

Dr. Peter Attia: Science for a Longer, Better Life

Class Guide



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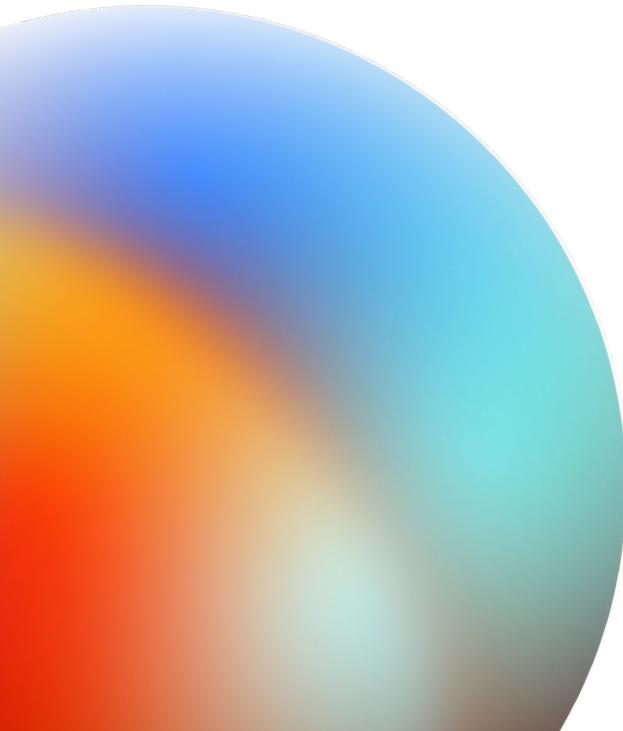
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Disclaimer: Please consult your physician before beginning any exercise program. Participation in this class and use of this guide are at your own risk. The instructor and MasterClass are not responsible for any injury, loss, or damage that may occur as a result of following these exercises. Always exercise within your limits and use proper form and safety precautions.

Family History Checklist

Questions you can ask to help determine your risk of the Four Horsemen

- Does any direct relative have a history of heart attack, stroke, or other heart disease?
- Does any direct relative have a history of cancer? If so, what kind?
- Does any direct relative have a history of Alzheimer's disease or another neurological disease?
- Does any direct relative have diabetes or another metabolic condition?
- For all of the above, at what age did the onset of them occur?



Key Training Concepts

Reps in Reserve (RIR):

RIR refers to the number of repetitions left “in the tank” before reaching failure. For example, two RIR means stopping a set when you could perform two more reps with good form. This method balances intensity and recovery, preventing overtraining while promoting progressive overload.

Application: Aim for 1-3 RIR for most sets to maintain form and sustainability. Beginners may start with 3-4 RIR, while advanced trainees can use 1-2 RIR for greater intensity.

Rate of Perceived Exertion (RPE):

In cardio training, RPE reflects how hard the effort feels, which can vary based on sleep, stress, and recovery. When training in Zone 2, use the “talk test” as your guide: you should be able to speak in full sentences, but your breathing will be noticeably heavier, and sustaining the effort feels challenging yet comfortable. This indicates you’re working at an intensity that primarily engages your aerobic system.

Progressive Overload

Progressive overload is the principle of gradually increasing the demands on your body over time to continue making gains in strength, muscle size, and endurance. Without progressive overload, your body adapts to the current demands and stops improving.

Three Ways to Achieve Progressive Overload:

- **Adding Weight/Resistance:** Gradually increase the load you lift while maintaining good form.
- **Adding Volume/Reps:** Increase the number of repetitions per set, or the total number of sets performed.
- **Adding Time Under Tension (TUT):** Slow down the eccentric (lowering) or concentric (lifting) phases of an exercise, or increase the duration of isometric static holds.

Super-Sets & Time Efficiency

Super-sets involve performing two exercises back-to-back with minimal rest, reducing workout duration while maintaining intensity. This approach allows more work in less time, ideal for 30-min resistance sessions.

Structure: Pair exercises in super-sets (e.g., 2-3 super-sets per session), with 60-90 sec rest between super-sets. Each super-set should take 3-5 min, allowing 4-6 exercises within 20-25 min of resistance training.

Pairing exercises that target opposing muscle groups (e.g., push/pull, quad/hamstring) or movement patterns (e.g., horizontal push/pull, vertical push/pull) optimizes efficiency, enhances muscle balance, and minimizes fatigue in one muscle group.

Benefits: Reduces interference effect, reduces injury risk, and allows one muscle group to recover while the opposing group works, supporting the super-set format.

Stability Exercises in Warm-Ups

Stability exercises, such as the deadbug and half-kneeling Palloff press, are ideal for warm-ups because they activate the core (transverse abdominis, obliques, rectus abdominis), improve neuromuscular control, and prepare the body for dynamic movements. These exercises enhance spinal stability, reduce injury risk, and prime the body for efficient movement patterns.

Implementation: Include 1-2 stability exercises in a 5-10 min dynamic warm-up, performed at low-to-moderate intensity (e.g., 1-2 sets of 10-15 reps). Focus on controlled movements to engage core and stabilizing muscles (e.g., glutes, shoulder stabilizers).

Zone 2/Aerobic work

One of the biggest mistakes individuals make is keeping their Zone 2 effort at a specific heart rate for every workout (which is why we favor RPE/talk test). As individuals start to adapt to aerobic work they should be working to push the intensity (speed/incline or watts) while being mindful of their RPE. For example, after the first 4 weeks of Zone 2 at 100 watts on the bike, you start to notice that it has begun to feel easier. Many keep the output the same and don’t realize that they adapted and can do more work over the period of time. You should always be aiming to increase your workload (very slightly) every 1-2 weeks to continue driving adaptation and aerobic benefits.

$VO_2 \max$

Your body's maximum ability to use oxygen during exercise.

The **Cooper Test** is a simple field test developed in the 1960s by Dr. Kenneth H. Cooper to measure cardiovascular fitness. It involves running as far as possible in 12 min on a flat surface. The total distance covered gives a good estimate of your $VO_2 \max$, which is a key indicator of aerobic endurance.

Why it works: The farther you can run in 12 min, the more efficiently your body can take in, transport, and utilize oxygen. That efficiency is directly tied to $VO_2 \max$.

To calculate your estimated $VO_2 \max$ results (in ml/kg/min) use either of these formulas:

Kilometers: $VO_2 \max = (22.351 \times \text{kilometers}) - 11.288$

Miles: $VO_2 \max = (35.97 \times \text{miles}) - 11.29$

To see how your $VO_2 \max$ stacks up against your age and gender standards, you can refer to the charts [here](#).*

*These links are provided for reference. MasterClass is not responsible for the content or practices of external sites.

Women's Performance Group by VO₂ max

<i>Age</i>	<i>Poor</i>	<i>Fair</i>	<i>Average</i>	<i>Good</i>	<i>Excellent</i>
<29	≤ 23.9	24 - 30.9	31 - 38.9	39-48.9	49
30-39	≤ 19.9	20 - 27.9	28 - 36.9	37 - 44.9	45
40-49	≤ 16.9	17 - 24.9	25 - 34.9	35 - 41.9	42
50-59	≤ 14.9	15 - 21.9	22 - 33.9	34 - 39.9	40
60-69	≤ 12.9	13 - 20.9	21 - 32.9	33 - 36.9	37

Men's Performance Group by VO₂ max

<i>Age</i>	<i>Poor</i>	<i>Fair</i>	<i>Average</i>	<i>Good</i>	<i>Excellent</i>
<29	≤ 24.9	25 - 33.9	34 - 43.9	44 - 52.9	53
30-39	≤ 22.9	23 - 30.9	31 - 41.9	42 - 49.9	50
40-49	≤ 19.9	20 - 26.9	27 - 38.9	39 - 44.9	45
50-59	≤ 17.9	18 - 24.9	25 - 37.9	36 - 42.9	43
60-69	≤ 15.9	16 - 22.9	23 - 35.9	36 - 40.9	41

3-Day

Weekly Resistance + Aerobic Program

Important Principles

Balanced Stimulus: Three sessions per week provide sufficient frequency for strength, hypertrophy, and cardiovascular improvements, ideal for beginners or those with limited time.

Core Stability: Including stability exercises like the deadbug and Palloff press in warm-ups enhances core strength, improving performance in resistance and aerobic work.

Cardiovascular Health: Zone 2 cardio improves aerobic capacity and fat oxidation, while VO₂ max training (4×4 intervals) boosts anaerobic threshold and cardiovascular efficiency.

Time Efficiency: Super-sets reduce resistance training time, allowing completion within 30 min, with Zone 2 cardio seamlessly integrated post-workout.

Programming

Each resistance session lasts 30 min, followed by 30 min of Zone 2 cardio. The VO₂ max day focuses on high-intensity intervals. Stability exercises are integrated into warm-ups, and super-sets use opposing movement patterns with RIR.

Day 1

Full-Body Resistance + Zone 2 Cardio

Warm-Up (5-7 min)	Dynamic Stretching or Mobility Exercises <ul style="list-style-type: none">• Reverse Crunch: 2 sets of 8-12 reps, 2-3 RIR• Half-Kneeling Pallof Press: 1 set of 10 reps/side, 3 RIR
Resistance (25 min)	Super-Set 1: Horizontal Push/Pull <ul style="list-style-type: none">• Dumbbell Bench Press (chest, shoulders, triceps): 3 sets of 10-12 reps, 2-3 RIR• Seated Cable Row (lats, rhomboids, biceps): 3 sets of 10-12 reps, 2-3 RIR• Rest: 60-90 sec between super-sets Super-Set 2: Squat/Hinge <ul style="list-style-type: none">• Goblet Squat (quads, glutes, core): 3 sets of 10-12 reps, 2-3 RIR• Romanian Deadlift (hamstrings, glutes, lower back): 3 sets of 10-12 reps, 2-3 RIR• Rest: 60-90 sec Super-Set 3: Core/Upper Pull <ul style="list-style-type: none">• Deadbug (core): 2 sets of 12-15 reps/side, 2-3 RIR• Dumbbell Reverse Fly (rear delts, rhomboids): 2 sets of 12-15 reps, 2-3 RIR• Rest: 60-90 sec
Zone 2 Cardio (30 min)	<ul style="list-style-type: none">• Treadmill, bike, or rowing at a slightly strained conversational pace; aim for steady-state effort to enhance aerobic base

Day 2

Full-Body Resistance + Zone 2 Cardio

Warm-Up (5-7 min)	Dynamic Stretching or Mobility Exercises <ul style="list-style-type: none">• Half-Kneeling Pallof Press: 2 sets of 10 reps/side, 3 RIR• Bird Dog (core, lower back stability): 1 set of 12 reps/side, 3 RIR
Resistance (25 min)	Super-Set 1: Vertical Push/Pull <ul style="list-style-type: none">• Overhead Dumbbell Press (shoulders, triceps): 3 sets of 10-12 reps, 2-3 RIR• Lat Pulldown (lats, biceps): 3 sets of 10-12 reps, 2-3 RIR• Rest: 60-90 sec Super-Set 2: Lunge/Horizontal Pull <ul style="list-style-type: none">• Rear Foot Elevated Split Squat (quads, glutes, stabilizers): 3 sets of 8-10 reps/leg, 2-3 RIR• Split Stance Row (lats, rhomboids, biceps, core): 3 sets of 8-10 reps per side, 2-3 RIR• Rest: 60-90 sec Super-Set 3: Core/Upper Push <ul style="list-style-type: none">• Side Plank: 2 sets of 45-60 seconds per side• Incline Push-Ups (chest, shoulders, triceps): 2 sets of 12-15 reps, 2-3 RIR• Rest: 60-90 sec
Zone 2 Cardio (30 min)	<ul style="list-style-type: none">• Treadmill, bike, or rowing at a slightly strained conversational pace; aim for steady-state effort to enhance aerobic base

Day 3

VO₂ max (4x4 Intervals)

Warm-Up (15-20 min)	<ul style="list-style-type: none">• 5-min easy warm-up• 10-15 min at Zone 2 effort
Main Workout (32 min)	4x4 Protocol <ul style="list-style-type: none">• 4 intervals of 4 min at 85-95% maximum heart rate (HRmax) (e.g., sprinting, cycling, or rowing), followed by 4 min active recovery (e.g., walking or slow pedaling at 50-60% HRmax)• Total: 4 rounds (32 min); focus on sustaining high intensity without compromising form
Cool Down (5 min)	<ul style="list-style-type: none">• Static stretching (e.g., hamstrings, quads, chest) and deep breathing

5-Day

Weekly Resistance + Aerobic Program

Important Principles

Higher Volume: Five sessions allow for targeted muscle group training and increased aerobic work, supporting hypertrophy, strength, and endurance goals.

Core Stability: Stability exercises in warm-ups prepare the body for complex lifts and high-intensity cardio, reducing injury risk.

Cardiovascular Variety: Zone 2 cardio builds aerobic base, while Zone 5 (high-intensity) training improves power and VO₂ max, creating a well-rounded program.

Time Efficiency: Super-sets maximize resistance training efficiency.

Day 1

Lower Body Resistance + Trunk Stability

Warm-Up

(5-7 min)

Dynamic Stretching or Mobility Exercises

- **Stir-the-Pot** (Stability Ball Plank Circles): 2 sets of 10 reps/direction, 3 RIR, slow circles to engage transverse abdominis and obliques
- **Single-Leg Glute Bridge Hold:** 1 set of 15 sec/leg, 3 RIR, focus on glute and core activation

Resistance

(25 min)

Super-Set 1: Lower Body/Trunk Stability

- **Goblet Squat** (quads, glutes, core): 4 sets of 6-8 reps at 75-85% 1 rep maximum (1RM), 1-2 RIR; emphasize upright torso and core bracing
- **Ab Rollout With Stability Ball** (core, lats, shoulders): 4 sets of 12-15 reps, 1 RIR; maintain neutral spine to target transverse abdominis
- **Rest:** 90 sec between super-sets

Super-Set 2: Isolated Lower Body Pairing

- **Rear Foot Elevated Split Squat** (quads, glutes, stabilizers): 3 sets of 8-10 reps/leg at 70-80% 1RM, 1-2 RIR; use dumbbells, maintain knee-over-toe alignment
- **Single-Leg Romanian Deadlift** (hamstrings, glutes, stabilizers): 3 sets of 8-10 reps/leg at 70-80% 1RM, 1-2 RIR; use dumbbells, focus on balance and hinge
- **Rest:** 90 sec

Super-Set 3: Lower Body/Trunk Stability

- **Barbell Hip Thrust** (glutes, hamstrings): 3 sets of 10-12 reps at 70-80% 1RM, 1-2 RIR; pause at the top for 1 sec
- **Side Plank** (obliques, glutes): 3 sets of 15 reps/side, 1 RIR; can add a “hip dip” to increase difficulty

Day 2

Zone 2 Cardio

Warm-Up (5 min)	<ul style="list-style-type: none">• 5-min light and easy warm-up on modality of choice
Main Workout (40-55 min)	<ul style="list-style-type: none">• Zone 2 Cardio: Steady-state cardio at the upper end of the “talk test” range

Day 3

Upper Body Resistance + Trunk Stability

Warm-Up

(5-7 min)

Dynamic Stretching or Mobility Exercises

- **Bird Dog with Resistance Band:** 2 sets of 12 reps/side, 3 RIR; band around foot to increase glute and core tension
- **Palloff Press with Anti-Rotation Hold:** 1 set of 10 reps/side, 3 RIR; hold end position for 2 sec to enhance stability

Resistance

(40-55 min)

Super-Set 1: Horizontal Push/Pull

- **Barbell Bench Press** (chest, shoulders, triceps): 4 sets of 6-8 reps at 75-85% 1RM, 1-2 RIR; use controlled eccentric (2-3 sec lowering)
- **Weighted Penday Row** (lats, rhomboids, biceps): 4 sets of 6-8 reps at 75-85% 1RM, 1-2 RIR; pull explosively, reset each rep
- **Rest:** 90 sec

Super-Set 2: Vertical Push/Pull

- **Standing Barbell Overhead Press** (shoulders, triceps, core): 3 sets of 8-10 reps at 70-80% 1RM, 1-2 RIR; brace core to avoid lumbar extension
- **Weighted Pull-Up** (lats, biceps, traps): 3 sets of 8-10 reps, 1-2 RIR; use bodyweight if unable to add weight
- **Rest:** 90 sec

Super-Set 3: Accessory/Trunk Stability

- **Dumbbell Lateral Raise** (deltoids): 3 sets of 12-15 reps, 1-2 RIR; slow eccentric circles (2-3 sec) for TUT
- **Hanging Leg Raise** (rectus abdominis, obliques, hip flexors): 3 sets of 12-15 reps, 1 RIR
- **Rest:** 60 sec

Day 4

Zone 2 Cardio (20 min) + Zone 5 Cardio (32 min)

Main Workout (52 min)

- **Zone 2 Cardio** (20 min): Steady-state cardio at the upper end of the “talk test” range
- **Zone 5 Cardio** (32 min, 4×4 Protocol): 4 intervals of 4 min at 85-95% HRmax (e.g., sprinting, cycling, rowing), followed by 4 min active recovery at 50-60% HRmax (e.g., walking, slow pedaling); push to near-maximal effort (0-1 RIR equivalent)
- **Focus:** Zone 2 builds aerobic base; Zone 5 enhances VO_2 max and anaerobic capacity

Day 5

Full Body Resistance + Trunk Stability

Warm-Up (5-7 min)	Dynamic Stretching or Mobility Exercises <ul style="list-style-type: none">• Ab Rollout with Barbell: 2 sets of 12 reps, 3 RIR; use barbell for increased range of motion• Single-Arm Pallof Press: 1 set of 10 reps/side, 3 RIR; unilateral to challenge anti-rotation
Resistance (25 min)	Super-Set 1: Push/Hinge <ul style="list-style-type: none">• Conventional Deadlift (hamstrings, glutes, lower back): 4 sets of 5-7 reps at 80-85% 1RM, 1-2 RIR; focus on explosive pull• Incline Barbell Press (chest, shoulders, triceps): 4 sets of 6-8 reps at 75-85% 1RM, 1-2 RIR; pause at bottom for 1 sec• Rest: 90 sec Super-Set 2: Pull/Squat <ul style="list-style-type: none">• Barbell Back Squat (quads, glutes, core): 3 sets of 8-10 reps at 70-80% 1RM, 1-2 RIR; depth to at least knee level• Single-Arm Dumbbell Row (lats, rhomboids, biceps): 3 sets of 8-10 reps/side at 70-80% 1RM, 1-2 RIR; keep torso stable• Rest: 90 sec Super-Set 3: Trunk Stability/Accessory <ul style="list-style-type: none">• Weighted Plank with Shoulder Tap (core, shoulders): 3 sets of 20 taps/side, 1 RIR; hold a plank with a 25-45 pound plate on the back if too easy without load• Face Pull with External Rotation (rear delts, traps, rotator cuff): 3 sets of 12-15 reps, 1-2 RIR; use cable for constant tension• Rest: 60 sec

At-Home *Tests*

Strength + Stability

Push-Up

Intra-abdominal pressure (IAP) is the ability to maintain structure in the trunk, and allows for supported and efficient movement in the limbs. The push-up is a simple test of IAP, in addition to upper body muscular endurance.

Male Standards:

- **Elite:** Able to complete 20+ push-ups with minimal compensations.
- **Above Average:** Able to complete 10-19 push-ups with minimal compensations.
- **Average:** Able to complete 5-9 push-ups with minimal compensations.
- **Below Average:** Unable to complete 5 push-ups without significant compensations.

Female Standards:

- **Elite:** Able to complete 10+ push-ups with minimal compensations.

- **Above Average:** Able to complete 6-9 push-ups with minimal compensations.
- **Average:** Able to complete 2-5 push-ups with minimal compensations.
- **Below Average:** Unable to perform a full push-up without significant compensations or decreased range of motion (chest unable to get to the floor).

Compensations:

- Extension through the lower back to stabilize.
- Hips and shoulders aren't moving in synchrony.
- Lack of a full range of motion (e.g., chest to the floor, reach at the top of each rep).

Wall Sit

The wall sit is a long duration squat hold that is parallel to the floor, which significantly challenges lower body muscular endurance.

Male & Female Standards:

- **Elite:** Able to hold a bodyweight squat (bottom of the thighs parallel to the floor) for 2 min with minimal compensations.
- **Above Average:** 1:30-1:59 with minimal compensations.
- **Average:** 1:00-1:29 with minimal compensations.
- **Below Average:** 59 sec or less.

Compensations:

- Toes lifting off of the floor.
- Heel lifting off of the floor.
- Forward folding of the trunk off the wall.
- Lower back losing contact with the wall.
- Passively resting into a deep squat position.
- Hips hiking up above parallel.

Step-Up

Concentric strength is important for movements that require a lot of strength quickly (e.g., getting off the floor, climbing stairs, chair rising). The step-up assesses concentric strength at 90 degrees of hip flexion to assess full range concentric strength. You can modify to a shorter box/step if the 90 degree hip flexion is too much.

Male & Female Standards:

Elite: Able to step up with 50% of bodyweight for 5 reps (90 degrees of hip flexion) on both legs with minimal compensations.

Above Average: Able to step up with 25% of bodyweight for 5 reps on *both* legs with minimal compensations.

Average: Able to step up with bodyweight for 5 reps on both legs with minimal compensations.

Below Average: Unable to step up with bodyweight for 5 reps on *both* legs without significant compensations.

Compensations:

- Excessive push-off from the back leg.
- Excessive lower back extension.
- Torso falling forward significantly.
- Upper body contribution via the shoulders shrugging or arms swinging.

Eyes Closed Balance

This test assesses toe flexion strength and pure lower leg proprioception; both required for postural stability and fall risk mitigation.

Male & Female Standards:

- **Elite:** Able to keep the front foot loaded with a relaxed trunk for 60 sec (30 sec with a head turn) with minimal compensations.
- **Above Average:** Able to keep the front foot loaded with a relaxed trunk for 30 sec but balance is lost within 15 sec or less into the head turn.
- **Average:** Able to keep the front foot loaded with a relaxed trunk for 30 sec but fall or lose balance immediately when the head starts to turn.
- **Below Average:** Not able to keep the front foot loaded with a relaxed trunk for 30 sec without falling or significant compensations.

Compensations:

- Shifting weight back to the rear foot.
- Arms kicking out to the side for balance.
- Arms squeezing into the body for stability.
- Lower back arching for stability.