



## Bonus Monographs



### Chloral hydrate

(KLOH-ral HY-drayt)

**PREGNANCY CATEGORY: C**  
**CLASSIFICATION(S):**

Sedative-hypnotic, nonbenzodiazepine

**Rx:** Aquachloral Supprettes, Somno-

te, **C-IV**

★**Rx:** PMS-Chloral Hydrate

**ACTION/KINETICS**

Metabolized to trichloroethanol, which is the active metabolite causing CNS depression. Produces only slight hangover effects and is said not to affect REM sleep. High doses lead to severe CNS depression, as well as depression of respiratory and vasomotor centers (hypotension). Both psychologic and physical dependence develop. **Onset:** Within 30 min. **Duration:** 4–8 hr. **t<sub>1/2</sub>, trichloroethanol:** 7–10 hr. Readily absorbed from the GI tract and distributed to all tissues; passes the placental barrier and appears in breast milk. Metabolites excreted by kidneys.

**USES**

(1) Short-term hypnotic. (2) Daytime sedative and sedation prior to EEG procedures. (3) Preoperative sedative and postoperative as adjunct to analgesics. (4) Prevent or reduce symptoms of alcohol withdrawal.

**CONTRAINDICATIONS**

Marked hepatic or renal impairment, severe cardiac disease, lactation. PO use in clients with esophagitis, gastritis, or gastric or duodenal ulcer.

**SPECIAL CONCERNS**

Use by nursing mothers may cause sedation in the infant. Dose decrease may be necessary in geriatric clients due to age-related decrease in both hepatic and renal function.

**SIDE EFFECTS**

**CNS:** Paradoxical paranoid reactions. Sudden withdrawal in dependent clients may result in "chloral delirium."

***Sudden intolerance to the drug following prolonged use may result in respiratory depression, hypotension, cardiac effects, and possibly death.*** **GI:** N&V, diarrhea, bad taste in mouth, gastritis, increased peristalsis.

**GU:** Renal damage, decreased urine flow and uric acid excretion. **Miscellaneous:** Skin reactions, hepatic damage, allergic reactions, leukopenia, eosinophilia. Chronic toxicity is treated by gradual withdrawal and rehabilitative measures such as those used in treatment of the chronic alcoholic.

Poisoning by chloral hydrate resembles acute barbiturate intoxication; the same supportive treatment is indicated (see *Phenobarbital*).

**LABORATORY TEST CONSIDERATIONS**

↑ 17-Hydroxycorticosteroids. Interference with fluorescence tests for catecholamines and copper sulfate test for glucose.

**DRUG INTERACTIONS**

*Anticoagulants, oral* / ↑ Anticoagulant effect by ↓ plasma protein binding

*CNS depressants* / Additive CNS depression; concomitant use may lead to drowsiness, lethargy, stupor, respiratory collapse, coma, or death

## 2 CHLORAL HYDRATE

*Furosemide (IV)* / Concomitant use results in diaphoresis, tachycardia, hypertension, flushing

### HOW SUPPLIED

*Capsule:* 500 mg; *Suppository:* 324 mg, 500 mg, 648 mg; *Syrup:* 250 mg/5 mL; 500 mg/5 mL

### DOSAGE

#### • CAPSULES, SYRUP

*Daytime sedative.*

**Adults:** 250 mg t.i.d. after meals.

*Preoperative sedative.*

**Adults:** 0.5–1.0 g 30 min before surgery.

*Hypnotic.*

**Adults:** 0.5–1 g 15–30 min before bedtime. **Pediatric:** 50 mg/kg (1.5 g/m<sup>2</sup>) at bedtime (up to 1 g may be given as a single dose).

*Daytime sedative.*

**Pediatric:** 8.3 mg/kg (250 mg/m<sup>2</sup>) up to a maximum of 500 mg t.i.d. after meals.

*Premedication prior to EEG procedures.*

**Pediatric:** 20–25 mg/kg.

#### • SUPPOSITORIES, RECTAL

*Daytime sedative.*

**Adults:** 325 mg t.i.d. **Pediatric:** 8.3 mg/kg (250 mg/m<sup>2</sup>) t.i.d.

*Hypnotic.*

**Adults:** 0.5–1 g at bedtime. **Pediatric:** 50 mg/kg (1.5 g/m<sup>2</sup>) at bedtime (up to 1 g as a single dose).

### NURSING CONSIDERATIONS

SEE ALSO **NURSING CONSIDERATIONS FOR PHENOBARBITAL SODIUM.**

#### ADMINISTRATION/STORAGE

- PO:** Give capsules after meals with a full glass of water. Give the syrup with half a glass of juice, water, or ginger ale.
- PO syrups have an unpleasant taste, which can be reduced by chilling the syrup before administration.
- Have emergency drugs and equipment available should the client require supportive, physiologic treatment of acute poisoning.

#### ASSESSMENT

- Document indications for therapy; evaluate sleep habits/patterns and life-style.

- Assess mental status and response to stimuli. Note mood, long and short term memory, affect and sensorium. Monitor level/pattern of alertness and compare with the premedication history.

- Observe respiratory and cardiac responses; document evidence of vasomotor depression (hold and report if respirations <10 per min or dilated pupils) and dilatation of cutaneous blood vessels.

- Note any history of cardiac disease, liver or renal dysfunction. Monitor labs for evidence of impairment; drug is metabolized to an alcohol component.

- Report any psychologic/physical dependence; tremors, anxiety, more frequent requests for drug, pinpoint pupils. Symptoms resemble those of acute alcoholism, but with more severe gastritis.

#### CLIENT/FAMILY TEACHING

- Take only as directed 1/2 to 1 hr before bedtime on an empty stomach with a full glass of water or juice. Do not break, crush, or chew tablets.
- Store away from the bedside. May take 2 nights until desired effects.
- Avoid activities that require mental alertness. Use measures that promote comfort and relaxation. To protect from injury, ambulate with assistance, use side rails, call for help, and use a night light.
- Drug is for short-term use only; may cause psychologic and physical dependence. Do not stop abruptly with long-term use; have provider taper over 1-2 weeks.
- Review methods to enhance sleep, i.e., no caffeine, increased exercise, muscle relaxation exercises, no daytime napping, warm bath/milk.
- Avoid alcohol and other CNS depressants. Review drug side effects, note those that require immediate attention.

#### OUTCOMES/EVALUATE

- Desired level of sedation
- ↓ Alcohol withdrawal symptoms
- Improved sleep patterns