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# DISULFIRAM (Antabuse) Fact Sheet [G]

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## Bottom Line

Disulfiram is an aversive treatment, causing a buildup of ethanol's metabolite acetaldehyde in the serum, which in turn causes symptoms such as flushing, dizziness, nausea, and vomiting if patient consumes alcohol. Since disulfiram does not reduce cravings and any alcohol ingestion could result in a reaction, noncompliance can be common. Its use should be reserved for selective, highly motivated patients in conjunction with supportive and psychotherapeutic treatment.

## FDA Indications

**Alcohol use disorder.**

## Dosage Forms

**Tablets (Antabuse, [G]):** 250 mg, 500 mg.

## Dosage Guidance

Start 125 mg QPM (must be abstinent from alcohol >12 hours); increase to 250 mg QPM after several days. Some patients find they can drink alcohol without much reaction on the 250 mg dose, so they may need to increase to 500 mg/day.

**Monitoring:** Liver function tests if liver disease is suspected.

**Cost:** \$

## Side Effects

- Most common: Skin eruptions (eg, acne, allergic dermatitis), drowsiness, fatigue, impotence, headache, metallic taste.
- Serious but rare: Severe (very rarely fatal) hepatitis or hepatic failure reported and may occur in patients with or without prior history of abnormal hepatic function. Rare psychotic episodes have been reported. Rarely may cause peripheral neuropathy or optic neuritis.

## Mechanism, Pharmacokinetics, and Drug Interactions

- Aldehyde dehydrogenase inhibitor.
- Metabolized primarily through CYP450;  $t_{1/2}$  is not defined, but elimination from body is slow, and effects may persist for one or two weeks after last dose.
- While taking disulfiram, and for one to two weeks after stopping, avoid concomitant use of any medications containing alcohol (including topicals) or "disguised" forms of ethanol (cough syrup, some mouthwashes, oral solutions or liquid concentrates containing alcohol such as sertraline). Any medicinal solution labelled as an "elixir" is dissolved in alcohol and must be avoided. Avoid vinegars, cider, extracts, and foods containing ethanol.
- Some medications can cause a disulfiram-like reaction with alcohol, including metronidazole and sulfonyleurea diabetic medications such as chlorpropamide and tolbutamide.

## Clinical Pearls

- Disulfiram inhibits the enzyme aldehyde dehydrogenase; when taken with alcohol, acetaldehyde levels are increased by five- to 10-fold, causing unpleasant symptoms that include flushing, nausea, vomiting, palpitations, chest pain, vertigo, hypotension, and (in rare instances) cardiovascular collapse and death. These symptoms are the basis for its use as aversion therapy. Common advice to patients: "You'll wish you were dead, but it likely won't kill you."
- Reaction may last from 30–60 minutes to several hours or as long as alcohol remains in the bloodstream.
- Advise patients to carry an identification card or a medical alert bracelet that states they are taking the medication and lists the symptoms of the reaction and clinician contact information.
- Therapy lasts until the patient is fully recovered and a basis for permanent self-control has been established; maintenance therapy may be required for months or even years.

## Fun Fact

Disulfiram's anti-protozoal activity may be effective in *Giardia* and *Trichomonas* infections.