

## Comparison of FDA-approved Drug Therapies for Smoking Cessation

Therapy	Mechanism of action	Dosage and duration	Efficacy compared to placebo or other therapies	Side-effects and special cautions	Precautions
Nicotine Replacement Therapies					
Patch Gum Lozenge Inhaler Nasal Spray	Reduces nicotine withdrawal symptoms	<p>PATCH</p> <ul style="list-style-type: none"> <li>Dose: 21, 14, 7 mg/24 hours</li> <li>Duration: Up to 12 weeks</li> </ul> <p>GUM</p> <ul style="list-style-type: none"> <li>Dose: 2 &amp; 4 mg/up to 24 pieces/day</li> <li>Duration: Up to 12 weeks</li> </ul> <p>LOZENGE</p> <ul style="list-style-type: none"> <li>Dose: 2 &amp; 4 mgs; up to 20/day</li> <li>Duration: Up to 12 weeks</li> </ul> <p>INHALER</p> <ul style="list-style-type: none"> <li>Dose: 6-16 cartridges/day</li> <li>Duration: Up to 6 months</li> </ul> <p>NASAL SPRAY</p> <ul style="list-style-type: none"> <li>Dose: 8-40 doses/day</li> <li>Duration: 3-6 months</li> </ul>	Effective in reducing withdrawal symptoms during tobacco abstinence and increases the odds of quitting for 6-12 months by 1.5- to-2 times	Local irritation (i.e., mouth sores, skin rash, nasal and throat irritation) associated with the route of administration of the medication (i.e., mouth—gum, lozenge, inhaler; skin—patch; nasal irritation—nasal spray). Sleep disturbance is common for those using the 24-hour nicotine patch.  Nausea, dizziness, and rapid heartbeat can occur in some patients who concurrently smoke and use medication.	NRT should be used cautiously among patients who are within 2 weeks of an acute myocardial infarction, those who have significant arrhythmias, and by those who report worsening symptoms of angina.  Pregnancy category C (nicotine gum) and category D (transdermal patches, inhalers, and spray nicotine products).
Non-Nicotine Replacement Medications					
Bupropion SR	Bupropion is a selective dopamine/norepinephrine reuptake inhibitor which seems to help modulate negative mood states and lowers the intensity of cravings to smoke.	<p>Dose: Start 1-2 weeks before quit date with 150 mg every morning for first 3 days, then take 150mg twice daily</p> <p>Duration: Up to 12 weeks with maintenance lasting up to 6 months</p>	Bupropion increases the odds of smoking cessation twofold compared to placebo.	Dry mouth and sedation, insomnia	Not recommended for patients with a history of seizure disorders, current substance abuse, or other conditions that may lower the seizure threshold. Serious neuropsychiatric events, including but not limited to depression, suicidal ideation/attempts, and completed suicide have been reported in patients taking bupropion for smoking cessation. Pregnancy category C.
Varenicline	Partial nicotine receptor agonist that reduces nicotine withdrawal symptoms by stimulating dopamine release and blocking the uptake of nicotine in the brain.	<p>Dose: Start 1 week before quit date with a 0.5mg tablet every morning for first 3 days; on days 4-7 take 0.5 mg tablet twice daily; Day 8 to the end of treatment take a 1 mg tablet twice daily</p> <p>Duration: Up to 12 weeks with maintenance up to 6 months</p>	Varenicline increases the odds of smoking cessation threefold compared to placebo.	Nausea, sleep disturbances, and headache. Constipation, flatulence, and vomiting	Recent reports to the FDA have linked the use of varenicline to increased risk of cardiovascular events and suicidal thoughts, depression, and aggressive and erratic behavior. A recent report has noted a possible association between varenicline and cardiovascular events. Pregnancy category C.