

Semax Therapy

A patient guide to Semax — intranasal (nose) or subcutaneous (under-the-skin) use

This guide is for patients who have been **prescribed Semax by a Rebel Med NW physician** as part of an individualized cognitive- or neurological-support plan. It explains what Semax is, what the research does and does not show, its potential benefits and risks, how it's commonly dosed, and how to take it safely. It does not replace your physician's instructions.

⚠ Read this first — important context

Semax is a prescription drug **in Russia**, where it was developed — but it has **never been evaluated or approved by the U.S. FDA** for any use. In July 2026, an FDA advisory committee voted to recommend adding Semax to the list of substances pharmacies may compound — but **that was an advisory vote, not a drug approval or a final FDA decision**, and the regulatory status of compounded Semax is still in transition. Compounded and research-grade peptides are **not reviewed by FDA for safety, effectiveness, or quality before marketing**. Use Semax **only as prescribed to you, under our supervision**.

What Is Semax?

Semax is a synthetic chain of seven amino acids modeled on a small fragment of **ACTH**, a natural signaling hormone — with an added tail that makes it last longer in the body. Importantly, it keeps the *brain-signaling* part of the molecule while **removing the hormonal part**: Semax does not stimulate cortisol or other steroid production. It was developed in Russia in the 1980s–90s, where it is used as an intranasal medicine for stroke recovery and cognitive complaints. The classic route is **nasal drops or spray** (the nose offers a direct path toward the brain); some U.S. protocols use **subcutaneous injection**.

How It's Thought to Work

In animal studies, Semax increases **BDNF** (brain-derived neurotrophic factor — a key molecule for neuron growth, learning, and neuroplasticity) and its receptor in memory-related brain regions. It also appears to protect neurons under low-oxygen stress, modulate serotonin and dopamine signaling, and calm neuro-inflammation. A small human brain-imaging study found Semax changed resting brain-network connectivity. *Most mechanistic evidence is from animal research; human target engagement is unproven.*

What the Research Shows — Honestly

Evidence type	What exists for Semax
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Human clinical studies	Real but limited: Russian clinical trials in acute ischemic stroke (intranasal Semax added to standard care, with reported improvements in neurological recovery), plus small studies in cognition/attention and optic-nerve disease, and a pilot brain-imaging study in healthy volunteers. Key caveats: small studies, mostly published in Russian-language journals, few placebo-controlled, and essentially all using the intranasal route. No large Western RCTs exist.
Animal & lab studies	Consistent BDNF upregulation, neuroprotection in stroke models, improved learning/memory in rodents.
Bottom line	Semax is plausible but unproven by U.S. standards. Evidence for one setting and route (intranasal, in Russian stroke care) does not establish general cognitive benefits — and the injected route has essentially no human research behind it.

Potential Benefits

Based on its mechanism and the Russian clinical literature, the hoped-for — *not guaranteed* — benefits include support for:

- **Focus, attention, and mental stamina** — especially under stress or cognitive fatigue.
- **Memory and learning** — via BDNF/neuroplasticity pathways.
- **Neurological recovery support** — the setting where most human data exist (stroke care in Russia), as an adjunct to standard rehabilitation, never a replacement for it.

Honest expectations: This is a **theory-driven, investigational therapy** in the U.S. Effects, when reported, tend to be subtle — better task focus, less mental fog — not dramatic. Sleep, exercise, blood-sugar stability, and treating underlying causes matter more than any nootropic. We'll reassess together.

Who Should NOT Use Semax

Do not use Semax, and tell your provider, if any of these apply:

- **Pregnancy or breastfeeding** — there are no safety data; do not use.
- **Known allergy** to Semax or any ingredient in the formulation.
- **History of seizures, acute psychiatric instability, or severe anxiety** — tell us first; stimulating neuropeptides deserve extra caution here.
- **Diabetes** — small transient blood-sugar rises have been reported; we may watch your glucose.

Athletes

Semax is **not specifically named** on the 2026 WADA Prohibited List, but unapproved and neuroactive substances can fall under WADA's catch-all categories, and its status is **ambiguous rather than cleared**. If you compete in tested sport, **check GlobalDRO.com and ask us before using it**.

Possible Side Effects

In Russian clinical use, intranasal Semax is reported as well tolerated. The safety database is small, and the injected route is essentially unstudied. Possible effects include:

- **Nasal irritation** — mild burning, dryness, or sneezing with intranasal use (most common).
- Headache, restlessness, feeling overstimulated or anxious, or trouble sleeping (avoid late-day dosing).
- **Injection-site reactions** — redness, swelling, itching, or mild pain (if using the SC route).
- Transient blood-sugar elevation (reported in some diabetics); unknown long-term risks. Report anything unusual.

When to stop and call us

Stop and contact your provider (or seek urgent care for severe symptoms) for signs of an allergic reaction — **trouble breathing, swelling of the face/lips/throat, hives** — severe agitation or mood change, or any reaction that worries you. **Call 911 for any emergency**.

Dosing

Your physician will prescribe your exact dose, route, and schedule. There is **no U.S.-validated dose** — the ranges below reflect the Russian label and common clinical practice:

Route	Commonly used range	Notes
Intranasal (classic)	~300–600 mcg total per day , split into 1–2 doses	The route with human research behind it. Often used in short cycles (e.g., 10–14 days) with breaks.
Subcutaneous injection	~300–600 mcg total per day , split into 1–2 doses	Used in some U.S. protocols; <i>no human studies of this route</i> — dose by prescription only.

Important — how much to spray, draw up, or click: Your dose is prescribed in **micrograms (mcg)**, but you'll measure it in **sprays, units, or pen clicks** — and that conversion depends entirely on the concentration your pharmacy prepared. **Use the exact number your provider or pharmacy gives you — do not estimate or copy numbers from the internet.** If you're unsure, call us first.

How to Take Semax

Intranasal spray or drops

- 1 **Blow your nose gently** and wash your hands.
- 2 **Prime the sprayer** if it's new or hasn't been used in several days (spray into the air until a fine mist appears).
- 3 **Tilt your head slightly forward**, insert the tip into one nostril, and aim slightly outward (toward the ear, not the septum).
- 4 **Spray while sniffing gently** — a soft sniff, not a hard snort (hard sniffing sends medicine to your throat).
- 5 **Alternate nostrils** between sprays, and avoid blowing your nose for 10–15 minutes afterward.

Subcutaneous injection (if prescribed)

- 1 **Wash your hands**; inspect the vial or pen (clear liquid, in date) and clean the top with an alcohol swab.
- 2 **Draw up or dial your exact prescribed dose** (units or clicks, as instructed).
- 3 **Clean your site** — abdomen (2 inches from the belly button) or front of thigh; rotate sites.
- 4 **Pinch a skin fold, insert the needle** at 45–90°, inject slowly, withdraw, and apply gentle pressure.
- 5 **Dispose** of the needle in a sharps container — never recap or reuse. Wash your hands.

Storage & sharps

- **Refrigerate** Semax solution (do not freeze), protect from light, and use within the timeframe your pharmacy specifies.
- **Never share** sprayers, needles, or vials. Dispose of all needles in an approved **sharps container**.

Monitoring & Follow-Up

We'll track what we're actually targeting — focus, mental stamina, mood, sleep — plus any side effects, and blood sugar if you're diabetic. Because this is an investigational therapy, we'll decide together whether to continue, adjust, or stop. Keep your scheduled visits, and call sooner if something concerns you.

Questions?

Your Rebel Med NW care team is here to help. If anything about your dose, schedule, or administration is unclear — or you're weighing whether this therapy is right for you — **call us before your next dose**.

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Medical disclaimer: This guide is educational, for patients prescribed Semax by a Rebel Med NW physician; it is not medical advice for the general public and it does not recommend Semax for any condition. **Semax has never been evaluated or approved by the U.S. FDA. Its human evidence is limited, small, and largely from Russian-language literature using the intranasal route; long-term**

safety is unknown; compounded peptides are not reviewed by FDA for safety, effectiveness, or quality. The July 2026 FDA advisory committee recommendation was not an approval; regulatory status is evolving and current access rules remain unchanged until FDA acts. Benefits are not guaranteed and individual results vary. Always follow the specific instructions from your provider and pharmacy. Report suspected side effects to us, and — if you wish — to FDA MedWatch (1-800-FDA-1088 · [fda.gov/medwatch](https://www.fda.gov/medwatch)). In an emergency, call 911.

Key references: Dolotov OV, et al. Semax and BDNF/trkB in rat hippocampus. Brain Res. 2006. PMID 16996037. · Gusev EI, Martynov MY, et al. Semax in ischemic stroke. Zh Nevrol Psikhiatr. 2018. PMID 29798983 (Russian). · Semax and the brain's default-mode network (fMRI pilot). Bull Exp Biol Med. 2018. PMID 30225715. · Semax neuroprotection, ischemia-reperfusion model. Int J Mol Sci. 2021;22:6179. · FDA Pharmacy Compounding Advisory Committee meeting, July 23–24, 2026 ([fda.gov](https://www.fda.gov)). Educational summary only.