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# NICOTINE LOZENGES: USE, ADDICTION RISK, AND STRATEGIC BREAKS

*Understanding Therapeutic Use vs. Dependence*

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## ✅ Use Pattern

- Nicotine Dose per Lozenge: 1.5–6 mg
- Uses per Day: 4–8
  Total Daily Intake: 6–24 mg
  Breaks Taken: 2–3 days off every 2 weeks
- Delivery Type: Oral lozenge (slow absorption)
- Dosing Method:
    - 6 mg lozenges can be cut in halves or thirds for microdosing
    - Nicotine gum can be cut with clean scissors into smaller portions (e.g. 1/4 of a 4 mg piece = 1 mg)
    - Patches (7, 14, 21 mg) can be halved or trimmed and applied with medical tape to maintain adhesion and reduce dosage

This titration approach allows precise, customized dosing for therapeutic use while minimizing side effects and addiction potential.

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## 🔍 What This Means

| Dose Range | Addiction Risk | Notes |
|---|---|---|
| 6–9 mg/day | Low–Moderate | Minimal receptor changes |
| 12–15 mg/day | Moderate | Receptor upregulation begins |
| 18–24 mg/day | Moderate–High | Dependence possible if daily without breaks |

- Lozenges absorb slowly (peak: 20–60 min) → lower dopamine spike than smoking or vaping → less addictive
- Strategic breaks prevent receptor adaptation, dopaminergic tolerance, and habit formation

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## 🧠 Why You're Likely

## Not

## Addicted

- No cravings between doses
- No dose escalation over time
- No withdrawal during breaks
- No compulsive or automatic use
- Skips are voluntary and well tolerated

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## 🔄 Why 2–3 Day Breaks Are Powerful

- Allow nAChR receptor reset
- Reduce tolerance and desensitization
- Disrupt habit loops (e.g. stress = dose)
- Preserve therapeutic efficacy
- Prevent neurochemical dependency

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## ⚠️ Warning Signs of Dependence

- Needing nicotine to “feel normal”
- Irritability, fatigue, or mood shifts when skipping
- Increasing frequency or dose
- Craving in morning or before bed
- Anxiety between uses

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## 🔬 Addendum: Dosing for Nicotinic Receptor Proliferation

Nicotine upregulates α4β2 and α7 nAChRs, which modulate focus, memory, inflammation, vagal tone, and synaptic plasticity.

| Daily Nicotine Intake | Estimated α4β2 Upregulation | Notes |
|---|---|---|
| 1–3 mg/day | ~0–10% | Minimal priming |
| 4–7 mg/day | ~10–30% | Light, stable upregulation |

| | | |
|---|---|---|
| 8–15 mg/day | ~30–50% | Ideal zone for neuroprotection |
| 16–24 mg/day | ~50–70% | High-level receptor gain; monitor for tolerance |
| >25 mg/day | ~70–100%+ | Full saturation; dependence likely if chronic |

> Estimates based on human PET imaging and rodent models normalized to pharmacokinetics

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## 🎯 Optimal Dosing for Cognitive / Neuroprotective Effects

- Start: 1.5–2 mg 2×/day (≈ 3–4 mg/day)
  Titrate to: 2–3 mg 3–4×/day (≈ 6–12 mg/day)
- Maintain breaks: 2–3 days off every 10–14 days
- Ceiling: Avoid >16 mg/day long-term unless used cyclically or therapeutically under supervision

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## 🧠 Receptor Types Affected

| Receptor | Function | Upregulated By |
|---|---|---|
| α4β2 | Focus, memory, reward | Low–moderate doses (3–12 mg/day) |
| α7 | Inflammation, repair, learning | Moderate doses + repeated exposure |

| | | |
|---|---|---|
| α3β4 | Autonomic and gut-brain signaling | Higher doses (10–20+ mg/day) |

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## 🧪 Protocol Insight: Higher Doses for Disease

Proposed therapeutic high-dose nicotine (up to 46 mg/day) in select chronic conditions:

| Condition | Target Dose | Delivery Method |
|---|---|---|
| Type 2 Diabetes | Up to 46 mg/day | 21 mg patch + lozenges/gum |
| Long COVID / Spike Injury | 12–24 mg/day (titrated) | Lozenge, patch, or gum |
| Neuroinflammation | 6–15 mg/day | Cycled lozenges (10 days on, 3 off) |

> Mechanism: α7-nAChR activation suppresses pro-inflammatory cytokines (e.g., TNF-α, IL-6) and may improve insulin sensitivity, vagal tone, and glucose metabolism.

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## ⚠️ Important Contraindications

DO NOT USE NICOTINE WITHOUT MEDICAL SUPERVISION IF:

- You have epilepsy or a seizure disorder
- You are under 25 years old (developing brain risk)
- You are pregnant or breastfeeding
- You have uncontrolled cardiovascular disease
- You experience strong stimulant sensitivity or anxiety

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## 🛠️ Pro Tips for Microdosing & Titration

| Form | Modification Strategy |
|---|---|
| 6 mg Lozenge | Break into ½, ¼, or ⅛ pieces for 3 mg, 1.5 mg and .75 mg doses |
| 4 mg Nicotine Gum | Slice into ¼ or ½ pieces for precise low-dose delivery |
| Nicotine Patches | Trim with scissors and apply using medical tape for adhesion |

This enables precise tailoring of dose based on response, weight, tolerance, and sensitivity.

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🧬 This educational handout was created by Dr. Randon Taylor, NMD of Taylor Made Wellness. For personalized protocols or nicotine cycling guidance, schedule a visit at taylormadewellness.org or text/call (208) 982-8863.