



HEALTH, STRENGTH AND PERFORMANCE FOR MEN

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Staying strong, active and healthy takes more than exercise alone. This guide highlights key areas of men's health—including hormones, strength, conditioning, nutrition and supplements—and practical strategies to support performance, recovery and healthy aging.

WHAT MEN SHOULD KNOW ABOUT TESTOSTERONE, TESTING AND TREATMENT

Hormone health is one piece of the longevity puzzle—and a key part of living a strong, healthy life.

Testosterone changes gradually with age. Testosterone does not suddenly “fall off a cliff” at a certain age. Levels generally begin to decline gradually during adulthood, often beginning in the 30s. The rate of change varies considerably from person to person.

A lower testosterone level with aging does not automatically mean that you have hypogonadism (testosterone deficiency) or need testosterone replacement therapy (TRT).

A diagnosis of testosterone deficiency is based on two things:

- Symptoms consistent with low testosterone
- Repeatedly low testosterone levels measured

Testosterone is also only one part of the picture. Poor sleep, excess abdominal fat, medications, chronic illness, alcohol use, metabolic health, and physical activity can all affect testosterone levels and cause similar symptoms.

Low Testosterone is BAD for your:

- Heart: higher cardiovascular risk and mortality
- Brain: higher risk of dementia, depression, anxiety, etc.
- Muscles: Sarcopenia (age related muscle loss)
- Metabolic Health: increased risk of DM2/Insulin resistance
- Bones: Higher rate of osteoporosis
- Sexual Health: Low libido/ED

SYMPTOMS OF LOW TESTOSTERONE

- Reduced muscle mass or strength
- Increased abdominal or visceral fat
- Lower energy or poorer exercise recovery
- Reduced sex drive
- Fewer spontaneous or morning erections
- Changes in mood or motivation
- Reduced bone density over time

Symptoms such as fatigue, poor sleep, and low mood are common and can have many causes.

Symptoms alone cannot diagnose hypogonadism.



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**WHAT'S YOUR
GAME PLAN**

HYPOGONADISM

HOW IS HYPOGONADISM DIAGNOSED?

If symptoms suggest testosterone deficiency, testing usually begins with an early-morning total testosterone level.

Because testosterone levels naturally fluctuate, a low result should generally be confirmed with a second early-morning measurement on a different day.

A total testosterone level below approximately 300 ng/dL is commonly used as a laboratory threshold supporting the diagnosis. Still, the number must be considered together with symptoms and the overall clinical picture.

ADDITIONAL TESTING MAY INCLUDE:

- Free testosterone and SHBG, particularly when total testosterone is borderline
- LH (luteinizing hormone) to help determine why testosterone is low
- Prolactin in certain men with low testosterone
- Additional testing based on medical history and examination

LOOK FOR REVERSIBLE CAUSES FIRST

Before starting TRT, it is important to evaluate factors that may be lowering testosterone or causing symptoms.

- Poor sleep or obstructive sleep apnea
- Excess body weight or visceral fat
- Insufficient resistance exercise
- Poor nutrition
- Heavy alcohol use
- Certain medications, including opioids and glucocorticoids
- Chronic medical conditions
- Metabolic disease

Improving these factors may support testosterone levels, reduce symptoms, and benefit overall health.

WHO COULD BENEFIT FROM TRT?

- TRT may be appropriate for men who have symptoms of testosterone deficiency and consistently documented low testosterone levels after appropriate evaluation.
- TRT should generally not be used simply as an anti-aging treatment, bodybuilding aid, or performance enhancer in men who have normal testosterone levels.
- The goal of treatment is to restore testosterone to a healthy physiologic range and improve symptoms, not to achieve the highest possible testosterone level.



TESTOSTERONE, TRT, IS IT SAFE?

TESTOSTERONE AND FERTILITY?

Taking testosterone can significantly reduce sperm production and may cause infertility.

Exogenous testosterone suppresses the body's signals to the testes that normally stimulate testosterone and sperm production. Men who are currently trying to conceive generally should not receive standard testosterone replacement therapy.

Discuss current and future fertility goals with your physician before starting TRT.

IS TRT SAFE?

For appropriately selected and monitored patients, TRT can be used safely, but treatment requires ongoing medical supervision.

Before treatment, your physician may evaluate:

- Testosterone levels
- Hemoglobin and hematocrit
- Prostate health and PSA when appropriate
- Cardiovascular and blood-clot history
- Sleep apnea
- Fertility goals
- Other medical conditions and medications

During treatment, monitoring may include testosterone levels, blood counts, symptoms, and other testing based on your individual risks.

Potential side effects include:

- Elevated hematocrit (erythrocytosis)
- Acne or oily skin
- Fluid retention
- Mood changes/irritability
- Changes in prostate or urinary symptoms
- Suppression of sperm production and fertility

LIVING AT HIGH ALTITUDE

People living at higher elevations may naturally have a higher

hematocrit because the body produces more red blood cells in response to lower oxygen levels.

Since TRT can also increase hematocrit, careful blood-count monitoring is particularly important for men living at altitude.



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HEART HEALTH AND THE BOTTOM LINE

Current evidence has been reassuring regarding the risk of major cardiovascular events such as heart attack and stroke in appropriately selected men receiving TRT.

However, TRT should not be considered a treatment to prevent cardiovascular disease. Some potential risks and long-term safety questions remain, which is why individualized assessment and ongoing monitoring are important.

The goal isn't simply a higher testosterone number. The goal is better health, function, and quality of life.

1. Evaluating symptoms and overall health

2. Addressing sleep, weight, exercise, alcohol, medications, and metabolic health

3. Confirming low testosterone with appropriate testing

4. Determining why testosterone is low

5. Discussing fertility goals before treatment

6. Using TRT when medically appropriate

7. Restore testosterone to a healthy range—not above normal.

8. Monitoring treatment for effectiveness and safety



MUSCLE IS AN ORGAN OF LONGEVITY...

IF NOT THE ORGAN OF LONGEVITY...

WHY PRESERVING MUSCLE IS CRITICAL

Protect the organ that keeps you free. Muscle is not decoration. Lose muscle quality and you lose more than a look: force, balance, recovery, and the confidence to hike, ski, carry, and get off the floor.

Start now. Bank strength, power, and balance while you can. Wait a week or a month and the same freedom costs more effort to buy back. Preserving muscle protects independence later in life.

SEVEN JOBS HEALTHY MUSCLE DOES

- 1. Metabolism and bioenergetics: fuel and cellular power (hike legs, first-chair energy)
- 2. Proteostasis: protein build-and-clear (recovery; getting off the floor)
- 3. Genomics: genetic playbook + activity-driven edits (training changes which pages get read)
- 4. Excitability: nerve-to-muscle spark (catch an edge on uneven ground)
- 5. Structure: cables and scaffolding for force (push, pull, grocery carry)
- 6. Regeneration: repair after wear and tear (bounce-back after a hard ski day)
- 7. Cross-talk: messages to fat, liver, bone, immune, brain pathways

WHERE TO START

Habit	"Enough" looks like
Strength	2+ full-body sessions most weeks; add a little over time (progressive overload)
Power	A few moves with safe speed (sit-to-stand with intent, light med-ball passes)
Balance	Single-leg or tandem stands near support; farmer carries
Conditioning	Walks/hikes that raise breathing a few times a week
Recovery	Protein across meals; sleep treated like training

Consistency beats hero weeks.

INDEPENDENCE CHECKLIST

- Get up from the floor without using hands (or getting closer each month)
- Carry groceries or a pack with steady posture
- Feel stable on uneven ground
- Recover from a hard hike or ski day without multi-day wipeout



SARCOPENIA, FRAILITY, AND BANKING MUSCLE NOW

The quiet risk isn't looking older. It's losing the strength and balance that keep you free on the mountain and at home.

WHAT THE WORDS MEAN

Sarcopenia is age-related loss of muscle mass, strength, and function. It often shows up first as weaker force, slower recovery, and harder balance, sometimes before the mirror changes much.

Frailty is the wider vulnerability package: weakness, slower walking, low activity, exhaustion, and unwanted weight-change patterns. Muscle loss is a major piece of that story, not the only piece.

WHY IT MATTERS

When strength, power, and balance slip, independence slips with them. Falls, longer recoveries, and less confidence outdoors aren't a character flaw called "just getting older." They're often under-trained muscle and under-trained nerve-to-muscle spark. Quality of muscle (force you can use) matters more than size alone.

WHAT MEN FEEL FIRST

- First chair day feels heavier than it used to
- Multi-day wipeouts after ordinary hard days
- Hesitation on ice, roots, or uneven ground
- Getting up from the floor getting harder^{more}
- Carrying groceries, packs, or grandkids costing

Bank muscle now while you can. Deposits you make in your 40s, 50s, and 60s (strength, protein-aware meals, sleep) pay dividends later as reserve for illness, injury, and the decades when recovery is slower.

WHAT SLOWS THE ONSET

Lever	How it helps
Progressive strength	Ask a little more over time. Builds and keeps force, structure, and the nerve-to-muscle spark.
Power + balance	Safe speed and single-leg control help you catch yourself, not only heavy slow lifts.
Protein across meals	Supports the build-and-clear job of muscle. Not a magic powder; a daily pattern.
Sleep and recovery	Repair happens after the session. Hero weeks without recovery dig a hole.
Stay moving	Walks and hikes that raise breathing keep the organ in the conversation all week.

Training is one of the strongest real-world ways to protect muscle health. It doesn't guarantee you never lose strength with age. It does raise the odds you keep independence longer.



PROGRESSIVE OVERLOAD

WHAT IT IS AND HOW YOU DO IT

Ask a little more of the tissue over time , then recover. That’s how muscle adapts. Not by punishing yourself once a month.

WHAT IT IS

Progressive overload means your training gives muscle a reason to stay and to get stronger. You gradually increase the demand (more reps, more sets, a little more load, better range, or cleaner control), then you let recovery finish the job. Same movements for weeks. One small change at a time.

The goal is a week you can repeat for years, not a workout that wrecks the next three days.

HOW YOU DO IT (SIMPLE LADDER)

1. Pick big patterns: squat or sit-to-stand, hinge (hip hinge / deadlift pattern), push, pull, carry.
2. Start where form is clean: a weight or bodyweight version you control for every rep.
3. Each week, change one thing: add a rep, add a set, add a little load, or own a better range of motion.
4. Keep most weeks boring on purpose: same session shape; small progression; leave one or two reps in the tank when learning.
5. Recover on purpose: protein-aware meals, sleep, and easy movement between hard days.

THIS WEEK

- Same main movements
- One small upgrade
- 2+ strength sessions
- A little power or intent on 1-2 moves
- Balance or single-leg work near support
- Walk or hike that raises breathing

NOT THIS WEEK

- Hero workouts to “make up” a month
- Max testing every session
- New program every Monday
- Pushing through sharp pain
- Skipping sleep to train more
- Chasing size while ignoring balance and power

A SAMPLE “ENOUGH” SESSION (SCALE TO YOU)

Block	Example
Warm-up	5-8 min easy move + a few empty-bar or bodyweight reps of your main patterns
Strength	2-4 moves · 2-4 sets · stop with clean form (example: squat pattern, push, pull, hinge)
Power or Intent	Sit-to-stand with speed, med-ball chest pass, or crisp last reps (not a max attempt)
Carry / Balance	Farmer carry, suitcase carry, tandem or single-leg stand near a rail

Progression examples: Last week you did 3×8 goblet squats. This week try 3×9, or the same 3×8 with a slightly heavier kettlebell, or a deeper controlled squat. Next week, only change one variable again.



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HEALTH, STRENGTH AND PERFORMANCE FOR MEN

A week that is enough.

Not a bodybuilding split.

A week you can repeat.

- Strength:** 2 or more sessions most weeks. Full body or upper lower.
- Power:** A little intent on a few moves. Not max testing.
- Balance:** Most days you train. 30 to 60 seconds counts.
- Walk or hike:** A few times a week. Hard enough to raise breathing.
- Protein:** Spread it across meals.
- Sleep:** Treat it like part of training.

Ask a little more. Then recover.

Vail Health | Healthspan

What muscle does for you.

Not decoration. An organ you can train.

Moves you

Strength stands, lifts, and climbs. Power shows up when you slip.

Handles fuel

Working muscle helps put energy away after a meal.

Supports recovery

Healthy muscle turns fuel into work and bounces back.

Quality beats size

Force, quickness, and balance matter more than looking big.

Vail Health | Healthspan. Train the organ. Protect independence.

Ask a little more. Then recover.

How muscle stays, and how it grows.

- 1 Add a rep.
- 2 Add a set.
- 3 Add a little load
- 4 Own a better range

This week:	
	same movements
	one small change
	sleep
	protein-aware meals
	walk
Not this week:	
	hero workouts
	max testing
	making up a month in one night
	hod through sharp pain



Strength builds the engine.



Power helps you catch yourself.



Balance keeps you upright.



Vail Health | Healthspan. Education, not a prescription.



BUILD YOUR AEROBIC ENGINE

Why Aerobic Capacity matters for Healthspan– and how to improve it

VO₂ max is the maximum amount of oxygen your body can use during hard exercise. It reflects the integrated performance of your heart, lungs, blood vessels, and working muscles – a powerful marker of cardiorespiratory fitness.

WHY IT MATTERS

Fitness in midlife can shape how you age.

MIDLIFE FITNESS → FEWER CHRONIC CONDITIONS
18,670 adults • median age 49 • 26-year follow-up
Higher fitness was associated with a lower later-life burden of eight major chronic conditions and with “compression of morbidity” – more years with less disease burden. A 1-2 MET improvement from the lowest fitness group to the next was associated with ~20% lower incidence of chronic conditions after age 65.

CARDIORESPIRATORY FITNESS → LONGEVITY
122,007 adults • mean age 53 • median 8.4-year follow-up All-cause mortality fell progressively as fitness increased. In this clinical cohort, the low-fitness group (<25th percentile for age/sex) had about 5× the adjusted mortality risk of the elite-fitness group.

WHAT ABOUT RESTING HEART RATE?

A lower resting heart rate often accompanies better aerobic fitness because the heart can pump more blood per beat. Track your own trend over time; illness, stress, sleep, medications, hydration, and temperature can also change it.

A SIMPLE VO₂ MAX WORKOUT: NORWEGIAN 4 × 4

4 min hard → 3 min easy × 4

Warm up first. During each 4-minute interval, work toward a hard but controlled effort (classically ~85-95% of max heart rate). Recover actively for 3 minutes. Cool down afterward.

New to intervals? Start with fewer repetitions or shorter work bouts and progress over time.

THE TAKEAWAY Your VO₂ max is trainable at any age. Consistency across the week builds the foundation; strategic high-intensity work can raise the ceiling.

EVERY INTENSITY COUNTS

Build the base first. Then add intensity.

- Aim toward at least 150 minutes/week of moderate aerobic activity (or an equivalent mix). If you are starting from a low baseline, begin with less and build gradually.
- Walking, hiking, biking, snowshoeing, skinning, swimming, rowing, and cardio classes all count.
- Easy-to-moderate aerobic work can increase stroke volume – the amount of blood pumped with each heartbeat – and improves your ability to sustain work.

USE BREATHING TO GUIDE INTENSITY

ZONE 2	Comfortably sustainable; below your first ventilatory threshold (VT1). You can speak in full sentences.
HARDER	Breathing becomes clearly labored and conversation shortens. This is where intervals and hill repeats can drive VO ₂ max higher.

A brisk walk may be Zone 2 for one person and easy recovery for another – intensity is relative to your fitness.

REFERENCES Willis BL, et al. Midlife Fitness and the Development of Chronic Conditions in Later Life. Arch Intern Med. 2012;172(17):1333–1340. doi:10.1001/archinternmed.2012.3400. • Mandsager K, et al. Association of Cardiorespiratory Fitness With Long-term Mortality Among Adults Undergoing Exercise Treadmill Testing. JAMA Netw Open. 2018;1(6):e183605. doi:10.1001/jamanetworkopen.2018.3605.
General guidance: U.S. Physical Activity Guidelines recommend 150–300 min/week of moderate aerobic activity or 75–150 min/week vigorous activity, plus muscle strengthening. Individual needs vary; people with symptoms or significant medical conditions should discuss exercise progression with a clinician.



HEALTHSPAN TEAM

Have a question for our Healthspan team or would you like to make an appointment with Josiah, Barry or Brett? Reach out!

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