# Pharmacologic Product Guide
## FDA-Approved Medications for Smoking Cessation

### NICOTINE REPLACEMENT THERAPY (NRT) FORMULATIONS

<table>
<thead>
<tr>
<th>Gum</th>
<th>Lozenge</th>
<th>Transdermal Patch</th>
<th>Nasal Spray</th>
<th>Oral Inhaler</th>
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<tbody>
<tr>
<td>Nicorette®</td>
<td>Nicorette Lozenge®</td>
<td>Nicoderm CQ®</td>
<td>Nicotrol NS®</td>
<td>Nicotrol Inhaler®</td>
</tr>
<tr>
<td>2 mg, 4 mg</td>
<td>2 mg, 4 mg</td>
<td>7 mg, 14 mg, 21 mg (24-hour release)</td>
<td>Metered spray 10 mg/mL aqueous nicotine solution</td>
<td>10 mg/mL nicotine vapor</td>
</tr>
<tr>
<td>Original, cinnamon, fruit, mint</td>
<td>2 mg, 4 mg</td>
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### Bupropion SR

- **Zyban®, Generic**
  - Rx
  - 150 mg sustained-release tablet

### Varenicline

- **Chantix**
  - Rx
  - 0.5 mg, 1 mg tablet

### PRECAUTIONS

- **Recent (<2 weeks) myocardial infarction**
- **Serious underlying arrhythmias**
- **Serious or worsening angina pectoris**
- **Temporomandibular joint disease**
- **Pregnancy** and breastfeeding
- **Adolescents (<18 years)**

### DOSING

- **1st cigarette ≤30 minutes after waking:**
  - 4 mg
  - 1 piece q 1–2 hours
  - 2 mg
  - Week 1–6:
    - 1 piece q 1–2 hours
    - Week 7–9:
      - 1 piece q 2–4 hours
      - Week 10–12:
        - 1 piece q 4–8 hours
      - Maximum: 24 pieces/day
      - Chew each piece slowly
      - Park between cheek and gum when peppy or tingling sensation appears (~15–30 chews)
      - Resume chewing when tingle fades
      - Repeat chew/park steps until most of the nicotine is gone (taste or tingle does not return; generally 30 min)
      - Park in different areas of mouth
      - No food or beverages 15 min before or during use
      - Duration: up to 12 weeks

- **1st cigarette >30 minutes after waking:**
  - 4 mg
  - 1 piece q 1–2 hours
  - 2 mg
  - Week 1–6:
    - 1 piece q 1–2 hours
    - Week 7–9:
      - 1 lozenge q 2–4 hours
    - Week 10–12:
      - 1 lozenge q 4–8 hours
  - Maximum: 20 lozenges/day
  - Allow to dissolve slowly (20–30 minutes for standard; 10 minutes for mini lozenge)
  - Nicotine release may cause a warm, tingling sensation
  - Do not chew or swallow
  - Occasionally rotate to different areas of the mouth
  - No food or beverages 15 min before or during use
  - Duration: up to 12 weeks

- **>10 cigarettes/day:**
  - 21 mg/day x 4–6 weeks
  - 14 mg/day x 2 weeks
  - 7 mg/day x 2 weeks
  - 10 mg/day x 6 weeks
  - 7 mg/day x 2 weeks
  - Rotate patch application site daily; do not apply a new patch to the same skin site for at least one week
  - May wear patch for 16 hours if patient experiences sleep disturbances (remove at bedtime)
  - Duration: 6–10 weeks

- **1–2 doses/hour:**
  - (8–40 doses/day)
  - One dose = 2 sprays (one in each nostril); each spray delivers 0.5 mg of nicotine to the nasal mucosa
  - Maximum: - 5 doses/hour or - 40 doses/day
  - For best results, initially use at least 8 doses/day
  - Patients should not sniff, swallow, or inhale through the nose as the spray is being administered
  - Duration: 3–6 months

- **8–16 cartridges/day:**
  - Individualized dosing; initially use 1 cartridge q 1–2 hours
  - Best effects with continuous puffing for 20 minutes
  - Initially use at least 6 cartridges/day
  - Nicotine in cartridge is depleted after 20 minutes of active puffing
  - Inhalate into back of throat or puff in short breaths
  - Do NOT inhale into the lungs (like a cigarette) but “puff” as if lighting a pipe
  - Open cartridge retains potency for 24 hours
  - No food or beverages 15 minutes before or during use
  - Duration: 3–6 months

### Contraindications:

- **Seizure disorder**
- **Concomitant bupropion (e.g., Wellbutrin) therapy**
- **Current or prior diagnosis of bulimia or anorexia nervosa**
- **Simultaneous abrupt discontinuation of alcohol or sedatives (including benzodiazepines)**
- **MAO inhibitor therapy in previous 14 days; concurrent use of reversible MAO inhibitors (e.g., linezolid, methylene blue)**

### Dose tapering is not necessary

### Duration:

- **7–12 weeks, with maintenance up to 6 months in selected patients**
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**ADVANTAGES**

- **Gum**
  - Once-daily dosing associated with fewer compliance problems
  - Can be used in combination with other agents to manage situational urges

- **Transdermal Patch**
  - Can be titrated to rapidly manage withdrawal symptoms
  - Can be used in combination with other agents to manage situational urges

- **Nasal Spray**
  - Can be titrated to rapidly manage withdrawal symptoms
  - Can be used in combination with other agents to manage situational urges

- **Oral Inhaler**
  - Can be titrated to rapidly manage withdrawal symptoms
  - Can be used in combination with other agents to manage situational urges

- **Bupropion SR**
  - Twice-daily oral dosing is simple and associated with fewer adherence problems
  - Might delay weight gain
  - Can be used in combination with NRT agents

- **Varenicline**
  - Twice-daily oral dosing is simple and associated with fewer adherence problems
  - Offers a different mechanism of action for patients who have failed other agents

**DISADVANTAGES**

- **Gum**
  - Need for frequent dosing can compromise adherence
  - Might be problematic for patients with significant dental work
  - Need for frequent dosing can compromise compliance
  - Gum chewing may not be socially acceptable or desirable for some patients

- **Transdermal Patch**
  - Need for frequent dosing can compromise compliance
  - Gastrointestinal side effects (nausea, hiccups, heartburn) might be bothersome

- **Nasal Spray**
  - Need for frequent dosing can compromise compliance
  - Nasal administration might not be acceptable or desirable for some patients; nasal irritation often problematic

- **Oral Inhaler**
  - Need for frequent dosing can compromise adherence
  - Cost of treatment

- **Bupropion SR**
  - Seizure risk is increased
  - Several contraindications and precautions preclude use in some patients (see PRECAUTIONS)

- **Varenicline**
  - Should be taken with food or a full glass of water to reduce incidence of nausea
  - Patients should be monitored for potential neuropsychiatric symptoms (see PRECAUTIONS)

**COST/DAY**

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<tr>
<td>2 mg or 4 mg: $1.90 – $3.60 (9 pieces)</td>
<td>2 mg or 4 mg: $3.33 – $3.60 (9 pieces)</td>
<td>$1.52 – $2.00 (6 doses)</td>
<td>$12.42 (6 cartridges)</td>
<td>$2.58 – $8.25 (2 tablets)</td>
<td>$11.88 (2 tablets)</td>
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1 Marketed by GlaxoSmithKline.
2 Marketed by Pfizer.
3 The U.S. Clinical Practice Guideline states that pregnant smokers should be encouraged to quit without medication based on insufficient evidence of effectiveness and hypothetical concerns with safety. Pregnant smokers should be offered behavioral counseling interventions that exceed minimal advice to quit.

Abbreviations: MAO, monoamine oxidase; NRT, nicotine replacement therapy; OTC, (over-the-counter) non-prescription product; Rx = prescription product.

For complete prescribing information, please refer to the manufacturers' package inserts.