Minimum Strength Plan

Muscle protection on GLP-1s

2 days per week • 20-30 minutes • Gym and home versions

GLP-1 friendly • Women-focused • Evidence-informed

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Why muscle mass matters more than you think

Most people starting a GLP-1 are focused on fat loss. That is reasonable. But the evidence on muscle mass points to something bigger than aesthetics.

A large nationally representative study published in The American Journal of Medicine (Srikanthan & Karlamangla, 2014) followed 3,659 adults over 10 to 16 years and found that higher muscle mass index was independently associated with lower all-cause mortality — after adjusting for cardiovascular risk factors, metabolic markers, and body fat. BMI showed no consistent association with mortality in older adults. Muscle mass did.

Separate research consistently shows that low muscle strength is associated with significantly higher mortality risk regardless of muscle mass, metabolic syndrome status, or physical activity level. A meta-analysis of over 53,000 older adults found that those in the weakest grip strength quintile had a 67% higher mortality hazard than the strongest quintile.

Muscle mass is not just a fitness marker. It is a longevity marker. Protecting it during weight loss on a GLP-1 is not optional — it is the point.

What this plan is for

GLP-1 medications reduce appetite significantly. That caloric deficit drives weight loss — but without resistance training, a meaningful portion of that weight comes from muscle, not just fat.

This is the minimum effective routine to give your body a consistent signal to keep muscle. The goal is not performance. Not a sweat or soreness. It is a twice-weekly signal that muscle is still needed.

I started this routine about seven months into my weight loss after noticing significant depletion in my quads. I panicked, researched extensively, and built this from what the evidence supports. Six months later I am seeing real change — legs came back first, then shoulders, now my back.

Why twice a week is enough

Research on resistance training for muscle preservation consistently shows that frequency matters less than consistency and progressive overload. Two full-body sessions per week, performed with reasonable effort, is sufficient to preserve lean mass during a deficit — and can build muscle if you are new to training.

For women in perimenopause and menopause, resistance training carries additional benefits: it supports bone density, improves insulin sensitivity, reduces visceral fat, and protects functional independence long-term.

Do not train to failure in a caloric deficit

This is important and often ignored in general fitness advice.

When you are eating significantly less than usual — which is common on GLP-1s — your capacity to recover from intense training is reduced. Training to absolute failure in this state increases injury risk, impairs recovery, and can actually accelerate muscle breakdown rather than prevent it.

The correct approach is to leave approximately 2 reps in the tank at the end of each set. You should finish a set feeling like you could have done 2 more with good form — not grinding out the last rep with your form collapsing. This is sometimes called RIR (Reps in Reserve) training.

On low energy or low food days: reduce the weight, keep the movement, finish the session. A moderate session done consistently beats an intense session done occasionally.

Warm-up (8-10 minutes)

Raise body temperature and take joints through comfortable ranges. Dynamic movement only — save slow stretching for after the session.

- 2-3 min brisk walk, marching on the spot, or step-ups at easy pace
- Neck: gentle turns and nods, 5 each direction
- Shoulders: arm circles forward and back (10 each), shoulder rolls (10)
- Spine and hips: cat-cow (6-8 reps) and hip circles (6 each direction)
- Hips, knees, ankles: bodyweight squat to comfortable depth (8-10) and heel raises (10)
- Practice reps: 5 very light reps of your first lower-body movement

The workout

Two full-body sessions per week. Each session covers lower body (squat and hinge pattern), push, and pull. If you have 20 minutes, do 1 set each. If you have 30 minutes, do 2 sets. Always leave 2 reps in the tank.

Day A

Movement	Gym version	Home version	Sets x Reps
Squat	Leg press or goblet squat	Bodyweight squat to chair, or goblet squat with dumbbell/backpack	1-2 x 8-12
Lunge	Split squat or step-ups	Split squat or step-ups on stairs	1-2 x 8-12 each side
Push	Incline DB press or machine chest press	Incline push-ups on kitchen counter or sofa	1-2 x 6-12
Pull	Lat pulldown or seated row	Band row or backpack row	1-2 x 8-12

Day B

Movement	Gym version	Home version	Sets x Reps
Hinge	Romanian deadlift (DB) or hip thrust	Hip hinge with dumbbells/backpack or glute bridge	1-2 x 8-12
Lunge	Reverse lunge or walking lunge	Reverse lunge with support if needed	1-2 x 8-12 each side
Push	Shoulder press (DB or machine)	Shoulder press with dumbbells or water bottles	1-2 x 6-12
Pull	Cable row or DB row	Band pulldown or towel row (anchored safely)	1-2 x 8-12

How to progress

Choose a weight you can control with good form, with approximately 2 reps still available at the end of each set. When you can consistently hit the top end of the rep range with good form and 2 reps still in reserve, add a small amount of load the next session.

Low energy days: reduce the weight, do one set each, finish the session. Consistency over months matters far more than any individual session.

A note for women in perimenopause and menopause

Oestrogen decline accelerates muscle and bone loss from around age 40 onward. Resistance training is one of the most evidence-supported interventions to slow this process and protect long-term independence.

If you are combining this with GLP-1 medication, protein intake is particularly important. Aim for a minimum of 1.2g per kg of bodyweight per day where possible, and prioritise it on high-suppression days above everything else.

General education, not medical advice. Mortality data referenced: Srikanthan P, Karlamangla AS. Muscle Mass Index as a Predictor of Longevity in Older Adults. Am J Med. 2014;127(6):547-553. If you have joint issues, injuries, or health conditions affecting exercise capacity, consult a physiotherapist, your prescriber, or your GP before starting.