3. Pharmacological Overview

Antidepressants encompass several pharmacological classes with distinct toxic profiles:

- **Tricyclic antidepressants (TCAs):** potent sodium-channel blockers with high lethality.
- **Selective serotonin reuptake inhibitors (SSRIs):** safer, but can cause serotonin syndrome or QT prolongation.
- **Serotonin-norepinephrine reuptake inhibitors (SNRIs):** risk of seizures and hypertension.
- **Monoamine oxidase inhibitors (MAOIs):** rare but highly toxic when combined with tyramine or serotonergic drugs.
- **Atypical antidepressants:** such as bupropion (seizure risk) and mirtazapine (sedation, mild toxicity).

A 2025 review by Wilson et al. emphasized that toxicity severity correlates more with individual pharmacodynamic properties rather than dose alone, explaining why SSRIs remain relatively safer yet not benign.

References

- Wilson, H. R., et al. (2025). *Cardiotoxic Mechanisms of Tricyclic Antidepressants and Clinical Implications.* **Frontiers in Pharmacology**, 16, 1379211. https://doi.org/10.3389/fphar.2025.1379211
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