

Using biomarkers to prevent premature aging



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Direct Access Lab Testing for the Public

Only come when you are sick



Perspective

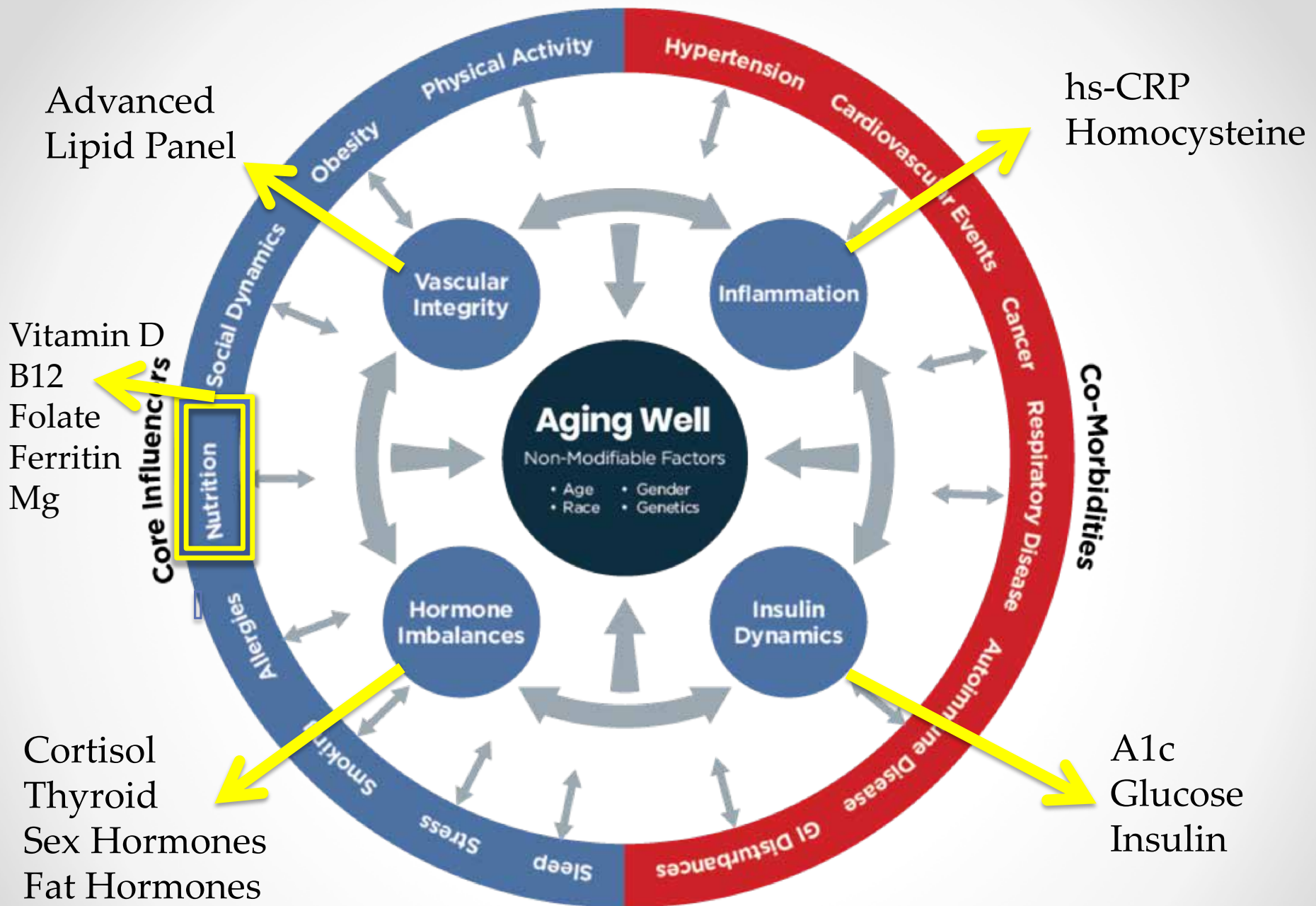
Improving Value in Health Care — Against the Annual Physical

Bruce Maheshwari MD PhD and Bruce Brookings MD PhD

Reducing the use of annual physicals could also save money and time. Though on a per-visit basis, the annual physical is not costly, it is the single most common reason that U.S. patients seek care, and cumulatively these visits cost more than \$10 billion per year — similar to the annual costs of all lung-cancer care in the United States.¹ Reducing the number of physicals could free up another societal resource — primary care providers' time. Approximately 10% of all visits with primary care physicians are for annual physicals,¹ which might be crowding out visits for more urgent health issues. Poor access to primary care has been cited as one reason why patients seek care in emergency departments for low-acuity conditions.⁵ Finally, there are large societal costs to asking all 220 million adults in the United States to spend several hours of their lives each year traveling to and waiting for care, when they could use that time productively elsewhere. Given this evidence base, it appears unlikely that annual physicals in their current forms lead to any substantive net clinical benefit.

Objectives

- Fundamentals you need to know
- Basics on Hormones and proper testing
- Nutrients for proper metabolism
- Thyroid testing done right
- What science has to say about the latest in blood vessel health
- The value of inflammatory blood tests
- How insulin impacts weight loss and predicts future disease
- Special offer for Hormonesbalance



The Basics on Hormones And Proper Testing

Hormones are measured via blood, urine or swab testing

Best ways to measure some hormones is thru blood:

insulin

thyroid

fat hormones

What about female hormones?

DUTCH complete testing (urine)

What about Adrenal Hormones?

DUTCH testing (urine), or AM cortisol (blood), or saliva (swab)

DUTCH Complete

4-5 dried urine specimens throughout the day

Complete assessment of *sex hormones*

Comprehensive assessment of *adrenal hormones* and their metabolites

Designed to be optimally effective for most forms of hormone replacement therapy

Also measures neurotransmitter metabolites

The 3 most common nutrient deficiencies

Omega 3:6 Index

90% of Americans are deficient in Omega 3s:

1. Lower inflammation
2. Increase HDL cholesterol
3. Lower triglycerides
4. May lower homocysteine
5. Have been shown to lower Lp(a)
6. Can help change a LDL Pattern B to a Pattern A
7. Protects you from Osteoporosis – chronic inflammation disturbs bone metabolism

Am J of Clinical Nutrition 2000; 71: 1085

Diabetes Res Clin Practice 1995:28-35

Nature Review Drug Discovery 2012; 11(3), 234-50

Vitamin D

70% of Americans are deficient in Vitamin D:

1. Bone Building (Protection from Osteoporosis)
2. Less cancer
3. Less autoimmune disease
4. Better control of blood pressure
5. Less depression
6. Increases HDL
7. Better function of insulin
8. Improved neurological function

Sources:

AMJ Cardiology 2010; 106:963

Lancet 1998; 352(9129): 709-710

Cancer 2002; 94(6): 1867-75

J of Clinical Lipidology 2010; 4:113

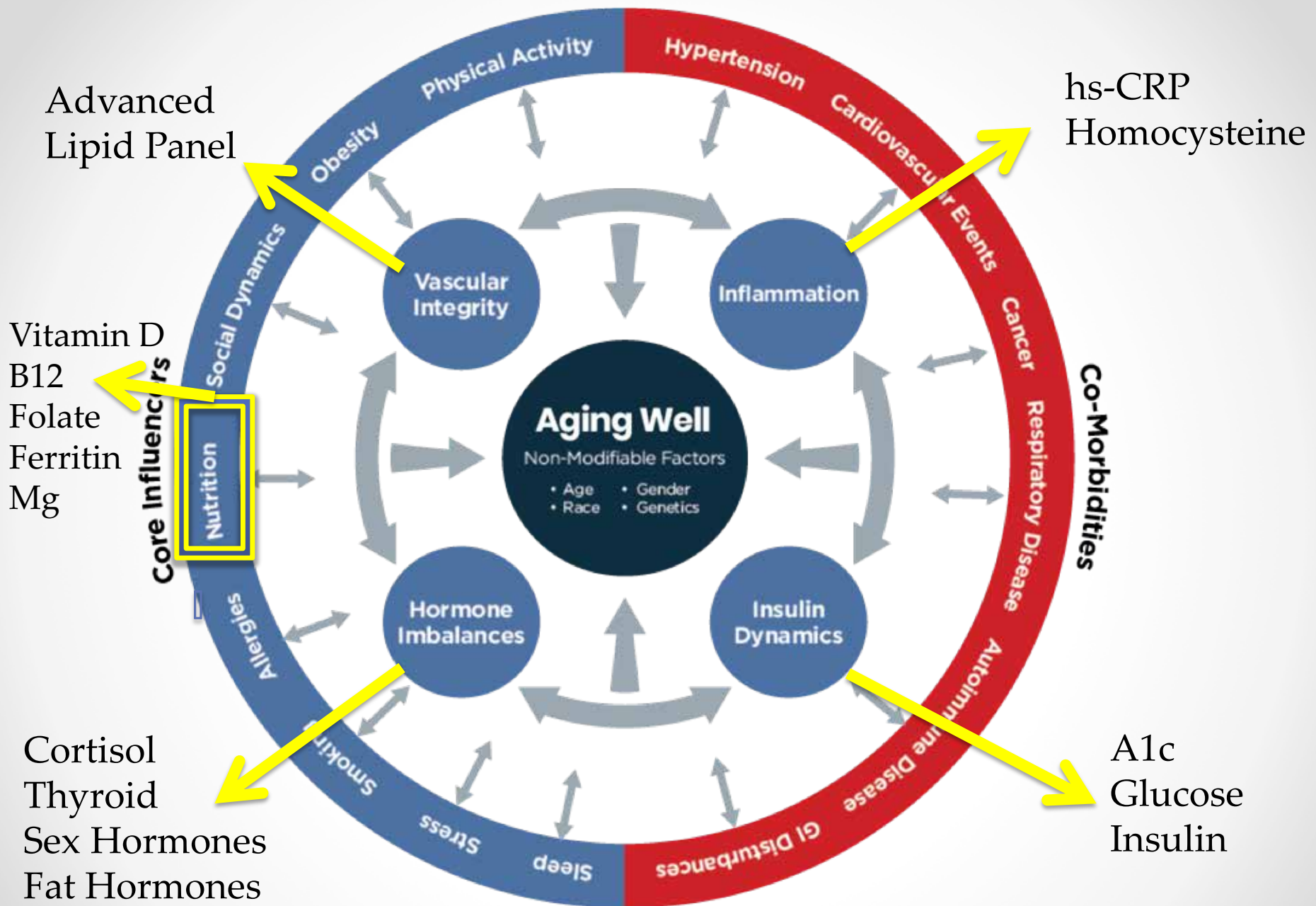
Magnesium

Up to 80% of Americans are deficient in Magnesium:

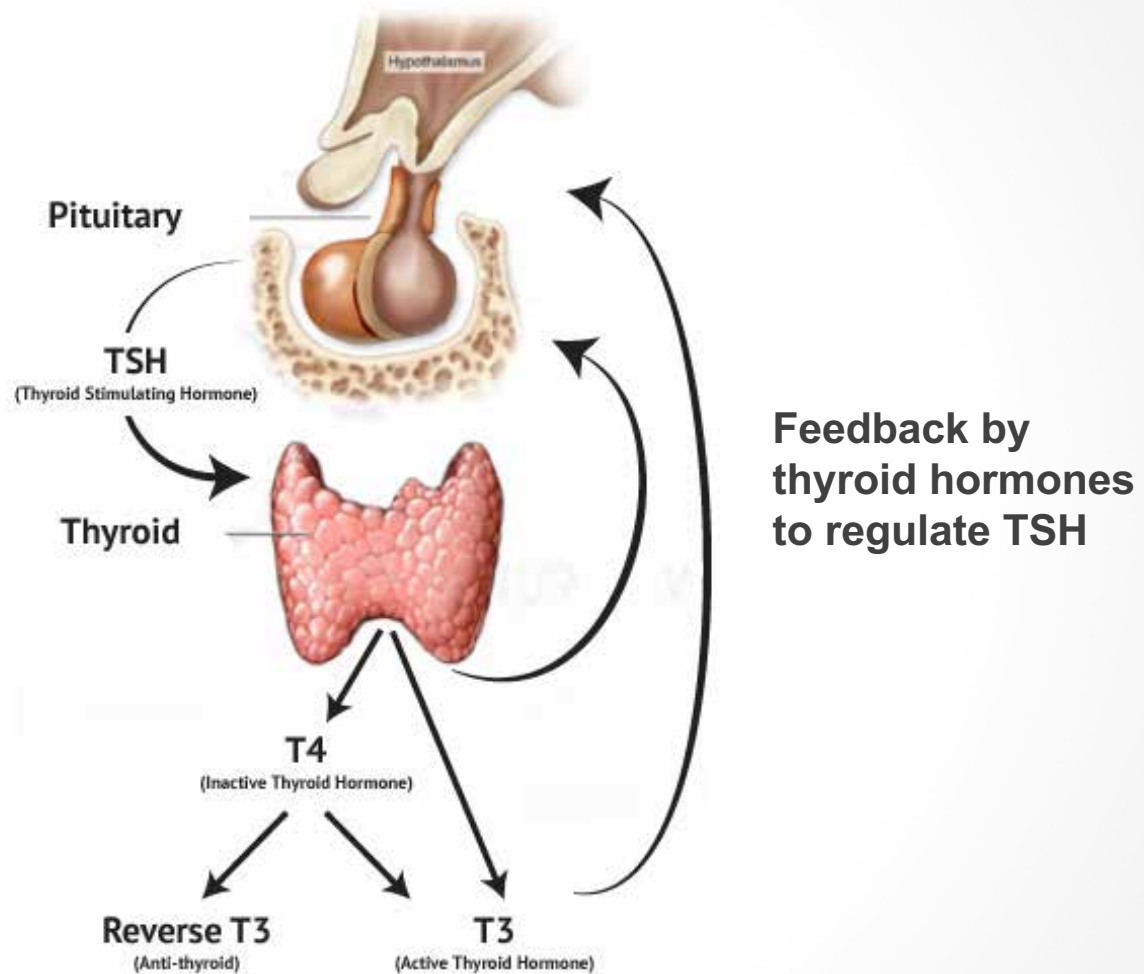
1. Important in muscles and nerves
2. May aid in sleep
3. May lower blood pressure
4. Less depression
5. Less fatigue

Nutritional Testing

- Omega 3:6 Index
- Vitamin D
- RBC Magnesium
- Vitamin B12
- Serum folate (Vitamin B9)
- Serum ferritin

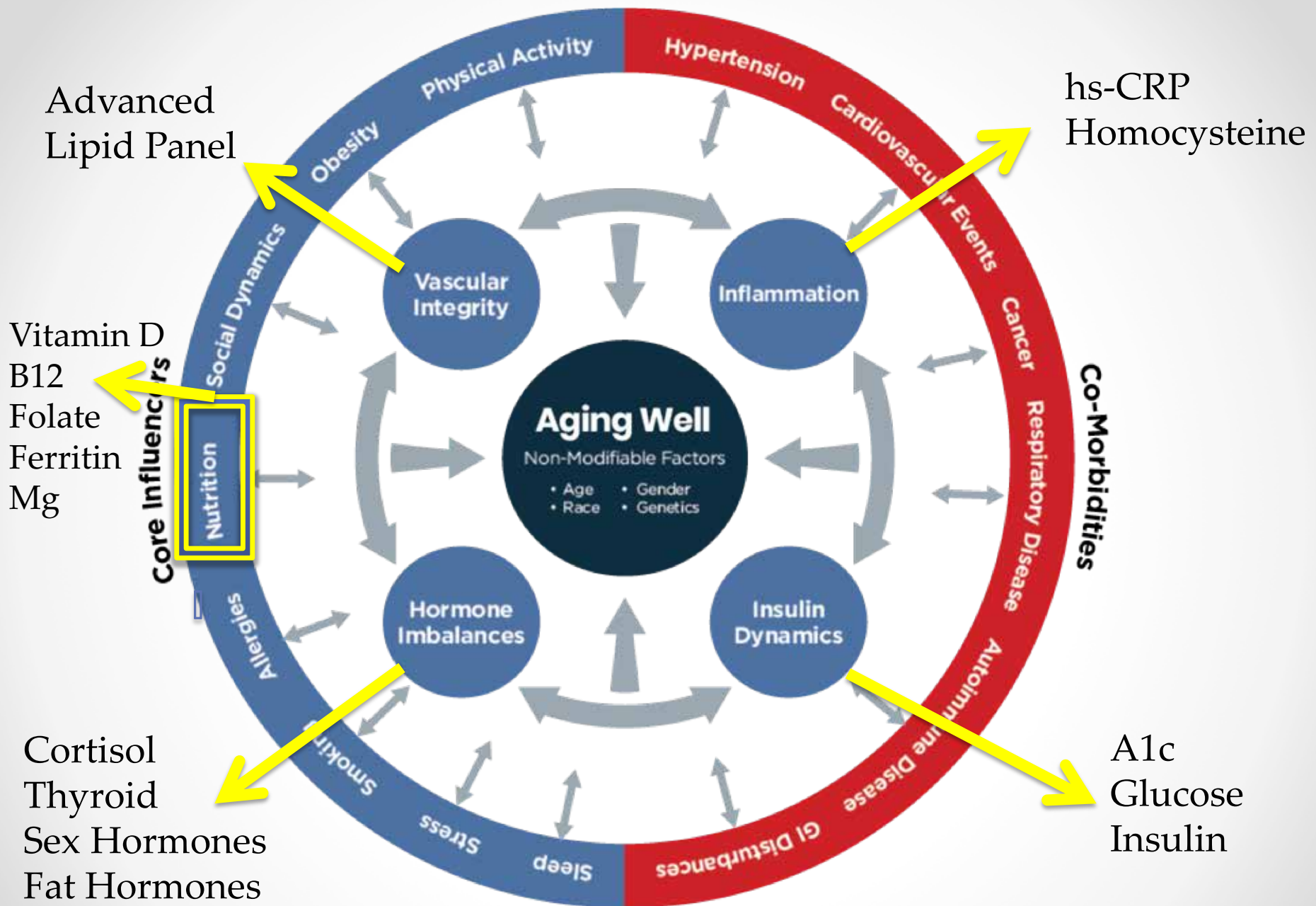


Thyroid Physiology



Thyroid Labs

TSH		4.56 H	0.40-4.50 mIU/L
T4, FREE	0.8		0.8-1.8 ng/dL
T3, FREE	2.7		2.3-4.2 pg/mL
THYROID PEROXIDASE AND THYROGLOBULIN ANTIBODIES			
THYROGLOBULIN ANTIBODIES	1		< or = 1 IU/mL
THYROID PEROXIDASE ANTIBODIES		>900 H	<9 IU/mL



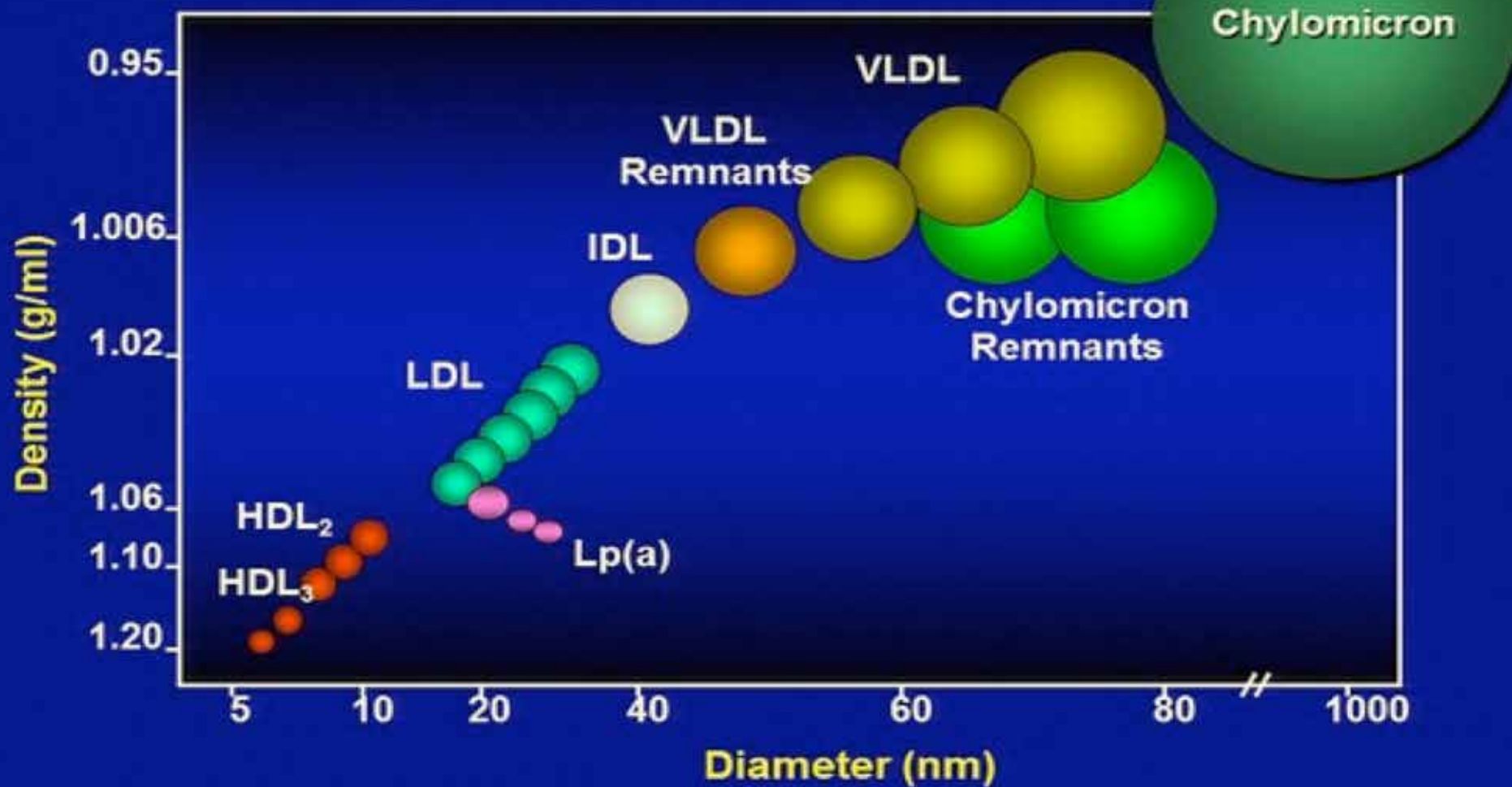
The Standard Lipid Panel

CHOLESTEROL	168	MG/DL	(200
TRIGLYCERIDES	95	MG/DL	(150
HDL CHOLESTEROL	50	MG/DL	>54
CALCULATED LDL CHOL	99	MG/DL	(130
RISK RATIO LDL/HDL	1.98	RATIO	(3.22

[illegible]

LDL is Calculated

Lipoprotein Sub-Classes



Cardio IQ®

Test Name	Units	Result and Risk Category			Result from	Risk Category Ranges		
		Optimal	Moderate	High		Optimal	Moderate	High

Lipid Panel

Lab: EZ

CHOLESTEROL, TOTAL	mg/dL	179				<200	N/A	>=200
HDL CHOLESTEROL	mg/dL			28		>=40	N/A	<40
TRIGLYCERIDES	mg/dL			340		<150	150-199	>=200
LDL-CHOLESTEROL	mg/dL		106			<100	100-129	>129
CHOL/HDLRATIO	calc			6.4		<=3.5	3.6-5.0	>5.0
NON-HDL CHOLESTEROL	mg/dL (calc)		151			<130	130-189	>=190

Lipoprotein Subfractions

Lab: EZ

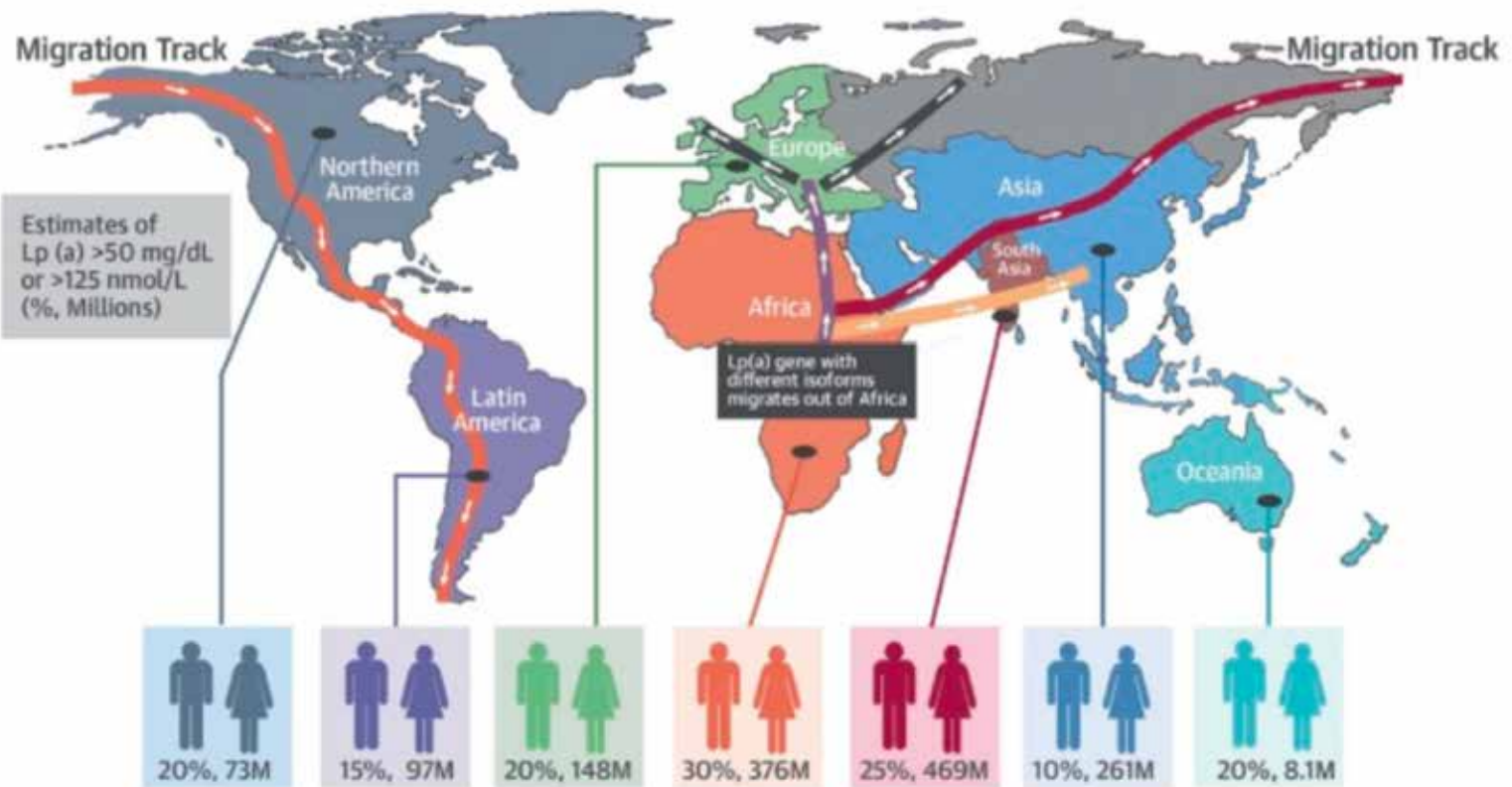
LDL PARTICLE NUMBER	nmol/L		1472			<1260	1260-1538	>1538
LDL SMALL	nmol/L			323		<162	162-217	>217
LDL MEDIUM	nmol/L		256			<201	201-271	>271
HDL LARGE	nmol/L			4691		>9386	9386-6996	<6996

Apolipoproteins

Lab: EZ

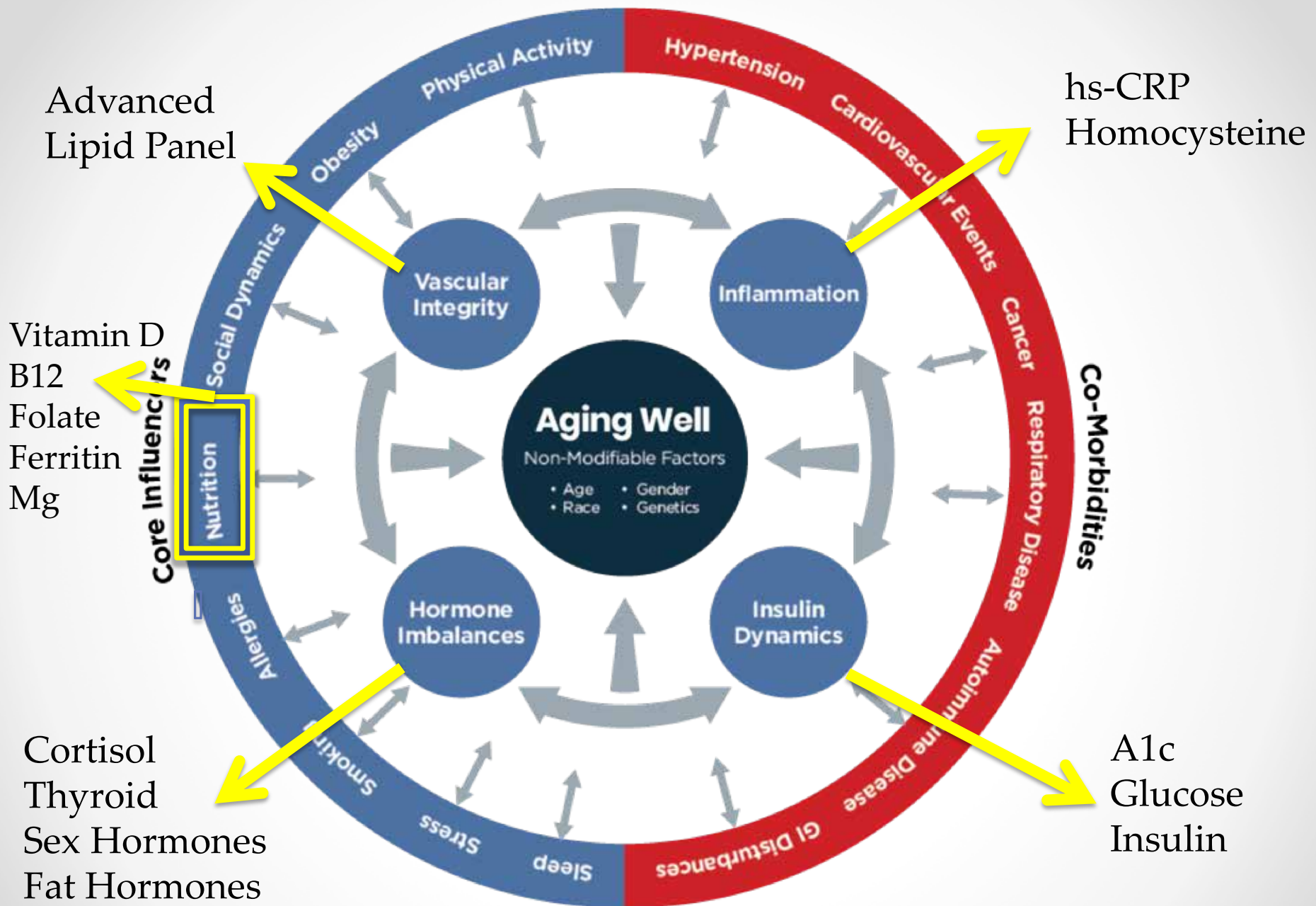
APOLIPOPROTEIN B	mg/dL		93			<80	80-119	>=120
LIPOPROTEIN (a)	nmol/L			325		<75	75-125	>125

Estimated World Population With Elevated Lp(a) > 50mg/dL = 1.43 Billion



Lp (a) Treatment Strategies

- Full biomarker evaluation to assess inflammation, advanced lipid panel, presence of insulin resistance, prediabetes or diabetes
- Fasting glucose < 100
- hs-CRP < 1
- Control of blood pressure <120/70
- Smoking cessation
- Family screening
- Will go higher after menopause without protective estrogen



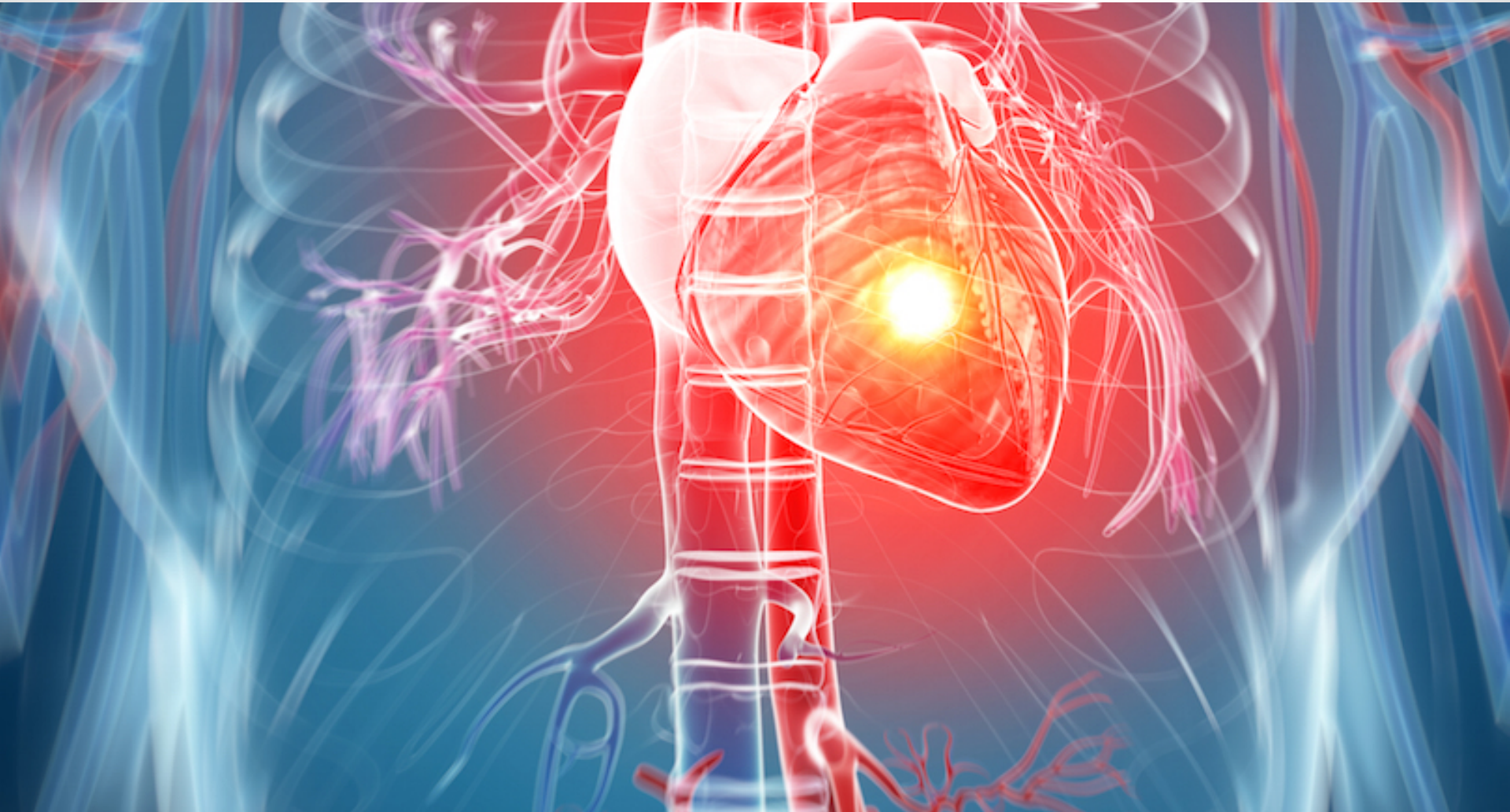
Causes of Inflammation

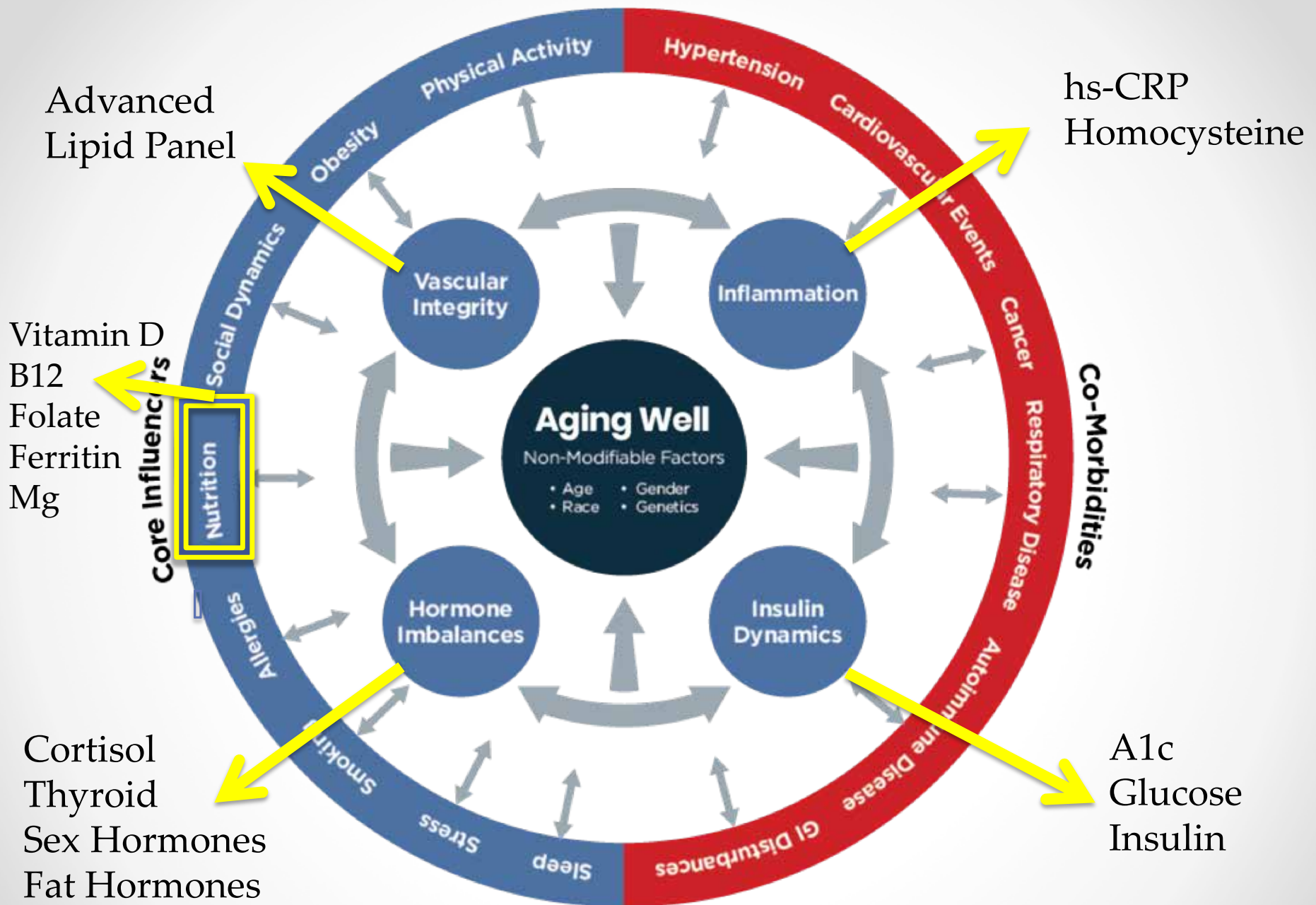
- Diet
 - Sugar
 - Trans and saturated fats
 - Polyunsaturated omega 6 oils (except GLA)
 - Insufficient fruits and vegetables
 - Dairy, gluten, coffee
- Stress
- Lack of exercise
- Toxins (metals, petrochemicals)
- Infections – esp. dental
- Obesity/ Insulin Resistance

Problems with Inflammation

- Increase risk for stroke and heart attack
- Increase in autoimmune disease
- Increase in hot flashes in perimenopausal and menopausal women

hs-CRP



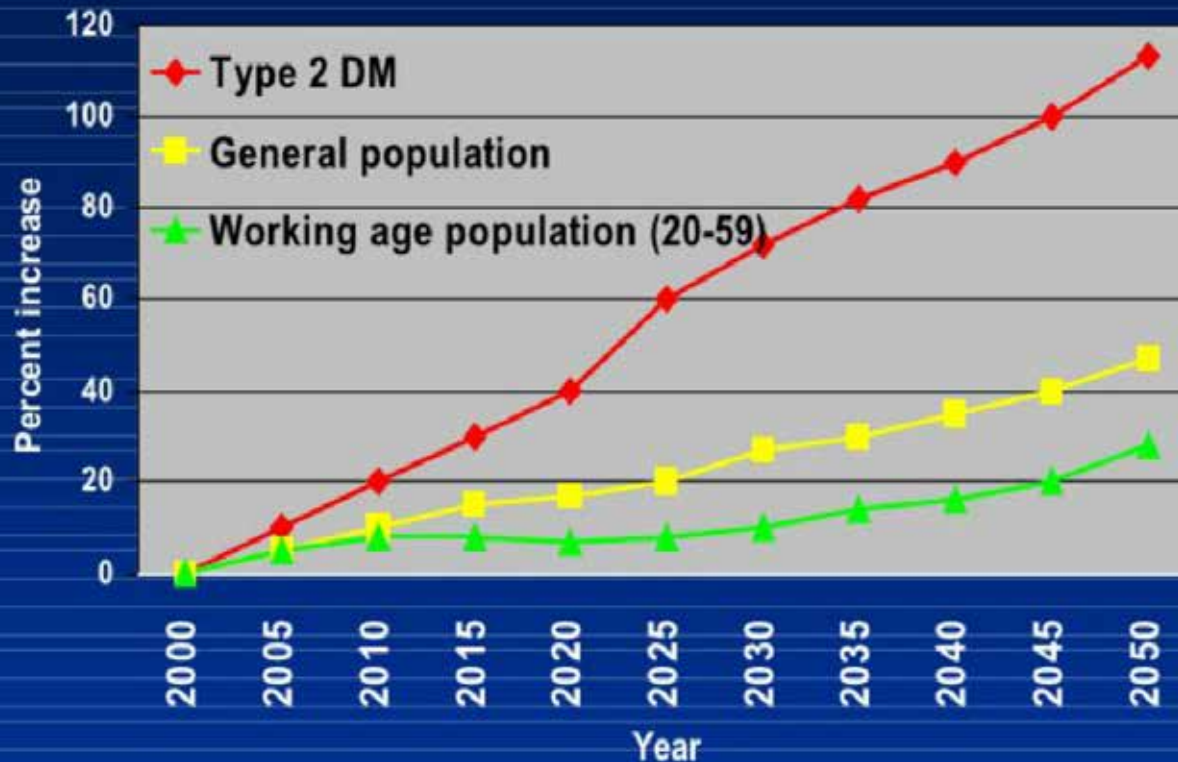


THE GREAT SUGAR STORY

PREDIABETES AND THE
COMING TSUNAMI OF
DIABETES

DR. ALAN HOPKINS

Estimated Growth in Type 2 Diabetes and US Population From 2000-2050



Bagust A, et al. Diabetes 50, Suppl 2 A205, 2001

DiABETES

1 in 3 by 2050



90% overweight or obese by 2050



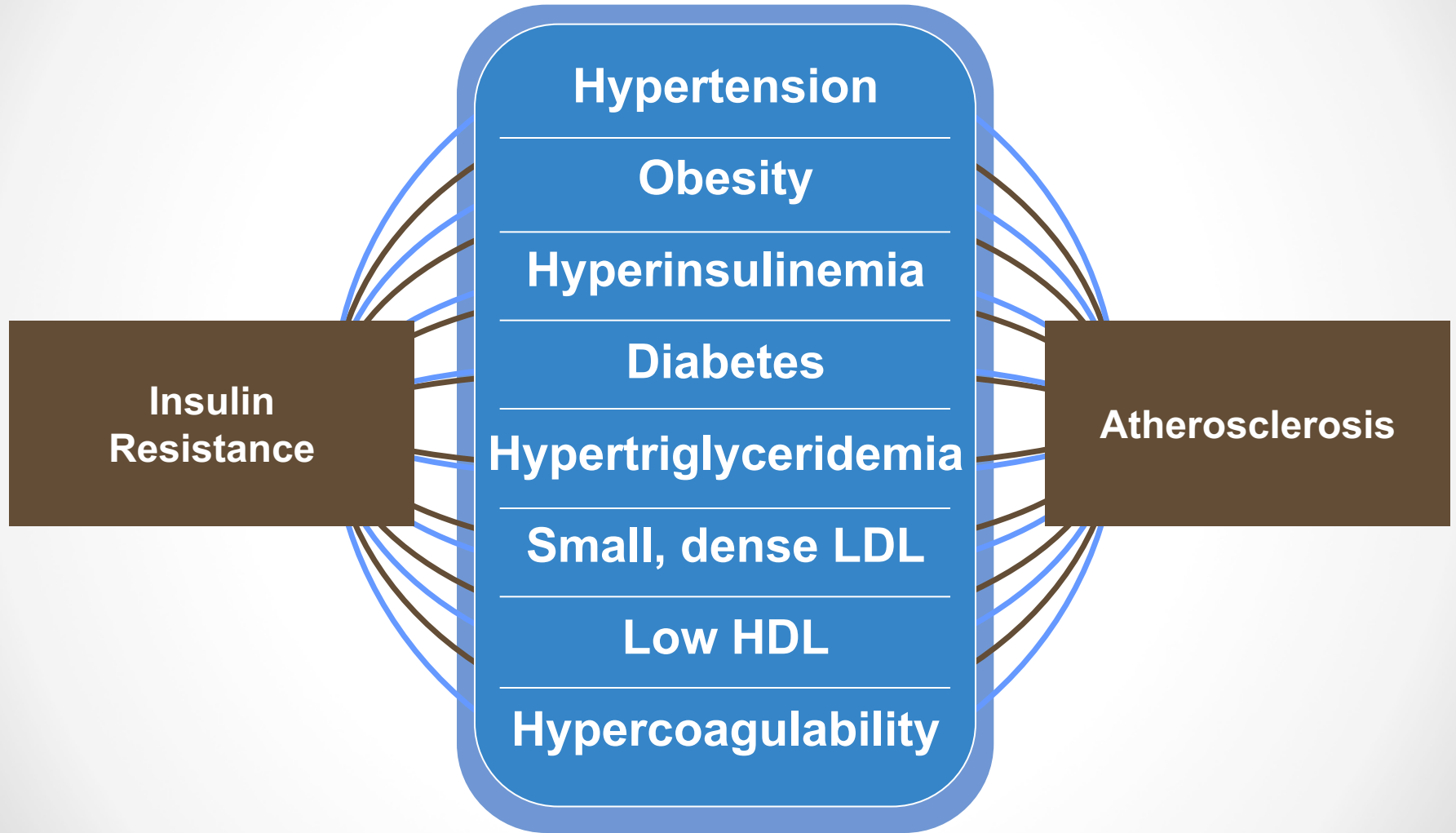
25% increase risk of cancer

50% loss of pancreatic volume during prediabetic stage

80% loss of pancreatic efficiency

200% increase risk of early stroke and heart attack

Interrelation Between Atherosclerosis and Insulin Resistance



Testing sugar metabolism

- Fasting insulin: “Insulin Resistance Syndrome”
< 2 is optimal
- Fasting glucose (*your blood sugar that day*):
70--85 or less is optimal
<100 = normal
100-125 = prediabetes
>125 = diabetes
- Hemoglobin A1c (*3 month sugar measurement*):
<5.4% optimal
<5.7% normal
5.7-6.4 prediabetes
>6.5% diabetes

Problems with Sugar

“Insulin Resistance Syndrome”

Problems with weight loss, especially after menopause

- Blood testing shows:
 - High fasting insulin
 - May or may not yet have high blood sugars and A1c levels
- Improved blood sugar control may improve hot flashes
- Insulin resistance syndrome is the #1 cause of PCOS in premenopausal women
 - Blood tests show high fasting insulin
 - Elevated testosterone levels
 - Abnormal LH/FSH ratio, >2:1 ratio

Signs of Sugar Problems

Obvious signs for most people

high: increased thirst
increased urination
fatigue
blurry vision

low: anxious/shaky
sweating
moody
lack of focus

Premenopausal women:

acne, irritability, missed periods (PCOS)
trouble with weight loss

Postmenopausal women:

increased hot flashes
increased belly fat

Objectives

- Order labs yourself and get educated!
- www.yourlabwork.com/hormonesbalance

Special Offer

<https://yourlabwork.com/hormonesbalance>

\$20 off coupon for you

Coupon code: **hormonesbalance**

5 Deep-Dive Lab Training Modules



- 5 Hours of Video Lab Review, specific to each Pillar of Health
- PowerPoint lecture downloads and evidence-based tools you can use
- In-depth explanations of each individual tests

Special Offer
**includes >60
blood tests**

HORMONES

High fasting insulin is an under-diagnosed condition that can lead to weight gain and ultimately, diabetes. This panel also evaluates your liver, kidney, electrolytes and blood sugars and active thyroid hormone. All our important components of a healthy metabolic system.

TESTS INCLUDED:

TSH, free T3, free T4, thyroid peroxidase antibodies, Cortisol, Follicle Stimulating hormone, luteinizing hormone, estradiol, progesterone, total testosterone, free testosterone, bioavailable testosterone, sex hormone binding globulin.

METABOLISM

Fasting insulin, fasting glucose, Hemoglobin A1c, Comprehensive Metabolic Panel (liver and kidney function, electrolytes and protein stores), Complete Blood Count to include red blood cells, white blood cells and platelets.

TESTS INCLUDED:

Fasting insulin, fasting glucose, Hemoglobin A1c, Comprehensive Metabolic Panel (liver and kidney function, electrolytes and protein stores), Complete Blood Count to include red blood cells, white blood cells and platelets.

CHOLESTEROL

The best test Quest offers for advanced cholesterol screening. It highly recommended at least once in a person's life to screen for the genetic risk of Lipoprotein A and to assess sub-particles of both good and bad cholesterol. If you have heart disease or stroke in your family, it is a must.

TESTS INCLUDED:

Triglycerides, Total Cholesterol, High density lipoprotein (HDL), Total Cholesterol/HDL Ratio, Low Density Lipoprotein (LDL), LDL Particle Number, LDL Small and Medium, LDL Peak Size, LDL Pattern, Lipoprotein (a), HDL Large.

INFLAMMATION

Nearly 80% of all autoimmune conditions occur in females, the higher your high sensitivity CRP, the higher your risk for developing autoimmune disease, cancer, and early heart disease. Homocysteine is also a risk factor for early heart disease and elevated levels also may be a risk for developing Alzheimer's dementia.

TESTS INCLUDED:

hs-CRP (high sensitivity CRP), homocysteine, Total CK (creatinine kinase), uric acid.

NUTRIENTS

Nutrition is one of the best conversations to have with your clients. Studies show that 90% are suboptimal in Omega 3's and nearly 70% are deficient in Vitamin D. Others are low in the very important B vitamins – B12 and B9 (serum folate).

TESTS INCLUDED:

Serum ferritin, Omega 3 index, Omega 3 Ratio, RBC Magnesium, Zinc, Selenium, Vitamin D, Vitamin B12, serum folate (Vitamin B9).

Special Offer

LAB MASTERCLASS

+

60 blood tests

+

Optimal Value Lab Cheat Sheets

Done-For-You Lab Cheat Sheets



Special Offer

LAB MASTERCLASS

+

60+ blood tests

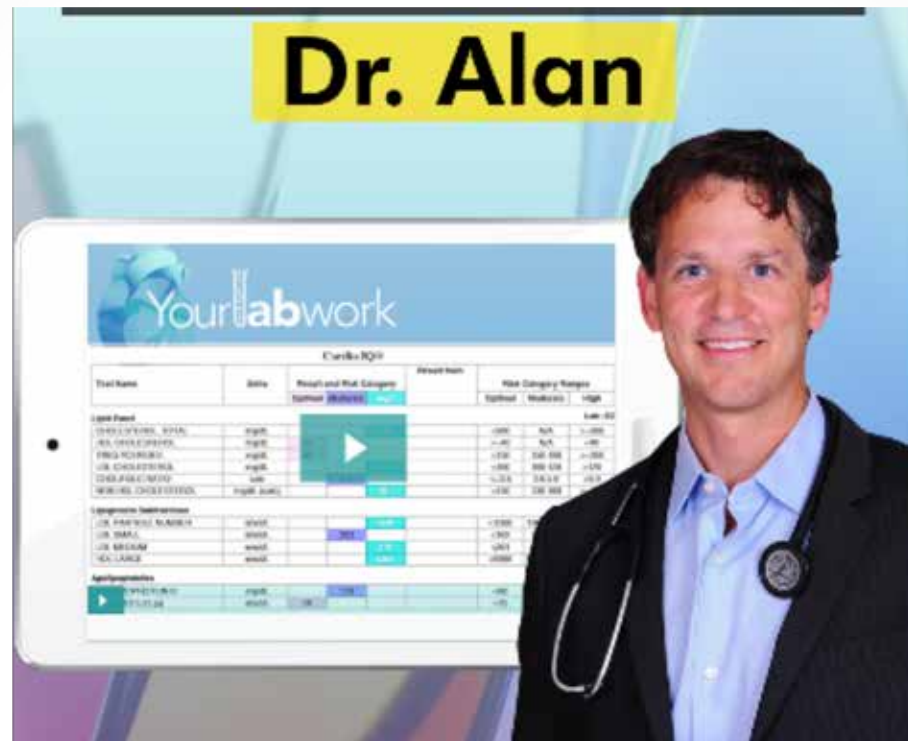
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Optimal Value Lab Cheat Sheets

+

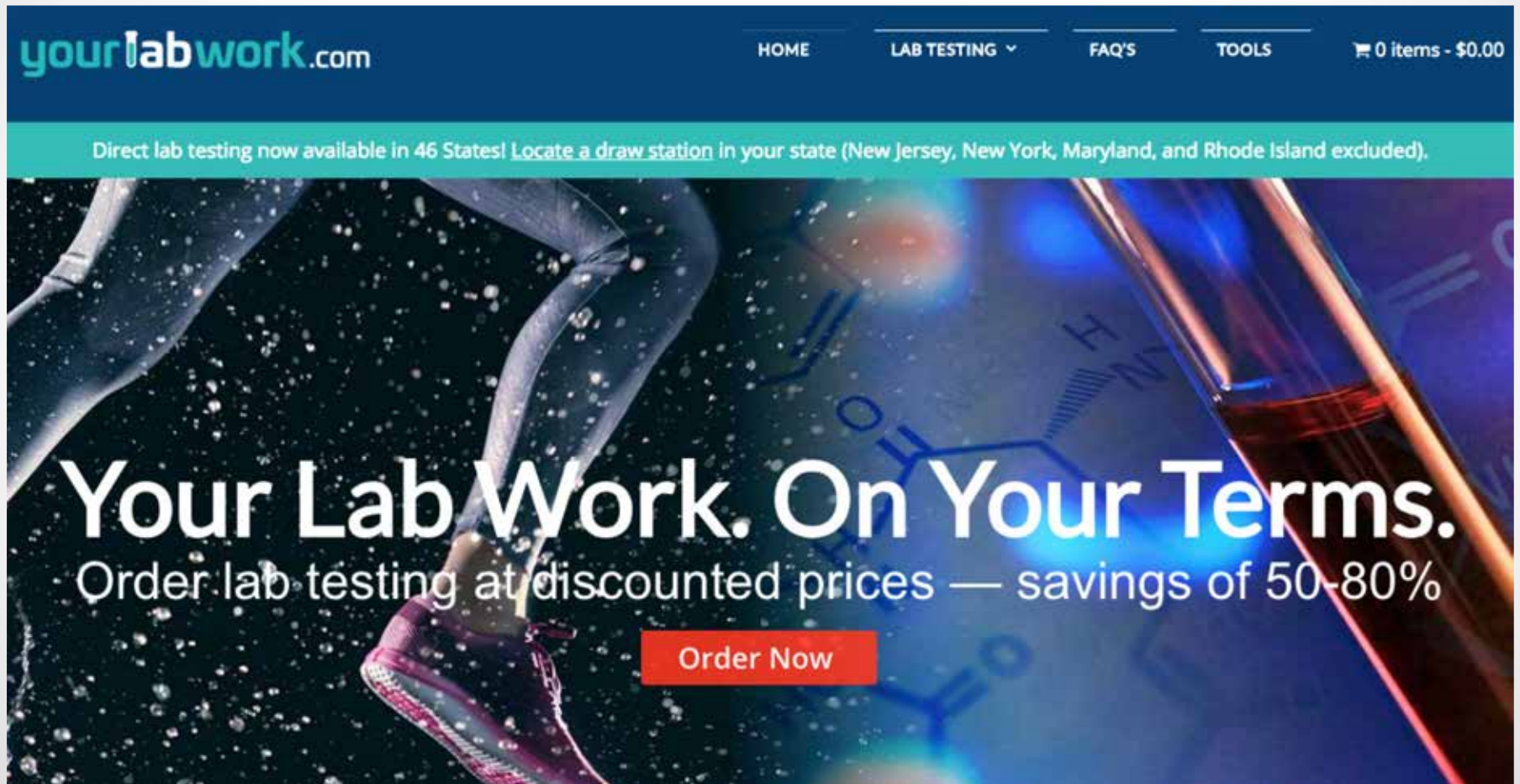
Access to Group Lab Review Webinar

Group Lab Review



- Learn from others interacting
- Understand how conventional doctors look at the labs vs. functional or anti-aging providers

Quest Draw Station Nearby?

The image is a screenshot of the website yourlabwork.com. At the top, there is a dark blue navigation bar with the logo 'yourlabwork.com' on the left and links for 'HOME', 'LAB TESTING' (with a dropdown arrow), 'FAQ'S', and 'TOOLS' on the right. A shopping cart icon on the far right shows '0 items - \$0.00'. Below the navigation bar is a teal banner with white text stating: 'Direct lab testing now available in 46 States! [Locate a draw station](#) in your state (New Jersey, New York, Maryland, and Rhode Island excluded)'. The main part of the banner features a background image of a person's legs in athletic wear running, overlaid with a chemical structure diagram and a test tube containing red liquid. Large white text reads 'Your Lab Work. On Your Terms.' followed by 'Order lab testing at discounted prices — savings of 50-80%'. A red 'Order Now' button is positioned at the bottom center of the banner.

yourlabwork.com

HOME LAB TESTING ▾ FAQ'S TOOLS 0 items - \$0.00

Direct lab testing now available in 46 States! [Locate a draw station](#) in your state (New Jersey, New York, Maryland, and Rhode Island excluded).

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HOME

LAB TESTING ▾

FAQ'S

TOOLS

BLOG

🛒 0 items - \$0.00



Magdalena Wszelaki

Hormones Balance

Magdalena Wszelaki is the founder of Hormones Balance, a nutrition practice dedicated to helping women rebalance their hormones naturally. Magdalena is a certified endocrine nutrition expert, speaker, educator and the author of the best-seller protocol cookbook *Cooking for Hormone Balance*. She draws her inspiration from having suffered for years from hormonal imbalances including Graves' and Hashimoto's Disease, adrenal fatigue and estrogen dominance. Today she is in full remission, lives a symptoms-free life and teaches women how to accomplish the same.