Pharmacology for Anxiety and Depression Management

Quick Reference Guide

This quick reference guide is designed for primary care physicians managing depression and anxiety disorders. Review the information presented here to help you choose the best antidepressant and/or anxiolytic for your patients.

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SSRIs

SSRIs are first line medications for both anxiety and depression.

For all SSRIs, the prescribing physician should be aware of the black box warning. Antidepressants increased the risk of suicidal thoughts and behaviors in pediatric and young adult patients in short-term studies.

Closely monitor all antidepressant-treated patients for clinical worsening and for emergence of suicidal thoughts and behaviors. Escitalopram is not approved for use in pediatric patients <12 years of age.

Prescribing physicians should also be aware that SSRIs are habit forming and lead to physiological dependence.

SSRIs

Drug	Uses	Dose Range	Advantages	Side Effects	Disadvantages
Zoloft (sertraline)	**FDA approved for:** MDD, PD, PTSD, SAD, OCD **Commonly also used for:** GAD	50-200 mg daily Start with 25mg daily for 1-2 weeks, then increase to 50 mg daily	Safest choice for pregnancy and breast-feeding Safe for patients with recent MI or angina	GI issues, insomnia or sedation, headaches, dizziness tremors; typically remit within 1-2 weeks Sexual dysfunction, sweating; persistent, weight gain	Can be activating Longer dose titration May see more GI side effects (diarrhea) when starting Zoloft as compared to other SSRIs
Lexapro (escitalopram)	**FDA approved for:** MDD, GAD **Commonly also used for:** Anxiety disorders	10-20 mg daily For geriatric patients or patients sensitive to medications, Start with 5 mg daily for 1-2 wee\ks, then titrate up **For geriatric patient population dose should not exceed 10 mg daily**	Few drug-drug interactions; good for geriatric patient population Shorter titration to max therapeutic dose Generally well tolerated	GI issues, insomnia or sedation, headaches, dizziness, tremors; remit within 1-2 weeks Sexual dysfunction, weight gain	Sedating, can move to night if preferred
Celexa (citalopram)	**FDA approved for:** MDD **Commonly also used for:** Anxiety disorders	20-40 mg daily DO NOT EXCEED 40 mg dose **For geriatric patient population dose should not exceed 20 mg daily**	Generally well-tolerated	GI issues, insomnia or sedation, headaches, dizziness, tremors; typically remit Sexual dysfunction	QTc prolongation > 40mg Mild anti-histamine properties; can be sedating. Can move to night if too sedating

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SSRIs (cont.)

Drug	Uses	Dose Range	Advantages	Side Effects	Disadvantages
Paxil (paroxetine)	**FDA approved for:** MDD, GAD, Panic do, PTSD, SAD, OCD	10 – 60 mg daily; should be taken at night due to sedating effect	Some patients may experience relief of insomnia and/or anxiety quickly after initiation Available in CR formulation	Sedation, weight gain, dry mouth, constipation, GI issues, headaches, dizziness, tremors, sweating	Do Not Use in Pregnancy Weight gain greater than other SSRIs Potent CYP450 2D6 inhibitor; drug-drug interactions Potent discontinuation syndrome, must taper off slowly
Prozac (fluoxetine)	**FDA approved for:** MDD, PD, OCD	20-80 mg daily (usually best tolerated when taken in the morning)	Long half life – can be prescribed once per week dosing; good for patients with compliance issues OCD Bulimia	GI issues, insomnia or sedation, headaches, dizziness, tremors; typically remit within 1-2 weeks Sexual dysfunction	Activating>>may initially increase anxiety but temporary Potent CYP450 2D6 inhibitor; drug-drug interactions
Luvox (fluvoxamine)	**FDA approved for:** OCD, SAD	100-300 mg; often given QHS due to sedation	Early relief of insomnia and/or anxiety after initiation OCD	GI issues, insomnia or sedation, headaches, dizziness, tremors; remit within 1-2 weeks Sexual dysfunction	Longer dose titration; may require BID dosing Greater GI side effects Watch out for drug drug interactions. Potent inhibitor of CYP1A2 and CYP2C19. Moderate inhibitor of CYP2C9, CYP2D6, and CYP34A. Drug-drug interactions.

SNRIs

For all SNRIs, the prescribing physician should be aware of the black box warning. Antidepressants increased the risk of suicidal thoughts and behaviors in pediatric and young adult patients in short-term studies. Closely monitor all antidepressant-treated patients for clinical worsening and for emergence of suicidal thoughts and behaviors.

Prescribing physicians should also be aware that SNRIs are habit forming and lead to physiological dependence.

SNRIs

Drug	Uses	Dose Range	Advantages	Side Effects	Disadvantages
Cymbalta (duloxetine)	**FDA approved:** MDD, GAD	30-60 mg daily May start at 20mg daily for sensitive patients and older adults. May give full dose daily or BID.	Good for patients with co-morbid pain and depression	Nausea (BID dosing may help), diarrhea, decreased appetite, dry mouth, constipation (dose dependent) Sexual dysfunction (may be less than with SSRIs), sweating	Can increase BP (less so than Effexor) Can cause urinary retention Do not use in patients with chronic renal impairment of liver disease
Effexor (venlafaxine)	**FDA approved:** MDD, GAD, SAD, PD	Extended release: 150-225 mg daily; less side effects with extended release Start 37.5 or 75 mg daily and titrate up	Minimal drug-drug interactions May have added benefit in patients with migraines	Headache, nervousness, insomnia, sedation, nausea, diarrhea, decreased appetite; typically remit Sexual dysfunction, sweating; persistent	Can increase BP (dose dependent) Can cause more nausea and GI side effects on initiation than SSRIs Shorter half life (5 hours): more discontinuation effects when tapering off medication

Other Mechanisms of Action: Antidepressant and/or Anti-Anxiety

For all mirtazipine, the prescribing physician should be aware of the black box warning. Antidepressants increased the risk of suicidal thoughts and behaviors in pediatric and young adult patients in short-term studies. Closely monitor all antidepressant-treated patients for clinical worsening and for emergence of suicidal thoughts and behaviors.

Prescribing physicians should be aware that the following medications are habit forming and lead to physiological dependence. Benzodiazepines should not be used for long-term anxiety relief.

OTHER MECHANISMS OF ACTION: ANTIDEPRESSANT AND/OR ANTI-ANXIETY

Drug	Mechanisms of Action	Uses	Dose Range	Advantages	Side Effects	Disadvantages
Remeron (mirtazapine)	Dual serotonin and norepinephrine agent	**FDA approved:** MDD. Often used off-label for anxiety	7.5-45mg QHS; give at bedtime as medication is sedating *Note paradoxical effect: at lower doses, Remeron is MORE sedating. Effect on mood occurs at higher doses.	Beneficial for patients with poor sleep and/or poor appetite Less sexual side effects Does not affect CYP450 System; less drug-drug interactions	Sedation, increased appetite, weight gain, dry mouth, dizziness, vivid dreams, hypotension	Significant weight gain Daytime sedation/ grogginess (more so at LOWER doses)
Buspar (buspirone)	Partial serotonin agonist	**FDA approved:** GAD Can also be used to AUGMENT SSRIs or SNRIs for better therapeutic effect	15-30 mg BID; if too sedating can give full dose at bedtime	No sexual side effects Less weight gain Discontinuation well tolerated	Dizziness, headache, nervousness, sedation, nausea, restlessness; typically remit	Significant weight gain Daytime sedation/ grogginess (more so at LOWER doses)
Valium (diazepam)	Benzodiazepine	**FDA approved:** GAD, PD	5-25 mg three times daily; maximum 40 mg daily Long half life (20-100 hours)	Effective and rapid onset	Sedation, fatigue, dizziness, ataxia, slurred speech, weakness, forgetfulness, confusion Respiratory depression especially when taken with CNS depressants in overdose	Sedating, rebound anxiety, addiction potential Increased risk for falls and fractures in geriatric patient population Paradoxical disinhibitory effect

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OTHER MECHANISMS OF ACTION: ANTIDEPRESSANT AND OR ANTI-ANXIETY (cont.)

Drug	Mechanisms of Action	Uses	Dose Range	Advantages	Side Effects	Disadvantages
Klonopin (clonazepam)	Benzodiazepine	**FDA approved:** GAD, PD	.25-2mg per day either as divided doses or once daily Half life: 18-50 hours	Effective and rapid onset	Sedation, fatigue, dizziness, ataxia, slurred speech, weakness, forgetfulness, confusion Respiratory depression especially when taken with CNS depressants in overdose	Sedating, rebound anxiety, addiction potential Increased risk for falls and fractures in geriatric patient population Paradoxical disinhibitory effect
Ativan (lorazepam)	Benzodiazepine	**FDA approved:** GAD, PD	.5-1 mg three to four times daily Half life: 10-20 hours	Effective and rapid onset	Sedation, fatigue, dizziness, ataxia, slurred speech, weakness, forgetfulness, confusion Respiratory depression especially when taken with CNS depressants in overdose	Sedating, rebound anxiety, addiction potential Increased risk for falls and fractures in geriatric patient population Paradoxical disinhibitory effect
Xanax (alprazolam)	Benzodiazepine	**FDA approved:** GAD, PD	.25-1 mg three times daily; maximum 4 mg/day Half life: 6-12 hours	Effective and rapid onset	Sedation, fatigue, dizziness, ataxia, slurred speech, weakness, forgetfulness, confusion Respiratory depression especially when taken with CNS depressants in overdose	Sedating, rebound anxiety, addiction potential Increased risk for falls and fractures in geriatric patient population Paradoxical disinhibitory effect
Neurontin (gabapentin)	Voltage gated calcium channel blocker	**FDA approved:** None; use is off-label for anxiety	300-1800 mg daily in 3 divided doses; can also be used on a PRN basis 100-600 mg	Neuropathic pain Mild side effect profile Few drug-drug interactions Can be utilized for sleep	Sedation, ataxia, tremor, GI issues	

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OTHER MECHANISMS OF ACTION: ANTIDEPRESSANT AND OR ANTI-ANXIETY (cont.)

Drug	Mechanisms of Action	Uses	Dose Range	Advantages	Side Effects	Disadvantages
Atarax (hydroxyzine)	Antihistamine	**FDA approved:** anxiety	25-100 mg up to 4 times daily	Sleep No abuse, dependence, withdrawal	Dry mouth, sedation, tremor	Elderly; should be avoided in dementia patients
Atenolol	Selective B-1 blocker	**FDA approved:** None; use is off-label for anxiety	25-50 mg daily	Bradycardia, hypotension, fatigue, dizziness, vertigo, sexual dysfuntion	Targets autonomic hyperactivity	Certain SSRIs can increase levels of beta-blockers due to 2D6 inhibition (Prozac)
Propranolol	Non-selective beta- blocker	**FDA approved:** None; use is off-label for anxiety	10-40 mg up to 3 times daily	Bradycardia, hypotension, fatigue, dizziness, vertigo, sexual dysfuntion	Targets autonomic hyperactivity	Crosses blood-brain barrier, may worsen depression Contraindicated in patients with asthma and severe COPD; can inhibit bronchodilation Certain SSRIs can increase levels of beta-blockers due to 2D6 inhibition (Prozac)

Choosing the Right Medication

Safety considerations

- Drug-drug interactions
- Age
- Pregnant? Breast-feeding?

Efficacy considerations

- Previously prescribed medications?
- Any family members prescribed antidepressants with good effect?

Tolerability considerations

- Consider side effect profile and what patient might tolerate best

Availability considerations

- Consider cost for patient

Considerations for Geriatric Patient Population

- **Start LOW and go SLOW**
- SSRIs > SNRIs
- Consider drug-drug interactions
  - Antidepressants LEAST likely to interact with CYP450 system: Lexapro
- QTc prolongation
  - Lexapro: do not dose > 10 mg daily
  - Celexa: do not dose > 20 mg daily
- SIADH; hyponatremia
- Osteoporosis

Key Points

- Drug-drug interactions
- Rule out organic etiology
- Screen for psychiatric co-morbidities
- First line agents: SSRIs, SNRIs, Buspar
  - **Zoloft:** well-tolerated and effective
  - **Lexapro:** Geriatric patients or patients on complex medication regimens
  - **Cymbalta:** Patients with chronic pain, fibromyalgia, migraines
- Adjuncts
  - Short-term to mitigate anxiety when starting on first line agents or long-term as augmenting agents
- Sleep
  - PRN trazodone, atarax, gabapentin
- Length of treatment
  - One year then taper and monitor for recurrence

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Have questions? We are here to help you.

You may:

- Contact the Provider Engagement Team
- Email us at mshp@mountsinai.org