

# Subcutaneous Injection

## Titration Schedule Reference Guide

Half-life: 6 days

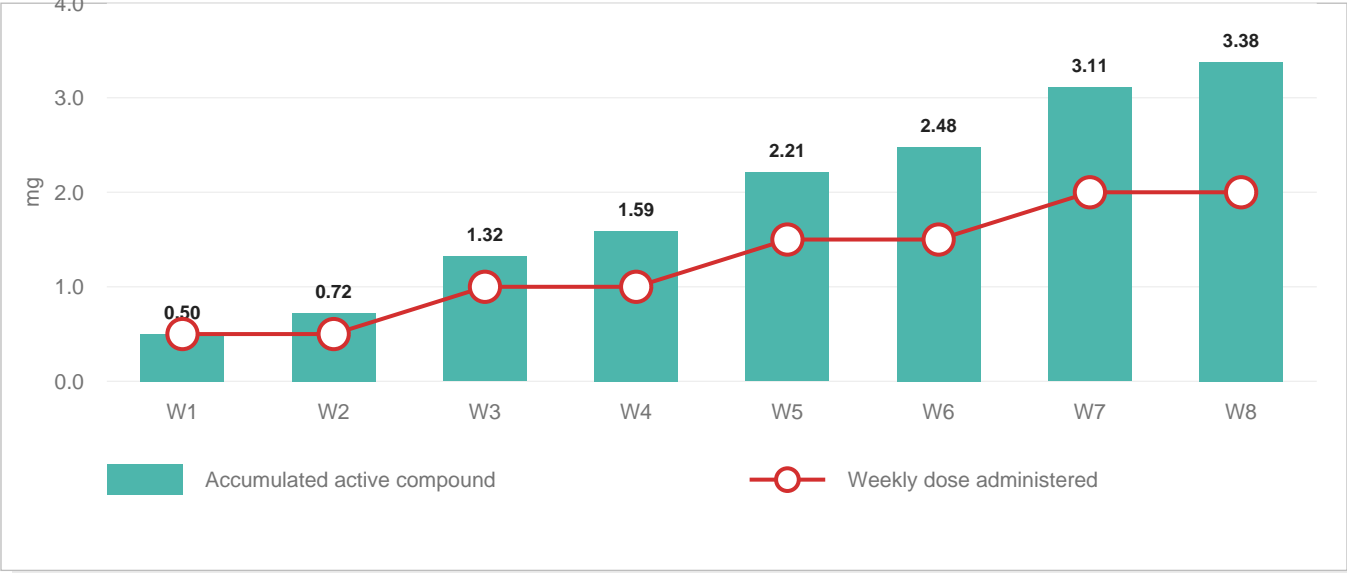
Frequency: Weekly

Units: mg

### DOSING SCHEDULE

WEEK	WEEKLY DOSE	SINGLE DOSE	SPLIT DOSE (2x)	ACTIVE LEVEL
1	0.5 mg	0.50 mg	0.25 mg + 0.25 mg	≈ 0.50 mg
2	0.5 mg	0.50 mg	0.25 mg + 0.25 mg	≈ 0.72 mg
3	1.0 mg	1.00 mg	0.50 mg + 0.50 mg	≈ 1.32 mg
4	1.0 mg	1.00 mg	0.50 mg + 0.50 mg	≈ 1.59 mg
5	1.5 mg	1.50 mg	0.75 mg + 0.75 mg	≈ 2.21 mg
6	1.5 mg	1.50 mg	0.75 mg + 0.75 mg	≈ 2.48 mg
7	2.0 mg	2.00 mg	1.00 mg + 1.00 mg	≈ 3.11 mg
8	2.0 mg	2.00 mg	1.00 mg + 1.00 mg	≈ 3.38 mg

### COMPOUND ACCUMULATION



### SAFETY GUIDELINES

- Rotate injection sites: abdomen, thigh, or upper arm. Avoid reusing the same spot within 2 weeks.
- Store medication according to label instructions (typically refrigerated at 2–8°C / 36–46°F).
- Always use a new sterile needle for each injection.
- Allow refrigerated medication to reach room temperature before administration.
- Do not adjust dosing schedule without consulting your healthcare provider.

# Pen Dosing Reference

Click Calculator for 3mL Cartridges

## PEN SPECIFICATIONS

Cartridge Volume

**3 mL**

Max Single Injection

**0.6 mL**

Pen Types

**60 / 74 / 80 clicks**

### 60 CLICK PEN (60 clicks = 0.6 mL)

DOSE	10 mg/mL	20 mg/mL	30 mg/mL	40 mg/mL	50 mg/mL
<b>0.5 mg</b>	<b>5</b> clicks	<b>X</b> imprecise	<b>X</b> imprecise	<b>X</b> imprecise	<b>X</b> imprecise
<b>1.0 mg</b>	<b>10</b> clicks	<b>5</b> clicks	<b>3</b> clicks	<b>X</b> imprecise	<b>X</b> imprecise
<b>1.5 mg</b>	<b>15</b> clicks	<b>7</b> clicks	<b>5</b> clicks	<b>3</b> clicks	<b>3</b> clicks
<b>2.0 mg</b>	<b>20</b> clicks	<b>10</b> clicks	<b>6</b> clicks	<b>5</b> clicks	<b>4</b> clicks

### 74 CLICK PEN (74 clicks = 0.6 mL)

DOSE	10 mg/mL	20 mg/mL	30 mg/mL	40 mg/mL	50 mg/mL
<b>0.5 mg</b>	<b>6</b> clicks	<b>3</b> clicks	<b>X</b> imprecise	<b>X</b> imprecise	<b>X</b> imprecise
<b>1.0 mg</b>	<b>12</b> clicks	<b>6</b> clicks	<b>4</b> clicks	<b>3</b> clicks	<b>X</b> imprecise
<b>1.5 mg</b>	<b>18</b> clicks	<b>9</b> clicks	<b>6</b> clicks	<b>4</b> clicks	<b>3</b> clicks
<b>2.0 mg</b>	<b>24</b> clicks	<b>12</b> clicks	<b>8</b> clicks	<b>6</b> clicks	<b>4</b> clicks

# Pen Dosing Reference

## 80 Click Pen & Instructions

80 CLICK PEN (80 clicks = 0.6 mL)

DOSE	10 mg/mL	20 mg/mL	30 mg/mL	40 mg/mL	50 mg/mL
0.5 mg	6 clicks	3 clicks	<b>X</b> imprecise	<b>X</b> imprecise	<b>X</b> imprecise
1.0 mg	13 clicks	6 clicks	4 clicks	3 clicks	<b>X</b> imprecise
1.5 mg	20 clicks	10 clicks	6 clicks	5 clicks	4 clicks
2.0 mg	26 clicks	13 clicks	8 clicks	6 clicks	5 clicks

### HOW TO USE THIS TABLE

1. Find your medication concentration on the top row (check your vial label)
2. Find your prescribed dose in the left column
3. Values in teal require 2 separate injections (dose exceeds 0.6 mL)
4. Red **X** = fewer than 3 clicks needed, too imprecise — use lower concentration

### CALCULATION FORMULA

$$\text{Clicks} = (\text{Dose mg} \div \text{Concentration mg/mL}) \times (\text{Pen Clicks} \div 0.6 \text{ mL})$$

Example: 1.0 mg dose at 20 mg/mL with 60-click pen  $\rightarrow (1.0 \div 20) \times (60 \div 0.6) = 0.05 \times 100 = 5.0$  clicks

# Side Effect Management

## Harm Reduction Guide for GLP-1/GIP Agonists

### ■ RESEARCH CHEMICALS — FOR RESEARCH PURPOSES ONLY ■

Peptides are classified as research chemicals and are not approved for human consumption.

If self-administering without medical supervision, this harm reduction guide may help minimize risks.

### NAUSEA & VOMITING

- Eat smaller, more frequent meals (5-6 small meals instead of 3 large)
- Avoid fatty, fried, greasy, and spicy foods — stick to bland options initially
- Eat slowly and stop when you feel full — overeating triggers nausea
- Try ginger tea, ginger chews, or ginger supplements
- Stay hydrated with small sips throughout the day

### CONSTIPATION

- Increase fiber intake gradually (25-30g daily) — fruits, vegetables, whole grains
- Drink plenty of water (2-3 liters daily) — fiber needs water to work
- Exercise regularly (30 min moderate activity) — stimulates bowel motility
- Consider psyllium husk or MiraLAX if dietary changes insufficient

### DIARRHEA

- Stay hydrated — replace fluids and electrolytes lost
- Avoid high-fiber foods temporarily — switch to binding foods (rice, bananas, toast)
- Avoid dairy, caffeine, alcohol, and artificial sweeteners

### OTHER COMMON EFFECTS

- Fatigue: Ensure adequate calorie and protein intake — extreme restriction worsens fatigue
- Hair thinning: Usually temporary; ensure protein intake, consider biotin supplement
- Injection site: Rotate sites, allow medication to reach room temperature before injecting

### OTC MEDICATIONS THAT MAY HELP

<b>Nausea:</b>	Ondansetron (Zofran) 4-8mg, ginger supplements, Pepto-Bismol, Dramamine
<b>Constipation:</b>	Psyllium husk (Metamucil), MiraLAX (PEG 3350), Milk of Magnesia, stool softeners
<b>Diarrhea:</b>	Loperamide (Imodium), probiotics, binding foods (BRAT diet)
<b>Acid reflux:</b>	Antacids (Tums), H2 blockers (Famotidine), PPIs (Omeprazole) short-term

### GENERAL PRINCIPLES

- Most side effects are temporary and improve as your body adjusts (typically 4-8 weeks)
- Stay at current dose longer if side effects are bothersome — slower titration reduces severity
- Side effects often peak after dose increases — wait 1-2 weeks before assessing tolerability
- Maintain adequate protein intake (1g/kg body weight) to preserve muscle mass during weight loss

# Additional Guidance

## Serious Side Effects & When to Seek Help

### ■ SEEK IMMEDIATE MEDICAL ATTENTION

- Severe abdominal pain radiating to back
- Persistent vomiting (unable to keep fluids down)
- Signs of severe dehydration
- Severe allergic reaction (swelling, difficulty breathing)
- Symptoms of pancreatitis (severe upper pain, fever)
- Blood in vomit or stool
- Symptoms of bowel obstruction
- Severe hypoglycemia (confusion, seizures)

**Stop medication and contact healthcare provider if symptoms persist or worsen significantly.**

### PANCREATITIS

**Symptoms:** Severe upper abdominal pain radiating to back, nausea, vomiting, fever, rapid pulse  
**Action:** Stop medication immediately. Seek emergency care. Do not eat or drink until evaluated.  
**Note:** Risk is rare (~0.05%) but serious. Risk factors: gallstones, high triglycerides, alcohol use, rapid weight loss

### GASTROPARESIS (Stomach Paralysis)

**Symptoms:** Severe nausea/vomiting, feeling full after small amounts, bloating, abdominal pain, weight loss  
**Action:** Contact healthcare provider. May need to reduce dose or discontinue. Imaging may be required.  
**Note:** More common in those with pre-existing delayed gastric emptying or diabetes complications

### GALLBLADDER DISEASE

**Symptoms:** Upper right abdominal pain (especially after eating), nausea, vomiting, fever, yellowing skin/eyes  
**Action:** Seek medical evaluation. Ultrasound may be needed. Surgery sometimes required.  
**Note:** Rapid weight loss increases gallstone formation risk. Stay hydrated, avoid very low-fat diets

### SEVERE DEHYDRATION

**Symptoms:** Dark urine, dizziness, confusion, rapid heartbeat, dry mouth, no tears, sunken eyes  
**Action:** Rehydrate with electrolytes. Seek emergency care if unable to keep fluids down or symptoms severe.  
**Note:** Common cause of kidney injury with GLP-1s. Monitor hydration especially with vomiting/diarrhea

### BEFORE SURGERY OR PROCEDURES

- Inform all healthcare providers that you are taking GLP-1/GIP agonist medications.
- GLP-1s slow gastric emptying, increasing aspiration risk during anesthesia.
- Most guidelines recommend stopping medication 1-3 weeks before elective surgery.
- Follow specific fasting instructions — standard fasting times may be insufficient.

# Storage & Quick Reference

## Handling Guidelines & Summary

### STORAGE & HANDLING

- Store reconstituted peptides refrigerated at 2-8°C (36-46°F). Do not freeze.
- Protect from light. Use bacteriostatic water for reconstitution if multi-use.
- Discard if solution appears cloudy, discolored, or contains particles.

### RECONSTITUTION BASICS

- Use bacteriostatic water (BAC water) for multi-use vials — contains 0.9% benzyl alcohol as preservative
- Use sterile water for single-use only — no preservative means higher contamination risk
- Add water slowly to vial wall, do not spray directly on powder — causes foaming and degradation
- Swirl gently to dissolve — never shake, as this can denature the peptide
- Allow bubbles to settle before drawing dose — wait 5-10 minutes if needed
- Label vial with reconstitution date and concentration — track usage

### INJECTION TECHNIQUE

- Preferred sites: Abdomen (2 inches from navel), outer thigh, back of upper arm
- Clean site with alcohol swab and allow to dry completely before injection
- Pinch skin and insert needle at 45-90° angle depending on body fat
- Inject slowly and steadily — count to 5 before removing needle
- Rotate injection sites — do not use same spot within 1-2 weeks

### QUICK REFERENCE SUMMARY

Dosing:	Weekly, same day each week	Max injection:	0.6 mL per site
Half-life:	~6 days (compound accumulates)	Titration:	Increase every 2 weeks if tolerated
Storage:	Refrigerate 2-8°C after reconstitution	Side effects:	Usually temporary, peak at dose changes
Shelf life:	~28 days reconstituted (BAC water)	Emergency:	Severe pain, persistent vomiting → ER