

9. Benzodiazepines
MOA: Bind and ↑ FREQUENCY of GABA-A - ↓Neuronal Firing → CNS depression
Diazepam – long acting
Alprazolam – Short acting
Midazolam – Short acting
Lorazepam
Triazolam
USE: Anxiety, insomnia, seizures/spasm, alcohol withdrawal, status epilepticus, procedures, parasomnia
SE: CNS depression (< Barbs), amnesia, paradoxical excitement (elderly/children), abuse, ataxia
CI: CNS depressants, pregnancy **Antidote: Flumazenil**

Toxidrome – Sedative-hypnotic
 Bradycardia
 Decreased respirations
 Decreased bowel sounds
 Dry skin

8. CNS Stimulants – (-phenate, -phetamine)
MOA: 1. Increased release of monoamines from vesicles 2. Reverse monoamine reuptake (NET, DAT, SERT)
Amphetamine
Methylphenidate
Dexmethylphenidate
Lisdexamfetamine
USE: ADHD, Narcolepsy
SE: Arrhythmia, CNS stimulation, Weight loss, Psychosis, Abuse potential and dependence, insomnia
CI: MOA inhibitors, SSRIs

7. 2nd Gen Anti-Psychotics – Atypicals(-apine,-idine)
MOA: Blockade of D₂ & 5-HT receptors
Clozapine – **SE:** Agranulocytosis, Hypersalivation, myocarditis, dilated cardiomyopathy
Olanzapine – Blocks H1 and α1 receptors
Olanzapine – Diabetes, weight gain, dyslipidemia
Asenapine
Ziprasidone – Prolong QT, ↑Absorption with food
Risperidone, Paliperidone – Hyperprolactinemia, EPS
Aripiprazole – BPD, OCD, Depression – 5-HT partial agonist, CYP substrate
loperidone – Orthostatic hypo, prolonged QT

6. 1st Gen Anti-Psychotics – Neuroleptics (-azine)
MOA: Blockade of D₂ receptors - ALSO blocks M/α/H receptors
Haloperidol – High potency
Fluphenazine – High potency
Loxapine – Mid potency
Chlorpromazine – Low potency
Thioridazine – Low potency – Long QT
USE: Schizophrenia, Tourette's syndrome, aggression
SE: EPS – Facial spasms, dyskinesia, Parkinsonian
 Cardiotoxicity (arrhythmia) – Torsades
 Anticholinergic affects – M block
 Orthostatic hypotension – α block
 Sedation – H block
 Prolactin release – Hypothalamic
Neuroleptic Malignancy syndrome – Fever, stiff, ANS dysfunction → TX: Stop meds, Dantrolene, bromocriptine
CI: MAOIs, SNRIs, other serotonin drugs

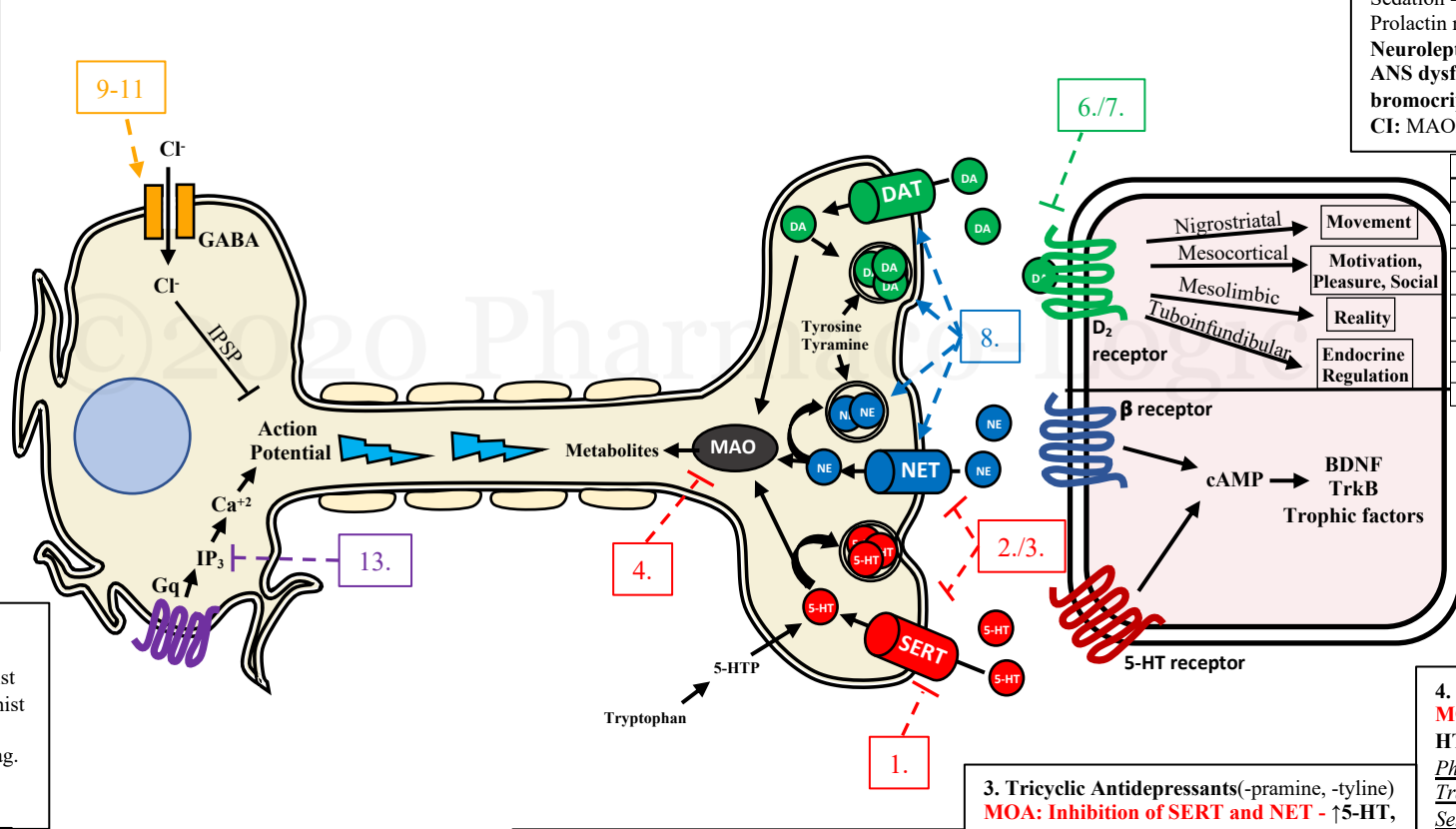
Toxidrome – Neuroleptic
 Increased muscle tone - rigid
 Diaphoresis
 Increased Temperature
 Decreased reflexes
 TX: Dantrolene, Bromocriptine

10. Barbiturates - Barbadurates
MOA: Bind and ↑ DURATION of GABA - ↓Neuronal Firing → CNS depression
Thiopental - Short acting
Secobarbital - medium acting
Phenobarbital – long acting
USE: Seizures, Anesthesia (thio)
SE: CNS/Resp. depression, ↓HR/BP, Dependence, Tolerance, Porphyria, Hangover
CI: CNS depressants, pregnancy
CYP inducer – Drug/drug (PK)

11. Z-drugs – Benzo-like drugs
MOA: Bind to α subunit of GABA - → CNS depression
Zolpidem – fast onset
Zaleplon – for induction of sleep
Eszopiclone – unpleasant taste
USE: insomnia
SE: Headache, drowsiness, dreams
CI: CNS depressants

12. Misc. Sedative Hypnotics
MOA: Mixed mechanisms
Ramelteon – Melatonin (MT_{1/2}) agonist
Tasimelteon - Melatonin (MT_{1/2}) agonist – circadian rhythm, CYP substrate
Suvorexant – Orexin receptor 1/2 antag.
PK: CYP substrate, Albumin bound
USE: insomnia

13. Mood Stabilizers – Lithium
MOA: Similar to Na⁺ → 1. Altered sodium Transport 2. interruption of the IP₃ signaling pathway
USE: Bipolar disorder
SE: Convulsions, tremor, ataxia, tinnitus, blurred vision, Nephrogenic diabetes insipidus, Hypothyroidism
CI: Diuretics – Na⁺ depletion increases toxicity, Anticholinergics, NSAIDs, CCBs, ACE inhibitors,
Pregnancy – Ebstein's anomaly



1. Selective Serotonin Reuptake Inhibitors - SSRIs
MOA: Selective inhibition of SERT - ↑5-HT
Fluoxetine – CYP substrate
Fluvoxamine
Paroxetine
Sertraline
Citalopram – Long QT
Escitalopram – Long QT
USE: Depression, OCD, Panic/Eating disorders,
SE: Sexual dysfunction, serotonin syndrome, SIADH bleeding, weight gain, suicidal thoughts, withdrawal
PK: long T1/2 – 4 weeks to reach steady state
CI: MAOIs, SNRIs, other serotonin drugs

Toxidrome - Serotonin syndrome
 Tachycardia
 Autonomic instability - mydriasis
 Diaphoresis
 Hyperreflexia – stiff as a board
 Diarrhea
 TX: Cyproheptadine (5-HT antag.)

2. Serotonin/Norepi Reuptake Inhibitors - SNRIs
MOA: Inhibition of SERT and NET - ↑5-HT, ↑NE
Venlafaxine
Duloxetine – TX: fibromyalgia, CYP substrate
Desvenlafaxine
Levomilnacipran
Milnacipran – TX: fibromyalgia
USE: depression, anxiety/panic, neuropathy
SE: anorexia, nausea, erectile dysfunction, HTN
CI: SSRIs, MAOIs, Alcohol (Duloxetine)

3. Tricyclic Antidepressants(-pramine, -tyline)
MOA: Inhibition of SERT and NET - ↑5-HT, ↑NE, ALSO blocks M/α/H receptors & Na⁺
Imipramine – SERT>NET
Amitriptyline - SERT>NET
Amoxipine – MOST TOXIC
Desipramine - NET>SERT
USE: Depression, Schizoaffective, OCD, Panic, ADHD, Fibromyalgia/neuropathy, Bipolar
SE: Cardiotoxicity (arrhythmia)– TX: Bicarb
 Anticholinergic affects – M block – TX: AChEI
 Orthostatic hypotension – α block - TX: fluids
 Sedation - H block, sexual dys, weight gain
CI: SSRIs, MAOIs, SNS agonists, CNS depressants, Anticholinergics, elderly patients

4. Monoamine Oxidase Inhibitors - MAOIs
MOA: Irreversible inhibition of MAO- ↑5-HT, ↑NE, ↑DA
Phenelzine
Tranylcypromine
Selegiline – transdermal patch (MAO-B)
USE: atypical depression, OCD/Panic, Bulimia
SE: Hypertensive crisis, ANS dysfunction, Sexual dysfunction, TX: phentolamine
CI: SSRIs, SNRIs, Tyramine rich foods

5. Atypical Antidepressants - MOA: Mixed mechanisms - ↑5-HT signaling
Bupropion – NET/DAT > SERT inhibitor
 NO weight Gain, NO sexual Dysfun, ↑Seizures
Vortioxetine - 5-HT₃ antagonist, 5-HT_{1a} agonist
Mertazapine - 5-HT_{2/3} & α₂/H1 Antagonist
Nefazadone - 5-HT_{2a} antagonist
Trazadone - 5-HT_{2a} & α₁ antagonist - priapism

Condition	Drug of Choice
ADHD	Stimulants - 8
Alcohol withdrawal	Benzodiazepines - 9
Bipolar disorder	Lithium - 13
Bulimia nervosa	SSRIs - 1
Depression	SSRIs - 1
Generalized anxiety	SSRIs, SNRIs - 1,2
OCD	SSRIs, Venlafaxine -1,2
Panic disorder	SSRIs, Benzos - 1,9
PTSD	SSRIs -1
Schizophrenia	2nd gen Anti-psychotics -7