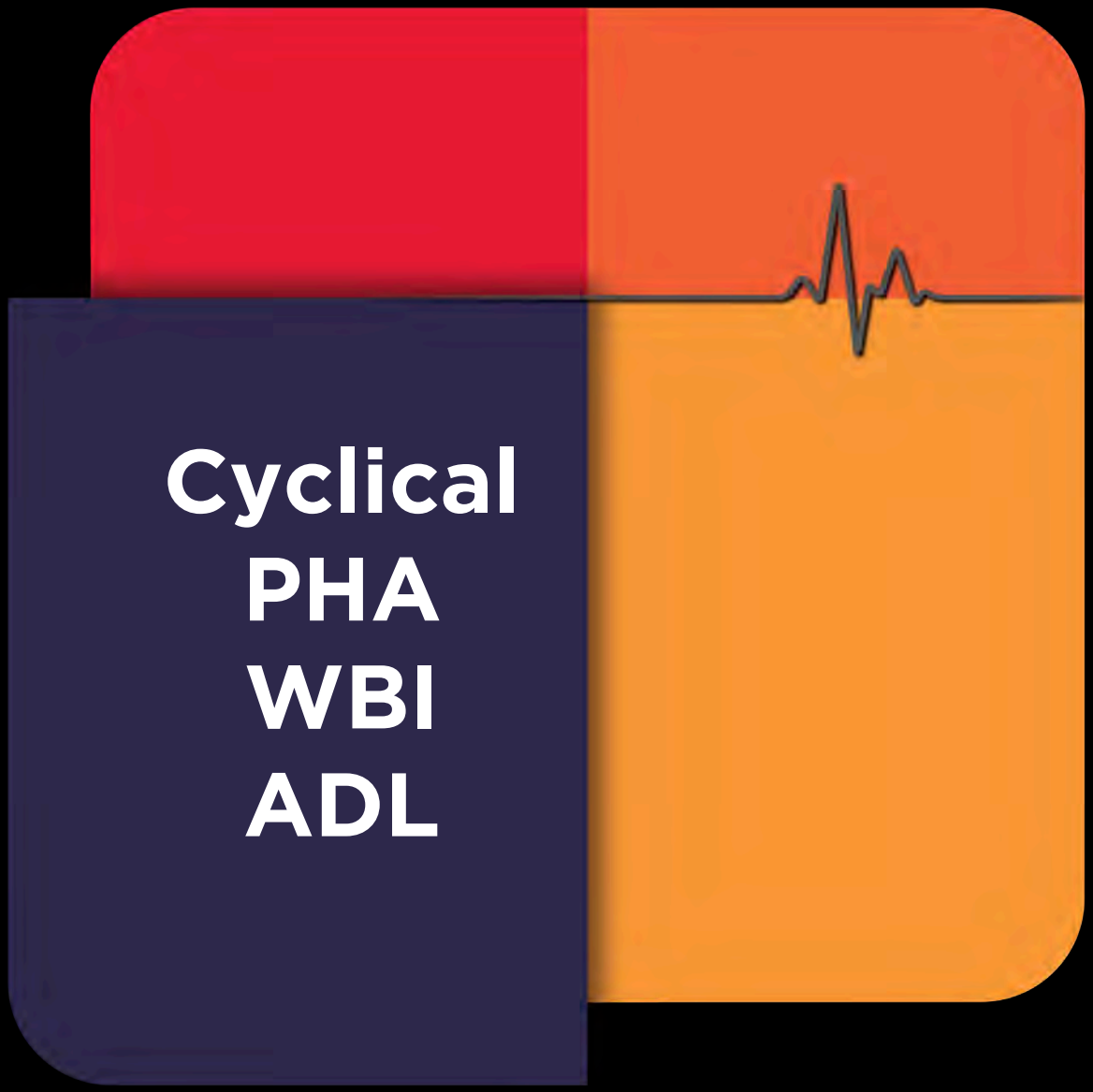
Week 3

Agenda

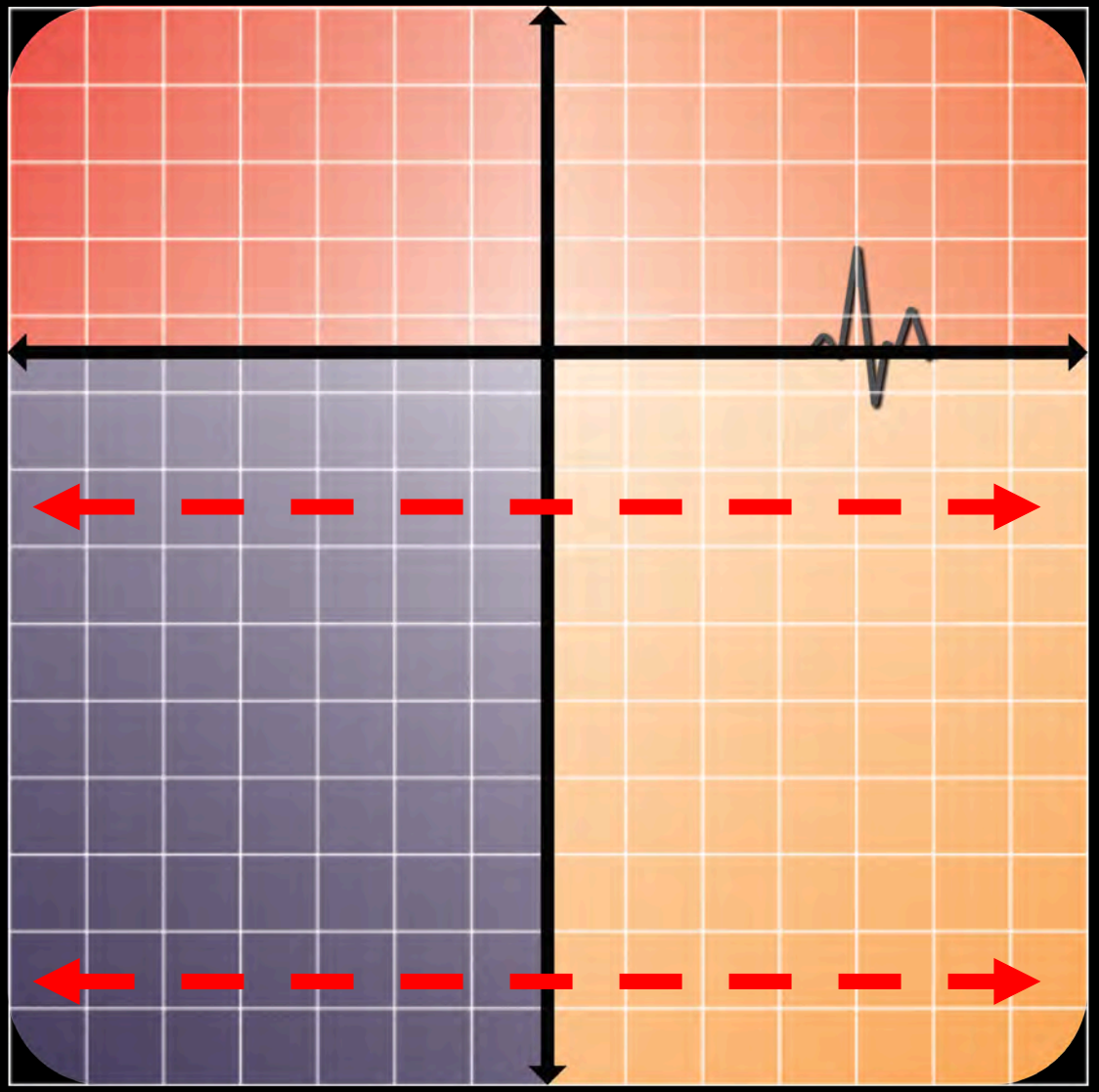
- Section 1: Review + Announcements
- Section 2: SISS Session Review
- Section 3: Mitochondrial Health
- Section 4: Questions

Step 1:
Pick Quadrant(s)

Step 2:
Pick Modality



Step 3: Pick Continuous Intensity



Step 1:
Pick Quadrant(s)

Step 2:
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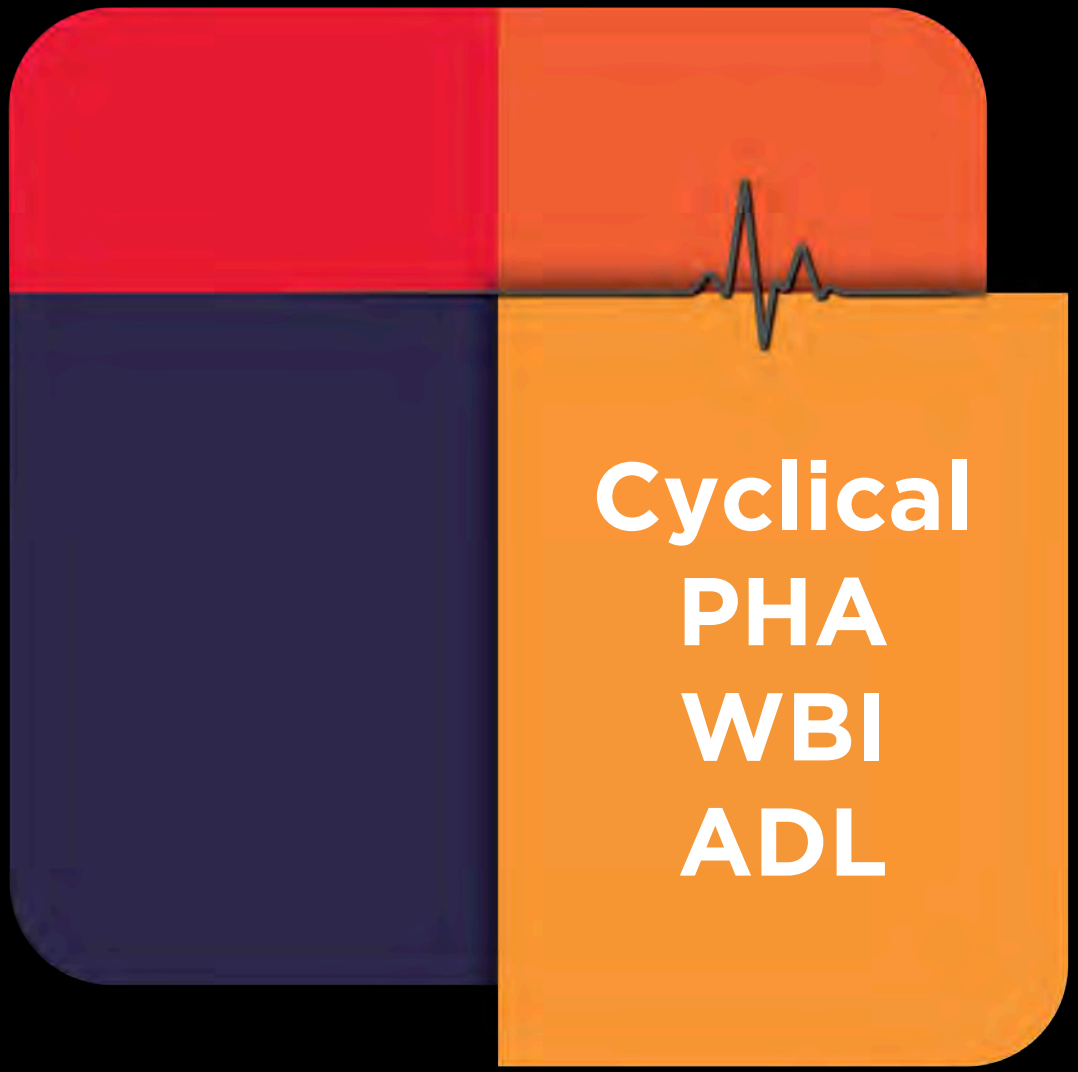


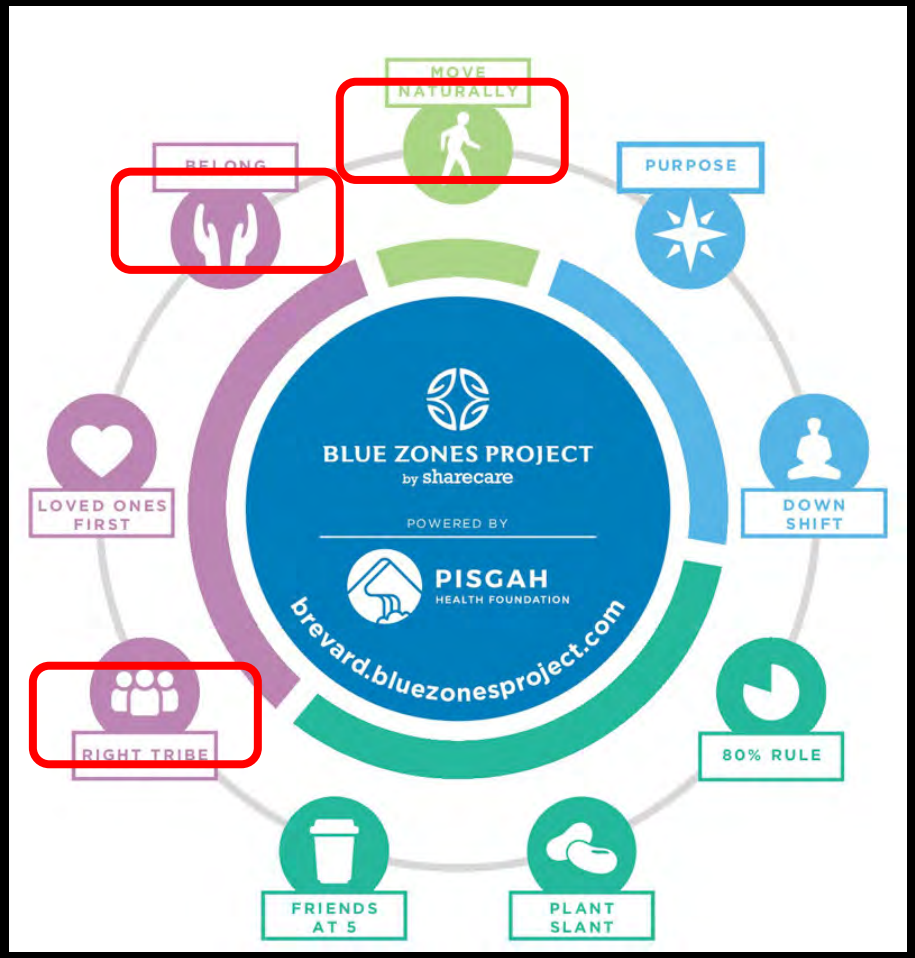
Step 3:
Pick Adaptation

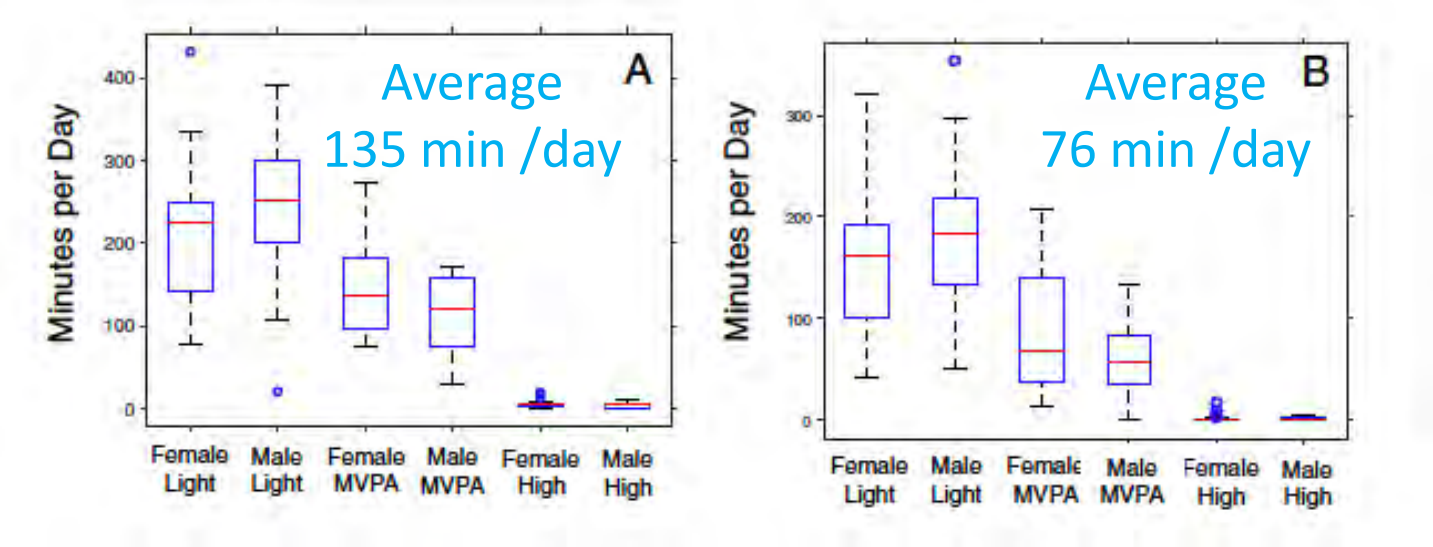
- 4-Phase Approach
- Threshold Training
- Recovery + Physical Activity

1:3 → 2:1 Ratio

Week 3
Blue Zones & Ancestral Health


Lomo Linda,
CALIFORNIA
Sardinia,
ITALY
Ikaria,
GREECE
Okinawa,
JAPAN
Nicoya,
COSTA RICA

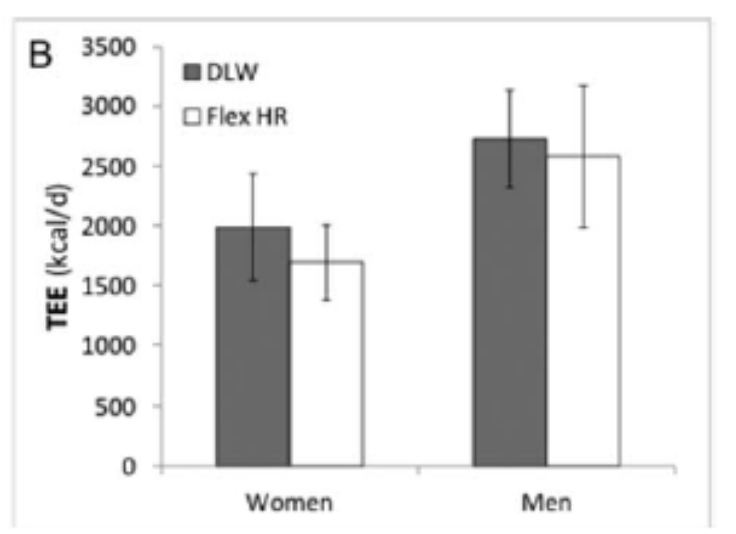

MOVE NATURALLY
PURPOSE
DOWN SHIFT
80% RULE
PLANT SLANT
FRIENDS AT 5
RIGHT TRIBE
LOVED ONES FIRST
BELONG
BLUE ZONES PROJECT
by sharecare
POWERED BY
PISGAH
HEALTH FOUNDATION
brevard.bluezonesproject.com



Physical activity patterns and biomarkers of cardiovascular disease risk in hunter-gatherers

David A. Raichlen[1] | Herman Pontzer[2,3] | Jacob A. Harris[4] | Audax Z. P. Mabulla[5] | Frank W. Marlowe[6] | J. Josh Snodgrass[7] | Geeta Eick[7] | J. Colette Berbesque[8] | Amelia Sancilio[9] | Brian M. Wood[9]

Am J Hum Biol. 2017;29:e22919.



Overall, our results are consistent with the hypothesis that high activity levels may be offset in some way and that TEE may be partially constrained within an individual and species.

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Table 1. Population characteristics, energy expenditure, and body composition.

	HADZA		WESTERN		FARMING	
	Women	Men	Women	Men	Women	Men
N	17	13	186	53	14	11
Age (yr)	39.9±19.4	33.2±14.5	41.1±8.8	44.2±8.9	43.9±21.8	49.1±20.9
	18–75	*18–65*	*21–61*	*25–61*	*14–79*	*17–80*
Mass (kg)	43.4±6.4	50.9±5.4	74.4±12.8	81.0±11.1	48.1±6.9	54.7±2.9
	34.0–55.0	*42.5–58.2*	*49.5–117.7*	*57.2–101.3*	*39.0–62.8*	*49.5–58.7*
BMI (kg/m^2)	20.2±1.7	20.3±1.3	27.5±4.5	25.6±2.7	20.7±3.2	21.2±1.6
	17.0–23.9	*19.1–23.4*	*19.5–39.4*	*19.5–30.0*	*17.2–28.9*	*19.5–24.0*
Body Fat %	20.9±4.6	13.5±4.2	37.9±7.0	22.5±5.0	27.3±5.3	16.0±3.3
TEE (kCal/day)	1877±364	2649±395	2347±360	3053±464	2469±315	2855±435
	1459–2596	*2008–3363*	*1351–3978*	*2211–4682*	*1972–3202*	*2212–3374*
PAL (TEE/BMR)	1.78±0.30	2.26±0.48	1.68±0.22	1.81±0.21	2.11±0.30	2.08±0.26
	1.44–2.53	*1.67–2.96*	*1.21–2.54*	*1.56–2.42*	*1.44–2.63*	*1.65–2.51*

Values shown are means, ±standard deviations, and *ranges*. See Text S1 for details on comparative data sources. PAL for the Hadza was calculated using estimated BMR [27].

doi:10.1371/journal.pone.0040503.t001

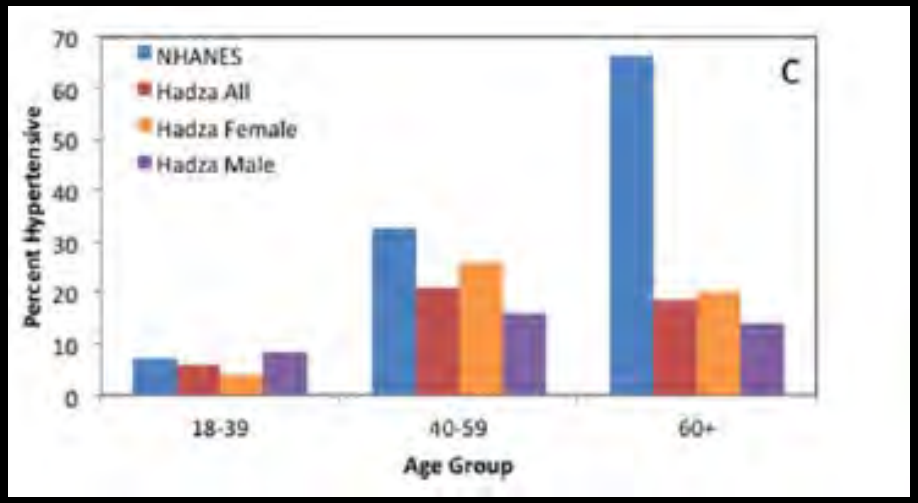
Daily energy expenditure not different from Western

Daily Physical Activity not different from Western

Hunter-Gatherer Energetics and Human Obesity

Herman Pontzer[1,2]*, David A. Raichlen[3], Brian M. Wood[4], Audax Z. P. Mabulla[5], Susan B. Racette[6], Frank W. Marlowe[7]

PLoS ONE July 2012 | Volume 7 | Issue 7 | e40503



Indices of cardiovascular disease risk substantially lower

Physical activity patterns and biomarkers of cardiovascular disease risk in hunter-gatherers

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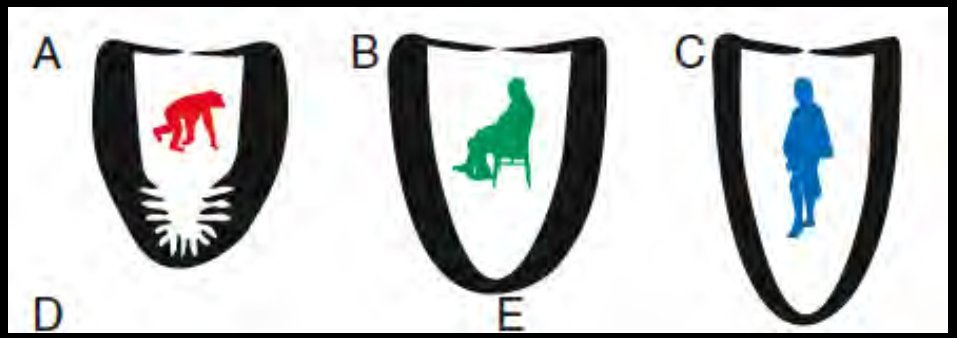
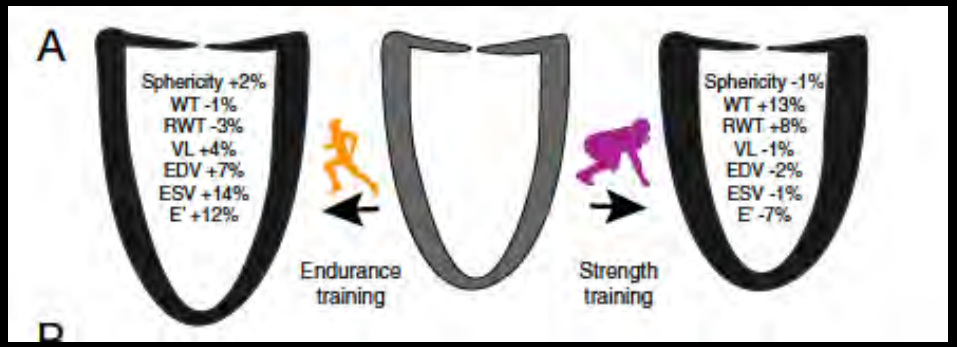


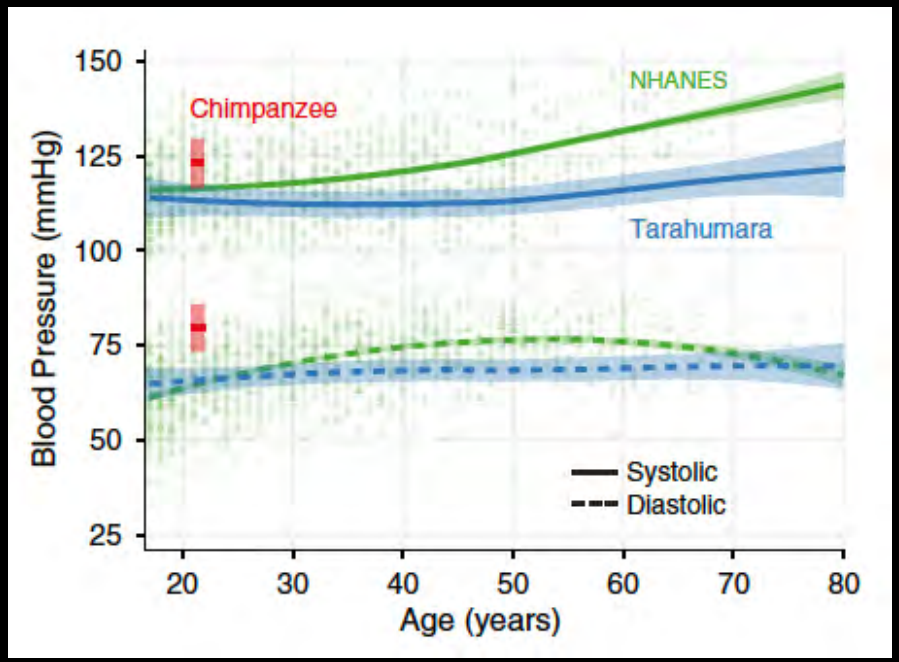


Finally, our comparative analyses shed light on how and why low levels of regular EPA contribute to the growing global burden of hypertensive heart disease (25, 26). For millions of years, hominins engaged in daily low-moderate-intensity EPA, including during middle and old age, leading to selection for capacities that favor increased CO, and an absence of selection for coping with the effects of cardiac remodeling in response to inactivity. Today, however, postindustrial conditions encourage physical inactivity, which in synergy with easy access to highly processed high sodium diets (27), initiates pathologic cardiac remodeling, and hypertension, often at an early age. We hypothesize that this process begins with a shift toward a thicker less compliant cardiac phenotype, which then impedes the ability to augment CO and, hence, EPA capability. This response, which is then followed by the onset of hypertension, sets up a deleterious pathophysiologic cycle in which persistently inadequate EPA leads to further remodeling and marked hypertension. If left uninterrupted over the course of a normal human life spa[illegible] culminates in hypertensive heart disease,

Selection of endurance capabilities and the trade-off between pressure and volume in the evolution of the human heart

Robert E. Shave[a,1], Daniel E. Lieberman[b,1], Aimee L. Drane[c], Marcel G. Brown[d], Alan M. Batterham[e], Steven Worthington[f], Rebeca Atencia[c,g], Yedra Feltrer[c], Jennifer Neary[d], Rory B. Weiner[d], Meagan M. Wasfy[d], and Aaron L. Baggish[d,1]

PNAS | October 1, 2019 | vol. 116 | no. 40 | 19905–19910



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