Nutrition and healthy habits talk for

Sincrotrón ALBA | SMC Esp

MARC VERGÉS
Nutritionist and expert in
Psychoneuroimmunology and phytotherapy

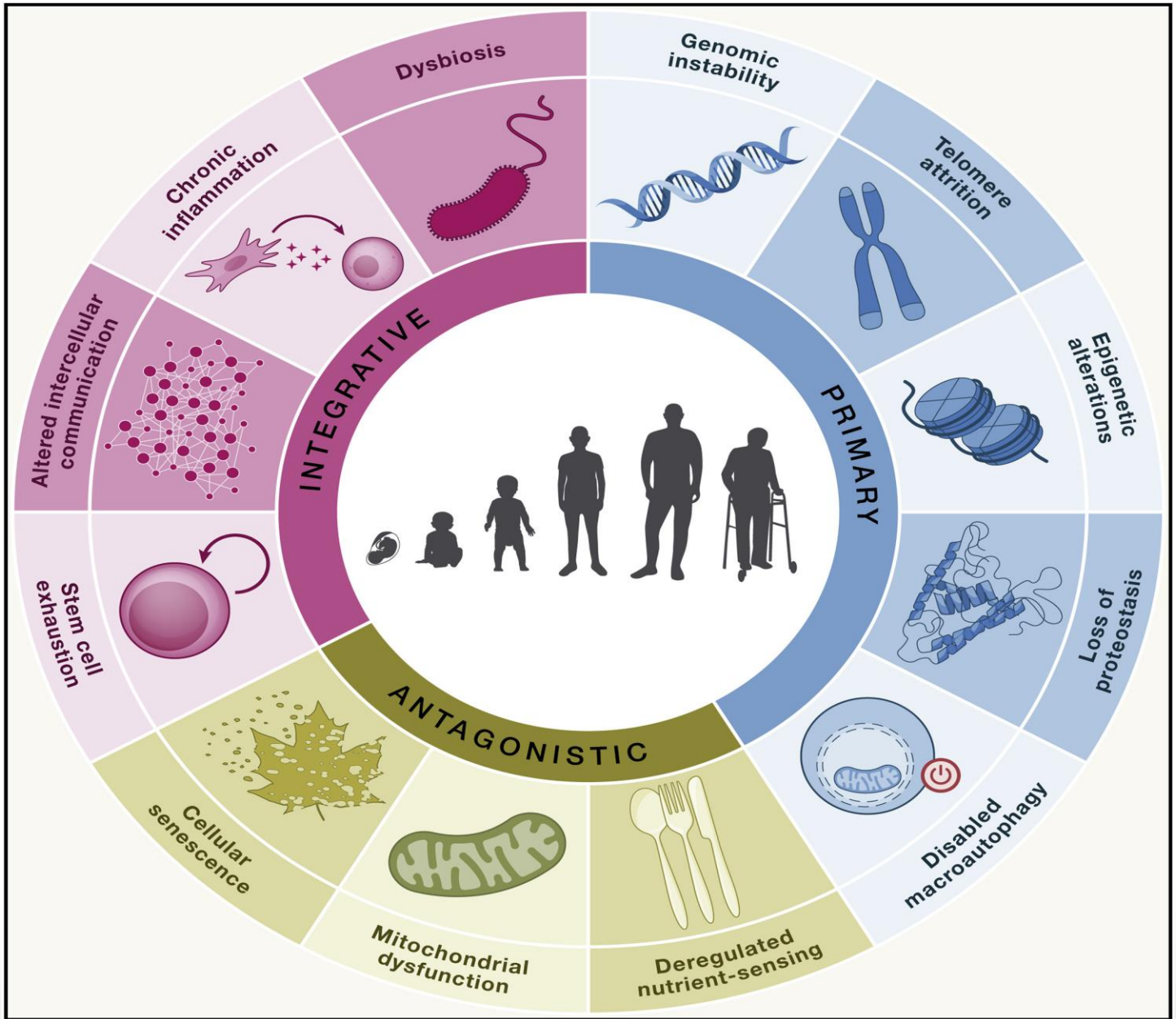
What are we going to talk about?

- **Conceptes bàsics de nutrició i alimentació saludable.**
- **Consells per planificar i preparar àpats equilibrats.**
- **Estratègies per mantenir un pes saludable i prevenir l'obesitat.**
- **Efectes de la nutrició en la salut i el benestar general.**
- **Mites i realitats sobre dietes populars.**
- **Basic concepts of nutrition and healthy eating.**
- **Tips for planning and preparing balanced meals.**
- **Strategies to maintain a healthy weight and prevent obesity.**
- **Effects of nutrition on health and general well-being.**
- **Myths and realities about popular diets.**

MARC VERGÉS


Here are 10 major but modifiable health risks
Depression
High blood glucose
Tobacco use
Obesity
High blood pressure
Physical inactivity
High stress
High cholesterol
Poor nutrition and eating habits
High alcohol consumption

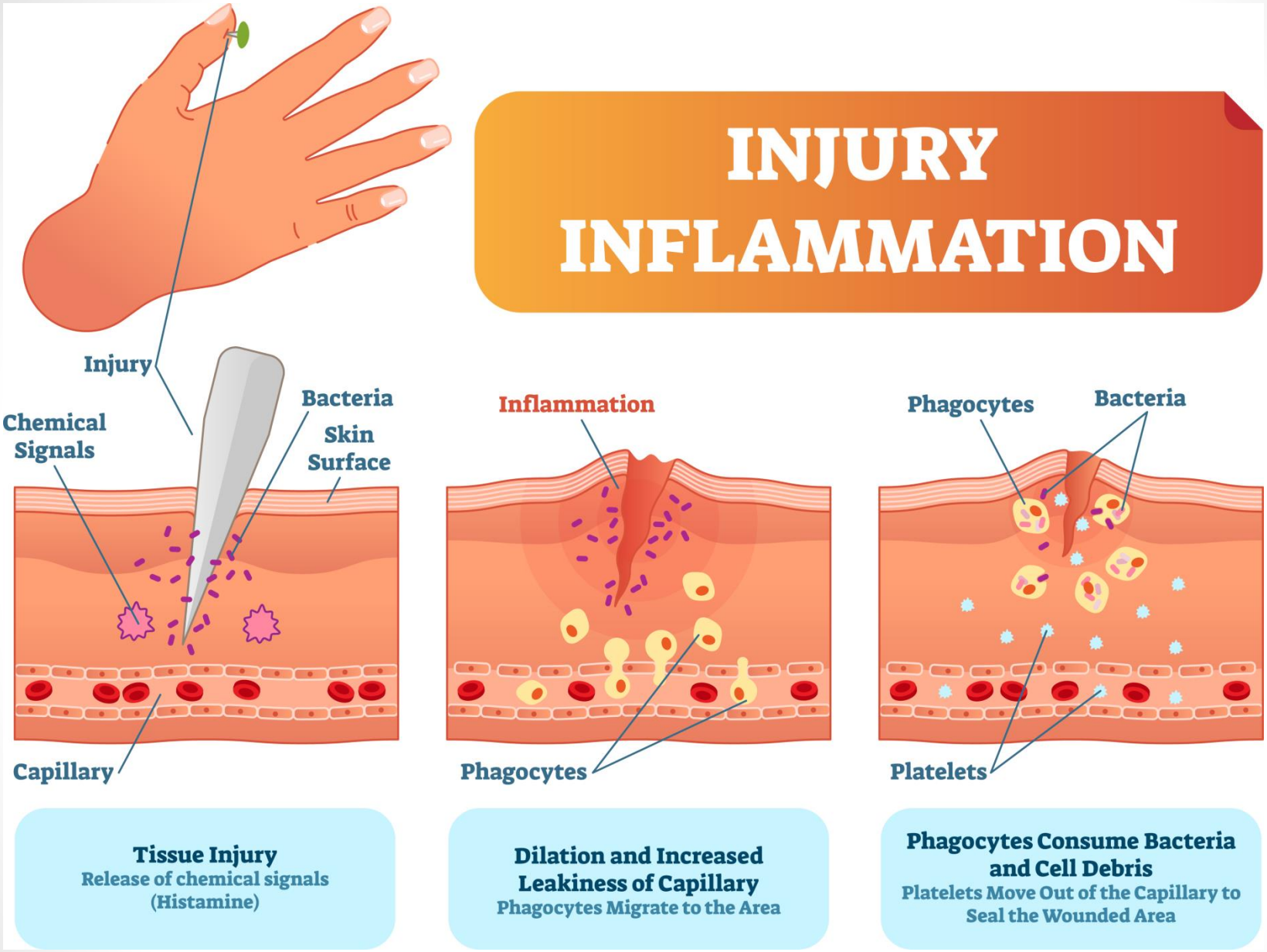
Hallmarks of aging.



“El nord d'Espanya registra més casos d'inflamació intestinal que el sud”
“The north of Spain registers more cases of intestinal inflammation than the south"

The north-south phenomenon "is common" in chronic inflammation, allergic and autoimmune pathologies.

Diari ARA. 13/05/2014



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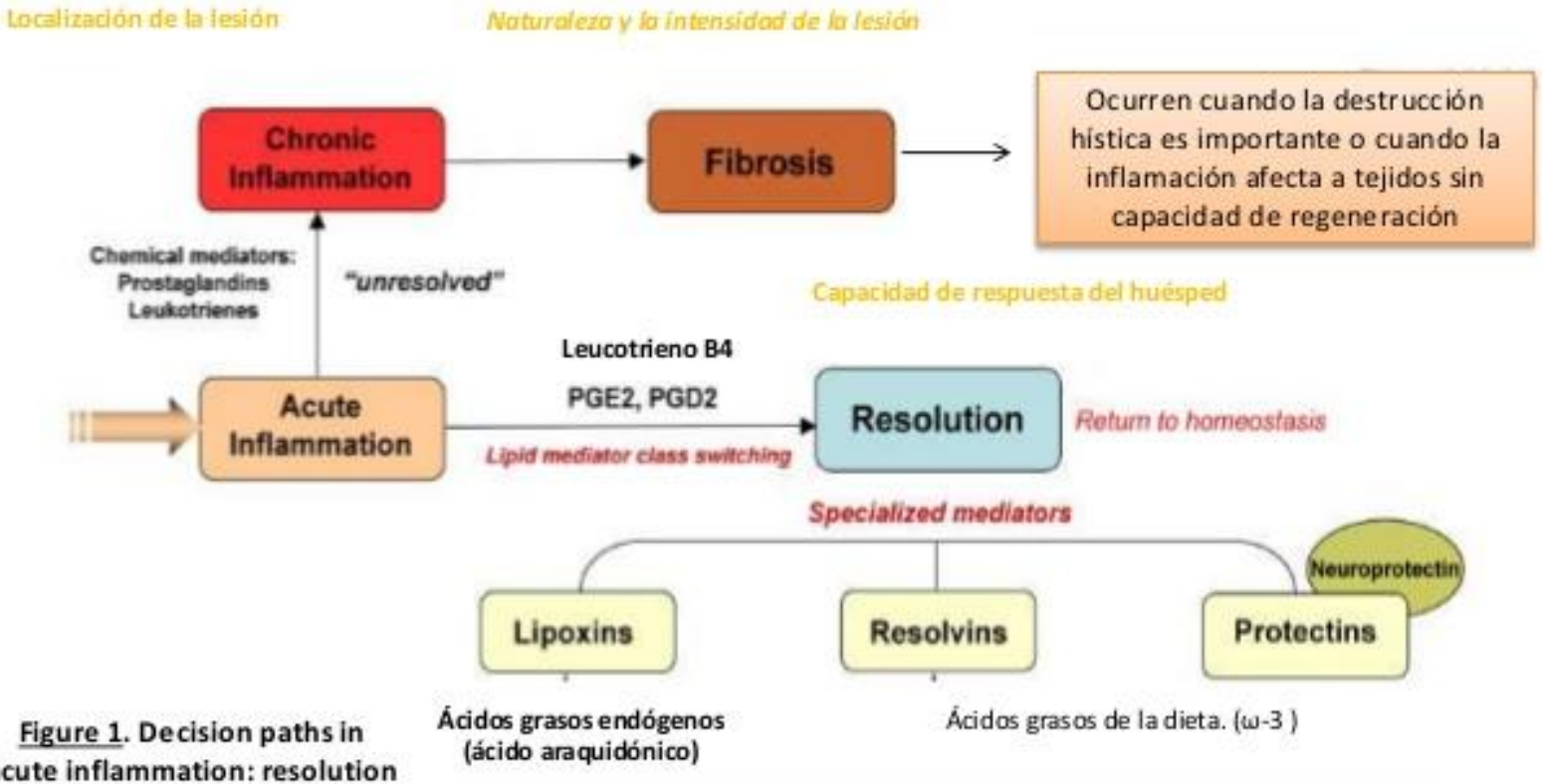


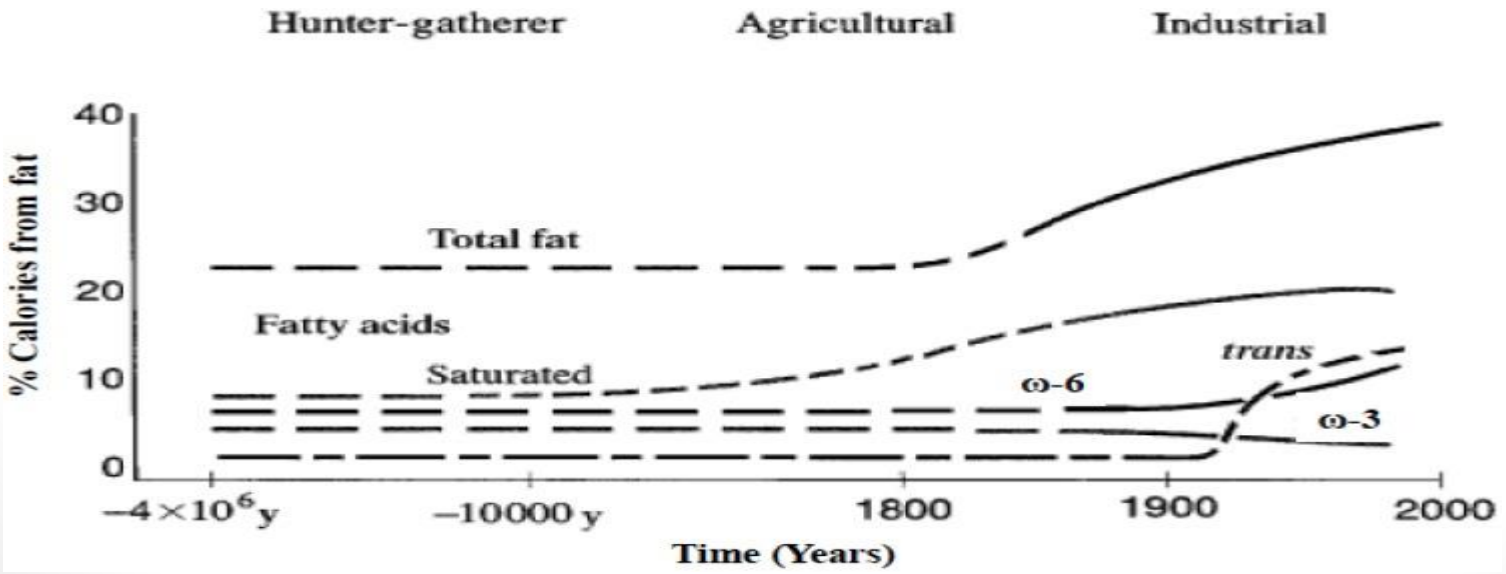
Figure 1. Decision paths in acute inflammation: resolution or chronic inflammation and the roles of endogenous chemical mediators

Inmuno-resolventes especializados comprenden un género de moléculas endógenas, incluyendo resolvinas, lipoxinas, protectinas y maresins, que impulsan activamente la terminación de la inflamación.

Charles N. Serhan*, Nan Chiang*, and Thomas E. Van Dyke. Resolving inflammation: dual anti-inflammatory and proresolution lipid mediators. *Nat Rev Immunol*. 2008)
Marcelo O. Freire and Thomas E. Van Dyke. Natural resolution of inflammation. *Periodontol 2000*. 2013 October ; 63(1): 149–164

RATI W3/W6 PER RESOLVINES

- POWER FISH, PASTURED EGGS, OLIVE OIL AND AVOCADO TO STRENGTHEN THE CONVERSION TO DHA.
- MORE GOOD FAT, LESS INDUSTRIAL FAT.
- AVOID SUNFLOWER, SOY OR CORN OR HYDROGENATED OILS.



https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4808858/bin/nutrients-08-00128-g001.jpg

The causes of chronic low-grade inflammation:

1. **Persistent infections:** Some infections may not resolve completely and cause an ongoing inflammatory response.

2. **Obesity**: Adipose tissue, especially visceral fatty tissue, can release substances that promote inflammation.

3. **Unhealthy diet:** A diet rich in sugars, saturated fats and processed foods can contribute to inflammation.

4. **Chronic stress**: Prolonged stress can affect the immune system and cause inflammation.

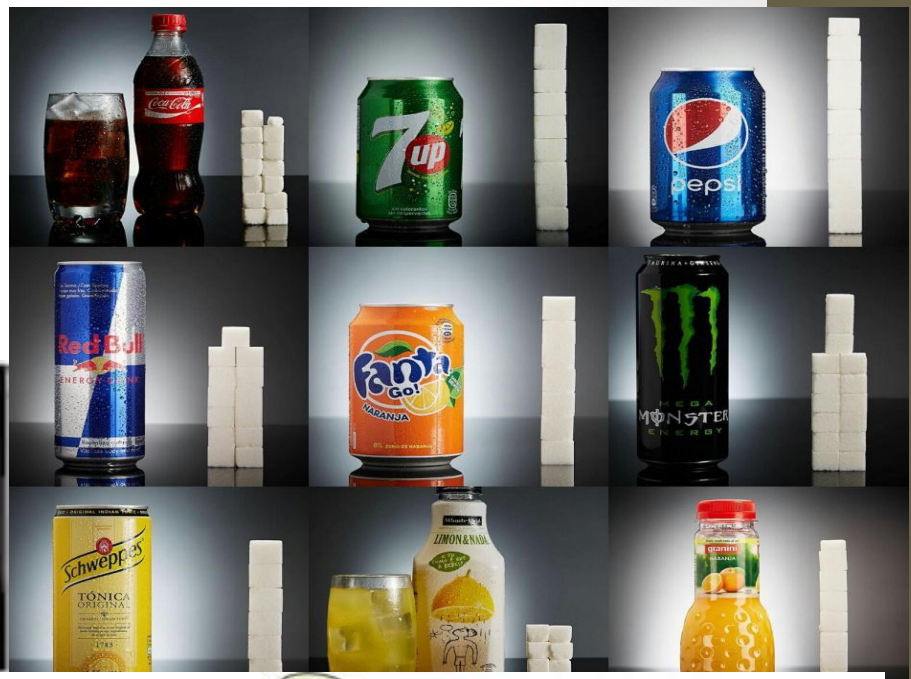
5. **Lack of physical activity**: Inactivity can contribute to inflammation and metabolic problems.

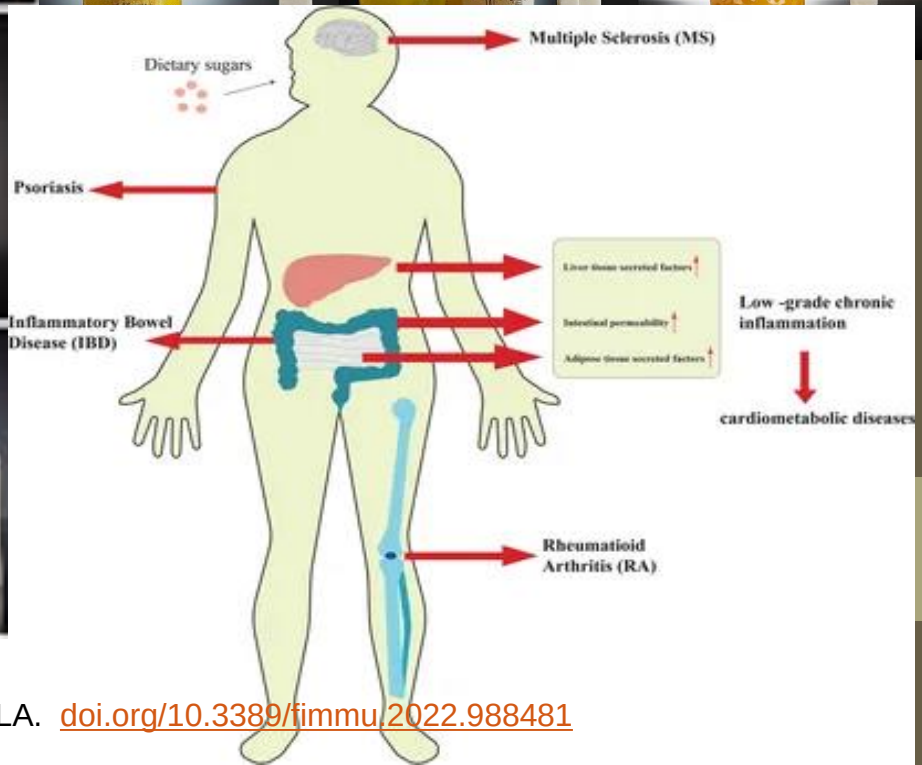
6. **Exposure to toxins**: Environmental pollution and contact with chemicals can trigger inflammatory responses.

7. **Autoimmune diseases:** In these conditions, the immune system mistakenly attacks the body's own tissues, causing inflammation.

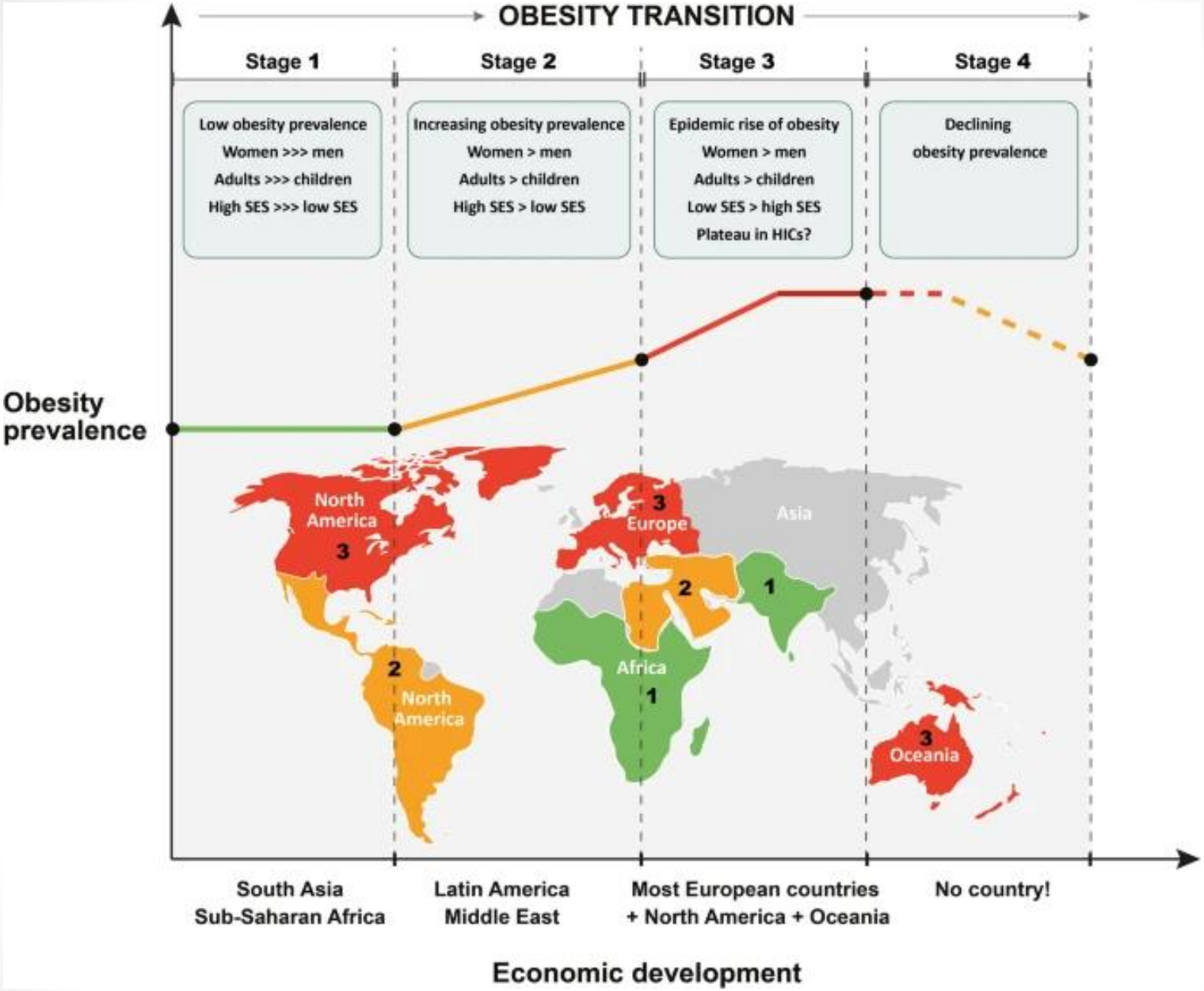
8. **Aging:** Over time, the body may experience an increase in inflammation due to changes in the immune system.

SUGAR, THE GREAT INFILTRATOR!
An accomplice of inflammation





INCREASE IN TNF ALFA, IL-6 AND REDUCTION IN PREVOTELLA. doi.org/10.3389/fimmu.2022.988481



https://doi.org/10.1007/s13679-023-00527-y

1. **Unhealthy diet**: Access to ultra-processed foods, rich in sugars and industrial saturated fats, is very common. Fast foods and unhealthy snacks are easy to obtain and consume.

2. **Sedentary lifestyle**: Many people in developed countries lead a lifestyle that involves little physical activity, whether through office work, use of motorized transportation, or time spent in front of screens.

3. **Large portions:** Portions in restaurants and at home tend to be larger, which can lead to excessive calorie consumption.

4. **Advertising and marketing**: The promotion of unhealthy foods, especially aimed at children, can influence dietary choices and encourage unhealthy habits.

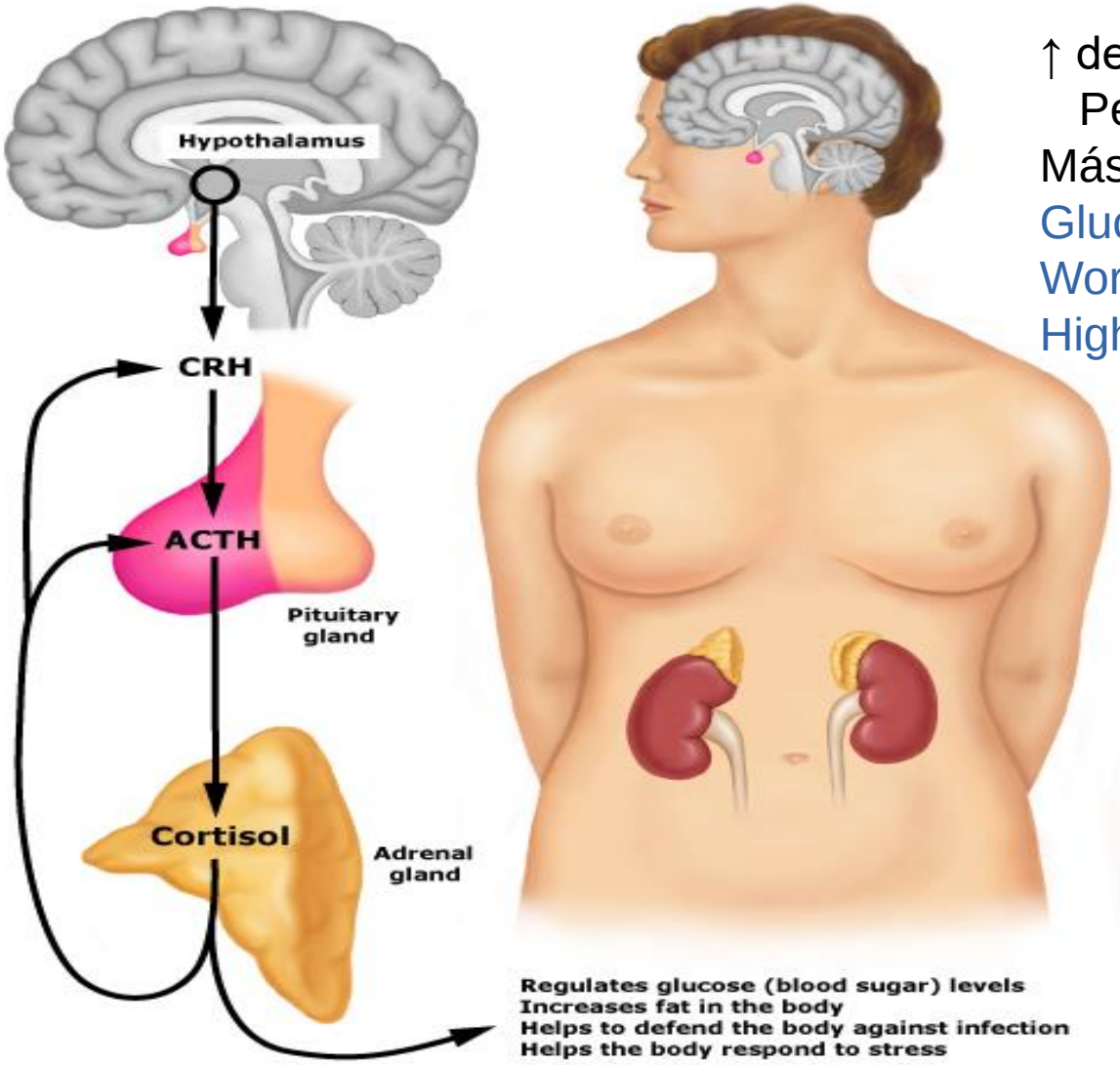
5. **Stress and mental health**: Stress and mental health problems can lead to emotional eating, where people eat in response to their emotions rather than their physical needs.

6. **Socioeconomic factors**: In some cases, low-income people may have less access to healthy foods and more access to unhealthy options, contributing to obesity.

7. **Genetics and biology:** Genetic predisposition also plays a role in obesity, as some people may have a slower metabolism or a greater tendency to store fat.

STRESS AND CORTISOL LEVELS

↑ grasa corporal/body fat



↑ demanda glucosa
Peor sueño
Más glucosa en ayunas!
Glucose demand
Worse sleep
Higher fasting glucose!

MORE CRONIC INFLAMATION!

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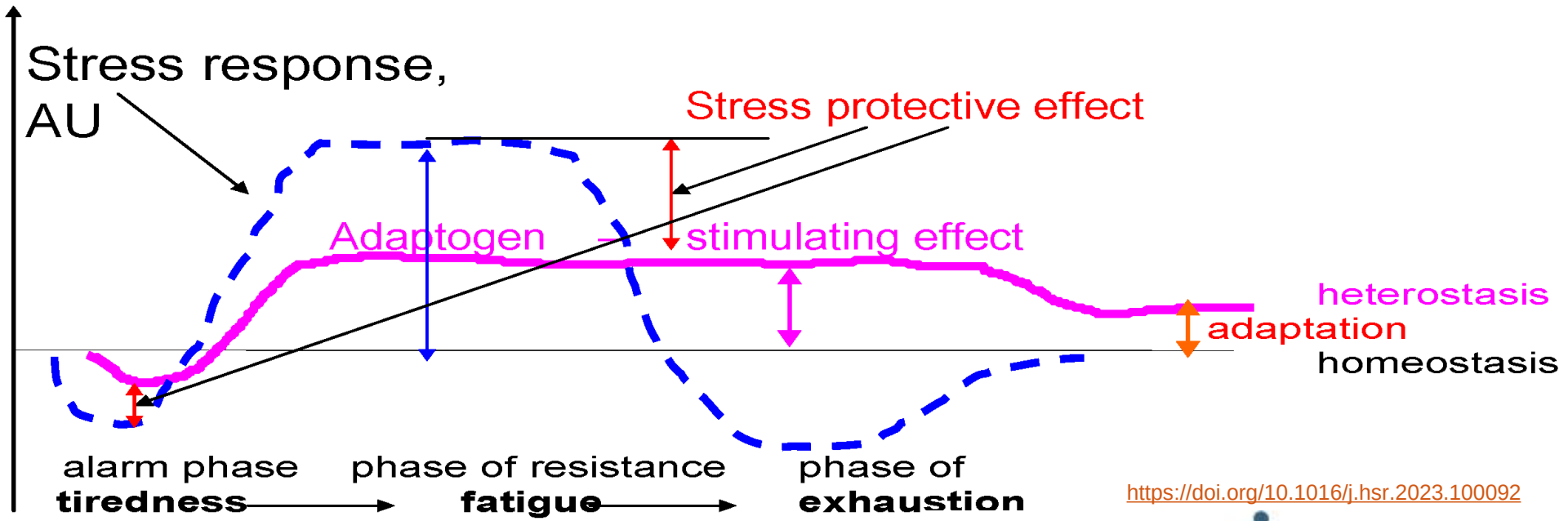
SOLUTIONS FOR STRESS

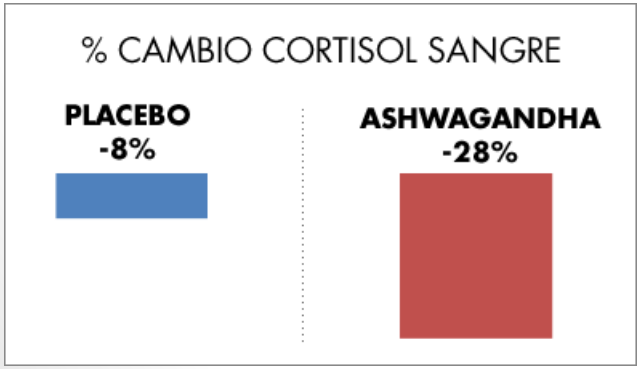
ADAPTOGENS
EXERCISE
MINDFULLNESS
MEDITATION

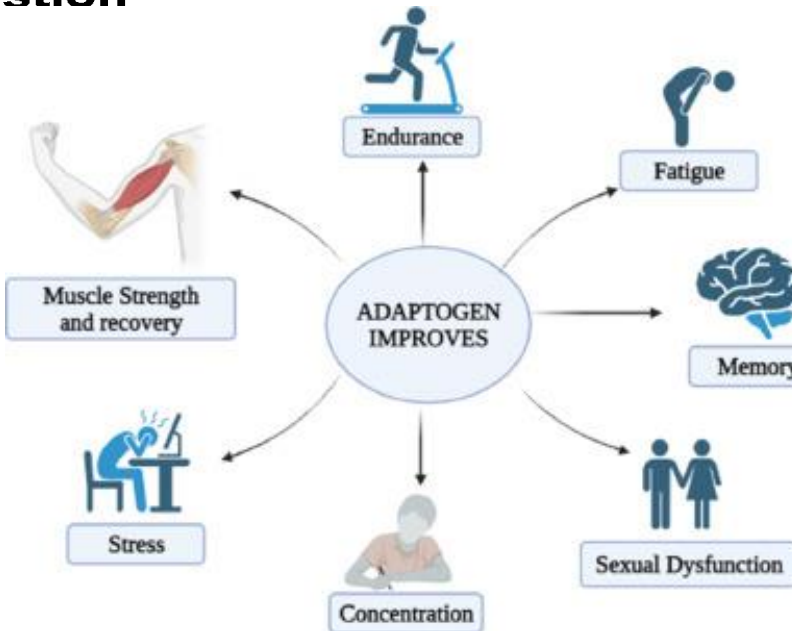
ADAPTOGENS



https://doi.org/10.1016/j.hsr.2023.100092

Pharmaceuticals 2010, 3(1), 188-224; https://doi.org/10.3390/ph3010188





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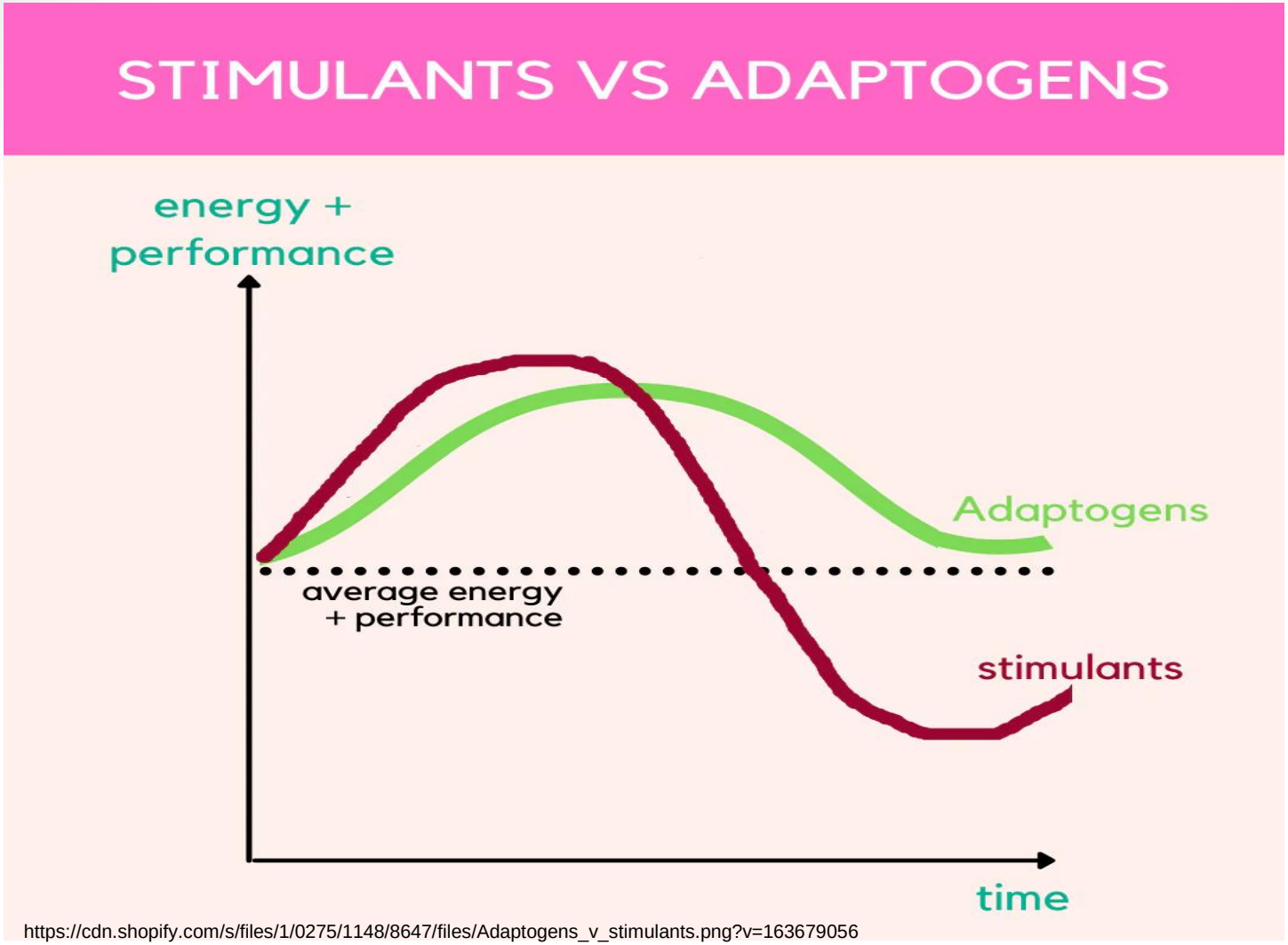

https://cdn.shopify.com/s/files/1/0275/1148/8647/files/Adaptogens_v_stimulants.png?v=1636790568

WHEN WE ARE TIRED, COFFEE IS NOT THE BEST OPTION

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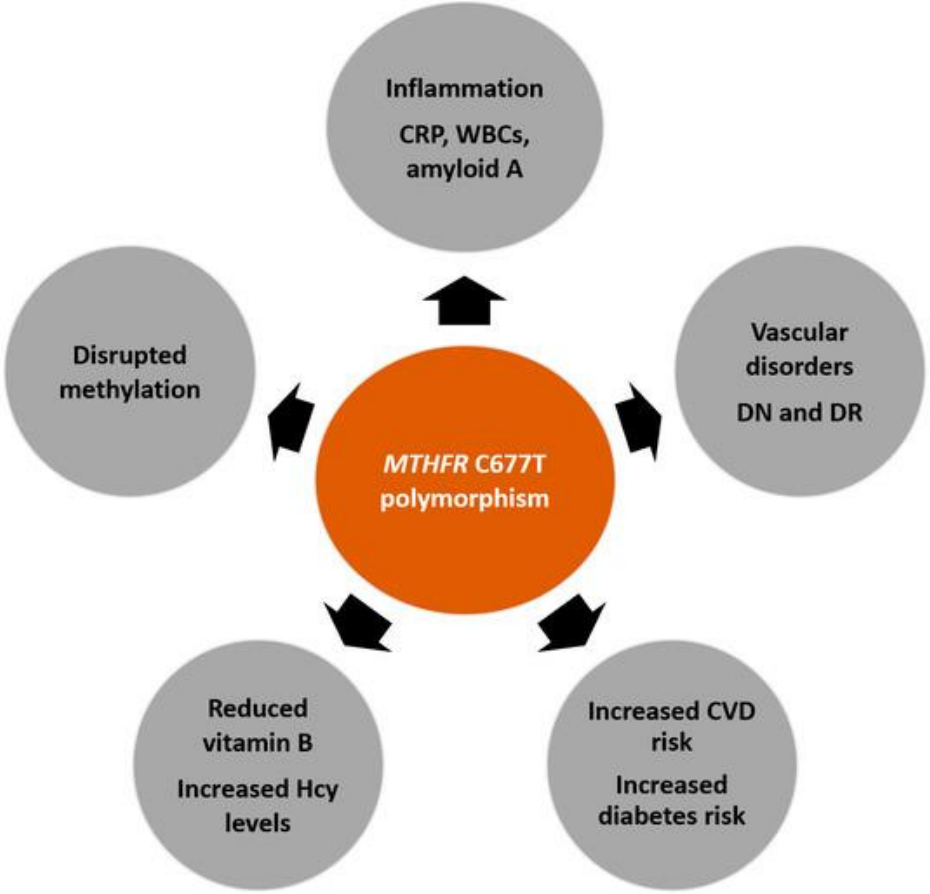
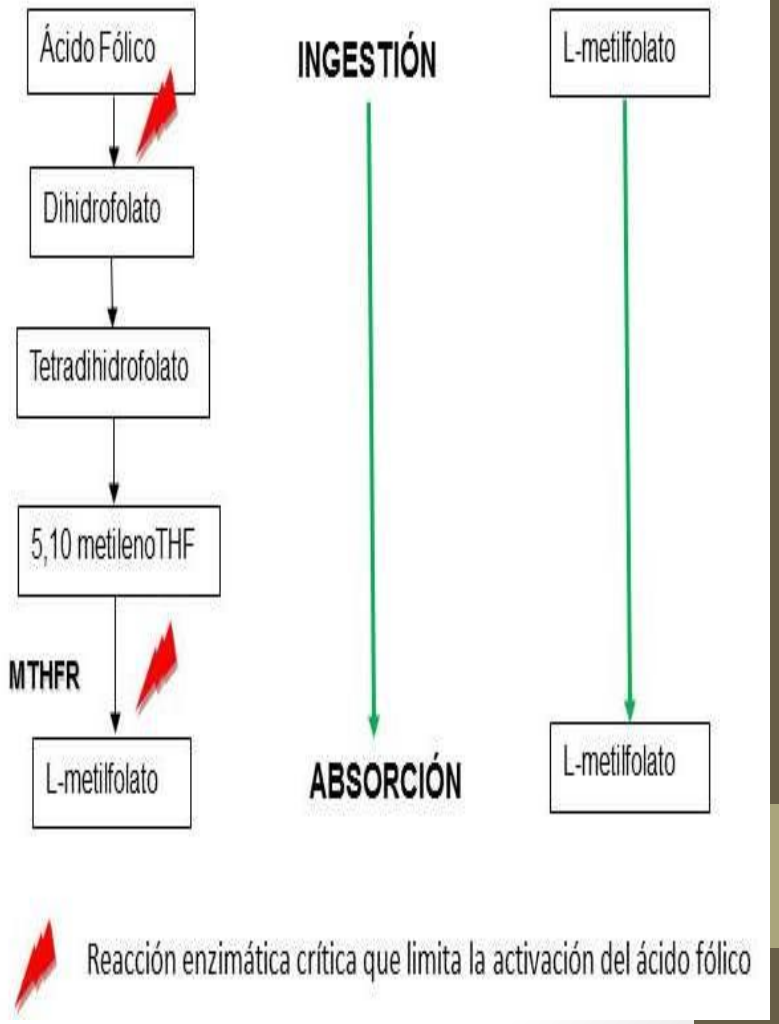
THE GENETICS OF 30% OF YOU DOESN'T HELP





Nutrients 2021, 13(12), 4562; https://doi.org/10.3390/nu13124562

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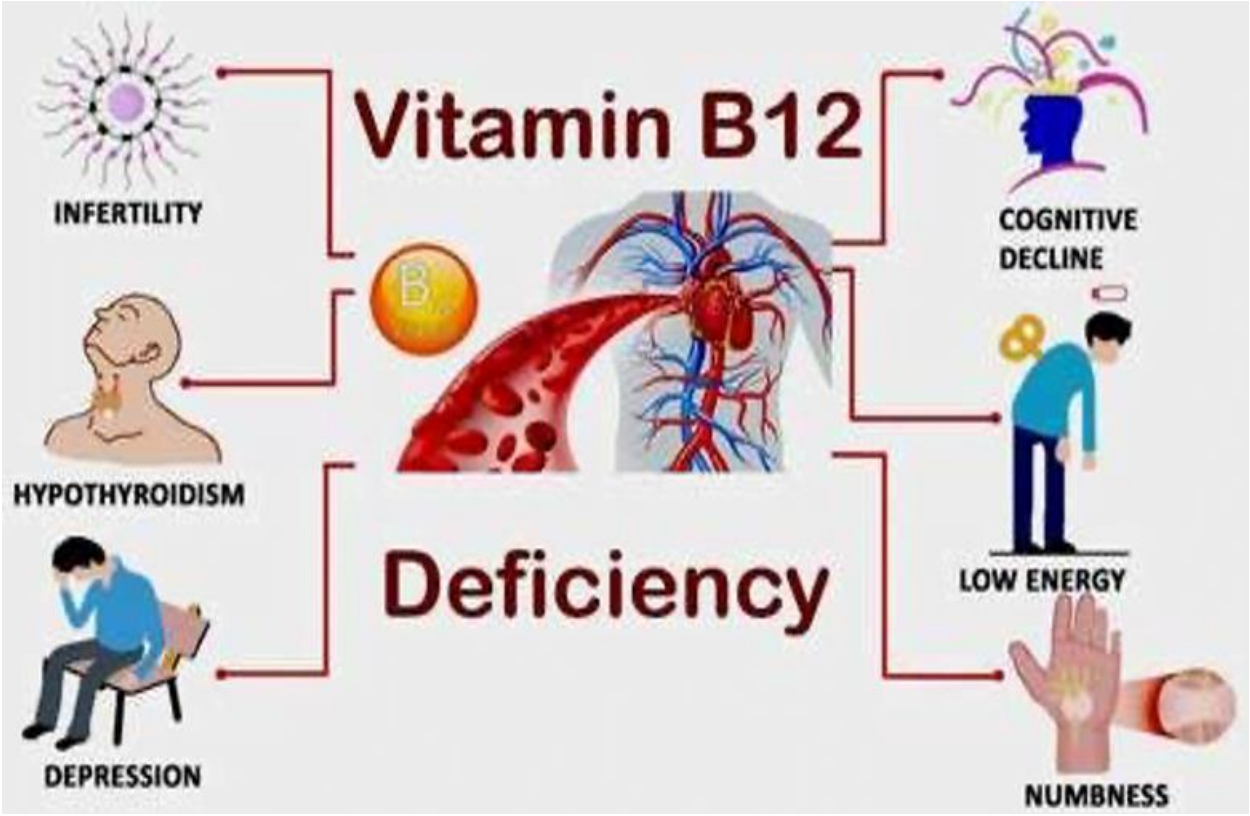


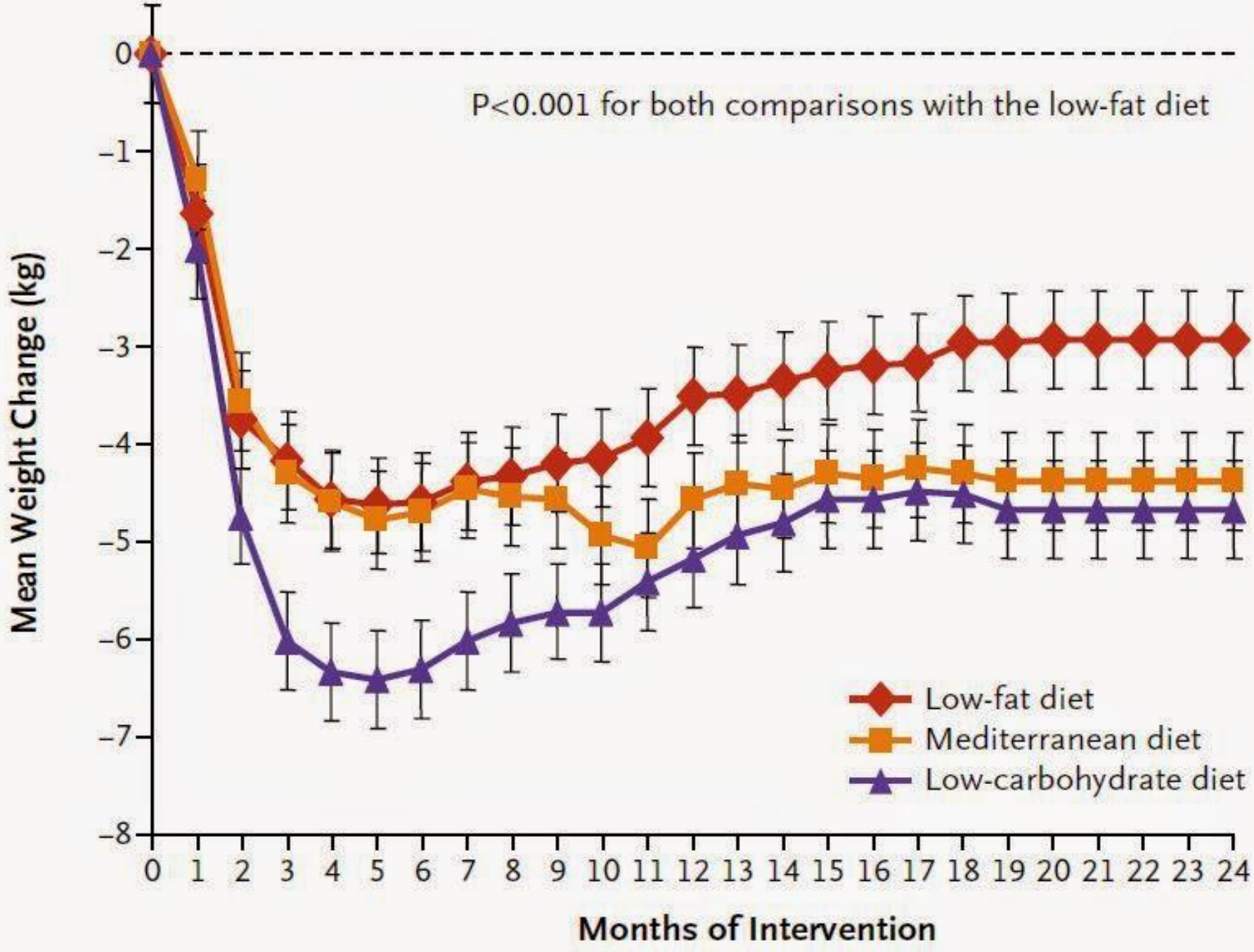
IF YOU ARE A VERY PERFECTIONIST, DEMANDING OF YOURSELF, VERY ORGANIZED, AND WITH LOW FLEXIBILITY TO UNFORESEEN CHANGES, YOU ARE A SLOW METHYLATOR OR MTFHR

Unhealthy diet: What is?

1. LOW PROTEIN DIET (less dan 1.5g/kg)
2. Too many carbohydrates!
   we are not children or athletes!
3. Too many meals (2-3 maximum)

we are not children or athletes!

4. No real food. **DON'T EAT WHAT YOUR GRANDMOTHER WOULDN'T EAT!**
5. LOW FAT DIET (Ghee, olive oil, avocado, fish oil…) GOOD FAT IS HEALTH!
6. Emotional eating. ASK YOURSELF WHY YOU EAT


P<0.001 for both comparisons with the low-fat diet
Mean Weight Change (kg)
0
−1
−2
−3
−4
−5
−6
−7
−8
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Months of Intervention
Low-fat diet
Mediterranean diet
Low-carbohydrate diet

REASONS TO NOT STOP CONSUMING GOOD FATS

- **Energy for the Body**: Fats are a concentrated source of energy, providing more calories per gram than carbohydrates or proteins.

- **Brain Health**: The brain is largely composed of fat, especially omega-3 fatty acids, which are critical for maintaining brain function, memory, and mood.

- **Vitamin Absorption**: Fats help our bodies absorb fat-soluble vitamins such as vitamins A, D, E, and K, which are essential for vision, skin, the immune system, and blood clotting.

- **Hormone Formation**: Fats are precursors to important hormones, such as sex hormones and those related to metabolism, helping to regulate many bodily functions.

- **Skin and Hair Health:** Fats help keep skin hydrated, supple, and healthy, and strengthen hair.

- **Organ Protection**: Fats act as a buffer that protects vital organs such as the heart, kidneys, and brain.

- **Body Temperature Regulation**: Fats help maintain a stable body temperature by acting as thermal insulation.

- **Appetite control:** Fats provide a feeling of satiety, helping to control hunger and prevent overeating.

- **Reduction of inflammation**: Some types of fats, such as omega-3s, have anti-inflammatory properties that benefit cardiovascular health and prevent chronic diseases.

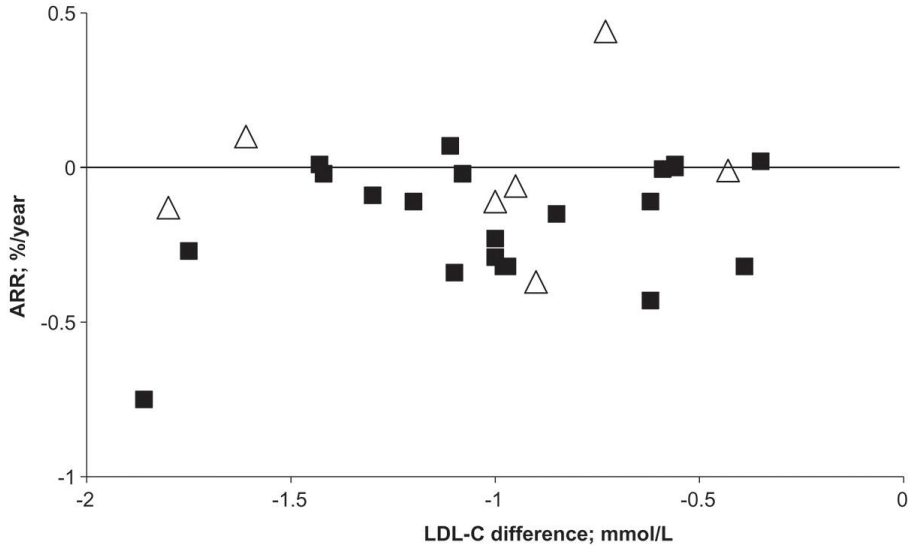
- **Cardiovascular health:** Choosing healthy fats, such as the unsaturated fats found in olive oil, avocado, and nuts, can help keep your heart healthy and reduce the risk of heart disease**.**

REASONS TO NOT STOP CONSUMING GOOD FATS

LDL-C does not cause cardiovascular disease: a comprehensive review of the current literature

Uffe Ravnskov,Michel de Lorgeril,David M Diamond,Rokuro Hama,Tomohito Hamazaki,Björn Hammarskjöld, show allPages 959-970 | Received 11 Jan 2018, Accepted 31 Aug 2018, Published online: 11 Oct 2018
Cite this article

https://doi.org/10.1080/17512433.2018.1519391



Asociación entre el grado de reducción del c-LDL y la reducción absoluta del riesgo de mortalidad por cardiopatía coronaria (%/año) en 21 ensayos con estatinas, donde se registró la mortalidad por cardiopatía coronaria e incluidos en el estudio de Silverman et al., y en **8 ensayos con estatinas ignorados**. La RAR se asocia con el grado de reducción del c-LDL en los ensayos incluidos (y = 0,16 x − 0,018), pero **se asocia inversamente en los ensayos ignorados** (y = 0,08 x + 0,062).
Cuadrados: ensayos incluidos; triángulos: ensayos ignorados.

The association between degree of LDL-C lowering and the absolute risk reduction of CHD mortality (%/year) in 21 statin trials, where CHD mortality was recorded and which were included in the study by Silverman et al. and in **8 ignored statin trials. ARR is associated with degree of LDL-C lowering in the included trials** (y = 0.16x − 0.018) **but inversely associated in the ignored trials** (y = 0.08x + 0.062).
Squares: included trials; triangles: ignored trials.

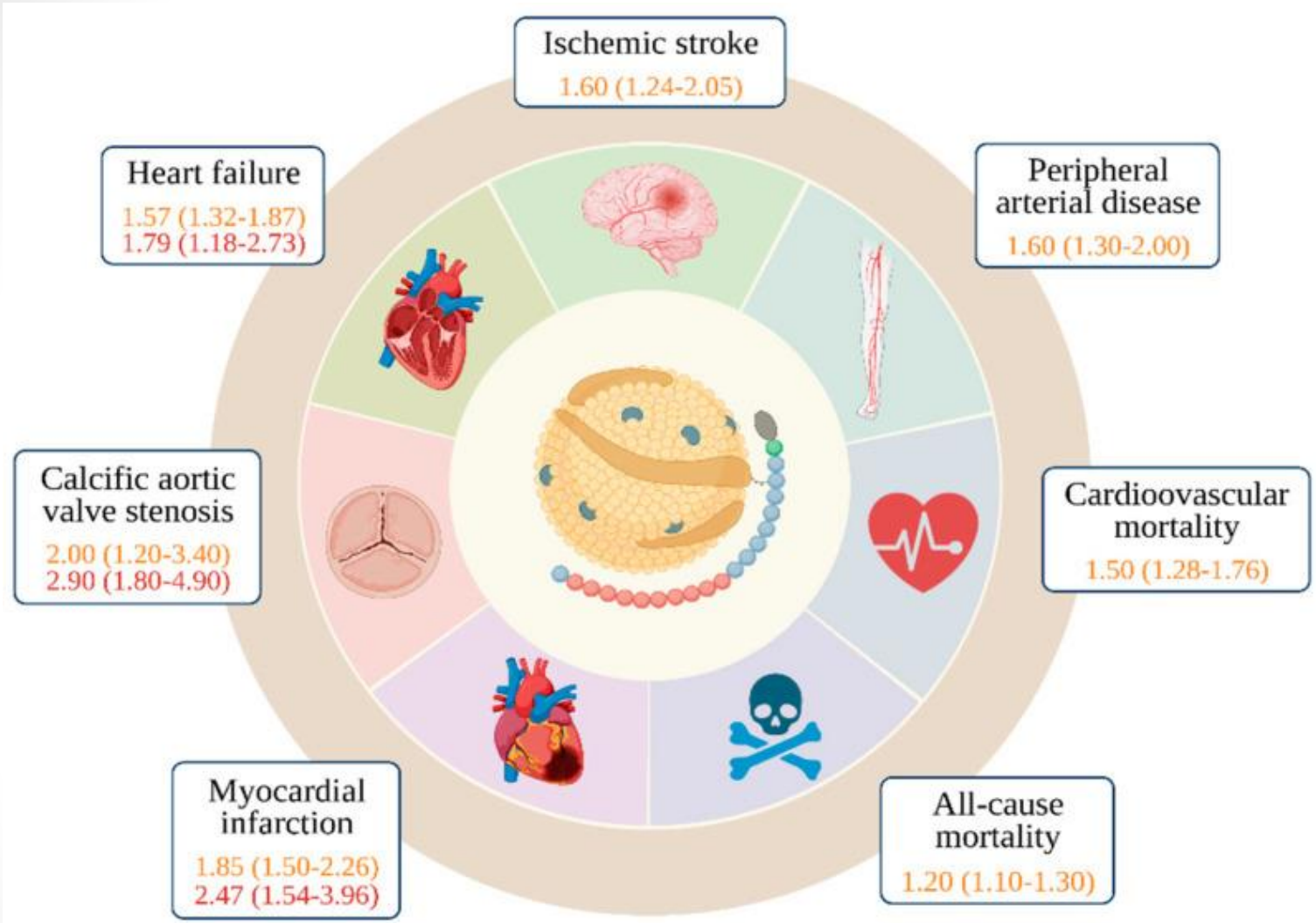
Except if you have LPA (Lipoprotein A)

Lp(a) parameter	Chinese	South East Asia	South Asia	Middle East[1]	Latin America[1]	Europe	North America				Oceania	Africa
							AA	NHW	MA	Overall		
Lp(a) >50 mg/dL, %	3	7	9	12	14	14	NA	NA	NA	14.70	20	27
Median Lp(a) (IQR), mg/dL												
Min.	7.8 (38.0)	10.20 (51.6)	13.80 (59.4)	15.30 (64.8)	11.50 (75.2)	7.02 (NA)	33.00 (NA)	9.00 (NA)	6.00 (NA)	6.00 (NA)	8.40 (NA)	15.20 (101.4)
Max	16.90 (NA)	13.00 (21.0)	19.90 (28.0)			12.50 (NA)	53.10 (55.4)	17.10 (26.6)	19.00 (35)	53.10 (55.4)		38.20 (NA)

Reduction of elevated Lp(a) levels has the potential to reduce the risk of atherosclerotic CVD (ASCVD)

- In the 2022 EAS consensus statement, is to use thresholds above which (>125 nmol/L or >50 mg/dL) or below which (<75 nmol/L or <30 mg/dL) CV risk is ruled in or out. https://doi.org/10.1093/eurjpc/zwae032
- Europe 20% 148 million people
- North America 20% 73 million people
- women had 12 % higher Lp(a) concentrations compared to men.
- Lp(a) may represent a link between cholesterol transport and the fibrinolytic system, with a role in the modulation of blood clotting and the fibrinolytic process.
- An elevated Lp(a) level is a strong, causal, and independent risk factor for CVD through multiple pathogenetic mechanisms: proatherogenic, prothrombotic, and proinflammatory .

Int J Environ Res Public Health. 2023 Sep 6;20(18):6721. doi: 10.3390/ijerph20186721


Ischemic stroke
1.60 (1.24-2.05)
Heart failure
1.57 (1.32-1.87)
1.79 (1.18-2.73)
Peripheral arterial disease
1.60 (1.30-2.00)
Calcific aortic valve stenosis
2.00 (1.20-3.40)
2.90 (1.80-4.90)
Cardioovascular mortality
1.50 (1.28-1.76)
Myocardial infarction
1.85 (1.50-2.26)
2.47 (1.54-3.96)
All-cause mortality
1.20 (1.10-1.30)

Pharmacological Treatment

- “ In a recent study of 3,896 patients treated with various **statins** (including atorvastatin, pravastatin, rosuvastatin, pitavastatin, and simvastatin/ezetimibe), the mean levels of Lp(a) increased by 11% and OxPL-apoB increased by 24%. Another meta-analysis, involving 5256 patients, found that statins significantly **increased plasma Lp(a) levels**”

- PCSK9 inhibitors are human monoclonal antibodies and Mipomersen, a second-generation antisense oligonucleotide (ASO) its therapeutic use is limited due to the serious side effects that it can cause, such as site of injection reactions, hepatic steatosis, and hypertransaminasemia.

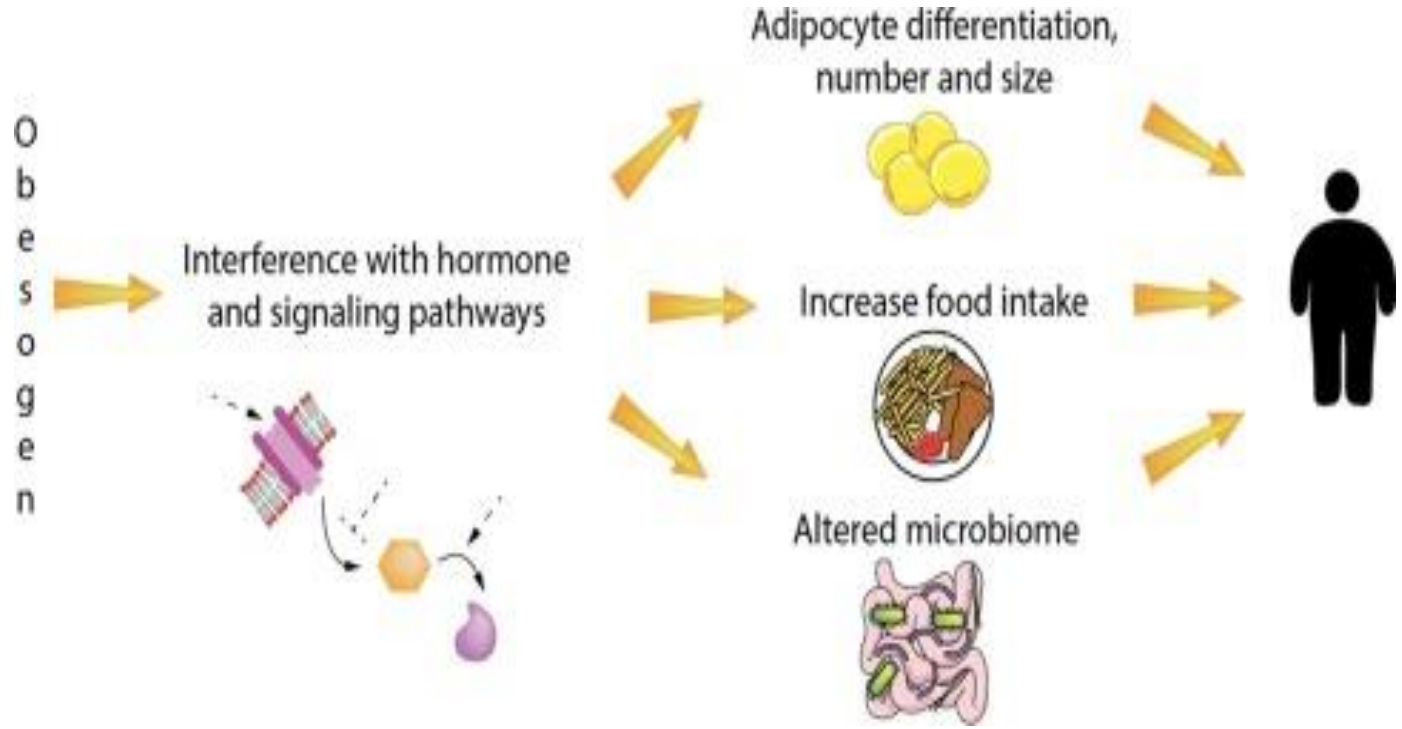
- **Niacin** lowers Lp(a) by 20%. However, cases have been described in the literature with a 60–80% reduction in Lp(a) levels with niacin alone, depending on the Lp(a) isoform. The following case presents a patient with a 68% reduction in Lp(a) levels with niacin. JACC. 2023 Mar, 81 (8_Supplement) 3313 report.

With very weak evidence, our clinical observation concludes decreases of 30-60% in LpA with:

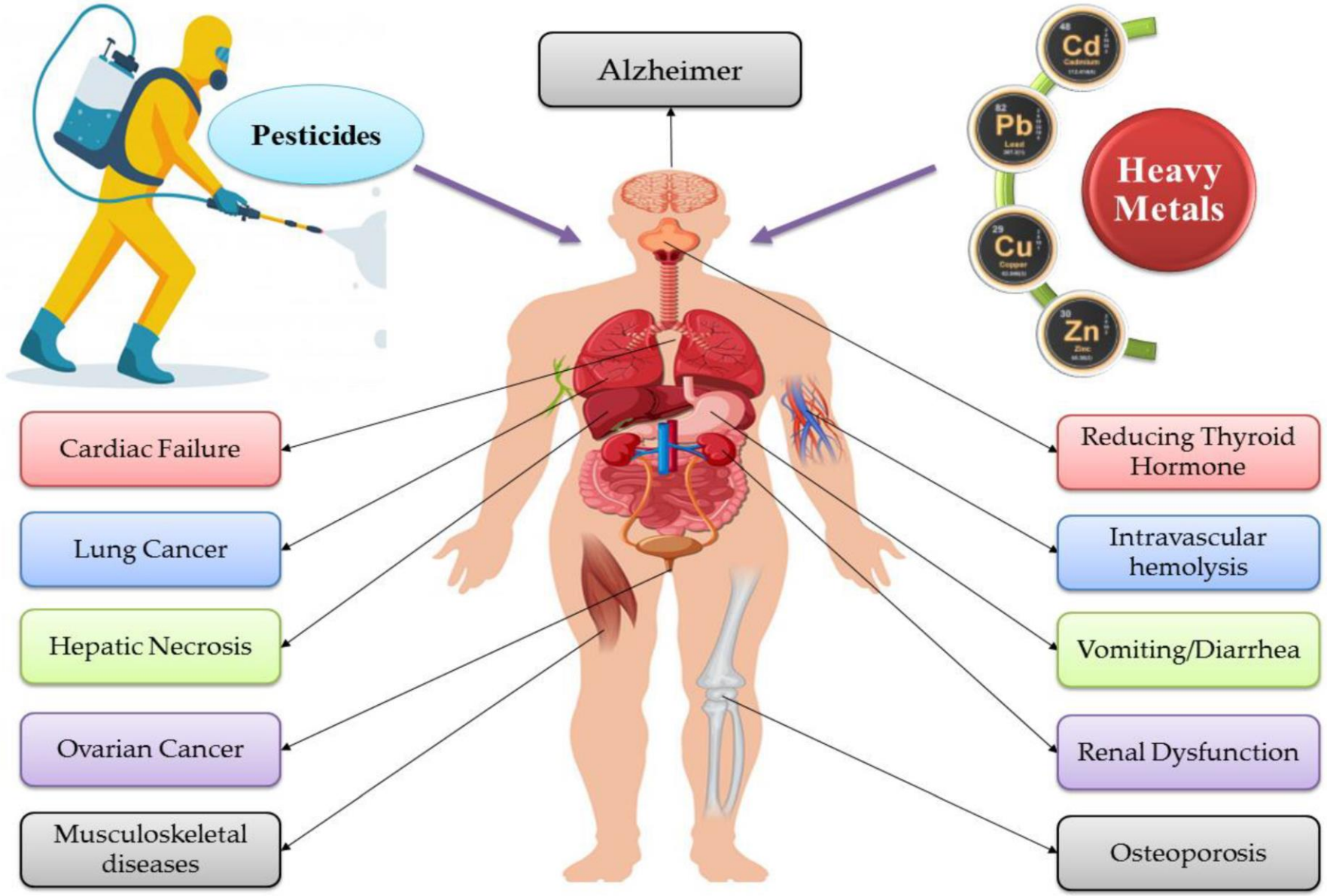
- Niacin no rush 500-1000mg/day 1-3 months.
- Lisine 800mg, proline 800mg and ascorbic acid 100-150mg./day
- Amla (Ayurvedic plant)
- Stress control with adaptogens
- Q10 coenzim 100-300mg/day
- Curcumin 1000mg/day
- Regulated Insomnia
- Habitual intermediated intensity physical activity was associated with lower Lp(a) plasma levels

J. Clin. Med. 2024, 13(3), 751; https://doi.org/10.3390/jcm13030751Submission received: 29 December 2023 / Revised: 20 January 2024 / Accepted: 26 January 2024 / Published: 28 January 2024

- The invisible enemy. Toxics cause obesity and hormonal problems.



Obesity II: Establishing causal links between chemical exposures and obesity.
https://doi.org/10.1016/j.bcp.2022.115015



https://doi.org/10.3390/toxics9030042

Heavy Metals and Pesticides Effect on Human Health

The PROBLEMS with PFAS

HOW DOES IT GET INTO OUR BODIES?

Cooking with nonstick pans

Products containing PFAS

PFAS-contaminated food and water

PFAS in air and dust

PFAS

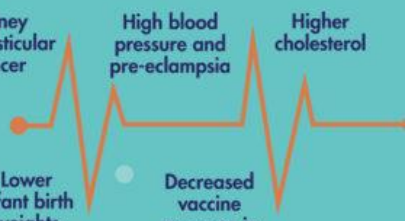
- Short for **per- and polyfluoroalkyl substances,** chemicals used in products such as non-stick cookware, food packaging, water-resistant clothing, and stain-resistant carpeting
- Also called **'forever chemicals,'** they can take up to 1,000 years to break down in nature

HEALTH PROBLEMS LINKED TO PFAS

Kidney and testicular cancer

High blood pressure and pre-eclampsia

Higher cholesterol



Lower infant birth weights

Decreased vaccine response in children

WHAT CAN WE DO?

INDIVIDUALS – **avoid products with PFAS** and ask policymakers to limit or ban its use

HEALTH PROFESSIONALS – **advise patients on how to avoid PFAS** and support limits on its use

BUSINESSES – **phase out use of PFAS** and avoid non-essential uses

POLICYMAKERS – **limit or ban PFAS**

UCSF Office of Sustainability, Campus Life Services

UCSF Program on Reproductive Health and the Environment

HEAL Health and Environment Alliance

FIGO International Federation of Gynecology and Obstetrics

. 2024 Jun 15;251(Pt 2):118535. doi: 10.1016/j.envres.2024.118535. Epub 2024 Mar 7.

The potential impact of nano- and microplastics on human health: Understanding human health risks

9 MILLIONS DE NANOPARTICULES
PER AMPOLLA!
9 MILLION NANOPARTICLES
FOR BOLLES!

Science of The Total Environment:
According to an exhaustive analysis, a RATLLADA in a frying pan Non-stick could release 9,100 plastic particles!

According to an exhaustive analysis, a SCRATCH in one frying pan Non-stick could release 9,100 plastic particles!

MARC VERGÉS

1500 NANOPARTÍCULES PER AMPOLLA

1500 NANOPARTICLES PER BOTTLE

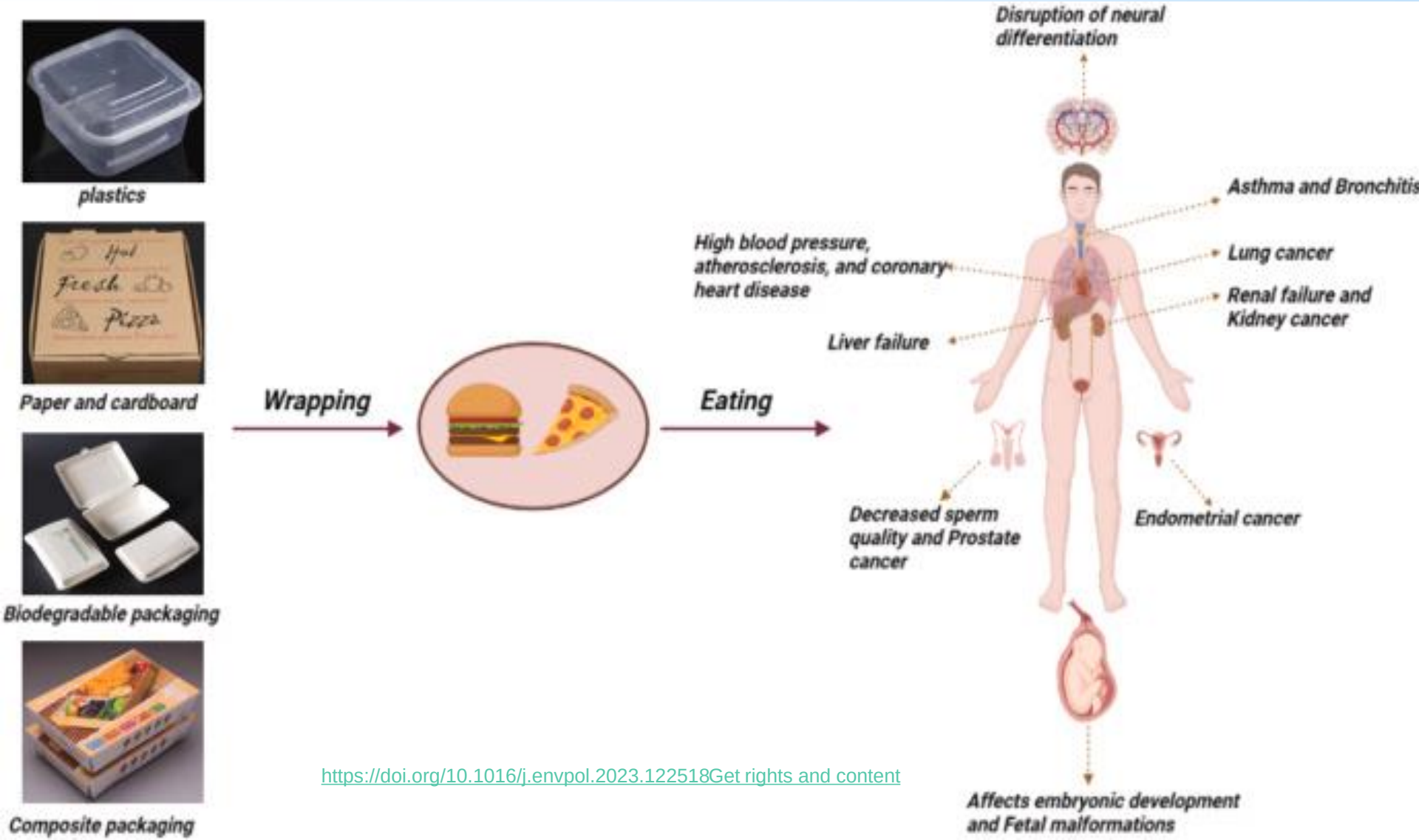
https://phenomenex.blog/2021/10/06/pfas-in-food-2/

La presencia de PFAS en el revestiment de cafès Per emportar "ecológiques"

The presence of PFAS in the coating of coffees "Eco-friendly" takeaway .

MARC VERGÉS

It's estimated that microwaving food in plastic containers for 3 minutes could release as much as 4 billion nanoplastic particles from one square centimetre of plastic.



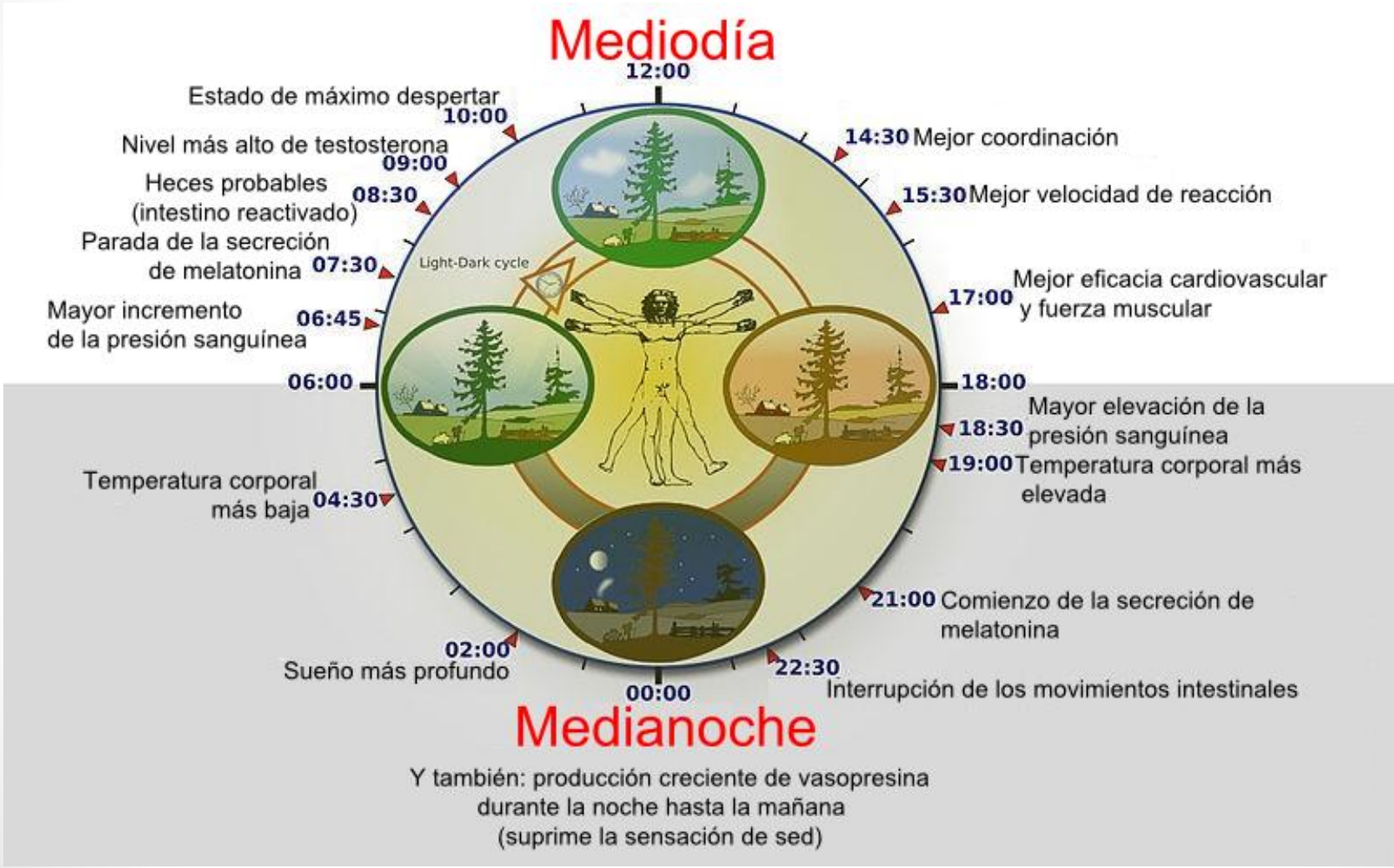
https://doi.org/10.1016/j.envpol.2023.122518Get rights and content

WE CAN REDUCE HOMO “INTOXICUS”

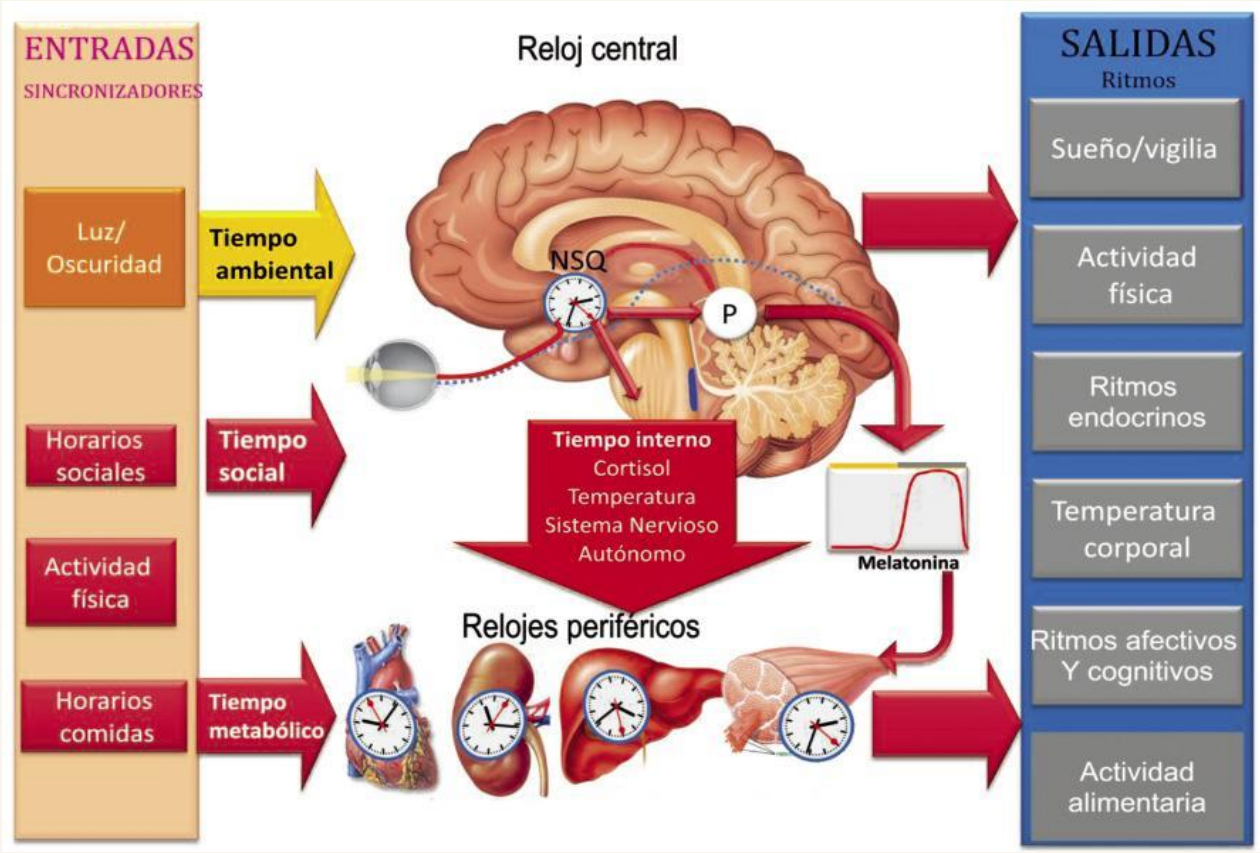
- ALWAYS CHOOSE FOODS WITH GLASS COVERS
- COOK WITH STEEL OR CAST IRON PANS
- CHOOSE ORGANIC FOODS
- AVOID COSMETICS THAT CANNOT BE EDIBLE
- AVOID SYNTHETIC CLOTHING
- AVOID EATING LARGE OILFISH
- ENCOURAGE MORE RESPECTFUL USES FOR HOUSEKEEPING

MARC VERGÉS

CICLES CIRCADIANS I RELLOTGE BIOLÒGIC ANTIINFLAMATORI

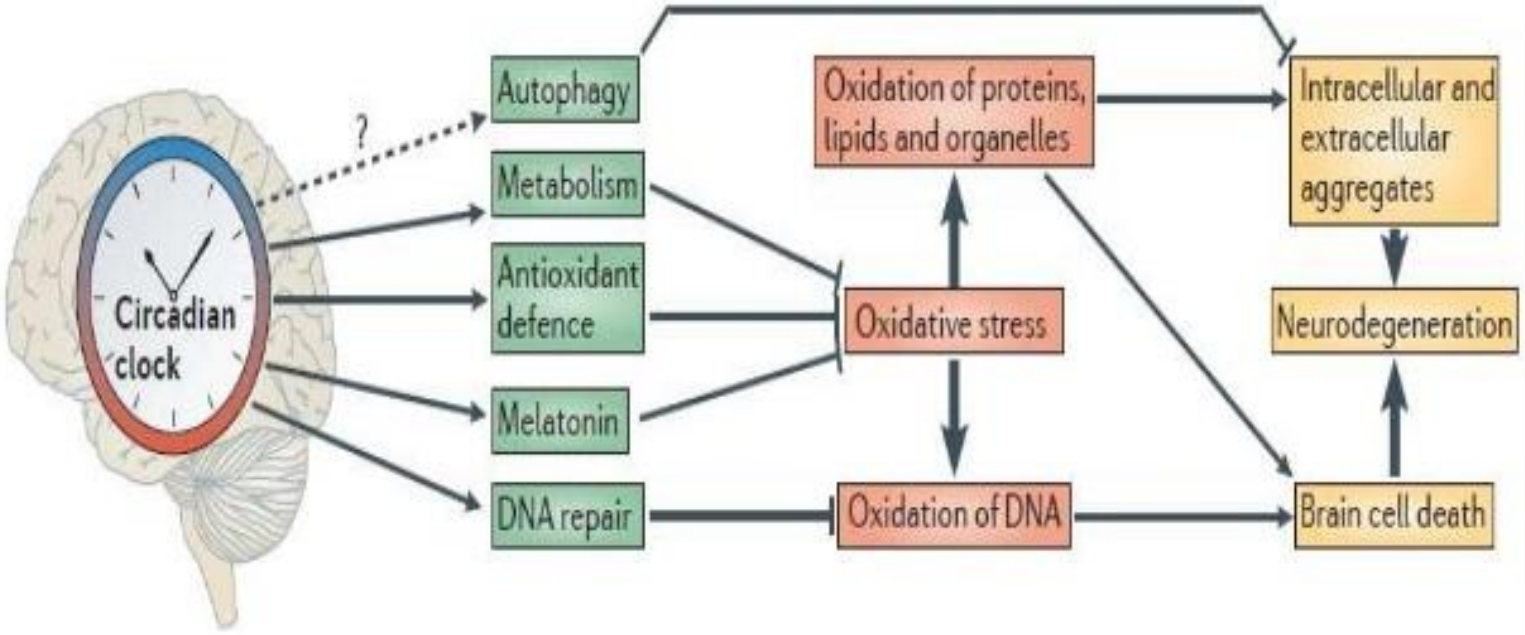


https://upload.wikimedia.org/wikipedia/commons/3/35/Biological_clock_humanNycth%C3%A9m%C3%A9ralVersion_Espa%C3%B1ol.png



Organización funcional del sistema circadiano estructurado en tres partes: **relojes, entradas sincronizadoras y ritmos de salida**. La actividad del reloj hipotalámico (núcleos supraquiasmáticos, NSQ) envía señales físicas, hormonales (melatonina y cortisol) y nerviosas al resto del organismo, facilitando la coordinación de las actividades de los relojes periféricos. Los desajustes diarios de los relojes, con respecto al ciclo natural de 24 horas, son corregidos por las señales sincronizadoras externas, principalmente por: la alternancia luz-oscuridad, los horarios de trabajo, la actividad física y los horarios de comidas. De la interacción de estos relojes y sus sincronizadores, surgen las salidas del sistema: los diferentes ritmos circadianos.*Tomado de Cronobiología: una guía para descubrir tu reloj biológico. Madrid JA. Plataforma Editorial. 2022.*

Circadian clock-dependent regulation of neurodegeneration:



-- Nature Reviews Neuroscience 2012 (13), 325

FOOD TIMING, CIRCADIAN RHYTHM AND CHRONONUTRITION

A systematic review of time-restricted eating's effects on human health

ADAFER Réda *, MESSAADI Wassil , MEDDAHI Mériem, PATEY Alexia , HADERBACHE Abdelmalik , BAYEN Sabine , and MESSAADI Nassir , Lille University, Lille, France.

Background

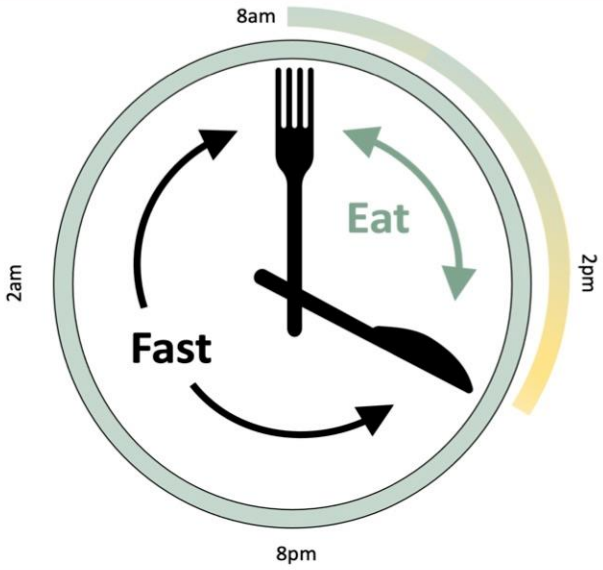
- Growing evidence suggests that the extention of daily food period is source of metabolic disorders.
- Reducing the daily feeding window may represent a strategy to improve health markers.

Main results

- 23 out of 494 eligibles articles have been included
- TRE is a well-tolerated intervention that induces a 20% unintentional calorie restriction.
- TRE generates beneficial metabolic effects independently of calorie restriction and weight loss.
- These effects may result from the realignement of food intake and circadian clock.

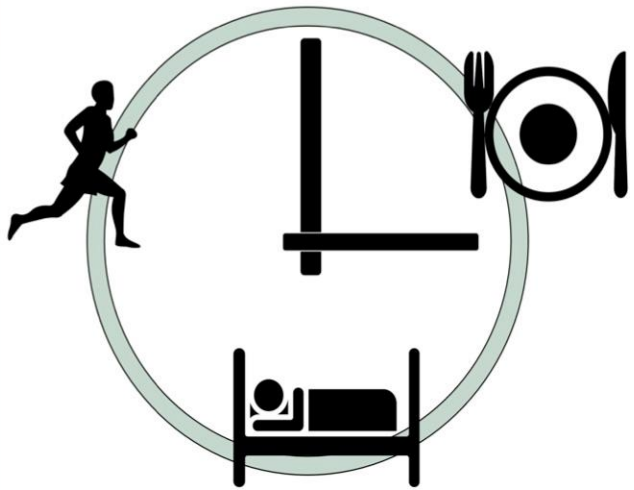
Systematic Review on TRE

Time-restricted eating (TRE) diets include eating patterns in which daily food consumption is restricted to a window of 8-12h or less (Representation of TRE 8/16).



Discussion and perspectives

Not only food timing, but also the timing of other health behaviors (sleep cycle, physical activity) through circadian clock can influence health markers.



what happens if you eat all your calories in an initial time-restricted eating window:13

Your ghrelin levels will drop significantly. This means you will be less hungry.
Leptin levels increase slightly. This means you'll feel a little fuller.
And your circadian rhythm of these levels, in anticipation of your food intake, will adjust to your new eating times.

Intermittent fasting OPTIONS

- 12h fast/12h intake
- 14h fasting/10h intake
- 16h fasting/8h intake
- Fasting for 24 hours (eat stop eat) twice a week
- Fasting of the hunter (skipping meals)

High detox activity in semi-fasting and potentiates the migratory motor complex.

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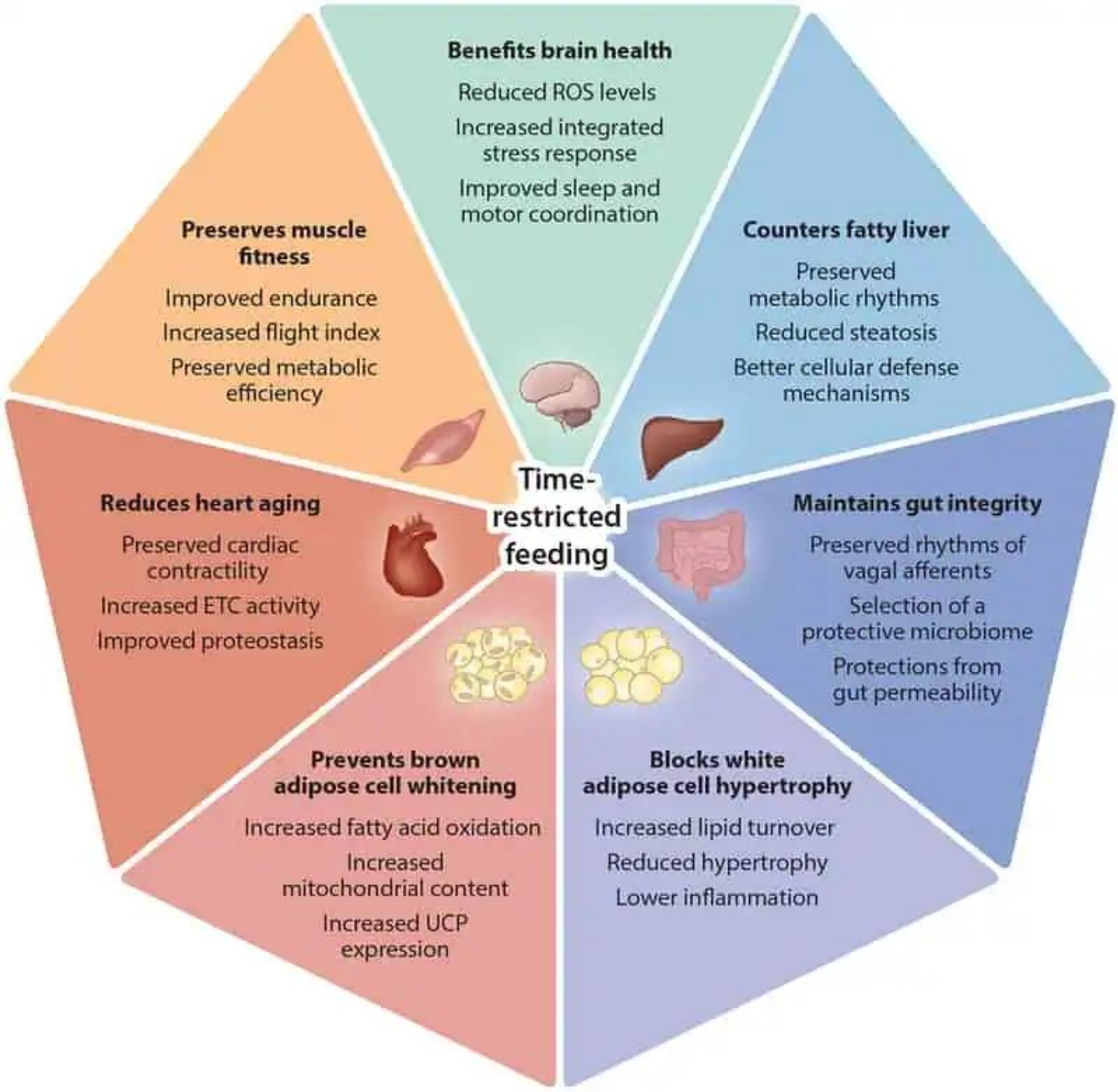
“Time-Restricted Eating to Prevent and Manage Chronic Metabolic Diseases,” Chaix et al. (2019)



Intermittent fasting benefits:

- It increases SIRT3, the protein of youth (1) and reduces mortality (2).
- It favors autophagy (3), another of our anti-aging systems (4). Also in the brain (5).
- Reduces indicators of inflammation (6).
- It reduces triglycerides and improves the lipid profile (7).
- Improves neural plasticity (8).
- It limits the growth of cancer cells (9) and makes chemotherapy more tolerable (10).
- Promotes weight loss by retaining muscle mass.

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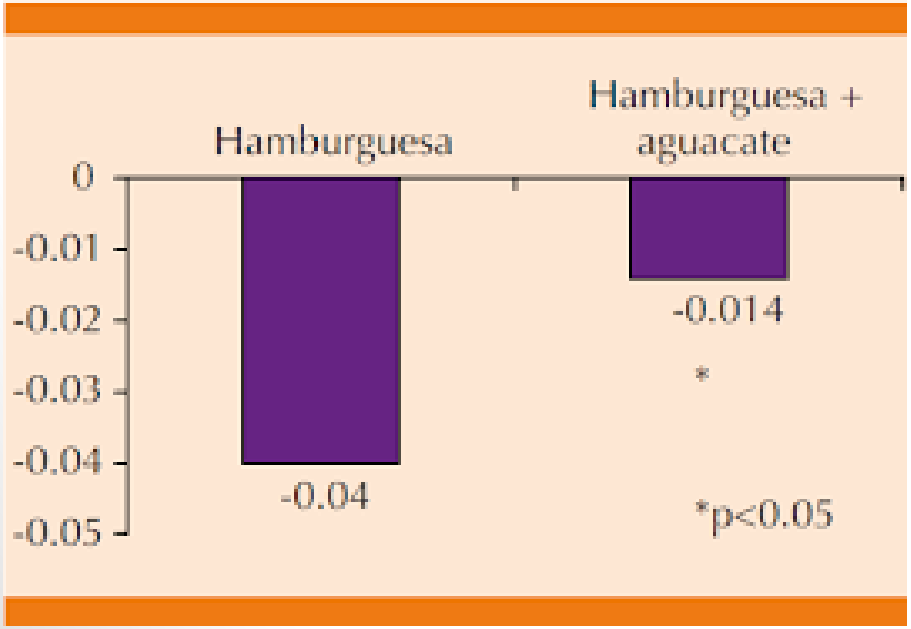
COMMON ERRORS

COMBINATIONS DO MATTER



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2.1. Conceptos básicos nutricionales

COMER PRIMERO PROTEÍNAS...(y/o Verduras)

Table 1—Glucose and insulin levels/iAUC for various time points/intervals during the two visits

	Time (min)	Carbohydrates first	Carbohydrates last	P^c	Change (%)
Blood glucose (mg/dL)[a]	0	106.7 ± 5.3	107.3 ± 6.3	0.752	0.5
	30	156.8 ± 8.2	112.0 ± 5.8	0.001	−28.6
	60	199.4 ± 12.2	125.6 ± 6.9	0.001	−37.0
	120	169.2 ± 13.8	140.8 ± 7.7	0.030	−16.8
Serum insulin (μIU/mL)[a]	0	18.8 ± 2.4	16.3 ± 1.4	0.154	−13.6
	30	62.4 ± 8.6	42.9 ± 9.7	0.083	−31.2
	60	125.4 ± 20.1	63.2 ± 11.0	0.002	−49.6
	120	152.0 ± 31.7	90.9 ± 16.6	0.014	−40.2
Glucose iAUC (mg/dL × min)[b]	0–30	751.4 ± 71.0	90.0 ± 26.8	0.001	−88.0
	0–60	3,396.8 ± 606.9	444.2 ± 103.8	0.001	−86.9
	0–120	7,545.0 ± 804.4	2,001.5 ± 376.9	0.001	−73.5
Insulin iAUC (μIU/mL × min)[b]	0–30	657.5 ± 131.8	399.5 ± 132.6	0.102	−39.2
	0–60	2,908.5 ± 432.0	1,510.5 ± 407.4	0.002	−48.1
	0–120	10,097.9 ± 1,646.9	5,202.8 ± 1,061.6	0.002	−48.5

Data are means ± SEM, $n = 11$. [a]Blood samples were collected immediately before the meal ($t = 0$ min) and at 30, 60, and 120 min after the start of the meal. [b]Intervals were measured in minutes from the start of the meal. [c]*P* values were calculated using the Wilcoxon matched-pairs signed rank test.

as such, had full access to all the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Prior Presentation. The glucose data were presented as a late-breaking abstract at the Obesity Society 2014 Annual Scientific Meeting ObesityWeek, Boston, MA, 2–7 November 2014.

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REDUCCIÓN GLICÉMICA DE 30-70%

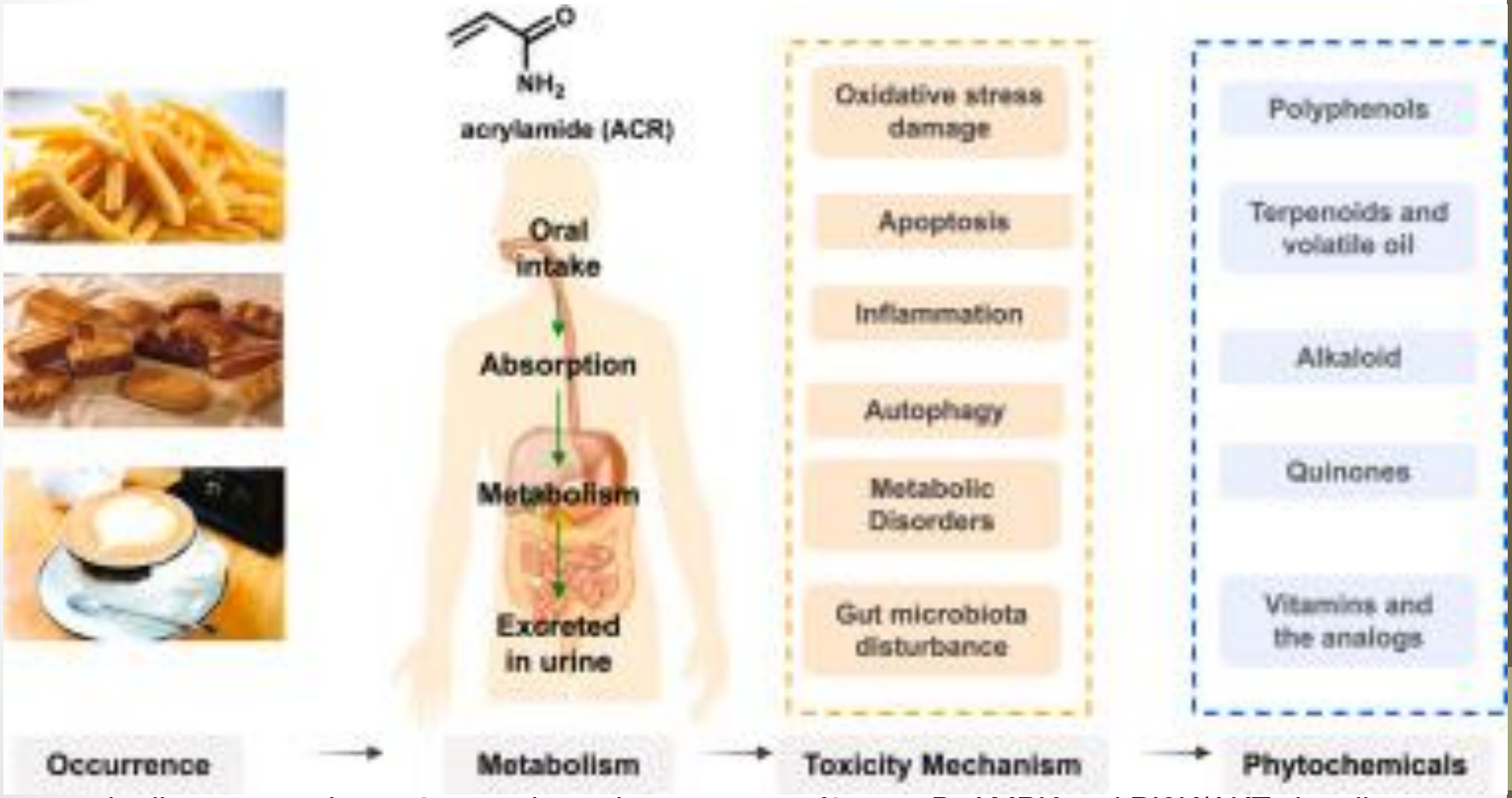
Main health benefits of polyphenols related to chronic diseases.

https://doi.org/10.3390/molecules26102959

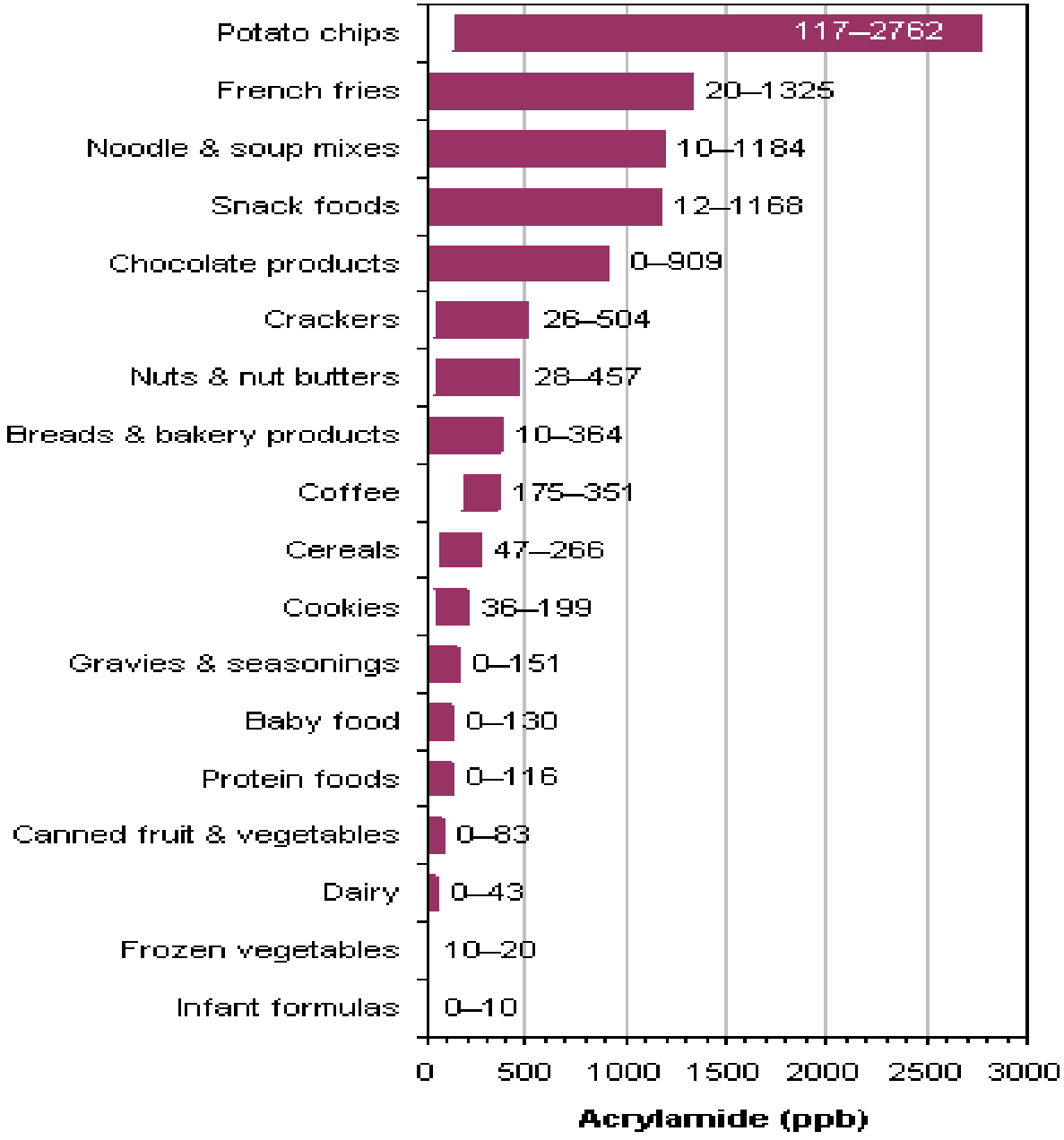
OVERROASTING AND ACRYLAMIDES

Acrylamide in food: Occurrence, metabolism, molecular toxicity mechanism and detoxification by phytochemicals.

https://doi.org/10.1016/j.fct.2023.113696



From the literature review, ACR regulates the MAPKs, Nrf2, NF-κB, AMPK and PI3K/AKT signaling pathways to cause cell or tissue damage, including but not limited to oxidative stress, inflammation, apoptosis and energy metabolism disorders, thus resulting in various toxicities.


Potato chips
117–2762
French fries
20–1325
Noodle & soup mixes
10–1184
Snack foods
12–1168
Chocolate products
0–909
Crackers
26–504
Nuts & nut butters
28–457
Breads & bakery products
10–364
Coffee
175–351
Cereals
47–266
Cookies
36–199
Gravies & seasonings
0–151
Baby food
0–130
Protein foods
0–116
Canned fruit & vegetables
0–83
Dairy
0–43
Frozen vegetables
10–20
Infant formulas
0–10
0
500
1000
1500
2000
2500
3000
Acrylamide (ppb)

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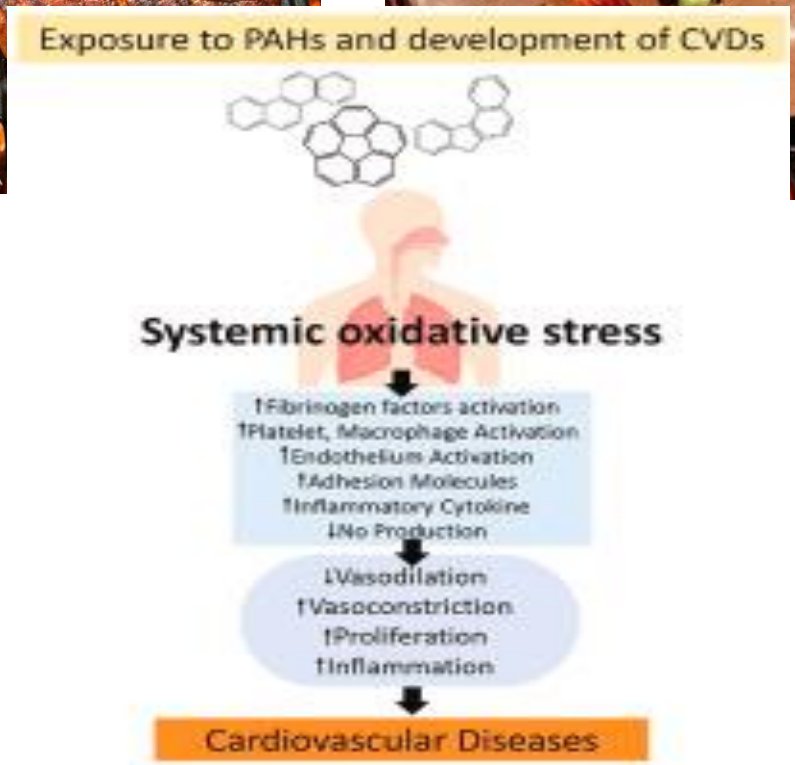
Resistant starch intake facilitates weight loss in humans by reshaping the gut microbiota

Huating Li ✉, Lei Zhang, Jun Li, Qian Wu, Lingling Qian, Junsheng He, Yueqiong Ni, Petia Kovatcheva-Datchary, Rui Yuan, Shuangbo Liu, Li Shen, Mingliang Zhang, Bin Sheng, Ping Li, Kang Kang, Liang Wu, Qichen Fang, Xiaoxue Long, Xiaolin Wang, Yanli Li, Yaorui Ye, Jianping Ye, Yuqian Bao, Yueliang Zhao, ... Weiping Jia ✉ + Show authors

Estudio doble-ciego en 22 hombres y 15 mujeres durante 8 semanas lograron la pérdida de peso (media de −2,8 kg) y mejoraron la resistencia a la insulina en personas con exceso de peso corporal incluso con dieta alta en grasas.

Heterocyclic amines (AHC) and polycyclic aromatic hydrocarbons (PAH).



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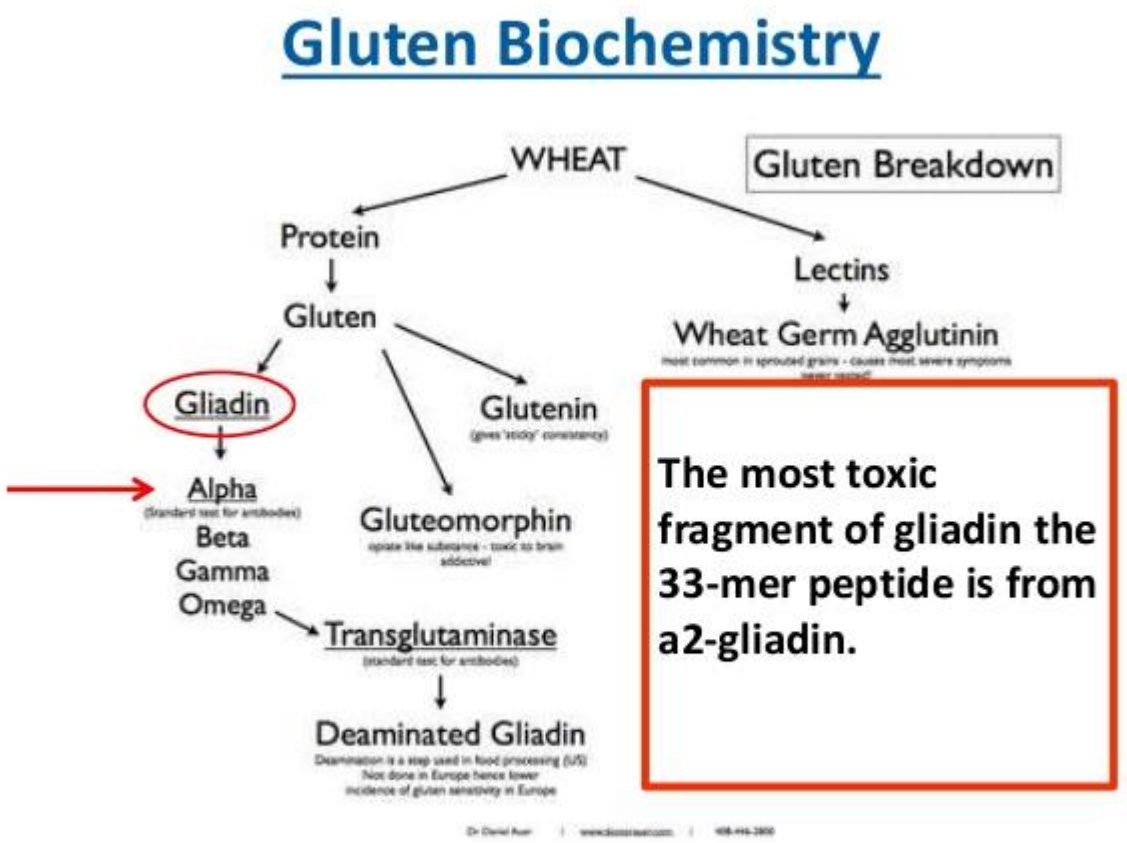
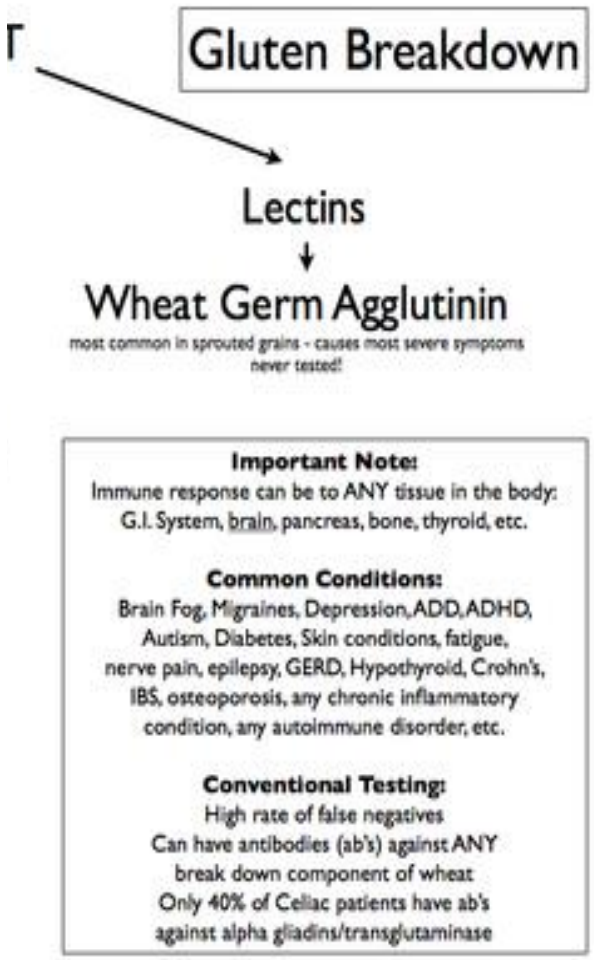
https://doi.org/10.1016/j.chemosphere.2022.133948https://doi.org/10.1016/j.chemosphere.2022.133948

WGA (gluteninas del trigo)





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LECTINS AND HEALTH

1- **inflammation, at intestinal level, and organs of the body**. (http://www.ncbi.nlm.nih.gov/pubmed/19332085)

2- **Neurotoxicity,** due to the gliadin fragments that damage the blood-brain barrier)

(http://www.ncbi.nlm.nih.gov/pubmed/2448779)

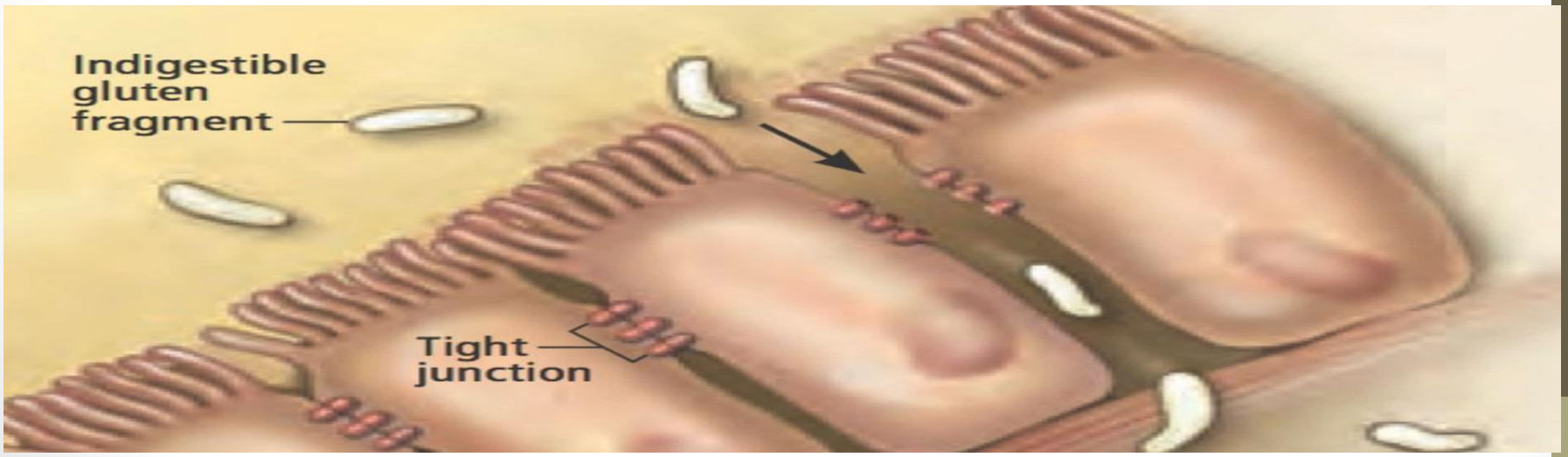
3- **Imbalances of the immune system**, producing immune stress. (http://www.ncbi.nlm.nih.gov/pubmed/8955334)

4- **Cellular toxicity that can alter apoptosis**. (http://www.ncbi.nlm.nih.gov/pubmed/15048871)

5- **It alters the endothelial repair of blood vessels and the hear**t. (http://www.ncbi.nlm.nih.gov/pubmed/11669637).

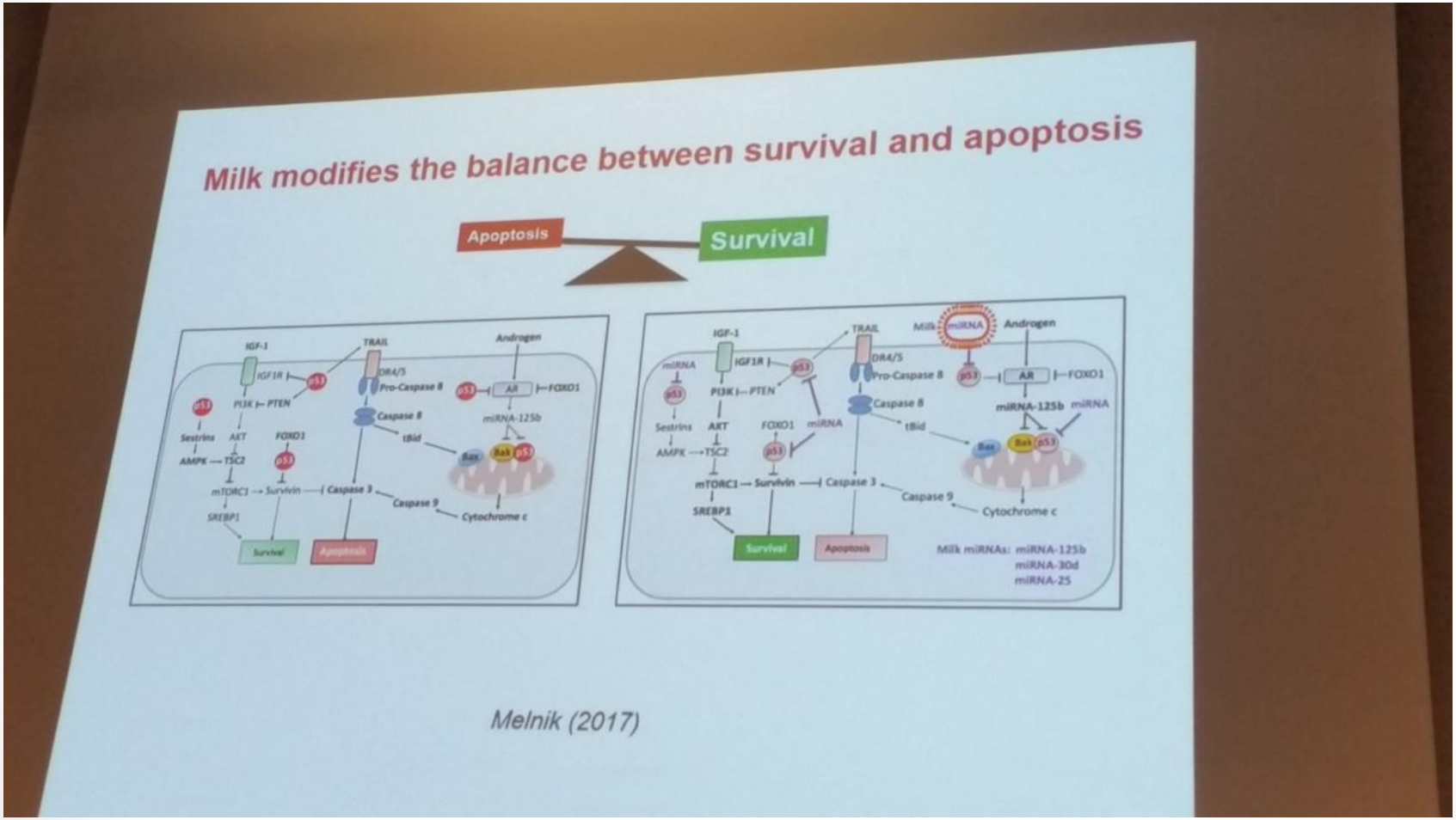
6- **They destroy the enterocytes** by altering the control of nutrient absorption and activating the immune system in an exacerbated manner. (http://www.ncbi.nlm.nih.gov/pubmed/10764712)

- When the gluten gliadin peptide breaks down in the intestine, this leads to an increase in Zonulin, which "opens the doors" of the intestinal cells. Therefore, Gliadin manages to enter the blood stream which leads to an immune response, since it is detected as a foreign invader, GOING TO BREAK THE HEMATO-BRAIN BARRIER PRODUCING NEUROINFLAMMATION.

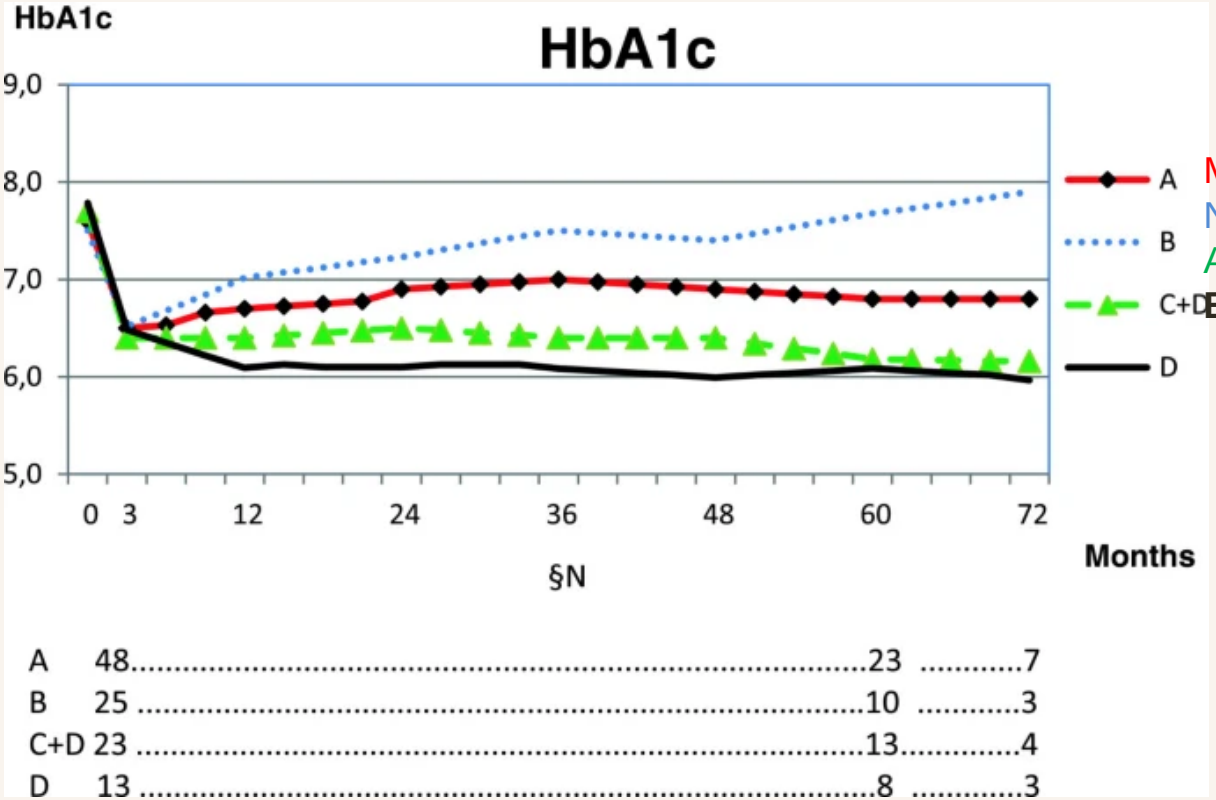


ALESSIO FAShttps://annaedo.com/wp-content/uploads/2021/01/Tight-junctions.jpgANO

ESTA DIAPO ES LA LECHE!



DIETA KETO CLÁSICA Y DIABETES . DOI: 10.1186/1758-5996-4-23



MALA ADHERENCIA
NO ADHERENCIA
ADHERENCIA REGULAR
EXCELENTE ADHERENCIA

La cantidad de **carbohidratos fue de 75 g/día** o menos según las preferencias de la persona. Principalmente se redujeron los alimentos ricos en almidón (Granos) . Las dosis de insulina se adaptaron en consecuencia.

LAS DOSIS MEDIAS DE LA POBLACIÓN ESTÁN EN ± 200G/DÍA!

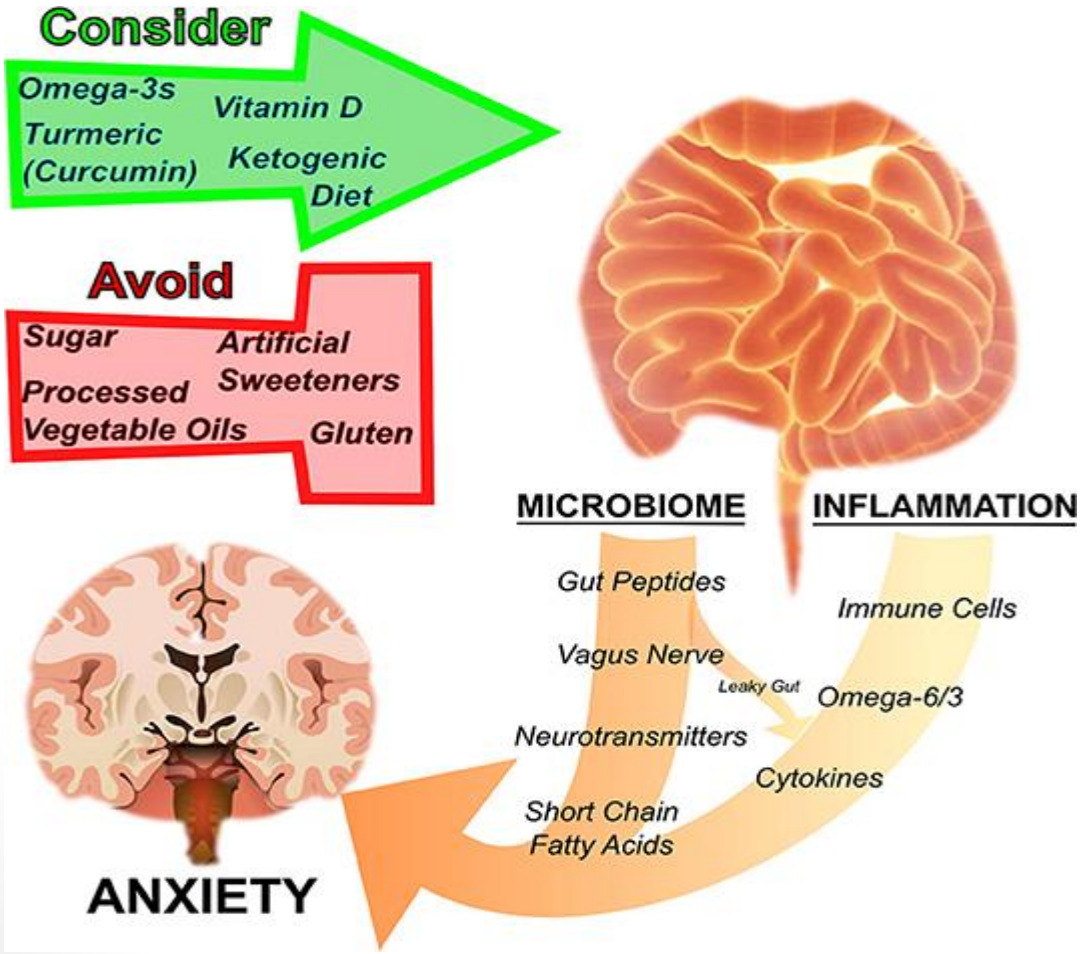
¿TIENES MALA LECHE?

- Si es de pasto, reducción de problemas cardiovascuares. DOI: 10.3945 / ajcn.2010.29524
- Si es de pasto, menos inflamación; doi.org/10.1038/oby.2011.234
- Las vacas de pastoreo tienen más ácidos grasos omega-3 y hasta un 500% más de ácido linoleico conjugado. Int J Vitam Nutr Res. 1993;63(3):229-. DOI: 10.3168 / jds.S0022-0302 (99) 75458-533. PMID: 7905466.
- los sujetos obesos se caracterizan por una inflamación sistémica de bajo grado, puede ser más propenso a la acción antiinflamatoria de los productos lácteos que los sujetos metabólicamente sanos. (Hirai et al., 2010)
- LAS QUE PRODUCEN BETA-CASEINA A-1, PEOR. doi.org/10.1038/nutd.2017.16
- MEJOR FERMENTADAS. DOI: 10.1017 / S0007114507243065

Posible solución/solutions

- **Consumir leche fresca de vacas de pasto con caseínas A2.**
- **Consumir leche de animales pequeños.**
- **Consumir fermentados que no desregulan gen P-53**
- **Evitar altas temperaturas (UHT).**
- **Usar quesos con efecto probiótico; Chedar, Gouda, mozarella y/o cotage.**
- **Consume fresh milk from grass-fed cows with A2 casein.**
- **Consume milk from small animals.**
- **Consume fermented foods that do not deregulate the P-53 gene.**
- **Avoid high temperatures (UHT).**
- **Use cheeses with probiotic effects: Cheddar, Gouda, mozzarella, and/or cottage cheese.**

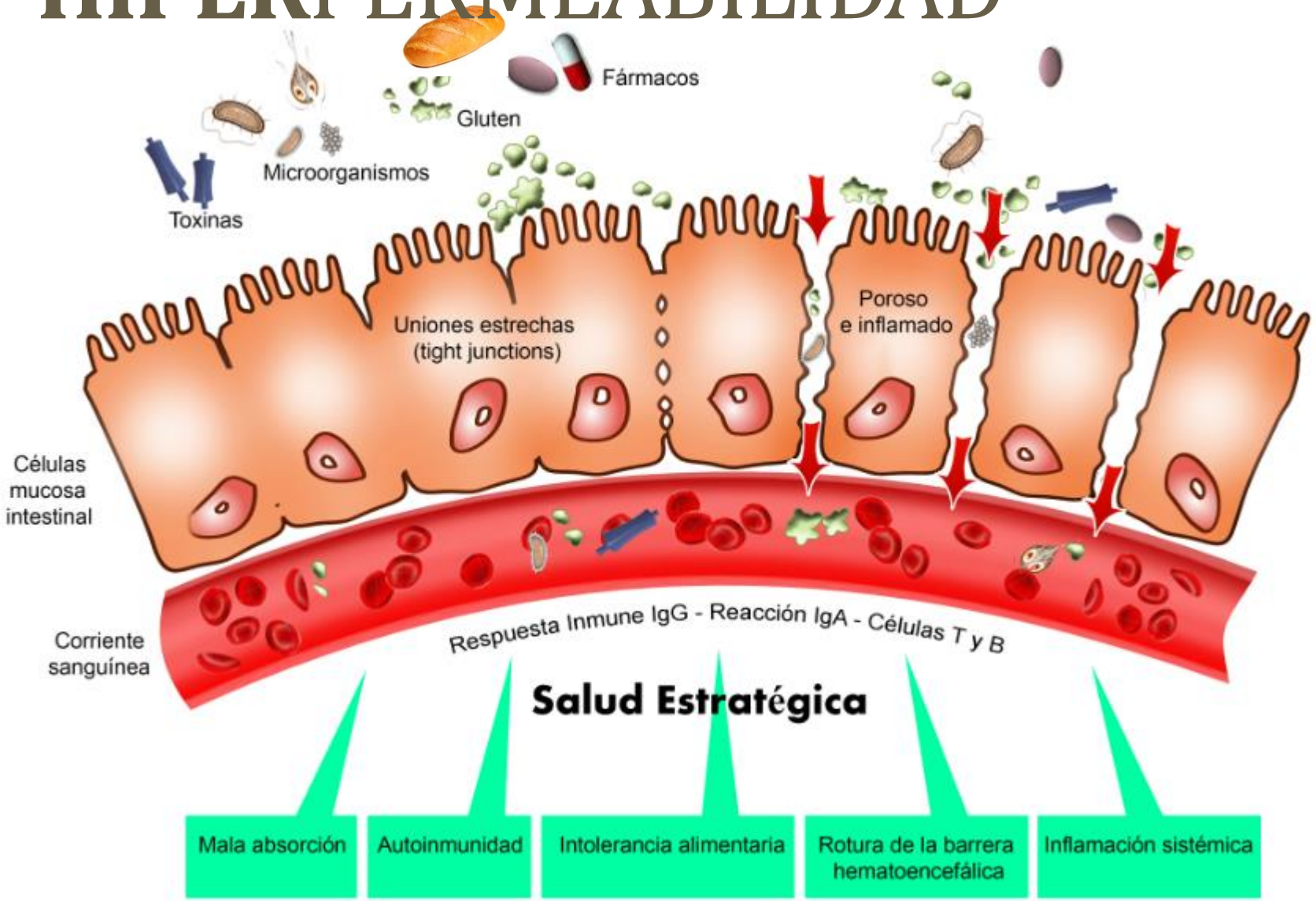
EL AZÚCAR INFLAMA Y ALTERA MICROBIOTA



The brain works better with fats or on an empty stomach.

https://www.frontiersin.org/files/Articles/598119/fpsyt-12-598119-HTML/image_m/fpsyt-12-598119-g001.jpg

HIPERPERMEABILIDAD



CAUSAS DE HIPERPERMEABILIDAD INTESTINAL/BARRERA HEMATOENCEFÁLICA

-Ejercicio INTENSO de larga duración.

-Restricción de fluido (poca o baja hidratación).

-Estrés térmico.

-Uso de AINES

-Deficiencia de Zn

-El alcohol

-el tabaco

-El exceso de grasas saturadas: mantequilla, nata pero también Ghee y aceite de coco!

PRINCIPALES ERRORES A EVITAR …

- NIVELES BAJOS DE **ZINC**. Legumbres, anacardos, espinacas, semillas de calabaza y bivalvos.

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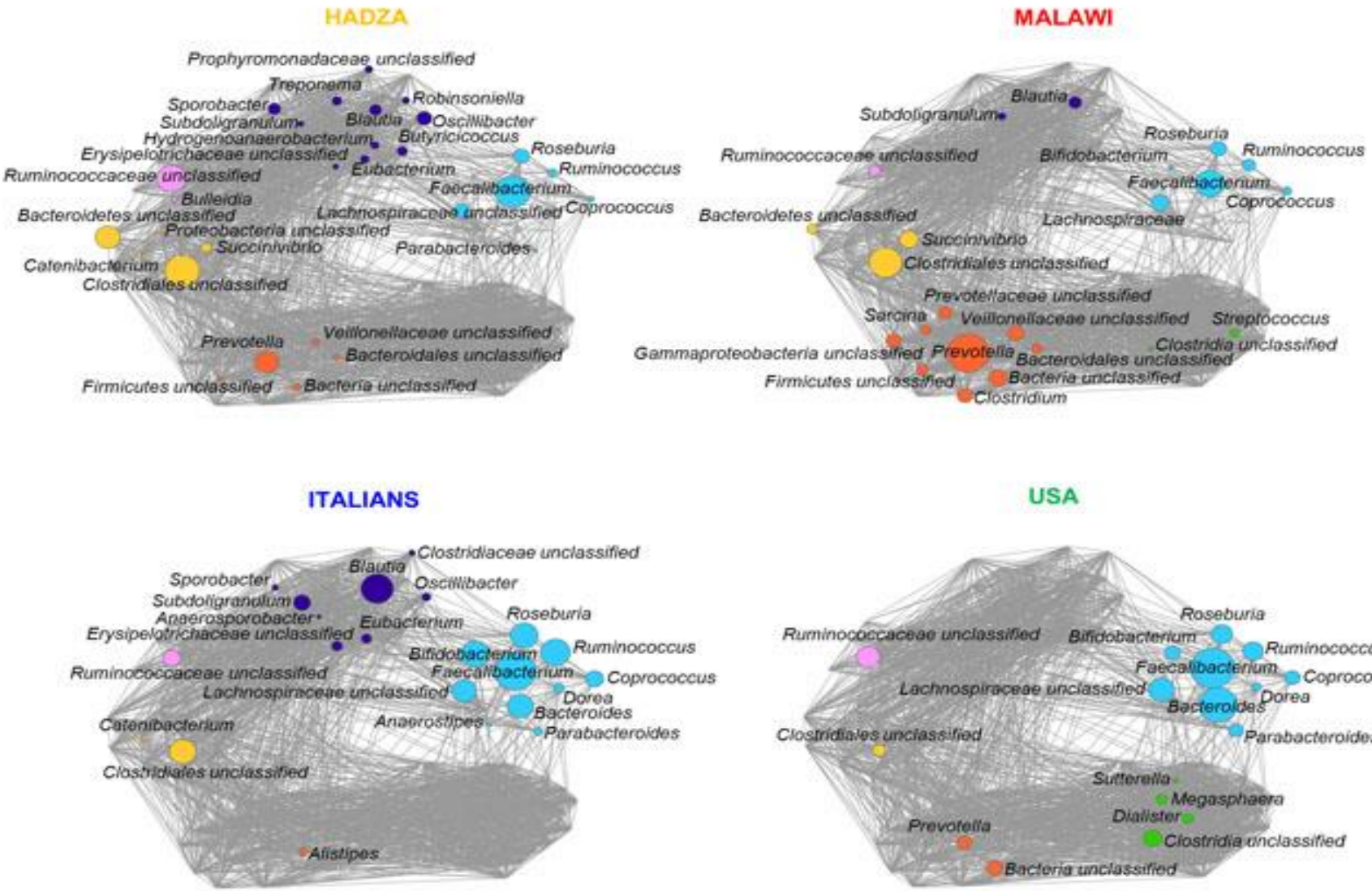
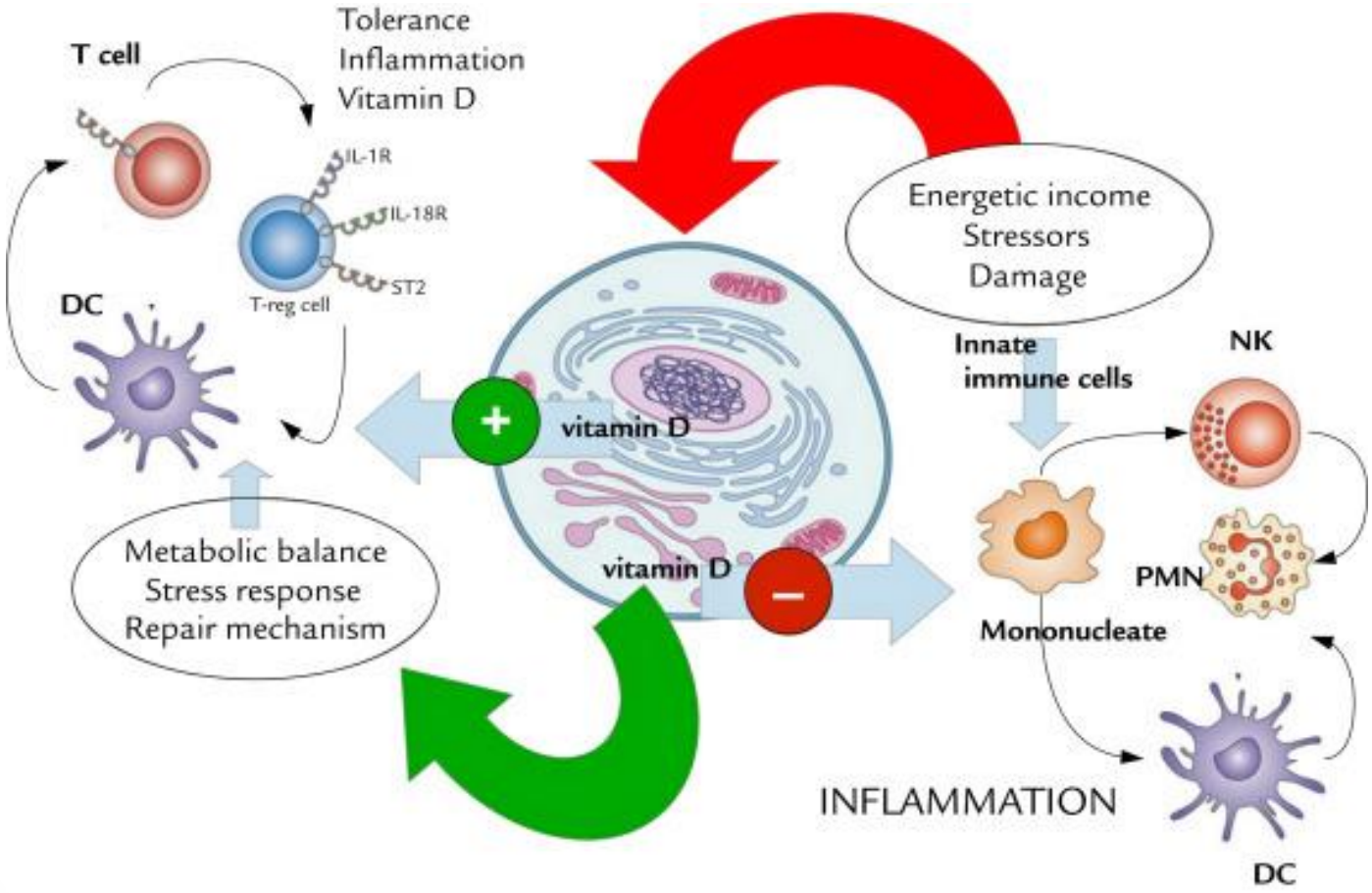
Microbiota e inflamación.



Ventajas para la microbiota!

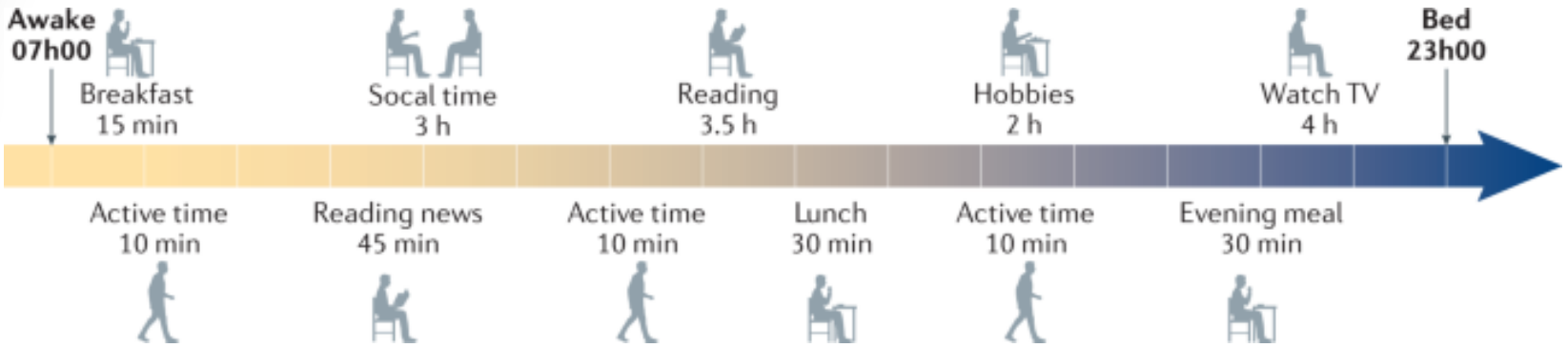
- **Frutas del bosque**, antocianósidos
- **Verduras de color azulado**; col lombarda, zanahoria negra, brócoli morado, tomate azul.
- **Quercitina**; manzana, cebolla, uvas y té verde.
- **Hoja verde (remolacha)**; folatos, clorofila, magnesio.
- **Calabaza y zanahoria**. Beta-carotenos

EL SOL, EL GRAN ANTIINFLAMATORIO



https://els-jbs-prod-cdn.jbs.elsevierhealth.com/cms/attachment/8b4b8c4a-23dc-47fa-9904-83b03bdef872/gr1.jpg

WE ARE ACTIVE ANIMALS!



- **Being sedentary or inactive causes inflammation and increases cardiovascular risk.**
- **It dulls us cognitively.**
- **It causes inflammation.**

Dunstan, D.W., Dogra, S., Carter, S.E. et al. Sit less and move more for cardiovascular health: emerging insights and opportunities. Nat Rev Cardiol 18, 637–648 (2021). https://doi.org/10.1038/s41569-021-00547-y

GRÀCIES

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