Casual Friday Series

# Hormones and Heart Disease

A Biogenetix Clinical Presentation

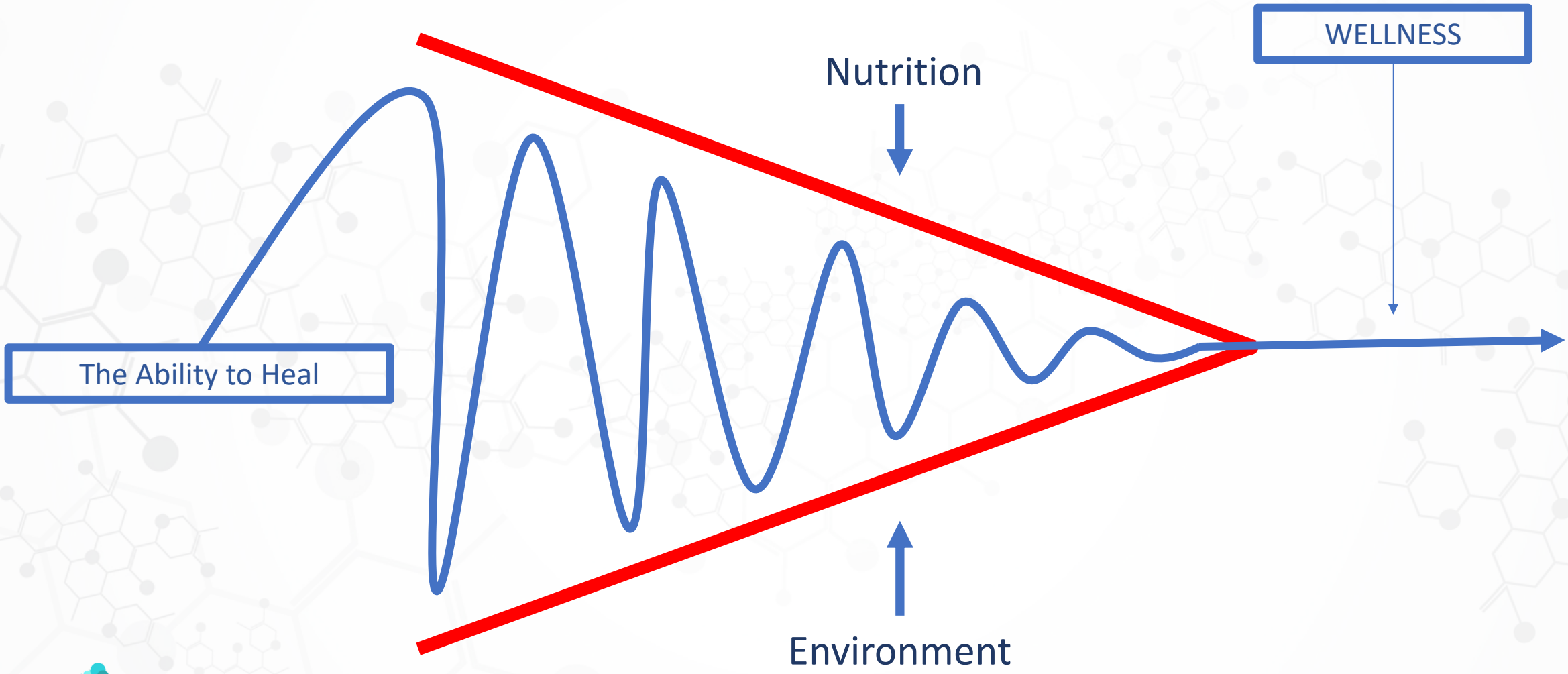
BIOGENETIX.COM

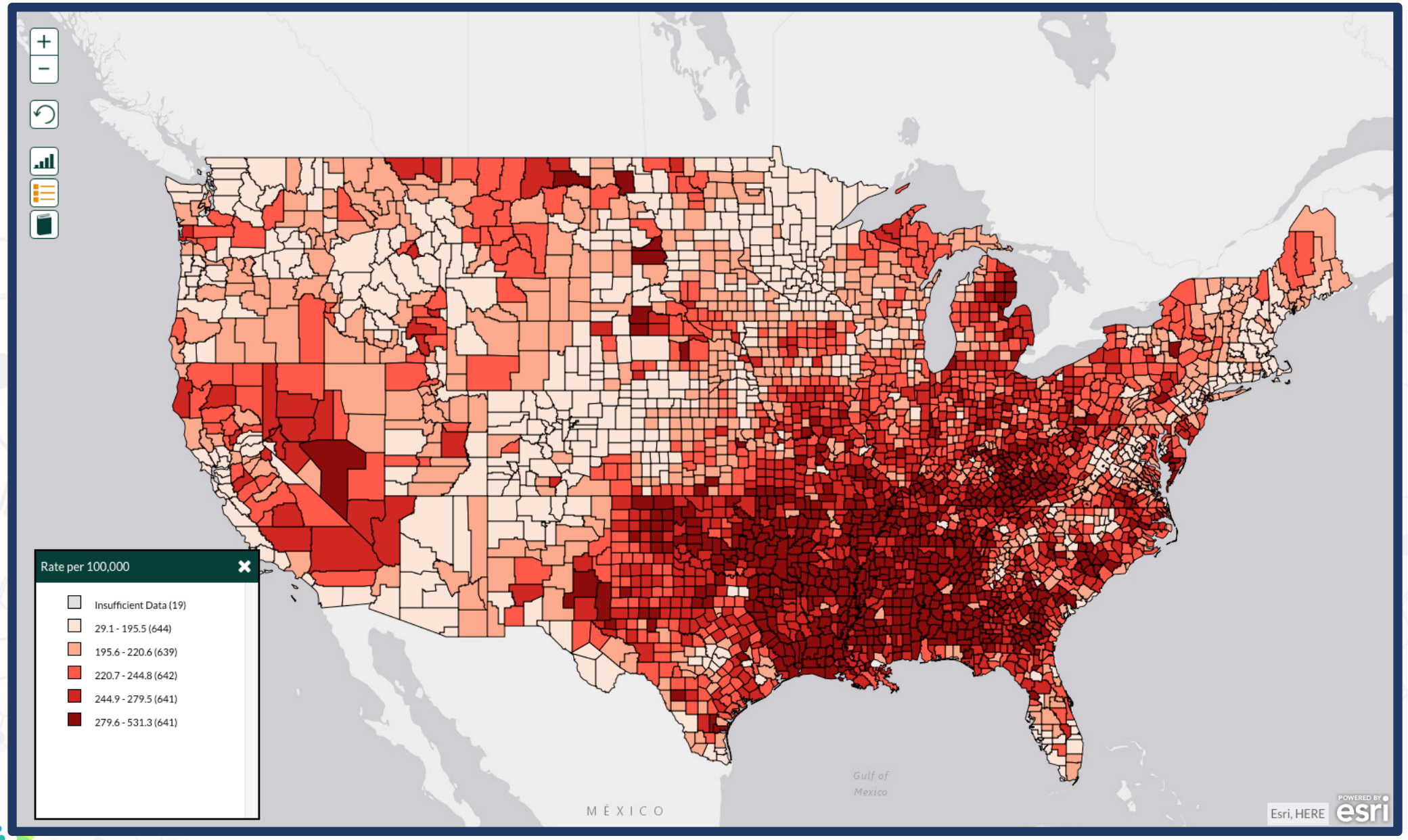
# Disclaimer

- *Information in this presentation is not intended, in itself, to diagnose, treat, reverse, cure, or prevent any disease. While this presentation is based on medical literature, findings, and text, The following statements have not been evaluated by the FDA.*
- *The information provided in this presentation is for your consideration only as a practicing health care provider. Ultimately you are responsible for exercising professional judgment in the care of your own patients.*

Lifestyle + Genetics = Chronic Health IMPROVEMENT

# Protocols






https://nccd.cdc.gov/DHDSPAtlas/?state=State

# NMR Lipoprofile

**Clinical Significance:** The Lipoprotein Fractionation NMR test is used to help assess the risk for cardiovascular disease (CVD) in patients with intermediate or high risk based on traditional or emerging risk factors, and to assess therapeutic response in patients undergoing lipid-lowering therapy, by quantification of the number and size of lipoprotein particles. The lipid panel is used, along with other test, during routine assessment to determine an individual's risk of cardiovascular disease. A lipid panel can also be used to monitor the efficacy of lifestyle interventions or medications.

https://www.clevelandheartlab.com/tests/lipoprotein-fractionation-nmr-with-lipids/

Diabetes Metab J. 2013 Jun; 37(3): 207–211.
Published online 2013 Jun 14. doi: 10.4093/dmj.2013.37.3.207
PMCID: PMC3689018
PMID: 23807924

# Beneficial Effects of Omega-3 Fatty Acids on Low Density Lipoprotein Particle Size in Patients with Type 2 Diabetes Already under Statin Therapy

Myun[illegible]n,[4]
Youn[illegible]

Beyond statin therapy for reducing low density lipoprotein cholesterol (LDL-C), additional therapeutic strategies are required to achieve more optimal reduction in cardiovascular risk among diabetic patients with dyslipidemia. To evaluate the effects and the safety of combined treatment with omega-3 fatty acids

There were no significant difference in the initial (week 0) lipid profiles among the three groups. After 8 weeks of treatment, as shown in Table 1 and Fig. 1, mean LDL particle size increased in all groups, and the percentage change was significantly greater in patients taking 4 g of omega-3 fatty acid with statin than in patients receiving statin monotherapy (2.8%±3.1% vs. 2.3% ±3.6%, *P*=0.024). Significant reduction in TG level was shown after 8-week treatment in all groups. The percentage change from baseline TG level was significantly greater in O3FA4S group than in the control group (-41.0%±24.1% vs. -24.2%±31.9%, *P*=0.049). TC level was significantly reduced at 8 weeks from baseline only in O3FA4S group (-0.44% ±0.66 mg/dL, *P*=0.018), but the percentage change was not significantly different compared to the control group. In all groups, neither HDL-C nor LDL-C level showed any significant change during the study period. There were no significant differences between O3FA2S group and the control group after 8 weeks of respective treatment.


# Omega-3

## Supplement Facts

Serving Size: 1 Softgel
Servings Per Container: 60

| | Amount Per Serving | %Daily Value |
|---|---|---|
| Calories | 10 | |
| Total Fat | 1 g | 1%† |
| MaxSimil® Fish Oil Concentrate | 1.3 g | ** |
| Total Omega-3 Fatty Acids | 860 mg | ** |
| EPA (eicosapentaenoic acid) | 600 mg | ** |
| DHA (docosahexaenoic acid) | 260 mg | ** |

† Percent Daily Values are based on a 2,000 calorie diet.
** Daily Value not established.

**Other Ingredients:** Softgel (fish gelatin, vegetable glycerin, and purified water), GRAS enteric coating (ethylcellulose, sodium alginate, purified water, medium-chain triglycerides, oleic acid, vegetable stearic acid, and ammonium hydroxide), and mixed natural tocopherols.

**Contains:** Fish (anchovy and/or sardine [sources of fish oil], tilapia and/or pangasius [sources of fish gelatin]).

Manufactured using MaxSimil® fish oil. MaxSimil® is a registered trademark of Ingenutra Inc. Protected under US patents 8,119,690 and 8,198,324; Canadian patents 2672513 and 2677670.

# Familial Hypercholesterolemia

The APOB gene provides instructions for making a protein called apolipoprotein B. This protein helps LDL cholesterol bind to LDL receptors on the surface of cells, particularly in the liver. Certain variants in this gene reduce the ability of LDL cholesterol to bind to its receptor, causing fewer LDL cholesterol particles to be removed from the blood.

https://you.23andme.com/reports/ghr.fh/details/

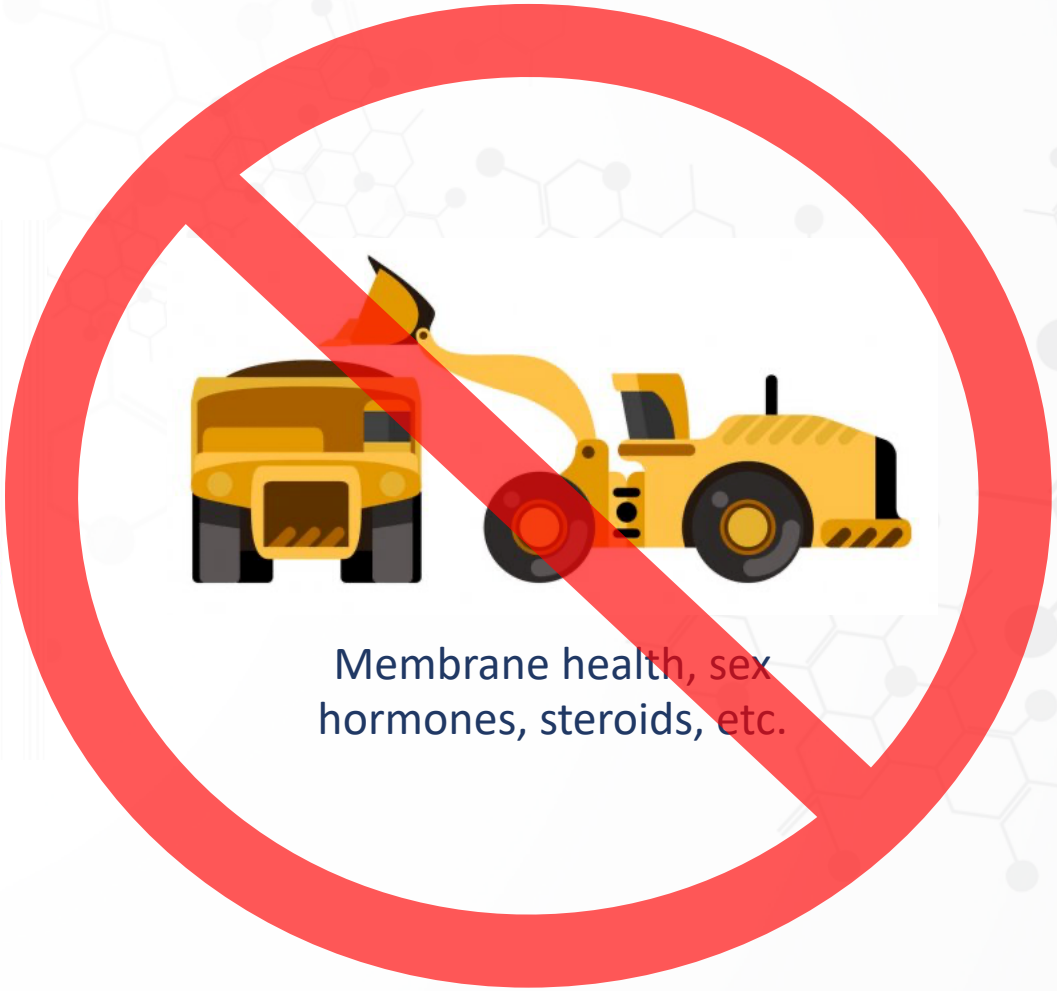
# Familial Hypercholesterolemia

## B-48

Chylomicrons, gut level.

## B-100

Repackaged in the liver with B-100 to form trig rich VLDL, and chol rich LDL.



Membrane health, sex hormones, steroids, etc.

THE AMERICAN JOURNAL of MEDICINE®

**Testosterone replacement therapy (TRT) can increase men's risk of stroke and heart attack**

*Caution is warranted before prescribing TRT for men older than 45, recommends a new study published in* The American Journal of Medicine

**Philadelphia, July 18, 2019 –** Aging men with low testosterone levels who take testosterone replacement therapy (TRT) are at a slightly greater risk of experiencing an ischemic stroke, transient ischemic attack (TIA), or myocardial infarction, especially during the first two years of use, reports a study appearing in *The American Journal of Medicine*, published by Elsevier. The findings confirm concerns voiced by many health agencies about the potential risks associated with the treatment.

https://els-jbs-prod-cdn.jbs.elsevierhealth.com/pb/assets/raw/Health%20Advance/journals/ajm/AJM_Sep19_PR_Loo.pdf

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*Caution is warranted before prescribing TRT for men older than 45, recommends a new study published in* The American Journal of Medicine

The study analyzed a large database of electronic medical records of patients enrolled in primary care practices in the United Kingdom and formed a cohort of 15,401 men, aged 45 years or older, with low testosterone levels (hypogonadism). Users of TRT had a 21 percent greater risk of cardiovascular events compared with nonusers, corresponding to an additional 128 events. The increased risk appears to be transient, declining after two years of TRT use, which the investigators attribute to a phenomenon called "depletion of susceptibles."

https://els-jbs-prod-cdn.jbs.elsevierhealth.com/pb/assets/raw/Health%20Advance/journals/ajm/AJM_Sep19_PR_Loo.pdf

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"Our findings show that the use of TRT was associated with an increased risk of stroke, TIAs, or cardiac arrest during the first two years of use," noted Christel Renoux, MD, PhD, Centre for Clinical Epidemiology, Lady Davis Institute for Medical Research, Jewish General Hospital; and Departments of Epidemiology, Biostatistics, and Occupational Health, and Department of Neurology and Neurosurgery, McGill University, Montreal, QC, Canada. "There is limited evidence on the long-term clinical benefits of TRT to effectively treat the modestly declining levels of endogenous testosterone levels of aging but healthy men. We strongly recommend that clinicians proceed with caution when considering prescribing TRT and first discuss both the potential benefits and risks with patients."

https://els-jbs-prod-cdn.jbs.elsevierhealth.com/pb/assets/raw/Health%20Advance/journals/ajm/AJM_Sep19_PR_Loo.pdf

# The Heart and Estrogen/Progestin Replacement Study Revisited

## Hormone Replacement Therapy Produced Net Harm, Consistent With the Observational Data

John A. Blakely, BA, MD, FRCPC

During the first year of HRT, women in the study had a 50 percent increase in heart attack and stroke. But, after two years of treatment, women on HRT actually had less heart disease and fewer heart attacks and strokes compared with women not taking HRT.

https://my.clevelandclinic.org/health/articles/16979-estrogen--hormones#resources


Women's Health Initiative (WHI), was raising more questions about the potential risks associated with HRT. Involving more than 160,000 women, WHI is the world's largest clinical trial of health interventions for midlife women, studying the effects HRT, diet changes and calcium and vitamin D supplements on heart disease, osteoporotic fractures and breast and colorectal cancer risk.

https://my.clevelandclinic.org/health/articles/16979-estrogen--hormones#resources


In 2002, scientists at the National Institutes of Health (NIH) National Heart, Lung and Blood Institute halted the arm of the WHI study in which women were taking combination estrogen and progestin. Early data from this group of women showed that HRT significantly increased the risk of breast cancer, heart attack, stroke and blood clots in the legs and lungs.

https://my.clevelandclinic.org/health/articles/16979-estrogen--hormones#resources

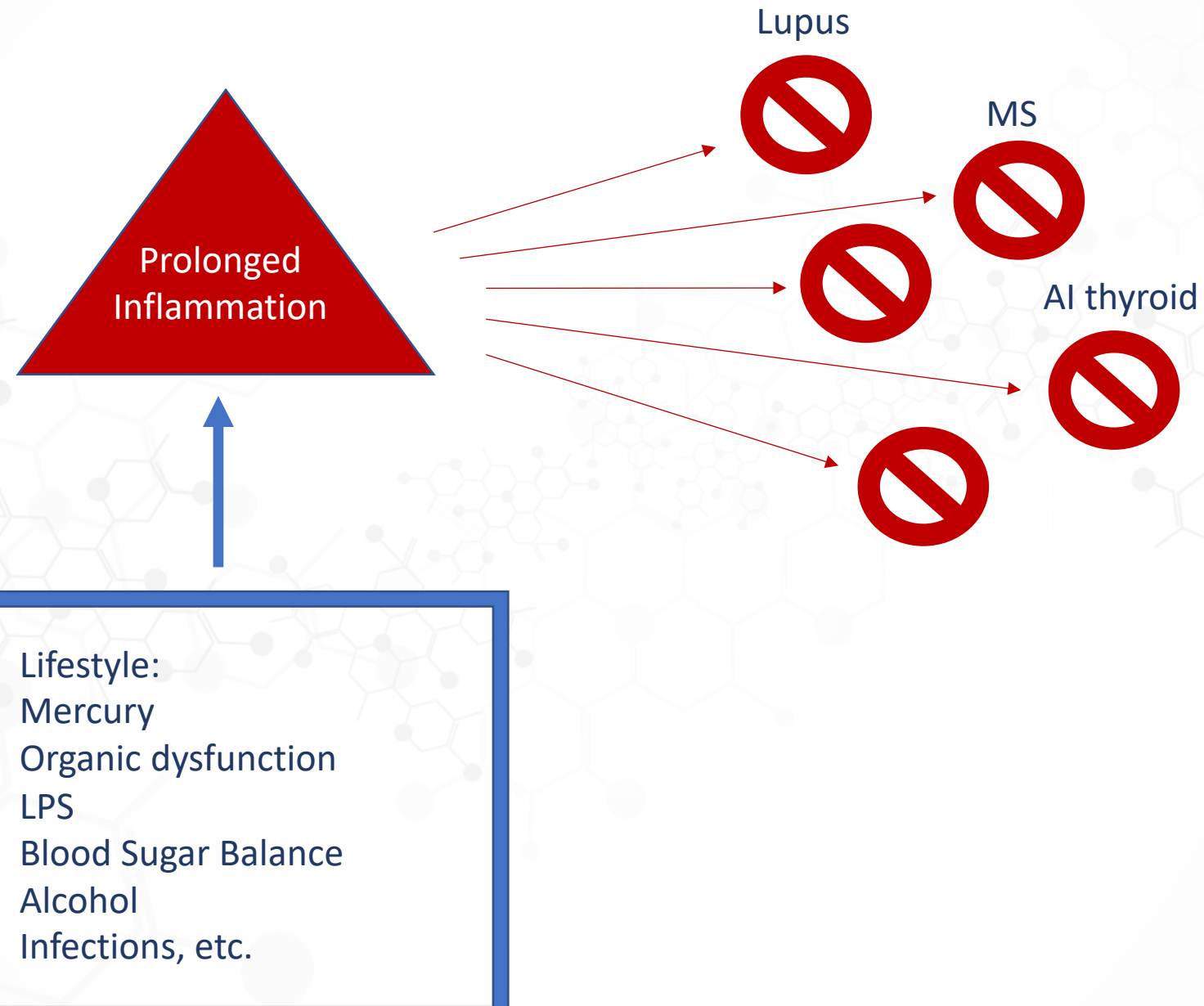

Then, in 2004, the NIH stopped the estrogen-only study arm, in which women who had undergone hysterectomy were taking estrogen. Data showed that estrogen increased their risk of blood clots and stroke and did not reduce the risk of heart attack. (Estrogen's effect on breast cancer risk was unclear.)

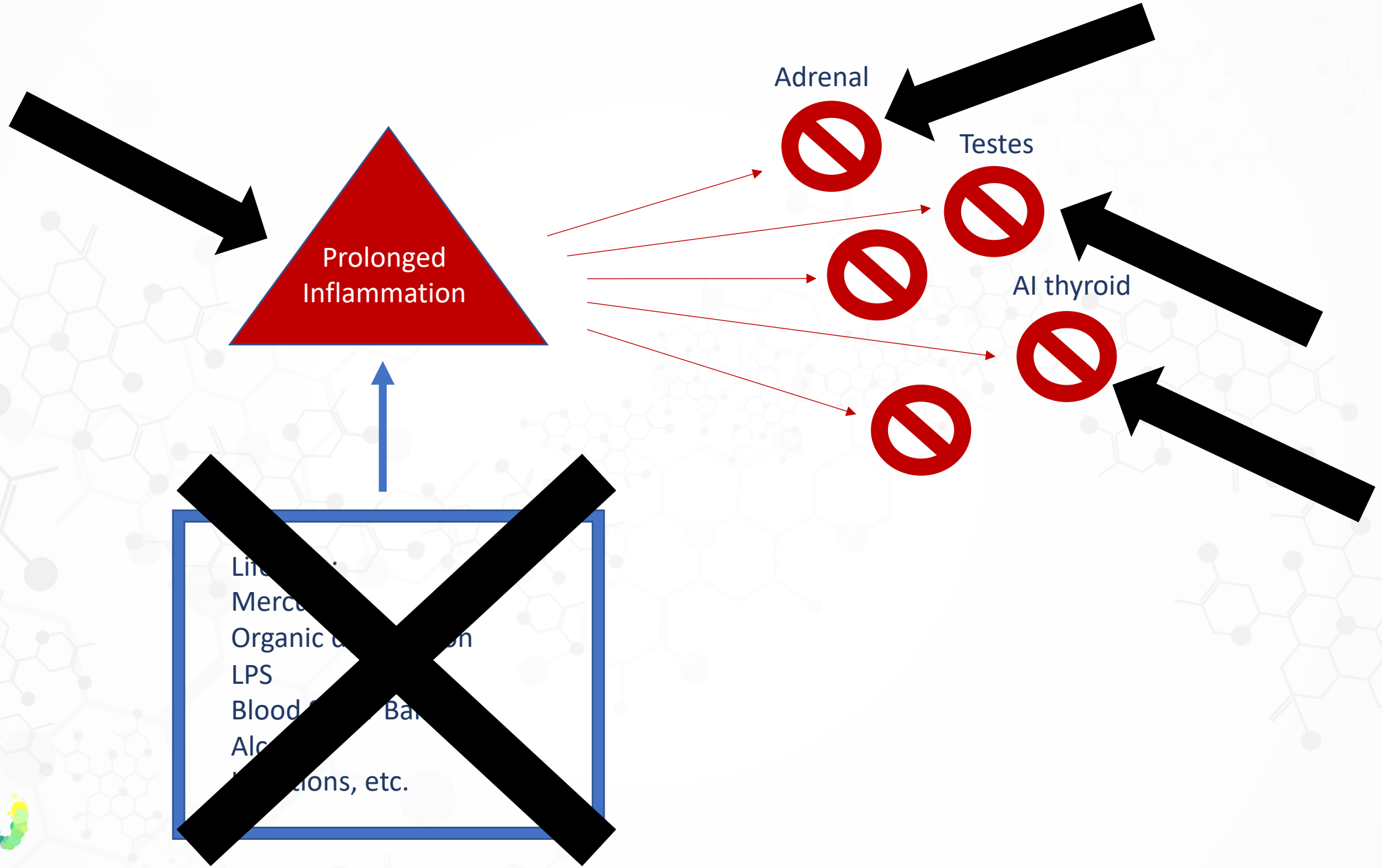
https://my.clevelandclinic.org/health/articles/16979-estrogen--hormones#resources

# What's the net result of these studies?

1. HRT should not be used for prevention of heart attack or stroke.
2. Use of HRT for other problems such as preventing osteoporosis should be carefully considered and the risks weighed against the benefits. Women who have existing coronary artery disease should consider other options.
3. HRT may be used short-term to treat menopausal symptoms.
4. Long-term use is discouraged because the risk for heart attack, stroke and breast cancer increases the longer HRT is used.

https://my.clevelandclinic.org/health/articles/16979-estrogen--hormones#resources


Lupus
MS
AI thyroid
Prolonged Inflammation
Lifestyle:
Mercury
Organic dysfunction
LPS
Blood Sugar Balance
Alcohol
Infections, etc.


Adrenal
Testes
AI thyroid
Prolonged Inflammation
LPS
ions, etc.

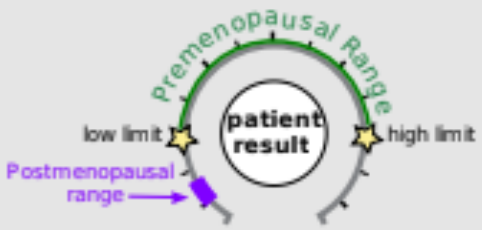
Hormone production matches…

- Ability to clean up ROS
  (Inverse with inflammation)
- Cofactors available
- Building Material available
- Expenditure rate, detox rate

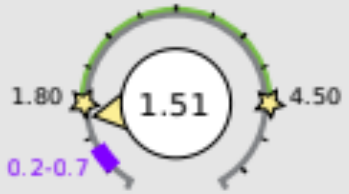
9/12/2020

## Hormone Testing Summary

**Key (how to read the results):**




**Sex Hormones** See Pages 2 and 3 for a thorough breakdown of sex hormone metabolites




Estradiol(E2)


Progesterone
(Serum Equivalent, ng/mL)

Progesterone Serum Equivalent is a calculated value based on urine pregnanediol.


Testosterone

1/21/21

## Hormone Testing Summary

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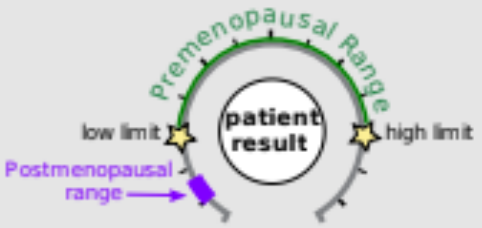


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Estradiol(E2)


Progesterone
(Serum Equivalent, ng/mL)

Progesterone Serum Equivalent is a calculated value based on urine pregnanediol.


Testosterone

Prediabetic, Hashi, Current Hypothyroidism, Iron anemia
*HRT candidate but not currently using. 40's.

10/03/2020

## Hormone Testing Summary

**Key (how to read the results):**


**Sex Hormones**


Estradiol(E2)


Testosterone

**Testosterone**

| Age | Range |
|---|---|
| 18-25 | 50-115 |
| 26-40 | 40-95 |
| 41-60 | 30-80 |
| >60 | 25-60 |

1/11/21

## Hormone Testing Summary

**Key (how to read the results):**


**Sex Hormones**


Estradiol(E2)


Testosterone

**Testosterone**

| Age | Range |
|---|---|
| 18-25 | 50-115 |
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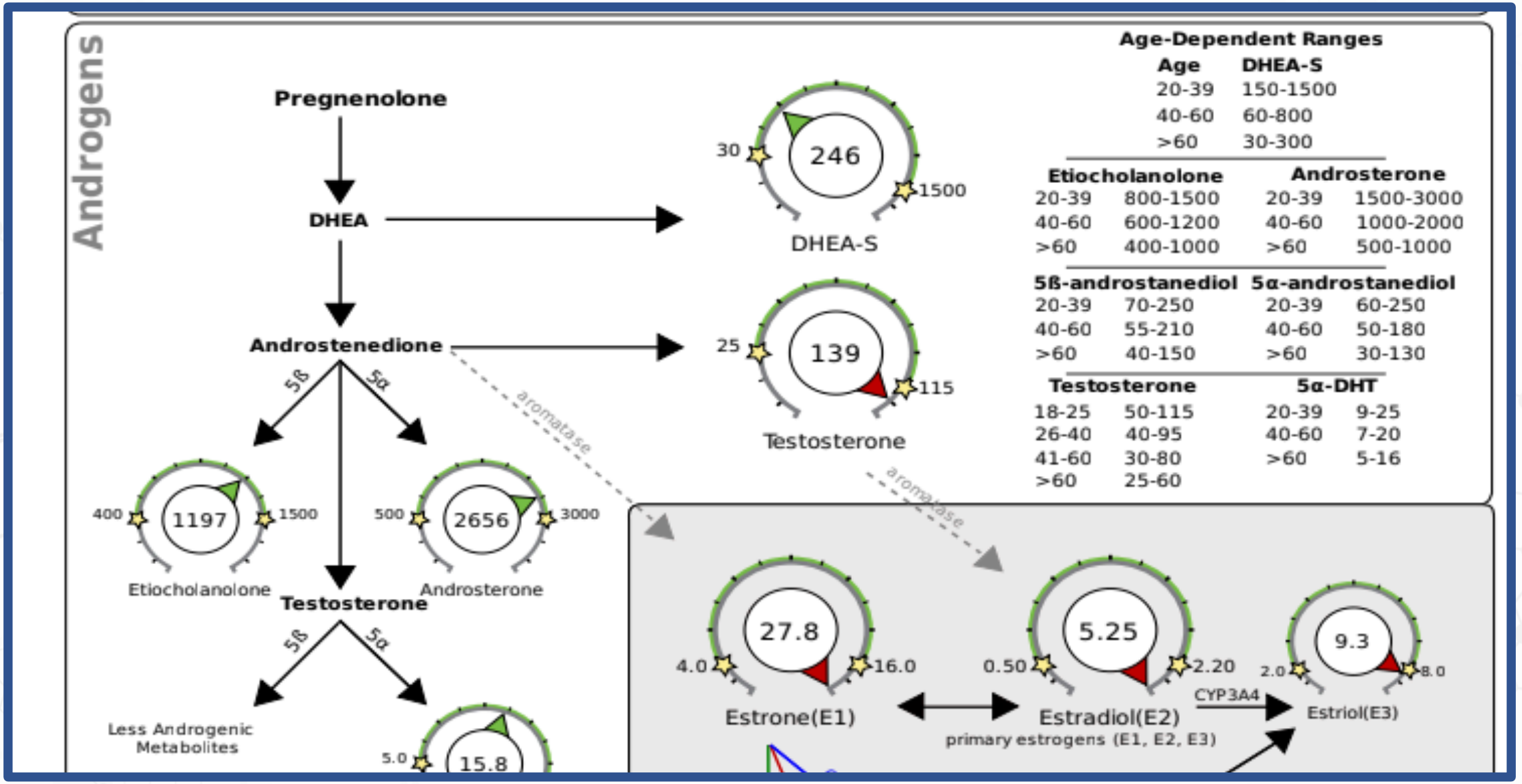
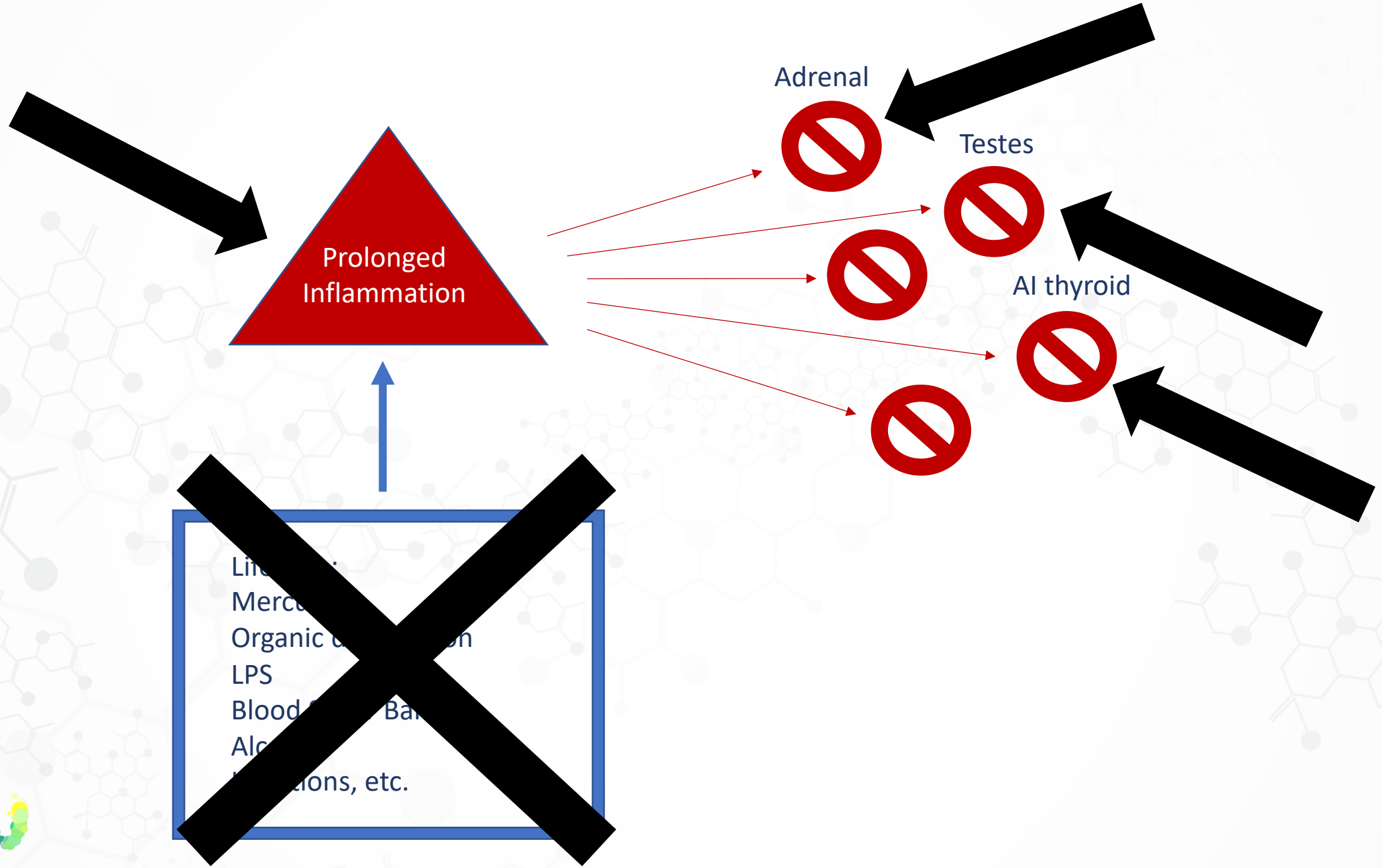
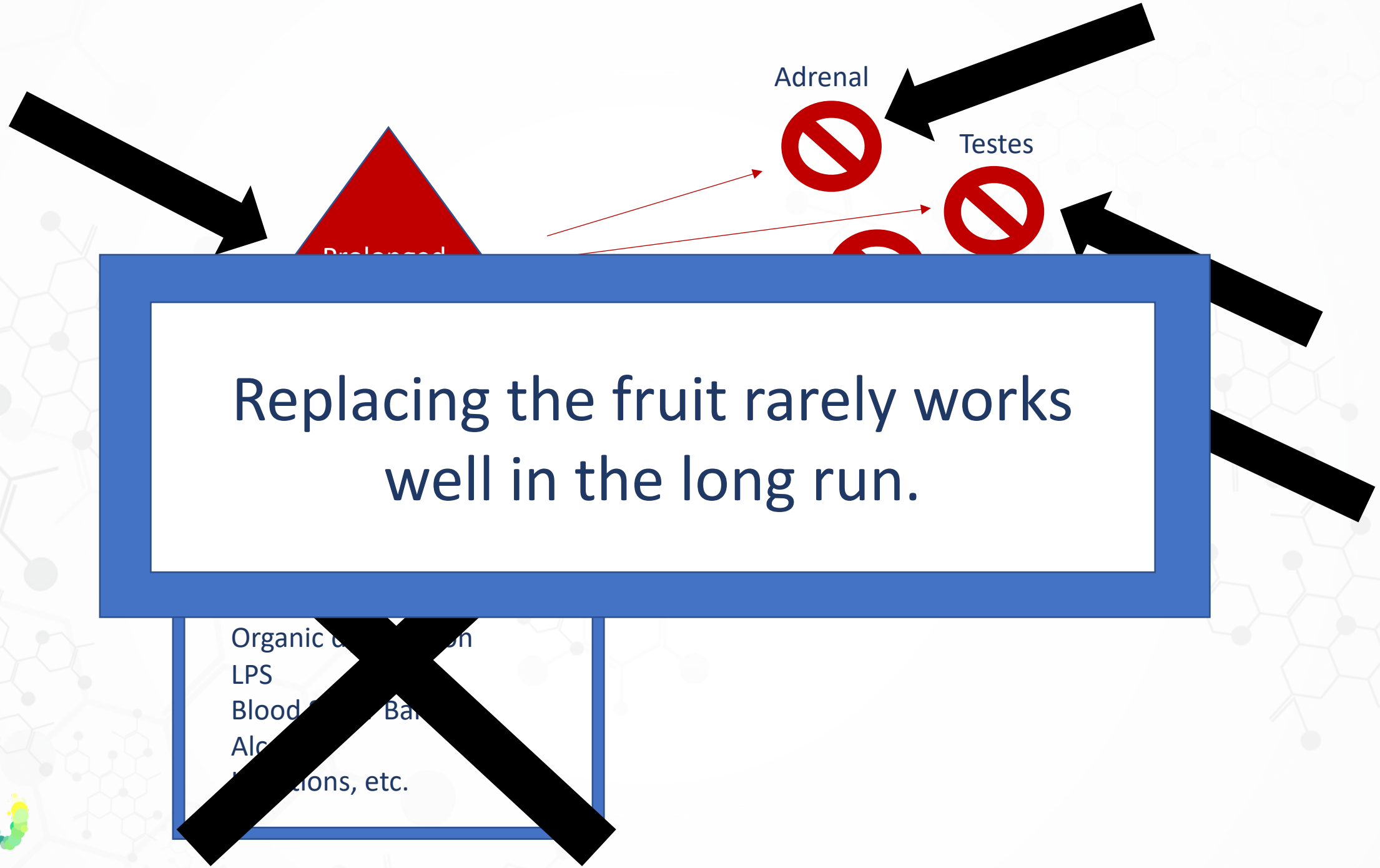
| 41-60 | 30-80 |
| >60 | 25-60 |

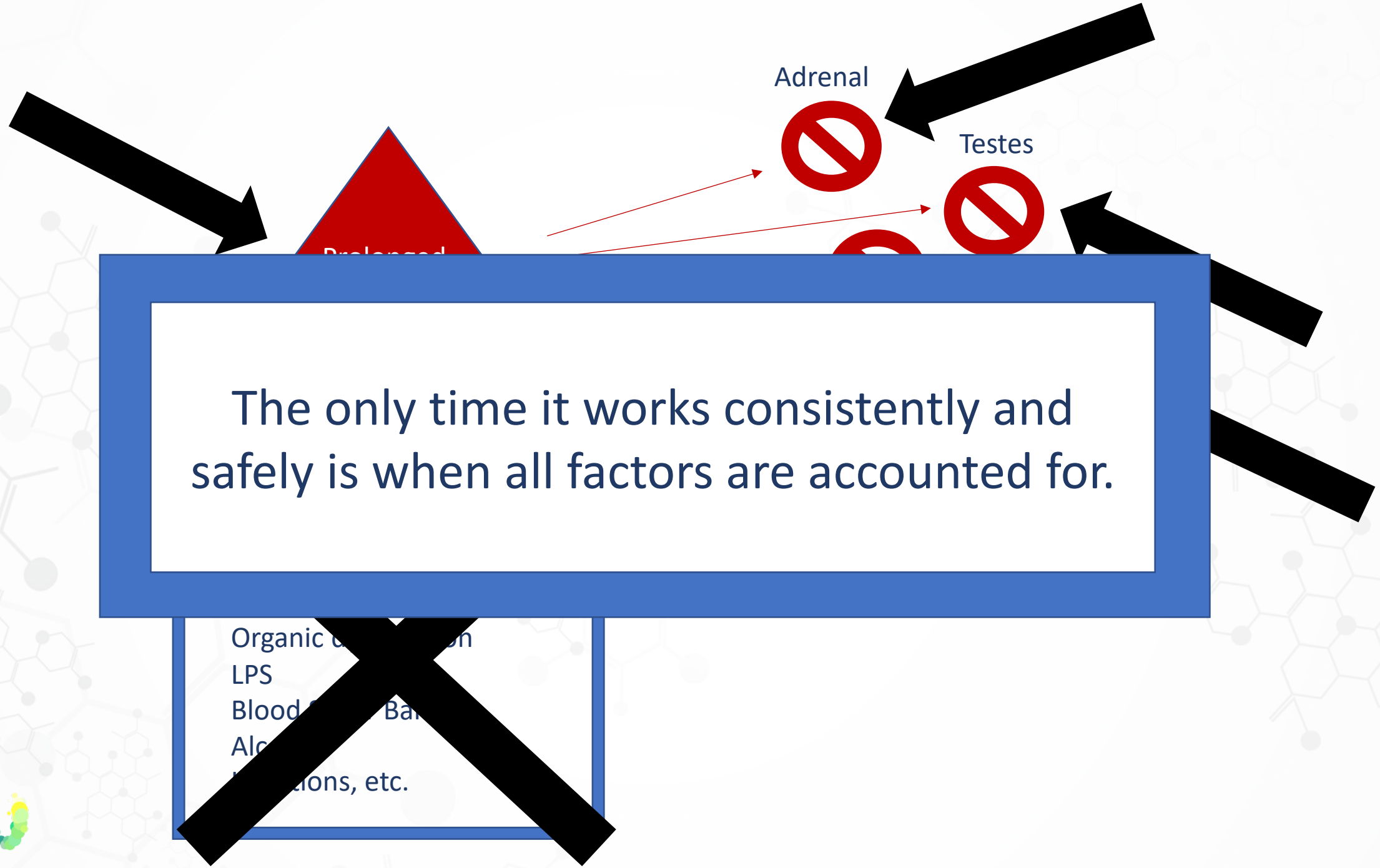
Diabetes, and “Low T”.
*Using Testosterone Replacement Therapy


Androgens
Pregnenolone
DHEA
Androstenedione
5ß
5α
aromatase
30
246
1500
DHEA-S
25
139
115
Testosterone
400
1197
1500
Etiocholanolone
500
2656
3000
Androsterone
Testosterone
5ß
5α
Less Androgenic Metabolites
5.0
15.8
aromatase
4.0
27.8
16.0
Estrone(E1)
0.50
5.25
2.20
Estradiol(E2)
primary estrogens (E1, E2, E3)
CYP3A4
2.0
9.3
8.0
Estriol(E3)
Age-Dependent Ranges
Age DHEA-S
20-39 150-1500
40-60 60-800
>60 30-300
Etiocholanolone
20-39 800-1500
40-60 600-1200
>60 400-1000
Androsterone
20-39 1500-3000
40-60 1000-2000
>60 500-1000
5ß-androstanediol
20-39 70-250
40-60 55-210
>60 40-150
5α-androstanediol
20-39 60-250
40-60 50-180
>60 30-130
Testosterone
18-25 50-115
26-40 40-95
41-60 30-80
>60 25-60
5α-DHT
20-39 9-25
40-60 7-20
>60 5-16

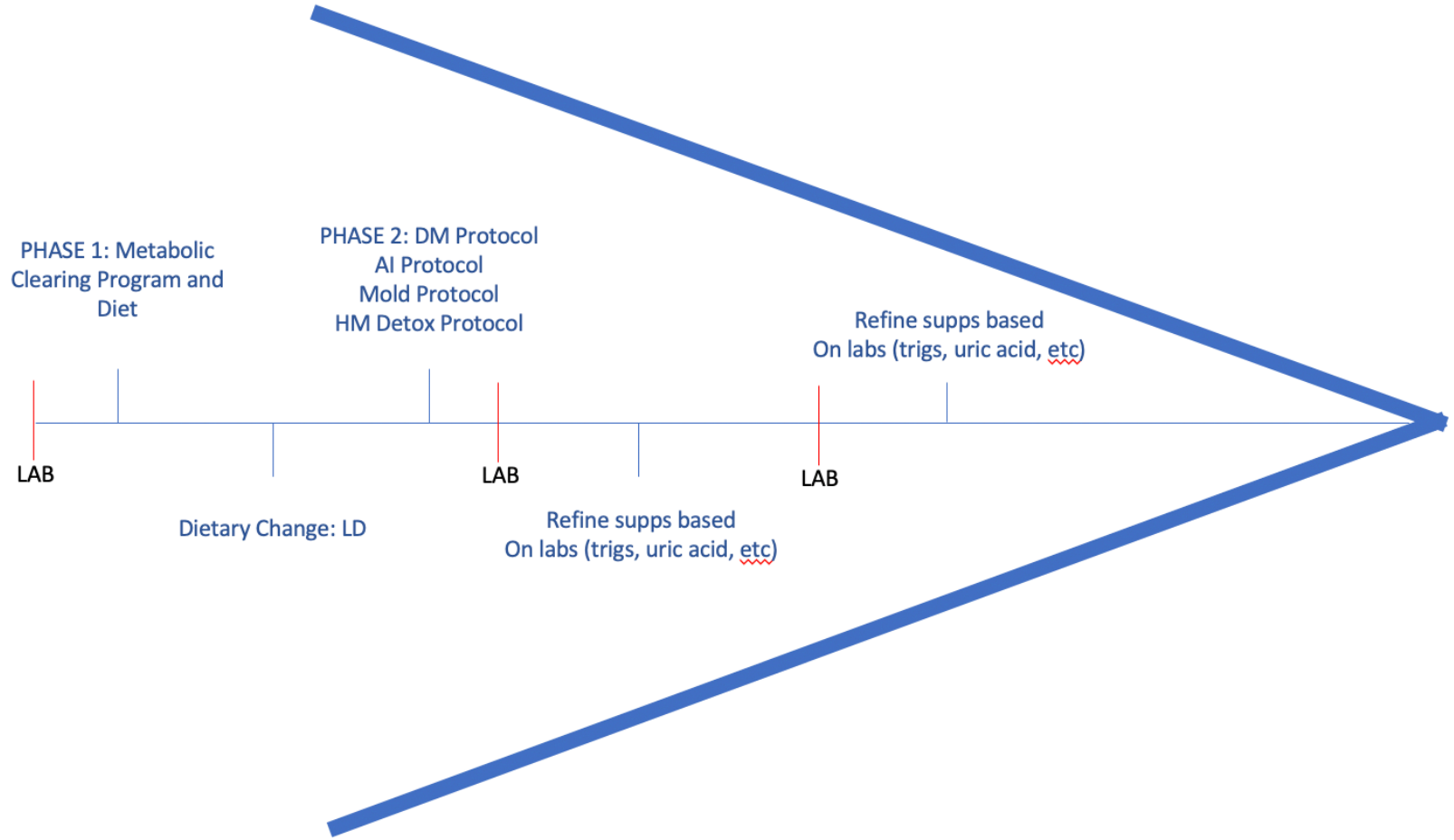

Adrenal
Testes
AI thyroid
Prolonged Inflammation
LPS
ions, etc.




Replacing the fruit rarely works well in the long run.


Adrenal
Testes
The only time it works consistently and safely is when all factors are accounted for.
LPS
ions, etc.

# Supplement and Diet Protocols




Retest a lab at least every 60 days.

85% of patients will improve with basic structures and healthy eating.

% of problem analysis: this is what the cleanse is for.

General → Fine Tune

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