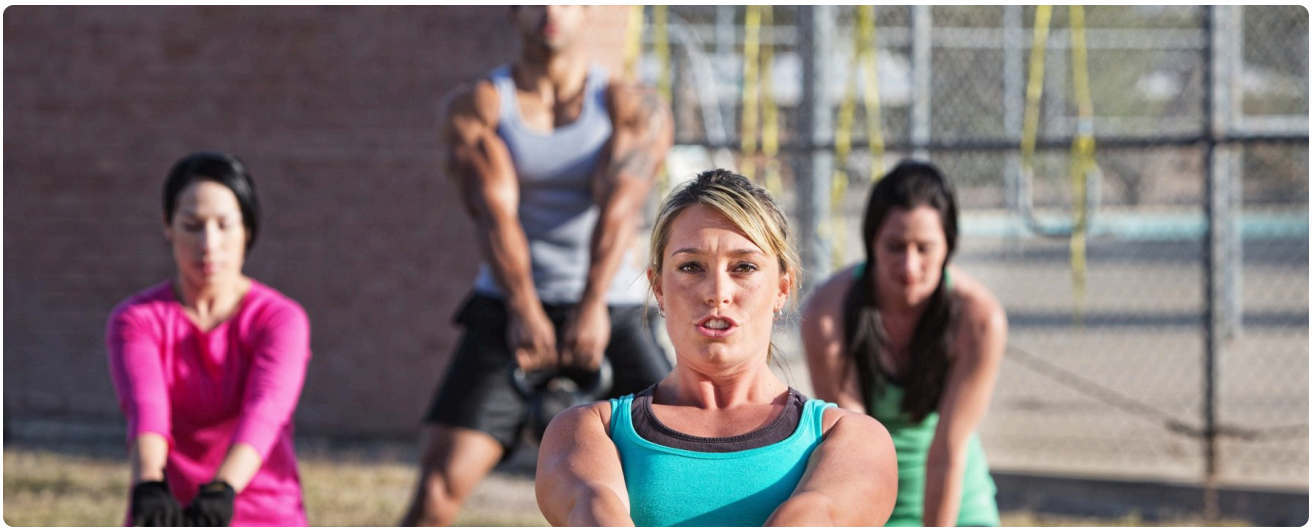
Program guide: muscular endurance

Last reviewed: November 10, 2026



Two or three full-body circuits or supersets a week, with lighter weights, 12 to 20 reps and short rests. It trains your muscles to keep going, raises your heart rate as you lift, and fits in about 30 to 40 minutes.

Why it matters: Muscular endurance is how many times a muscle can repeat an effort before it tires, such as carrying groceries up several flights of stairs. The number of reps you train with decides what improves, and high reps build this quality best.

The program at a glance

Setting	Muscular endurance program
Strength days	2 or 3 a week, full body
Session length	About 30 to 40 minutes
Format	Circuits (one set of each exercise in a loop) or supersets (two exercises back to back)
Rounds or sets	3
Reps	10 to 20, or 40 to 45 seconds of work
Effort	Stop each set 1 to 3 reps short of failure
Rest	20 seconds between stations or none within a pair; 60 to 90 seconds between rounds or pairs
Cardio	About 150 to 180 minutes a week, including one longer walk or ride
Total time	About 4 to 4½ hours a week

The workouts

Machine circuit (start here): six stations in a loop, 3 rounds. 20 seconds to move between stations, 90 seconds between rounds. Circuit A uses the leg press, chest press, cable row, leg curl, ab crunch and step-ups. Circuit B uses goblet squats, dumbbell bench press, pull-downs, hip thrusts, Pallof press and reverse lunges, for variety.

Dumbbell supersets: opposing muscles paired back to back with one set of dumbbells: 15 to 20 reps, no rest within the pair, 60 seconds after. For example, goblet squat with Romanian deadlift, bench press with row, and curls with triceps extensions.

Timed circuit: body weight and light dumbbells, 40 seconds of work and 20 seconds of rest at each of six stations, 3 rounds. Squats, incline push-ups, inverted rows, reverse lunges, dead bugs and step-ups. It counts toward cardio if you keep moving.

A sample 3-day week (machine circuit):

Day	Session
Monday	Circuit A, 3 rounds
Tuesday	Walk or cardio, 40 minutes
Wednesday	Circuit B, 3 rounds
Thursday	Walk or cardio, 40 minutes
Friday	Circuit A, 3 rounds
Saturday	Longer walk or ride, 70 minutes
Sunday	Rest

Why these exercises

- **Full body, every session.** Each workout covers legs, hips, push, pull and core, so every major muscle group gets its endurance work two or three times a week.
- **Opposing pairs keep the pace up.** While one muscle works, its opposite rests. In a 2025 meta-analysis of 19 studies, opposing-muscle supersets allowed more reps than traditional sets, and long-term gains in strength, muscular endurance and size were similar, in less time [1].
- **Machines and simple free-weight moves** are quick to set up and safe to do when you're breathing hard, which matters when you move straight from one station to the next.
- **Step-ups and lunges** add single-leg work that raises your heart rate and challenges balance.

Why these sets and reps

- **High reps build endurance.** In a 2002 trial, 32 untrained young men trained their legs for 8 weeks with 3 to 5, 9 to 11, or 20 to 28 reps per set [2]. The light group nearly doubled how many reps it could do at 60% of its one-rep max, up 94%. Only the light group improved on a test of aerobic fitness.
- **Trained lifters showed the same split.** In a 2015 trial, 18 experienced lifters trained with sets of 25 to 35 or 8 to 12 reps. Endurance rose 16.6% with the lighter weights and didn't change with the heavier ones [3]. Muscle growth was similar.
- **You still build muscle.** In a 2021 network meta-analysis of 28 studies, light, moderate and heavy loads built similar muscle when sets went close to failure [4]. The trade is maximum strength, which grows more with heavy weights.

- **3 rounds.** Enough total work to train each muscle while keeping the session to about half an hour.

Why this rest

- **Short rests are the point.** Training a muscle to keep working while partly tired is the skill you're building.
- **They also work the heart and lungs.** In a 2017 meta-analysis of 10 trials in adults averaging about 65, circuit resistance training improved strength, and programs longer than 24 sessions also improved aerobic fitness [5].
- **The trade-off.** Longer rests let you lift more on the next set, which helps muscle growth slightly [6]. If maximum size is your goal, the hypertrophy program suits you better.

Why two or three days

- **Three days** gives each muscle three short exposures a week. **Two days** leaves more room for cardio.
- **Circuits are hard work.** Leave a day between them if you can.

How it progresses

1. **Log your weights and reps** in Today's workout. For the timed circuit, tap **Start circuit**: it times each station and ticks it off for you.
2. **Add reps first.** When every set reaches the top of its range, add a little weight: 5 lb for upper-body exercises, 10 lb for lower-body ones.
3. **Or trim rest.** Shorten the rest between rounds by 10 to 15 seconds once the current workout feels easy (change **Round rest** in the circuit box).
4. **Test yourself** every 6 to 8 weeks with a push-up or wall-sit test (see "Test your own fitness").

Reality check: The training trials were small, short and mostly in young men. The circuit meta-analysis had only 10 trials of varied quality.

How sure are we: Moderate that high-rep training builds more muscular endurance than low-rep training. Strong that light and heavy loads build similar muscle when sets end close to failure. Moderate that circuit training improves strength in middle-aged and older adults.

Related guides

- Circuit training
- Test your own fitness
- A 10-minute warm-up

Related articles

- Muscular endurance: train to keep going
- Supersets and shorter workouts
- The strength training dose

Sources

1. Zhang X, et al. Superset versus traditional resistance training prescriptions: a systematic review and meta-analysis exploring acute and chronic effects on mechanical, metabolic, and perceptual variables. *Sports Medicine*. 2025. doi:10.1007/s40279-025-02176-8
2. Campos GER, Luecke TJ, Wendeln HK, et al. Muscular adaptations in response to three different resistance-training regimens: specificity of repetition maximum training zones. *European Journal of Applied Physiology*. 2002;88(1–2):50–60. doi:10.1007/s00421-002-0681-6
3. Schoenfeld BJ, Peterson MD, Ogborn D, Contreras B, Sonmez GT. Effects of low- vs. high-load resistance training on muscle strength and hypertrophy in well-trained men. *Journal of Strength and Conditioning Research*. 2015;29(10):2954–2963. doi:10.1519/JSC.0000000000000958
4. Lopez P, et al. Resistance training load effects on muscle hypertrophy and strength gain: systematic review and network meta-analysis. *Medicine & Science in Sports & Exercise*. 2021;53(6):1206–1216. doi:10.1249/MSS.0000000000002585
5. Buch A, Kis O, Carmeli E, et al. Circuit resistance training is an effective means to enhance muscle strength in older and middle aged adults: a systematic review and meta-analysis. *Ageing Research Reviews*. 2017;37:16–27. doi:10.1016/j.arr.2017.04.003
6. Singer A, Wolf M, Generoso L, et al. Give it a rest: a systematic review with Bayesian meta-analysis on the effect of inter-set rest interval duration on muscle hypertrophy. *Frontiers in Sports and Active Living*. 2024;6. doi:10.3389/fspor.2024.1429789