



Disorders of PERCEPTION

Hallucination

- **No stimulus**
- Perceived in **outer objective** space

Illusion

- **Stimulus present**
- Thinking of a "rope to be a snake"

- **Pseudo-hallucination** occurs in **inner subjective** space (can be seen in normal people)
- **Reflex hallucination** aka **Synesthesia** seen with **LSD** (can hear colors)

Hallucinations associated with **Narcolepsy** :

- **Hypnagogic** hallucination : While "GO"ing to sleep
- **Hypnapompic** hallucination : While waking up

Psychotic vs Neurotic hallucinations :

- **Auditory** hallucinations are mostly **psychotic** (eg. Schizophrenia)
- **Visual** hallucinations are mostly neurotic (medical cause)

Narcolepsy

- Reduced **hypocretin**
- Sleepy during the day (sleep attacks)
- **Cataplexy** (sudden loss of tone)
- DOC : **Modafinil**

Disorders of THOUGHT

Healthy thought

- Constant
- Organised
- Continuous

STREAM of thought disorder

1. **Flight of ideas** : Moves from one topic to another
2. **Pressure of speech** : Have to say a lot in a short span

*Flight of thoughts and pressure of speech seen in **MANIA***

3. **Thought block** : Depression

Circumstantiality : Beating around the bush

Prolivity : Adding masala

Perseverance : Same response to everything

FORM of thought disorder

*Characteristic of **SCHIZOPHRENIA***

1. **Derailment** : No association
2. **Neologism** : Makes new words
3. **Incoherence** : Word salad
4. **Clang words** : Rhymes

Palilalia : Repeats last word of sentence

Logoclonia : Repeats last syllable

Echo-lalia : Repeats last word of doctor

Echo-praxia : Repeats the activity of the doctor

CONTENT of thought disorders

*Seen with **DELUSIONS***

1. **Persecution** : M/c delusion
2. **Folie A deux** : Shared delusions (only treat the primary patient)
3. **De Clerembault** : Erotomania
4. **Othello** : Morbid Jealousy
5. **Cotard** : Nihilistic delusion

POSSESSION of thought disorders

*Seen with **OCD, IMPULSE, PHOBIA***

- **Thought insertion** : Someone putting thoughts in my head
- **Thought withdrawal** : Someone taking away my thoughts
- **Thought broadcast** : Others can hear what am saying

Delusions of mis-identification

CAPGRAS syndrome

- **CRAP!** Shez not my mother!
- **Known person** replaced by a stranger

FREGOLI syndrome

- **Strangers** appear like family members
- Strangers are "**wearing masks**" and coming



Grades of INSIGHT

- **GRADE 1** : Complete **denial**
- **GRADE 2** : Somewhat **agrees but denies** at the same time
- **GRADE 3** : Agrees but **blames on external factors**
- **GRADE 4** : Agrees but **doesn't apply this knowledge for future experinces** (**intellectual** insight)
- **GRADE 5** : Agrees and *wants to modify future behaviour* (**emotional** Insight)

Memory

Immediate memory : attention and concentration

ATTENTION

- **Ability to focus** without getting distracted
 - "**Digit Span test**" - Digit forward or backward
- "*Attention Span*"

CONCENTRATION

- **Sustained** attention
- **Serial 7 subtraction** test

Recent memory : 24 hour recall test

Remote memory : Old memories tested

Personality tests

- **Objective** : *Minnesota* multiphasic personality inventory
- **Subjective** : *Rochart's* ink blot, Thematic appreciation test



Rochart's ink blot



Thematic appreciation test

Theories

Sigmund Freud's structural model of mind

- **Id** : Pleasure
- **Super-ego** : Morality
- **Ego** : Reality (**decides** between Id and superego)



Topographical model of mind

- Conscious
- Pre-conscious
- Unconscious

Pavlov's experiment (classical conditioning)

Example of **Operant conditioning** (reinforcement or punishment)

- **Reinforcement** done for desired **positive behaviour** (can be positive or negative)
- **Positive** reinforcement > **Negative** reinforcement
- **Punishment** done for **negative behaviour**
- Discontinuation eventually eliminates behaviour.

Maslow's hierarchy of needs

- **Basic needs** : (Roti kapda makaan) + (Safety)
- **Psychological needs** : (Intimate relationships, friends) + (Prestige and feeling of accomplishment)
- **Self fulfillment needs** : Creativity

Freud's Psycho-Sexual stages of development

Oral (0-18 months)

- Pleasure centers on the **mouth** - sucking, biting, chewing

Anal (18-36 months)

- Pleasure focuses on **bowel** and **bladder elimination**
- Coping with demands for control
- OCD is a disorder of anal stage of development

Phallic (3-6 years)

- Pleasure zone is the genitals
- Coping with **incestuous sexual feelings** (*Oedipus complex*)

Latency (6yrs - Puberty)

- **Dormant** sexual feelings
- Child grows intellectual and social skills

Genital (Puberty)

- Maturation of sexual interests

Classical Psycho-analysis

- **Free association** (therapist lets the patient talk freely)
- **Abreaction** : Repressed memories come out when talking freely

Catharsis is when Repressed memories come out involuntarily in other forms eg. Music or painting

Parapraxis is slip of tongue

Defence Mechanisms

IMMATURE defence mechanisms

- **Regression** in milestones
- **Acting out**
- **Passive aggression**

RAP

MATURE defence mechanisms

- **Sublimation** : Sublime into another activity
- **Altruism** : Do other good activities
- **Anticipation** : Prepare well
- **Suppression** : Only **voluntary** defence mechanism, aka **Pseudo-defence** mechanism
- **Humor**

SAASH

NARCISSITIC defence mechanisms

- **Denial**
- **Projection** : Attributing own feelings on others
- **Splitting** : Black or white (seen with **borderline PD**)

DPS

NEUROTIC defence mechanisms

- **Repression** : Unconsciously forget
- **Intellectualisation**

Seen with "OCD"

1. **Displacement** : Displace someone's anger on someone else
2. **Undoing** : Trying to catch up
3. **Reaction formation** : "Dear !"
4. **Isolation of affect** : No emotions

DURI

Personality Disorders

Cluster A personality

- **Paranoid** (suspicious)
- **Schizoid** (loves to stay alone)
- **Schizotypal** (magical thinking)

Cluster B personality

- **Anti social** (criminal and hostile)
Conduct disorder if <18yrs
- **Borderline** (impulsive, suicidal female, bad relationships)
a/w **splitting**
- **Histrionic** (attention seeking)
- **Narcissitic**

Cluster C personality

- **Avoidant** (sensitive to criticism, timid)
- **OCPD** (perfectionism, ego syntonic)
OCD is ego-dystonic
- **Dependant** (need support)

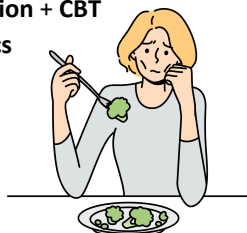
OCD

- **> 2 weeks**
- Disorder of **thought possession**
- Urges that are repetitive and unwanted
- Cause marked anxiety and distress
- T/t : **Exposure and response prevention**

Eating Disorders

Anorexia Nervosa

- Low BMI (<18.5) and **doesn't eat**
- Has **body dysmorphia**
- Associated complications are related to starvation (**refeeding syndrome, amenorrhea, osteoporosis**)
- Rx : **Nutritional rehabilitation + CBT**
- Refractory : **Anti-psychotics**



Most common eating disorder is **binge eating** disorder

Bulimia Nervosa

- Normal to **high BMI** and **compensatory behavior**
- No body dysmorphia
- Associated complications are **related to vomiting** (**Russel's sign, tooth decay, Mallory Weiss tear hypochloremic + hypokalemic met alkalosis**)
- Rx : **CBT**
- Refractory : **SSRI**



Russel's sign

(d/d **Gottron papules** seen in Dermatomyositis)

Somatoform Disorders

Un-intentional

1. **Illness anxiety disorder** : Obsessed with a "diagnosis" (aka hypochondriasis)
2. **Somatic symptom disorder** : Obsessed with a "symptom"
3. **Functional neurological disorder (ACR)** :
La Belle indifference

Intentional

1. **Malingering** : Has a secondary gain
2. **Factitious disorder** (aka Munchausen's)

Schizophrenia

DSM 5 criteria

Two or more symptoms for **> 1 month** and one must be amongst the reds

- **Hallucination**
- **Delusion**
- **Disorganised speech** (formal thought)
- **Catatonia** (DOC for catatonia : **Lorazepam**)
- **Negative symptoms**

Overall mood disturbance shall be **>6 months**

Timeline of psychotic dis.

- **Brief** psychotic episode : **< 1 month**
- **Schizophreniform** : **1-6 months**
- **Schizophrenia** : **> 6 months**

- **Delusion** : **> 1 month**
- **Schizo-affective** : Schizophrenia with **concurrent mood disorders + atleast 2 weeks of psychosis** without mood symptoms

Good prognostic factors

Sudden onset in **old lady** with **depression** and **family history** of depression.

Positive symptoms are good prognosis (because can be treated)

(Alternatives are bad prognosis)



10% of schizophrenia patients die by **suicide**

4 A's of Bleuler

Bleuler coined the term Schizophrenia and described the primary symptoms

- **Association** problems (formal thought disorder)
- **Autism** (social withdrawal)
- **Ambivalence** (can't take decision)
- **Affect** problems

Anti-psychotics

Theory for psychosis !

- **Excess dopamine** in brain
- **Typical antipsychotics** are hence **D² blockers** (S/e **Extra pyramidal** symptoms, **hyperprolactinemia**)
- **Atypical antipsychotics** work via other mechanisms (eg. Serotonin blocker), hence lesser side effects and acts on **both positive and negative symptoms**.

DOPAMINE pathways

- **Meso-limbic** pathway : **Positive** symptoms (excess D)
- **Meso-cortical** pathway : **Negative** symptoms (deficient D)
- **Nigro-striatal** pathway : **EPS** (deficient D)
- **Tubulo-infundibular** pathway : **Hyperprolactinemia** (deficient D)

Typical antipsychotics

Strong D² blocker

- **Haloperidol**

(Highest risk of **EPS**)

- **Akathisia** m/c (Propranolol) if C/I then **BZD**
- **Acute dystonia** - within **hours** (Benzhexol or promethazine - *Anticholinergic*)
- **Tardive dyskinesia** - in **years** (Valbenazine - *VMAT blocker*)
- **Drug induced Parkinsonism** (Benzhexol or promethazine - *Anticholinergic*)
- **Malignant Neuroleptic Syndrome** (Dantrolene Sodium)

Weak D² blocker

- **Chlorpromazine** (s/e **vortex keratopathy** and **cholestatic jaundice**)
- **Thioridazine**
- **Penfluridol**

Atypical antipsychotics

Clozapine 5HT^{2a} antagonist

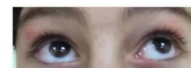
- DOC for **TRS** (treatment resistant schizo)
- Agranulocytosis (**dose independent**)
- Sialorrhea (**m/c side effect**)
- Max risk of lipodystrophy syndrome
- Can cause **Myocarditis**



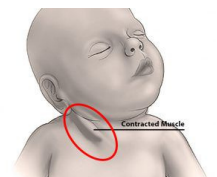
- **Ziprasidone** causes **weight loss** and **QT prolong** (Zara is QT with LBW)
- **Clozapine** and **Olanzapine** cause **metabolic syndrome**
- **Aripiprazole** is an antipsychotic that's **D2 agonist** (Not PPI)
- **Risperidone** causes max **hyperprolactinemia** (Rizz-peridone)
- **Penfluridol** is **longest acting** (Pen writes long)
- **Quetapine** causes **cataract**

- **Depot injection** (for non compliance) using Z track technique
- DOC for **psychosis in PD** : **Pimvanserin**

ACUTE DYSTONIA



Oculo-gyric crisis



Torticollis

Depression

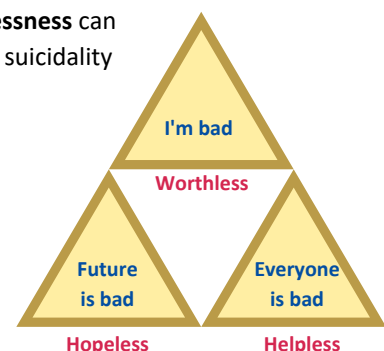
Criteria for diagnosis

Sadness along with **> 4/8** of **SIGECAPS**

- Sleep (increased or decreased)
- Interest deficit (anhedonia)
- Guilt
- Energy deficit
- Concentration deficit
- Appetite deficit
- Psychomotor (retardation or agitation)
- Suicidality

Beck's cognitive triad

- Corrected in **CBT**
- **Hopelessness** can lead to suicidality



Atypical depression

- Mood gets better when stimulated
- Hypersomnia
- Hyperphagia
- Leaden paralysis (heaviness in arms and legs)
- **M/c type of depression**
- **Rx : CBT + SSRI**

Post partum blues vs depression

- Blues resolve within 10 days while PPD doesn't
- SIGECAPS >4/8 in PPD
- **Reassure for blues** while antidepressants for PPD (**Zuranalone**)

Post partum Psychosis

- Anti-psychotics and antidepressants

Anti-depressants

Theories for cause of depression !

- **Old theory** : Decrease in **mono-amines** (5HT > NE > DA) causes depression
- **Latest theory** : Decrease in **BDNF** (Brain derived neurotrophic factor) which is responsible for **neuroplasticity**.

Typical Anti-depressants

act by increasing **serotonin** (5HT)

- **Reuptake** inhibitors (TCA, SNRI, SSRI)
- **MAO-A** inhibitors eg **Phenelzine, Moclobemide**

- **MAO - A** (Serotonin, NE, Dopamine, Tyramine)
- **MAO - B** (Dopamine)
- **MAO A** is needed for metabolism of **Tyramine**, inhibition can cause **cheese reaction** 🧀 (hypertensive crisis) (DOC : **Phentolamine**)

Non selective

Inhibit reuptake of both Serotonin and NE

Tri Cyclic antidepressants (TCA)

- **Anti-cholinergic** effect (Dry mouth)
- **Postural hypotension** (α^1 inhibited)
- **Sedation** (H^1 inhibited)
- **Toxicity** : Seizures, arrhythmia, met acidosis

T/t of TCA toxicity : **NaHCO³**

- Indicated when QRS > **100 ms**
- Corrects acidosis and arrhythmia

TCA - *amine*

Imipr-*amine*
Desipr-*amine*
Clomipr-*amine*
Amine-tryptiline
Nor-tryptiline

Am-ox-*apine* 🗨️

(TCA with antipsychotic activity)

SNRI

- **Lesser side effects** than TCA
- **DOC for Severe depression**

Du ven severely depressed

Duloxetine
Venlafaxine

Selective

Only inhibits reuptake of Serotonin

SSRI

- **DOC** for **mild-moderate** depression
- **DOC** for *most neurotic disorders*

Flu sit sir

Flu-oxetine	Citalopram
Flu-voxamine	Es-citalopram
Paroxetine	Sertraline
Dapoxetine	

Adverse effects of SSRI

- M/c **acute SE** is **nausea** and **vomiting**
- M/c **long term SE** : **Sexual side effects** (anorgasmia, premature ej.)
- Premature ej. can be treated with **Dapoxetine**
- **Discontinuation syndrome**, flu like symptoms when antidepressants are stopped (least with **fluoxetine**)

Atypical Anti-depressants

Works by various mechanisms

- **Bupropion** (anti smoking, low sexual side effects, minimum weight gain)
- **Mirtazapine** (least sexual side effects)
- **Trazadone** (causes priapism)
- **Zuranolone** (approved for Post Partum Depression)
- Brexanolone
- Esketamine

- Antidepressant of choice in **pregnancy** : **Sertraline** (SSRI)
- Most **teratogenic** : **Paroxetine**
- TCA used in **nocturnal enuresis** : **Imipramine**
- TCA for **neuropathic pain** : **Amitryptaline**
- TCA for **cocaine dependence** : **Desipramine**
- DOC for **insomnia in blind** : **Tasimelton**

- **Fluoxetine** takes **4-6 weeks** to show effect
- **Anti smoking drugs** : **Varenceline** (partial agonist at nicotinic receptors), **Bupropion** (NDRI)
- **Buspiron** : anti-anxiety drug

Bipolar disorder

Criteria for MANIA

- > **1 week** (unless hospitalised)
- Marked functional impairment
- Psychotic features may or may not be present

Criteria for hypo-MANIA

- ≥ **4 days** (consecutive)
- No functional impairment
- No psychotic features

- **Mania** with or without depression is **Bipolar 1**
- **Hypomania + Depression** is **Bipolar 2**

If **2 years** of fluctuating mood with **hypomania** and **sadness** (not depression) : **Cyclothymia**

> **4** mood episodes in a year : **Rapid cycle BPD**

Management of mood disorders

- DOC in **acute mania** : **Lithium** + Atypical **anti-psychotics**
- DOC for **prophylaxis of mania** : **Lithium**
- Mood stabiliser with **anti-suicidal** properties : **Lithium**
- DOC in **rapid cyclers** : **Valproate**
- Effective in **depression** : **Lithium** and **Lamotrigine**
- DOC in **pregnancy** : **Only anti-psychotics** (**Lithium** is **teratogenic**)

Lithium

- Half life of **24 hours**
- Takes **4-5 days** to show effect (steady state)
- Absorbed by **ENaC** (toxicity in cases of starvation/dehydration/diuretics)
- Narrow therapeutic index
- **Therapeutic levels** : **0.8-1.2**
- **Prophylactic levels** : **0.5-0.8**
- **Toxicity** : **>1.5**
- Measurement : **12 hours** after last dose
- S/e : **Leukocytosis**, increased **urination**, **fine tremors**, **hyperPTH**
- Toxicity : **Diarrhea**, **Ataxia**, **Tremors**
- If taken in pregnancy : **Box shaped heart** (Ebstein's anomaly)
- **Fine tremors** : Side effect (*it's fine*)
- **Coarse tremors** : Toxicity
- Treatment for toxicity : **Hemodialysis**

Anxiety disorders

Panic attack

- Isolated event
- Feeling of "impending doom"
- T/t : **BZD** (*ECG done in all to rule out organic causes*)

Panic disorder

- > **1 month**
- "Persistent concern" about having another attack
- May be associated with **Agoraphobia** (fear of places from which escape is difficult)
- Rx : **BZD**

General anxiety disorder

- > **6 months**
- Excessive anxiety about **everything in general**

Adjustment disorder

- **Mild** stressor (breakup, divorce)
- < **6 months**

Acute stress disorder vs PTSD

- Life threatening event
- **Flashbacks**
- ASD < **1 month**, PTSD > **1 month**
- **EMDR** is useful
- TOC : **CBT**

Phobia

- > **6 months**
- Out of proportion fear
- TOC : **SSRI**

Childhood Psychiatry

ADHD (2 X 6 = 12)

- ≥ 6 months
- At 2 settings and onset before 12 years
- Earlier known as **minimal brain damage**
- Higher occurrence of **alcoholism** and **anti-social PD**
- 1st line : **CBT**
- > 6 years : **Stimulants** (Methylphenidate, amphetamines)
- < 6 years : **Atomoxetine**

Autism Spectrum disorder

- Decreased eye contact (*impaired social interaction*)
- Repetitive movements
- IQ can be normal (**Asperger Syndrome**)
- Reduced IQ (regression of milestones)
 1. **Rett Syndrome (MECP 2 gene, XLD)**
 2. **Heller's Syndrome**

Tourette Syndrome

- **Motor** and **vocal tics** present (not necessary to be concurrent)
- Psychiatric cause (no organic problem)

Nocturnal enuresis

- Bed wetting >5 years of age
- 1st line : **Bell and pad** (Operant conditioning)
- Refractory : **Desmopressin**
- TCA that can be used : **Imipramine**

Selective mutism

- Child doesn't talk to **selective people**
- Onset < 5 years

Oppositional defiant disorder

- Anger and irritability towards **authority figures**

Disruptive mood dysregulation disorder

- **Always angry** child
- Temper outbursts
- Onset < 10 years

Intermittent explosive disorder is an IMPULSE disorder in **adults**

Mental healthcare act 2017

- Decriminalization of suicide
- Restriction on use of ECT
- Advance directive (on how to treat/ not treat)
- Nominated representative to take decisions
- Voluntary admission (30 days)

Muscle relaxant used in ECT is **Succinylcholine** and anaesthetic used is **Methohexital** (no anti-epileptic property)

Delirium vs Dementia

- Delirium is **acute** and has a **fluctuating course**. Patient is **disoriented** (seen in hospitalised patients)
- Dementia has a **chronic** course
- MMSE (**Folstein's test**) done for delirium assessment
- $< 24/30$ indicates delirium

Alcohol

- Legal limit : **30 mg/dl**
- Excitement : **50-150 mg/dl**
- Critical level : **150 mg/dl**
- In-coordination : **150-250 mg/dl**
- Coma : **250mg/dl**

"M" in alcohol

- **Mellanby effect** : Better kick **while** drinking
- **Marchiafava Bignami** : *Corpus Callosum demyelination* on long term drinking
- **Morbid** jealousy
- **McEwen** sign : Mydriasis on high doses
- **Wernicke's encephalopathy** : Thiamine def (Korsakoff Psychosis if untreated)

Alcohol withdrawal

1. **Earliest** : tremors (< **24hrs**)
 2. **Alcoholic hallucinosis** : Visual hallucinations + **Intact orientation (12-24 hrs)**
 3. **GTCS** : **24-48 hrs**
 4. **Delirium tremens** : Hallucinations + **Loss of orientation (48-72 hrs)**
- DOC : **BZD (Lorazepam) + Thiamine**
 - BZD safe in liver failure : **Lorazepam , Oxazepam, Temezepam (LOT)**
 - Anti craving : **Naltrexone > Acamprostate**

Alcoholic hepatitis

- **AST > ALT** In alcoholic hepatitis
- **Carbohydrate deficit transferrin > GGT** : Best marker
- **Mallory-Denk bodies** seen

Methanol poisoning

- **Snow field vision**
- Hooch tragedy
- **Putamen** necrosis (**MP**)

Ethylene glycol poisoning

- aka **Anti-freeze/ brake fluid**
- **PCT** necrosis due to oxalic acid formation

T/t : **Fomepizole + Ethanol**

Alcohol detection tests

- **Windmark formula** : To detect conc. of alcohol in blood
- **Henry Gas law** : In breath analyser
- Max conc. of alcohol : **Urine**

Opioids

- **Heroin** (aka **brown sugar/ smack/ dope**) is abused
- Depressant (depressed mental status, resp depression, constipation)
- Miosis

Opioid withdrawal (aka **Cold turkey** due to appearance of **goose bumps on skin**)

- Lacrimation
- Diarrhoea
- Mydriasis

Toxicity DOC : Naloxone

Withdrawal : Methadone



Chasing the dragon

Heating and puff inhalation

Speedballing : Cocaine + Heroin

Hot Shot : Heroin + Strychnine

Micky Finn : Chloral hydrate

Cholinergic + Anticholinergic manifestations

- Opioid withdrawal
- SSRI toxicity

Substance Abuse

Phencyclidine (Angel dust)

- Hallucinogen
- **Dissociation** (Ketamine is a phencyclidine)
- Amnesia

LSD (acid, paper)

- Hallucinogen
- **Bad trips, flashbacks**
- **Synesthesia**

Cannabis (weed, grass)

- Hallucinogen
- **Bhang/ Majoon** : Leaf
- **Ganja** : Flower top
- **Charas/Hasish** : Stem resin (Most potent)
- Smell of **burnt rope**
- Increased appetite + Conjunctival injection
- Amotivational syndrome
- **RUN AMOK** (homicide f/b suicide)

M/c abused substance

- India : **Tobacco** > Alcohol
- World : **Cannabis**

Cocaine (Snow, white lady, coke, crack)

- **Stimulant**
- Tachycardia , hypertension
- **Mydriasis**
- **Magnan** bugs (tactile hallucination)
- Nasal septum perforation
- Black teeth

Tactile Hallucinations D/D :
C - Cocaine
E - Ergot
A - Arsenic

Amphetamine (ecstasy, crystal meth, ice)

- **Stimulant**
- **Paranoid hallucinatory syndrome**
- **Mydriasis**

Mydriasis	Miosis
Toxicity <ul style="list-style-type: none"> • Cocaine • Amphetamine (MDMA) • Alcohol (McEwan) Withdrawal <ul style="list-style-type: none"> • Opioid withdrawal 	Toxicity <ul style="list-style-type: none"> • OP • Opioids • Nicotine • Carbolic acid poisoning

Psychiatric Emergencies

- **CNS + CVS** : TCA toxicity (DOC : NaHCO_3)
- **MAO (-) + Cheese/wine** : Cheese reaction (DOC : **Phentolamine**)
- **AMS + Fever + Muscle rigidity** {h/o **antipsychotic drug** intake} : NMS (t/t : **Dantrolene Sodium**)
- **AMS + Clonus**, **anti-depressants** + **bupropion/tramadol/St. John's Wort/ Linezolid** : **Serotonin Sx**