BENZODIAZEPINE | C-IV

Temazepam

Restoril

Intermediate-acting benzodiazepine hypnotic cleared by glucuronidation; useful for sleep maintenance insomnia short term.

USUAL ADULT RANGE	HALF-LIFE	METABOLISM	ONSET
15 mg PO qhs (7.5-30 mg)	8-15 h (mean ~11 h)	Glucuronidation; no CYP	30-60 min; peak 1.2-1.6 h

⚠ FDA BOXED WARNING

Concomitant use with opioids may cause profound sedation, respiratory depression, coma, and death. Abuse, misuse, and addiction can lead to overdose and death. Continued use causes physical dependence; abrupt discontinuation or rapid dose reduction can precipitate life-threatening withdrawal reactions.

INDICATIONS

- FDA-approved for short-term treatment of insomnia in adults, generally 7-10 days, with reassessment required if use extends beyond 2-3 weeks.
- Its 8-15 hour half-life targets sleep maintenance and early morning awakening better than zaleplon or sublingual zolpidem.
- Off-label as a benzodiazepine option in patients with hepatic impairment who need short-term sedation, since clearance is glucuronidation only.
- Off-label for anxiety-associated insomnia, though a scheduled daytime anxiolytic or an antidepressant is the more durable strategy.
- Cognitive behavioral therapy for insomnia is first line per the American Academy of Sleep Medicine, with hypnotics as adjunct or second line.
- Not indicated for chronic insomnia maintenance, transient jet lag, or as a substitute for treating sleep apnea or restless legs.

DOSING & TITRATION

- Adults: **15 mg PO at bedtime**, taken 30 minutes before sleep with at least 7-8 hours available before the next required activity.
- The full labeled range is 7.5-30 mg; many patients respond to 7.5 mg, and 30 mg should be reserved for clear inadequate response.
- Older adults or debilitated patients: start at **7.5 mg** and titrate only if needed, since half-life and impairment both lengthen with age.
- No renal or hepatic dose adjustment is formally required, which is part of why this agent is chosen when liver function is poor.
- Limit continuous use to 7-10 nights where possible; if used nightly for weeks, taper by 25 percent every 1-2 weeks rather than stopping outright.
- Available only as oral capsules in 7.5, 15, 22.5 and 30 mg strengths; there is no liquid or parenteral formulation.

MECHANISM OF ACTION

- Positive allosteric modulator at the GABA-A benzodiazepine site, increasing chloride channel opening frequency and promoting sleep onset and maintenance.
- Non-selective alpha subunit binding means sedation comes packaged with amnesia, muscle relaxation and next-day psychomotor impairment.
- Suppresses slow wave sleep and REM to a modest degree while increasing stage 2 sleep, so sleep architecture is altered rather than normalized.
- Slower absorption than zolpidem means it is better at holding sleep through the night than at shortening time to sleep onset.
- Chronic nightly use downregulates GABA-A receptors, producing tolerance to the hypnotic effect and rebound insomnia on withdrawal.

PHARMACOKINETICS

- Well absorbed orally with peak concentrations at 1.2-1.6 hours; a high-fat meal delays absorption and can blunt the hypnotic effect.
- Mean elimination half-life is about **11 hours**, long enough to carry residual sedation into the morning in sensitive or older patients.
- Conjugated directly by glucuronidation to an inactive O-conjugate and excreted renally; there are no active metabolites.
- Because it bypasses hepatic oxidation entirely, it is not meaningfully affected by CYP3A4 inhibitors or inducers.
- Along with lorazepam and oxazepam it is one of three benzodiazepines preferred in cirrhosis and in older adults on this pharmacokinetic basis.

ADVERSE EFFECTS

- Drowsiness in about 9 percent, headache 8 percent, fatigue 5 percent, dizziness 5 percent, nervousness and lethargy each around 5 percent.
- Next-morning residual sedation and impaired driving, which is the practical limit on dosing and the reason to insist on a full sleep opportunity.
- Anterograde amnesia for events after dosing, including nocturnal awakenings, phone calls and conversations the patient will not recall.
- Falls, hip fracture, confusion and delirium in older adults; nocturnal ambulation while impaired is the specific mechanism of harm.
- Respiratory depression and death with opioids or alcohol, and worsening of untreated obstructive sleep apnea and hypoventilation.
- Rebound insomnia and anxiety on discontinuation, and after prolonged use full withdrawal with tremor, agitation and seizure risk.

MONITORING

- Confirm and treat contributors before prescribing: sleep apnea, restless legs, alcohol use, pain, nocturia and untreated mood disorder.
- Reassess sleep response, next-day sedation and continued need within 7-10 days rather than issuing automatic refills.
- Ask directly about falls, nocturnal confusion, sleepwalking and any amnesia for nighttime events at each follow-up.
- Check the prescription monitoring program and screen for substance use disorder before starting and periodically during therapy.
- No routine laboratory monitoring is required; consider a sleep study when apnea is suspected or hypnotic response is poor.

INTERACTIONS & CAUTIONS

- Additive respiratory depression and death with opioids, the basis of the boxed warning; avoid the combination whenever an alternative exists.
- Alcohol, sedating antihistamines, gabapentinoids, antipsychotics and other hypnotics all compound sedation and next-day impairment.
- Unaffected by CYP inhibitors and inducers, so it is a reasonable hypnotic in patients on ritonavir, carbamazepine or rifampin.
- Probenecid and valproate inhibit glucuronidation and may modestly increase exposure; reduce the dose if sedation is excessive.
- Contraindicated in pregnancy, in known benzodiazepine hypersensitivity, and to be avoided in untreated severe sleep apnea.

SPECIAL POPULATIONS

- Pregnancy: the label lists pregnancy as a contraindication, citing fetal harm; screen for pregnancy before prescribing to patients who may conceive.
- Lactation: excreted into breast milk; monitor the infant for sedation and poor feeding, or choose a non-drug approach to insomnia.
- Pediatrics: safety and effectiveness under age 18 are not established, and hypnotics are rarely appropriate in pediatric insomnia.
- Older adults: the AGS Beers Criteria advise avoiding benzodiazepines, but if one is used temazepam at 7.5 mg is among the least problematic.
- Hepatic and renal impairment: no formal dose adjustment; glucuronidation is relatively preserved in cirrhosis, unlike oxidative clearance.

PRESCRIBING PEARLS

- One of three benzodiazepines that skip hepatic oxidation, with lorazepam and oxazepam.
- Half-life is long enough to hold sleep but also long enough to impair the morning commute.
- Contraindicated in pregnancy on the label; confirm pregnancy status before you prescribe.

References

American Geriatrics Society Beers Criteria Update Expert Panel. (2023). American Geriatrics Society 2023 updated AGS Beers Criteria for potentially inappropriate medication use in older adults. *Journal of the American Geriatrics Society, 71*(7), 2052-2081. https://doi.org/10.1111/jgs.18372

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Sateia, M. J., Buysse, D. J., Krystal, A. D., Neubauer, D. N., & Heald, J. L. (2017). Clinical practice guideline for the pharmacologic treatment of chronic insomnia in adults: An American Academy of Sleep Medicine clinical practice guideline. *Journal of Clinical Sleep Medicine, 13*(2), 307-349. https://doi.org/10.5664/jcsm.6470

Stahl, S. M. (2021). *Stahl's essential psychopharmacology* (5th ed.). Cambridge University Press.

U.S. National Library of Medicine. (2021). *Temazepam*. MedlinePlus. https://medlineplus.gov/druginfo/meds/a684003.html

NOTE

References follow APA 7th edition style. Dosing, boxed warnings, and interaction data change; confirm every clinical decision against the current FDA prescribing information (DailyMed) and your institution's formulary. This sheet is an educational quick reference and does not replace the full label or clinical judgment.