

MyHelTHStatus

*Understanding health through measurable
physiology and function*

*You cannot optimize what you do not measure.
This system turns your physiology into something
you can see, quantify, and improve.*

Health is Measured Poorly

Modern health evaluation is fragmented. Individual biomarkers, isolated fitness tests, and subjective symptoms are often interpreted independently, without context or integration. This approach fails to capture how the body is functioning as a system. Health is not a single number, nor is it defined by the absence of disease. It is a dynamic state shaped by interacting physiological processes.

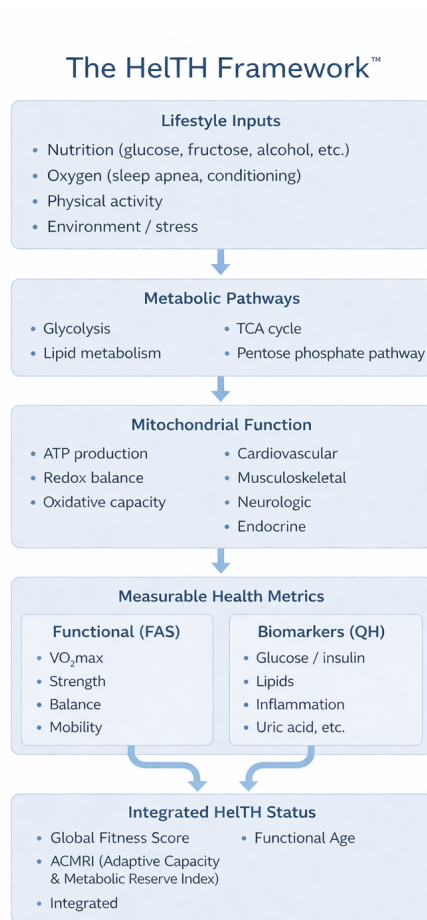
“If you don’t measure it, you don’t know it!”
~an unknown scientist a long time ago

HeLTH, a definition

HeLTH is a status that describes a physiological state that is characterized by blood and derived biomarkers that reflect optimal metabolic regulation, minimal systemic inflammation, efficient organ function and physical metrics that demonstrate healthy body composition, cardiovascular fitness, strength, power and mobility without reliance on medication.

THE HeLTH FRAMEWORK™

The HeLTH Framework™ is a systems-based model that integrates physical performance and biological measurements to define health as a measurable, dynamic state. Rather than treating isolated biomarkers or symptoms, it organizes physiology across metabolic, functional, and structural domains to reveal how the body is operating as a whole. By translating these inputs into a unified, quantitative profile, the HeLTH Framework™ provides a clear, objective view of health—one that can be tracked, interpreted, and improved over time.



*Lifestyle inputs drive metabolic pathways, which determine mitochondrial function and ultimately produce measurable health outcomes—defining your **HeLTH Status**.*

What MyHelTHStatus Measures

The HelTH Framework™ translates your daily inputs—what you eat, how you move, how you sleep, and how you breathe—into measurable physiology.

These inputs drive metabolic pathways, which determine mitochondrial function and ultimately produce measurable outcomes across physical performance and clinical biomarkers.

MyHelTHStatus integrates these data into a single, objective view of your HelTH Status—quantifying how your body is functioning today and where improvement is possible.

Your Assessment is Built From Two Domains:

Functional Assessment (FAS)

Measures real-world physical capacity, including strength, aerobic fitness, balance, and mobility.

Quantitative Health (QH)

Evaluates metabolic and cardiovascular physiology through objective blood and derived biomarkers.

From Data to Insight

Once your data are entered, MyHeIthStatus processes both functional performance and biomarker inputs through the HeIth Framework™.

The system does not treat these measurements in isolation—it evaluates how they interact, revealing whether your physical performance aligns with your underlying metabolic state.

Measurement Requirements

To generate an accurate HeLTH Status, MyHeLTHStatus requires a defined set of measurements across physical performance, body composition, and metabolic biomarkers.

These measurements are selected to capture both functional capacity and underlying physiology.

Baseline Measurements (at home)

- Bathroom Scale (divide your weight by 2.2 to get kilograms)
- Blood pressure cuff with heart rate
- Grip dynamometer (should measure in pounds and kilograms)

Functional Testing (FAS)

- 1-mile walk
- Grip strength
- Single leg balance
- Air squats
- Deadlift
- Senior burpee
- RDL balance
- Squat hold
- Plank
- Push ups
- Pull ups
- Bar hang
- Standing long jump
- Sit ups
- Wall shoulder flexion
- Ankle dorsiflexion
- Seated straddle

Body Composition & Aerobic Capacity

- VO₂max Testing (DEXA or performance lab)
- Dexa Scan (DEXA facility)
 - T-Score
 - VAT
 - Lean Mass
 - % Body Fat

Blood Biomarkers

These biomarkers provide a direct view of metabolic, inflammatory, and cardiovascular physiology and are essential for interpreting HeLTH Status beyond physical performance alone.

- Comprehensive Metabolic Panel (CMP)
- Lipid Panel
- Apolipoprotein B (ApoB)
- Lipoprotein(a) [Lp(a)]
- Fasting Insulin
- Fasting C-peptide
- Hemoglobin A1c (HbA1c)
- High-Sensitivity C-reactive protein (hs-CRP)
- Homocysteine
- MVX
- Gamma-glutamyl transferase (GGT)
- Uric acid

Additional Clinical Testing

- Coronary artery calcium score (CAC) — recommended for individuals over 40
- Sleep Apnea Testing (AHI)
- Colonoscopy — recommended for individuals over 40 (not included in current beta version)

How to Use MyHelTHStatus

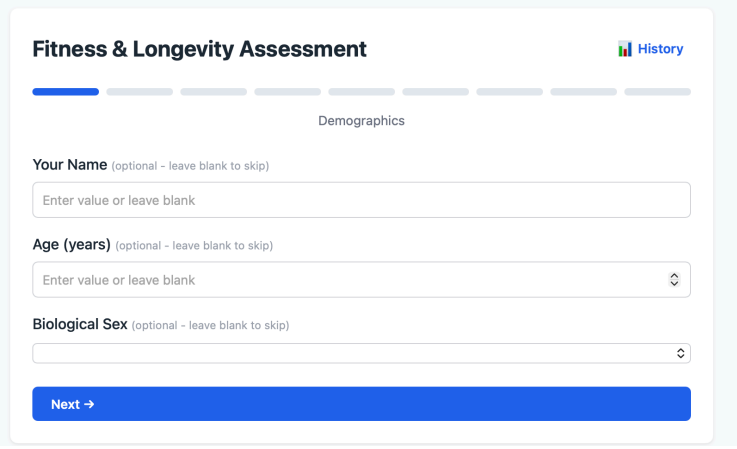
MyHelTHStatus is designed to organize your measurements into a structured assessment that translates raw inputs into a measurable view of HelTH Status.

Prepare

Before beginning, gather all required measurements and organize them in a journal, spreadsheet, or printed lab report so they can be entered efficiently and accurately.

Enter Data

Enter your measurements into the MyHelTHStatus platform, beginning with demographics and continuing through the full assessment workflow.



The screenshot displays the 'Fitness & Longevity Assessment' interface. At the top, there is a progress bar with six segments, the first of which is filled blue. To the right of the progress bar is a 'History' link with a bar chart icon. Below the progress bar, the section is titled 'Demographics'. It contains three input fields: 'Your Name' (optional - leave blank to skip) with a text input field containing 'Enter value or leave blank'; 'Age (years)' (optional - leave blank to skip) with a dropdown menu containing 'Enter value or leave blank'; and 'Biological Sex' (optional - leave blank to skip) with a dropdown menu. At the bottom of the form is a blue 'Next →' button.

Enter data in the boxes and pull down menus to the end of the inputs and then click “Calculate Results” shown below:

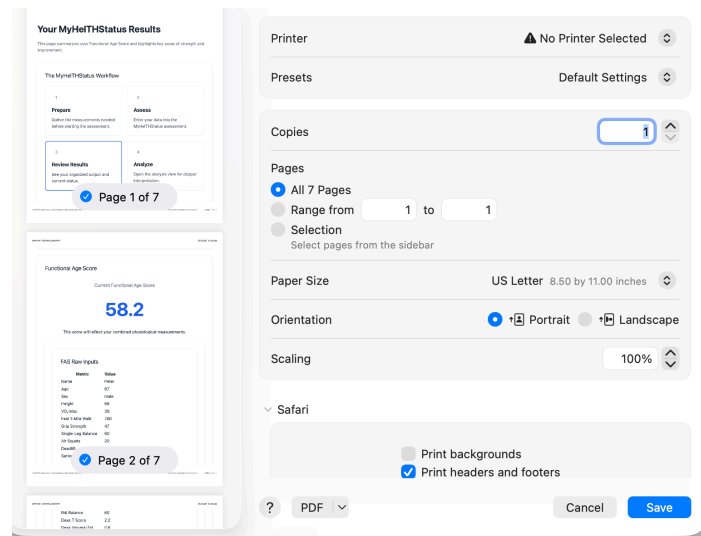
The screenshot shows a data entry form with four input fields, each with a pull-down arrow on the right. The fields are: "CAC Score (Agatston) (optional - leave blank to skip)", "Sleep Apnea AHI (events/hr) (optional - leave blank to skip)", "Uric Acid (mg/dL) (optional - leave blank to skip)", and "On urate-lowering therapy? (optional - leave blank to skip)". At the bottom of the form are two buttons: a grey "← Back" button and a blue "Calculate Results" button.

View Results

The system calculates your functional and metabolic profile. When the Results opens this is the screen that you will see before scrolling down:

The screenshot shows the "Your MyHeiTHStatus Results" page. At the top, there is a navigation bar with "MyHeiTHStatus" on the left and "Home", "Assessment Guide", "Download Manual", and "Start Assessment" on the right. Below the navigation bar is a heading "Your MyHeiTHStatus Results" followed by a sub-heading "This page summarizes your Functional Age Score and highlights key areas of strength and improvement." The main content area is titled "The MyHeiTHStatus Workflow" and contains four steps: 1. Prepare (Gather the measurements needed before starting the assessment.), 2. Assess (Enter your data into the MyHeiTHStatus assessment.), 3. Review Results (See your organized output and current status.), and 4. Analyze (Open the analysis view for deeper interpretation.). Below the workflow is a section titled "Functional Age Score" which displays "Current Functional Age Score" and a large blue number "58.2". At the bottom of this section, it says "This score will reflect your combined physiological measurements."

Do Two things. 1) Click Print in the browser and then save the Results as a PDF. That function is shown here:



Save Results to a PDF on your computer before clicking any of the Analysis buttons. 2) Click the Analysis button(s) after saving the PDF for later review. Once you leave the Results page you will not be able to come back to this page.

Analysis Page

Review strengths, weaknesses, and improvement opportunities. After you click any of the Analysis buttons you will land on the Analysis page shown here:

FAS - Analysis 3/30/26, 1:13 PM

Analysis

HelTH Framework™ Interpretation ← Back to Home
Unnamed | Exported

Note: This page is a deterministic read-only view of what your Results page already calculated. No scoring logic is modified here.

Summary

Global Fitness Score 93.8	Functional Age 58.2
ACMRI 0.938	

Health Interpretation

Your functional age is 58.2. Your overall fitness capacity is excellent relative to age. Detailed strengths and improvement opportunities will appear below.

QH Interpretation

- ApoB: Review lipid risk and ApoB particle burden; consider dietary and/or therapeutic strategies.
- C-Peptide: Improve C-Peptide through targeted lifestyle or clinical optimization.
- hs-CRP: Improve hs-CRP through targeted lifestyle or clinical optimization.
- Homocysteine: Assess B-vitamin status (B12, folate, B6) and methylation support.

https://heartfelt-moonbeam-aa093a.netlify.app/analysis Page 1 of 5

We highly recommend that you click **Print** in the browser and save the Analysis as a **PDF** on your computer. Feel free to scroll down the page to read the output or you may refer to your saved PDF.

Privacy

Our system does not collect any of your data. The only record of the data is the PDF that you saved to your computer and can use to evaluate your health status with a medical practitioner.

Your Health Outputs

Global Fitness Score (0-100)

A composite measure of overall physical capacity derived from strength, cardiovascular fitness, mobility, and body composition. This score reflects the body's ability to perform work, sustain activity, and maintain physiological reserve across multiple systems.

Higher scores indicate greater functional capacity and resilience, while lower scores identify areas where targeted improvements can increase performance and long-term health.

Functional Age

An estimate of physiological performance relative to age, derived from integrated measures of cardiovascular fitness, strength, mobility, and body composition. Functional Age reflects how the body performs compared to expected norms across the lifespan.

A lower Functional Age indicates preserved or enhanced physical capacity relative to chronological age, while a higher Functional Age reflects reduced functional performance and diminished physiological reserve.

ACMRI (Adaptive Capacity & Metabolic Reserve Index)

A composite measure of the body's ability to generate, sustain, and recover energy under physiological demand. ACMRI integrates key indicators of metabolic function, cardiovascular fitness, and body composition to reflect the capacity of the system to respond to stress and maintain performance.

Higher ACMRI values indicate greater adaptive capacity and metabolic reserve, while lower values reflect reduced resilience, impaired energy dynamics, and increased susceptibility to physiological strain.

QH Biomarkers (Quantified Health Biomarkers)

QH Biomarkers

A structured set of clinical laboratory measurements that quantify metabolic, inflammatory, and cardiovascular physiology. These biomarkers provide direct insight into underlying biochemical processes, including glucose regulation, lipid metabolism, inflammation, and organ function.

QH Biomarkers complement functional assessments by identifying internal physiological states that may not yet be reflected in physical performance, enabling earlier detection of metabolic dysfunction and more precise interpretation of overall Health Status.

Metabolic Crossover

The integrated relationship between functional performance metrics and underlying metabolic physiology. This concept links measures such as VO_2 max and body composition with key biomarkers, including glucose, insulin, and lipid dynamics, to provide a unified view of how metabolic state influences physical capacity.

Metabolic Crossover reveals alignment—or mismatch—between external performance and internal physiology, identifying opportunities to improve both functional capacity and long-term metabolic health.

How to Interpret Your Results

This system is not diagnostic and does not replace clinical evaluation.

Instead, it provides:

- A system-level view of physiology
- Identification of constraints and weaknesses
- Direction for targeted improvement
- A data rich conversation with your medical provider

Measure. Understand. Improve.

Health becomes actionable when it is quantified.

Details

Functional Assessment (FAS)

The specific components and scoring of this assessment were chosen to provide a 360 evaluation of fitness and was additionally linked to metabolism and the mitochondria through DEXA and VO₂max determination.

*O'Keefe EL, Lavie CJ. A Hunter-Gatherer Exercise Prescription to Optimize Health and Well-Being in the Modern World. *J Sci Sport Exerc.* 2021;3(2):147-157. doi: 10.1007/s42978-020-00091-0. Epub 2020 Oct 27. PMID: 38624470; PMCID: PMC7590991.

*Zoladz, J.A. Editor; *Muscle and Exercise Physiology.* (2019). Academic Press (Elsevier); ISBN: 978-0-12-814593—7

Physical Therapist/Trainer

It may be advisable to hire a physical therapist/trainer to help you complete the assessment. Proper form and stability are important and you may have to be taught by someone who is an experienced professional.

Expectations

You may not be able to do all the components. Do not see this as a punitive analysis but rather a baseline that you can use as a starting point to elevate your HeITH. The idea here is to use these research based components to elevate your cardiorespiratory system, strength and power, mobility and stability (balance) aspects of your biology back to healthy levels.

What you have to do?

In many cases you will not have the facilities to complete the assessment at home unless you are already active and/or have a home gym. Therefore, it is recommended that you locate a gym with adequate facilities and, as mentioned above, an experienced trainer to help you with the assessment.

Special Circumstances

VO₂ and DEXA Analysis will require finding a provider and making an appointment. Usually the same company can do both analyses. With a little planning both the VO₂ and DEXA can be done on the same day.

Definitions

Cardiorespiratory: refers to the pulmonary and cardiovascular system that allows for the efficient transfer of oxygen through your body, organs, and tissues eventually reaching the mitochondria.

Strength: The ability to pull your body weight off the ground (pull up) or to lift your body weight off the ground (deadlift).

Power: The ability to quickly move your body across a given distance or the time it takes to pick up a box of books and place the box on a table.

Mobility: The ability for your limbs to move around a joint with the proper range of motion.

Stability: The ability to maintain your body in an upright standing position, walking, or extended positions like reaching for an object, climbing up a ladder, or bending over to pick up an object without distress or falling over. To walk across or hurry across an irregular surface or rise without falling. Stability is the coalescence of strength, power, core strength, balance, and mobility.

Disclaimer

The FAS is physically challenging and you should seek the advice of a medical professional before attempting this assessment.

Tier 1-Cardiorespiratory and Body Composition

1. VO₂Max

What the test is

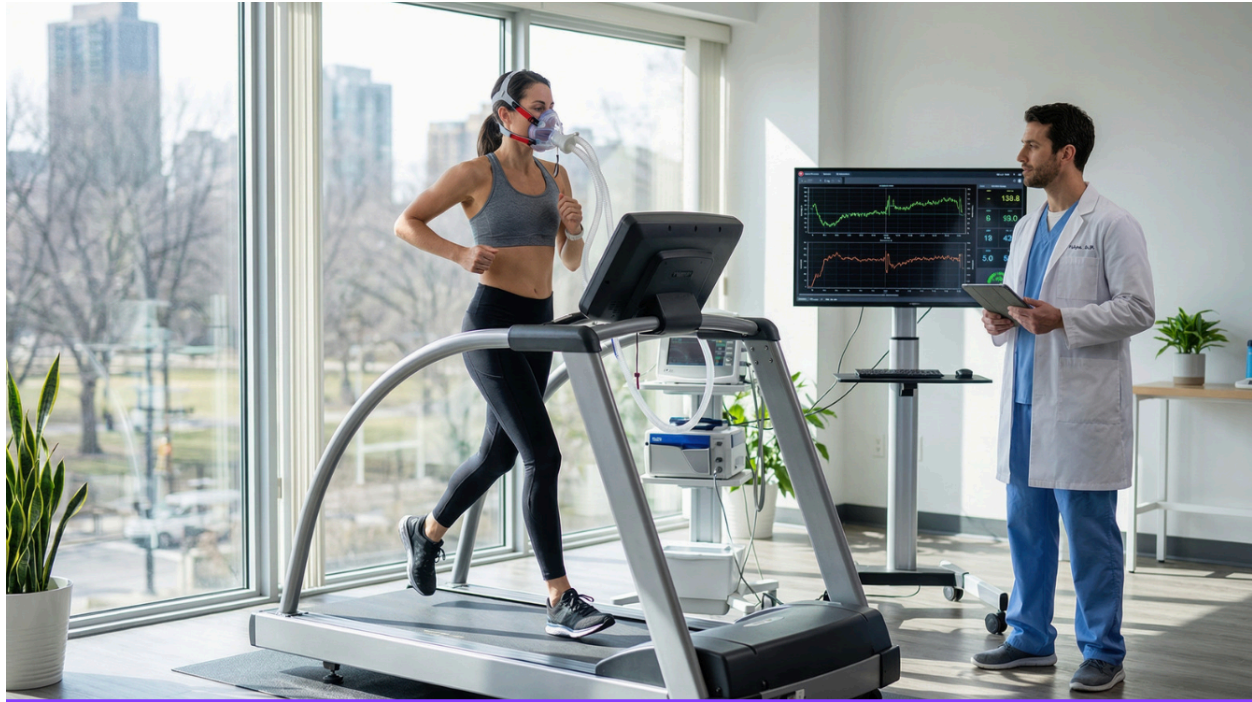
VO₂max is the maximal rate at which the body can use oxygen during intense exercise (mL·kg⁻¹·min⁻¹). In this assessment, VO₂max is measured not estimated.

Why it matters

Cardiorespiratory fitness is one of the strongest known predictors of all-cause and cardiovascular mortality, independent of traditional risk factors (blood pressure, cholesterol,

smoking, etc.). Each $\sim 3.5 \text{ mL O}_2 \cdot \text{kg}^{-1} \cdot \text{min}^{-1}$ higher cardiorespiratory fitness is associated with a meaningful reduction in mortality risk. Moreover, VO_2max is a direct measure of mitochondrial fitness since the processing of oxygen to produce energy by the mitochondria is the endpoint of oxygen uptake that begins at the lungs.

Where: Usually $\text{VO}_2 \text{ max}$ can be measured at a DEXA facility using a standard protocol that involves a treadmill or bike and equipment that captures or detects gases.



Key references

- Harber, Matthew P.; Kaminsky, Leonard A.; Arena, Ross; Blair, Steven N.; Franklin, Barry A.; Myers, Jonathan; et al. (2017). Impact of Cardiorespiratory Fitness on All-Cause and Disease-Specific Mortality: Advances Since 2009. University of Illinois Chicago. Journal contribution. <https://hdl.handle.net/10027/22295>
- Kodama S *et al.* Cardiorespiratory fitness as a quantitative predictor of all-cause mortality and cardiovascular events. *JAMA*. 2009;301(19):2024-2035.
- T. Scott Bowen, Alan P. Benson, Harry B. Rossiter, Chapter 10 - The Coupling of Internal and External Gas Exchange During Exercise, Editor(s): Jerzy A. Zoladz, *Muscle and Exercise Physiology*, Academic Press, 2019, Pages 217-249, ISBN 9780128145937, <https://doi.org/10.1016/B978-0-12-814593-7.00010-4>.

2. 1-Mile Fast Walk (Nasal Breathing Only)

What the test is

Timed 1-mile walk performed as fast as possible while maintaining nasal breathing and is strongly correlated with $VO_2\text{max}$. Time is used as a field estimate of cardiorespiratory fitness and related to $VO_2\text{max}$. Choose a circuit of known distance to use. The track, sidewalk, or road should be relatively flat. Practice walking the route first, mark a starting point, and use your phone to time the circuit. This is a fast walk, not a run, however, people with a short gait may have to break out into intermittent jogging. I repeat, this is not a run. If you mouth breathe, the effort is cancelled.

Why it matters

Field walk tests (e.g., Rockport 1-mile walk, 6-minute walk) correlate with $VO_2\text{max}$ and predict functional capacity and cardiovascular risk. They are safe, inexpensive ways to stratify fitness in clinical and community settings, especially in older adults or those who cannot perform maximal tests. Wearables rings, watches, wrist units, chest units can be used to quantitate the walk and estimate $VO_2\text{max}$. Depending on your condition seek medical advice before performing this assessment.



Key reference

- Kline GM *et al.* Estimation of $VO_2\text{max}$ from a one-mile track walk, gender, age, and body weight. *Med Sci Sports Exerc.* 1987;19(3):253-259.

3. Grip Strength

What the test is

Maximal isometric handgrip strength measured with a dynamometer, usually taking the best of several trials for each hand. Dynamometers can be purchased on Amazon.

Why it matters

Grip strength is a simple proxy for overall muscular strength and is strongly associated with disability, frailty, incident cardiovascular disease, and all-cause mortality across populations. Low grip strength is now considered a core criterion for sarcopenia and a predictor of all cause mortality.



Key reference

- Leong DP *et al.* Prognostic value of grip strength: findings from the Prospective Urban Rural Epidemiology (PURE) study. *Lancet*. 2015;386(9990):266-273.

4. DEXA Analysis



a. DEXA T-score (Bone Mineral Density)

What the test is

T-score from dual-energy X-ray absorptiometry (DXA/DEXA) at the hip and/or spine, comparing an individual's bone mineral density (BMD) with that of a young healthy reference population.

Why it matters

Low BMD (osteopenia and osteoporosis) substantially increases fracture risk, particularly hip and vertebral fractures, which are strongly linked to loss of independence, morbidity, and mortality in older adults.

Key reference

- Kanis JA *et al.* European guidance for the diagnosis and management of osteoporosis in postmenopausal women. *Osteoporos Int.* 2019;30(1):3-44. (Summarises WHO-style T-score categories.)

b. DEXA Visceral Fat (VAT, kg)

What the test is

Mass of visceral adipose tissue (VAT) in kilograms, estimated from DEXA in the abdominal region. This reflects fat stored around the internal organs rather than under the skin.

Why it matters

VAT is metabolically active and strongly associated with insulin resistance, dyslipidaemia, non-alcoholic fatty liver disease, and cardiovascular disease. It carries higher cardiometabolic risk than the same amount of subcutaneous fat.

Key reference

- Fox CS *et al.* Abdominal visceral and subcutaneous adipose tissue compartments: association with metabolic risk factors in the Framingham Heart Study. *Circulation.* 2007;116(1):39-48.

c. DEXA Body Fat %

What the test is

Whole-body fat percentage measured by DEXA, which provides a more accurate estimate of fat mass than simple BMI.

Why it matters

Higher body fat percentage, particularly when combined with low cardiorespiratory fitness or low lean mass, is associated with increased risk of type 2 diabetes, cardiovascular disease, and all-cause mortality. DEXA allows differentiation between “normal-weight obesity” and truly lean phenotypes.

Key reference

- Romero-Corral A *et al.* Normal weight obesity: a risk factor for cardiometabolic dysregulation and cardiovascular mortality. *Eur Heart J.* 2010;31(6):737-746.

d. DEXA Lean Mass Index (LMI)

What the test is

Lean Mass Index (LMI) is calculated as total lean mass (kg) divided by height squared (m²), analogous to BMI but focused on muscle and other lean tissues. In the FAS calculator, lean mass is entered and LMI is auto-computed.

Why it matters

Low lean mass adjusted for height is a core feature of sarcopenia. Lower muscle mass and strength are associated with higher risks of disability, falls, hospitalisation, and all-cause mortality—even after adjusting for fat mass and traditional cardiovascular risk factors.

Key reference

- Srikanthan P, Karlamangla AS. Muscle mass index as a predictor of longevity in older adults. *Am J Med.* 2014;127(6):547-553.

Tier 2-Strength & Work Capacity

These tests assess multi-joint strength, muscular endurance, and anaerobic work capacity. Collectively they reflect the ability to generate and sustain force, which is central to functional independence (climbing stairs, rising from the floor, carrying loads) and is independently associated with morbidity and mortality.

1. Deep Squat Hold (3-Minute Squat)

What the test is

Isometric hold in a deep squat position for up to 3 minutes, with heels on the ground and neutral spine as tolerated.

Why it matters

Combines lower-body strength, hip and ankle mobility, trunk endurance, and balance. Squat capacity is fundamental for rising from chairs, toilets, and the floor. Poor squat tolerance often co-occurs with knee and hip osteoarthritis, falls risk, and reduced physical activity.



Key Reference

- Ruiz JR *et al.* Muscular strength and mortality in men: prospective cohort study. *BMJ*. 2008;337:a439.

2. Plank Hold

What the test is

Forearm position held for time, assessing isometric endurance of the anterior trunk and shoulder stabilizers.

Why it matters

Trunk endurance (flexion, extension, side-bridge tests) is associated with low-back health and overall functional performance. Better trunk endurance is linked to reduced incidence of low-back pain and improved movement quality in daily life and sport. This ties into core strength, balance, and fall risk.



Key Reference

- McGill SM, Childs A, Liebenson C. Endurance times for low back stabilization exercises: clinical targets for testing and training from a normal database. *Arch Phys Med Rehabil.* 1999;80(8):941-944.

3. Push-Ups in 1 Minute

What the test is

Maximum number of strict push-ups performed in one minute from toes (or a standardized modified position if needed). Classic, off knees (enter one no matter number)

Why it matters

Push-ups reflect upper-body strength and muscular endurance. In middle-aged men, higher push-up capacity has been associated with substantially lower incidence of cardiovascular events over 10 years, independent of age and BMI.



Key references

- Yang J *et al.* Association between push-up exercise capacity and future cardiovascular events among active adult men. *JAMA Netw Open.* 2019;2(2):e188341.
- Ali, Mohabbat & Rafique, Nazish & Rafique, Anum & Mahmood, Asim & Manzoor, Mubashira. (2024). Association between Push-ups Exercise Capacity and Flexibility Level among Office Workers. *Journal of Health and Rehabilitation Research.* 4. 10.61919/jhrr.v4i3.1297.

4. Pull-Ups in 1 Minute

What the test is

Number of full-range pull-ups completed in one minute from a dead-hang start, overhand or neutral grip. The grip on the bar can be fingers facing away or fingers facing your face (pull-up or chin-up). If you use a band, then enter 1 pull up into the app no matter how many banded pull ups were done.

Why it matters

Pull-ups require high relative upper-body pulling strength and shoulder girdle stability. While direct mortality data are limited, upper-body strength in general tracks with overall muscular fitness, which is inversely related to cardiometabolic risk and mortality.



Key Reference

- Ruiz JR *et al.* Muscular strength and mortality in men: prospective cohort study. *BMJ*. 2008;337:a439.

5. Bar Hang Time

What the test is

Time a person can hang from a pull-up bar with an overhand or neutral grip, arms fully extended or slightly flexed. Fingers face away when gripped to the bar.

Why it matters

Assesses grip endurance, shoulder stability, and body-weight tolerance through the upper extremity and joint systems. It is a practical way to capture functional upper-body strength in those who cannot yet perform full pull-ups.



Key reference

- Leong DP *et al.* Prognostic value of grip strength. *Lancet*. 2015;386(9990):266-273.

6. Standing Long Jump

What the test is

Horizontal jump from a standing start, measuring distance in centimeters. The easiest way to do this is to put a measuring tape out on the floor. Mark a line to jump from and have someone mark the spot your heels make contact with the floor when you land. You may need to use a padded floor and a spotter to prevent falls.

Why it matters

The standing long jump is a classic measure of lower-body power. Lower-body power is strongly related to gait speed, stair-climbing ability, and independence in older age. Poor explosive power is associated with higher risk of mobility limitation and falls.



Key reference

- Rantanen T *et al.* Muscle strength and body mass index as long-term predictors of mortality in initially healthy men. *J Gerontol A Biol Sci Med Sci.* 2000;55(3):M168-M173. (Includes lower-body power/strength measures as predictors.)

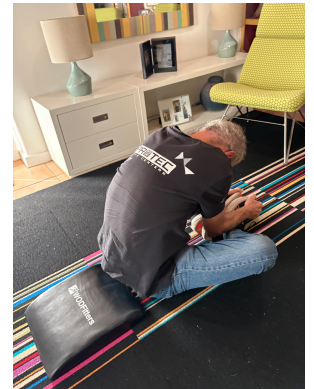
7. Sit-Ups in 1 Minute

What the test is

Maximum number of standardized sit-ups completed in one minute using an Ab-mat.

Why it matters

Assesses trunk flexor strength and endurance. While sit-ups themselves are not a direct mortality predictor, abdominal muscle endurance is linked to overall physical fitness and injury risk, and forms part of many military and occupational fitness standards that are associated with health outcomes over time.



Key reference

- Cooper KH. *The Aerobics Program for Total Well-Being*. (Historical basis for multi-component fitness batteries including sit-ups as a measure of muscular endurance.)

8. Deadlift – Body-Weight Load for Repetitions

What the test is

Conventional or trap-bar deadlift performed with barbell load equal to body weight. Score is based on the number of unbroken repetitions completed with safe form.

Why it matters

The deadlift is a compound movement engaging the posterior chain, hips, and trunk. Adequate hip and back strength is fundamental for lifting tasks, fall recovery, and maintaining independence. Higher muscular strength is associated with lower all-cause and cardiovascular mortality.



Key reference

- Ruiz JR *et al.* Muscular strength and mortality in men: prospective cohort study. *BMJ*. 2008;337:a439.

9. Senior Burpees (1-Minute Burpee Test)

What the test is

Modified, age-appropriate burpee performed for maximal repetitions in one minute, using a scalable pattern that may omit the push-up or jump as needed.

Why it matters

Burpees combine transitions from standing to the floor and back again, challenging whole-body strength, power, and cardiovascular capacity. The ability to get up and down from the floor is a powerful marker of functional independence and has been linked to an increase in all cause mortality in observational studies.



Key reference

- de Brito LB *et al.* Ability to sit and rise from the floor as a predictor of all-cause mortality. *Eur J Prev Cardiol.* 2014;21(7):892-898.

10. RDL Balance Test (Romanian Deadlift Single-Leg Hold)

What the test is

Single-leg hip-hinge position held isometrically for time, with the non-stance leg extended backward and trunk leaning forward (supported or unsupported as per protocol).

Why it matters

Challenges posterior-chain strength, proprioception, and single-leg balance—key ingredients for safe walking, stair negotiation, and movement. Single-leg balance performance is independently associated with fall risk and, in some studies, with all-cause mortality.



Key reference

- Araujo CGS *et al.* Successful 10-second one-leg stance performance predicts survival in middle-aged and older individuals. *Br J Sports Med.* 2022;56(5):259-266.

11. Single-Leg Stand

What the test is

Static balance test measuring how long an individual can stand unassisted on one leg, often with arms at sides or extended to the sides and eyes open.

Why it matters

Poor single-leg balance is a strong predictor of falls and functional decline. In older adults, inability to maintain a brief one-leg stance is associated with increased mortality and morbidity.



Key reference

- Araujo CGS *et al.* Successful 10-second one-leg stance performance predicts survival in middle-aged and older individuals. *Br J Sports Med.* 2022;56(5):259-266.

12. Air Squats in 1 Minute

What the test is

Maximum number of body-weight squats performed to a defined depth (e.g., thighs parallel) in one minute, feet flat on the floor.

Why it matters

Reflects lower-body muscular endurance and work capacity. High repetition body-weight squats correlate with the ability to climb stairs, rise from chairs repeatedly, and perform occupational tasks.



Key reference

- Rantanen T *et al.* Midlife handgrip strength as a predictor of old age disability. *JAMA*. 1999;281(6):558-560. (Representative of the broader literature linking muscular performance with later disability.)

Tier 3 – Mobility & Range of Motion

Tier 3 focuses on joint mobility and flexibility. While these are not as strongly tied to mortality as Tier 1 metrics, they are critical for pain-free movement, fall prevention, and the ability to balance and move effectively in the environment.

1. Wall Shoulder Flexion (Wall-to-Wrist Distance)

What the test is

Standing with back, hips, and heels against a wall, the individual raises arms overhead to touch the wall. The distance (cm) between the wrist and wall is recorded when strict alignment is maintained. You may need someone to measure for you.

Why it matters

Assesses shoulder flexion range combined with thoracic extension. Limited overhead mobility is common in aging populations and is associated with shoulder pain, rotator-cuff pathology, and difficulty performing tasks such as reaching shelves or lifting objects overhead. Use a tape measure to measure from the wrist to the wall.



Key reference

- Ludwig PM, Cook TM. Alterations in shoulder kinematics and associated muscle activity in people with symptoms of shoulder impingement. *Phys Ther.* 2000;80(3):276-291.

2. Ankle Dorsiflexion (Knee-to-Wall Test)

What the test is

From a half-kneeling or lunge stance facing a wall, the individual advances the knee toward the wall without lifting the heel. The maximal distance from big toe to wall (cm) with heel down is recorded.

Why it matters

Ankle dorsiflexion range is crucial for squatting, stair descent, walking, and running. Restricted dorsiflexion is linked to altered gait, increased fall risk, patellofemoral pain, and Achilles tendinopathy. Measure from tip of toe to wall with knee touching wall and heel on the floor.



Key reference

- Bennell K *et al.* Measures of foot and ankle function: validity, reliability, and responsiveness. *Arthritis Care Res.* 2003;49(4):548-555. (Includes knee-to-wall style tests.)

3. Seated Straddle Width (Heel-to-Heel Distance)

What the test is

From a seated position on the floor, the individual abducts the legs into a straddle and the heel-to-heel distance (cm) is measured.

Why it matters

Reflects hip abduction flexibility and adductor length. Adequate hip mobility supports squatting, lunging, and change-of-direction movements. Restricted hip range is associated with groin pain, low-back strain, and movement compensations.



Key reference

- Witvrouw E *et al.* Muscle flexibility as a risk factor for developing muscle injuries in male professional soccer players. *Am J Sports Med.* 2003;31(1):41-46. (Shows links between limited flexibility and injury risk.)

Quantitative Health (QH)

1. Bloodwork

The full bloodwork list shown above should be ordered and the draw should be completed on the same day within the 3 month time frame of completing the assessment. Make sure to have a full 12 hour fast overnight and only water before the draw. Order your blood draw online.

2. The Continuous Glucose Monitor (CGM) : only a prescription grade CGM should be used such as the Dexcom G7 or comparable device. The CGM should be calibrated using a high quality finger sticking meter. 30 days of readings required.

3. Blood Pressure: Obtain a quality cuff that measures blood pressure and heart rate. Sit quietly in a chair with flat arm rests and feet flat on the floor for five minutes before taking the reading. Take and record your fasting measurements after you rise in the morning and record the values in a journal. Take five days of readings and average the results.

4. Optional: Reliable finger-stick meters can be purchased for glucose, ketones, and uric acid. This data compliments the laboratory blood draw.

