

Beyond the Typical Doctor Bag: Alternative Medicine for Cyclists

Cycling to Health

March 14 2018



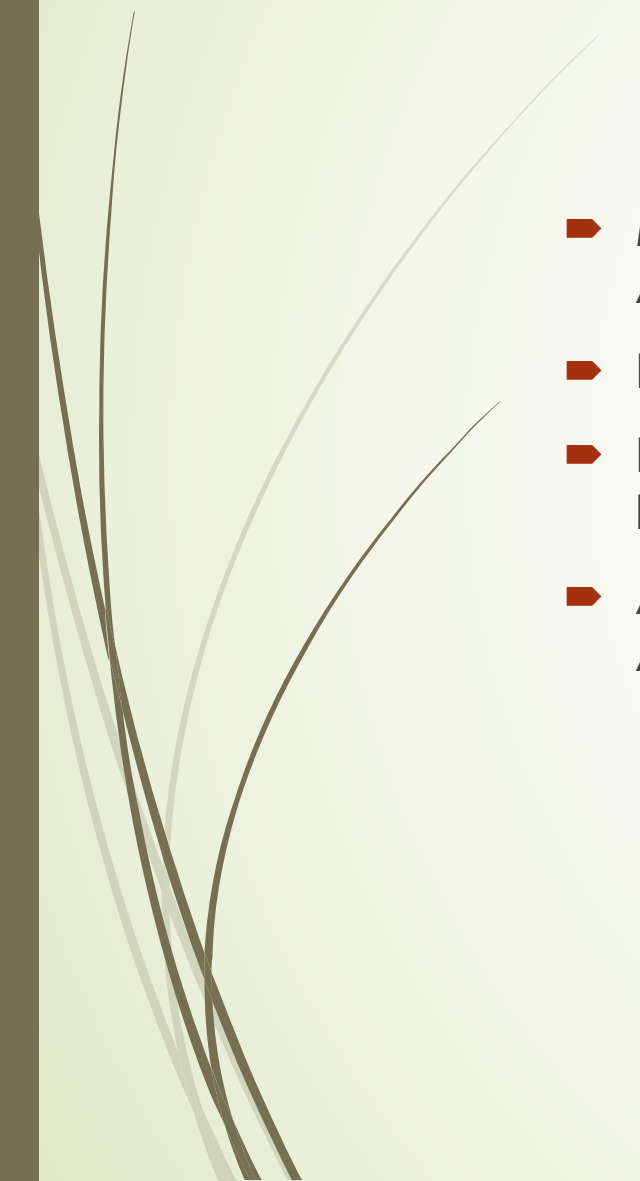
BRADLY JACOBS MD MPH ABOIM

FOUNDER & DIRECTOR, BLUEWAVE MEDICINE

CHAIRMAN, ACADEMY FOR INTEGRATIVE HEALTH & MEDICINE




BACKGROUND

- ▶ MEDICAL DOCTOR TRAINED IN NUTRITION, FITNESS, MIND-BODY, ACUPUNCTURE ..
 - ▶ BOARD CERTIFIED INTEGRATIVE MEDICINE
 - ▶ FORMER FOUNDING MEDICAL DIRECTOR, UCSF OSHER CENTER FOR INTEGRATIVE MEDICINE
 - ▶ AVID SPORTSMEN: CYCLING, MOUNTAIN BIKING, SURFING, CROSS-FIT, YOGA AND KUNG-FU
- 



OUTLINE

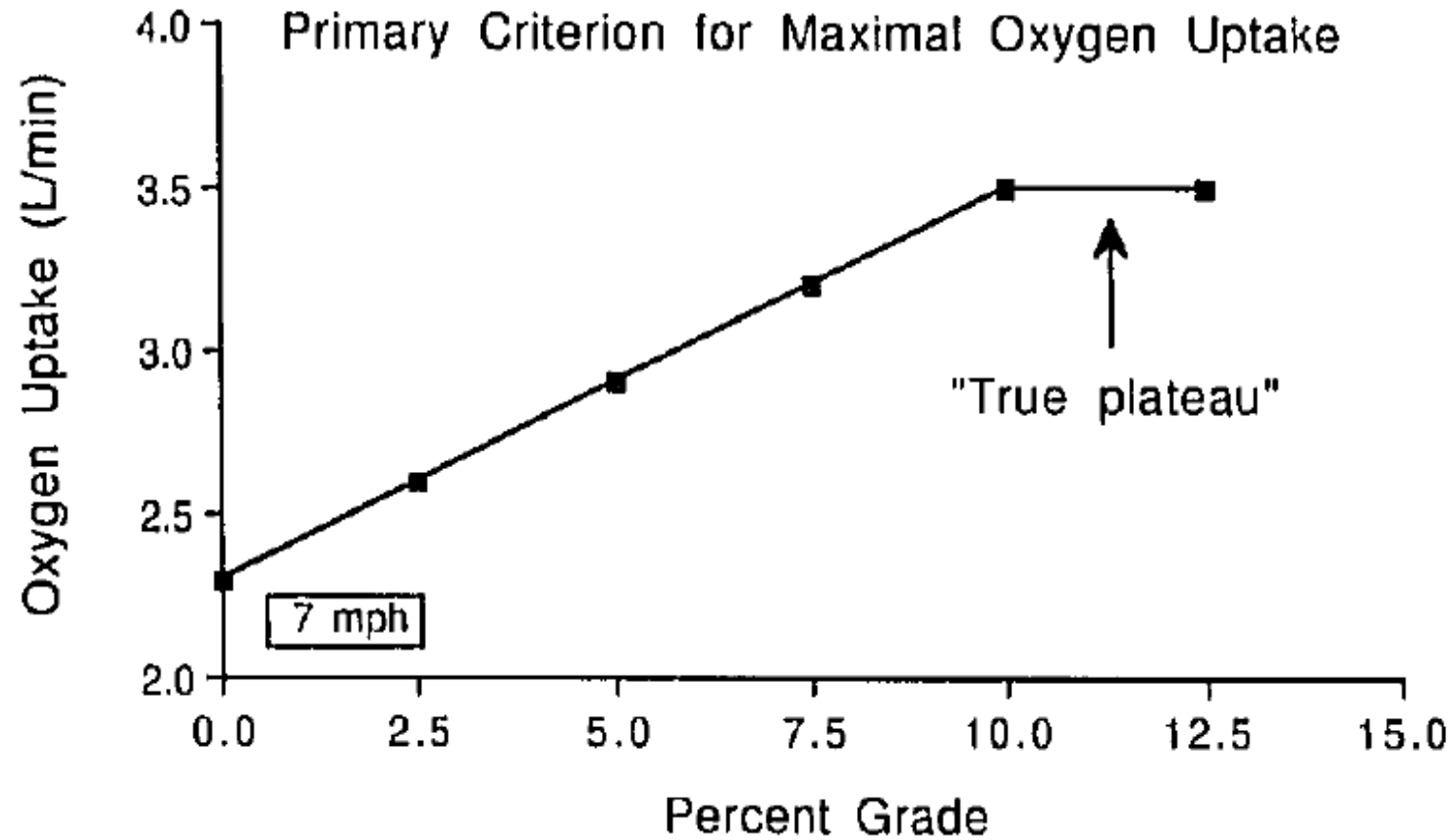
- ▶ Testing and Monitoring
 - ▶ V02 testing
 - ▶ Heart Rate Variability
 - ▶ Lifestyle- 6 Pillars of Healthy Living
 - ▶ Supplementation of Nitric Oxide
- 



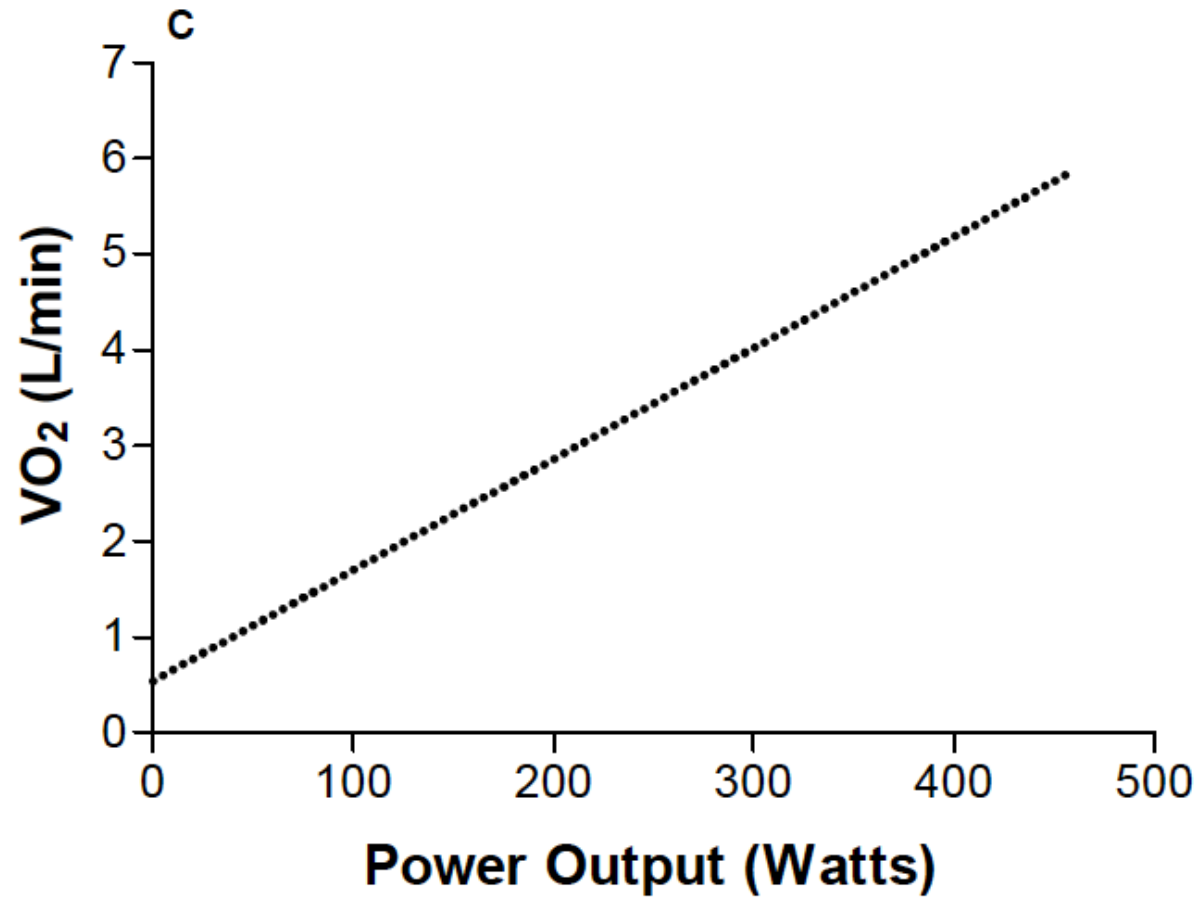
Testing Cardiovascular Fitness

- ▶ TESTING TO OPTIMIZING PEAK ENDURANCE AND FITNESS
- ▶ VO₂ max TESTING – MAXIMUM AEROBIC POWER as a best measure of cardiorespiratory fitness.
- ▶ VO₂- oxygen uptake measured in liters per minute.

CRITERIA FOR $\dot{V}O_{2MAX}$



Criteria for maximal oxygen uptake: Review and commentary
[Medicine & Science in Sports & Exercise](#) 27(9):1292-301 · October 1995



R. Robergs. SIMPLIFIED METHOD AND PROGRAM FOR INCREMENTAL EXERCISE PROTOCOL DEVELOPMENT
J Exercise Physiology. April 2007.

Recovery Heart Rate

Coach's Interpretation

Recovery

	Peak	1 Minute	2 Minute
Heart Rate	188	151 (34%)	129 (53%)

Your target heart rate

Recommend testing again by:

Cardio Strength

Cardio Strength

	Start	AeT	AT	Peak
VO2 (ml O2/kg/min)	7.8	44.8	50.8	56.5
Heart Rate (bpm)	76	165	179	188
Calories Per Hour	201	1157	1361	1459
Fitness Level	Superior			

Stats

Age:	40
Gender:	Male
Weight:	89.4 kg (197 lbs)
Height:	183 cm (6 ft 0 in)
BMI:	26.7
Test Type:	Treadmill
Test ID:	15
SN:	14918

AeT = Aerobic Threshold, AT = Anaerobic Threshold

Fitness Level

Note fitness level is based on a VO2 Max.
Refer to fitness level tables on back side of page.

Fitness Level

Age	VERY LOW	LOW	FAIR	GOOD	EXCELLENT	SUPERIOR
40-49	<30.2	30.2-33.5	33.6-38.9	39.0-43.7	43.8-48.0	>48.0*

[HEALTH](#) | [JOURNAL REPORTS: HEALTH CARE](#)

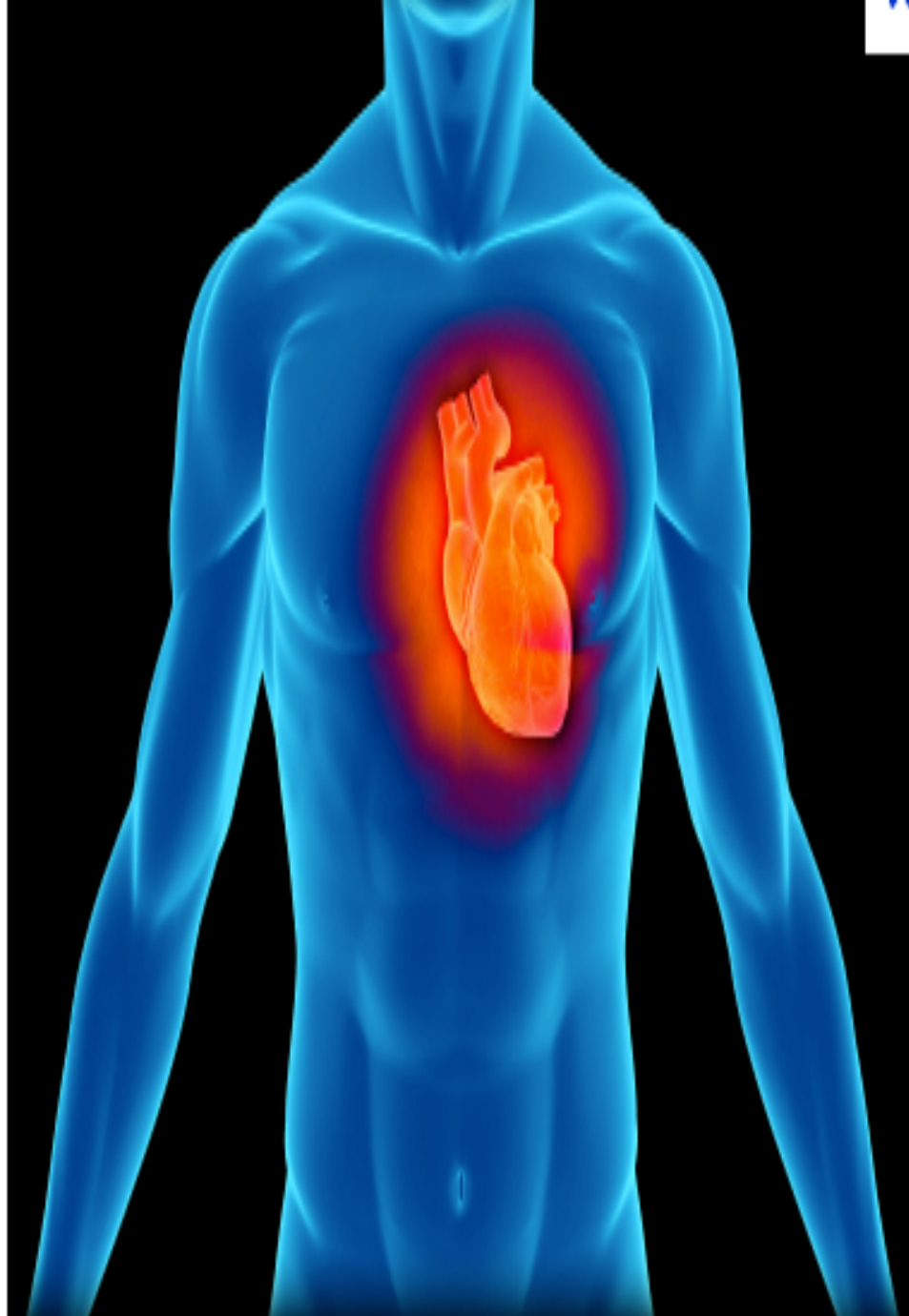
What's Your Heart-Rate Variability? It May Be Time to Find Out

HRV monitors are spreading as a way to get more out of workouts and relieve stress

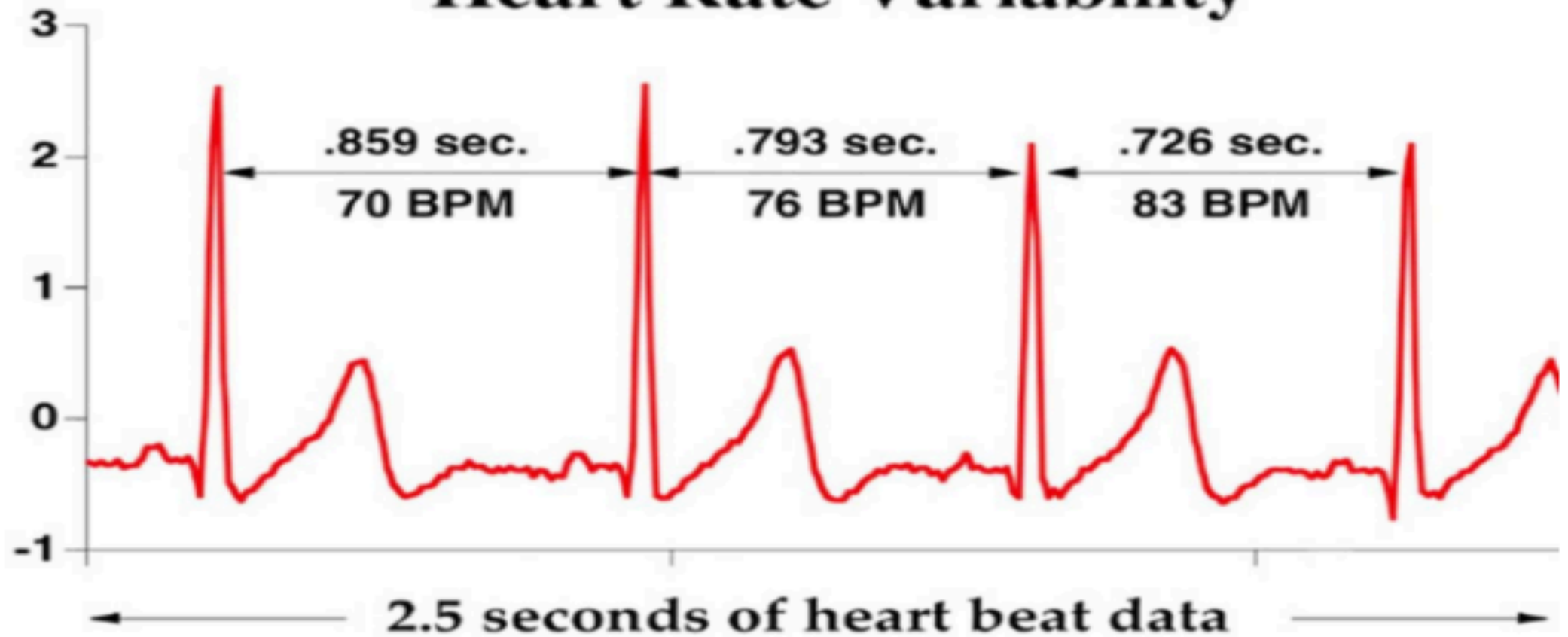


Charles Wallace WSJ June 25 2017





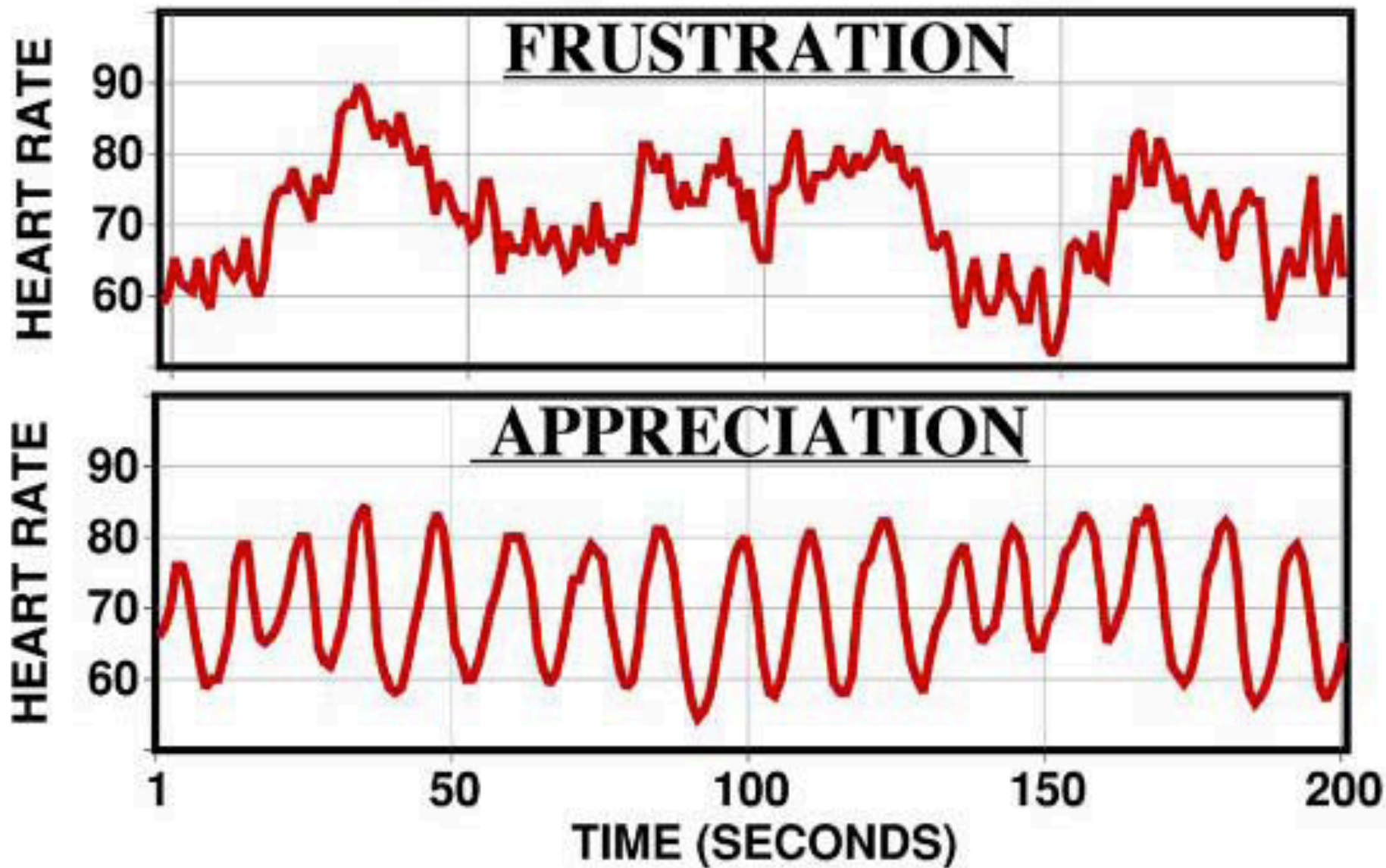
Heart Rate Variability

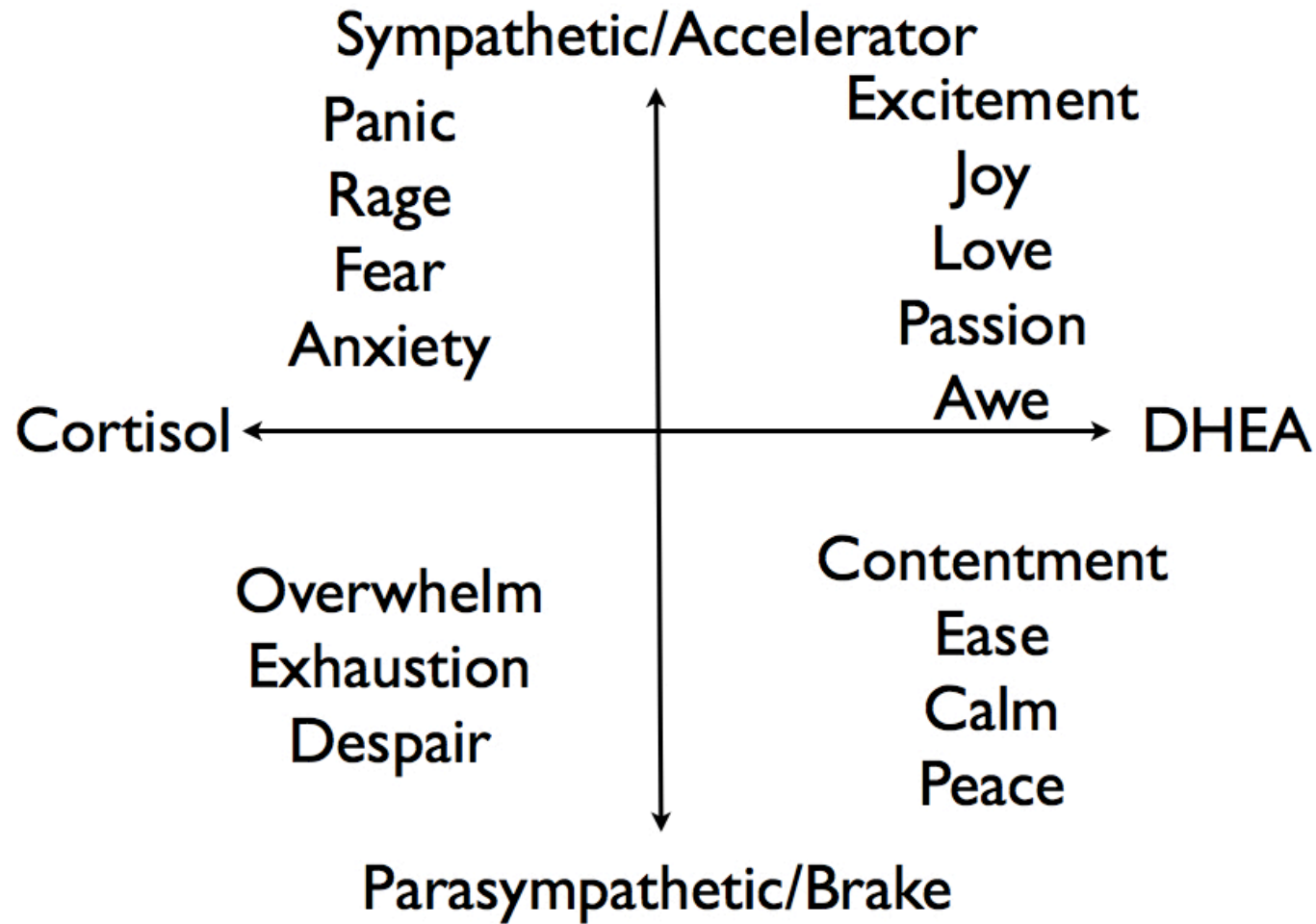


Heart-rate variability is the small differences in time between beats. Greater HRV indicates calm —and also signals readiness for heavy workouts.

PHOTO: HEARTMATH INSTITUTE

Changing Heart Rhythms





6 Pillars of Healthy Living™

Active Living

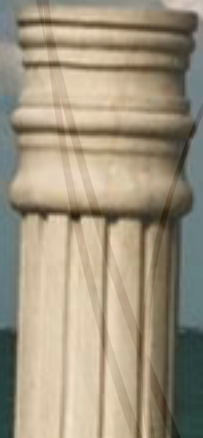
**Healthy
Eating**

**Restorative
Sleep**

**Mental Focus
& Resilience**

Connection

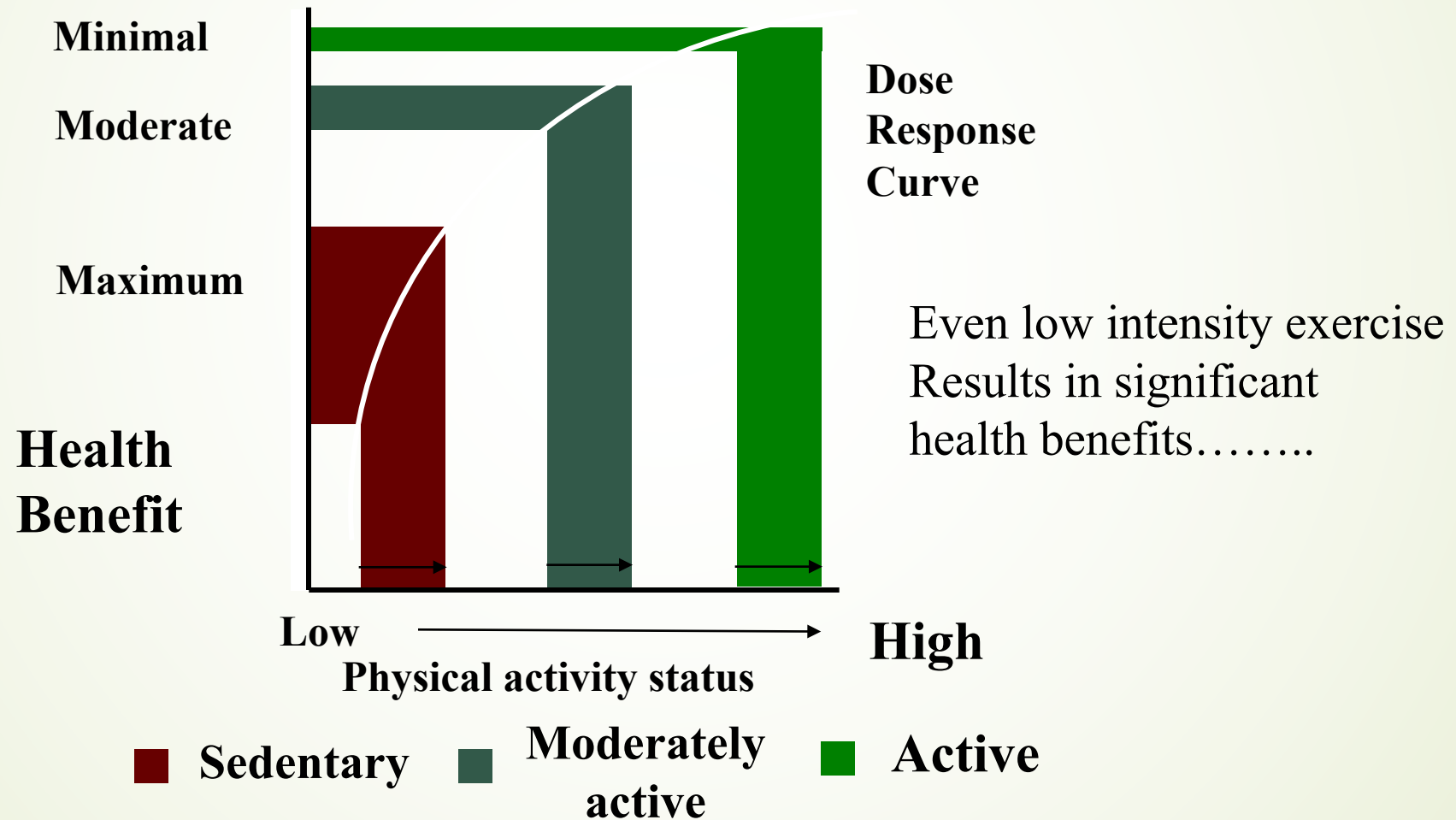
**Purpose &
Work-Life
Integration**



6 Pillars of Healthy Living™

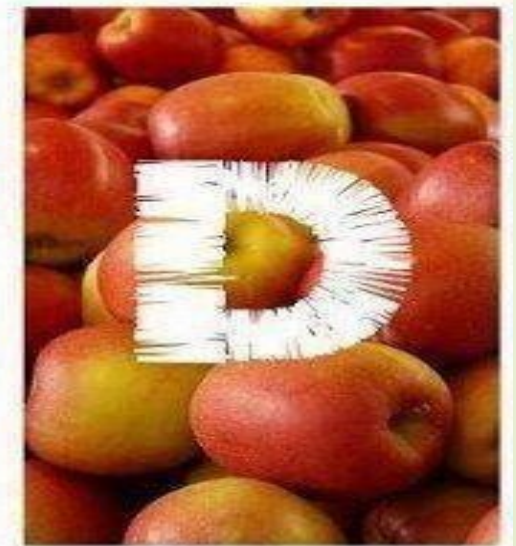
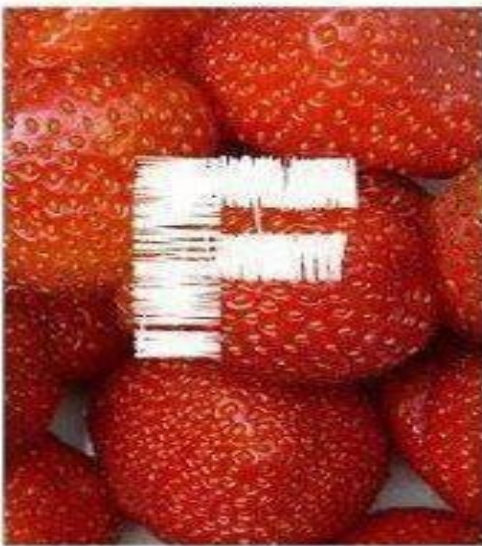
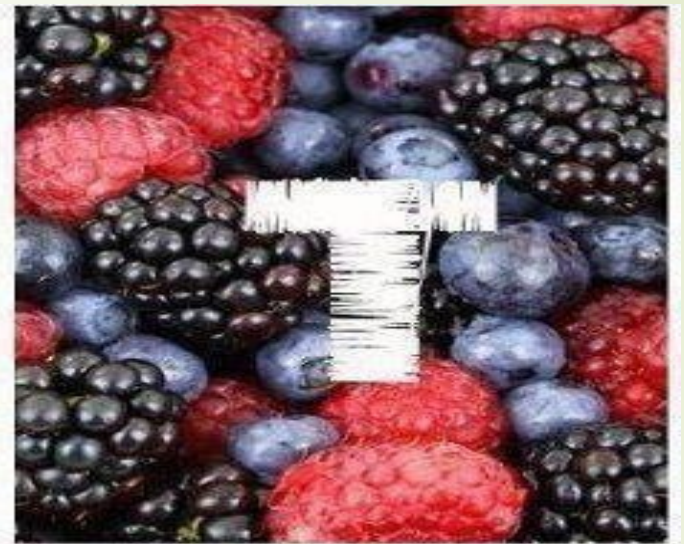
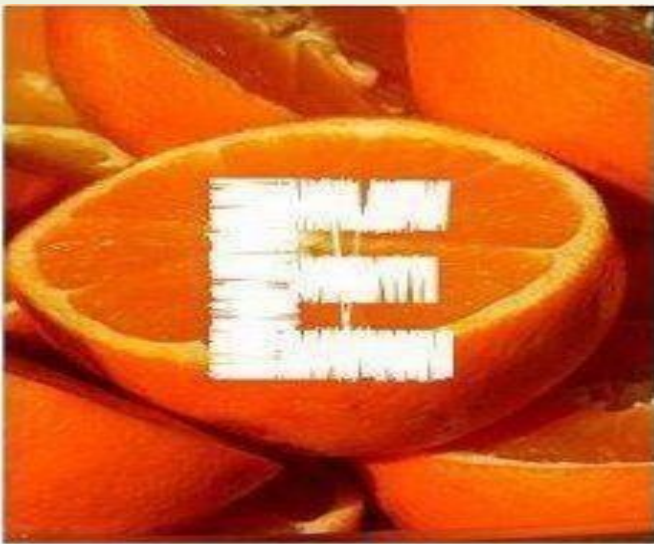
1. **Active Living**
2. Healthy Eating
3. Restorative Sleep
4. Mental Focus & Resilience
5. Connection
6. Purpose and Work-Life Integration

Exercise





Personal Wellness Workbook p28-29



glucose



ketones



6 Pillars of Healthy Living™

1. **Active Living**
2. **Healthy Eating**
3. **Restorative Sleep**
4. **Mental Focus & Resilience**
5. **Connection**
6. **Purpose and Work-Life Integration**





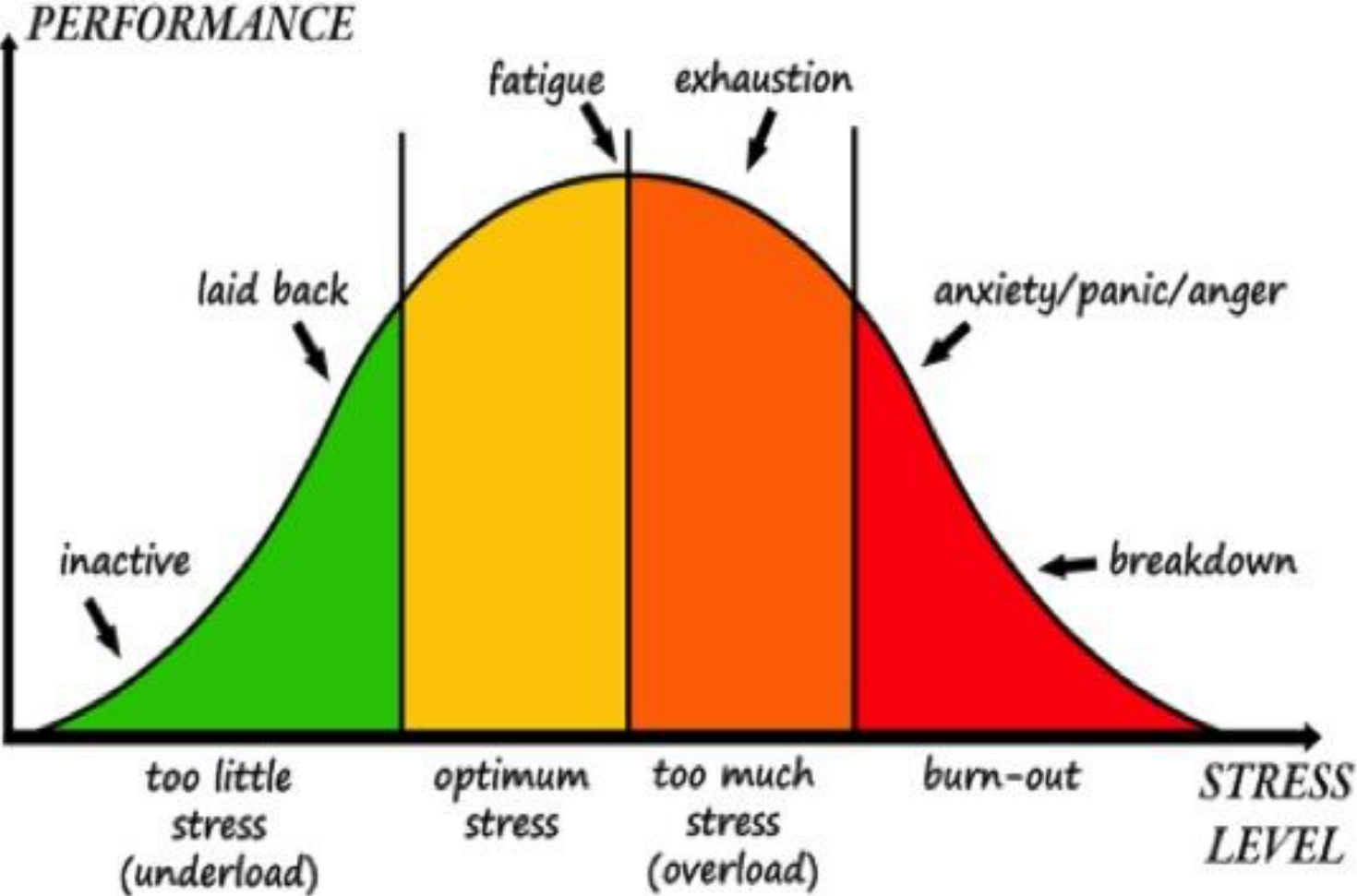


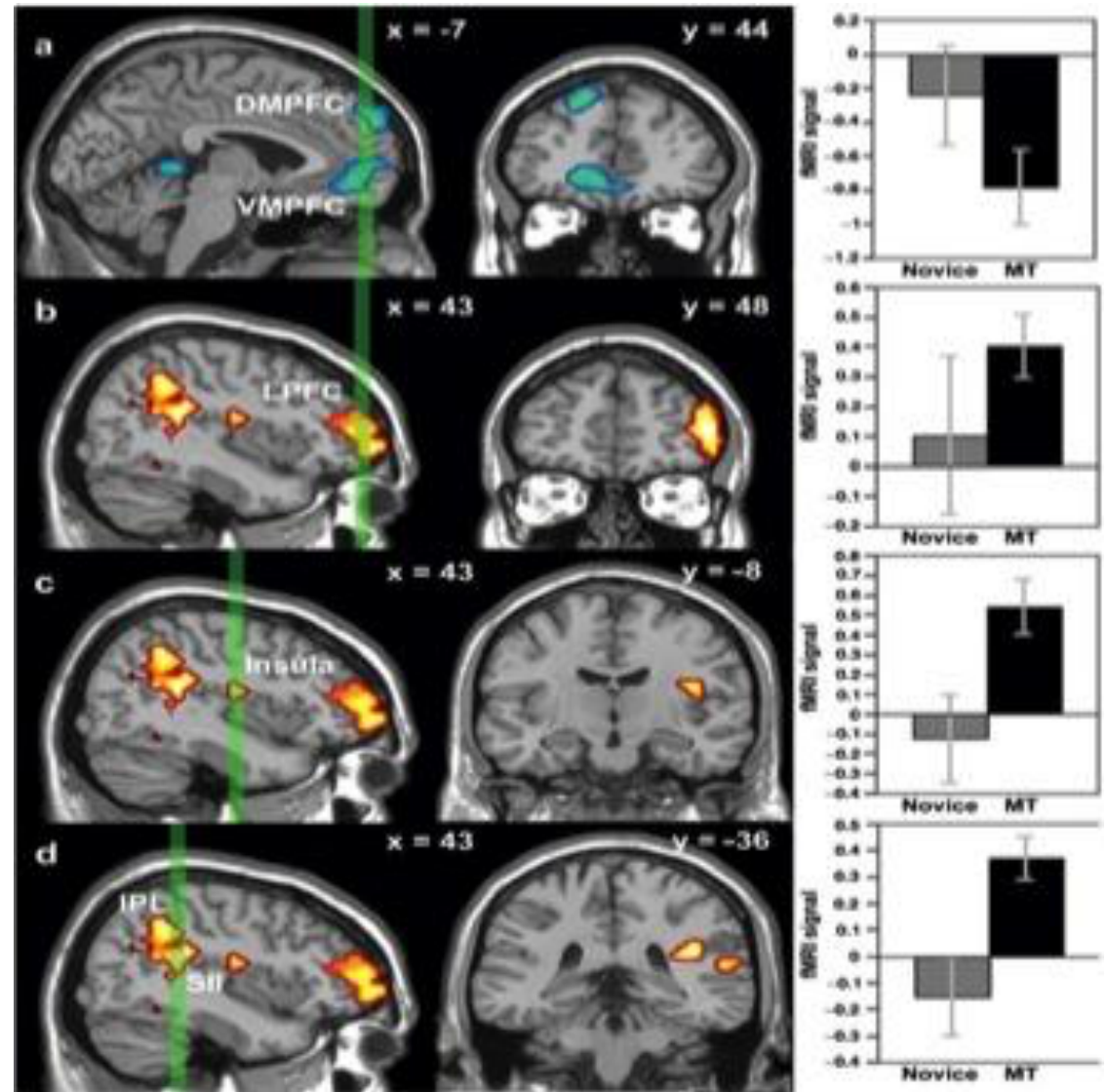
6 Pillars of Healthy Living™

1. **Active Living**
2. **Healthy Eating**
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STRESS CURVE





Stress and Resiliency

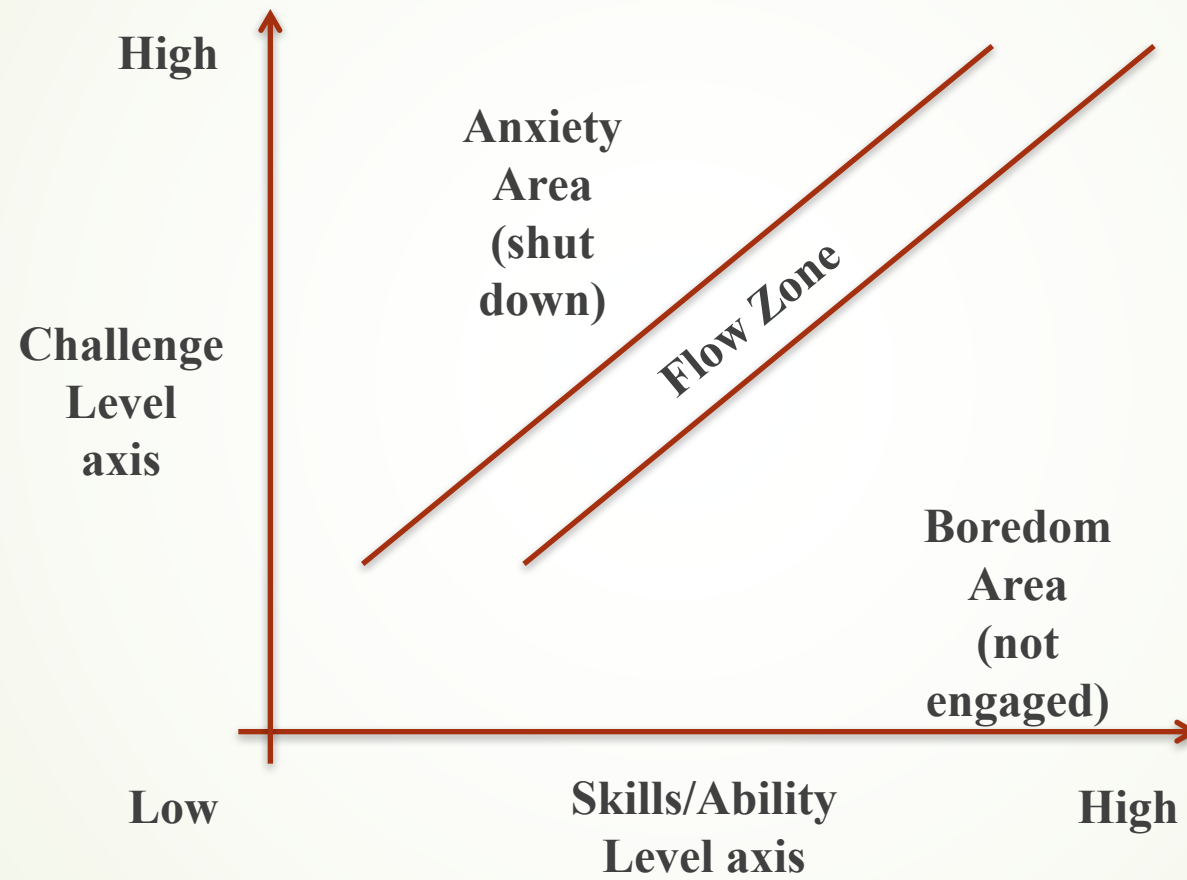


Lazar Neuroreport 2005

“The Zone”

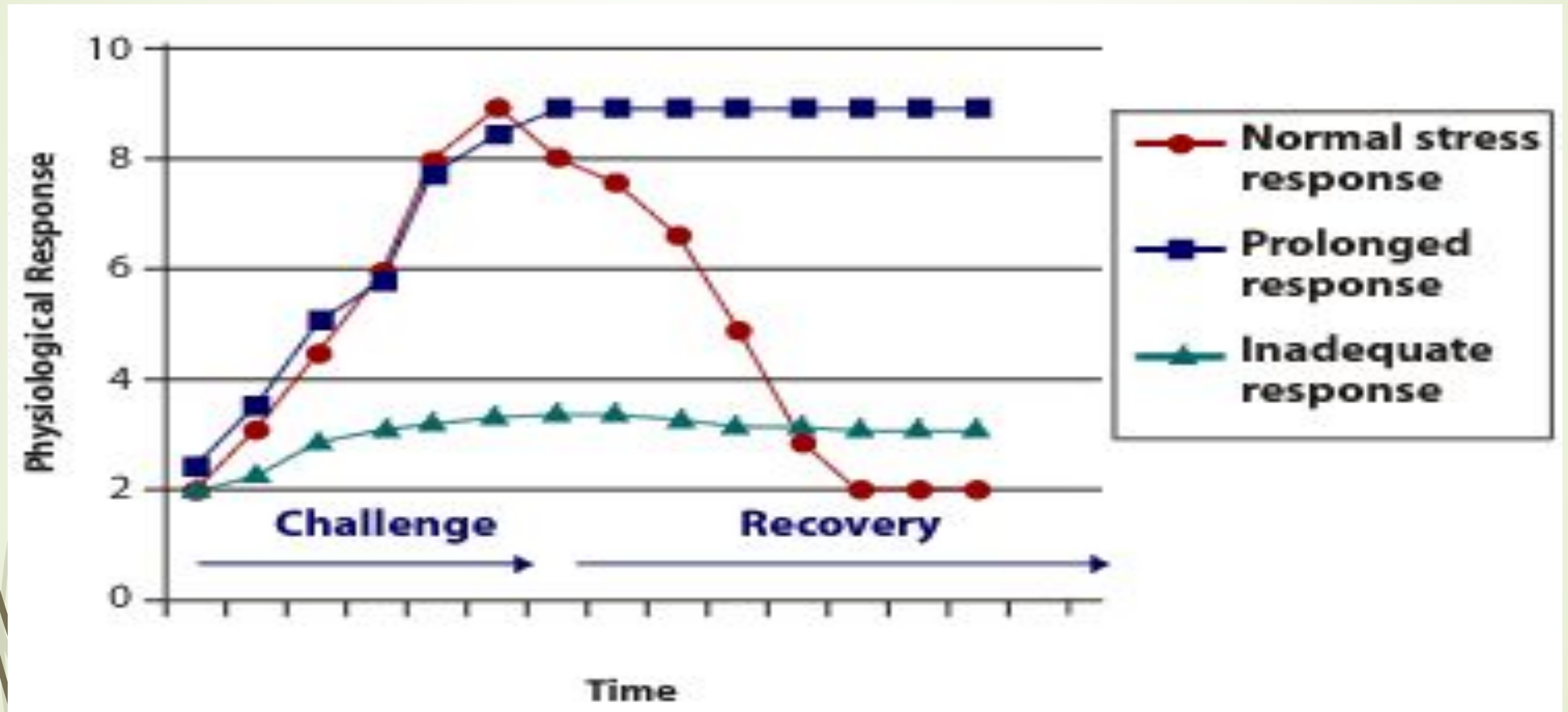


Flow Theory (Csikszentmihalyi)





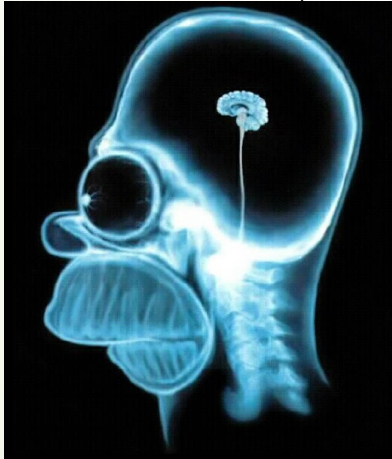
Adaptive vs Maladaptive Stress Response



Mindsets

➔ Fixed Mindset

- Desire to look smart
- Avoids challenges
- Gives up easily
- Sees effort as fruitless
- Ignores critical feedback
- Feels threatened by other's success



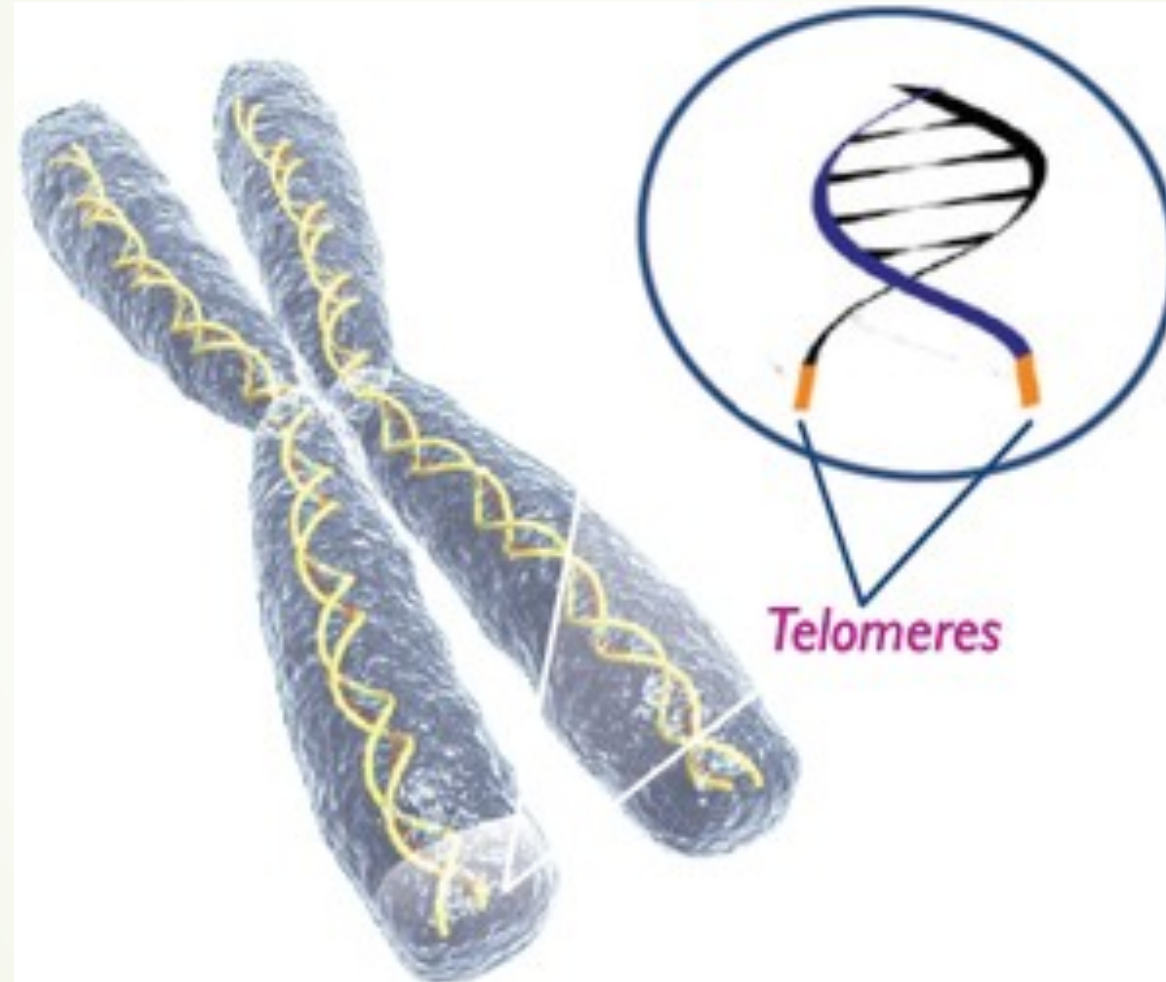
Growth Mindset

- Desire to learn
- Embraces challenges
- Persists in the face of setbacks
- Sees effort as path to mastery
- Learns from criticism
- Finds lessons in other's success



From *Mindset: The New Psychology of Success* by Carole Dweck

Power of Perception: Perceived Stress, Telomeres, and Aging







Supplements: Nitric Oxide

- ▶ The effects of dietary nitrate have been attributed to its reduction to nitrite by oral bacteria, which in turn enters the circulation after swallowing, and is then further reduced to nitric oxide (NO), particularly in low pH and oxygen environments
- ▶ Benefits
 - ▶ regulation blood flow and skeletal muscle contraction.
 - ▶ Improved oxygen efficiency during submax exercise, increase time to exhaustion of high intensity exercise, and exercise time-trial performance
 - ▶ research focusing on endurance sports - intermittent and high intensity sports.
- ▶ Examples
 - ▶ L-arginine alpha-ketoglutarate
 - ▶ Beet Root juice



Questions ?

