



THE PREVELITY LIBRARY

VOL. 06 · EXERCISE

Train for the Decades Ahead.

Fitness and muscle are among the strongest predictors of how long — and how well — you'll live. How to measure them, build them, and keep them into your eighties.

FREE PREVIEW EDITION

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PRE-VELITY

INNOVATIVE PREVENTION, PERSONALIZED FOR LONGEVITY.

FOREWORD

If exercise were a pill, it would be the most prescribed drug in the world.

Few interventions in medicine touch as many outcomes at once: heart disease, diabetes, dementia, depression, falls, several cancers, and death from all causes.

And yet most adults don't meet even basic activity guidelines, and many who do train in ways that miss what matters most as we age. The goal of this guide isn't a better beach body. It's the body you'll be living in at 75 and 85 — strong enough to carry your own groceries, lift a grandchild, climb stairs without stopping, and get up off the floor.

That future is built in four ways: aerobic fitness, strength, stability, and recovery. Here's how to measure each, how to build each, and how to put them together into a week that fits your life.

WHAT THIS IS — AND ISN'T**Education, not an exercise prescription.**

If you have heart disease, chest pain or unusual breathlessness with exertion, fainting, uncontrolled blood pressure, diabetes on insulin, recent surgery, or joint problems, talk with your physician before starting or significantly increasing vigorous exercise. Stop and seek care for chest pain, severe breathlessness, or lightheadedness during exercise.

DR. PATRICK MULLEN, MD
FOUNDING PHYSICIAN · PREVELITY

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SECTION 01

01.

The Strongest Lever.

Cardiorespiratory fitness and muscle strength predict survival as powerfully as almost anything we measure — and unlike your genes, you can change them.

INSIDE THIS SECTION

Fitness and survival · Muscle as a longevity organ · The cost of sitting

FITNESS AND SURVIVAL

Being unfit is a major risk factor — and a fixable one.

In a large study of more than 120,000 adults who underwent treadmill testing, the least fit had several times the risk of death over the following years compared with the most fit — a gap larger than that associated with smoking, diabetes, or heart disease in the same study. And there was no upper limit: the fitter people were, the lower their risk.

10–15%

PER STEP OF FITNESS

Each one-MET increase in cardiorespiratory fitness — about 3.5 mL/kg/min of VO_2 max — is associated with meaningfully lower mortality. Moving from the bottom of the fitness range toward the middle brings the biggest gains of all.

Mandsager et al., JAMA Netw Open 2018; Kodama et al., JAMA 2009.

MUSCLE

Muscle is a longevity organ.

Muscle does far more than move you. It's where most of your blood sugar goes after a meal (Vol. 03), it protects your joints and bones, and it's your reserve for illness, surgery, and hospital stays. Without training, adults gradually lose muscle from around middle age, and strength falls faster than size. Grip strength alone predicts future disability and mortality.

WHAT YOU LOSE

Strength, then independence

The decline is quiet for years, then shows up as trouble with stairs, getting off the floor, or catching yourself from a stumble.

WHAT YOU CAN REGAIN

At any age

Adults in their 80s and 90s build meaningful strength with resistance training. It's never too late to start — only later.

THE COST OF SITTING

Moving through the day matters, too.

Long stretches of sitting carry risk even for people who exercise. Daily step counts show a clear dose-response: in a large pooled analysis, more steps were associated with lower mortality, with benefits leveling off around 6,000–8,000 steps a day for

older adults and 8,000–10,000 for younger ones. Walking after meals, standing breaks, and taking the stairs all count.

Your genes loaded the dice. Your fitness is how you play the hand — and it's never too late to improve it.

THE STRONGEST LEVER

SECTION 02

02.

Measuring Fitness.

What gets measured gets trained. A handful of tests show where you stand — and whether your training is working.

INSIDE THIS SECTION

VO₂ max · Strength · Body composition · Bone · Balance · What to track

WHERE YOU STAND

Six measures that matter for the long run.

MEASURE	WHAT IT TELLS YOU	HOW IT'S MEASURED
VO₂ max	Your aerobic ceiling — how much oxygen you can use. Among the strongest predictors of survival.	Best: a cardiopulmonary exercise test. Wearable estimates are useful for trends.
Strength	Grip strength and leg strength predict independence and mortality.	Grip dynamometer; how many sit-to-stands in 30 seconds.
Body composition	Lean mass vs. fat mass, and visceral fat — far more informative than weight.	A body-composition scan.
Bone density	Fracture risk, which rises quietly with age.	A bone-density scan.
Balance	Fall risk — a leading cause of injury and death in older adults.	Single-leg stand time; getting up from the floor.
Resting heart rate & HRV	Aerobic conditioning and recovery trends.	A wearable, tracked over weeks — not day to day.

IN YOUR PRE-SCORE

A fitness baseline, not just a blood panel.

The Pre-Score includes cardiorespiratory fitness, body composition, and bone density alongside advanced labs, so your score reflects the body you'll be living in — not just your bloodwork. Re-measuring shows whether training is paying off.

AT HOME

Three simple self-checks.

SIT-TO-STAND**30 seconds**

Arms crossed, stand fully and sit back down from a chair as many times as you can. Track it every few months.

SINGLE-LEG STAND**Eyes open, each leg**

Near a counter for safety. Difficulty holding 10 seconds in midlife and beyond is a signal to train balance.

FLOOR RISE**Down and up**

Sit on the floor and stand up with as little support as possible — a practical test of strength, mobility, and balance.

These aren't diagnoses. They're a way to see change over time and to spot the weakest link worth training.

END OF THE FREE PREVIEW

The rest of this guide.

You know why fitness matters and how to measure it. The complete edition shows how to build it: our philosophy on each kind of training, finding your zones, strength by movement pattern using reps in reserve instead of rigid sets and reps, balance and recovery, eight real-life weeks built around what people love to do, and a plan built backward from what you want to be able to do at 85.

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Five kinds of training and their jobs · minimum effective doses · count what you love
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