

# A Provider's Quick Reference: Benzodiazepines

Generic Name (Available Brand)	Available Tablet Strengths	Pharmacokinetic Parameters*	Approx. Equivalent Dose
<b>Alprazolam</b> (IR, ER) (Xanax, Xanax XR)	0.25 mg, 0.5 mg, 1 mg, 2 mg ER: 0.25 mg, 0.5 mg, 1 mg, 2 mg, 3 mg	Half-Life: 6-26 hrs (ER: 10-16 hrs)	0.5-1 mg
<b>Chlordiazepoxide</b>	5 mg, 10 mg, 25 mg	Half-Life: 24-48 hrs <i>Highly Lipophilic</i>	25 mg
<b>Clonazepam</b> (Klonopin)	0.5 mg, 1 mg, 2 mg ODT: 0.125 mg, 0.25 mg, 0.5 mg, 1 mg, 2 mg	Half-Life: 18-50 hrs	0.5mg
<b>Clorazepate</b> (Tranxene-T)	3.75 mg, 7.5 mg, 15 mg	Half-Life: 40-50 hrs	15 mg
<b>Diazepam</b> (Valium)	2 mg, 5 mg, 10 mg	Half-Life: 20-80 hrs <i>Highly Lipophilic</i>	<b>10 mg</b>
<b>Estazolam</b>	1 mg, 2 mg	Half-Life: 10-24 hrs	2 mg
<b>Flurazepam</b>	15 mg, 30 mg	Half-Life: 2.3 hrs (metabolites: 47-100 hrs)	15-30 mg
<b>Lorazepam</b> (Ativan)	0.5 mg, 1 mg, 2 mg	Half-Life: 10-20 hrs <i>Safer in Liver Disease</i>	1-2 mg
<b>Oxazepam</b>	10 mg, 15 mg, 30 mg	Half-Life: 5-11 hrs <i>Safer in Liver Disease</i>	15-30 mg
<b>Quazepam</b> (Doral)	15 mg	Half-Life: 39-73 hrs <i>Safer in Liver Disease</i>	15 mg
<b>Temazepam</b> (Restoril)	7.5 mg, 15 mg, 22.5 mg, 30 mg	Half-Life: 4-18 hrs	20-30 mg
<b>Triazolam</b> (Halcion)	0.125 mg, 0.25 mg	Half-Life: 2-6 hrs	0.5 mg

\* Half-life ranges are **estimates** and include elimination of active metabolites

### Acceptable Use

Short-term treatment of insomnia, acute anxiety, acute psychosis, phobias, seizures

### Inappropriate Use

Long-term treatment (>2 weeks), except in cases of terminal illness

### Potential Benzodiazepine Side Effects

Drowsiness	Respiratory depression	Increased falls risk	Sedation
Dizziness	Confusion	Daytime fatigue	Impaired balance
Memory impairment	Difficulty concentrating	Hip fracture	Physical dependence
Cognitive dysfunction	Incontinence	Slowed reflexes	Constipation

## Concomitant Medications Associated with an Increased Risk of Side Effects

When benzodiazepines are combined with one or more of the following medications, the patient may experience enhanced side effects as a result of the medications' cumulative effects

**Anticholinergic Agents** [e.g., diphenhydramine (Benadryl)]

**Benzodiazepine Receptor Agonists** [e.g., eszopiclone (Lunesta), zaleplon (Sonata), and zolpidem (Ambien)]

**Antidepressants** [e.g., amitriptyline (Elavil), nortriptyline (Pamelor), sertraline (Zoloft), trazodone (Oleptro)]

**Skeletal Muscle Relaxants** [e.g., carisoprodol (Soma), cyclobenzaprine (Fexmid), metaxalone (Metaxall)]

**Anticonvulsants** [e.g., gabapentin (Neurontin) or pregabalin (Lyrica) *with* reduced kidney function (CrCl <60 mL/min)]

**Sedative Antipsychotics** [e.g., quetiapine (Seroquel), risperidone (Risperdal)]

### Potential Drug-Drug Interactions

- Concomitant use of opioids and benzodiazepines can lead to worsening side effects, such as severe sedation and life-threatening respiratory depression
- Consumption of alcohol should be avoided while taking a benzodiazepine as the combination of the two can lead to fatal overdose
- Omeprazole has been shown to reduce the clearance of diazepam through competitive inhibition of CYP2C19.
- When taken with CYP3A and CYP2C19 inhibitors, such as cimetidine, ketoconazole, and fluoxetine, administration of diazepam may lead to increased and prolonged sedation

### Symptoms of Benzodiazepine Withdrawal

- Drug Craving
- Anxiety/Restlessness/Agitation
- Irritability
- Rapid Breathing
- Fatigue
- Palpitations
- Diaphoresis
- Piloerection
- Insomnia
- Fever/Chills
- Poor Memory/Concentration
- Runny Nose
- Teary Eyes
- Tremor
- Loss of Appetite
- Numbness/Burning in face/hands/feet
- Diffuse muscle spasms/aches
- Blurred Vision
- Sensitivity to Light
- Nausea/Vomiting

### Alternative Treatment Options

#### Anxiety

##### Non-Pharmacological

- Relaxation Techniques (yoga, meditation, aromatherapy)
- Cognitive Behavioral Therapy
- Physical exercise

##### Pharmacological

##### SSRIs

- Zoloft (sertraline): 25-200 mg QD
- Celexa (citalopram): 10-20 mg QD
- Lexapro (escitalopram): 5-10 mg QD

##### SNRIs

- Effexor (venlafaxine): 37.5-225 mg QD
- Cymbalta (duloxetine): 20-60 mg QD

##### Other

- Buspar (buspirone): 5-20 mg BID-TID
- Remeron (mirtazapine): 7.5-45 mg QHS

#### Insomnia

##### Non-Pharmacological

- Practice deep breathing and relaxation techniques
- Implement a routine sleep schedule (sleep consolidation)
- Avoid nicotine, caffeine, and alcohol

##### Pharmacological

- Melatonin 3-6 mg QHS
- mirtazapine 7.5-45 mg QHS



**Resources:** Benzodiazepine Toolbox. *Pharmacist's Letter/Prescribers Letter*. August 2014; Gold J and Ward K. Pharmacist Toolkit: Benzodiazepine Taper. College of Psychiatric and Neurologic Pharmacists website. <https://cpnp.org/guideline/benzo>; Lexicomp® drug Information monographs; Tanaka E. Clinically significant pharmacokinetic drug interactions with benzodiazepines; EMPOWER Trial Brochure; Kaiser Permanente Benzodiazepine and Z-Drug Safety Guideline.