ARE YOU FIT FOR AGING?

The Strong Aging Index™

Evidence-based.
Practical.
Designed for women 50+.

Take control of how you age with data that empowers you to get stronger, move better, and live independently longer.

YOUR PERSONAL AT-HOME ASSESSMENT | SCORE | STRATEGY

Measure the fitness markers most closely linked to longevity, strength, mobility, balance, power, and cardiovascular health.

Compare your results to age-based benchmarks and discover your next best opportunities for stronger aging.

SCORECARD

click here for a digital tracking spreadsheet

ASSESSMENT DATE:					

1. BODY COMPOSITION

Test	Score/Rating	Score/Rating	Score/Rating	Score/Rating	Score/Rating
Percent Body Fat (%)	_____%	_____%	_____%	_____%	_____%
Total Skeletal Muscle Mass (lbs/kg)					
Waist Girth (inches)	_____"	_____"	_____"	_____"	_____"
Waist-to-Height Ratio					

2. STRENGTH

Test	Score/Rating	Score/Rating	Score/Rating	Score/Rating	Score/Rating
10 Rep Max Bench Press (lbs/kg)					
Farmer's Carry					
Grip Strength (lbs) L/R					
Dead Hang (seconds)					

3. POWER

Test	Score/Rating	Score/Rating	Score/Rating	Score/Rating	Score/Rating
Sit-to-Stand (30 sec test)					
Vertical Jump (inches)					
Long Jump (cm)					

4. STABILITY & BALANCE

Test	Score/Rating	Score/Rating	Score/Rating	Score/Rating	Score/Rating
Single-Leg Stand (secs R/L)					
Y Balance Test (cm)	R: _____ L: _____	R: _____ L: _____	R: _____ L: _____	R: _____ L: _____	R: _____ L: _____

5. MOBILITY

Test	Score/Rating	Score/Rating	Score/Rating	Score/Rating	Score/Rating
Shoulder Mobility (+/-inches)	R: _____ L: _____	R: _____ L: _____	R: _____ L: _____	R: _____ L: _____	R: _____ L: _____
Deep Squat	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Floor Sit-to-Rise					

6. CARDIOVASCULAR FITNESS

Test	Score/Rating	Score/Rating	Score/Rating	Score/Rating	Score/Rating
1-Mile Walk (min:sec)					
Resting Heart Rate (BPM)					
Heart Rate Recovery (BPM)					

FLIPPING 50
STRONG AGING INDEX™

Measure what matters before, during, and after menopause.

This **Flipping 50 STRONG AGING INDEX** provides a **clear, research-backed method** to measure body composition, strength, power, balance, mobility, and cardiovascular fitness. Each test includes **instructions, scoring interpretations, and references** so you can track progress over time.

Scan or Click the QR Code to
Watch Step-by-Step Demonstration Videos!

HOW TO PERFORM & SCORE THESE TESTS

In many cases you are viewing “norms” not goals. Realize when viewing norms, this is historical data on a lot of people who are not very healthy or fit. These are not your goals but allow some perspective on where you stand. When information about correlation with mortality is available it is shared.

1. BODY COMPOSITION

Purpose: Assess body fat and skeletal muscle for metabolic health.

- **PERCENT BODY FAT (%):**
  - **How to Perform:**
    - **Measure** using a **smart scale or DEXA scan** to measure.
    - **Record** your percent body fat in the Scorecard.
  - **Compare** to chart below for women per age group (in %):

Age	Poor	Average	Above Avg	Excellent
40–49	29% +	26–28%	23–25%	18–22%
50–59	30% +	27–29%	24–26%	19–23%
60–69	31% +	28–30%	25–27%	20–24%
70+	32% +	29–31%	26–28%	21–25%

Source: Oliveira R, Brito JP. Updating Exercise Testing Strategies and Exercise Prescription Protocols. Healthcare (Basel). 2024. PMID: 38727458.

  - **Benefits:** 18-28% body fat is recommended healthy range for females regardless of age to reduce disease risk and comorbidity.

Source: World Health Organization

Note: 30% and above body fat is considered obese at any age.

- **TOTAL SKELETAL MUSCLE MASS**
  - **How to Perform:**
    - **Measure** via DEXA scan or bioelectrical impedance analysis (BIA).
    - **Record** your total muscle mass result (in kg or lb) in the Scorecard.
    - **Maintain or increase** over time.

- **Compare** to Muscle Mass norms below for women per age group:

Age Range	Muscle Mass (kg)	Muscle Mass (lbs)
40–49	25.6 ± 3.2	56.3 ± 7.1
50–59	25.0 ± 3.1	55.0 ± 6.8
60–69	23.9 ± 2.7	52.6 ± 5.9
70–79	23.5 ± 2.9	51.7 ± 6.4
80+	23.6 ± 2.6	51.9 ± 5.7

Source: © 2024 Coelho-Júnior et al., PMC10791914

- **Benefits:** Skeletal muscle mass is directly related to metabolic health and risk of or avoidance of sarcopenia and osteoporosis**.**

Source: Li R, Xia J, Zhang XI, Gathirua-Mwangi WG, Guo J, Li Y, McKenzie S, Song Y., Med Sci Sports Exerc. 2018. PMID: 28991040

Note: These are average values from existing populations— not goals. YOU are here to be anything but average!

• WAIST GIRTH

- **How to Perform:**
  - **Measure** at the narrowest point of the waist (above the hips, below the ribs).

- **Benefits: ≤ 35 inches** waist girth to reduce health risks. Increased waist girth marks a significant increase in visceral fat, which boosts risks for conditions like heart disease, hypertension, type 2 diabetes, and metabolic syndrome

Source: Lean ME, Han TS, Morrison CE., BMJ. 1995. PMID: 7613427

Note: that if you are a smaller size woman, your risk may increase at girth less than this number. Consider your shape and if you're distributing a disproportionate amount of weight at the midsection, seek support in more even distribution of weight.

• WAIST-TO-HEIGHT RATIO

- **How to Perform:**
  - **Measure** waist and height.
  - **Formula:** Waist circumference ÷ height.

- **Benefits: ≤ 0.50 ratio** for optimal longevity. Linked to lower visceral fat, metabolic health and management of cardio metabolic risk.

Sources: Chan V, Cao L, Wong MMH, Lo K, Tam W., Current Developments in Nutrition, 2024. PMID: 38230348; Ash well M, Gibson S., BMJ Open. 2016. PMID: 26975935

2. STRENGTH

Purpose: A meta-analysis published in Archives of Physical Medicine and Rehabilitation of 2 million men and women showed higher muscular strength have lower death from all causes. Strength is shown to reduce risk of all-cause mortality by 31% in individuals with higher muscular strength compared to those with lower strength.

- **10 REP MAX BENCH PRESS**
  - **How to Perform:**
    - Use total dumbbell weight (e.g., 30 lb each = 60 lbs) or the weight lifted using a barbell bench press (Bar + plates).
    - Estimate 1RM using Brzycki Formula: 1RM = 10RM ÷ 0.7498
    - If new to this, start with lighter weights and progress slowly over weeks before testing.
  - **Compare** your 1RM with chart for women per age group (weight in lbs):

Age	Beginner	Novice	Intermediate	Advanced	Elite
40–49	<52	52–83	84–122	123–167	>167
50–59	<50	50–75	76–114	115–157	>157
60–69	<45	45–69	70–104	105–145	>145
70+	<40	40–62	63–94	95–132	>132

Source: StrengthLevel.com; NSCA Guidelines; Calculator: Brzycki Formula

  - **Benefits:** Higher muscle strength is directly linked to increased longevity and reduce health risk.

- **FARMER'S CARRY**
  - **How to Perform:**
    - **Determine 75% of your body weight.**
    - **Hold** dumbbells or kettle bells in each hand with a total equaling up to 75% of your bodyweight.
    - If new to this, start with lighter weights and progress slowly over weeks. Testing may not be appropriate for you right away.
    - **Gradually increase** to 1 minute as you get stronger.
    - **Record** the weight you can carry a minimum of 30 seconds

- **Compare** to women per age group (in body weight %):

Age	Poor	Average	Above Avg	Excellent
40–49	<50%	50–59%	60–74% BW	>75% BW
50–59	<45%	45–54%	55–69% BW	>70% BW
60–69	<40%	40–49%	50–64% BW	>65% BW
70+	<35%	35–44%	45–59% BW	>60% BW

Source: Morton et al., Journal of Strength and Conditioning Research, 2016. PMID: 27174923

- **Benefits:** Total weight carried **equaling or more than 75% of body weight for 30 seconds or more** reflects total body functional strength directly correlated to longevity. This helps core and grip endurance, which are important for performing everyday tasks and reduced injury risk.

- **GRIP STRENGTH**

- **How to Perform:**

  - **Measure** using a dynamometer.

- **Compare** results to women per age group (in lbs):

Age	Poor	Average	Above Avg	Excellent
40–49	<50	50–61	62–70	>70
50–59	<45	45–56	57–65	>65
60–69	<40	40–51	52–60	>60
70+	<35	35–46	47–55	>55

Source: Bohannon RW. Clin Interv Aging, 2019. PMID: 31631989

- **Benefits:** Grip strength is a direct correlate of total body strength, which is related to bone density, multimorbidity and quality of life.

Source: Bohannon RW., Clin Interv Aging. 2019. PMID: 31631989

- **DEAD HANG**

- **How to Perform:**

  - **Hang** from a pull-up bar with arms fully extended.

  - **Time** number of seconds.

- **Compare** women per age group (in seconds):

Age	Poor	Average	Above Avg	Excellent
40–49	<30	30–44	45–59	>60
50–59	<30	30–39	40–49	>50
60–69	<20	20–29	30–39	>40
70+	<10	10–19	20–29	>30

Source: Sanchez-Moreno M, Pareja-Blanco F, Diaz-Cueli D, González-Badillo JJ., J Sports Med Phys Fitness. 2016. PMID: 26176615.

- **Benefits:** Upper body and grip strength are an alternative or additional measure of total body strength.

3. POWER

Purpose: Measure lower-body explosiveness, essential for fall prevention and fast-twitch muscle function.

- **SIT-TO-STAND**
  - **How to Perform:**
    - **Sit and stand as many times** as possible in 30 seconds with arms crossed over chest to opposite shoulders.
    - **Record** the number of complete stands.
  - **Compare** to women per age group (in reps):

Age	Poor	Average	Above Avg	Excellent
40–49	<14	14–16	17–19	≥20
50–59	<12	12–14	15–17	≥18
60–69	<10	10–12	13–15	≥16
70+	<8	8–10	11–13	≥14

Source: Bohannon RW, Percept Mot Skills, 2006. PMID: 17037663

- **Benefits:** Power is a significant predictor of mortality. In 51-80-year-old subjects each increase in sit-to-stand category has a 21% improvement in survival.

Source: Brito LB, Ricardo DR, Araújo DS, Ramos PS, Myers J, Araújo CG., Eur J Prev Cardiol. 2014. PMID: 23242910

- **VERTICAL JUMP**

  - **How to Perform:**

    - **Measure** the difference between a standing reach and a jump reach.

  - **Compare** women per age group (in inches):

Age	Poor	Average	Above Avg	Excellent
40–49	9.8	11.0	12.2	14.2
50–59	8.3	9.8	10.6	11.8
60+	6.7	7.9	9.1	10.2

Source: Springer et al., J Geriatr Phys Ther, 2007. PMID:19839175

Source: Vanezis A, Lees A., Ergonomics. 2005. PMID: 16338725.

  - **Benefits:** Power demonstrated by higher scores in vertical jump demonstrates mortality rate, risk of falls and fractures.

- **LONG JUMP**

  - **How to Perform:**

    - **Jump** forward from a standing position.

    - **Measure** from take off from toes to heels landing spot.

  - **Compare to women per age group (in cm):**

Age	Poor	Average	Above Avg	Excellent
40–49	<110	110-140	140-160	>160
50–59	<100	100-130	130-150	>150
60–69	<90	90-120	120-140	>140
70+	<80	80-110	110-130	>130

Source: Tremblay, Mark & Shephard, Roy & Mckenzie, Thomas & Gledhill, Norman. (2001). Canadian journal of applied physiology. 2001.

Benefits: Higher power scores are related to lower risk of falls and greater bone density.

  - *Notes:*

    - *Though these age-related norms exist: broad jump distance shouldn't be compared by age alone. It must be considered with height. To give you an idea of how you do, for females this is difficult to find in literature but consider how you do compared to your own height. Is it a 1:1 ratio? In other, more "rumored" than proven recommendations, 15% less than height for women.*

    - *In my case, at 64 inches, I would need to jump 54.5 to achieve that. Or you can simply determine the percent you do achieve. Say I reach 51 inches. My jump: height ratio = .79*

    - *It would be far better for you to compare your jump: height ratio with someone else than purely your inches jumped to theirs. Men and women will generally score differently given men have a larger amount of muscle mass, as well as greater height and longer legs to power the jump.*

      Source: Research Quarterly for Exercise and Sport. 2015

4. STABILITY & BALANCE

Purpose: Assess balance and fall risk.

- **SINGLE-LEG STAND**

  - **How to Perform:**

    - **Stand on one leg** without support.
    - **Record** the number of seconds you're able to balance.

  - **Compare** to chart below, for women per age group (in seconds):

Age	Poor	Average	Above Avg	Excellent
40–49	<20	20–29	30–39	>40
50–59	<15	15–24	25–34	>35
60–69	<10	10–19	20–29	>30
70+	<5	5–14	15–24	>25

Source: Springer et al., J Geriatr Phys Ther, 2007. PMID:19839175

  - **Benefits:** Assess balance and fall risk. A 2022 study in British Journal of Sports Medicine found adults over 50 who couldn't hold a 10-second single-leg stance were nearly twice as likely to die in the following 7 years.
    Source: Araujo CG, de Souza E Silva CG, Laukkanen JA, Fiatarone Singh M, Kunutsor SK, Myers J, Franca JF, Castro CL. Br J Sports Med. 2022. PMID: 35728834.

    Note: While static balance exercise is used for assessment purposes, dynamic balance activity requiring movement of center of gravity off of base of support are more beneficial as a means of training for balance.

- **Y BALANCE TEST**

  - **How to Perform:**

    - **Measure** from ASIS (hip bone) to medial malleolus (inside ankle) using a tape measure.
    - **Record** length in cm.
    - **Arrange a Y on the floor** using painter's tape with 3 equal length lines.
    - **Stand on one leg,** reach in 3 directions (anterior, posteromedial, posterolateral) with your opposite toe.
    - **Measure** the reach in each direction **in cm,** repeat for both legs.
    - **Calculate Composite Score % each leg:**

      Average distance (cm) = reach (1 + 2 = 3) / 3
      Normalized distance (%) = (Average distance / leg length) x 100
      Composite score (%) = (Sum of normalized distances / 3) x 100

- **Scoring**

Composite Score	Symmetry	Interpretation
≥95%	<4 cm diff	Excellent
90–94%	4–6 cm	Above Average
85–89%	6–8 cm	Average
<85%	>8 cm	Poor

Source: Plisky et al., J Orthop Sports Phys Ther, 2006. PMID: 17193868

- **Benefits:** Right and left leg symmetry (≤4% difference between legs) demonstrates decreased fall risk.

Source: Smith CA, Chimera NJ, Warren M., Med Sci Sports Exerc. 2015. PMID: 24870573.

5. MOBILITY

Purpose: Measure movement flexibility and range of motion.

• SHOULDER MOBILITY

- **How to Perform:**
  - **Reach** one arm overhead down the spine and the other behind the lower back and up the spine.
  - **Measure** gap distance between fingers.
- **Scoring:**
  - **Excellent:** ≤ 1 inch with symmetry
  - **Poor:** >2 inches or asymmetry
- **Benefits:** Demonstrates mobiity of upper body appendages.

Source: Manoso-Hernando D, Bailón-Cerezo J, Angulo-Díaz-Parreño S, Reina-Varona Á, Elizagaray-García I, Gil-Martínez A. PeerJ. 2024. PMID: 38948223

• DEEP SQUAT

- **How to Perform:**
  - Squat **below thighs parallel** to the floor while keeping heels down.
- **Scoring:**
  - **Excellent:** Heels down, below thighs parallel
  - **Poor:** Limitation in ankle, hip, thoracic mobility

Source: Manoso-Hernando D, Bailón-Cerezo J, Angulo-Díaz-Parreño S, Reina-Varona Á, Elizagaray-García I, Gil-Martínez A. PeerJ. 2024. PMID: 38948223

- **SIT-TO-RISE TEST (SRT)**

  - **How to Perform:**

    - Stand upright.
    - Lower to a cross-legged sitting position on the floor using as little support as possible.
    - Stand back up, avoiding assistance from hands, arms, or knees.

  - **Scoring:**

    - Start with 11 points (5 for sitting, 5 for rising and maintaining balance in each phase).
    - Subtract 1 point for each time a hand, arm, or knee is used.
    - Subtract 0.5 points for any loss of balance up or down.
    - **Excellent:** 8-11
    - **Good:** 6–7.5
    - **Moderate:** 3–5.5
    - **High Risk:** < 3

  - **Benefits:** Demonstrates functional mobility related to fall risk and independence.

    Source: Brito et al., EJPC, 2012. DOI:10.1177/2047487312471759

6. CARDIOVASCULAR FITNESS

Purpose: Heart health measured by VO2 max are strongly associated with increased longevity and reduced risk of cardiovascular disease. A study in the American College of Cardiology (JACC) showed for every 3.5 ml/kg/min increase in VO2, there is a 13% reduction in mortality risk. The tests here provide an easily accessible field test to measure combined movement speed and heart resilience to exercise.

- **1-MILE WALK TEST**

  - **How to Perform:**

    - **Measure** a flat 1-mile course (a flat, repeatable for future comparison course).
    - **Walk** 1 mile as fast as possible.
    - **Record** time and heart rate after finishing. Keep record of heart rate for comparison.

  - **Compare** women per age group (in minutes):

Age	Poor	Average	Above Avg	Excellent
40–49	>16	14–16	13–14	<13
50–59	>17	15–17	14–15	<14
60–69	>18	16–18	15–16	<15
70+	>19	17–19	16–17	<16

Source: Kline et al., Research Quarterly for Exercise and Sport, 1987. PMID: 3600239 and Rockport Walking Test Calculator

- **Benefits:** Higher cardiovascular levels are associated with lower risk of mortality. Walking speeds slower than 3.3 mph are associated with greater risk of all-cause mortality and cardiovascular events.

Source: British Journal of Sports Medicine

Note: For an accurate VO2 max test, a lab test is required. There are additional field tests a qualified trainer may administer however.

- **RESTING HEART RATE (RHR)**

  - **How to Perform:**

    - **Measure** first thing in the morning while still lying down.

  - **Scoring:**

    - **Excellent:** ≤60 BPM
    - **Average:** 61–79 BPM
    - **Poor:** ≥80 BPM

  - **Benefits:** Simple assessment indicative of all-cause and cardiovascular mortality. Each 10 bpm rise correlates with a 9-11% higher all-cause mortality.

Source: Seviiri M, Lynch BM, Hodge AM, Yang Y, Liew D, English DR, Giles GG, Milne RL, Dugué PA., Heart. 2018. PMID: 29269380

- **HEART RATE RECOVERY (HRR)**

  - **How to Perform:**

    - **Record** Heart Rate immediately after a high intensity interval.
    - **Record HR** again after 1 min of rest.
    - **Determine** heart rate drop: immediately after HR – 1 minute after HR = ___

  - **Scoring:**

    - **Excellent:** ≥ 20 BPM drop in 1 min
    - **Poor:** < 12 BPM drop

Source: Cole et al., NEJM, 1999. DOI:10.1056/NEJM199910283411804

  - **Benefits:** Measure of cardiovascular fitness and resilience. A 2024 study in 9900 adults found that blunted HRR at 1 and 2 minutes was the top predictor of all-cause mortality (outperforming exercise capacity as a predictor of mortality) even in those with reasonable fitness.

Source: Cole CR, Blackstone EH, Pashkow FJ, Snader CE, Lauer MS., N Engl J Med. 1999 PMID: 10536127.

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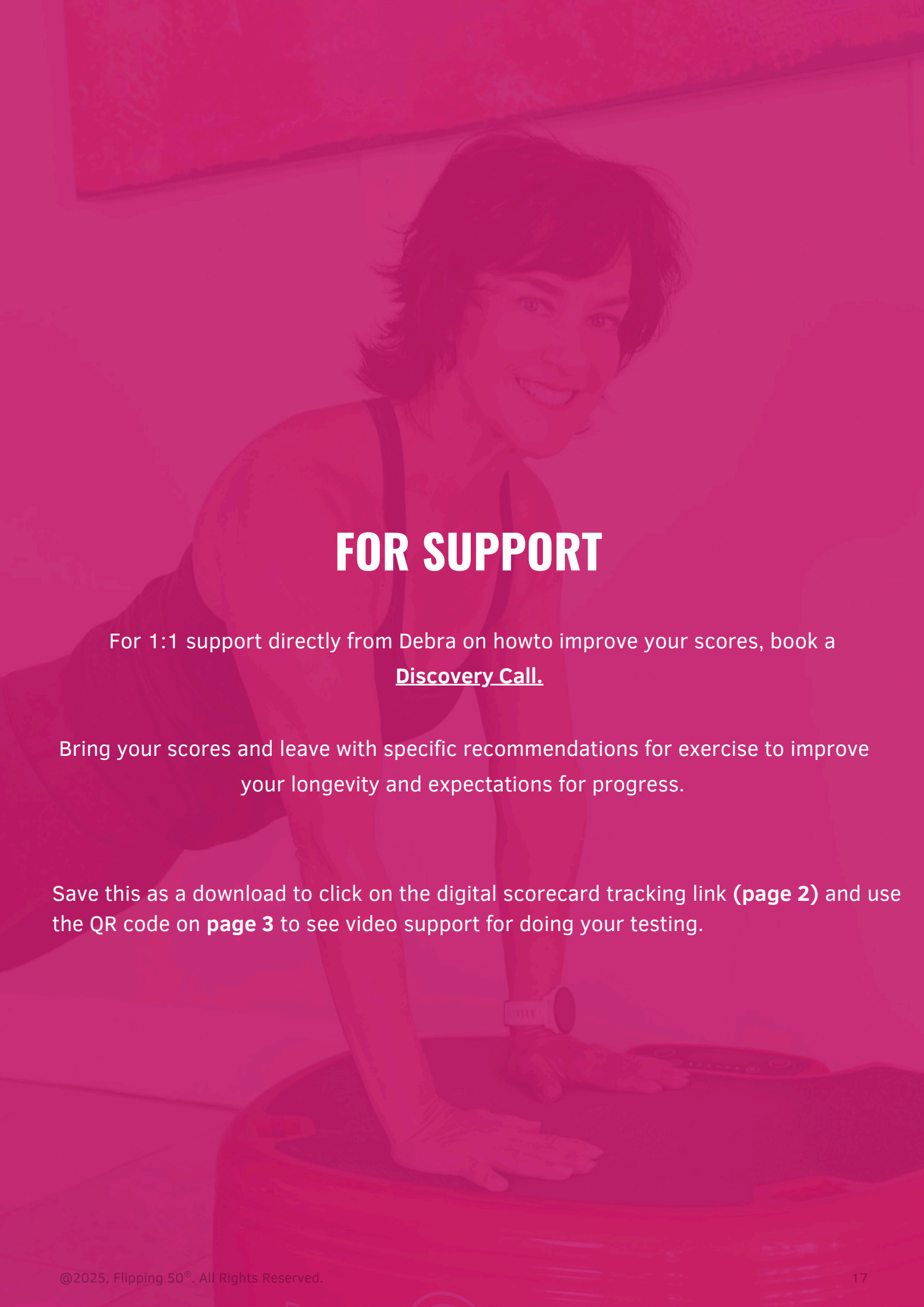

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