

M5.1 — Reconstitution One-Pager

Reconstitution One-Pager — Lyophilized Peptides

Use: Patient + clinician reference for reconstituting lyophilized semaglutide, tirzepatide, or other peptide preparations from a compounding pharmacy. **Companion to:** the M5.1 video lesson — Compounded Section · Doc 3 Compounding Pharmacy Audit · Doc 8 Self-Injection Technique **Print:** Single page, hand to patient at training visit

Before you start

You should have on hand:

Item	Notes
1 vial lyophilized peptide (white powder)	Stored at room temperature until reconstitution
1 vial bacteriostatic water (BAC water)	Stored at room temperature; has 0.9% benzyl alcohol preservative
1 mixing syringe (3 mL with 21–25G needle)	For drawing BAC water and injecting it into peptide vial
Insulin syringes for dosing (1 mL, 30G × 5/16")	One per dose; do not reuse
Alcohol pads	At least 4
Sharps container	Required for safe disposal
Refrigerator at 2–8°C (36–46°F)	For storage after reconstitution

Check the vial label before opening: - Patient name matches - Drug name + concentration matches the prescription - Expiration date is in the future - Vial cap is intact, no cracks, no discoloration of the powder cake

If anything is off, stop. Call the compounding pharmacy.

Reconstitution steps

Step 1 — Hands & surface

Wash hands thoroughly. Set up a clean, flat workspace. Lay out all materials.

Step 2 — Prep both vials

Remove the plastic flip caps from both vials. Wipe each rubber stopper with a fresh alcohol pad. Let air-dry 30 seconds.

Step 3 — Draw the BAC water

Pull back the plunger on the mixing syringe to draw in air equal to the volume you'll add (typical: **2.0 mL for a 5 mg semaglutide vial** — verify against your prescription label).

Insert the needle through the BAC water vial's rubber stopper. Push the air in. Invert the vial. Slowly draw out the prescribed volume of BAC water. Tap out any large air bubbles. Withdraw the needle.

Step 4 — Inject into the peptide vial

Insert the needle of the BAC-water-filled syringe through the peptide vial's rubber stopper at a **45° angle**, aiming for the side wall of the vial (not directly onto the powder cake). Slowly inject the BAC water down the side wall.

Do not jet the liquid directly onto the powder — this can cause foaming and degradation.

Step 5 — Mix gently

Withdraw the needle. **Do not shake the vial.** Instead, gently roll or swirl the vial between your hands for 30–60 seconds until all the powder dissolves and the solution is clear.

Foaming is normal at first; let it settle. If the solution is cloudy or has visible particles after 5 minutes, do not use. Call the pharmacy.

Step 6 — Label

Write on the vial (or on a label affixed to the vial): - Date and time of reconstitution - Beyond-use date (BUD): typically **28–56 days** depending on pharmacy's documented BUD studies — confirm with the label they shipped - Concentration after reconstitution: ____ mg per mL

Step 7 — Store

Refrigerate immediately at **2–8°C (36–46°F)**. Do not freeze. Do not leave at room temperature longer than 30 minutes total during the dosing window.

Dose math (semaglutide example)

If the prescription is: - **5 mg lyophilized peptide + 2.0 mL BAC water** → final concentration = 2.5 mg/mL - Prescribed dose 0.25 mg/week → draw **0.10 mL** in the insulin syringe - Prescribed dose 0.50 mg/week → draw **0.20 mL** - Prescribed dose 1.0 mg/week → draw **0.40 mL** - Prescribed dose 2.4 mg/week → draw **0.96 mL**

Always confirm the concentration math from your specific prescription. Do not assume.

Tirzepatide concentrations vary — confirm from the pharmacy's labeling.

Storage rules

Stage	Temperature	How long
Lyophilized vial (unopened)	Room temp (15–25°C)	Until prescription expiration
After reconstitution	2–8°C refrigerator	Per pharmacy BUD — typically 28–56 days
At room temp during dosing	Brief only	< 30 min per dose draw
Frozen	Never	Discard if frozen
In a hot car / direct sun	Never	Discard if exposed

What to do if...

Situation	Action
You see particles or cloudiness	Don't use. Call pharmacy.
You accidentally added wrong volume of BAC water	Don't use. Call pharmacy.

Situation	Action
Vial was at room temp for > 30 min	Refrigerate within 30 min — usually fine; if longer, call pharmacy
Vial was frozen	Discard. Call pharmacy for replacement.
Past the BUD	Discard. Do not use beyond labeled BUD.
Missed a dose	Take it as soon as you remember if within 48 hours; otherwise skip and resume next scheduled dose. Don't double-dose.

Disposal

- Used insulin syringes → sharps container only
- Empty vials → can typically go in household waste; check local rules
- BAC water has preservative and is fine to keep until its own expiration (typically multi-use, 28 days after first puncture)

When to call your clinician (not just the pharmacy)

- Severe nausea, vomiting, or abdominal pain
- Signs of pancreatitis (severe upper-abdominal pain radiating to the back)
- Vision changes
- Signs of allergic reaction (rash, swelling, difficulty breathing)
- Persistent injection-site reaction beyond mild redness

For non-emergency questions about the medication itself or the preparation: call the pharmacy first.