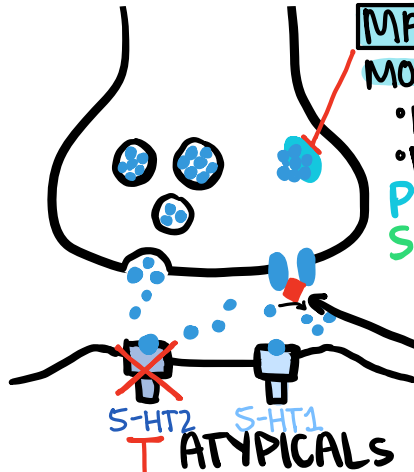


ANTI-DEPRESSANTS and ANXIOLYTICS



MAO inhibitors irreversible antagonists of MAO
 MOA: inhibit monoamine NT degradation in pre-synaptic neuron
 • MAO-A affects ALL monoamines. Present in GIT for tyrosine degradation
 • MAO-B only affects **dopamine**
Phenelzine (A+B) food containing tyrosine → **hypertensive crisis**
Selegiline (B selective) low dose may avoid food-induced toxicities

Serotonin Modulators

Trazodone 5-HT₂/α₁ antagonist
 Toxicities: **Somnolence** ↓
Mirtazapine 5-HT₂/α₂ antagonist
 ↑ signaling by ↑ NE release ↓
 Toxicities: **Sedation** (H₁), **weight gain**
DNRI inhibition of dopamine reuptake
Bupropion
 Toxicities: ↑ risk of **seizures** but NO sexual dysfunction

BUSPIRONE
 MOA: Partial agonist of inhibitory 5-HT₁ autoreceptor

SNRIs inhibition of serotonin/NE reuptake
Desvenlafaxine
Duloxetine CYP inhibition
 Toxicities: **sexual dysfunction**
Tricyclics SNRI AND H₁, α₁, MI-MS antagonists
Amitriptyline Sedation
 Anticholinergic
 orthostatic hypotension

SSRIs inhibition of serotonin reuptake and ↑ signaling
 PK: long half lives → long time to achieve full effect
 ↑ BDNF expression needed to ↑ hippocampus size
Citalopram (35h) prolonged QT → Torsades
Escitalopram (30h)
Fluoxetine (72h) } drug interactions
Sertraline (26h) diarrhea
Paroxetine (20h) pregnancy X
 Toxicities: **Sexual dysfunction**



Depression
Anxiety

General Anesthetics

MOA: GABA_AR positive modulator. ↑ Cl⁻ entry into cell
Inhaled: nitrous gas
Volatile liquids:
desflurane airway irritant
sevoflurane potent coronary vasodilator
isoflurane
 Toxicities: PONV, malignant hyperthermia (dantrolene)
Intravenous:
Etomidate ↓ RR
Propofol ↓ BP and ↓ RR
 ↳ anti-emetic effects
Ketamine ↑ BP
 MOA: glutamate antagonist
 Toxicities: **emergence reaction**
 dissociative effects → **psychosis**

Benzodiazepines MOA: ↑ potency of GABA at receptors → ↑ Cl⁻ entry into cell → hyperpolarization → ↓ rate of fire → anxiolysis
 Toxicities: **psychomotor impairment**, phys/psych dependence
 Other uses: insomnia, alcohol withdrawal, anesthesia, seizures
Short Alprazolam, Midazolam, Triazolam
Mod Clonazepam, Lorazepam, Oxazepam, Temazepam
Long Diazepam, chlordiazepoxide
 Reversal: **FLUMAZENIL**
 α₂-5 receptors mediate anxiolysis for acute anxiety
Hypnotics
"Z" drugs MOA: GABA_AR ⊕ modulators of α₁ subunit • sedation
Zaleplon
Zolpidem
Eszopiclone
Ramelteon MOA: melatonin receptor agonist
 ↳ metabolites

Hydroxyzine anti-histamine (H₁) w/ sedating effects related to anxiolytic effect ± anti-cholinergic toxicities