| Thyrotoxicosis | Tachycardia; gastrointestinal dysfunction; hyperthermia; panic, anxiety, agitation; mania; dementia; psychosis | Thyroid function test (T3, T4, thyroid-stimulating hormone [TSH]); medical consultation |
| Toluene abuse | Anxiety; confusion; cognitive impairment | Neurological damage is nonprogressive and reversible if toluene use in discontinued early |

| | | |
|---|---|---|
| Vitamin B12 deficiency | Confusion, mood and behavior changes; ataxia | Treatment with vitamin B12 |
| Volatile nitrates | Alternations of mood and behavior; light-headedness; pulsating | Symptoms abate with cessation of use |



**PSYCHOLOGICAL TESTING**

- Reliability assesses the reproducibility of results.
- Validity assesses whether the test measures what it purports to measure.
- The two types of tests are:
- Objective tests:
  - Typically pencil-and-paper tests based on specific items and questions.
  - Yield numerical scores and profiles easily subjected to mathematical or statistical analysis.
- Projective tests:
  - Have no right or wrong answers.

| **Objective Measures of Personality in Adults** | **Projective Measures of Personality** |
|---|---|
| Minnesota-Multiphasic Personality Inventory (MMPI) | Rorschach test |
| Minnesota Multiphasic Personality Inventory-2 (MMPI-2) | Thematic Apperception Test (TAT) |
| Million Clinical Multiaxial Inventory (MCMI) | Sentence Completion Test |
| Million Clinical Multiaxial Inventory-II (MCMI-11) | Holtzman Inkblot Technique (HIT) |
| 16 Personality Factor Questionnaire (16 PF) | Figure drawing |
| Personality Assessment Inventory (PAI) | Make-a-Picture Story (MAPS) |
| California Personality Inventory (CPI) | The Draw-a-Person test |
| Jackson Personality Inventory (JPI) | |
| Edwards Personal Preference Schedule (EPPS) | |
| Psychological Screening Inventory (PSI) | |
| Eysenck Personality Questionnaire (EPQ) | |
| Adjective Checklist (ACL) | |
| Comrey Personality Scales (CPS) | |
| Tennessee Self-Concept Scale (TSCS) | |

# III. DELIRIUM AND DEMENTIA



**DELIRIUM**

- Most common organic mental disorder seen in clinical practice

**Etiology:**

- Seen in approximately **10 to 30 % of medically ill patients who are hospitalized**
- The incidence is higher in **postoperative patients**
- Predisposing factors
  - **Preexisting brain damage (e.g., dementia, cerebrovascular disease, tumor)**
  - **History of delirium**
  - **Alcohol or drug dependence & withdrawal**
  - Generalized or focal cerebral lesion
  - Chronic medical illness
  - Surgical procedure and postoperative period
  - Treatment with psychotropic medicines
  - Present or past history of head injury
  - Diabetes, Cancer
  - Sensory impairment (e.g., blindness)
  - Male gender

**Diagnostic Criteria for Delirium, Not Induced by Alcohol and Other Psychoactive Substances**

A. There is **clouding of consciousness**, i.e., reduced clarity of awareness of the environment, with reduced ability to focus, sustain, or shift attention.
B. Disturbance of cognition is manifest by both:
   1. impairment of immediate recall and recent memory, with relatively intact remote memory;
   2. **disorientation** in time, place, or person.
C. At least one of the following psychomotor disturbances is present:
   1. rapid, unpredictable shifts from hypoactivity to hyperactivity;
   2. increased reaction time;
   3. increased or decreased flow of speech;
   4. enhanced startle reaction.
D. There is disturbance of sleep or of the sleep-wake cycle, manifest by at least one of the following:
   1. insomnia, which in severe cases may involve total sleep loss, with or without daytime drowsiness, or reversal of the sleep-wake cycle;
   2. nocturnal worsening of symptoms;
   3. disturbing dreams and nightmares, which may continue as hallucinations or illusions after awakening.
E. Symptoms have rapid onset and show fluctuations over the course of the day.
F. There is objective evidence from history, physical and neurological examination, or laboratory tests of an underlying cerebral or systemic disease (other than psychoactive substance-related) that can be presumed to be responsible for the clinical manifestations in Criteria A to D.



**Comments**

- Emotional disturbances such as depression, anxiety or fear, irritability, euphoria, apathy, or wondering perplexity, disturbances of perception (illusions or hallucinations, often visual), and transient delusions are typical but are not specific indications for the diagnosis. A fourth character may be used to indicate whether or not the delirium is superimposed on dementia
  - Delirium, not superimposed on dementia
  - Delirium, superimposed on dementia
  - Other delirium
  - Delirium, unspecified

**Clinical Features:**

- **Sudden** onset with fluctuating course
- **Cognitive impairment**

- Clouding of consciousness — decreased awareness of surroundings and decreased ability to respond to environmental stimuli
- Disorientation (mostly in time)
- Perceptual disturbances - Illusions, hallucinations
- Delirium may first present **with daytime drowsiness and night time insomnia (sun downing)**
- **Motor symptoms:** asterixis, incoordination, **carphologia or floccillation** (picking movements at cover-sheets and clothes), Multifocal myoclonus
- When a psychiatric illness causes symptoms of delirium, patients are said to have a **pseudodelirium**
- Delirium can occur in older patients wearing eye patches after cataract surgery **(black-patch delirium)**

**Treatment**

- Primary goal: treat the underlying cause.
- **Commonly used drug: haloperidol.**

**DEMENTIA**

- Impairment of **intellectual functions**
- Impairment of **memory** (predominantly of **recent memory**, especially in early stages),
- Deterioration of personality with lack of personal care.
- Impairment of judgment and impulse control
- Impairment of abstract thinking.
- **No impairment of consciousness**

**Additional features:**

- Emotional lability (marked variation in emotional expression)
- **Catastrophic reaction** (when confronted with an assignment which is beyond the residual intellectual capacity, patient may go into a sudden rage).
- Thought abnormalities, e.g. perseveration, delusions.
- Urinary and faecal incontinence may develop in later stages.
- Disorientation in time; disorientation in place and person may also develop in later stages.
- Neurological signs may or may not be present, depending on the underlying cause.

| Dementia | Pseudodementia (Depression) |
|---|---|
| Patient rarely complains of cognitive | Patient usually always complains about memory |
| Patient often emphasizes achievements | Patient often emphasizes disability |
| Patients often appears unconcerned | Patient very often communicates distress |
| Usually labile affect | Severe depression on examination |
| Patient makes errors on cognitive examination | Do not know' answers are more frequent |
| Impairment of recent memory | Rarely impaired |
| Confabulation may be present | Confabulation very rare |
| Consistently poor performance on similar tests | Marked variability in performance on similar tests |
| History of depression less common | Past history of manic and/ or depression episodes |

| Features | Cortical Dementia | Subcortical Dementia |
|---|---|---|
| Site of lesion | Cortex (frontal and temporo parieto-occipital association areas, hippocampus) | Subcortical grey matter (thalamus, basal ganglia, and rostral brain stem) |
| Examples | Alzheimer's disease, Pick's disease | Huntington' chorea, Parkinson's disease, Progressive supranuclear palsy, Wilson's disease |
| Severity | Severe | Mild to moderate |
| Motor system | Usually normal | Dysarthria, flexed/extended posture, tremors, dystonic, chorea, ataxia, rigidity |

| | | |
|---|---|---|
| Other features | Simple delusions; depression, irritation, severe aphasia, amnesia, agnosia, apraxia, acalculia, slowed cognitive speed (bradyphrenia) | Complex delusions, hallucinations, rarely mania |
| Memory deficit (Short-term) | Recall helped very little by cues | Recall partially helped by cues and recognition tasks |

**Reversible causes of dementia:**

- Hypothyroidism
- Infections
- B1 B12 deficiency
- Wilsons disease
- NPH

| Feature | Dementia | Delirium |
|---|---|---|
| Onset | Slow | Rapid |
| Duration | Months to years | Hours to weeks |
| Consciousness | Normal | Clouded |
| Orientation | Normal until late stages | Disturbed |
| Memory | Immediate retention and recall normal<br>Recent memory disturbed<br>Impaired remote memory in late stages | Impaired recent and immediate memory |
| Attention and concentration | Usually normal | Disturbed |
| Comprehension | Impaired only in late stages | Impaired |
| Speech | Word-finding difficulty | Incoherent (slow or rapid) |
| Sleep-wake cycle | Normal | Frequent disruption (e.g., day & night reversal) |
| Thoughts | Impoverished | Disorganized |
| Awareness | Unchanged | Reduced |



**ALZHEIMER'S DISEASE**

- **Most common cause of dementia (> 50%)**

**NINCDS-ARDRA CRITERIA used for diagnosis**

- Presence of dementia
- Deficits in at least two areas of cognition
- Progressive deterioration
- No clouding of consciousness
- Age between 40 and 90
- Absence of systemic disorders
- **Neurofibrillary tangles**
- **Beta amyloid plaques**
- **Apolipoprotein E4**

**Clinical features:**

- **Delayed recall** is the best overall discriminator for early Alzheimer's disease
- **Early dementia is probable with a MMSE score of 24-27**
- CT- cortical atrophy over parietal and temporal lobes

- MRI- atrophy of grey matter (hippocampus, amygdala, medial temporal lobe).

**Multi — infarct Dementia**

- Second most common cause of dementia (10-15%)
- Some studies indicate that **multi-infarct dementia is probably far more common in India.**
- It is also one of the **important treatable causes of dementia**.
- Characterized by :
  - An abrupt onset
  - Acute exacerbations (due to repeated infarctions),
  - Stepwise clinical deterioration (step-ladder pattern),
  - Fluctuating course,
  - Presence of **hypertension (most commonly)** or any other significant cardiovascular disease, and
  - History of previous **stroke or transient ischemic attacks** (TIAs).
- **Focal neurological signs** are frequently present.
- **Insight into the illness** is usually present in the early part of the course.
- Emotional lability is common.
- EEG - focal area of slowing
- CT scan or MRI - multiple infarcts

**AIDS Dementia Complex**

- Seen in about 50-70% of patients suffering from AIDS
- **Triad of cognitive, behavioral and motoric deficits of subcortical dementia type.**
- Cranial CT scan can show cortical atrophy 1-4 months before the onset of clinical dementia

**Lewy Body Dementia**

- Second most common cause of the degenerative dementias
- Typically, the clinical features include:
  - Fluctuating cognitive impairment over weeks or months
  - **Lucid intervals can be present** in between fluctuations.
  - Recurrent and detailed **visual hallucinations**.
  - **Spontaneous extrapyramidal symptoms** such as rigidity and tremors.
  - **Neuroleptic sensitivity syndrome** - marked sensitivity typical doses of antipsychotic drugs (resulting in severe extrapyramidal side-effects with use of antipsychotics).

❖ Antipsychotics (**Haloperidol and Risperidone**) use to treat disruptive behavior in dementia has decreased markedly due to possible association with increased mortality
❖ Antipsychotics should be avoided if **Lewy body dementia is suspected**

**ORGANIC HALLUCINOSIS**

- Presence of persistent or recurrent hallucinations due to an underlying organic cause.
- **Usually visual (most common)** or auditory in nature.

**Etiology**

- Drugs: Hallucinogens (LSD, psilocybin, mescaline), cocaine, cannabis, phencyclidine etc.
- **Alcohol: In alcoholic hallucinosis, auditory hallucinations** are usually more common.
- Sensory deprivation.
- **'Release' hallucinations** due to sensory pathway disease, e.g. bilateral cataracts, otosclerosis, optic neuritis.
- Brain stem lesions (peduncular hallucinosis).

**Neurofibrillary tangles**



| Seen in | Not in |
|---|---|
| • Alzheimer's disease<br>• Punch-drunk' syndrome<br>• Postencephalitic Parkinsonism<br>• Amyotrophic lateral sclerosis<br>• Progressive supranuclear palsy | • Lewy body dementia<br>• Pick's disease |

**Amyloid plaques**

| Seen in | Not in |
|---|---|
| • Alzheimer's disease<br>• Lewy body dementia | • Pick's disease<br>• `Punch-drunk' syndrome |

**Lewy bodies**

| Seen in |
|---|
| • Alzheimer's disease<br>• Ataxia-telengectasia<br>• Progressive supranuclear palsy<br>• Lewy body dementia |

**Clinical Tests of Attention and Concentration:**

- **Subtract** sevens or threes, serially, from 100
- Reverse the days of the week or months of the year
- Spell simple words backwards (eg, world ).
- Repeat digits (two, three, four, or more) forward and backward
- Perform mental arithmetic (Number of nickels in $1.35? Interest on $200 at 4% for 18 months?

**Complications of alcoholism**

**DELIRIUM TREMENS**

- Most severe alcohol withdrawal syndrome
- It occurs usually within 2-**4 days of complete or significant abstinence** from heavy alcohol drinking
- The course is short, with recovery occurring within 3-7 days.
- This is an acute organic brain syndrome (delirium) with characteristic features of:
  - **Clouding of consciousness**
  - Disorientation in time and place.
  - Poor attention span and distractibility.
  - **Visual** (also auditory) **hallucinations** and illusions, which are often vivid and very frightening.
  - Marked autonomic disturbance - tachycardia, fever, hypertension, sweating, mydriasis
  - Psychomotor agitation and ataxia.
  - Insomnia, with a reversal of sleep-wake pattern.
  - Dehydration with electrolyte imbalance.
- It is extremely important not to administer **5% dextrose** in delirium tremens without **thiamine**

**Alcoholic seizures ('rum fits')**

- Generalized tonic clonic seizures
- Usually occurs 12-48 hours after a heavy bout of drinking
- Often these patients have been drinking alcohol in large amounts on a regular basis for many years.
- **Multiple seizures** (2-6 at one time) are more common than single seizures.
- In 30% of the cases, delirium tremens follows.

**Alcoholic hallucinosis**

- Presence of **hallucinations (usually auditory)** during partial or complete abstinence
- They occur during clear consciousness

**WERNICKE'S ENCEPHALOPATHY**

- An acute reaction to a severe **deficiency of thiamine**
- Commonest cause - chronic alcohol use.
- **Ophthalmoplegia** with bilateral external rectus paralysis
- **Higher mental function disturbance: disorientation**, confusion, recent memory disturbances, poor attention span and distractibility
- **Apathy and ataxia.**
- **N**euronal degeneration and **haemorrhage are seen in thalamus, hypothalamus,** mammillary bodies and midbrain.
- Completely reversible with treatment

**Korsakoff's psychosis**

- Often follows Wernicke's encephalopathy; and referred to as **Wernicke-Korsakoff syndrome**.
- Gross memory disturbances, with **confabulation**
- 20 percent of patients with Korsakoff's syndrome recover
- Insight is often impaired.
- Neuropathological lesions are symmetrical and paraventricular, involving the mammillary bodies, the thalamus, the hypothalamus, the midbrain, the pons, the medulla, the fornix, and the cerebellum.

**Marchiafava — Bignami disease**

- Disorientation, epilepsy, ataxia, dysarthria, hallucinations, spastic limb paralysis, and deterioration of personality and intellectual functioning
- There is a widespread demyelination of corpus callosum, optic tracts and cerebellar peduncles.

❖ Legal limit for driving in India: 30 mg/100 ml (Section 185 of the Motor Vehicle Act, 1988)

**Screening test for alcoholism:**

- MAST (Michigan Alcoholism Screening Test)
- CAGE questionnaire test

**CAGE Questionnaire**

- Ever had to **C**ut down the amount of alcohol
- Been **A**nnoyed by people's criticism of alcoholism
- Felt **G**uilty of drinking.
- Need of an **E**ye opener.

**Withdrawal syndrome:** Drugs of 1st choice — **Chlordiazepoxide** (diazepam 2nd)

**Treatment of Alcohol Dependence**

- **Behaviour therapy**
- **Psychotherapy**
- **Group therapy**
- **Deterrent agents**
  - The deterrent agents are also known as alcohol sensitizing drugs.
  - **Disulfiram** (tetraethyl thiuram disulfide) — most commonly used
  - Other deterrent agents: **Citrated calcium carbimide** (CCC), Metronidazole. animal charcoal, a fungus (coprinus atramentarius), sulfonylureas and certain cephalsoporins
- **Anti — craving agents**
  - **Acamprosate** - interacts with NMDA receptor — mediated glutamatergic neurotransmission in the various brain regions and reduces $Ca^{++}$ fluxes through voltage — operated channels.
  - **Naltrexone** - probably interferes with alcohol — induced reinforcement by blocking opioid receptors
  - **SSRIs** (such as fluoxetine)

**OPIUM ABUSE**

- Opium use has increased markedly all over the world in the past few decades
- India is surrounded both sides by the infamous routes of illicit transport **– Golden triangle (BurmaThailand-Laos) and Golden Crescent (Iran-Afghanistan-Pakistan)**
- **Heroin (Di-acetyl-morphine)** can be smoked or **chased (chasing the dragon)**
- Tolerance to heroin occurs very rapidly

**Withdrawal syndrome**

- Occurs typically within 12-24 hours
- **Lacrimation, rhinorrhea, pupillary dilation. sweating, diarrhea, yawning, tachycardia, insomnia, raised body temperature, muscle cramps, piloerection**

**Treatment**

- **Overdose**: Naloxone
- **Withdrawal:** Methadone (1st choice), Clonidine (2' choice); others: LAAM, buprenorphine
- **Maintenance: Methadone**

**Nicotine withdrawal**

- Anxiety, restlessness, poor concentration, decreased sleep, increased appetite, exacerbation of psychiatric symptoms
- Drugs used in smoking cessation: **Bupropion (amfebutamone), Varenicline**

| Substance | Characteristic feature |
|---|---|
| **Cocaine** | Magnus symptom (cocaine bugs/tactile hallucinations) |
| **Cannabis** | Run amok, Amotivation syndrome, Flash backs, Hemp insanity, |
| **Alcohol** | Mc-Evan's sign, Morbid jealousy |
| **LSD** | Bad trips, Flash backs |
| **Amphetamine** | Paranoid hallucinatory syndrome (like paranoid schizophrenia) |

| | |
|---|---|
| **Phencyclidine (angel dust)** | Dissociative anesthetic |



- **LSD: No withdrawal syndrome**
- **Cannabis: No physical dependence;** mild to marked psychological dependence
- **Cocaine**: Mild physical dependence; severe psychological dependence
- **Amok** is an episode of acute violent behavior for which the person claims amnesia. Seen in cannabis abuse.

- Emil Kraeplin- In 1896, described dementia precox
- Eugen Bleuler- renamed dementia precox as schizophrenia (fundamental symptom), developed 4 A's of schizophrenia
- Kurt Schneider- First rank symptoms
- Point prevalence: 0.5-1%
- Incidence: 0.5 per 1000
- 8-10% of first degree relatives of patients can present with schizophrenia

| Schneider's first rank symptoms | Schneider's second rank symptoms |
|---|---|
| • **Hallucination**<br>  ○ Audible thoughts (thought echo)<br>  ○ Voices heard arguing<br>  ○ Voices commenting on one's action<br>• **Delusional perception**<br>• **Thoughts Alienation phenomena**<br>  ○ Thoughts withdrawal<br>  ○ Thoughts insertion<br>  ○ Thought diffusion / broadcasting<br>• **Passivity phenomena**<br>  ○ Made feeling (affect)<br>  ○ Made impulses<br>  ○ Made volition or act<br>  ○ Somatic passivity | • Other disorders of perception<br>• Sudden delusional ideas<br>• Perplexity<br>• Depressive and euphoric mood changes<br>• Feelings of emotional impoverishment<br>• Several others as well |

| Bleuler's '4-A' |
|---|
| • **Ambivalence** (inability to decide for or against)<br>• **Autism** (withdrawal into self)<br>• **Affect disturbance**<br>• **Association disturbance** |



**DSM-IV CRITERIA FOR DIAGNOSIS OF SCHIZOPHRENIA:**

**Two (or more)** of the following, each present for a significant portion of time during a **1-month period** (or less if successfully treated):

- Delusions
- Hallucinations
- Disorganized speech (e.g., frequent derailment or incoherence)
- Grossly disorganized or catatonic behavior
- Negative symptoms, i.e., affective flattening, alogia, or avolition

**Only one Criterion** symptom is required if **delusions are bizarre** or hallucinations consist of a voice keeping up a running commentary on the person's behavior or thoughts, or two or more voices conversing with each other.

- All patients with schizophrenia have **psychotic symptoms (reality distortion or disorganization)** at some point in the course of their illness, but there is no single pattern of psychotic symptoms.
- Continuous signs of the disturbance persist for at least 6 months.
- This 6-month period must include at least 1 month of symptoms.

**Types**

- Commonest type – **Paranoid**
- Amphetamine induced - **Paranoid**
- Early onset & bad prognosis – **Hebephrenic**
- Late onset & best prognosis – **Catatonic**

- Very late (3rd 4th decade) – **Paranoid**
- Worst prognosis & most difficult to diagnosis – **Simple**
- Associated with mental retardation – **Ptropf**

| **DSM-IV-TR Diagnostic Criteria for Schizophrenia Subtypes** |
|---|
| **Paranoid type (Paraphrenia)**<br>A. Preoccupation with one or more delusions or frequent auditory hallucinations.<br>B. **Absence of disorganized speech**, disorganized or catatonic behavior, or flat or inappropriate affect. |
| **Disorganized type (Hebephrenic)**<br>Prominence of **disorganized speech**, disorganized behavior & flat or inappropriate affect |
| **Catatonic type:** Presence of at least two of:<br>1. Catalepsy (including waxy flexibility) or stupor<br>2. Excessive motor activity (purposeless and not influenced by external stimuli)<br>3. Negativism or mutism<br>4. peculiarities of posturing (voluntary assumption of inappropriate or bizarre postures), stereotyped<br>5. movements, prominent mannerisms, or prominent grimacing<br>6. echolalia or echopraxia |
| **Undifferentiated type** |
| **Residual type:** Absence of prominent delusions, hallucinations, disorganized speech, and grossly disorganized or catatonic behavior. |

- **Schizophreniform disorder -**patients who meet the symptom requirements but not the duration
- **Schizoaffective disorder** -manifest symptoms of schizophrenia and independent periods of mood disturbance.
- **Other subtypes:**

| | |
|---|---|
| • **Bouff Dlirante** (Acute Delusional<br>• Psychosis)<br>• Latent schizophrenia<br>• Oneiroid state | • Pseudoneurotic schizophrenia<br>• Deficit schizophrenia<br>• Early onset schizophrenia<br>• Late onset schizophrenia |



**CATATONIC SCHIZOPHRENIA**

**Excited catatonic:**

- Known as **Acute lethal catatonic or pernicious catatonia**
- Increased psychomotor activity
- Death may occur.

**Retorted (stupor) catatonic:**

- Decreased psychomotor activity
- Mutism: absence of speech
- Rigidity 2
- **Waxy flexibility:** parts of body placed in position that will be maintained for long period even if very uncomfortable
- **Stupor:** no movement with mutism but preservation of consciousness.
- **Negativism**
- **Echolalia, Echopraxia**
- Mannerism & Grimacing
- Automatic obedience
- Ambitendancy: due to ambivalence, tentative actions occurs
- **Verbigeration: Incomprehensible speech**

❖ All specific terminologies like Echolalia, Echopraxia, waxy flexibility, grimacing etc... are seen in catatonic schizophrenia **except senseless giggling and mirror gazing (hebephrenic schizophrenia).**

**Characteristic Hallucinations**

- **Most common - Auditory Hallucinations.**
- **3rd person hallucinations** - consist of voice keeping up a running commentary on the person's behavior or thoughts or two or more voices conversing with each other
- The **oneiroid state** - a dream-like state in which patients may be deeply perplexed and not fully oriented in time and place.
- **Cenesthetic hallucinations** are unfounded sensations of altered states in bodily organs. Examples: a burning sensation in the brain, a pushing sensation in the blood vessels.
- **Hallucination - 1st symptom to go with treatment & the 1st symptom to reappear after resistance**

**Symptom clusters in Schizophrenia**

| Positive symptoms | Negative symptoms | Disorganized symptoms |
|---|---|---|
| • Delusions<br>• Hallucinations | • Affective flattening<br>• Attentional impairment<br>• Avolition-apathy (lack of initiative associated with psychomotor slowing)<br>• Asociality (social withdrawal)<br>• Alogia (lack of speech output)<br>• Anhedonia | • Inappropriate affect<br>• Disorganized behavior<br>• Thought disorder<br>• Loosening of association |

- The delusions included in 1st rank symptoms are primary or **autoconthous delusions** - characteristic of schizophrenia.
- **Von-Gogh syndrome**- is dramatic self-mutilation in schizophrenia (named after famous painter Von Gogh who had cut his ear during active schizophrenia)
- Schizophrenia is thought to be due to a functional increase of **dopamine** at the postsynaptic receptor
- Other neurotransmitters – serotonin, GABA, acetylcholine may also be involved
- PET scan: **hypofrontality and decreased glucose utilization** in the **dominant temporal lobe**

**Pharmacological treatment**

- First drug used with beneficial effect: **Reserpine** (not used now)
- Atypical or second generation antipsychotics - are more commonly used
- **Atypical antipsychotics** are more useful when **negative symptoms are prominent**
- **Clozapine** – effective in patients who had no response to commonly used drugs

**Prognosis**

| Good Prognosis | Poor Prognosis |
|---|---|
| Late onset > 35 years | Early onset < 20 years |
| Obvious precipitating factors | No precipitating factors |
| Acute onset | Insidious onset |
| Good premorbid social, sexual &work histories | Poor premorbid social, sexual & work histories |
| Short duration < 6 months | Chronic course > 2 years |
| **Fat physique** | Thin physique |
| **Female sex** | Male sex |
| Good social support | Poor social support |
| Married | Single, divorced, or widowed |
| **Family history of mood disorders** | **Family history of schizophrenia** |
| **Presence of depression** | **Absence of depression** |
| Confusion, perplexity, disorientation | Flat or blunt affect |
| Positive symptoms | **Negative symptoms**<br>Neurological signs and symptoms<br>History of perinatal trauma /assaultiveness<br>Many relapses/No remissions in 3 years |

| Catatonic subtype<br>Paranoid – intermediate prognosis | Disorganized, simple, undifferentiated, residual<br>catatonic subtypes |
|---|---|
| Outpatient treatment | Long term hospitalization |
| Normal cranial CT scan | Evidence of ventricular enlargement |



**Indications for ECT in schizophrenia**

- Catatonic stupor
- Uncontrolled catatonic excitement
- Acute exacerbation not controlled with drugs
- Severe side effect with drugs, in presence of untreated schizophrenia

**Psychosurgery**

- Very rarely performed
- **Limbic leucotomy** — is the procedure of choice

**Acute (brief) psychotic disorder**

- Differentiated from other related disorders by its sudden onset, relatively **short duration (< 1 month),** and the full return of functioning
- Abrupt onset of one or more of the following symptoms
  - Delusions
  - Hallucinations
  - Bizarre behavior and posture
  - Disorganized speech

**TYPES OF ANXIETY DISORDERS (DSM-IV-TR)**

- Panic disorder with or without agoraphobia
- Agoraphobia with or without panic disorder
- Specific phobia
- Social phobia
- Obsessive-compulsive disorder (OCD)
- Posttraumatic stress disorder (PTSD)
- Acute stress disorder
- Generalized anxiety disorder

**Anxiety**

- It is the **most common psychiatric symptom**
- Physical symptoms
  - Motor: tremors, muscle twitching
  - Autonomic and visceral: sweating, palpitation, tachycardia, flushes, hyperventilation, dry mouth, dizziness, diarrhea, mydriasis
- Psychological symptoms
  - Cognitive: poor concentration, hyperarousal, vigilance or scanning, negative automatic thoughts
  - Perceptual: derealisation, depersonalization
  - Affective: fearfulness, irritability, inability to relax, fear of impending
  - Others: insomnia, increased sensitivity to noise, exaggerated startle response

**DIFFERENTIAL DIAGNOSIS OF ANXIETY:**

<table>
<tr><th colspan="2">Medical Illnesses</th><th>Substance Use/Abuse</th><th>Psychiatric Disorders</th></tr>
<tr><th>Cardiac</th><th>Endocrinologic</th><th>Prescription or over-the-counter drug use</th><td rowspan="2">• Adjustment disorders<br>• Affective disorder<br>• Dissociative disorders<br>• Personality disorders<br>• Somatoform disorders<br>• Schizophrenia (and other psychotic disorders)</td></tr>
<tr><td>• Angina<br>• Arrhythmias<br>• Congestive failure<br>• Infarction<br>• Mitral valve prolapse<br>• Paroxysmal atrial tachycardia</td><td>• Hyperthyroidism<br>• Cushing's disease<br>• Hyperparathyroidism<br>• Hypoglycemia<br>• Premenstrual<br>• syndrome</td><td>• Antidepressants<br>• Fenfluramine/phentermine<br>• Psychostimulants (eg, methylphenidate, amphetamine)<br>• Steroids<br>• Sympathomimetics</td></tr>
<tr><th>Neoplastic</th><th>Neurologic</th><th>Substance abuse</th><td rowspan="3"></td></tr>
<tr><td>• Carcinoid<br>• Insulinoma<br>• Pheocromocytoma</td><td>• Huntington's disease<br>• Meniere's disease<br>• Migraine<br>• Multiple sclerosis<br>• Seizure disorder<br>• Transient ischemic attack<br>• Vertigo<br>• Wilson's disease</td><td>• Alcohol/sedative withdrawal<br>• Caffeine<br>• Hallucinogen<br>• Stimulant abuse (eg, cocaine)</td></tr>
<tr><th>Pulmonary</th><th>Other</th><th></th></tr>
</table>

| | | | |
|---|---|---|---|
| • Asthma<br>• Embolism<br>• Obstruction<br>• Obstructive<br>• pulmonary disease | • Porphyria<br>• Uremia |  |  |

**PANIC DISORDER**

**Panic attacks**

- Occur in **panic disorder, specific phobia, social phobia and PTSD**
- Unexpected panic attacks occur at any time and are **not associated with identifiable situational stimulus**
- A discrete period of **intense fear or discomfort** in which four (or more) of the following symptoms develop abruptly and reached a peak within 10 minutes.
  - Palpitations, pounding heart, or accelerated heart rate
  - Sweating
  - Trembling or shaking
  - Sensations of shortness of breath or smothering
  - Feeling of choking
  - Chest pain or discomfort
  - Nausea or abdominal distress-
  - Feeling dizzy, unsteady, lightheaded, or faint
  - Derealization or depersonalization
  - Fear of losing control or going crazy
  - Fear of dying
  - Paresthesias (numbness or tingling)
  - Chills or hot flashes

**Panic disorder**

- **Recurrent panic attacks**
- Extreme fear and sense of impending death and doom
- Patients usually cannot name the source of their fear
- Generally lasts 20-30 minutes
- Depression and depersonalization may be seen
- Mental status examination: **rumination, difficulty speaking, impaired memory**
- Between attacks they have anticipatory anxiety about another attack



**PHOBIA**

- **Insight is present.**
- **Agoraphobia**
  - Fear of **open places, crowded places** or any place from where there is no escape to safe place
  - **Most common & most disabling** type
  - More common in women
  - Only one or two persons are relied upon - phobia companions.
- **Social phobia** – irrational fear of activities or social interaction
  - **Shy-Bladder:** fear of urinating in public lavatory
  - **Erythro phobia:** Fear of blushing.
- **Simple (specific) phobia** – irrational fear of objects or situations
  - **Claustro phobia-** Fear of closed spaces
  - **Acrophobia** – fear of high places.
  - **Algophobia** – fear of pain
  - **Arachnophobia**- fear of spiders
  - **Xeno phobia** –fear of strangers
  - **Zoophobia** – fear of animals
  - **Sito phobia** - fear of eating
  - **Thanatophobia** – fear of death

- **Cynophobia**: fear of dogs
- **Mysophobia**: fear of dirt & germs
- **Pyrophobia**: fear of fire
- **Ailurophobia**: fear of cats

**Behavior therapy for phobia**

- **Flooding**
- **Systematic desensitization**
- **Exposure and response prevention**
- **Relaxation techniques**

**OBSESSIVE COMPULSIVE DISORDER**

- **Prevalence in the world 2-3%**

| Obsessions | Compulsions |
|---|---|
| • **An idea, impulse or image** which intrudes into the **conscious awareness repeatedly**<br>• It is recognized as one's own idea, but perceived as **ego-alien** (foreign to one's personality)<br>• It is recognized as **irrational and absurd (insight present)**<br>• Patient **tries to resist** but is unable to<br>• Failure to resist leads to marked **distress** | • A form of behaviour which usually follows obsessions<br>• It is aimed at **preventing or neutralizing the distress** or fear arising out of obsession<br>• The behaviour is not realistic and is either irrational or excessive<br>• Insight is present<br>• The behaviour is performed with a sense of subjective compulsion (urge or impulse to act) |

**Delusion is differentiated from obsession by**

- The thought is not recognized as ego-alien
- The thought is not recognized as irrational
- The thought is never resisted

**Clinical Manifestations**

- Washers
  - Most common type
  - Obsession is of contamination with dirt, germs
  - Compulsion — washing hands or body repeatedly, many times a day
  - Spreads on to washing clothes, bathroom, bedroom, personal articles etc
- In all cases obsessive-compulsive activities take up >**1 hour per** day
- **Depression** is very commonly associated with OCD
- The disorder usually has a waxing and waning course



**Psychodynamic theory of Freud**

- Explains OCD by a defensive regression to anal-sadistic phase of development
- New defences are needed as reaction formation is not enough
- **Isolation of affect** → Obsessive thoughts
- **Undoing** → Compulsive acts
- **Displacement** → Phobias

**Treatment of choice:**

- First: **Behavior therapy - Exposure & response prevention**
- Second: Systematic desensitization

**Medical treatment:**

- Fluoxetine **(Drug of choice)** & other SSRI
- **Fluvoxamine**: Specific anti-obsession actions.
- ~~Clomipramine (this TCA is most selective for serotonin reuptake)~~ **~~(Drug of II$^{nd}$ choice)~~**

**POST —TRAUMATIC STRESS DISORDER (PTSD)**

- Arises as a **delayed/protracted response** to an exceptionally stressful or catastrophic life event or situation (e.g. war, rape, torture, serious accident)
- **Recurrent and intrusive recollections of the stressful event either in flashbacks (image, thoughts or perceptions) and/or in dreams**
- Avoidance of the events or situations that arouse recollections of the stressful event
- Numbing of general responsiveness
- Amnesia for some aspects of the event
- Anhedonia (inability to experience pleasure)
- Hyperarousal

**DSM-IV-TR definitions**

- Acute stress disorder: symptoms appear within **4 weeks** of the event **and remits within 2 days to 4 weeks**
- **PTSD:** occurs after **4 weeks of a stressful event and** duration of symptoms > 1 month
- **Delayed onset PTSD: occurs after 6 months**
- Acute PTSD - duration of symptoms < 3 months; chronic PTSD: duration - > 3 months

**Treatment**

- **SSRIs**
- **MAO inhibitors**
- **Benzodiazepines**
- **Behavior therapy, cognitive therapy**

**MOOD DISORDERS**

- **Manic episode**
- **Depressive episode**
- **Bipolar mood disorder**
- **Recurrent depressive disorder**
- **Persistent mood disorder**

**MANIC EPISODE** Symptoms should last for atleast **1 week** for diagnosis

- **Elevated, Expansive or Irritable mood:**
  - **Euphoria**: mild elevation of mood, seen in hypomania [STAGE-1]
  - **Elation**: moderate elevation of mood, seen in **mania** (STAGE-2]
  - **Exaltation**: severe elevation of mood, seen in severe mania [STAGE-3]
  - **Ecstasy**: very severe elevation of mood, seen in delirious/ stuporous mania [STAGE-4]
- **Psychomotor activity**
  - Increased
  - Rarely - manic stupor
- **Speech and though**
  - Flight of ideas
  - Prolixity
  - Mood congruent psychotic features
  - hallucinations
- **Goal directed activity**
- **Reduced sleep**

**Treatment:**

- **Atypical antipsychotics** (Risperidone, olanzapine, quetiapine, haloperidol)
- **Mood stabilizers** (Sodium valproate, Carbamazepine, Benzodiazepines, Lithium, Lamotrigine)

**DEPRESSION Diagnostic Criteria**

A. At least 2 weeks of duration

B. ≥ 5 features should be present most of the day

- **Depressant mood**
- Loss of interest/pleasure (Absence of pleasure in normally pleasurable environment: **Anhedonia) (Among these two, one is essential for the diagnosis), plus**
- Decrease or increase in appetite or significant weight loss/ gain
- Decrease / increase psychomotor activity (psychomotor retardation or agitation)
- Decrease / increase sleep (Insomnia/ hypersomnia)
- Fatigue
- Feeling of worthlessness or guilt
- Decreased concentration
- Recurrent thoughts of death.

**Depressive ideation/Cognition:**

- Sadness of mood (depression) is usually associated with **pessimism**, which can result in
  - Hopelessness
  - Helplessness
  - Worthlessness
- **Difficulty in thinking, concentration, indecisiveness**
- **Nihilistic delusions** (e.g: world is coming to an end)

**Somatic syndrome (Melancholia) in depression**

- Significant decrease in appetite or weight
- Early morning awakening (atleast 2 hours early than the usual time)
- Diurnal variation (depression worst in the morning)
- Pervasive loss of interest and loss of reactivity to pleasurable stimuli
- Psychomotor agitation or retardation

**Other features**

- **Pseudo-dementia**
- **Otto veraguth fold**

- **Depression is** seen in - **Myxedema, AIDS, Cancer, post MI, surgery & post-partum**
- **Depression** is most common in **middle age females**

**Theories**

- **Cognitive theory:** Postulated by **Aaron Beck** consists of the following triad
  - About self - **Negative self-precept**
  - About the environment - Tendency to experience the world as hostile and demanding
  - About the future — the expectation of suffering and failure
- **Learned helplessness theory**

**Sleep studies**

- Decreased REM latency (the time between falling asleep and the first REM period is decreased)
- Increased duration of the first REM period
- Delayed sleep onset

**SUICIDE**

- **Suicide** is intentional self-destruction.
- The term **parasuicide** refers to suicidal attempts or gestures.
- Patients suffering from severe depression with suicidal intent or attempt have a marked **decrease in the serotonergic function**
- Official suicide rate in India in 2008 — **10.8 per 100000 population per year**
- Most common mode of committing suicide — **ingestion of poison (35%)** hanging (32%)
- The psychiatric disorder with greatest risk of suicide in both sexes — **Mood disorder**
- **Widely accepted theory for suicide:**
  - **Sociological factors: Durkheim's Theory:**
    - Egoistic suicide applies to those who are not strongly integrated into any social group
    - Altruistic suicide applies to those susceptible to suicide stemming from their excessive integration into a group, with suicide being the outgrowth of the integration., for example, a soldier who sacrifices his life in battle.
    - **Anomic suicide** applies to persons whose integration into society is disturbed so that they cannot follow customary norms of behavior.
  - **Psychological Factors:** Freud's Theory/ Menninger's Theory

**Evaluation of Suicide Risk**

| **Variable** | **High Risk** | Low Risk |
|---|---|---|
| **Demographic and Social Profile** | | |
| **Age** | Over 45 years | Below 45 years |
| **Sex** | Male | Female |
| **Marital status** | Divorced or widowed | Married |
| **Employment** | Unemployed | Employed |
| **Interpersonal relationship** | Conflictual | Stable |
| **Family background** | Chaotic or conflictual | Stable |
| **Health** | | |

| | | |
|---|---|---|
| **Physical** | Chronic illness | Good health |
| | Hypochondriac | Feels healthy |
| | Excessive substance intake | Low substance use |
| **Mental** | Severe depression | Mild depression |
| | Psychosis | Neurosis |
| | Severe personality disorder | Normal personality |
| | Substance abuse | Social drinker |
| | Hopelessness | Optimism |
| **Suicidal activity** | | |
| **Suicidal ideation** | Frequent, intense, prolonged | Infrequent, low intensity, transient |
| **Suicide attempt** | Multiple attempts | First attempt |
| | Planned | Impulsive |
| | Rescue unlikely | Rescue inevitable |
| | Unambiguous wish to die | Primary wish for change |
| | Communication internalized (self-blame) | Communication externalized (anger) |
| | Method lethal and available | Method of low lethality or not readily |
| **Resources** | | |
| **Personal** | Poor achievement | Good achievement |
| | Poor insight | Insightful |
| | Affect unavailable/ poorly | Affect available and appropriately controlled |
| **Social** | Poor rapport | Good rapport |
| | Socially isolated | Socially integrated |
| | Unresponsive family | Concerned family |



**Risk Factors**

- Age> 40 years
- Male sex
- Staying single
- Previous suicidal attempts
- Suicidal pre occupation (e.g. a written suicidal note)
- Depression
- Alcohol/ drug dependence
- Severe/ painful physical illness
- Recent serious loss or major stressful event
- Social isolation
- High degree of impulsivity



**Risk factors for suicide in depression**

- Early stages of depression
- Recovering from depression
- With mood disorder, personality disorder, psychosis, hypochondriac
- Child with conduct disorder or substance abuse
- 45 years male, unemployed, single, separated, divorced, widowed, recently bereaved, chronically ill
- Positive family history

**Treatment**

- Tricyclic anti-depressants: **imipramine, amitriptyline**
- SSRIs: **fluoxetine, sertraline, citaprolam**
- SNRIs: **venlafaxine, duloxetine**

**Neurotransmitters**

- **Mania: increased norepinephrine** at the synaptic cleft
- **Depression: decreased norepinephrine** and/or **5-HT**

**BIPOLAR MOOD DISORDER**

- Previous called as **Manic depressive psychosis (MDP)**
- Unpredictable swings in mood **from mania to depression** at different times
- In the intervening period, patient may be normal
  - **Bipolar-1:** episodes of **severe mania and depression**.
  - **Bipolar-2:** episodes of **hypomania and severe depression**
- **Rapid cyclers: > 4 episodes per year;** mostly women
- **Ultra-rapid cycling**: episodes of mania and depression alternate very rapidly (in hours or days)

| Good prognostic factors | Poor prognostic factors |
|---|---|
| • Acute or abrupt onset<br>• Typical clinical features<br>• Severe depression<br>• Well-adjusted premorbid personality<br>• Good response to treatment | • Comorbid medical disorder, personality disorder or alcohol dependence<br>• Double depression (acute depressive episode superimposed on chronic depression or dysthymia)<br>• Catastrophic stress or chronic ongoing stress<br>• Unfavorable early environment<br>• Marked Hypochondriacal features<br>• Mood incongruent psychotic features<br>• Poor drug compliance |

**Other forms of depression**

- **Atypical depression –** a term that has been applied to a variety of presentations, but particularly to patients who present with mild to moderate depression, some mood reactivity, reverse diurnal variation in mood (i.e. worse in the evening), overeating, hypersomnia and fatigue.
- **Dysthymia –** depressive symptoms which are insufficient to meet the criteria for a clinical depression. The **patient's symptoms are present for 2 or more years.** Can be associated with other psychiatric conditions such as borderline personality disorder. Sufferers often go on to develop more serious mood disorder.
- **Cyclothymic disorder** – chronic mood fluctuations over at least 2 years with episodes of elation and of depression insufficient to meet the criteria for a hypomanic depressive episode.
- **Masked depression –** a state in which depressed mood is not particularly prominent, but other features of depressive disorder are present, e.g. sleep disturbance, diurnal mood variation, depressive cognitions.
- **Mild depressive disorders –** milder forms of the symptoms of depression, with less disruption to social functioning. These are likely to be accompanied by prominent anxiety, phobic or obsessional symptoms.
- **Recurrent brief depressive disorder** – lasts for <2 weeks, usually around 2-3 days. Occurs around once per month, with complete recovery between episodes. The actual symptoms collectively may fulfil the criteria for mild, moderate or severe depression, but the difference is in the duration of the episode.
- **SAD –** a temporal relationship between the season of the year and the onset of depression. The depression starts in autumn/winter and resolves in spring/ summer. There may be symptoms of depression and additional atypical biological features such as carbohydrate craving, fatigue and hypersomnia.

**Note:**

- **Dysthymia** – if the symptoms consist of persistent mild depression
- **Cyclothymia** –frequent mood swings of mild depression and mild elation.

| Type of Somatoform Disorder | Features |
|---|---|
| **Hypochondriasis** | • **Persistent preoccupation** with fear or belief of having serious disease based on own interpretation<br>• Detailed physical examination and investigations do not reveal any abnormality<br>• Belief persists even after seeing his normal lab reports<br>• The fear or belief is **not a delusion** |
| **Somatization disorder or**<br>**Briquet Disorder or**<br>**Brissaud Marie Syndrome** | • Multiple somatic symptoms<br>• **4 pain symptoms** (2 in GIT, 1 sexual, 1 pseudo neurological)<br>• **Atleast 2 years duration** needed for diagnosis<br>• Frequent change of treating physicians<br>• Refusal to accept reassurance<br>• More common in females |
| **Conversion disorder**<br>• Symptoms/sign affecting motor or sensory function or convulsions suggesting a **neurological disorder**<br>• **No ANS** involvement<br>• Not intentionally produced | Features common to Conversion and Dissociative disorders<br>• Sudden onset<br>• Presence of precipitating stress<br>• Clear temporal relationship between stressor and development of symptoms<br>• There is usually a **secondary gain**<br>• Detailed physical examination and investigations do not reveal any abnormality that can explain the symptoms adequately<br>• More common in women<br>• Onset usually in 2nd or 3rd decade |
| **Dissociative disorder**<br>• Disturbance in normally integrated functions of consciousness, identity and/or memory | |
| **Body dysmorphic disorder** | Preoccupation with an imagined defect in appearance. |
| **Somatoform pain disorder** | Pain does not vary in intensity & insensitive to emotional, cognitive attentional & situational influence. |

- The word **Hysteria** is removed from ICD-10 and replaced by **'Conversion and Dissociative disorders'**

**Dissociative disorders**

**DISSOCIATIVE AMNESIA**

- **Circumscribed amnesia** (M/C form) - failure to recall all events occurring during a circumscribed period of time.
- **Selective amnesia** - failure to recall some but not all of the events during a circumscribed period of time.
- **Continuous amnesia** — failure to recall all personal events following a stressful event, till the present time
- **Generalized amnesia** - failure of recall all personal events of the whole life, in the face of a stressful life event
- **Systematized amnesia** is a loss of memory for specific categories of information, such as all memory relating to one's family or a particular person.

**DISSOCIATIVE FUGUE**

- **Episodes of wandering away (usually away from home)**
- During the episode, the person usually adopts a new identity with complete amnesia for the earlier life
- Sudden onset, often in the presence of severe stress
- Abrupt termination of the episode and followed by amnesia for the episode with recovery of memories of earlier life
- The characteristic feature – **assumption of a purposeful new identity,** with **absence of awareness of amnesia**
- Complex partial seizures – **no assumption of new identity**, confusion present during the episode, no precipitating stress

| Clinical features | Epileptic seizures | Dissociative convulsions (hysterical fits) |
|---|---|---|
| Attack pattern | Stereotyped, known clinical patterns | Absence of any established clinical pattern<br>Purposive body movements occur |
| Place of occurrence | Any where | Usually indoor or at safe places |
| Sleep | Can occur during sleep | **Never occur during sleep** |
| Tongue bite | Present | **Absent** |
| Incontinence of urine and faeces | Present | Absent |
| Neurological signs | Present | Absent |
| Post ictal confusion | Present | Absent |
| Injury | Can occur | Very rare |
| Speech | No verbalization during seizure | Verbalization can occur during seizure |
| Duration | Short (30 – 70 secs) | Prolonged |
| Head turning | Unilateral | Side to side |
| Eye gaze | Staring, if eyes are open | Avoidant gaze |
| Amnesia | Complete | Partial |
| EEG | Abnormal | Normal |
| Serum prolactin | Increased in post ictal period (15-20 minutes after seizure, returns to normal in one hour) | Normal |

**GANSER SYNDROME (HYSTERICAL PSEUDODEMENTIA)**

- Commonly found in prison inmates
- Characteristic feature – **vorbeireden (approximate answers)**
- The answers are wrong, but show that the person understands the nature of question asked

**La Belle Indifference**

- Patient's lack of concern towards serious symptoms, despite the apparent severity of the disability produced
- Previously thought as **hallmark of dissociative (conversion) disorders**, it is now known to be present even in physical illness

**Treatment of conversion and dissociative disorders**

- **Aversion therapy** (liquor ammonia, electrical stimulus, pressure just above eyeballs or tragus of ear etc)
- **Psychotherapy with abreaction**

**PERSONALITY**

- The four components in the concept of personality are:
- **Adjustment**
- **Agreeableness**
- **Sociability**
- **Openness**

**PERSONALITY DISORDERS**

- **Cluster A (paranoid, schizoid, schizotypal),** which includes individuals who are odd or eccentric.
- **Cluster B (antisocial, borderline, histrionic, narcissistic),** which includes individuals with dramatic, acting-out behaviors and who have problems with empathy.
- **Cluster C (avoidant, dependent, obsessive-compulsive),** which includes personality styles marked by prominent anxiety and novelty avoidance.

| DSM-IV-TR | ICD-10 | Description |
|---|---|---|
| Paranoid | Paranoid | **Excessive sensitiveness, tendency to bear grudges persistently,** suspiciousness, preoccupied with conspiratorial explanations, self-referential, distrust of others. |
| Schizoid | Schizoid | **Emotional coldness**, lack of pleasure from activities, little interest in sex, excessive preoccupation with introspection and **fantasy**. |
| Schizotypal | (classified with schizophrenia and related disorders) | Inappropriate affect, odd, eccentric or peculiar behavior, social withdrawal, magical thinking, obsessive ruminations, transient quasi-psychotic episodes |
| Antisocial | Dissocial | Callous lack of concern for others, irresponsibility, aggression, inability to maintain enduring relationships, disregard and violation social norms, evidence of childhood conduct disorder. |
| Borderline | Emotionally unstable—borderline type | **Disturbance of identity, unstable relationships**, unpredictable affect, **acts of self-harm**, suicidal gestures, impulsivity, unstable emotions |
| Histrionic | Histrionic | Self-dramatization, exaggerated emotions, shallow affect, attention seeking, easily influenced by others, over-concern for physical attractiveness |
| Narcissistic | | Grandiosity, lack of empathy, need for admiration, preoccupation with fantasies of unlimited success |
| Avoidant | Anxious (avoidant) | Tension, self-consciousness, fear of negative evaluation by others, timid, insecure. |
| Obsessive-compulsive | Anankastic | Doubt, indecisiveness, caution, pedantry, rigidity, perfectionism, preoccupation with orderliness and control. |
| Dependent | Dependent | Clinging, submissive, excess need for care, feels helpless when not in relationship. |

## EATING DISORDERS

### ANOREXIA NERVOSA

- More often in **females**, Common age of onset is **adolescence (13-19 years)**
- It is seen with greatest frequency among young women in professions that require thinness **(modeling and ballet)**
- **Intense fear of becoming obese**
- There is often a **body-image disturbance** (inability to perceive size of body image correctly)
- Significant weight loss occurs, **usually > 25% of the original weight**.
- The final weight is usually 15% less than the minimum limit of normal weight (for that age, sex and height) or a **BMI of 17.5 or less**
- No known medical illness, which can account for the weight loss, is present
- **Amenorrhea, primary or secondary, is often present**
- **Absence of primary psychiatric disorder**
- Depressive symptoms are common and so are obsessive-compulsive personality traits.
- Anorexia (a misnomer) — **no decrease in appetite**
- **Poor sexual adjustment**
- In severe cases, **fine lanugo hair** may develop all over the body.
- **Bulimic episodes**
  - Rapid consumption of large amount of food in a relatively short period of time, usually occurring when alone **(binges or binge-eating)**
  - These binges are followed by intense **guilt and attempts to remove eaten food,** for example, by self-induced vomiting, laxative abuse, and/or diuretic abuse
- Death may occur due to **hypokalemia** (caused by self-induced vomiting), dehydration, malnutrition or **congestive cardiac failure (caused by anemia)**

### BULIMIA NERVOSA

- Onset in **early teens or adolescence**
- Intense fear of becoming obese and h/o anorexia nervosa present sometimes
- There is often a body-image disturbance.
- There is a **persistent preoccupation with eating and an irresistible craving for food.**
- There are attempts to 'counteract' the effects of overeating by one or more of the following
  - **Self-induced vomiting**
  - **Purgative abuse**
  - **Periods of starvation**
  - Use of drugs such as appetite suppressants.



| FEATURES | ANOREXIA NERVOSA | BULIMIA NERVOSA |
|---|---|---|
| Feature | Refusal to maintain body weight above a minimal normal | Irresistible craving for food with episodes of over eating in less time (being eating) |
| Method of weight control | Very less eating | Attempts to counter act the effects of over eating |
| Weight | Markedly decreased | Usually normal |
| Binge eating | 25-50% | Required for diagnosis |
| Amenorrhea | 100% | 50% |
| Ritualized exercise, decreased vitals (BP, PR), hypothermia, skin changes (hirsutism) | Common | Rare |

| | | |
|---|---|---|
| | Patient believes that the body as a whole, or some part of their body, is too fat. | -Dental caries are frequent<br>-Antisocial behavior &drug abuse is common<br>-Prognosis is worse |



**CULTURE BOUND SYNDROMES**

- **Dhat syndrome** → fear of losing semen
- **Amok** → sudden, unprovoked episode of rage
- **Koro** → strong belief that his penis is shrinking
- **Wihtigo (windigo)** → belief that he has been transformed to a cannibal.
- **Pibloktoq** → **Arctic Hysteria**→ Eskimos, extreme excitement of as long as 30 minutes' duration and frequently followed by convulsive seizures and coma lasting as long as 12 hours
- **Suchi-bai** → purity mania
- **Hwa-Byung / Wool-Hwa-Byung:** Korean folk syndrome [anger syndrome] and is attributed to the suppression of anger.
- **Latah:** hypersensitivity to sudden fright, often with echopraxia, echolalia, command obedience, and dissociative or trance-like behavior.
- **Locura:** severe form of chronic psychosis [inherited vulnerability, the effect of multiple life difficulties, or a combination of both factors]
- **Mal de ojo:** evil eye
- **Ideas of nerves/Nervios:** general state of vulnerability to stressful life experiences and to a syndrome brought on by difficult life circumstances.

**FACTITIOUS DISORDER (MUNCHAUSEN SYNDROME)**

- Also known as hospital addiction, hospital hoboes, professional patients
- Simulate or fake diseases for the **sole purpose of obtaining medical attention**.
- No other recognized motive.
- **Pseudologia fantastica** - distort their clinical histories, lab reports and even facts about their lives
- Drug abuse is common
- They have superficial knowledge of medical terms
- Evidence of earlier treatment, usually surgical procedures, is often found in the form of multiple scars (e.g: grid iron abdomen)
- They often tell lies and leave the hospital against medical advise



**SLEEP**

**Two phases:**

1. **D-Sleep** (desynchronized or dreaming sleep) OR **REM-sleep** (rapid eye movement sleep), active sleep or paradoxical sleep.
2. **S-Sleep** (synchronized sleep), or **NREM – sleep** (non-REM sleep), quiet sleep, or orthodox sleep. S-sleep or NREM-sleep is further divided into four stages, 1 to 4.

**The EEG recording**

- During the awake state shows **alpha waves** of 8-12 cycles/sec. frequency
- The onset of sleep is characterized by a disappearance of the alpha – activity.
- NREM –sleep
  - Stage 1: first and the lightest stage of sleep, absence of alpha-waves, and low voltage, predominantly theta activity.
  - Stage 2: characterized by two typical EEG changes:
    - **Sleep spindles:** Regular spindle shaped waves of 13-15 cycles/sec. frequency, lasting 0.5-2.0 seconds, with a characteristic waxing and waning amplitude.
    - **K-complexes:** High voltage spikes present intermittently.
  - Stage 3: appearance of high voltage, 751.1V, 6-waves of 0.5-3.0 cycles/sec.
  - Stage 4: predominant **δ-activity**

**The important time periods of the various sleep stages**

- In an 8 hour sleep, usually **6-6$^{1/2}$ hours are spent in NREM –sleep & 1$^{1/2}$ – 2 hours in REM-sleep.**
- Out of 6-6112 hours NREM-sleep period, only about 70-80 minutes are spent in Stage 4 sleep.
- The maximum Stage 4 sleep occurs in the first one-third of the night
- In the later part, the REM-sleep follows the Stage 3 NREM –sleep directly.
- **REM-sleep** occurs maximally in the **last one-third** of the night.
- REM-sleep occurs regularly after every 90-100 mins, with progressive lengthening of each REM period.
- The first REM period typically lasts for less than 10 minutes.
- Usually, there are **4-5 REM periods** in the whole night of sleep.
- The usual sleep duration in newborn children is 16-18 hours/day, with nearly 8-10 hours spent in the REM-sleep.

**DISORDERS OF SLEEP**

**Nightmares**

- Almost always occur **during REM sleep** and usually after a long REM period late in the night.
- The awakening may occur during any part of the sleep period, but typically during the **second half.**

**Sleep terror:** Arousal in the **first third of the night** during deep NREM (stages III and IV) sleep.

**Kleine Levin syndrome**

- Recurrent periods of prolonged sleep (from which patients may be aroused) with intervening periods of normal sleep and alert waking

**PARASOMNIAS**

- Sleep walking and sleep terrors
- Common in **preschool (3-6years)** children

| **Characteristic** | **Sleep walking** | **Sleep terrors** | **Night mares** | **Nocturnal seizures** |
|---|---|---|---|---|
| Timing during sleep | First third | First third | Last third | Variable, often during sleep-wake transition |
| **Stage of sleep** | **Slow wave** | **Slow wave** | **REM** | **Non REM > SWS** |
| Arousal threshold | High | High | **Low** | High |
| Day time sleepiness | None | None | **Yes** | Probable |
| Recall of event | None | None | **Frequent, vivid** | None |
| Incidence | Common | Rare | **Very common** | Rare |
| Family history | Common | Common | **None** | Variable |

**GENDER IDENTITY DISORDERS**

- Common feature is a strong, persistent preference for living as a person of the other sex.
- Discontent with one's designated birth sex and a desire to have the body of the other sex, and to be regarded socially as a person of the other sex.
- Gender identity disorder in adults → **transsexualism.**
- Cross-dressing is commonly known as **transvestism**, and the cross-dresser as a transvestite.

**IMPULSE CONTROL DISORDERS**

**Kleptomania (pathological stealing)**

- Failure to resist the impulse to **steal useless objects** that have little monetary value.
- Usually **women**
- No apparent motive
- Usually there is a feeling of tension before the act and sense of relief afterwards
- **Differential diagnosis:** Shoplifting (actions are usually well-planned and motivated by need or monetary gain)

**Pyromania (pathological fire-setting)**

- Deliberate and purposeful fire setting on two or more occasions

- No apparent motive
- 90% are male.

- ❖ **Pathological Gambling :** Two or more gambling episodes per year which have not profitable outcome
- ❖ **Trichotillomania:** Recurrent pulling out of one's hair resulting in noticeable hair loss
- ❖ Dipsomania – irresistible urge to drink alcohol at regular intervals
- ❖ Mutilomania – irresistible urge to mutilate animals
  - **De Clerambult's syndrome:** Erotic delusions
  - **Alice in Wonderland syndrome:** Disturbance of one's view of self.
  - **Couvade syndrome:** experiencing the symptoms of pregnancy in males
  - **Kanner's syndrome** is autism with a normal ICI.

**Asperger's syndrome,** or schizoid personality of childhood, may be a mild form of autism and comprises eccentric isolated behavior with circumscribed interests and stilted speech:

## ANTIPSYCHOTIC DRUGS

| TYPICAL (Neuroleptics, $D_2$ blockers) | | | | ATYPICAL |
|---|---|---|---|---|
| **Phenothiazines** | **Thioxanthines** | **Butyrophenones** | **Miscellaneous** | Clozapine , Olanzapine Quetiapine, Risperidone Ziprasidone, Iloperidone, Lurasidone, Aripiprazole, Asenapine |
| Chlorpromazine Thioridazine Trifluoperazine Fluphenazine | Flupenthixol Thiothixene | Haloperidol Droperidol Penfluridol | Pimozide Loxapine | |

- **Longest acting: Fluphenazine (2-4 weeks),** Penfluridol (1 week).
- **Longest half- life:** Aripiprazole (75 hours)
- **Shortest half-life:** Quetiapine (6 hours)
- **Least potent:** Chlorpromazine
- **With antidepressant action:** Flupenthixol.
- **More emetic potential:** Clozapine/ Olanzapine/ Risperidone/ Molindone

**Actions**

| Extra pyramidal symptoms | Sedation | Hypotension | Anti emetic |
|---|---|---|---|
| Maximum: **Haloperidol** Least: **Thioridazine** Almost nil: **Clozapine**, **Risperidone** | **Maximum**: Chlorpromazine, Triflupromazine, Thioridazine, Clozapine & **Quetiapine** | **Maximum:** Thioridazine, Clozapine & Risperidone | Triflupromazine, Trifluoperazine Fluphenazine, Haloperidol |

- All anti psychotics are potent antiemetics except Thioridazine & atypical drugs.
- Low potency drugs possess significant **α blocking (maximum with chlorpromazine) and anticholinergic (maximum with thioridazine)** properties.
- $D_2$ receptors blockage in hypothalamus & pituitary → increase prolactin release → galactorrhoea & amenorrhea.
- **Aripiprazole**: acts as a **partial agonist at 5-$HT_{1A}$ and $D_2$ receptors** and **antagonist at 5-$HT_{2A}$ receptors.** It is also known as dopamine- serotonin stabilizer.
- **Ziprasidone**: $D_2$ +5-$FIT_{2A/2c}$ + $H_1$-α 1 blocker
- **Thioridazine**: interferes with ejaculation, can cause cardiac arrhythmias and retinal damage.
- **Asenapine**: used sublingually for schizophrenia & acute mania.
- Amisulpiride: congener of sulpiride (typical antipsychotic) is categorized with the atypical antipsychotics because it produces few extrapyramidal side effects and improves many negative symptoms of schizophrenia as well. However, it retains high affinity for D2 (and D3) receptors and has low-affinity for 5-$HT_2$ receptors.

**Clozapine:**

- Most potent with least extrapyramidal S.E. & least antiemetic property
- Has weak $D_2$ blocking action
- Reserve drug for resistant **schizophrenia**
- Most important side effect is **agranulocytosis**.

**SIDE EFFECTS**

- **Extra pyramidal symptoms are due to $D_2$ blockade in limbic system.**
- **Perioral movements [Rabbit syndrome]**
  - **Within 7 days** of starting or rapidly raising the dose of drugs — **Neuroleptic induced dystonia**

  - Drugs is taken for **less than 3 months** (1 month for some), within 4 weeks of withdrawing — **Neurolept induced — tardive dyskinesia**.
- **Neuroleptic induced akathisia**
  - **Inner restlessness** (feeling of discomfort & agitation)
  - **External restlessness** (compulsion to move extremities, pacing, rocking, fidgety movements)
  - **β-Blocker (Propanolol) is the drug of choice.**
- **NEUROLEPTIC MALIGNANT SYNDROME**
  - **More common with high potency D2 antagonists**
  - Severe muscle rigidity & elevated temperature with diaphoresis (sweating), tachycardia, elevated or labile BP, leucocytosis & lab
  - Evidence of muscle injury e.g. elevated CPK
- Hyperprolactinemia is associated with blockade of D2 receptors in the **tuberoinfundibular dopamine system** → hypogonadism, infertility, **amenorrhea, galactorrhoea** and gynecomastia.
- Hyperprolactinemia is more common with typical antipsychotics and risperidone

| Reaction | Features | Time of maximal risk | Mechanism | Treatment |
|---|---|---|---|---|
| Acute dystonia | Spasm of muscles of tongue, face, neck, back, may mimic seizures, not hysteria | 1-5 days | Unknown | Anti parkinsonian agents are diagnostic and curative |
| Akathisia | Motor restlessness, not anxiety or agitation | 5-60 days | Unknown | Reduce dose or change drug; anti parkinsonian drugs, BDZ / propranolol may help |
| Parkinsonism | Bradykinesia, rigidity, variable tremor, mask facies, shuffling gait | 5-30 days; can recur even after a single dose | Antagonism of dopamine | Anti parkinsonian agents helpful |
| Neuroleptic malignant syndrome | Catatonia, stupor, fever, unstable BP, myoglobinemia, can be fatal | Weeks; can persist for days after stopping neuroleptic | Antagonism of dopamine | Stop neuroleptic; Dantrolene / bromocriptine may help. Anti parkinsonian agents not useful |
| Perioral tremor " rabbit syndrome" | Perioral tremor (may be a late variant of parkinsonism) | After months or years of treatment | Unknown | Anti parkinsonian agents often help |
| Tardive dyskinesia | Oral- facial dyskinesia; Widespread choreoathetosis or dystonia | After months or years of treatment (worse on withdrawal) | Excess function of dopamine hypothesized | Prevention crucial; Treatment unsatisfactory |

| Adverse effect | Maximum with | Minimum with |
|---|---|---|
| **Dry mouth, constipation, cycloplegia** | Chlorpromazine | Haloperidol, Risperidone |
| **Impotence, orthostatic hypotension** | Chlorpromazine | Aripiprazole |
| **Impaired ejaculation** | Thioridazine | Haloperidol |
| **Parkinsonian features [tremor]** | Haloperidol | Clozapine, quetiapine, aripiprazole |
| **Akathisia, acute dystonia, rabbit syndrome** | Haloperidol | Clozapine, quetiapine |

| | | |
|---|---|---|
| **Tardive dyskinesia** |  | Clozapine |
| **Neuroleptic malignant syndrome** | Probably haloperidol | - |
| **Seizures** | Clozapine, chlorpromazine | Trifluperazine |
| **Sedation** | Clozapine, chlorpromazine | Haloperidol , aripiprazole |
| **Weight gain** | Clozapine , olanzapine | Haloperidol , aripiprazole |
| **Diabetes** | Clozapine , olanzapine | Ziprasidone, aripiprazole |
| **Agranulocytosis** | Clozapine | - |
| **ECG changes** | Thioridazine, pimozide | Aripiprazole |
| **Ocular granular deposits** | Chlorpromazine | Haloperidol |
| **Pigmentary retinopathy** | Thioridazine | - |
| **Contact dermatitis, photosensitive reactions, Blue- gray metallic discoloration** | Chlorpromazine | - |

**ANTI ANXIETY DRUGS**

- Reduction in the GABAergic activity or increase in serotonergic activity → anxiety.

**BENZODIAZEPINES**

- Chlordiazepoxide is used for chronic anxiety states
- Oxazepam, lorazepam, alprazolam and diazepam for short lasting anxiety.

**AZAPIRONES**

- Buspirone, gepirone and ipsapirone (partial agonists of presynaptic 5-HT1A) → decrease the release of serotonin.
- **Sedation, cognitive impairment, abuse potential, muscle relaxant, anticonvulsant activity are not seen**
- **Ineffective in acute anxiety** states like panic attacks.
- These are indicated for mild to moderate generalized anxiety states.

**BETA BLOCKERS -** Propranolol is indicated for performance anxiety.

**Other drugs**

- Hydroxyzine is $H_1$ antihistaminic having anti-anxiety activity but profound sedation limits its usefulness.
- SSRIs like **Fluoxetine - agent of choice for acute conditions like panic attacks.**



## ANTI-DEPRESSANTS

**ANTIDEPRESSANTS/ MOOD ELEVATORS/ THYMOLEPTICS:**

| | | |
|---|---|---|
| **Cyclic anti-depressants** | Tricyclic tertiary amines | Imipramine, amitriptyline, doxepine, Clomipramine, Dothiepine [Dosulepin] |
| | Tricyclic secondary amines | Nortriptyline, protriptyline, desipramine |
| | Tetracyclic | Mianserin, maprotiline, amoxapine |
| | Bicyclic | Viloxazine |
| **Selective serotonin reuptake inhibitor [SSRIs]** | | Fluoxetine, paroxetine, fluvoxamine, sertraline, citalopram, escitalopram |
| **Serotonin norepinephrine reuptake inhibitors [SNRIs]** | | Venlafaxine, duloxetine |
| **Norepinephrine serotonin reuptake enhancers [NSRE's]** | | Tianeptin |
| **Noradrenergic and specific serotonergic antidepressant [NaSSA]** | | Mirtazepine |
| **Norepinephrine dopamine reuptake inhibitors [NDRIs]** | | Bupropion |
| **Serotonin antagonists and reuptake inhibitors [SARIS]** | | Trazadone, nefazodone |

| | | | |
|---|---|---|---|
| **Noradrenergic reuptake inhibitors [NARIs]** | | | Reboxetine |
| **Mono amine oxidase inhibitors** | **Irreversible** | | |
| | **Reversible** | **MAGI-B** | Selegiline |
| | | **MAGI-A** | Moclobemide |



- **Bupropion's most potent blocker of DA reuptake, indicated for cessation of smoking.**
- **Venlafaxine** is a potent inhibitor of NE reuptake and a weak inhibitor of DA reuptake.
- **Mirtazapine** enhances central noradrenergic and serotonergic activity through the antagonism of central presynaptic $\beta_2$-adrenergic autoreceptors and heteroreceptors.
- **St John's Wart**, an herbal over-the-counter medication, may be effective for mild to moderate depression, but it is associated with several drug interactions.
- **Maprotiline and Amoxapine** are inhibitors of NE reuptake, with less effect on 5-HT reuptake.

**NOTE:**

- Other noradrenaline reuptake inhibitors: **atomoxetine**
- Most potent blocker of 5-HT reuptake – Paroxetine
- Least potent blocker of 5-HT reuptake – Bupropion
- Most potent blocker of NA reuptake – Desipramine
- Least potent blocker of NA reuptake – Mirtazapine
- Most selective inhibitor of 5-HT reuptake – Escitalopram
- Most selective inhibitor of DA reuptake – Bupropion
- Most selective inhibitor of NA reuptake – Oxaprotiline
- Maximum antimuscarinic activity – Amitriptyline
- Maximum antihistaminic activity – Nefazodone
- Maximum $\alpha_1$ blocking activity – Doxepin
- Minimum antimuscarinic, $\alpha_1$ blocking and antihistaminic activity – Venlafaxine
- Doxepin contains high antimuscarinic, antihistaminic and $\alpha$ – blocking (maximum) activities.
- Fluoxetine is longest acting and nefazodone is shortest acting **antidepressant**.
- Amoxapine: chemically related to the antipsychotic drug loxapine, has mixed antidepressant **+neuroleptic properties-**offers advantage for patients with psychotic depression.
- Atomoxetine is the first drug for ADHD that is not a stimulant under the Controlled Substances Act.
- Many other drugs like Protriptyline, Maprotiline, Nafazodone, etc. are marketed in other countries.



## MOOD STABILIZERS

**Drugs used in prophylaxis of bipolar disorder (Mood Stabilizers)**

| Established | New |
|---|---|
| • Lithium<br>• Carbamazepine<br>• Valproate | • Lamotrigine<br>• Levo thyroxine ($T_3$)<br>• Calcium channel blockers<br>• Clorgyline<br>• Clonazepam<br>• Gabapentin |

**LITHIUM**

- Discovered in 1817 by **Arfeudson**
- First used in the treatment of gout & salt replacement in cardiac disease
- **Starting dose for acute mania**: 900-2100 mg/day lithium carbonate.

**Blood lithium levels:**

- Therapeutic levels [for treatment of acute mania]: **0.6 -1.2 mEq /1;**
- Prophylactic levels [for relapse prevention in bipolar disorder]: **0.6 –1.0 mEq/L**
- Toxic levels: **> 1.5 mEq/L**

**Effects:**

- Most affected organ is kidney > thyroid, Least affected organ is liver.
- Most common side effect is **tremor**
- Lithium can induce a fine **postural tremor of the hands (8 to 12 Hz)**
- Most common ECG finding: T wave depression
- **Secreted in breast milk** & hence contra indicated in pregnancy **and lactation**.
- **Reduce thyroxine synthesis** & leads to goiter & hypothyroidism.

**Indications**

- **Acute mania**
- **Bipolar mood disorders**
- Schizo-affective disorder
- Prophylaxis of unipolar mood disorder
- Cyclothymia
- Acute depression
- Chronic alcoholism (in the presence of significant depressive symptoms)
- Impulsive aggression
- Kleine-Levin syndrome
- Chemotherapy induced leucopenia & agranulocytosis **(Leucocyte count is increased)**
- **SIADH (Inhibits ADH action on distal tube)**

**ELECTRO CONVULSIVE THERAPY**

- Developed by Cerletti & Beni in 1938 as electro shock therapy.

**Indications**

- **Major severe depression with**
- **Suicidal risk - first, most important and most common indication**
  - Stupor
  - Poor intake of food and fluids
  - Melancholia
  - Psychotic features
  - Unsatisfactory response to drug therapy
  - Contraindication to drugs
- **Severe psychosis (Schizophrenia or mania) with**
- **Risk of suicide, homicide or physical assault**
  - Unsatisfactory response to drug therapy
  - Contraindication to drugs
  - Prominent depressive features (e.g: schizo-affective disorder)
- **Severe catatonia (non-organic) with**
- Stupor
- Poor intake of food and fluids
- Unsatisfactory response to drug therapy
- Contraindication to drugs

**Contraindications:**

- **ABSOLUTE:** Raised intra cranial tension (fear of brain herniation)
- **Relative**
  - Cerebro vascular accident (CVA)
  - Recent MI
  - Severe hypertension
  - Pheochromocytoma
  - Severe pulmonary disease
  - Retinal detachment

**Types:**

- **Direct ECT (unmodified):** ECT is given without muscle relaxants and anesthesia. Direct ECT causes decreased intra ocular tension.
- **Modified ECT:** given with drug induced muscle relaxation and anesthesia.

**Complications:**

- **ECT- Direct:** Most common side effect is fracture **$T_4T_8$ spine**
- Modified —ECT: Most common is **retrograde amnesia** (ante grade amnesia is also found)

**Light & melatonin therapy**

- Based on the concept that humans are subject to circadian rhythms that affect physiological processes in predictable ways
- By varying light exposure, circadian rhythms can be altered
- The concentration of melatonin in blood is highest at night and lowest or absent during the daylight
- **Artificial bright light therapy** is a proved method to treat **depressive disorder with seasonal pattern** which is seen in **winter months** when daylight hours are reduced

**BEHAVIOR THERAPY**

| Type | Based on | Used in |
|---|---|---|
| Systemic desensitization | Reciprocal inhibition | Phobias (treatment of choice)<br>OCD (treatment of choice)<br>Psycho-sexual dysfunctions |
| Aversion therapy | Pairing of pleasant stimulus with an unpleasant responses e.g. Pairing alcohol with electric shock | Drug abuse<br>Sexual deviations |
| Flooding | Direct exposure to phobia but escape not possible | Phobias |
| Operant conditioning for increasing a behavior | Positive reinforcement<br>Negative reinforcement<br>Modeling | For augmenting an adaptive behavior |
| Operant conditioning for decreasing a behavior | Time out<br>Punishment<br>Satiation(negative practice procedure) | For demoting maladaptive behavior |



**Other physical treatments for Depression**

**Light therapy (phototherapy):**

- For the treatment of "seasonal affective disorder" (SAD) by Rosenthal
- Effects of phototherapy may be independent of melatonin and produce a "phase advance" in circadian rhythms (hence treatment may be best given first thing in the morning).
- Usually administered by use of a light box.
- Optimal intensity of light appears to be 10,000 lux.
- Ideal treatment duration is for 30 minutes (at 10,000 lux) a day.
- Although treatment response is generally noticeable within five days.
- For patients with seasonal depressive symptoms, maintenance therapy is recommended throughout the winter months

**Vagus nerve stimulation (VNS) therapy:**

- Approved for severe, recurrent unipolar and bipolar depression in July 2005.
- Left cervical vagus nerve stimulation is accomplished through leads attached to a pulse generator implanted in the left chest area.

- Response rates of 40-46% have been shown for treatment-resistant depressive disorder after 16 weeks to 9 months, with a remission rate of 29% at one year, suggesting that the effectiveness of VNS may have a slow trajectory.
- VNS may be combined with essentially all existing treatments for depressive disorders.
- It has been safely used with antidepressants (including MAOIs) and can be temporarily shut off to allow for ECT and restarted immediately post-ECT.

*****END*****