LORAZEPAM (Ativan) Fact Sheet [G]

BOTTOM LINE:
Benzodiazepines are generally only appropriate for use before procedures. Lorazepam probably has less risk of misuse than others. Lorazepam is also the first-line, but off-label, treatment for catatonia.

PEDIATRIC FDA INDICATIONS:
None.

ADULT FDA INDICATIONS:
GAD; status epilepticus (IV route).

OFF-LABEL USES:
Other anxiety disorders; insomnia; acute mania or psychosis; catatonia; preoperative sedation; chemo-related nausea/vomiting.

DOSAGE FORMS:
- **Tablets (G):** 0.5 mg (scored), 1 mg (scored), 2 mg (scored).
- **ER capsules (Loreev XR):** 1 mg, 2 mg, 3 mg.
- **Oral concentrate (G):** 2 mg/mL.
- **Injection (G):** 2 mg/mL, 4 mg/mL.

PEDIATRIC DOSAGE GUIDANCE:
- Anxiety: 0.05 mg/kg Q4–8h PRN; max 2 mg/dose.
- ER capsules for patients taking stable, evenly divided TID dosing with IR; to be taken once daily in morning. No data to support use in children.
- Insomnia (off-label use): Start 0.25–1 mg QHS, 20–30 minutes before bedtime; max 2 mg nightly.
- Catatonia: Start 0.5 mg TID, increase by 0.5 mg TID every two to three days based on response. While dosages of up to 8 mg TID have reportedly been required, and paradoxically to relieve respiratory depression, we recommend using extreme caution, an abundance of physiological monitoring, and continuing consultation in cases of severe catatonia.

MONITORING: No specific monitoring of note.

COST: $; Loreev XR: $$$$

SIDE EFFECTS:
- Most common: Somnolence, dizziness, weakness, ataxia.
- Serious but rare: Anterograde amnesia, increased fall risk, paradoxical reaction (irritability, agitation); respiratory depression (avoid in patients with sleep apnea or on opioids).

MECHANISM, PHARMACOKINETICS, AND DRUG INTERACTIONS:
- Binds to benzodiazepine receptors to enhance GABA effects.
- Metabolism primarily hepatic (non-CYP450) to inactive compounds; t ½: 10–20 hours.
- Avoid concomitant use with other CNS depressants, including alcohol and opioids (additive effects). No risk for CYP450 drug interactions.

EVIDENCE AND CLINICAL PEARLS:
- There are no pediatric studies in anxiety disorders. Evidence is mainly for pre-procedure single-dose use.
- C-IV controlled substance.
- Lorazepam does not have a long half-life or active metabolites that could accumulate, and it poses no CYP450 drug interaction risk.
- Withdrawal symptoms are usually seen on the first day after abrupt discontinuation and last five to seven days in patients receiving benzodiazepines with short to intermediate half-lives, such as lorazepam. A gradual taper is highly recommended, particularly if prolonged treatment on a high dose.
- Tolerance to sedative effect may develop within two to four weeks of use, and benzodiazepines affect the normal sleep architecture; thus, long-term use is discouraged.

FUN FACT:
Early Ativan marketing efforts included clever direct-to-consumer advertising campaigns. These included: "Now it can be yours—the Ativan experience" in 1977 and "In a world where certainties are few . . . no wonder Ativan is prescribed by so many caring clinicians" in 1987.