

SS-31 (Elamipretide) Therapy

Mitochondrial support for Long COVID — subcutaneous (under-the-skin) self-injection

This guide is for patients who have been **prescribed SS-31 by a Rebel Med NW physician** as part of an individualized Long COVID care plan. It explains what SS-31 is, why we're using it, its potential benefits and risks, how it's dosed, and how to inject it safely. It does not replace your physician's instructions.

⚠ Read this first — important context

SS-31 (also called **elamipretide**) is approved by the FDA **only for one rare condition — Barth syndrome** (as FORZINITY™, approved September 2025). **Its use for Long COVID is off-label and investigational**, based on its mechanism and on early research — it is **not a proven or FDA-approved treatment for Long COVID**, and the data in Long COVID are very limited. The SS-31 we use is a **compounded peptide — it is not the FDA-approved product**, it is not reviewed by FDA for safety, effectiveness, or quality, and because an approved elamipretide product now exists, compounded versions face additional regulatory restrictions. Use it **only as prescribed to you**, under our supervision — don't share it or change your dose on your own.

What Is SS-31?

SS-31 is a small, cell-permeable peptide that specifically targets your **mitochondria** — the energy factories inside every cell. It works by binding to **cardiolipin**, a key fat in the inner mitochondrial membrane, helping stabilize the machinery that produces cellular energy and reducing the harmful "exhaust" (reactive oxygen species) that damaged mitochondria can produce.

In short: SS-31 is designed to help your mitochondria **work more efficiently** — which is why it's of interest in conditions where mitochondrial function appears impaired.

Why We're Using It for Long COVID

Emerging research suggests that **mitochondrial dysfunction** may be one driver of the profound fatigue, exercise intolerance, and "post-exertional crash" that many people with Long COVID experience. The idea behind SS-31 therapy is to **support mitochondrial energy production** as one part of a broader recovery plan.

Honest expectations: This is a **theory-driven, experimental approach**. SS-31 showed enough promise in Barth syndrome — one rare genetic mitochondrial disease — to earn accelerated FDA approval for that condition, but it has **not been proven to treat Long COVID**, and we cannot promise results. We use it thoughtfully, alongside the foundational pieces of your care (pacing, sleep, nutrition, and graded activity as tolerated), and we'll reassess honestly based on how you respond.

Potential Benefits

Based on its mechanism and on studies in mitochondrial disease, the hoped-for, *not guaranteed*, benefits in Long COVID include support for:

- **Energy and reduced fatigue.**
- **Exercise tolerance and recovery** (a smaller "crash" after exertion).
- **Cellular antioxidant balance** by reducing mitochondrial oxidative stress.

Who Should NOT Use SS-31

Do not use SS-31, and tell your provider, if any of these apply:

- **Pregnancy or breastfeeding.**
- **Known allergy** to SS-31/elamipretide or any ingredient in the formulation.
- Share your full medical history and **all medications and supplements** so we can confirm SS-31 is appropriate and safe for you.

Athletes

Elamipretide is **not specifically named** on the 2026 WADA Prohibited List — but list categories are broad and change yearly. If you compete in tested sport, **check GlobalDRO.com and ask us before using it.**

Possible Side Effects

In clinical trials of injectable elamipretide, the therapy was generally well tolerated. Possible effects include:

- **Injection-site reactions** — redness, swelling, itching, or mild pain (the most common effect).
- Headache, dizziness, or mild GI upset.
- Because Long COVID use is investigational, **long-term safety data in this setting are limited** — 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** — or any reaction that worries you. **Call 911 for any emergency.**

Dosing

Your physician will prescribe your exact dose. For compounded SS-31, a common approach is **5–10 mg subcutaneously once daily**, usually in the **morning**. Two schedules are used:

Schedule	Typical dose	Why it's used
Daily	5–10 mg SQ each morning	Steady, consistent mitochondrial support.
5 days on / 2 days off	5–10 mg SQ on dosing days	Built-in rest days; a common cycling strategy.

For reference: clinical trials of elamipretide in genetic mitochondrial disease used a higher dose of **40 mg/day subcutaneously**. Compounded protocols for general mitochondrial support are typically lower. **Your physician sets your dose** based on your situation — follow your prescription, not these general figures.

Important — how much to draw up: Your dose is prescribed in **milligrams (mg)**, but you draw it in **units** on an insulin syringe (or clicks on a dosing pen) — and that conversion depends on the concentration your pharmacy prepared. **Use the exact number of units or clicks your provider or pharmacy gives you; do not estimate.** Call us if you're unsure.

How to Give a Subcutaneous Injection

SS-31 is injected into the fatty layer just under the skin using a small **insulin syringe**. If your SS-31 came as a powder, your provider will show you how to reconstitute it (mix it with bacteriostatic water) — follow those specific instructions.

You'll need

- Your SS-31 vial (refrigerated)
- A sterile insulin syringe (U-100) with a fine, short needle
- Alcohol swabs and a sharps disposal container

Step by step

- 1 Wash your hands** thoroughly with soap and water.

- 2 **Inspect the vial.** The liquid should be clear. Don't use it if it's cloudy, discolored, has particles, or is past its discard date.
- 3 **Clean the vial top** with an alcohol swab and let it dry.
- 4 **Draw up your exact prescribed dose** (in units, as instructed). Push air into the vial, then draw the liquid to your prescribed mark. Tap out air bubbles and push them back into the vial.
- 5 **Choose and clean your site.** The abdomen is ideal — at least 2 inches from your belly button — or the front of the thigh. Wipe with an alcohol swab and let it dry. *Rotate sites* each time.
- 6 **Pinch a fold of skin** gently between your thumb and finger.
- 7 **Insert the needle** all the way at a 45–90° angle in one smooth motion.
- 8 **Inject slowly**, then release the pinch.
- 9 **Withdraw the needle** and apply gentle pressure with clean gauze (don't rub). A tiny bit of bleeding is normal.
- 10 **Dispose** of the syringe immediately in your sharps container — never recap or reuse. Wash your hands.

Storage & sharps

- **Refrigerate** your SS-31 (do not freeze), keep it away from light, and use it within the timeframe your pharmacy specifies.
- **Never reuse or share** needles or vials. Dispose of all needles in an approved **sharps container**.

Monitoring & Follow-Up

Because this is an individualized, investigational therapy, follow-up matters. We'll track your symptoms, energy, and tolerance — including post-exertional symptoms — watch for side effects, and 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 injections is unclear — or if 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 for educational purposes for patients prescribed SS-31 by a Rebel Med NW physician, and is not medical advice for the general public. **SS-31 (elamipretide) is FDA-approved only for Barth syndrome (FORZINITY™, 2025); its use for Long COVID is off-label and investigational, is not a proven treatment, and the supporting data are very limited. Compounded SS-31 is not the FDA-approved product and is not reviewed by FDA for safety, effectiveness, or quality.** The regulatory status of compounded peptides is evolving; your provider and pharmacy confirm current status. 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.

References: U.S. FDA — Accelerated approval of elamipretide (FORZINITY) for Barth syndrome, September 2025 (fda.gov). Subcutaneous dosing reference (40 mg/day) and tolerability from published clinical trials of elamipretide in primary mitochondrial myopathy (via PubMed). Mitochondrial dysfunction in Long COVID reflects emerging, evolving research. Educational summary only. — v2, updated August 2026.