
NICOTINE INHALED (Nicotrol Inhaler) Fact Sheet

Bottom Line:

Inhaled nicotine is expensive and can cause unpleasant side effects, both of which make this form of nicotine replacement therapy difficult to recommend as a first-line option since no single therapy has been shown to be more effective than another.

FDA Indications:

Smoking cessation.

Dosage Forms:

Cartridge: 4 mg delivered per 10 mg cartridge (prescription required).

Dosage Guidance:

- Use frequent continuous puffing for 20 minutes with each cartridge; 80 deep inhalations over 20 minutes releases 4 mg nicotine, of which 2 mg is absorbed. Use six to 16 cartridges per day. Taper after six to 12 weeks of use by gradual dose reduction over six to 12 additional weeks.
- Patients should be advised to completely stop smoking upon initiation of therapy.

Monitoring: No routine monitoring recommended unless clinical picture warrants.

Cost: \$\$\$\$

Side Effects:

- Most common: Headache, mouth/throat irritation, dyspepsia, cough, unpleasant taste, rhinitis, tearing, sneezing.
- Pregnancy/breastfeeding: Limited data suggest relative safety in pregnancy and breastfeeding.

Mechanism, Pharmacokinetics, and Drug Interactions:

- Nicotinic-cholinergic receptor agonist.
- Metabolized primarily through liver as well as kidneys and lungs; $t_{1/2}$: 1–2 hours.
- Minimal risk for drug interactions. Successful cessation of smoking may increase serum levels of medications metabolized by CYP1A2 (eg, clozapine, olanzapine, theophylline), which is induced by hydrocarbons in smoke; nicotine itself has no effect.

Clinical Pearls:

- Insert cartridge into inhaler and push hard until it pops into place. Replace mouthpiece and twist the top and bottom so that markings do not line up. Inhale deeply into the back of the throat or puff in short breaths. Nicotine in cartridge is used up after about 20 minutes of active puffing.
- Do not eat or drink 15 minutes before or during use. To minimize coughing, puff lightly rather than inhaling into lungs.
- Local irritation in the mouth and throat may occur in as many as 40% of patients; coughing (32%) and rhinitis (23%) are also common. These effects are generally mild and occur less frequently with continued use. Use with caution in patients with bronchospastic disease due to potential airway irritation (other forms of nicotine replacement may be preferred).
- Higher ambient temperatures deliver more nicotine; lower temperatures deliver less.
- One cartridge delivers 80 puffs or about 2 mg of absorbed nicotine. Roughly 10 cartridges per day is equivalent to the nicotine of smoking one pack per day.

Fun Fact:

A nicotine inhaler is not really a true inhaler; puffing deposits the nicotine into the mouth, and it is then absorbed in the same manner as the nicotine gum or lozenge preparations.