

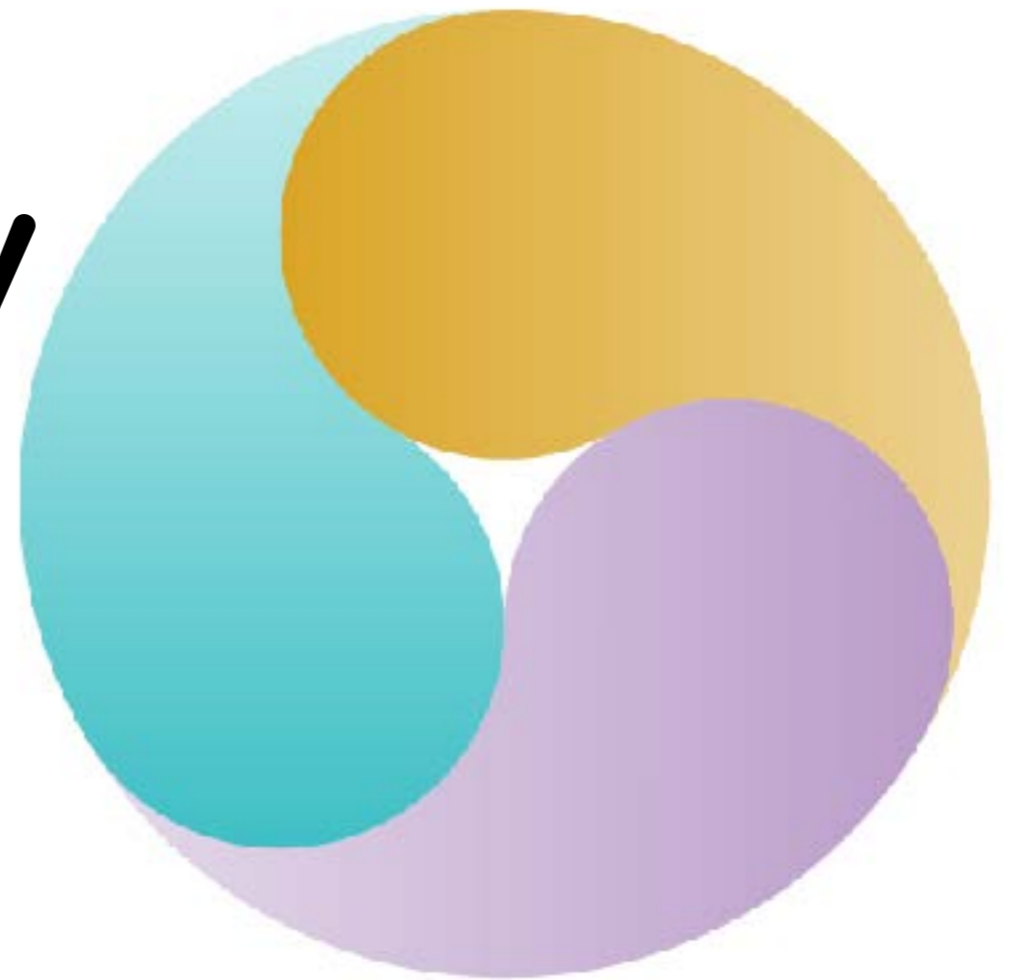
PP **reklamda**

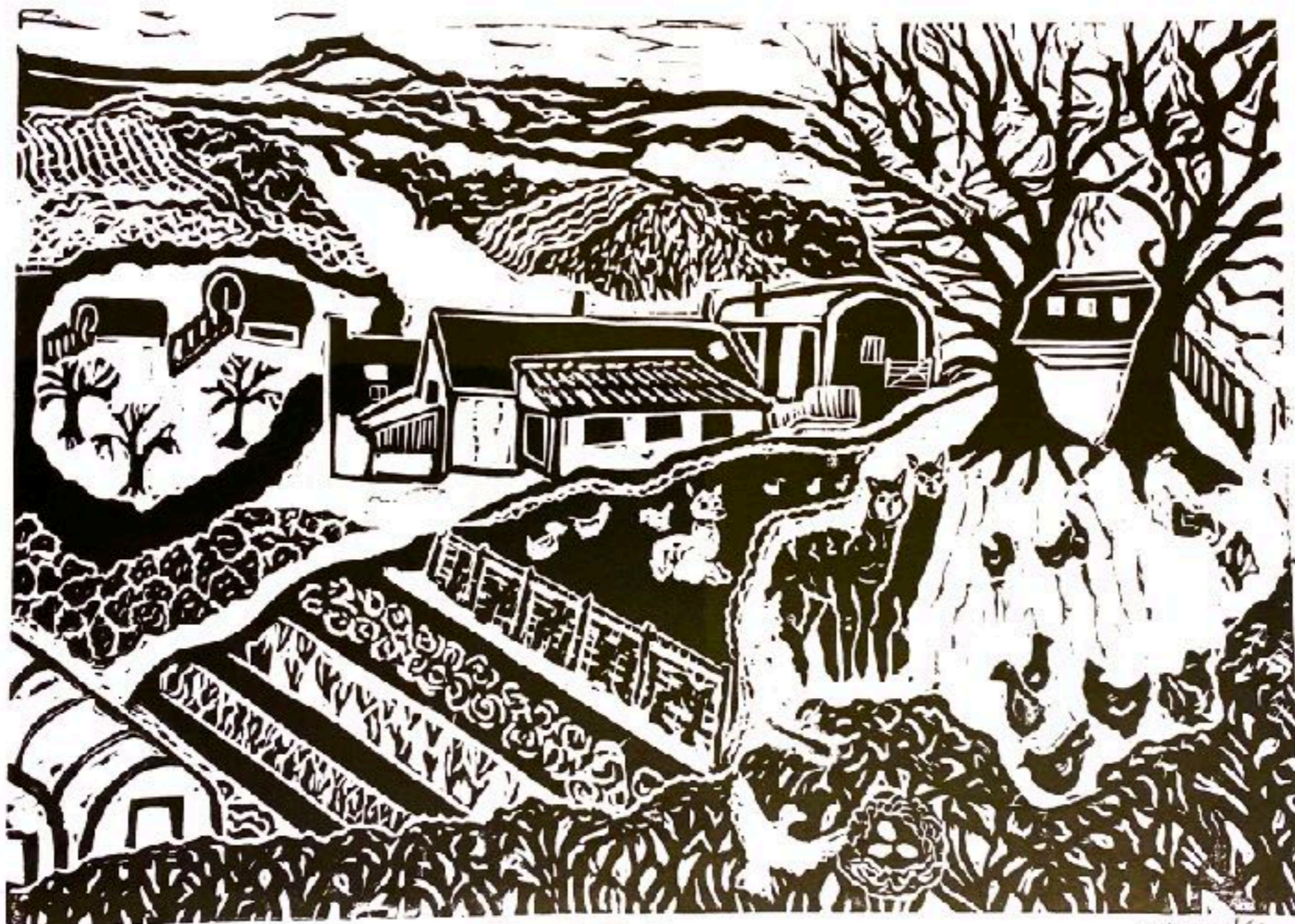
omn

PatrickHOLFORD

100% health for life

**Total Mind & Body
Transformation
Retreat**





1/20

Forest Burn

ellaspark



n, Pipestrelle,
e, Natterer's,
octule bats



Your support team



- ▶ Patrick -
- ▶ Marcelle - your health coach
- ▶ Jo - kitchen queen in charge of food
- ▶ Justyna - supporting Jo and you
- ▶ Gaby - support and shop (pm)

House Guidelines



- ▶ **Wifi is best by the entrance** - thick stone walls block it. The code is on the 'schedule' board. Ideally, switch off for 3 days to get the most out of this retreat. You'll have very little time. Our suggestion is to have a digital detox.
- ▶ **Outdoor shoes off in the house.** Best to have shoes you can walk in close by as we'll exercise outdoors in the morning and have longer walks in the afternoon.
- ▶ **Hot tub towels by the back door.** It has Newton Wood Epsom Salts (magnesium) in it. Put the top back on when not in use. No make up/body lotions please. Also, outdoor bath, (ask Gaby to schedule in).
- ▶ **Shop is open in the breaks and before dinner.** We give Holford Health Club members discounts. It's worth joining. We are aiming to get you into the 'green' (above 80% health) using your 100% Health Programme.
- ▶ **Your tray.** Keep your pen/notebook, **manual** etc here. Put your name on it.
- ▶ **Use your water bottle** and **reuse mugs** as much as possible. Bring dirty plates, cups etc to the dishwasher.
- ▶ **Be on time.** The 5 minute bell sounds like this. Sit how you like.

Sanitation Guidelines & Groups



- ▶ Dutch barn group - *Annika, Marion, Colette and Steve*
- ▶ Fforest Glen group - *Rosemary, Karin, Mara, Natalia*
- ▶ Pigystyle - *Tracy and Terri*
- ▶ Old barn group - *Deirdre, Clive (Owl Nest), Val, Penny (Ecopod)*
Link shower room- exclusive 10pm-7.30am - as much as possible use your own bathroom/sanitise after use. (Back up for Fforest Glen)
- ▶ Farmhouse - *Ella and Michael*
- ▶ The link shower is sanitised in the evening for the Old Barn group.
- ▶ Railway carriage/shepherd hut group - *Raji and Gurvinder, Sue*
- ▶ Fforest Glen - please use ecoshower - or outdoor bath * *if trips*
- ▶ Please sanitise baths etc after use

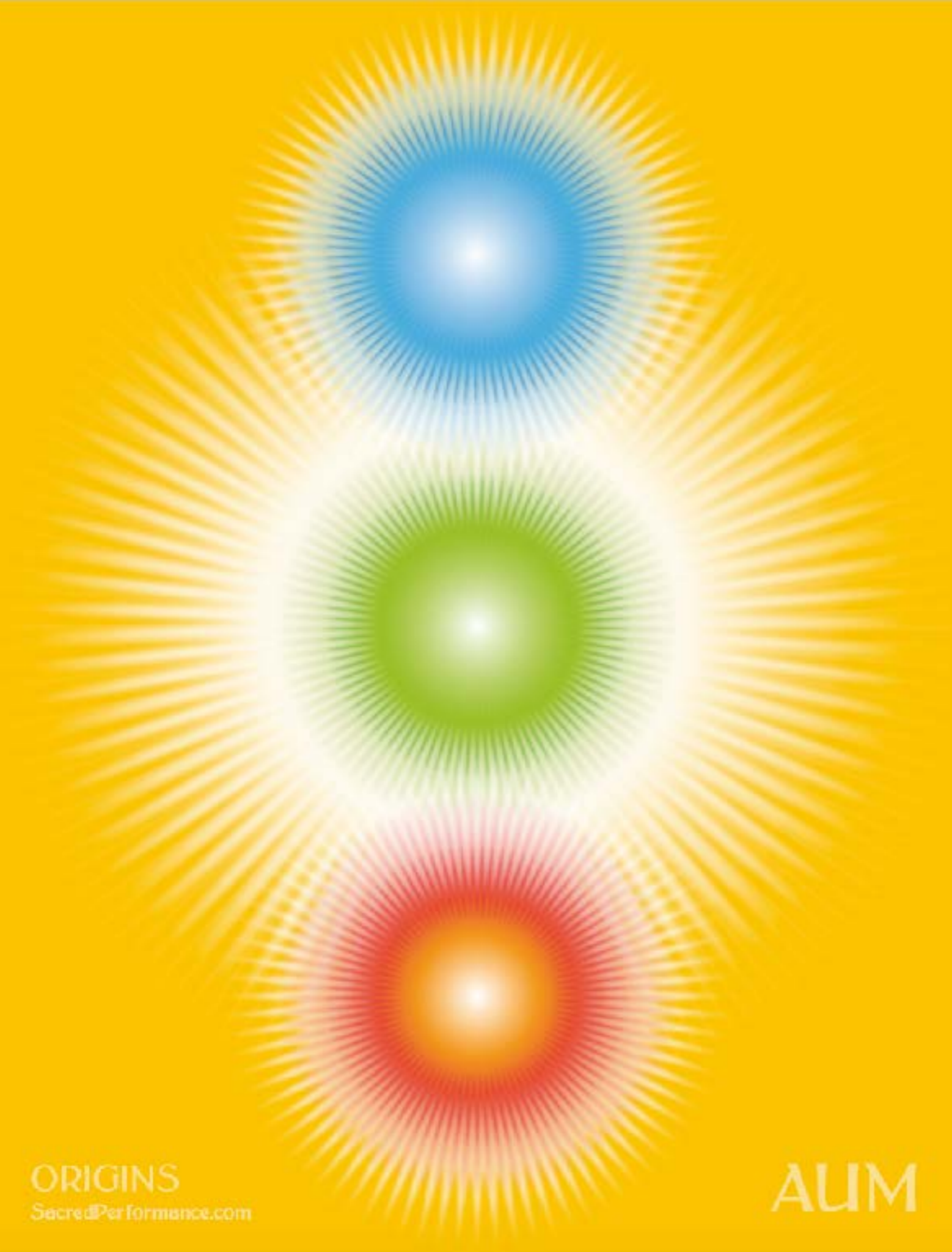
My promise to you



- ▶ You will leave with a new understanding about how what you eat and how you live is impacting on your health.
- ▶ As a result it will be impossible for you not to make changes in your life and, as a consequence, your health will improve.
- ▶ You will leave with a concrete and do-able plan of action to transform your health.
- ▶ Everything I say is based on science, has been tried and tested by thousands of people and works.
- ▶ We will answer all your questions.



We are physical, chemical, psychological and spiritual beings, living in an environment. Our health depends on each of these realms in harmony. When this is achieved we are naturally full of energy, free of pain, happy, alert and purposeful.



mind

intelligence & adaptability

Losing mind/dementia/crazy

heart

emotions & relations

Not belonging/been lonely

body

being, direct experience

Not being/death & disability



ZONE

ELEMENT

SPIRITUAL

ETHER

INTELLECTUAL

WATER

EMOTIONAL

AIR

PHYSICAL

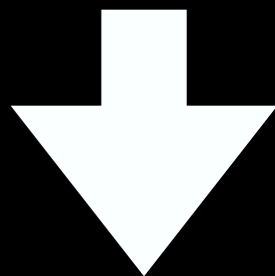
EARTH

SEXUAL

FIRE

holfordnaturalholidays.com/THTslides

*The five zones of connection.
(Reproduced with kind permission of Malcolm Stewart from Symbols of Eternity.)*



violet

spiritual

blue

intellectual

green

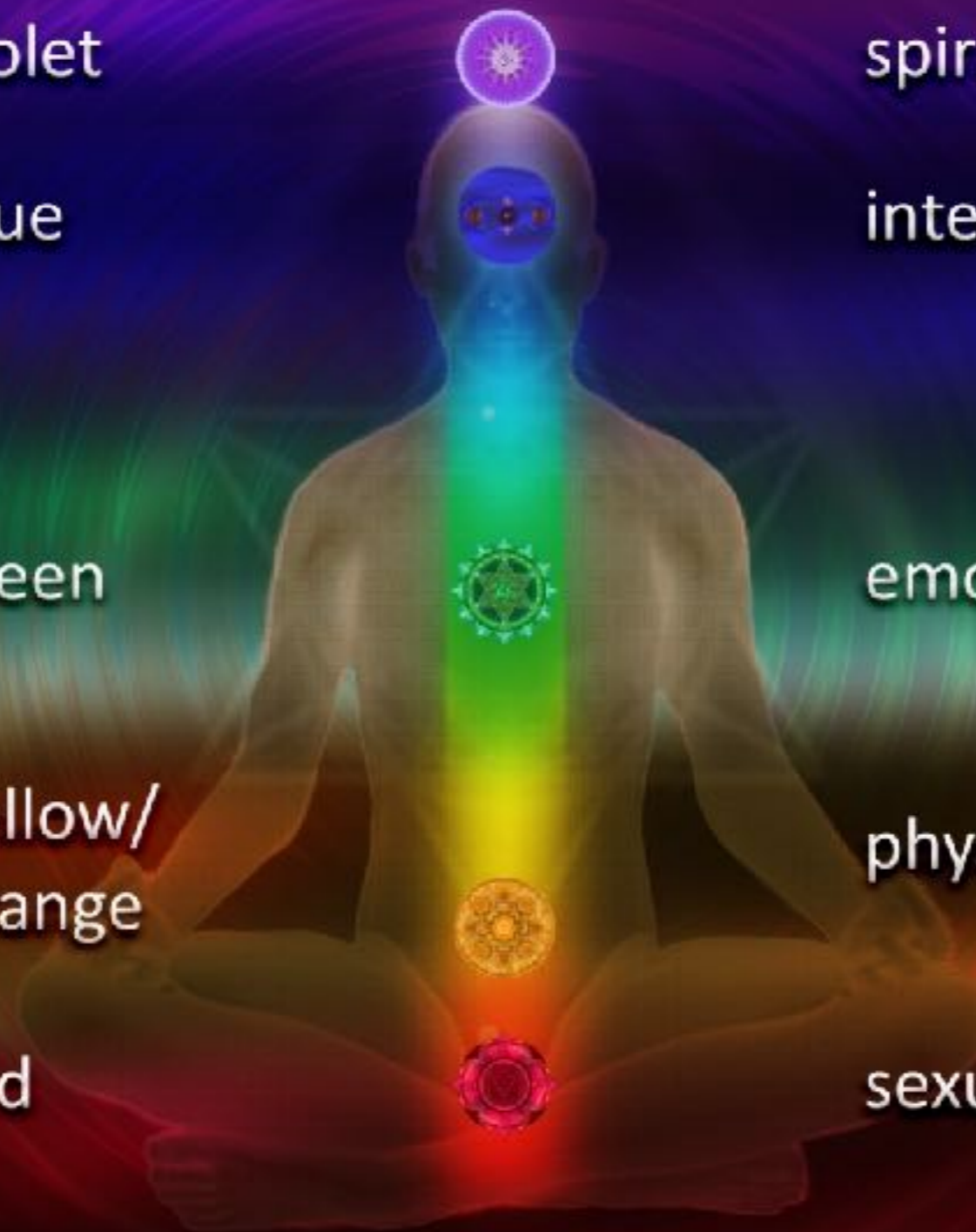
emotional

yellow/
orange

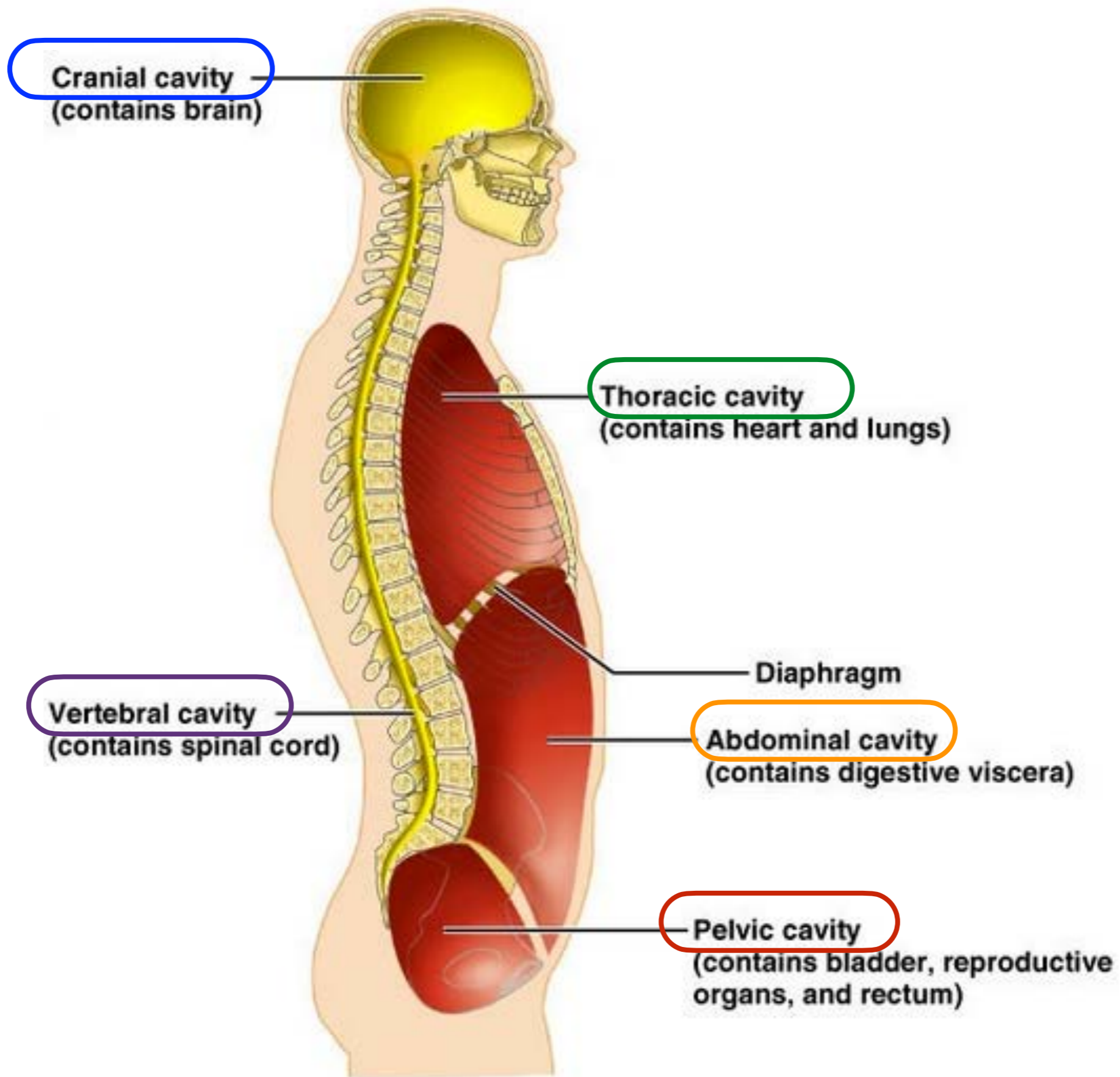
physical

red

sexual



Aspirations



Cranial cavity
(contains brain)

Thoracic cavity
(contains heart and lungs)

Diaphragm

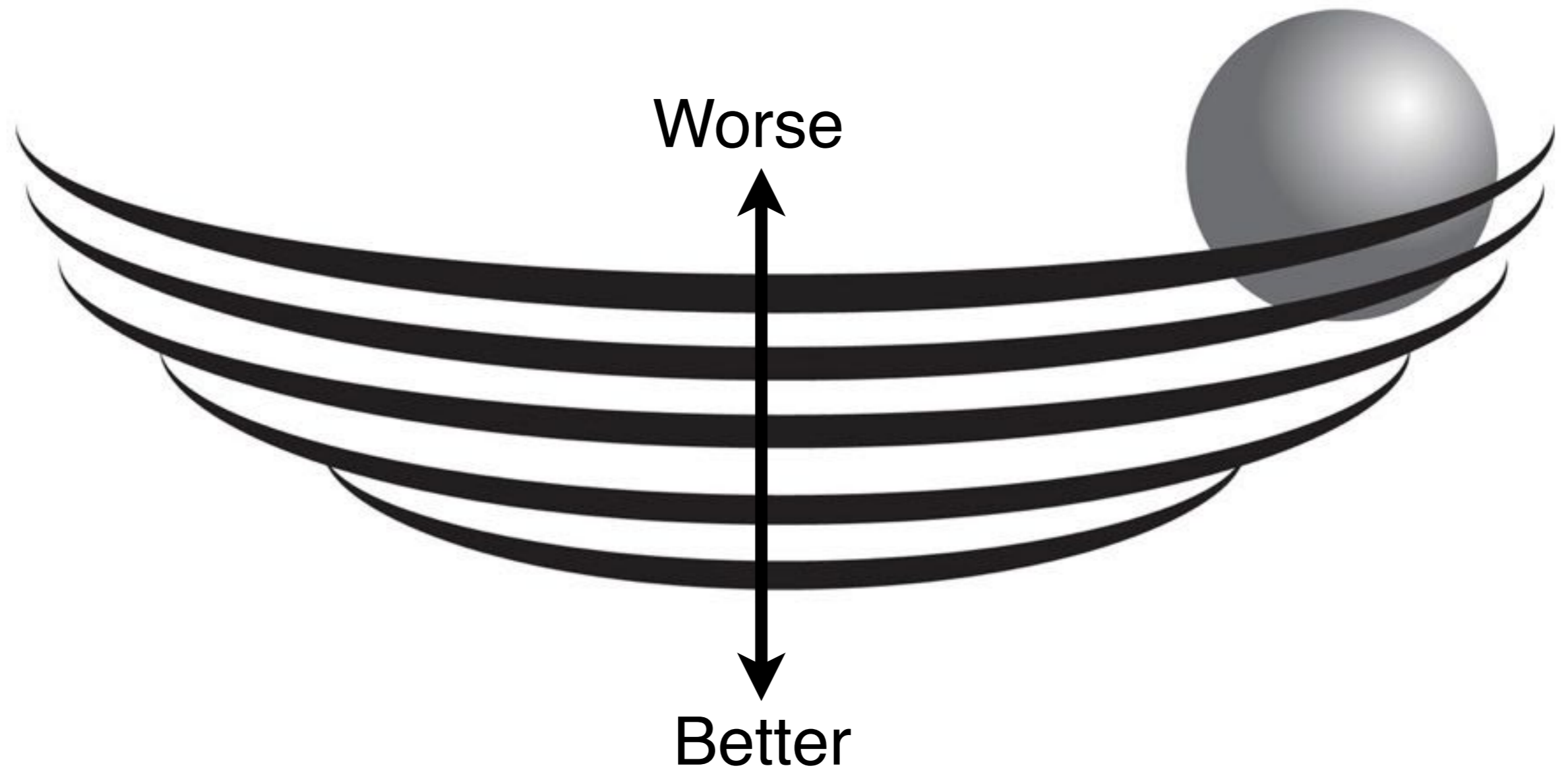
Vertebral cavity
(contains spinal cord)

Abdominal cavity
(contains digestive viscera)

Pelvic cavity
(contains bladder, reproductive organs, and rectum)



Your state of health is like a basin with a few critical criteria keeping it in place



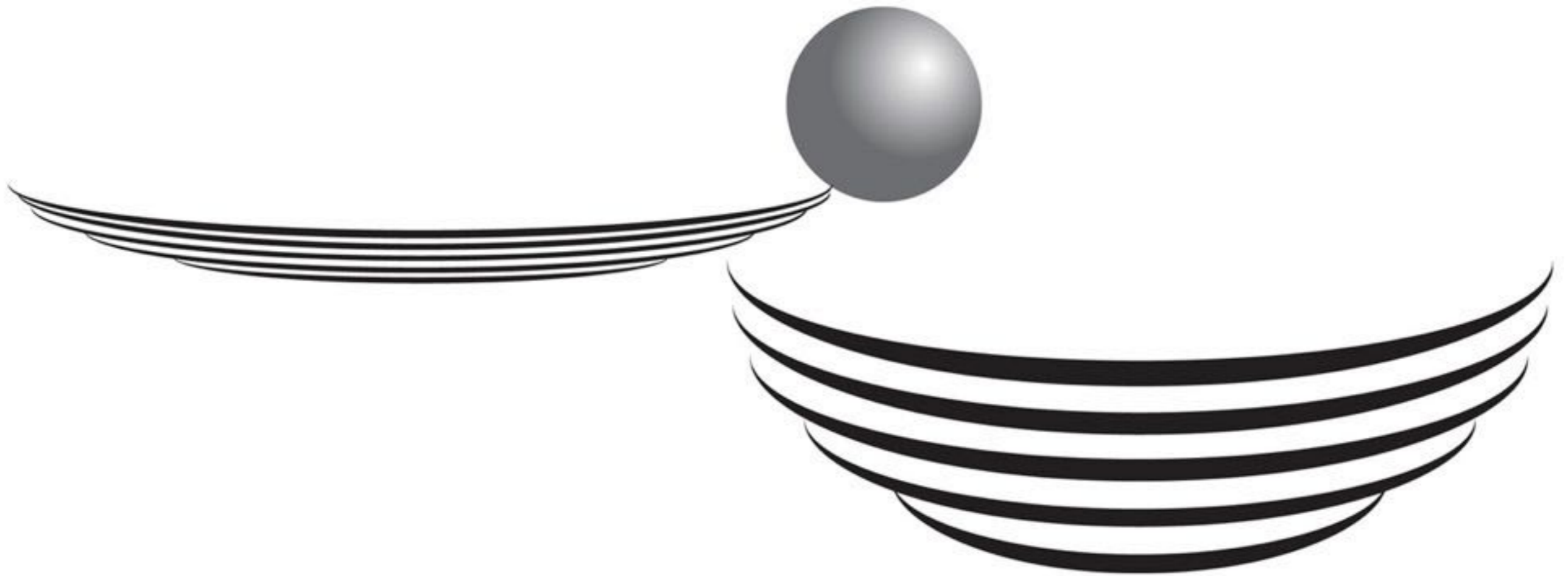
Some days you feel worse than others



When you lose function in the critical processes that keep you healthy you lose health 'resilience' and run the risk of tipping out of health...



...and into a new relatively stable state of disease



Once you are in the state of disease it takes a lot more effort to tip yourself back to health.



YOUR PROCESS SCORES

Your body's chemistry is an amazing balancing act, dependent on five core biological processes. When these fundamental processes are out of balance it has knock on effects to many body systems. Your process scores are calculated from your symptoms, click on a process to read about it in more detail.

- Very Healthy ●
- Healthy ●
- Average ●
- Unhealthy ●
- Very Unhealthy ●

Glycation



Hydration



Lipidation



Methylation

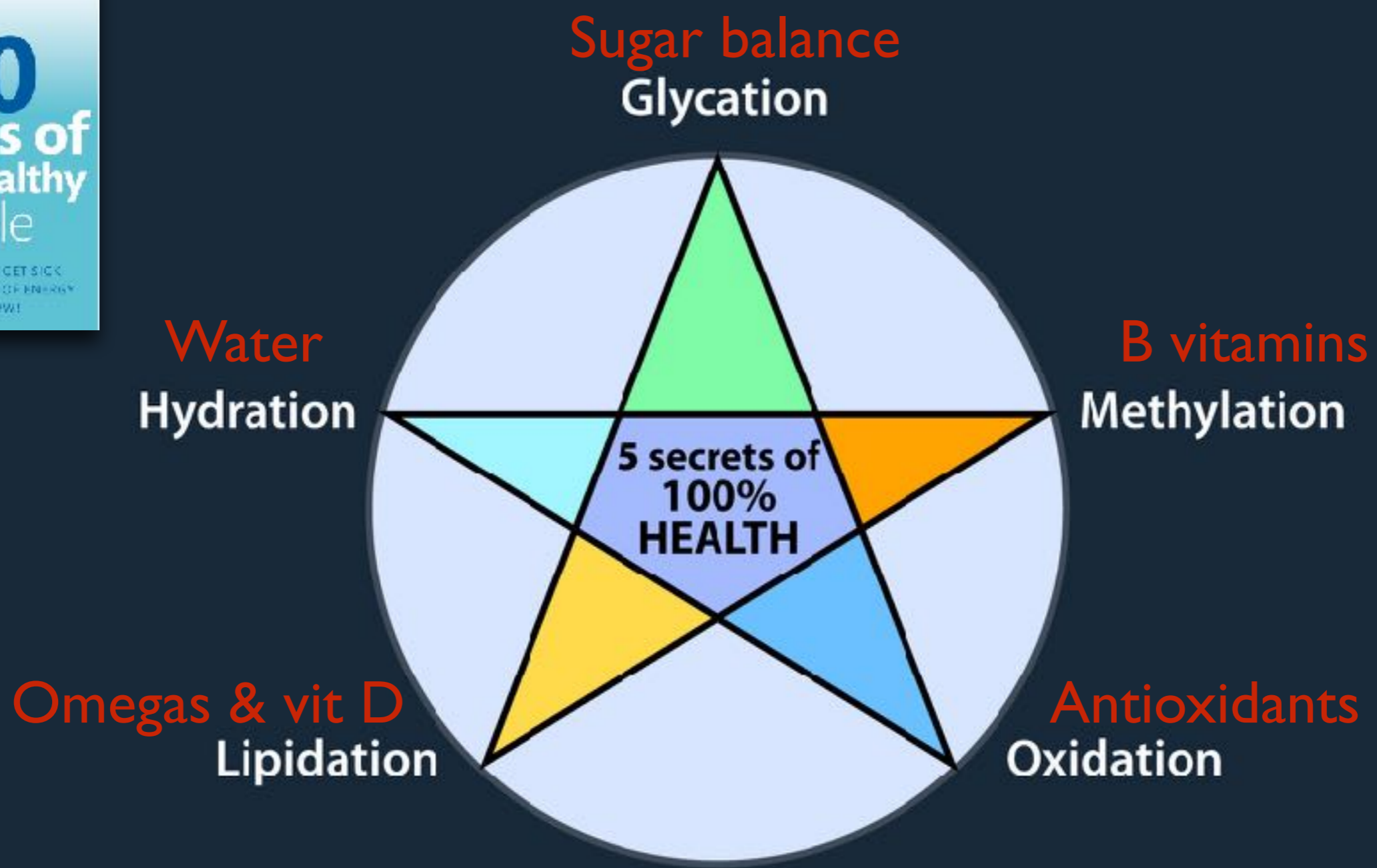
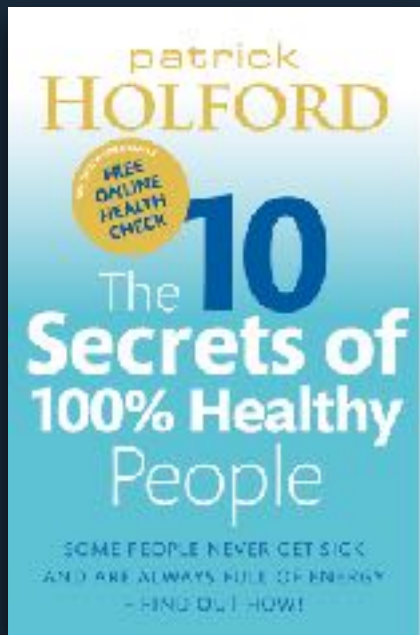


Oxidation



Glycation
Methylation
Oxidation
Lipidation
Hydration



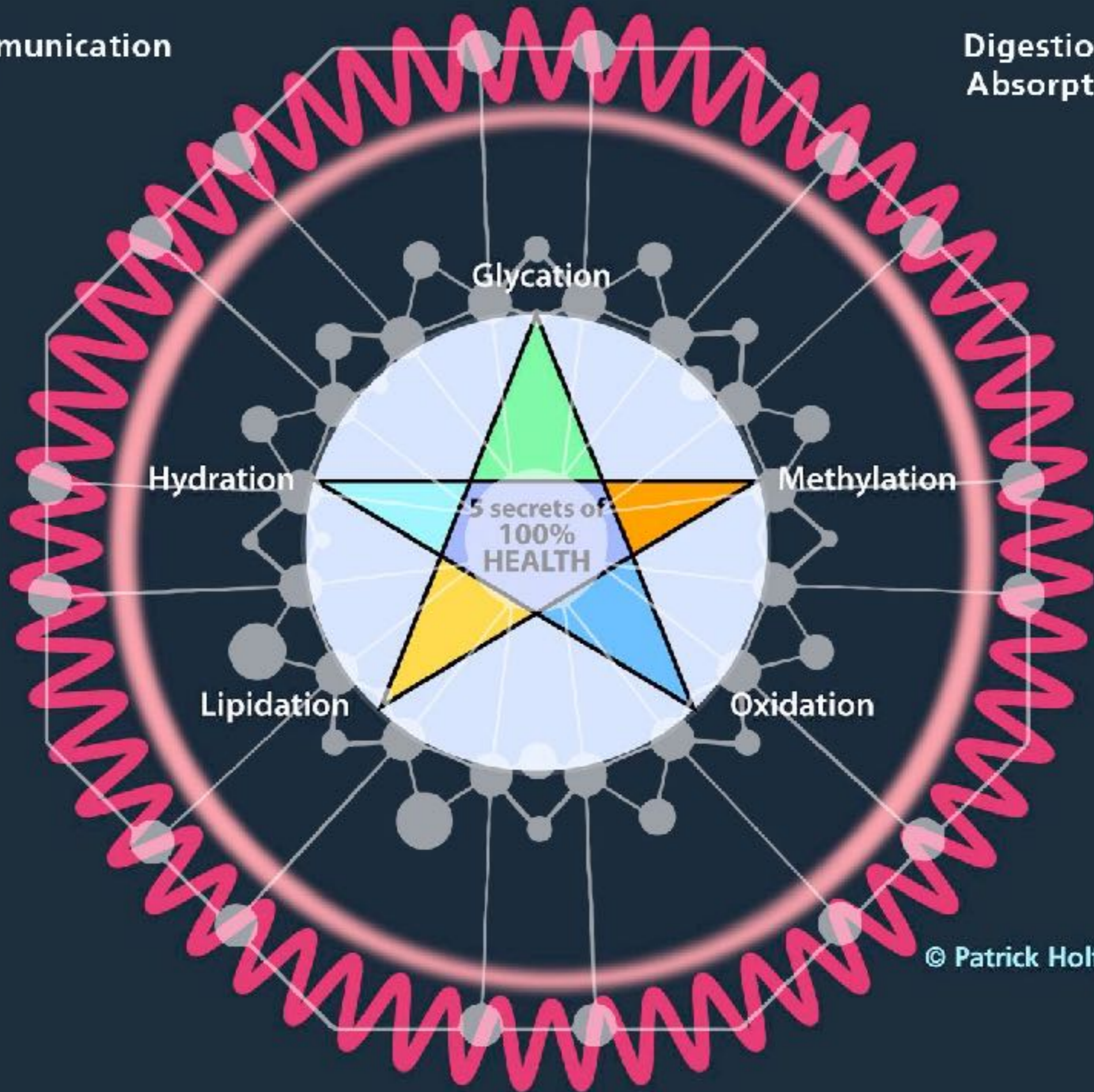


© Patrick Holford, 2007



Communication

Digestion & Absorption



© Patrick Holford 2008



7 key processes

- ? **Glycation - sugars, soluble fibres**
- ? **Lipidation - EFAs, phospholipids, VitD**
- ? **Oxidation - antioxidants/polyphenols**
- ? **Methylation - B vitamins etc**
- ? **Hydration - water**
- ? **Digestion - enzymes, probiotics, fibres etc**
- ? **Communication - hormones, neurotransmitters, cytokines & inflammation**



HEALTH



*to
Adapt
to*



GENES



ENVIRONMENT

Principle:

1. Evolutionary dynamics
2. Biochemical individuality



*not
Adapt
to*

3. Synergy of nutrients
4. Environmental load



DISEASE



If you woke up 100% healthy
how would you know?

What is optimum health?



- ▶ Optimum physical function
- ▶ Optimum psychological function
- ▶ Optimum chemical function
- ▶ Absence of ill-health - signs and symptoms
- ▶ Longevity - longest healthy lifespan



How healthy are we?



- ▶ 1 in 8 women are diagnosed with breast cancer; 1 in 7 men with prostate cancer; one in 3 lifetime risk.
- ▶ 1 in 6 die too young from heart attacks or strokes.
- ▶ 1 in 6 over 40 have diabetes.
- ▶ 1 in 4 live their last 30 years with arthritic pain.
- ▶ 1 in 3 people over 70 have impaired memory and
- ▶ 1 in 4 people over 80 have Alzheimer's.
- ▶ 1 in 3 people are obese; 1 in 2 overweight by age 50.

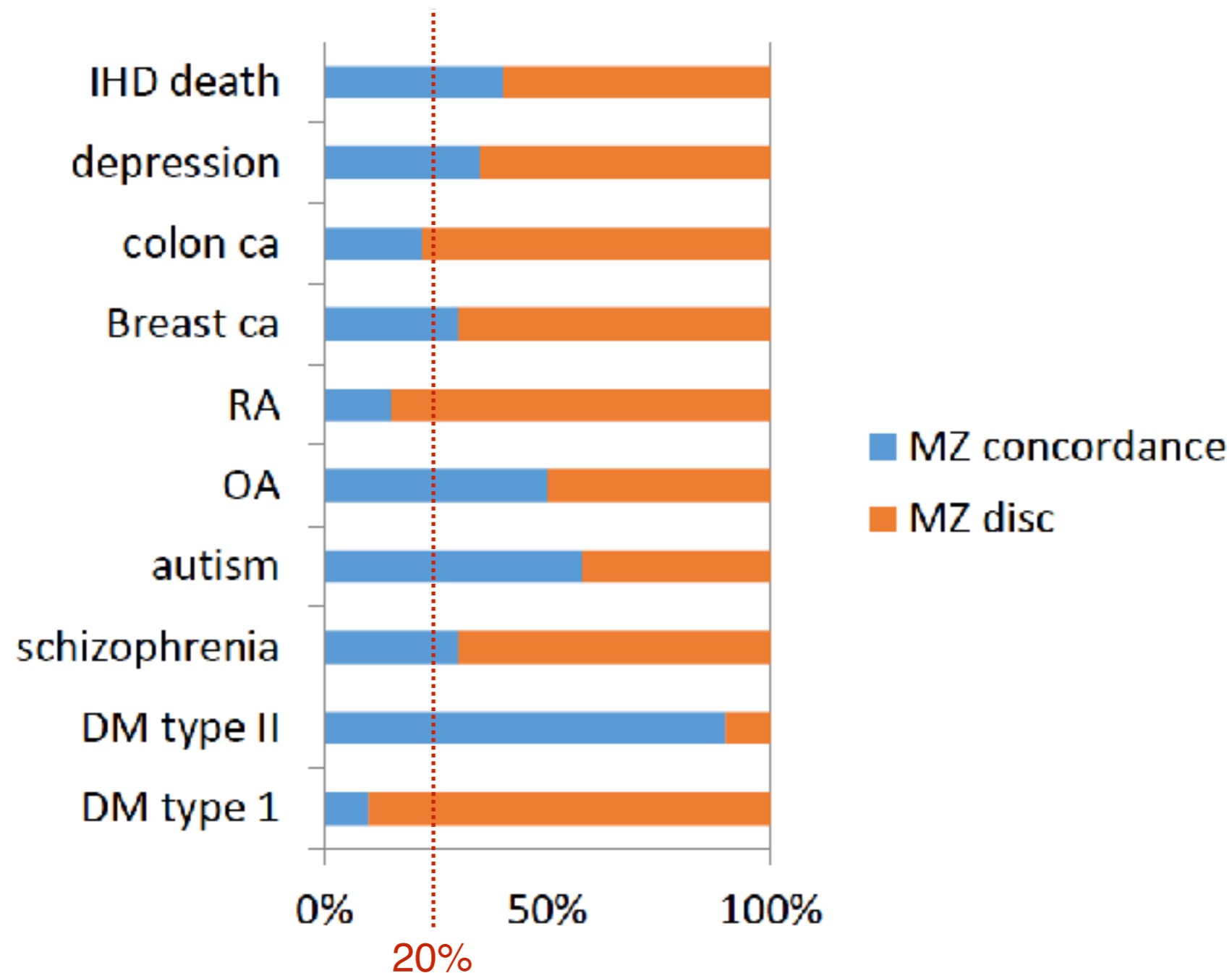


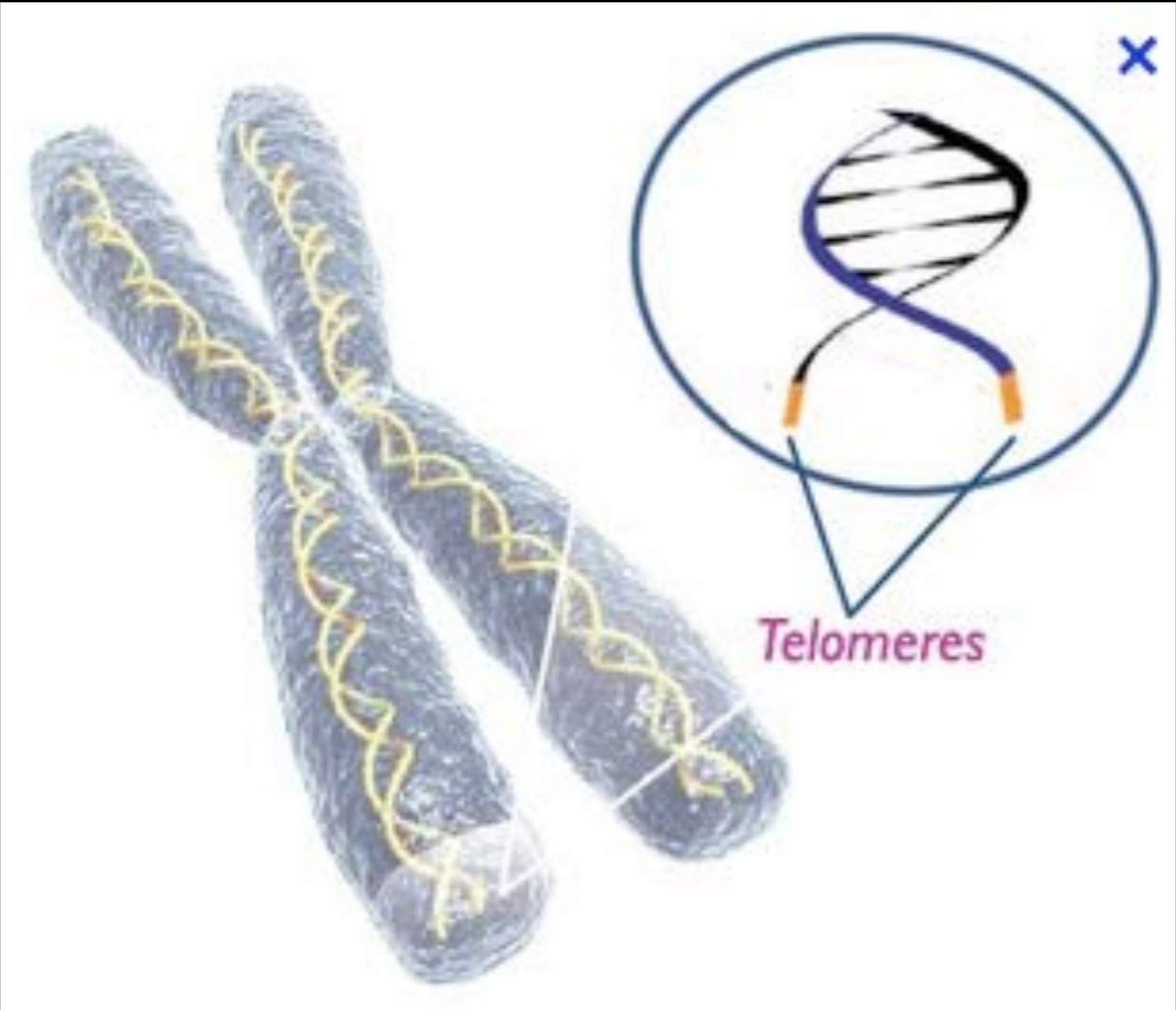
Heritability of diseases



T Spector, Genome Med. 2014; 6(7): 60 -/4254430

► Concordance rate for monozygotic twins





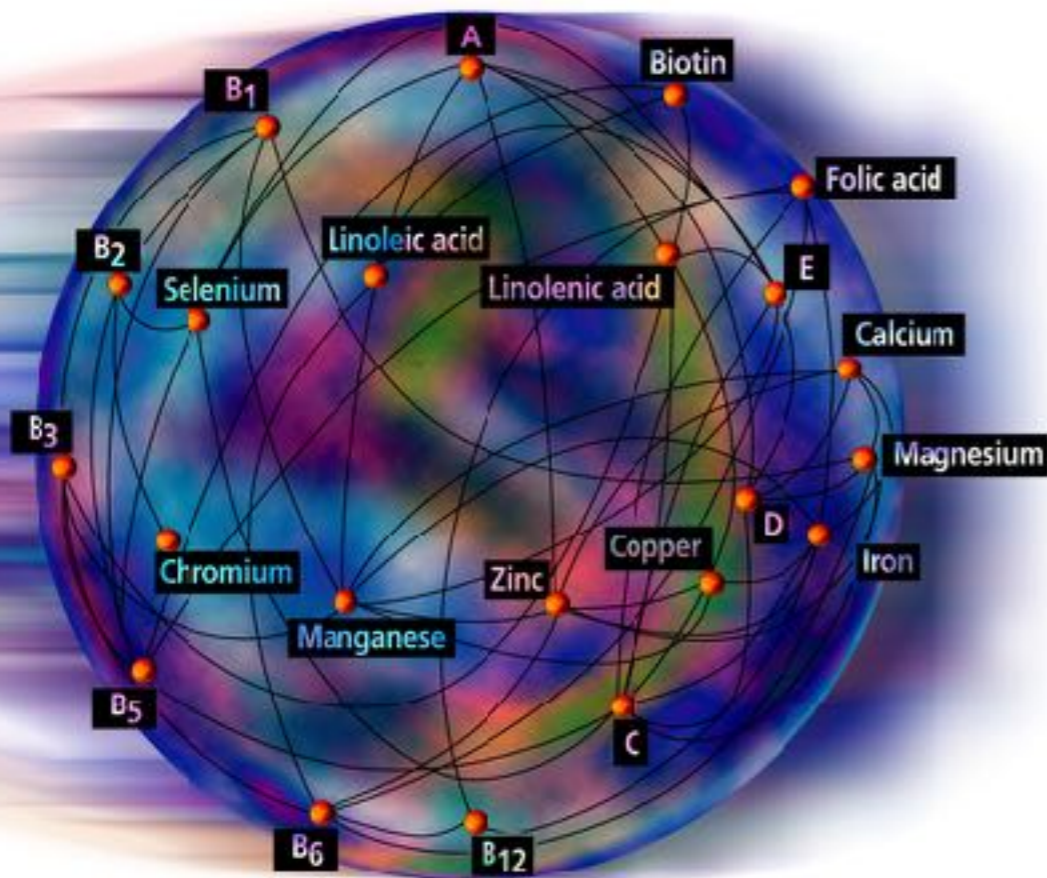
What lengthens telomeres?



- ▶ **Reduce your stress** – People in prolonged stress situations have shorter telomere length. So do childhood traumas, chronic depression and cynicism. Those with ‘hostile’ cynicism have shorter telomeres.
- ▶ **Meditation** is associated with longer telomeres.
- ▶ **Sleep well** – The better you sleep the longer your telomeres. As far as longevity is concerned seven hours seems to be the optimal.
- ▶ **Exercise** – The more you exercise, and the less stress, the longer the telomeres. Those with post traumatic stress disorder who exercised didn’t have shorter telomeres.
- ▶ **Up omega 3 and vitamin D** – One study has found that the higher your intake of omega 3 fish oils the longer your telomeres. Two studies have found that the higher your blood level of vitamin D the longer your telomeres. Both are found in oily fish.
- ▶ **Lower your homocysteine level with more B12 and folate** – The higher your blood levels of these two vitamins, the lower your homocysteine, the longer your telomeres.
- ▶ **More nuts and seeds** - The more you eat the longer your telomeres.
- ▶ **Supplement takers** have longer telomeres. Three studies confirm this.



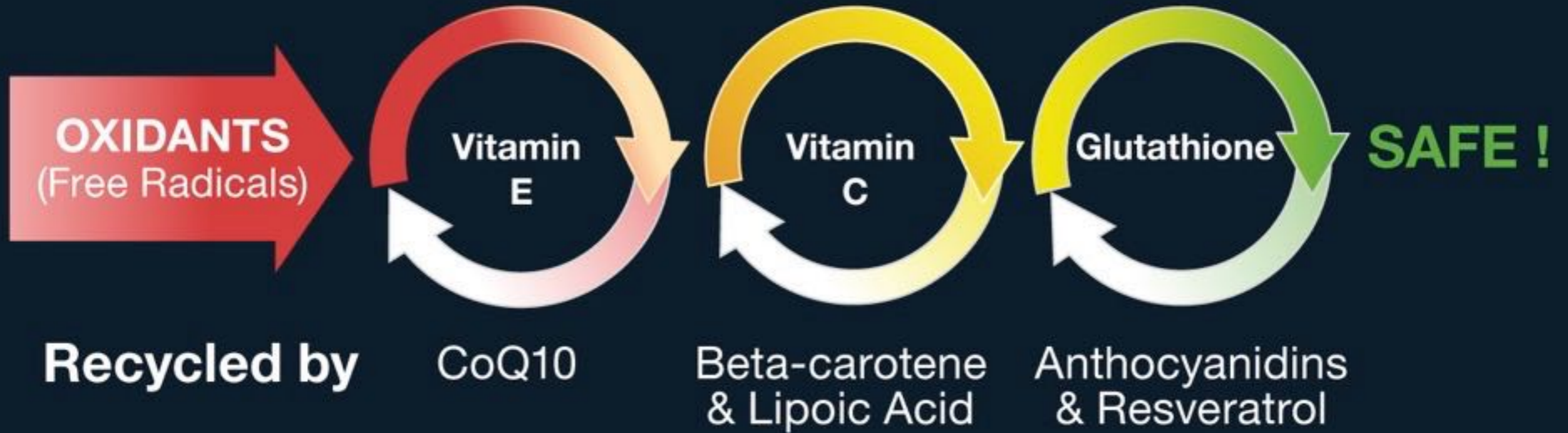
Essential nutrients - we all need:

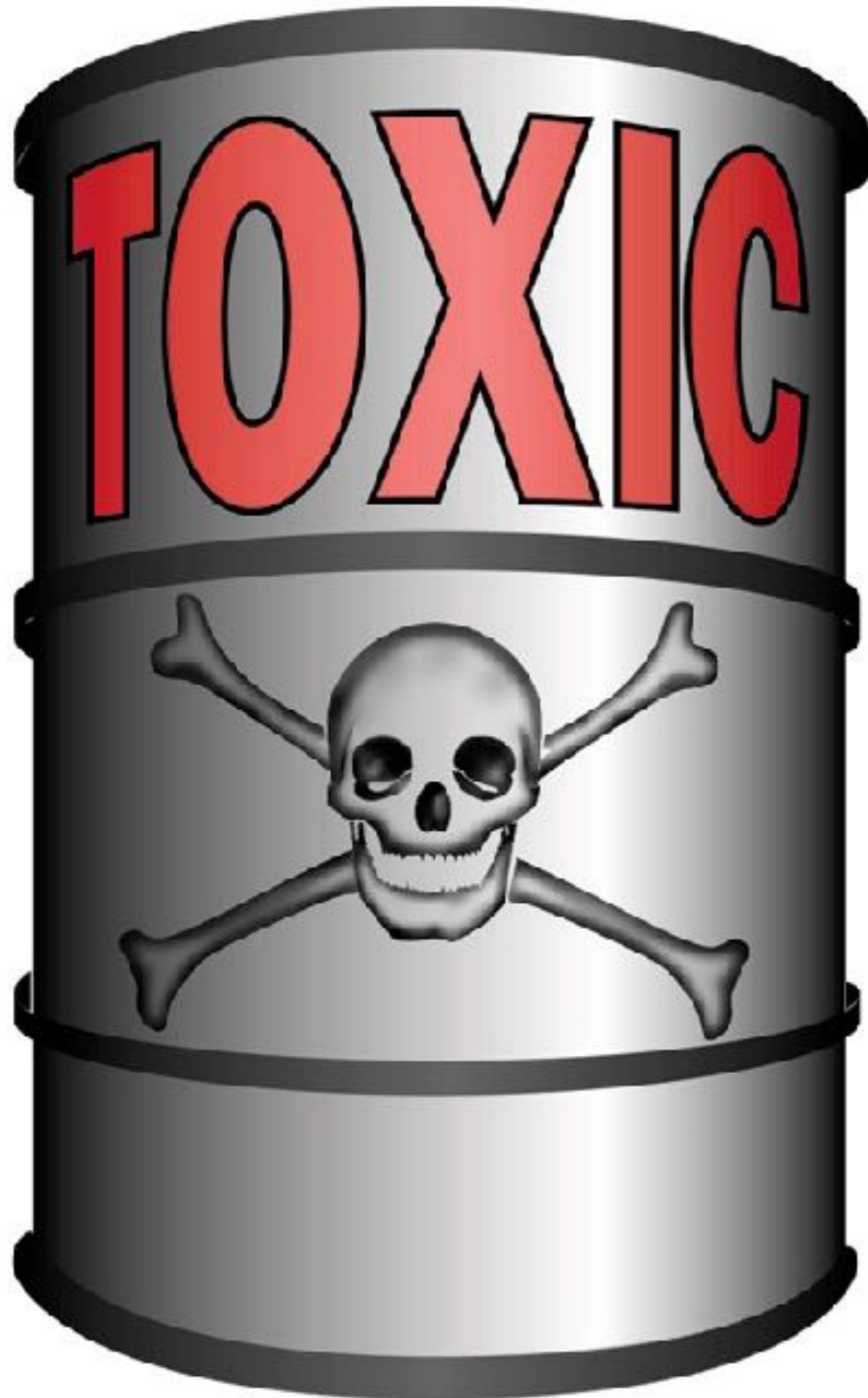


- ▶ 2 essential fat families
- ▶ 9 amino acids
- ▶ 21 minerals
- ▶ 13 vitamins
- ▶ Plus carbohydrate, fibre, light, oxygen and water



Antioxidants are team players





Mankind has invented 10 million new chemicals, 18,000 of which you are exposed to, including:

- ▶ Pesticides & herbicides
- ▶ Industrial pollutants such as PCB's, dioxins
- ▶ Exhaust fumes
- ▶ Plastics
- ▶ Food additives
- ▶ Hormones, antibiotics in food

Read '*Art of Chemical Self-Defence*'

Defining the optimum intake



The level that...

- ▶ promotes optimal physical function
- ▶ promotes optimal psychological function
- ▶ promotes optimal chemical function
- ▶ is associated with lowest incidence of disease
- ▶ is associated with longest healthy lifespan
- ▶ is consistent with evolutionary & animal models



NUTRIENTS	RDA	100% RDA		ODA
		Average Diet	"Good" Diet	
Vitamin A (µg)	800	900 ▶	1500 ▶	2500
Vitamin D (µg)	5	3.5 ▶	†15 ▶	30
Vitamin E (mg)	10	14 ▶	50 ▶	300
Vitamin C (mg)	60	100 ▶	200 ▶	2000
Vitamin B1 (mg)	1.4	2 ▶	5 ▶	35
Vitamin B2 (mg)	1.6	2.18 ▶	5 ▶	35
Vitamin B3 (mg)	18	39.6 ▶	50 ▶	85
Vitamin B5 (mg)	6	2.175 ▶	20 ▶	100
Vitamin B6 (mg)	2	3.1 ▶	5 ▶	75
Folic Acid (µg)	200	325.5 ▶	400 ▶	800
Vitamin B12 (µg)	1	5.95 ▶	10 ▶	25
Biotin (µg)	150	36.50 ▶	120 ▶	225

Key

 Average Diet

 "Good" Diet

RDA = Recommended Daily Allowance

ODA = Optimum Daily Allowance (Diet plus supplements)

* Items marked with an asterisk have no RDA.

† Includes vitamin D created by 20 minutes sun exposure per day.
More vitamin D may be needed in winter.



Good and bad foods in relation to key health factors

	Overall Health	Energy/ Blood Sugar	Digestion	Food Sensitivity	Immunity	Hormones (Male)	Hormones (Female)	Mind & Mood
Sugary Snacks	Very strong negative impact	Very strong negative impact	Very strong negative impact	Very strong negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Very strong negative impact
Salt	Very strong negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Very strong negative impact	Very strong negative impact
Refined Foods	Very strong negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact
Tea/Coffee	Very strong negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Very strong negative impact	Moderate negative impact
Wheat	Very strong negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact
Sugar	Very strong negative impact	Very strong negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Very strong negative impact	Very strong negative impact	Moderate negative impact
Processed Foods	Very strong negative impact	Very strong negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact
Dairy	Very strong negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact
Red Meat	Moderate negative impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate negative impact	Moderate negative impact	Very strong positive impact	Moderate negative impact
Alcohol	Moderate negative impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate negative impact	Very strong positive impact	Moderate negative impact	Very strong positive impact
Water	Moderate positive impact	Very strong positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact
Oily Fish	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact
Fresh Veg	Moderate positive impact	Very strong positive impact	Moderate positive impact	Very strong positive impact	Moderate positive impact	Moderate positive impact	Very strong positive impact	Moderate positive impact
Fresh Fruit	Very strong positive impact	Very strong positive impact	Moderate positive impact	Very strong positive impact	Moderate positive impact	Moderate positive impact	Very strong positive impact	Moderate positive impact
Nuts/Seeds	Very strong positive impact	Very strong positive impact	Moderate positive impact	Very strong positive impact	Moderate positive impact	Very strong positive impact	Moderate positive impact	Very strong positive impact

Key: This chart shows the apparent impact of increasing consumption of each food for key health factors

- = Moderate negative impact
- = Strong negative impact
- = Very strong negative impact
- = Moderate positive impact
- = Strong positive impact
- = Very strong positive impact



The Optimum Diet Pyramid

Fat

A handful of ground seeds and nuts and a dessertspoon of cold-pressed oil.

Protein

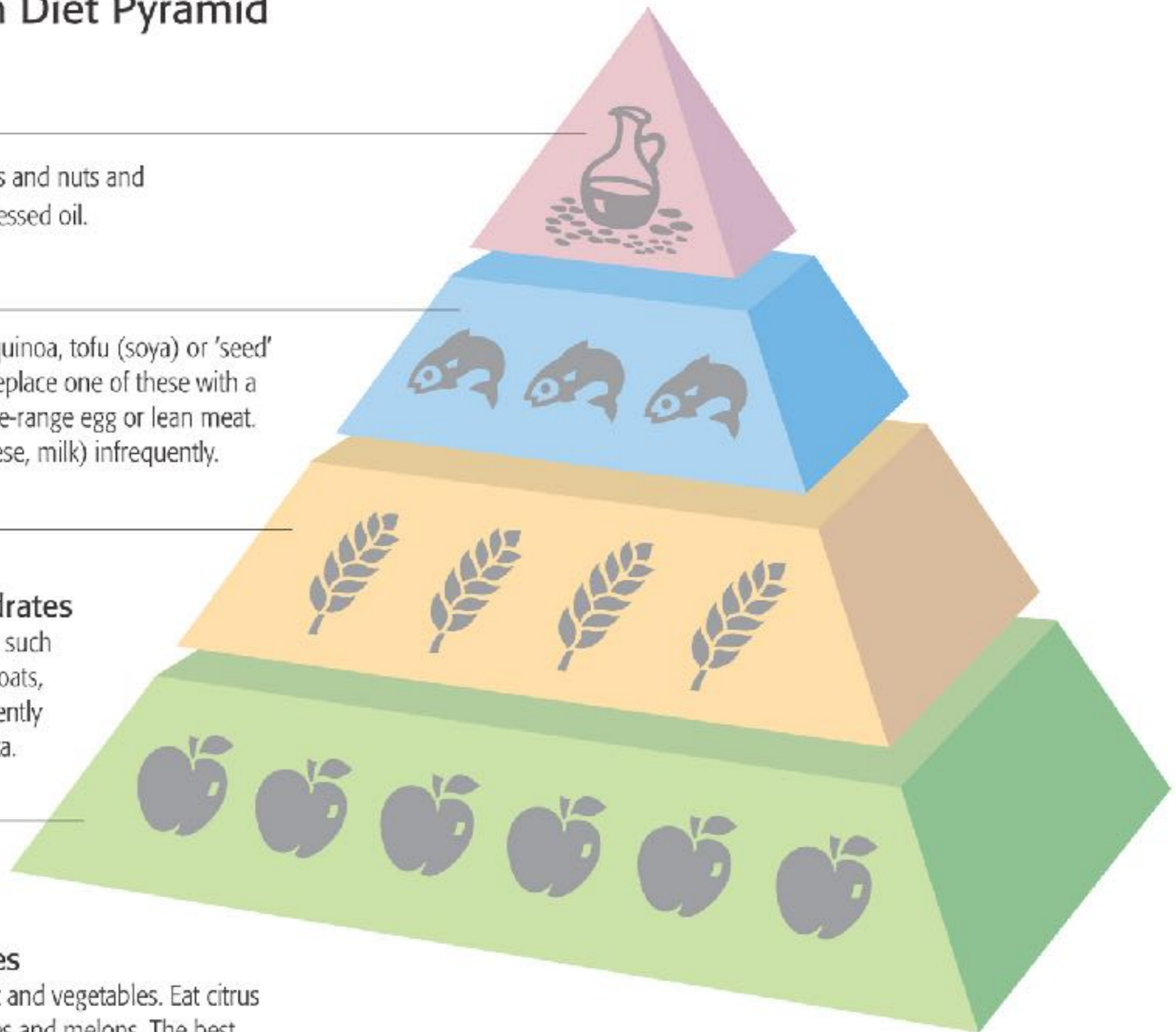
3 servings beans, lentils, quinoa, tofu (soya) or 'seed' vegetables. Alternatively replace one of these with a small helping of fish, a free-range egg or lean meat. Have dairy products (cheese, milk) infrequently.

Complex Carbohydrates

4 servings of wholegrains, such as brown rice, millet, rye, oats, corn, quinoa, and infrequently wholewheat bread or pasta.

Fruit and Vegetables

6 or more servings of fruit and vegetables. Eat citrus fruits, apples, pears, berries and melons. The best vegetables are dark green, leafy, and root vegetables.



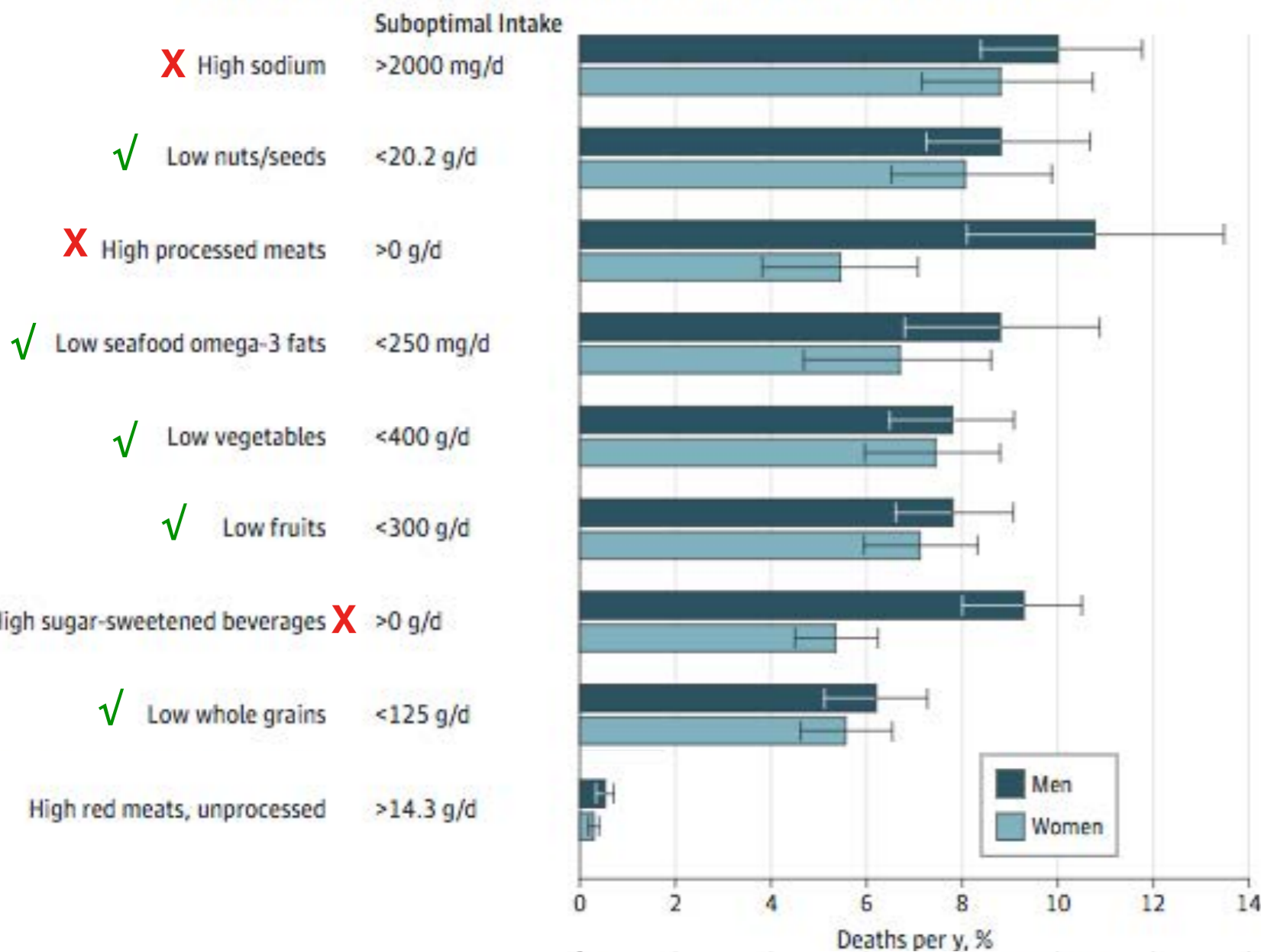
March 7, 2017

JAMA The Journal of the
American Medical Association

“Nearly half of all deaths due to heart disease, stroke, and type 2 diabetes in the U.S. in 2012 were associated with suboptimal nutrition.”



Proportional cardiometabolic mortality attributable to dietary habits in the United States in 2012



	Overall Health
Sugar Based Snacks	0.32
Salt	0.43
Wheat	0.43
Added Sugar	0.50
Dairy	0.54
Tea/Coffee/Cola	0.59
Refined Foods	0.60
Restaurants/Processed Meals	0.64
Red Meat	0.75
Water	1.54
Vegetables/Salad	1.80
Oily Fish	1.94
Fresh Fruit	2.14
Nuts and/or Seeds	2.55

Nutrient dense working class diet



P Clayton, J Rowbotham, J. Royal Society of Medicine, 2008



The ROYAL
SOCIETY *of*
MEDICINE

“The authors believe that, since it would be unacceptable and impractical to recreate the high calorie mid-Victorian working class diet, this constitutes either a persuasive argument for a more widespread use of food fortification and/or food supplements.”



The healthiest 100 take supplements



- ▶ 85% took supplements
- ▶ 2/3rds took up to four different supplements a day and a third took five or more a day.
- ▶ 70% supplemented vitamin C as an extra, most taking between 500mg and 3g a day.



=



Take 1 with breakfast, 1 with lunch



If you have Get Up & Go don't take the strip. There's no problem taking with dinner except they might give you more energy, hence harder to sleep.

SEAL
PROTECTION
FOR YOUR PROTECTION
SEAL
PROTECTION
PROTECTION

patrick
HOLFORD
Optimum Living Made Easy

CONFLICT OF INTEREST

I receive 5% royalty on the trade price of vitamins with my name on it. If you buy a supplement for £10 I will earn a bit less than 25p. I spend half that money promoting nutrition education. The other half I live off, together with my book royalties. Thank you.

Are supplement takers healthier?



Gladys Block et al, *The Nutrition Journal*, 6: 30, 2007

- ▶ 73% less diabetes risk than non-supplement takers
- ▶ 52% less heart disease risk than non-supplement takers
- ▶ 74% more likely to rate their own health as good/excellent
- ▶ 45% of non-supplement takers, 37% of RDA multi takers, and only 11% of 'many' supplement takers had elevated homocysteine (above 9). Same pattern for cholesterol.
- ▶ 94% of 'many' supplement takers had optimal blood vitamin C levels. None were sub-optimal. 32% of non-supplement takers and 11% of the RDA multi takers were sub-optimal.



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Optimum Living Made Easy

THE
**OPTIMUM
NUTRITION
BIBLE**

'THE BOOK YOU HAVE TO READ
IF YOU CARE ABOUT YOUR HEALTH'
SUNDAY TIMES

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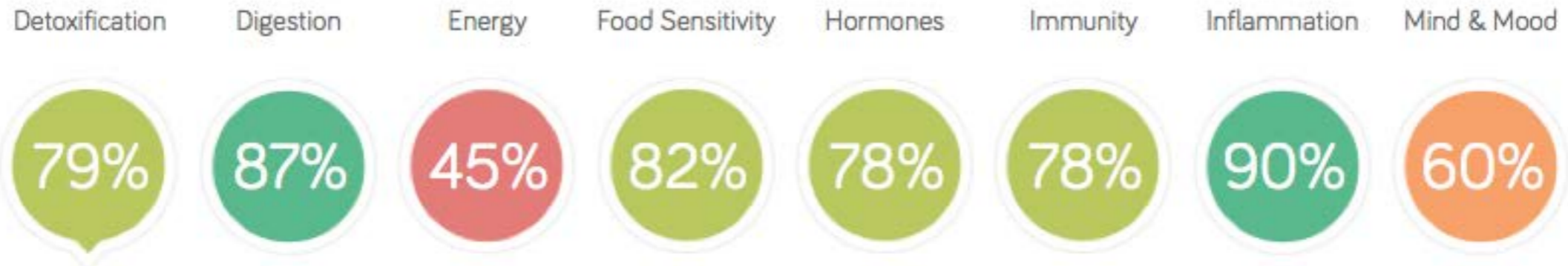
SEE INSIDE FOR DETAILS
**FREE
ONLINE
HEALTH
CHECK**

The **10**
**Secrets of
100% Healthy
People**

SOME PEOPLE NEVER GET SICK
AND ARE ALWAYS FULL OF ENERGY
- FIND OUT HOW!

YOUR SYSTEM SCORES

Your body systems are responsible for keeping you healthy and dealing with the many environmental challenges thrown at you. Your system scores calculate how well different body systems are functioning based on your symptoms, click on a system to read about it in more detail.



YOUR PROCESS SCORES

Your body's chemistry is an amazing balancing act, dependent on five core biological processes. When these fundamental processes are out of balance it has knock on effects to many body systems. Your process scores are calculated from your symptoms, click on a process to read about it in more detail.



7 key processes

- ? **Glycation - sugars, soluble fibres**
- ? **Lipidation - EFAs, phospholipids, VitD, keto diet**
- ? **Oxidation - antioxidants/polyphenols**
- ? **Hydration - water**
- ? **Methylation - B vitamins etc**
- ? **Digestion - enzymes, probiotics, fibres etc**
- ? **Communication - hormones, neurotransmitters, cytokines & inflammation**



Holford Retreat Coaching Tools

COACHING TOOL	HELPFUL FOR
1. Wheel of Life	Understanding which areas of your life you want to improve, as you work on your health and wellness goals
2. Habit Loop (habits to make / break)	Unpick default habits which are not serving you. Get unstuck. Create new neural (healthier habits) pathways
3. Wellness Vision	Understanding what you really want and why it is important to you now. How will life be different for you once you have reached your health and weight goals? Keeping your motivation up

Holford Retreat Wheel of Life



MARCELLE DUBRUEL
transform your weight, health & life

Creating Balance



What is getting in your way of reaching your dream health and weight?

- Physical – underlying health issues acting as barriers that need addressing
- Habitual – ingrained habits – the known / normal
- Practical – lack of time, lack of resources, practical difficulties in making changes
- Motivational – no clear ‘why’ established and lack of motivation and commitment to change
- Environmental – the environment in which you live does not support a healthy lifestyle
- Non-hunger eating food is used to deal with emotions – boredom, sadness, lonely, restless

Wheel of Life

The wheel of life

IMPROVING YOUR HEALTH & LIFESTYLE IS AN IMPORTANT 'WHOLE LIFE' DECISION.

There can be many reasons why we have not achieved what we want in the past. Taking a look at your whole life (rather than just one aspect of it) helps you to set goals that will have a positive impact in other areas, helping you uncover things that may be holding you back.

Take a look at what's working in your life right now and where else you would like to see improvements; then find ways to link your health goals, so there is a positive impact in other ways too, helping to increase your motivation and commitment.

For example, if you would like to improve your social life and your fitness level, think about how you could link the two. Consider each area of your life now and rate on a scale of 1 - 10 how satisfied you feel in these areas. 10 is high and 1 is low. e.g. If the level is 4, put a cross on the 4th circle from the centre.

- 1) Rate each area of your life according to your level of satisfaction.
10 being highly satisfied
0 unsatisfied, not working well

- 2) Which areas are you happier with? What is influencing these areas?

- 3) Consider areas which are not working well for you and *choose* the areas you would like to improve.

- 4) Add these to your health and wellbeing goals.



What are my lowest scores? How do I feel about this?
Areas in my life I would like to improve:
(add these to your goals & vision for this programme):

Rebalance

How can you rebalance your life?

What do you need?

What would help you?

What else?

Anything else?



In Summary

- Successfully reaching and sustaining a health goal takes a “whole life” approach
- Improving one area of your life, has a ripple effect across other areas
- Use this opportunity to experience the various wellness activities and tools and add those that resonate with you to your health plan



MARCELLE DUBRUEL
transform your weight, health & life



Evening Relaxation

Kath Relaxation ocean



Kath Relaxation

Silence of peace

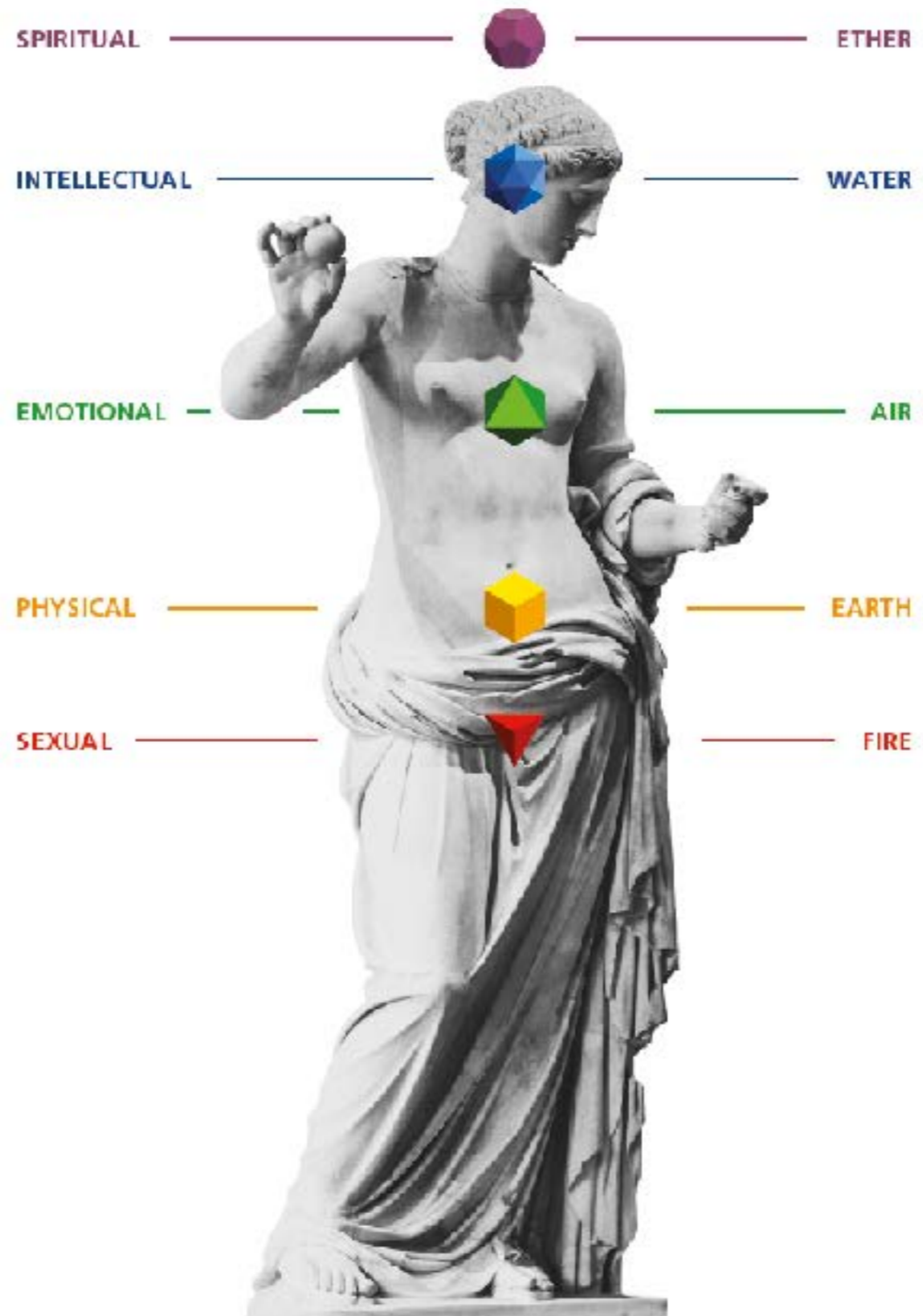




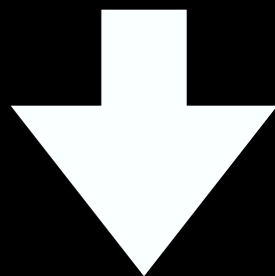
Day 2 Exercises

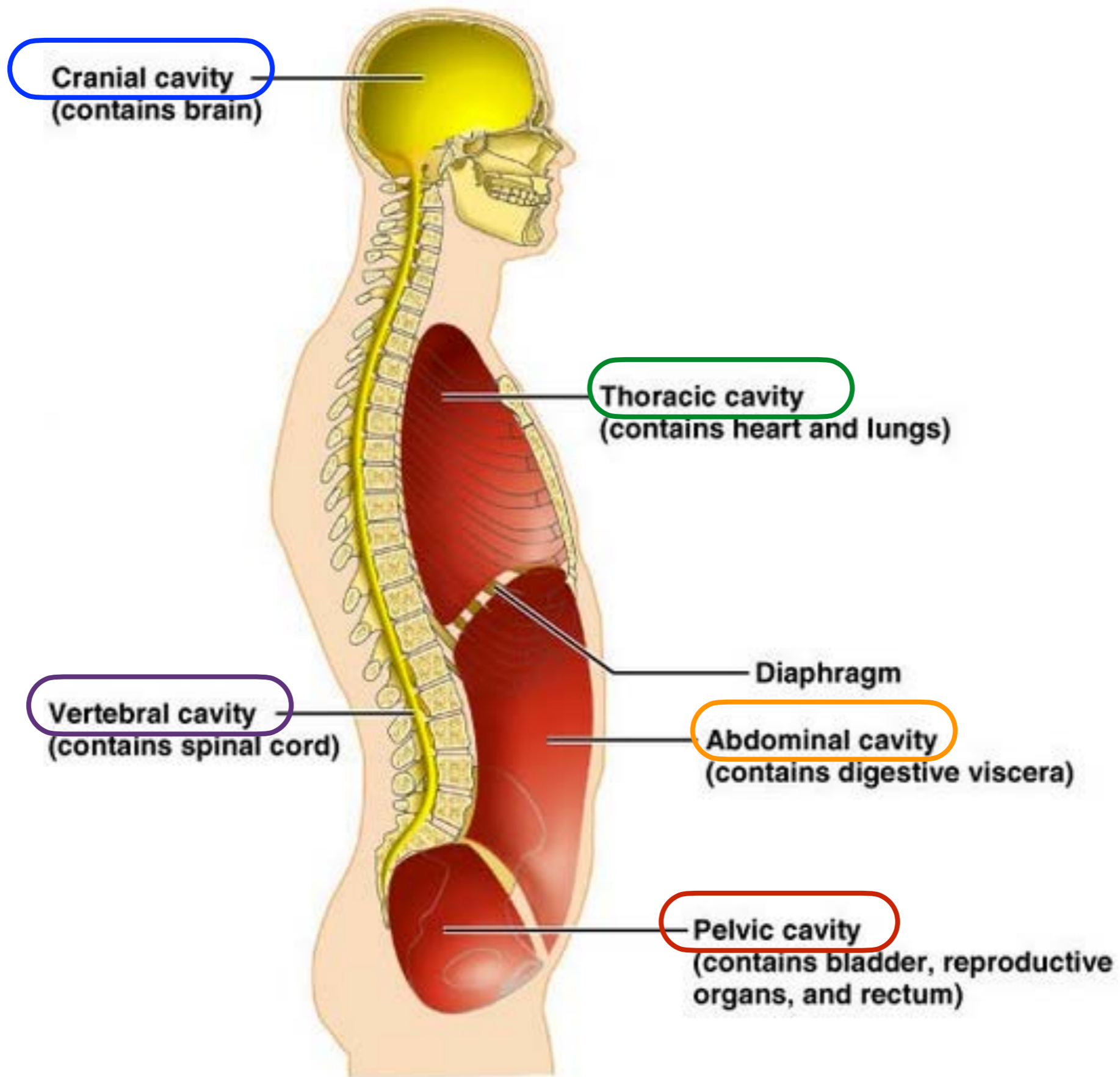
ZONE

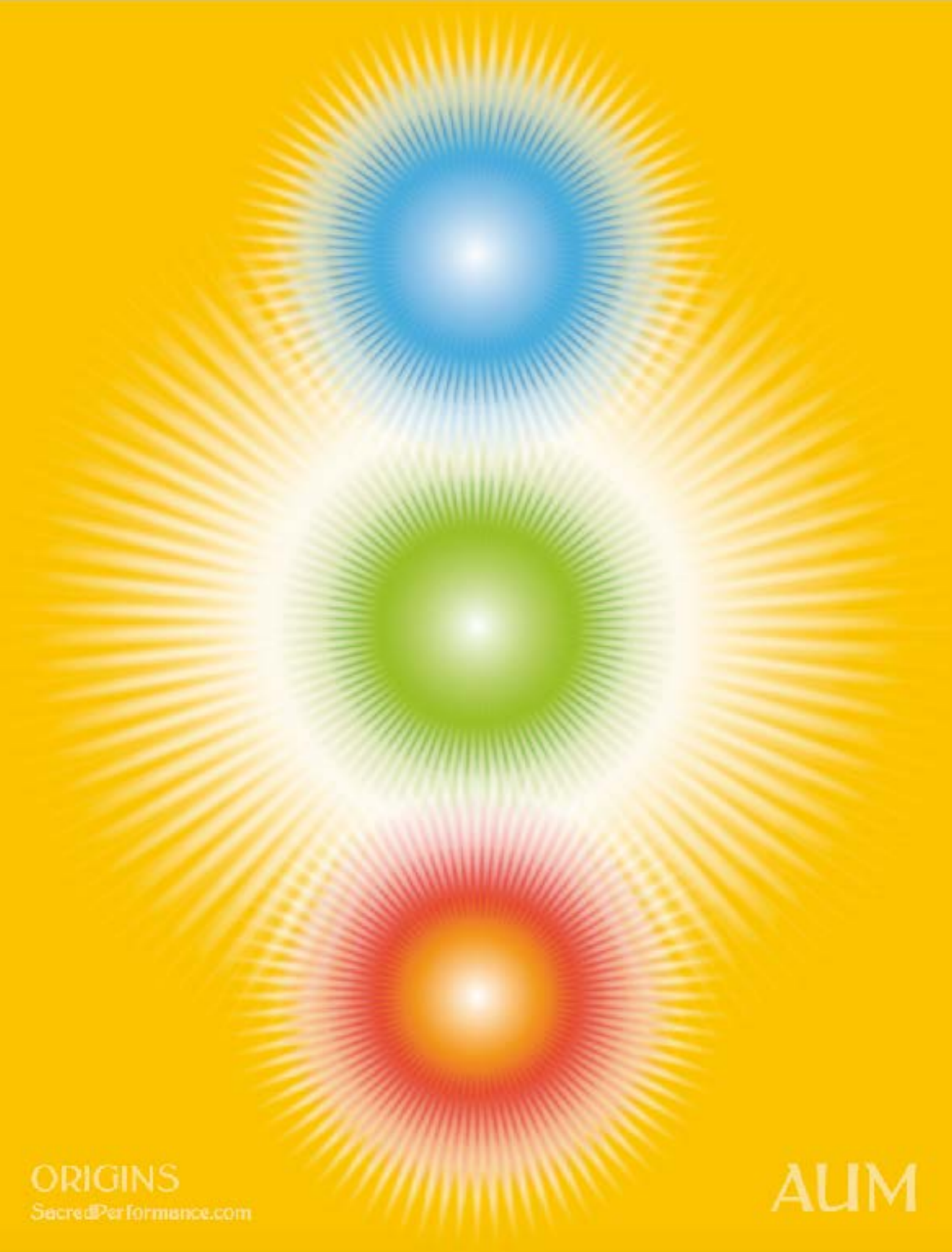
ELEMENT



*The five zones of connection.
(Reproduced with kind permission of Malcolm Stewart from Symbols of Eternity.)*







mind

intelligence & adaptability

Losing mind/dementia/crazy

heart

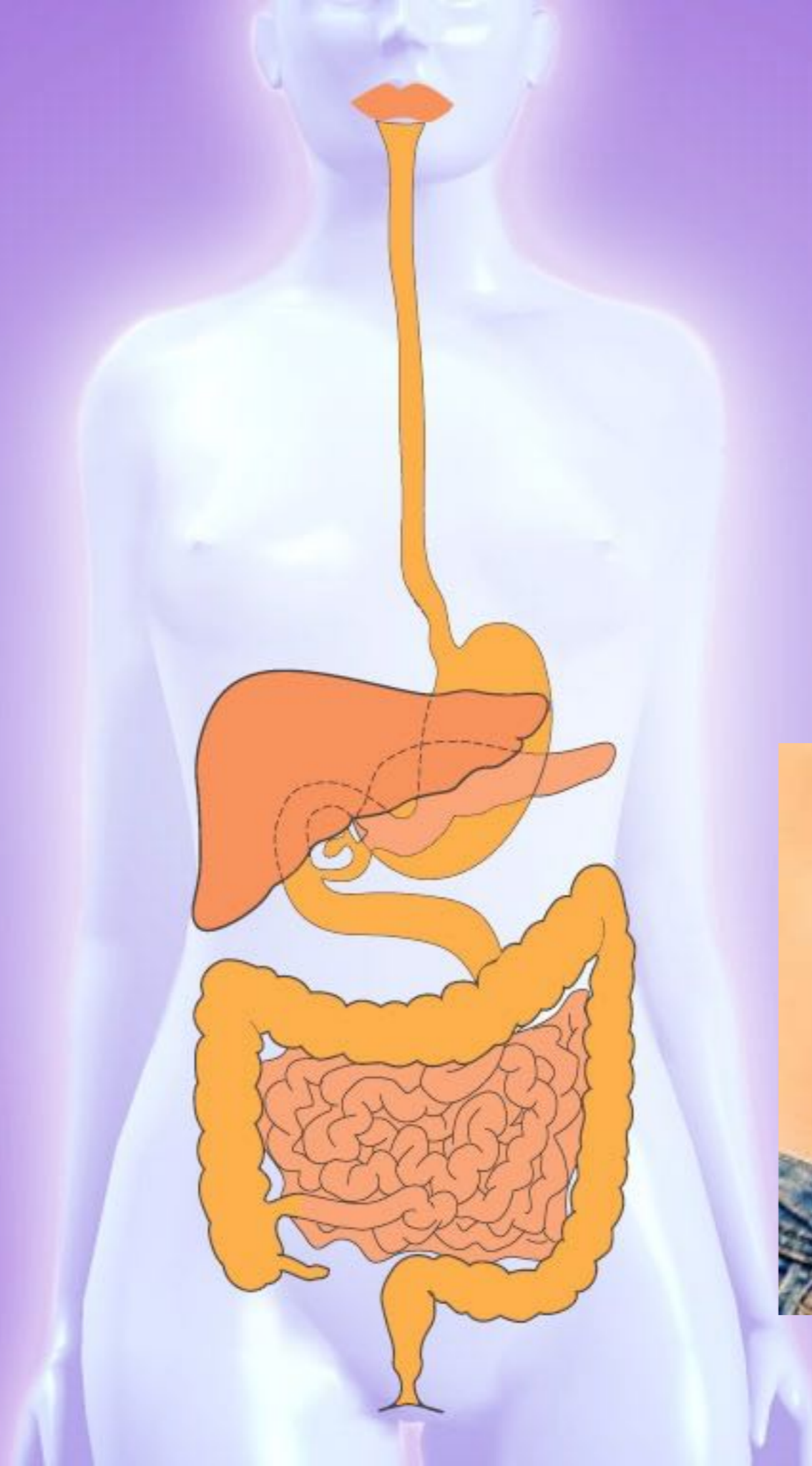
emotions & relations

Not belonging/been lonely

body

being, direct experience

Not being/death & disability





Crosslegged



Kneeling



Sitting in a chair

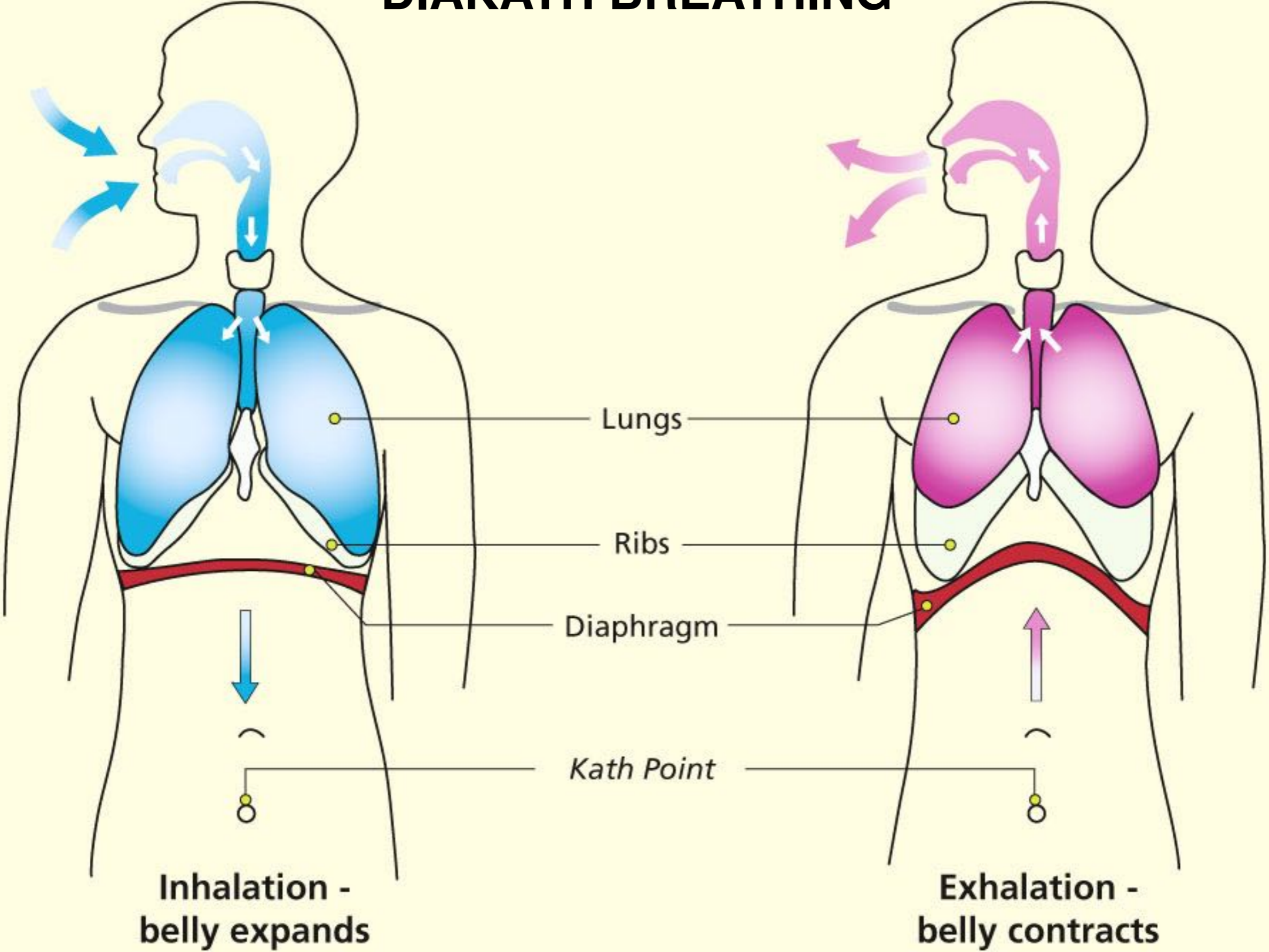


Half lotus



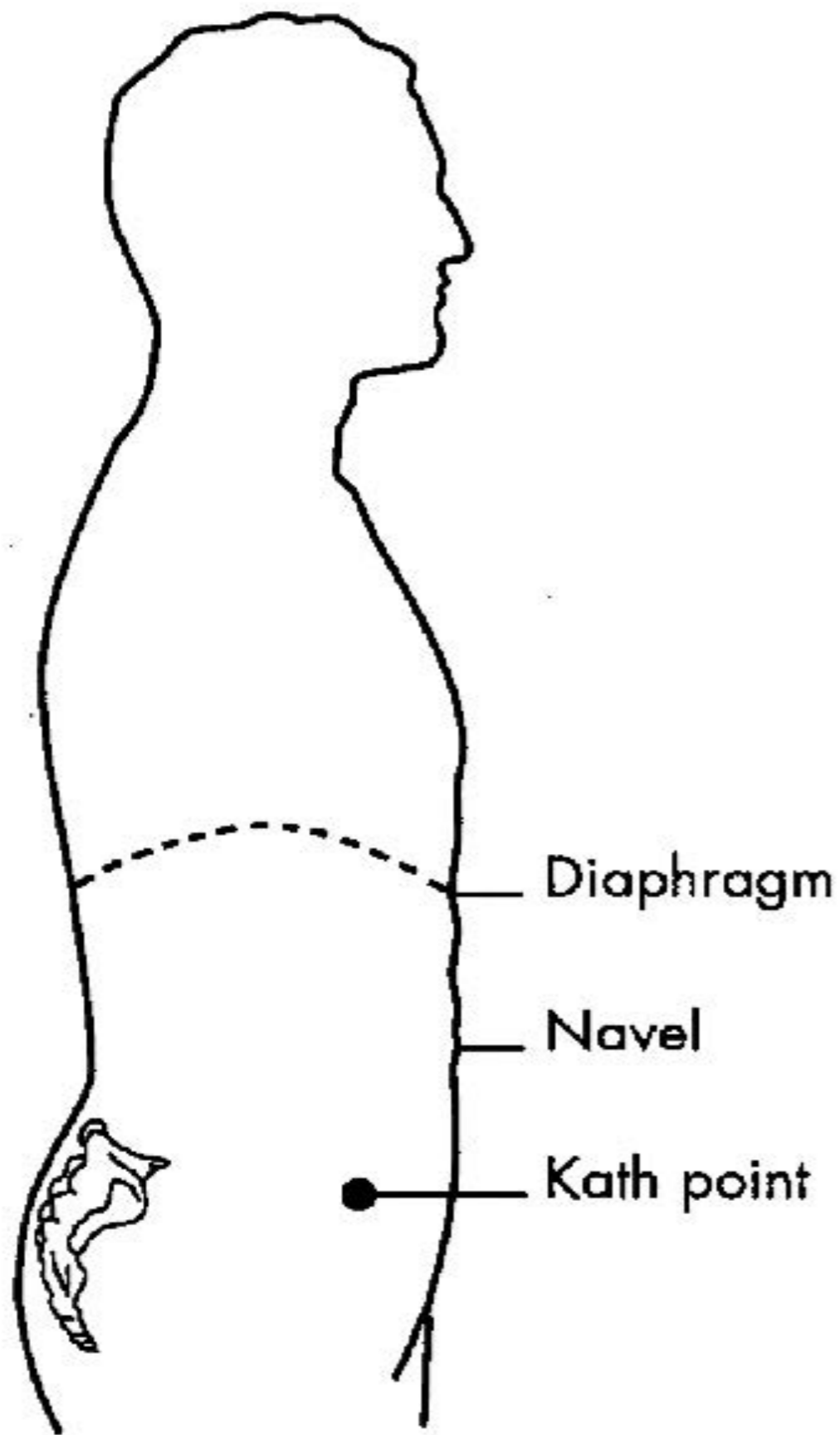
Sitting against a wall

DIAKATH BREATHINGsm

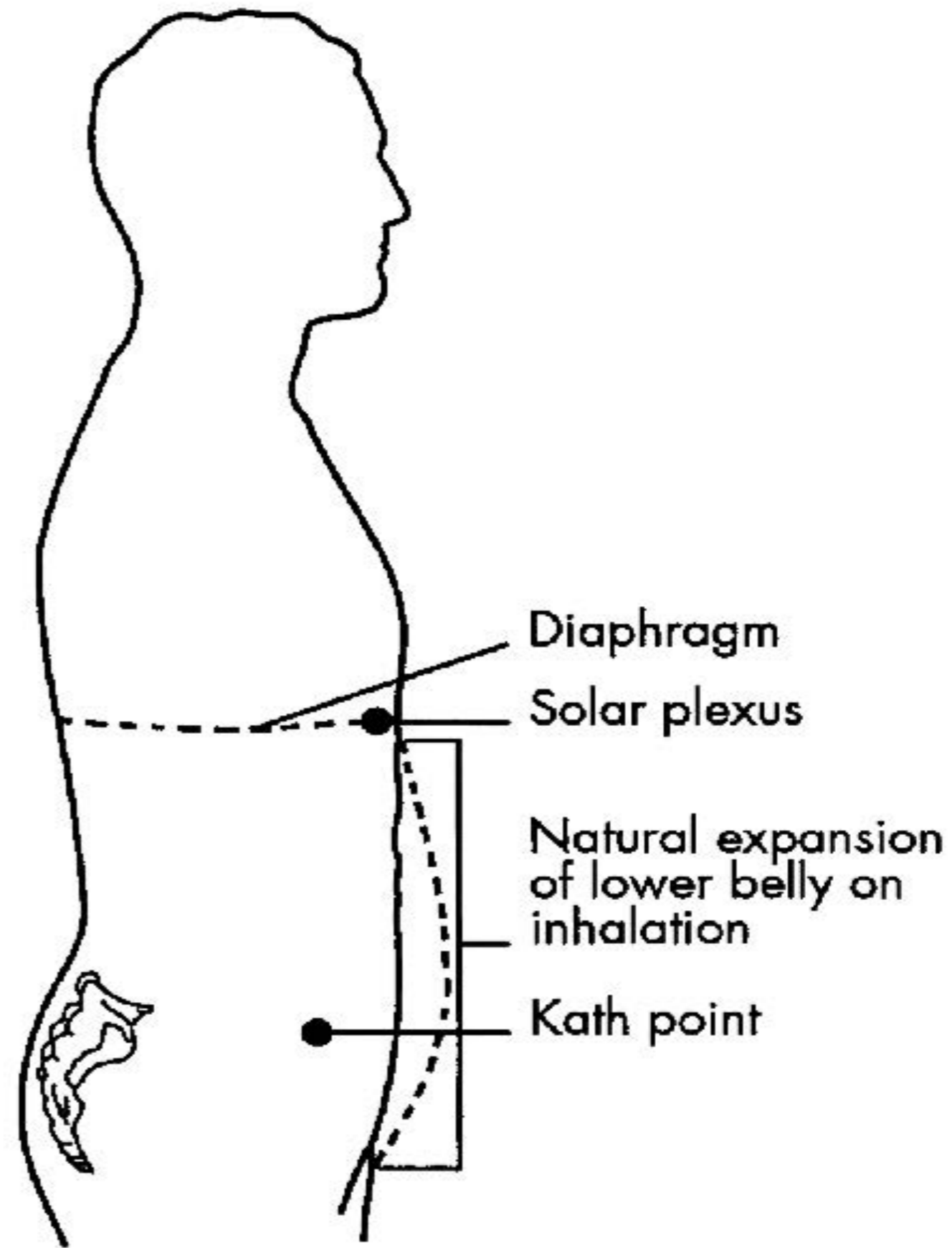


**Inhalation -
belly expands**

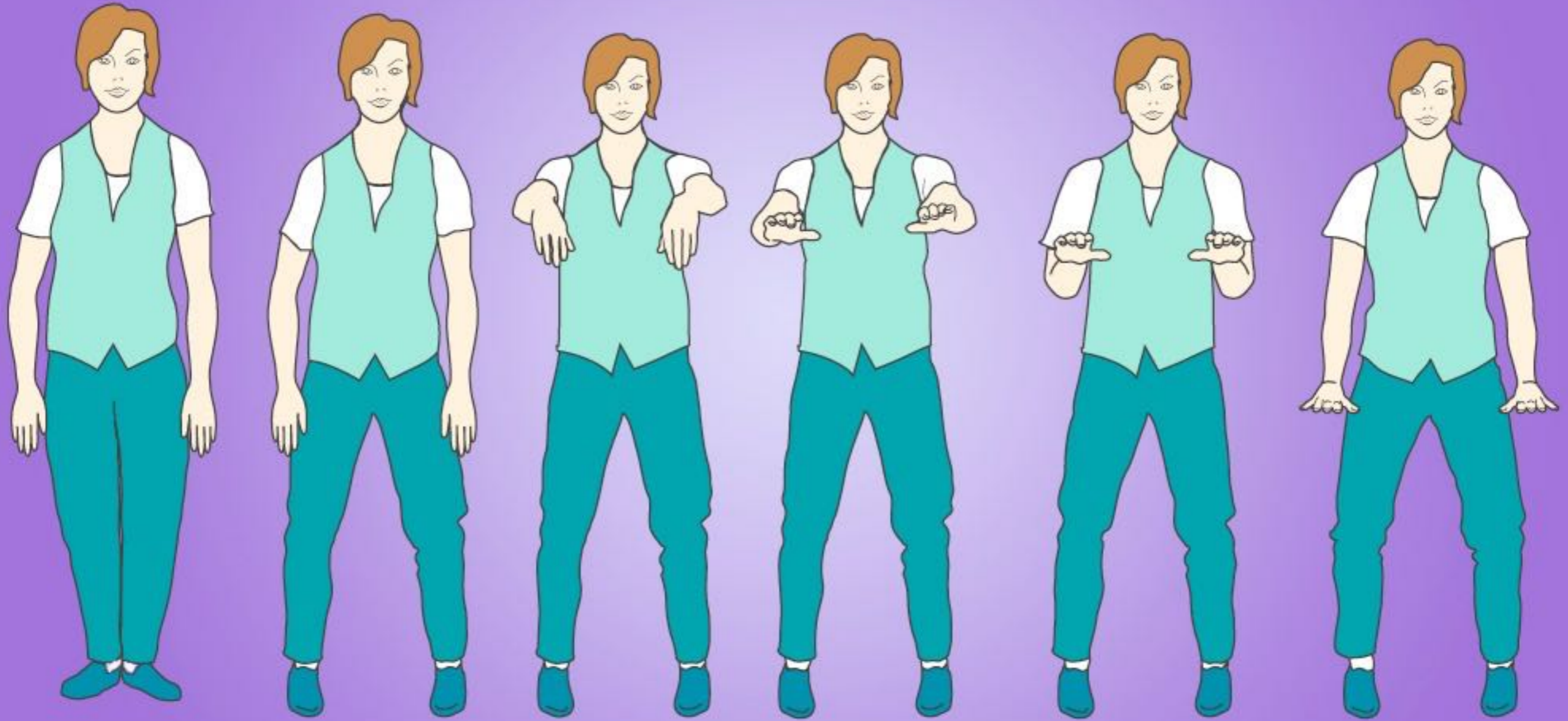
**Exhalation -
belly contracts**



KATH POINT



BELLY EXPANDED



ENERGY BREATHING sm



© 2002 Oscar Ichazo.
Energy Breathing is a
service mark of Oscar
Ichazo. Used by permission.



In my life I had
accumulated many things
in my head.....
Too MANY THINGS..!

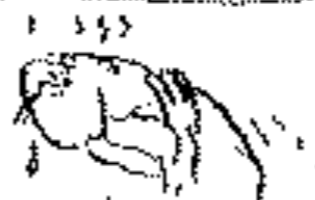


OVERLOOKING MY LIFE SO FAR

Memories, times, facts,
fears, visions, loves...
etc. etc. as many
as possible



In a fertile mind such
things will interbreed.
mongrel visions are born
... hybrid memories...
inbred, idiot love...
It gets very CONFUSING



I decided it was
time for a good
cleanup so I emptied
it all out of my head
and pushed it up in
a big heap to sort
it out.



There it was... everything
that was me, all in a big
jumbled heap. I walked
around it. What a mess..!



Then suddenly I saw
it in silhouette and
realized what it was...
IT WAS A HEAP...
A SIMPLE HEAP...!
You don't sort it out...
you climb it... you climb
it because it is there...



Excitedly I clambered
to the summit and
raised a flag. I was
now looking beyond
everything that I
knew.



THE VIEW
WAS
SIMPLY
MAGNIFICENT



7 key processes

- ? **Glycation - sugars, soluble fibres**
- ? Lipidation - EFAs, phospholipids, VitD
- ? Oxidation - antioxidants/polyphenols
- ? Methylation - B vitamins etc
- ? Hydration - water
- ? Digestion - enzymes, probiotics, fibres etc
- ? Communication - hormones, neurotransmitters, cytokines & inflammation





BALANCE YOUR BLOOD SUGAR

**GAIN ENERGY,
LOSE WEIGHT,
STOP CRAVINGS,
PREVENT & REVERSE DIABETES**



Too much insulin...



- ▶ **Promotes fat storage** and stops you breaking down fat, so you gain more and more weight. Increases non-alcoholic fatty liver.
- ▶ **Increases cholesterol and triglycerides** (blood fats)
- ▶ It causes the kidneys to retain both water and salt, which leads to **high blood pressure**. In time this leads to **kidney failure**
- ▶ Causes **rapid deterioration of eyesight**
- ▶ The combination of **too much insulin and too much glucose damages the arteries** and raises your blood pressure, both of which make thrombosis, heart attacks and strokes more likely
- ▶ **Makes cancer cells grow fast** mainly due to increased insulin-like growth factor (IGF-1)
- ▶ **Switches off anti-ageing genes** (DAF on, FOXO off)



How to lower insulin



Bao J, Am J Clin Nutr. 2011; Krog-Mikkelsen I, J Nutr. 2011; Grover G, Front Pharm. 2011

- ▶ High protein/fat, low carb diet (low GL diet)
- ▶ Less carbs and the right carbs, more protein (low GL diet)
- ▶ Having low GI carbs with protein and/or with viscous fibres (achieves low GL and low insulin)
- ▶ Eating less - eg low calorie diets, modified 'alternate day' fasts
- ▶ Chromium (improves insulin reception)
- ▶ Less meat and dairy (raises Insulin-like Growth Factor - IGF-1)

GL of a diet predicts the insulinemic response and satiety.

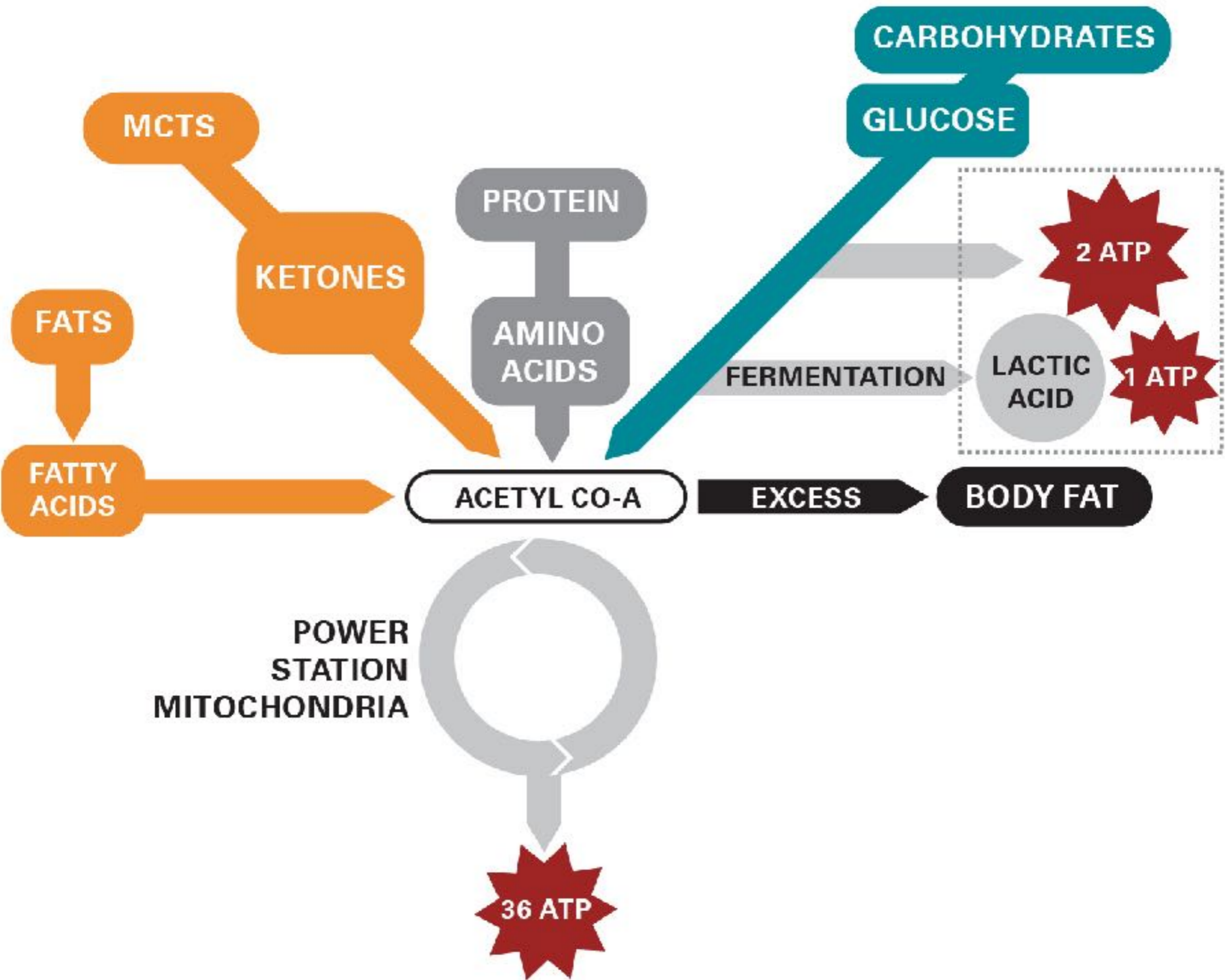
GL of diet determines insulin response



Bao J, Am J Clin Nutr. 2011; Krog-Mikkelsen I, J Nutr. 2011; Grover G, Front Pharm. 2011

- ▶ GL of a diet predicts the insulinemic response.
- ▶ Low GL diets promote satiety and reduce insulin levels after a meal.
- ▶ Only the diet supplemented with the highly viscous (soluble) fiber, compared to other fibres, substantially decreased blood glucose and insulin secretion.





Pluses and minuses of v.low carb



Qin, *Int J Food Sci Nutr.* 2009; Melnick *Med Hypoth.* 2009; Schwingshackl *PLoSOne* 2014;

- ▶ Variations on the Atkins diet, with high protein and fat, and low carbs, have consistently been shown to be effective for short-term weight loss, but not as good long term as low GL diets.
- ▶ Diabetes reverses.
- ▶ Measures of cardiovascular risk tend to stay the same.
- ▶ Quite a few studies show apparent increased mortality, associated with too much animal protein.
- ▶ Increased (animal) protein consumption increases risk of kidney stress. This effect is seen when protein above 25% of calories.
- ▶ High meat and especially dairy diets are also associated with raised insulin-like growth factor (IGF-1) and increased risk of breast, prostate cancer and colorectal cancer.



The American Journal of **CLINICAL NUTRITION**

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Meat, dairy, and cancer^{1,2,3,4}

Zaynah Abid, Amanda J Cross, and Rashmi Sinha

Author Affiliations

Author Notes

Abstract

In 2007 the World Cancer Research Fund and American Institute for Cancer Research (WCRF/AICR) report judged that the evidence for an association between red and processed meat consumption and colorectal cancer was convincing. In addition, the effect of other animal products on cancer risk has been studied, and the WCRF/AICR report concluded that milk probably decreases the risk of colorectal cancer but diets high in calcium probably increase the risk of prostate cancer, whereas there was limited evidence for an association between milk and bladder cancer and insufficient evidence for other cancers. There are several potential mechanisms relating meat to cancer, including heterocyclic amines, polycyclic aromatic hydrocarbons, *N*-nitroso compounds, and heme iron. Although the evidence in favor of a link between red and processed meat and colorectal cancer is convincing, the relations with other cancers are unclear. In this review,



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High Fat Low Carb ketogenic pluses



- ▶ Switching on 'autophagy' - the cellular clean up

Phagophores
Collect damaged proteins,
burnt-out Mitochondria,
defective cell parts and
invading pathogens
and takes them to
Lysosomes

Lysosomes
Recycling units
break down things
with enzymes

Damaged mitochondria
To be recycled in
Lysosomes

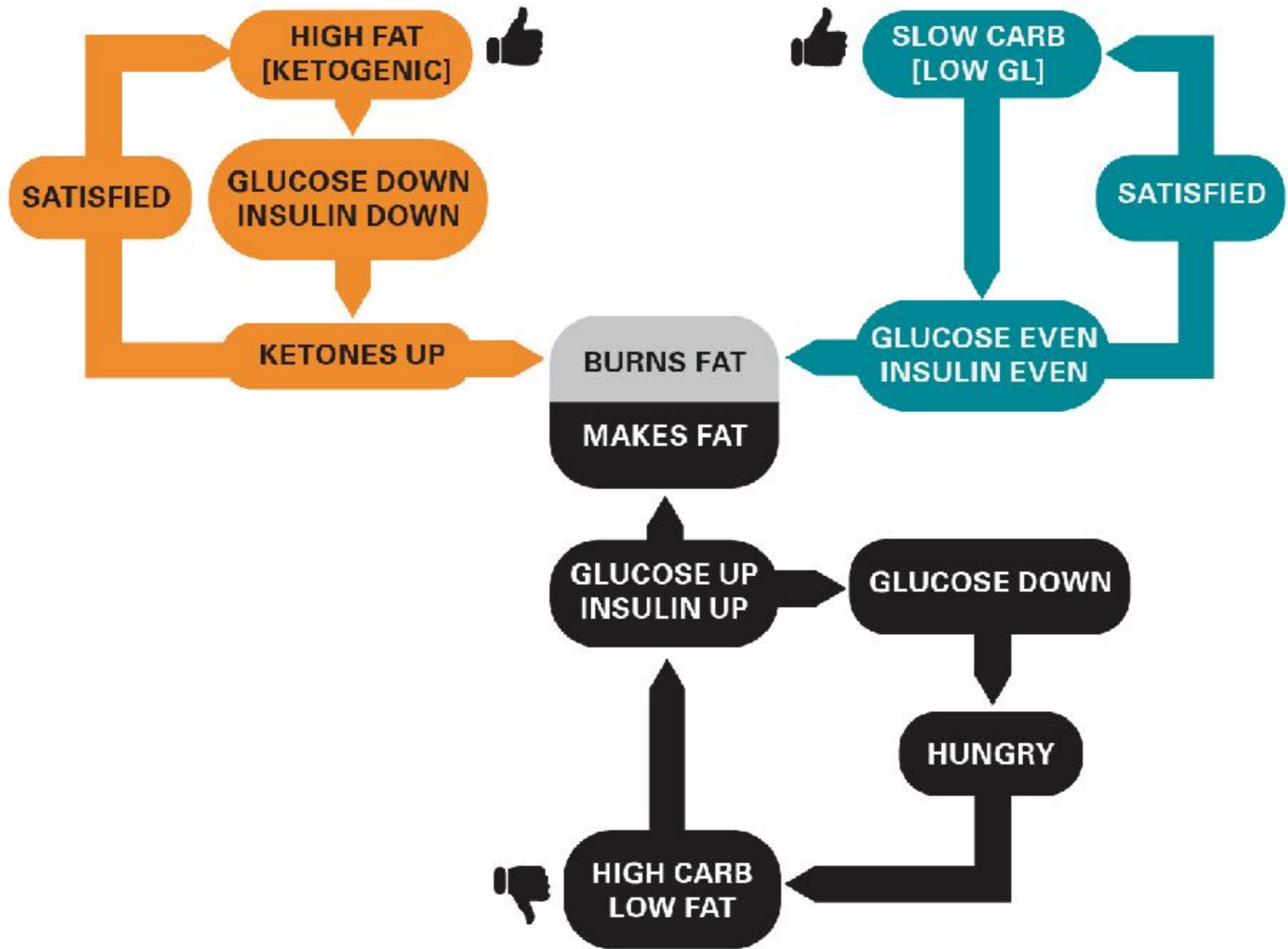
Mitochondria
Energy-producing
power plant

Ribosomes
Make proteins
need amino acids
from protein

Nucleus
Enclosing most of the
cell's genetic material



AUTOPHAGY



High Fat Low Carb ketogenic pluses



- ▶ Switching on 'autophagy' - the cellular clean up
- ▶ Epilepsy, Parkinson's, MS, schizo/mania, CFS, dementia
- ▶ Cancer - especially lung and brain cancer (gliomas) -
- ▶ Rapid diabetes reversal & weight loss
- ▶ Best with moderate protein, more fish/vegetable source



HYBRID

Go Hybrid for a week
for weight loss, energy
gain, cellular renewal

with
Patrick Holford &
Marcelle Dubruel

At



FAST DETOX RETREAT



- ✓ Massage
- ✓ Meditation
- ✓ Hot tub
- ✓ Steam shower
- ✓ Nature walks
- ✓ Stress Resilience
- ✓ Heartmath
- ✓ Health and Life Coaching

SEPT 8-15th 2022
Places limited
to 20 people

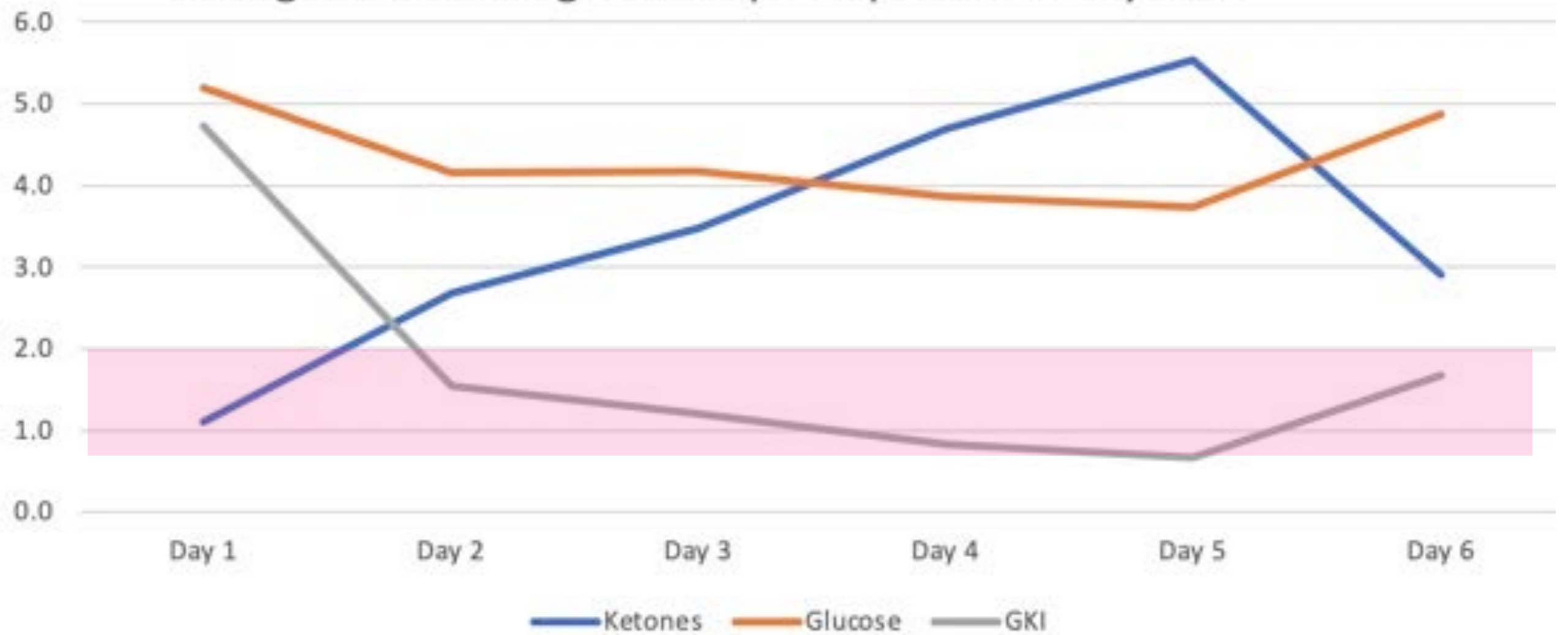
BOOK NOW at
hybriddiet.co.uk

Secure your place now with
£300 deposit

Sometimes, to move forward... you have to retreat

JOIN THE
LOW-CARB
REVOLUTION

Average Blood testing from 20 participants on 5 day Diet



YOUR RESULTS

HYBRID

- ▶ We lost 65kg (144lbs - over 10 stone!)
- ▶ Average weight loss was 3.3kg (7lbs)
- ▶ Energy score went from 5.3/10 to 9.3/10

Biggest loser was Charlie, losing 5.5kg - 12 lbs!



Why calorie theory is wrong

HYBRID

- ▶ 9 cals per gram of fat
- ▶ We lost 3,300g = 29,700 calories
- ▶ Average woman's calorie intake to maintain weight is 1,500 cals
- ▶ So, $29,700 / 1,500 = 19.8$ days
- ▶ According to calorie theory you'd have to starve for 20 days to lose this much fat



Cara Ebbeling et al. inc & David Ludwig, November, 2018

Research

Effects of a low carbohydrate diet on energy expenditure during weight loss maintenance: randomized trial

Three groups: (all 20% protein)

60% carbs, 20% fat (135 GLs).....
40% carbs, 40% fat (80 GLs) - 91 cals per day extra burnt off
20% carbs, 60% fat (20 GLs) - 209 cals per day extra burnt off

After participants had lost 12% of weight they fed volunteers the calories needed to maintain that weight for 20 weeks, in the different carb/fat groups

50/50

FAT/SUGAR



50/50 Fat/Carb combo is addictive



- ▶ Grains are carbs and a little protein
- ▶ Beans are protein and a little carbs
- ▶ Nuts and seeds are mainly fat and protein
- ▶ Meat and fish are fat and protein
- ▶ Eggs are fat and protein
- ▶ Fruit is carbs
- ▶ Hard cheese is fat and protein
- ▶ Confectionary is usually fat and carb
- ▶ Milk is fat (49%), protein (21%) and carbs (30%)

Food	Insulin level	Glucagon	Hunger	Fat storage
Carbs and fat	+++++	No change	+++++	+++++
Carbs only	++++	No change	++++	++++
High GL carbs and protein	+++++	++	+++	++++
Low GL carbs and protein	+++	++	+	
Fat and protein	++	++	+	

Your ideal HbA1c



- ▶ Ideally, 5% (31mmol/mol) or less should be. That's healthy.
- ▶ Above 5.4% (36) and in studies you can already pick up brain shrinkage and cognitive decline.
- ▶ Above 6% (42) is considered pre-diabetic.
- ▶ 6.5% (48) or higher is considered diabetic.
- ▶ For both brain and body health you certainly want to be below 5.4% (36mmol/l)
- ▶ (It's measured slightly differently in the UK, in mmol/mol, which is the number shown in brackets.)



DRI functional TEST (DRIFT) PROGRESS REPORT

Your Dementia Risk Index functional Test overall score is derived from four individual tests. These are HbA1c as a functional measure of your glucose control; Homocysteine which is an indicator of 'methylation and B vitamin status; omega-3 and vitamin D. These are your latest results.

DRIFT

LOW RISK SMALL SIGNIFICANT HIGH RISK



SIGNIFICANT

HIGH RISK

SMALL

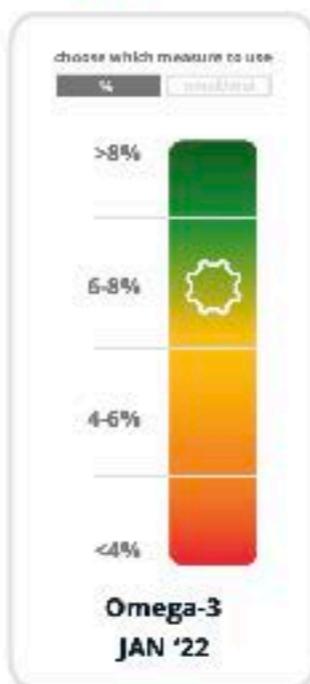
SMALL



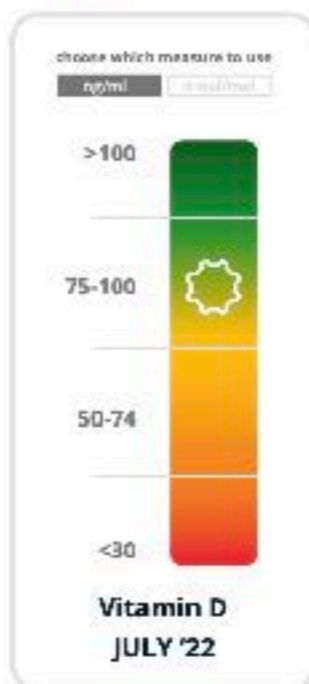
Previous Results



Previous Results



Previous Results



Previous Results



foodforthebrain.org

Screenshot

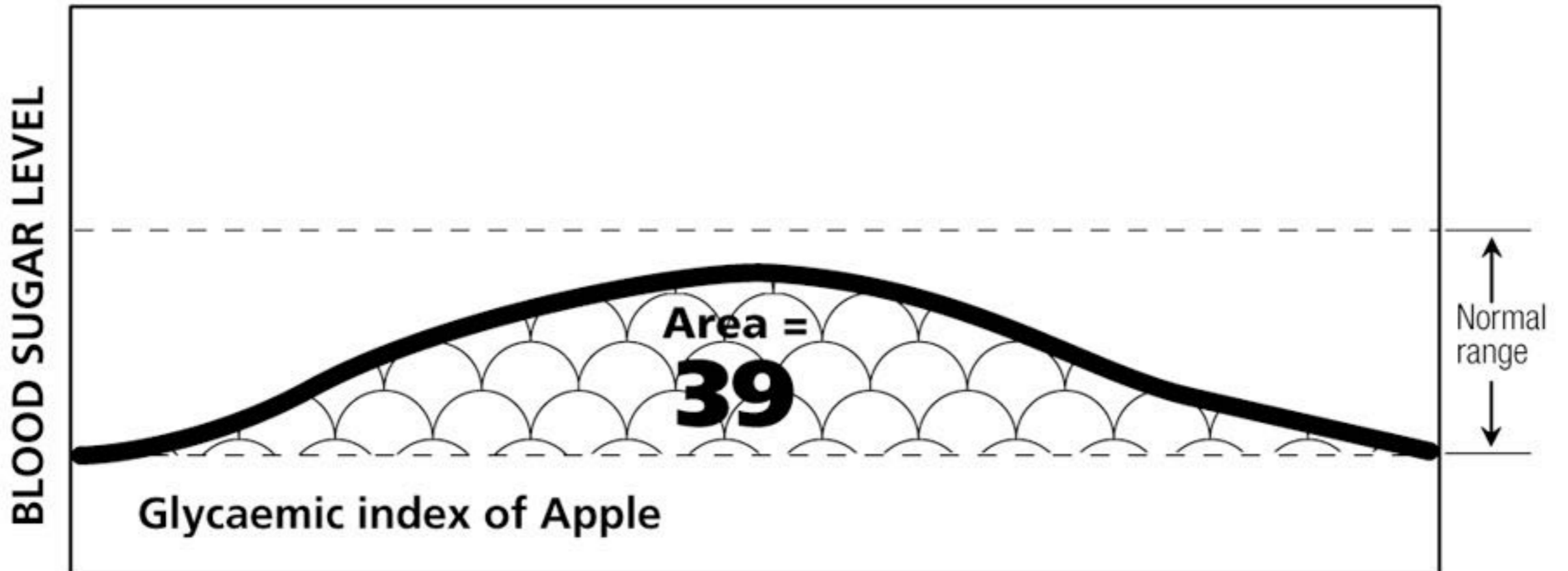
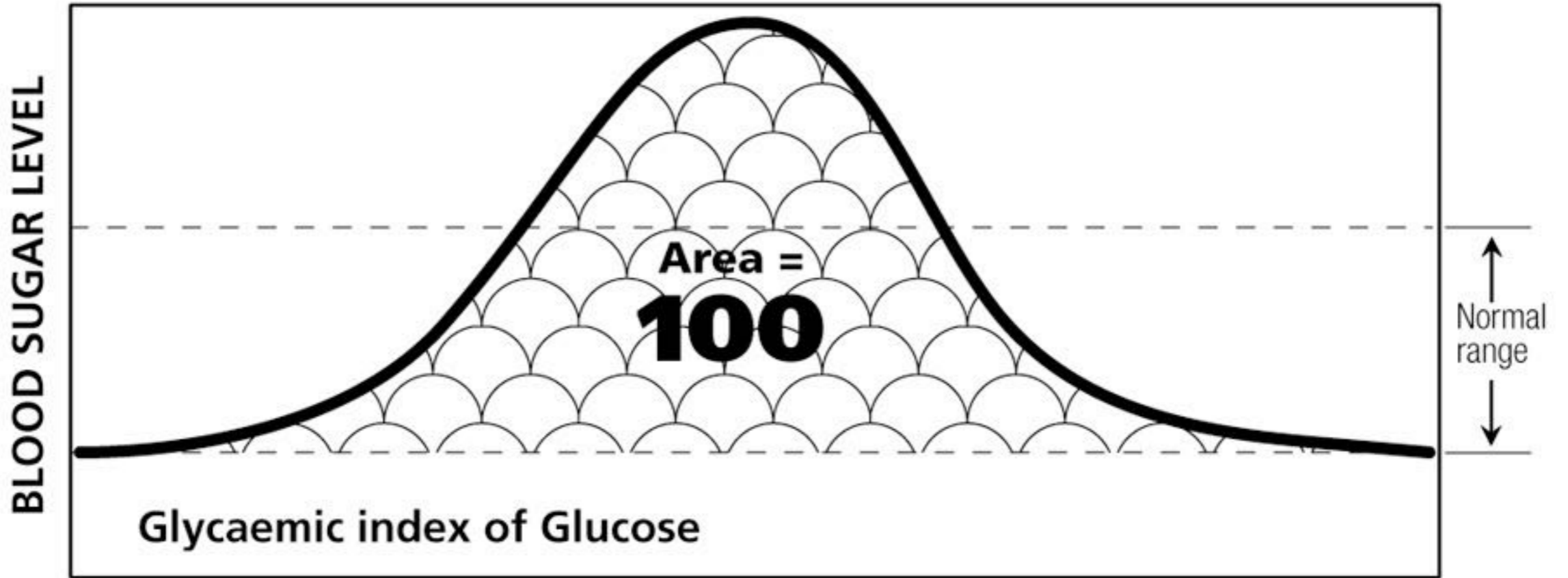
Metabolic syndrome promotes...

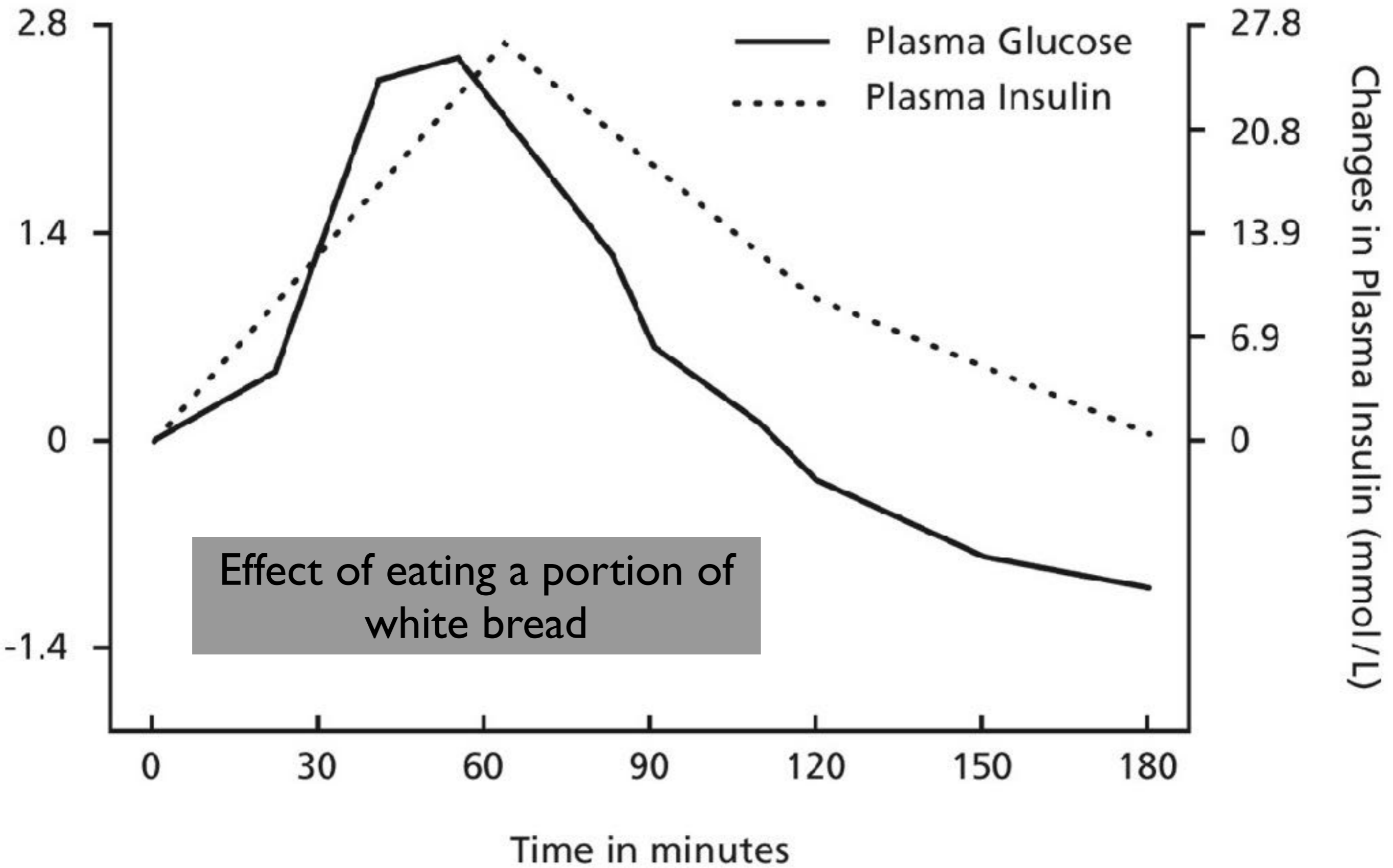


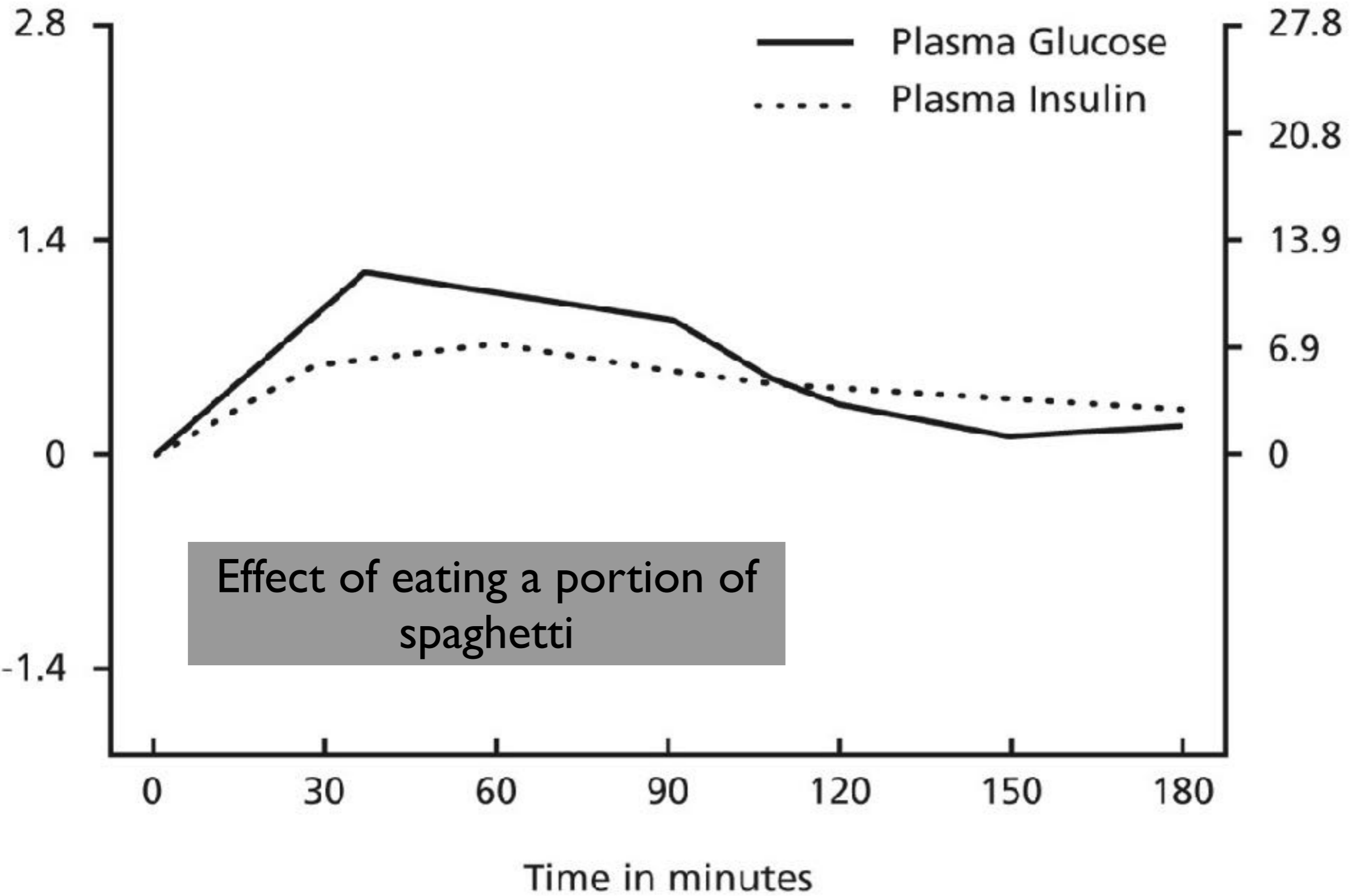
- ▶ **Depression** - People with MetS are twice as likely to have depressive symptoms within 7 years. (H Koponen, J. Clin. Psych. 2008)
- ▶ **Memory loss** - older women with MetS are twice as likely to have memory loss within 4 years, as are overweight men. (Arch. Neurology, 2009)
- ▶ **Pain & ageing** - MetS promotes abdominal obesity, inflammation and early ageing. (S Epel, Hormones, 2009)
- ▶ **Infertility** - Stress promotes MetS and abdominal weight gain. Obesity promotes stress. Both lead to reduced fertility. (I Kyrou, Hormones 2008)
- ▶ **Breast cancer** - Postmenopausal women with high insulin levels have twice the risk of developing breast cancer. (J. National Cancer Institute, 2009) Weight gain from age 18 doubles risk of cancer. (J Ahn, Archives of Int. Med., 2007)











Effect of eating a portion of spaghetti





The Glycemic Load
of a food is derived from knowing both the
QUALITY
of the carbohydrate (its GI - fast or slow.)
and the
QUANTITY
of the food that is carbohydrate





The GL of a food is worked out as follows:

- ▶ GI score (divided by 100) multiplied by the available carbohydrate (carbohydrates minus fibre) in grams.
- ▶ *Take watermelon as an example:*
Its glycemic index (GI) is pretty high, about 72.
A serving of 120 grams has 6 grams of available carbohydrate per serving, so its Glycemic Load is...
- ▶ $0.72 \times 6 = 4.32$, rounded to 4, per serving.



Low GL Foods (10GLs)	High GL Foods (10GLs)
2 large punnets of strawberries	2 dates
6 oat cakes	1 slice of white bread
4 bowls of oat flakes or porridge	1 bowl of cornflakes
A large bowl of peanuts	A packet of crisps
1 pint of tomato juice	Half glass of Lucozade
10 handfuls of green beans	10 french fries
6 tablespoons of xylitol	2 teaspoons of honey



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**Say
No to
Diabetes**

10 HEALTHY WAYS
TO PREVENT OR
REVERSE DIABETES


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Optimum Living Made Easy

THE
**LOW-GL
DIET
BIBLE**

THE PERFECT WAY TO
LOSE FAT FAST, GAIN ENERGY AND
IMPROVE YOUR HEALTH

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with Fiona McDonald Joyce

THE
**LOW-GL DIET
COOKBOOK**
EASY RECIPES FOR WEIGHT LOSS
HEALTH AND ENERGY



patrick
HOLFORD
Bestselling author of THE OPTIMUM NUTRITION BIBLE
Optimum Living Made Easy

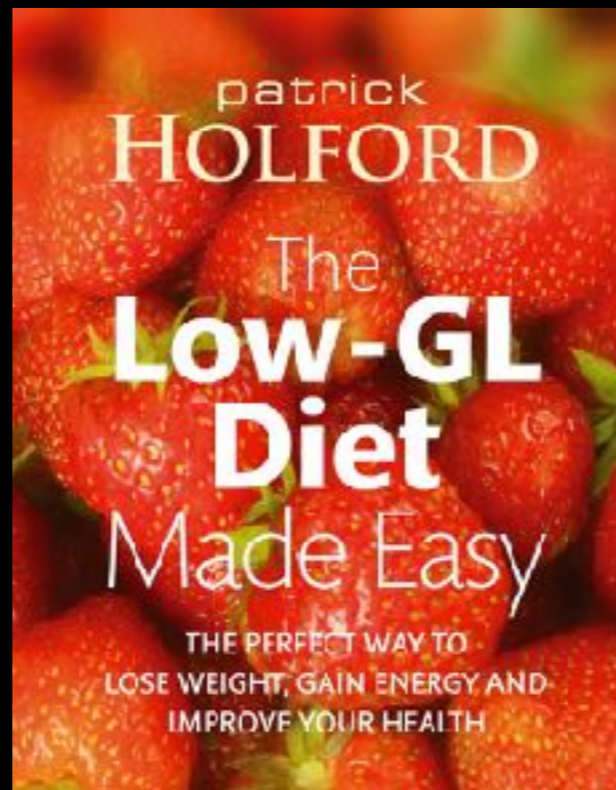
THE
**HOLFORD
DIET
GL COUNTER**
INCLUDES
PERSONAL DAILY
GL COUNTER

WEIGHT

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The
**Low-GL
Diet
Made Easy**

THE PERFECT WAY TO
LOSE WEIGHT, GAIN ENERGY AND
IMPROVE YOUR HEALTH



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Optimum Living Made Easy

**OPTIMUM
NUTRITION
FOR
VEGANS**

How to be healthy and
optimally nourished
on a plant-based diet



Benefits of a low GL diet



- ▶ Weight loss/control
- ▶ Prevents and reverses diabetes
- ▶ Prevents and reverses heart disease, hypertension, cholesterol
- ▶ Reduces cancer risk, especially breast cancer
- ▶ Reduces Alzheimer's risk
- ▶ Reduces depression
- ▶ Switches on anti-ageing genes



Three simple rules



Eat no more than 40/60 GLs a day.

Eat protein with carbohydrate.

Graze rather than gorge.



Graze don't gorge



10 GLs for breakfast

+5 GLs snack

+10 GLs for lunch

+5 GLs snack

+10 GLs for dinner

(+5 GLs for drink/dessert)



Three simple rules



Eat no more than 40/60 GLs a day.

Eat protein with carbohydrate.

Graze rather than gorge.



Breakfast



Carbohydrates		Protein
Cereal/Fruit	+	Seeds/Yoghurt/Milk
Fruit	+	Yoghurt/Seeds
Bread/Toast	+	Egg
Bread/Toast	+	Fish (eg Kippers)



Breakfast



CEREAL	5 GLs
Oat flakes	2 servings
All Bran	1 serving
Muesli (no sugar)	1 small serving
Alpen	Half a serving
Raisin Bran	Half a serving
Weetabix	1 biscuit
Cornflakes	Half a serving

FRUIT	5GLs
Berries	1 large punnet
Pear	1
Grapefruit	1
Apple	1 small
Peach	1 small
Banana	third
Raisins	10



Xylitol - natural sugar alternative



- ▶ High in plums (hence their low GL)
- ▶ 9 teaspoons = 1 teaspoon sugar
- ▶ Half the GL of fructose
- ▶ Half the calories





Breakfast



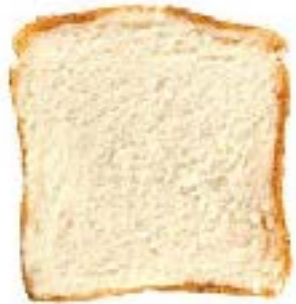
BREADS	10 GLs
Nairns rough oatcakes	5 biscuits
Rye 'Pumpernickel' style	2 thin slices
Sourdough rye bread	2 thin slices
Rye wholemeal bread (yeasted)	1 slice
Wheat wholemeal bread (yeasted)	1 slice
White, high fibre bread (yeasted)	<1 slice



Breakfast comparisons



5 oatcakes are same GL as



1 slice



1 thick slice



half a bagel



half a muffin



half a croissant



Get your oats



- ▶ Oats, or specifically oat bran, contain a powerful anti-diabetes nutrient called **beta-glucan**. Diabetic patients given oatmeal or oat-bran rich foods experience much lower rises in blood sugar. In fact, 10 per cent of your diet as **beta-glucans can halve the blood sugar** peak of a meal.
- ▶ Practically, that means eating **half oat flakes, half oat bran**, cold or hot as porridge, with a low-GL fruit such as **berries, pears or apples** and snacking on **rough oat cakes** (which have the most beta-glucans). With over 1,000 studies on beta-glucans, the evidence really is overwhelming. Oats are also low GL.
- ▶ This level of effect is far greater than you'll get from taking metformin, at a fraction of the price and with none of the side effects.



Oatcakes - vital statistics



Low GL - high soluble fibre



Ideal goal is 10 GLs per main meal
5GLs per snack

10 GLs equals 5 rough oatcakes





Get Up & Go with Carboslow (glucomannan)

**Only 6 GLs per
serving with
strawberries and
carb free milk**

TIPS: Add cinnamon



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Optimum Living Made Easy

GET UP & GO!TM
with **CARBOSLOW**[®]

BREAKFAST SHAKE

WITH WHOLE FOODS, VITAMINS, MINERALS AND GLUCOMANNAN

Contributes to

- WEIGHT LOSS*
- NORMAL CHOLESTEROL
- BETTER GLUCOSE MANAGEMENT

Metabolism
300g
Only 4 GLs [®] per Shake

As recommended in

THE **HYBRID** DIET

JOIN THE
LOW-CARB
REVOLUTION

NUTRITION

Energy
Fat
of which
Carbohydrate
of which
Fibre
Protein
Salt

Vitamin A
Vitamin D
Vitamin E
Vitamin K
Vitamin C
Thiamin
Riboflavin
Niacin (niacin)
Vitamin B6
Folic Acid
Vitamin B12
Biotin
Pantothenic Acid
Calcium
Phosphorus
Magnesium
Iron
Zinc
Copper
Manganese
Selenium
Chromium
Iodine

*NRV - Nutrient Reference Value

INGREDIENTS : Soy isolate, apple powder, xylitol, vitamin and mineral premix (di-calcium phosphate, magnesium oxide, vitamin E acetate, niacin [vitamin B3 as nicotinamide], pantothenic acid [as calcium panthothenate], zinc gluconate, iron gluconate, vitamin B6 [as pyridoxine hydrochloride], thiamine [as thiamine hydrochloride], riboflavin, manganese gluconate, vitamin A [as acetate with antioxidant [dl-alpha tocopherol], corn oil, corn starch, acacia gum and sucrose], folic acid, copper gluconate, biotin, potassium iodide, selenium yeast, chromium picolinate, vitamin K, vitamin D2, and vitamin B12 [as cyanocobalamin]), inulin, ground almonds, quinoa, lecithin powder (soya), vanilla flavouring, vitamin C (as ascorbic acid), rice flour, Konjac Glucomannan, oat bran, citric acid, sunflower seeds, sesame seeds, pumpkin seeds, cinnamon bark powder.

ALLERGEN INFORMATION: See ingredients in bold.

v 1.0

PRODUCT CODE: S034



Only 8 G

Protein source: soya, quinoa, rice protein, almonds

Carb source: apple powder, xylitol, inulin

Fibre source: glucomannan, oat bran

almonds, sesame, sunflower, pumpkin seeds

Extras: cinnamon, lecithin, citric acid

Serving % NRV*	Per 100g	% NRV*	Per 30g	% NRV*	Per 10g	% NRV*
Vitamin C	3130mg	3013	939mg	1174	313mg	301
Calcium	1167mg	146	350mg	44	116.7mg	15
Magnesium	1000mg	207	300mg	60	100mg	27
Phosphorus	833mg	119	250mg	59	83mg	12
Vitamin E	111mg	925	33.3mg α-TE†	273	11.1mg α-TE†	93
Niacin	66.7mg	117	20mg NE††	125	6.7mg NE††	42
Pantothenic Acid	66.7mg	1112	20mg	333	6.7mg	111
Zinc	50mg	500	15mg	150	5mg	50
Iron	4.7mg	100	14mg	100	4.7mg	100
Vitamin B8	33.3mg	2379	10mg	711	3.3mg	238
Thiamine	16.7mg	1518	5mg	455	1.67mg	152
Riboflavin	16.7mg	1193	5mg	357	1.67mg	119
Manganese	0.0mg	415	2.5mg	125	0.00mg	42
Vitamin A	2000 µg	1000	1000 µg RE †	1000	2000 µg RE †	1000
Folic Acid	1000 µg	500	300 µg	150	100 µg	50
Copper	1mg	100	0.3mg	30	0.1mg	10
Biotin	0.5mg	1000	0.15mg	300	0.05mg	100
Iodine	500 µg	333	150 µg	100	50 µg	33
Chromium	167 µg	418	50 µg	125	16.7 µg	42
Selenium	10.7 µg	304	5.0 µg	91	10.7 µg	30
Vitamin K	66.7 µg	89	20 µg	27	6.67 µg	9
Vitamin D	20.8 µg	418	6.25 µg	125	2.08 µg	42
Vitamin B12	8.3 µg	332	2.5 µg	100	0.83 µg	33

*NRV = Nutrient Reference Value †α-TE = Alpha Tocopherol Equivalent ††NE = Niacin Equivalent ‡RE = Retinol Equivalent

Make a Hybrid Latté



1 tbsp CB oil (Ketofast)



120ml (4fl oz) filtered coffee or run through



1 rounded tsp cacao powder



Half a tsp ground cinnamon



240ml (8fl oz) no carb almond milk (unsweetened)



1 heaped tbsp almond butter or peanut butter



1 tbsp walnuts, pecans or peanuts (optional)



Blend all ingredients in a blender



18 HOUR CARB FAST
Dinner 7pm
Lunch 1pm
Hybrid Latté breakfast
Seaveg Crispie for snack



Blueberry pancakes, made with oat flour and egg, plus berries, yoghurt and a sprinkling of ground seeds, is low GL



Snacks



- ✓ A piece of fruit, plus five almonds and a dessertspoon of pumpkin seeds
- ✓ A piece of bread or two oat cakes and half a small tub of cottage cheese (150g)
- ✓ A piece of bread/two oat cakes and half a small tub of hummus (150g)
- ✓ A piece of bread/two oat cakes and peanut butter
- ✓ Crudites (a carrot, pepper, cucumber or celery) and hummus
- ✓ Crudites and cottage cheese
- ✓ A small yoghurt (150g) , no sugar, plus berries
- ✓ Cottage cheese plus berries



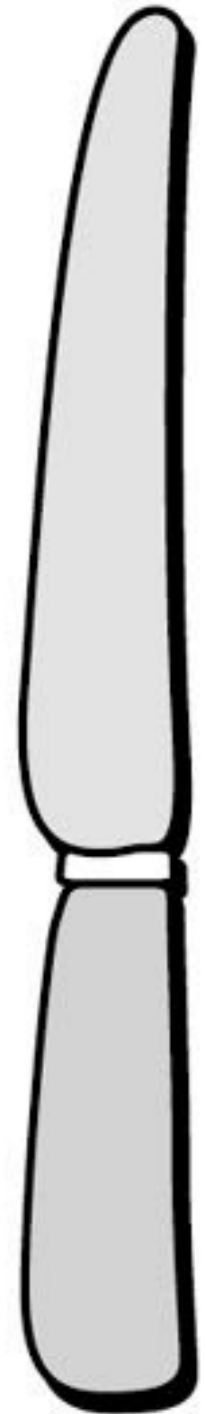
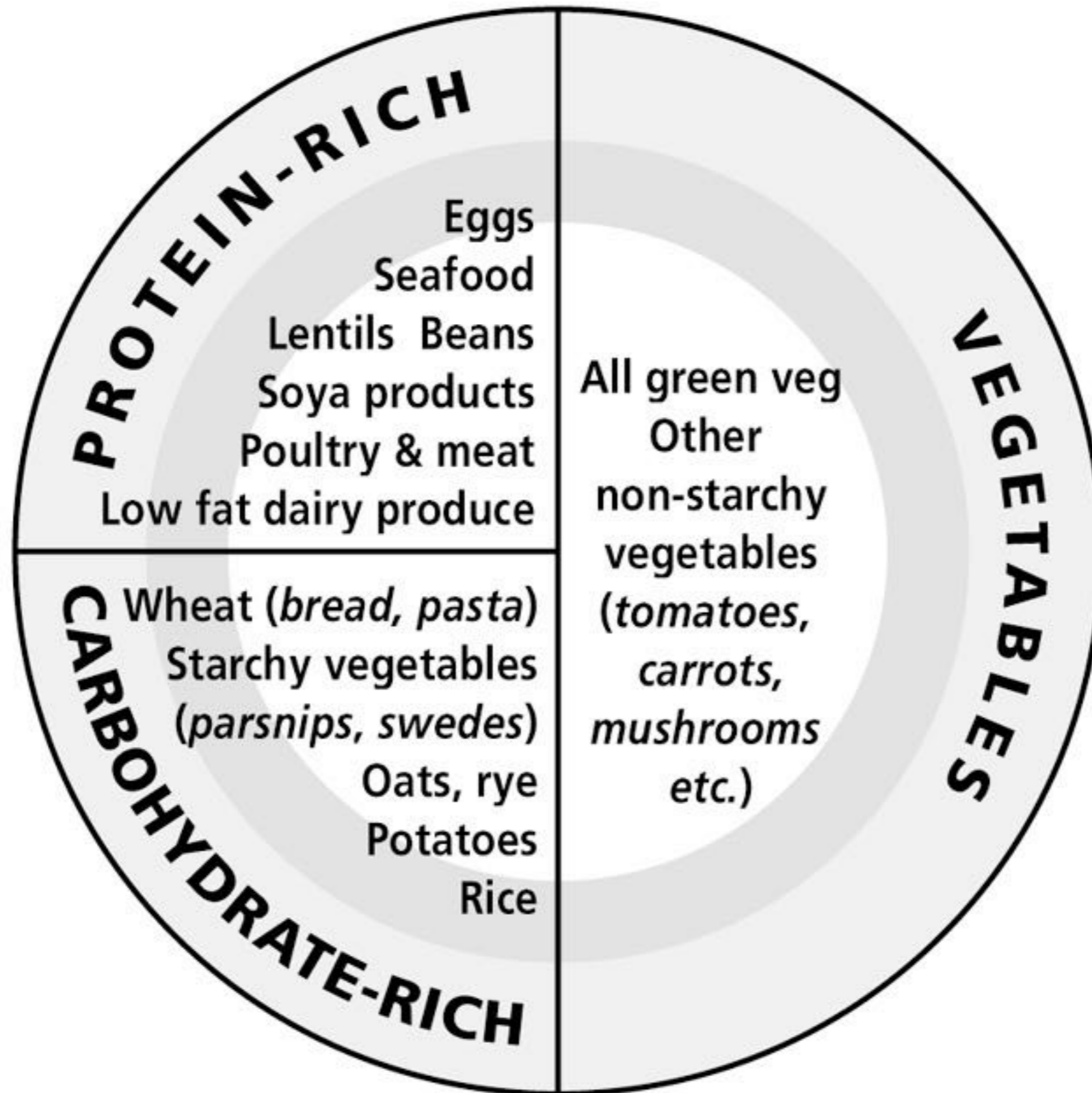
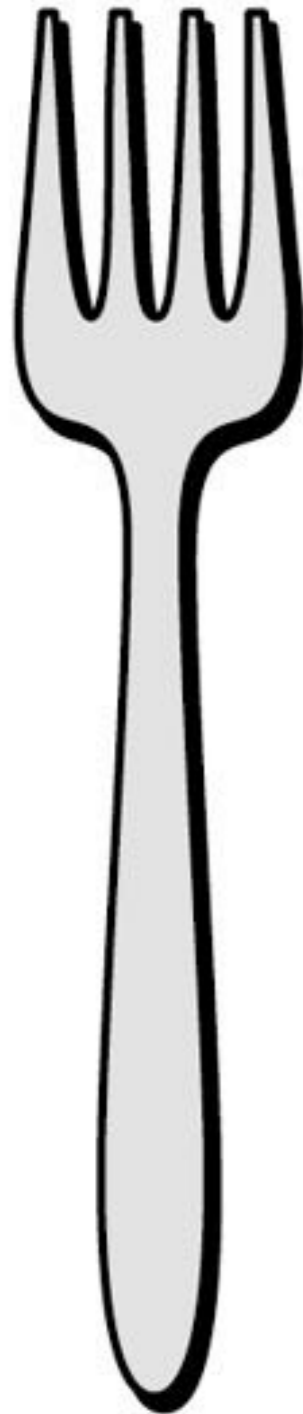


GL: 2



**Try the Carrot &
Walnut or
Amaretti biscuit
cake for a dessert
or for tea**





Starchy veg/grains - 7GLs



Kamut bulgur	Big serving (190g)
Pumpkin/squash	Big serving (186g)
Swede/carrot	Big serving (154g)
Quinoa	Big serving (120g)
Beetroot	Big serving (112g)
Cornmeal	A serving (116g)
Pearl barley	Small serving (95g)
Wholemeal pasta	Half serving (85g)
White pasta	Third serving (66g)

Brown rice	Small serving (70g)
White rice	Third serving (46g)
Couscous	Third serving (46g)
Broad beans	A serving (31g)
Sweetcorn	Half a cob (60g)
Boiled potato	Three small (74g)
Baked potato	Half (59g)
French fries	Tiny portion (47g)
Sweet potato	Half (61g)

Quinoa



**White
vs
brown
rice**



**White
vs
whole
pasta**



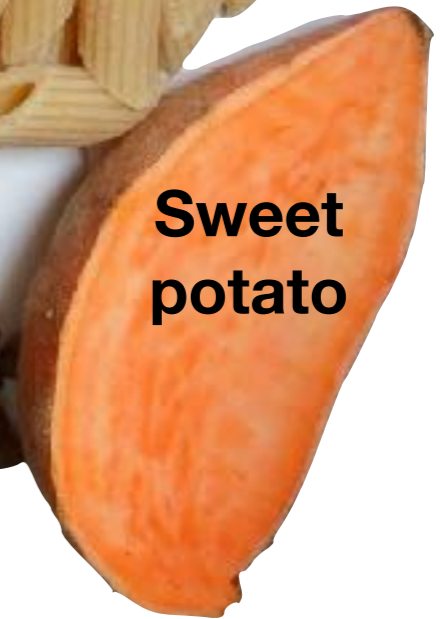
**Kamut
bulgur**



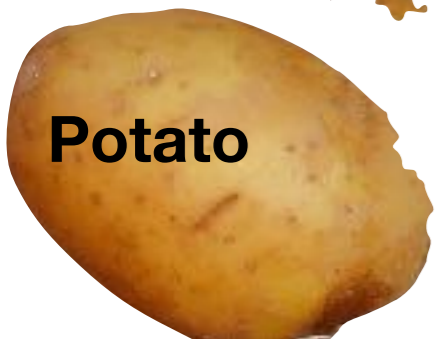
Lentils



**Sweet
potato**



Potato



5 GL portions

Quick GL Search

Food Name: ⓘ

OR

Food Group ⓘ

OR

Meal Type ⓘ

Build a low GL recipe

Find the food ingredients in your recipe and just **add to recipe**. Then **edit** the food to change either the quantity or the GL portion you're after. Change the **number of servings** if more than 1.

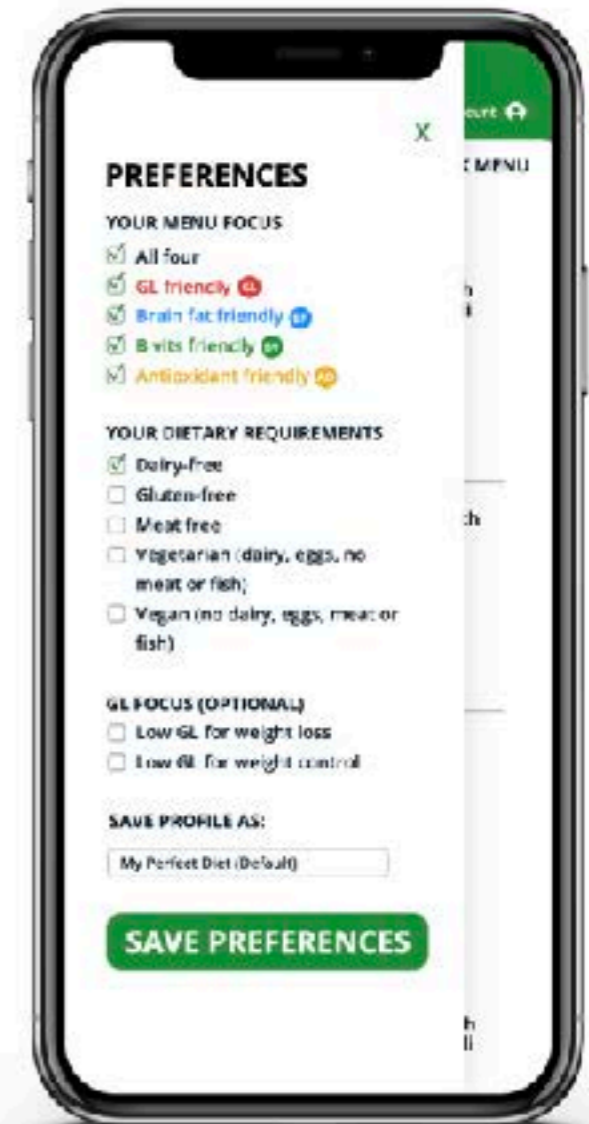
Build a low GL menu

To make a low GL menu, or check your total GLs in a day, either choose a food and **add to menu** or choose the recipe you've created and **add to menu**. Recipes are displayed assuming one serving. To edit a recipe choose **back to recipe**.

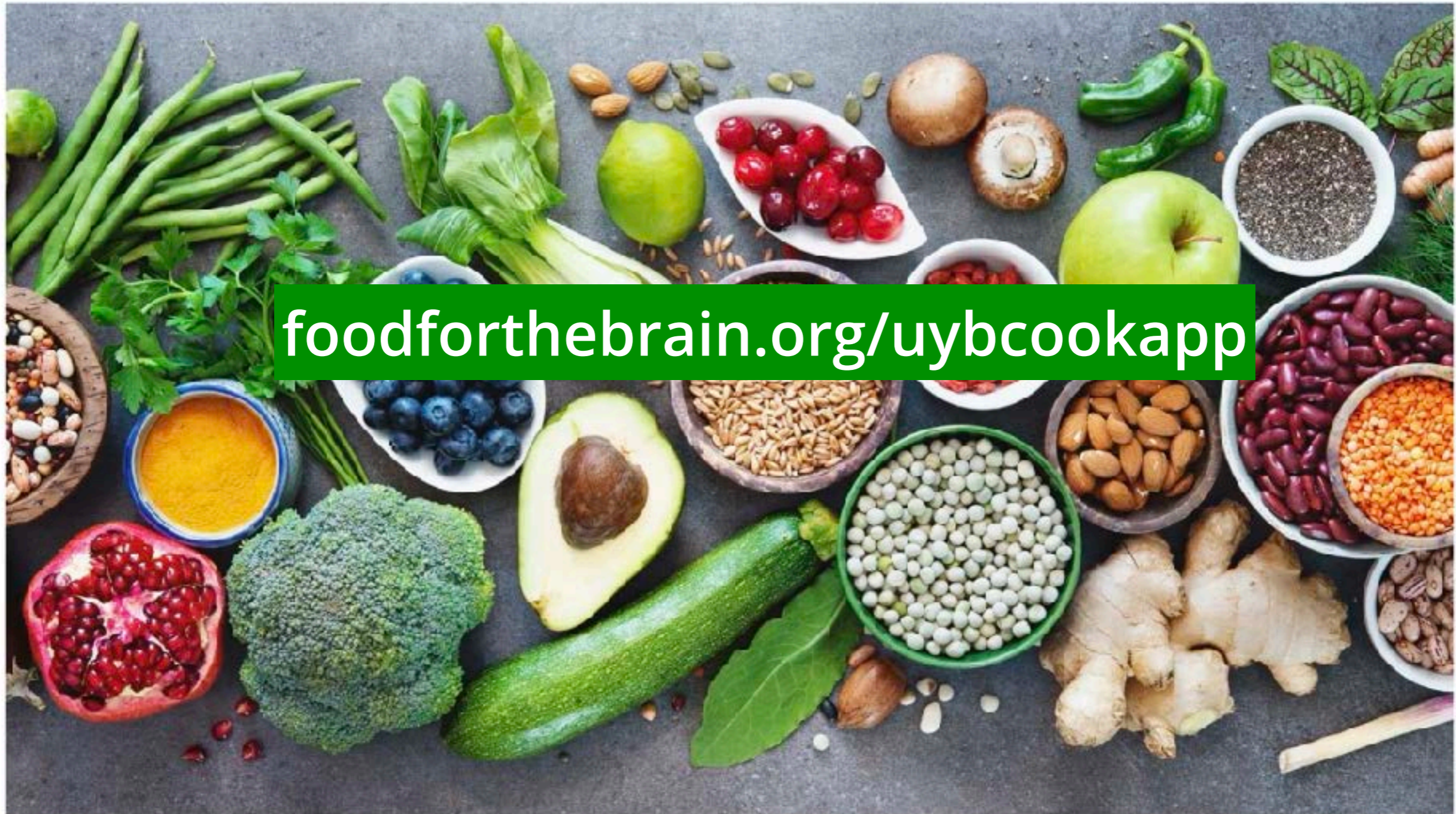
Build a Menu

The serving size and appropriate GL are displayed below for each of the foods you have added to your menu. To amend the GL to your required intake, click on "Edit", amend the Target GL figure as required and then click on "Update". The new portion size for your Target GL will display.

This allows you to work cut your total GL intake for the day.



Upgrade Your Brain CookApp



foodforthebrain.org/uybcookapp

How do you choose the right delicious food, recipes and menus for your brain?



How do you choose the right delicious food, recipes and menus for your brain?



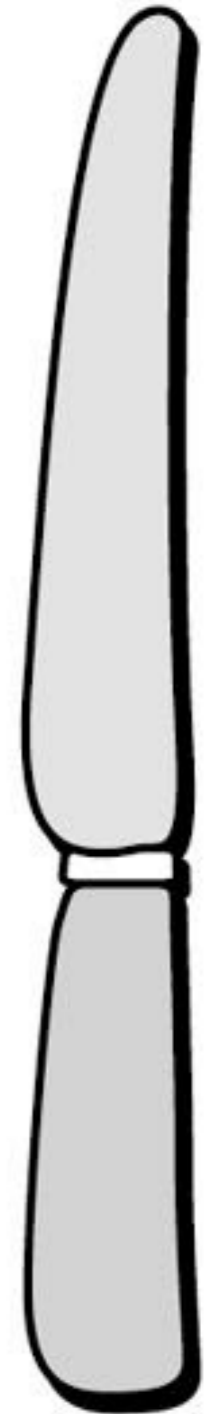
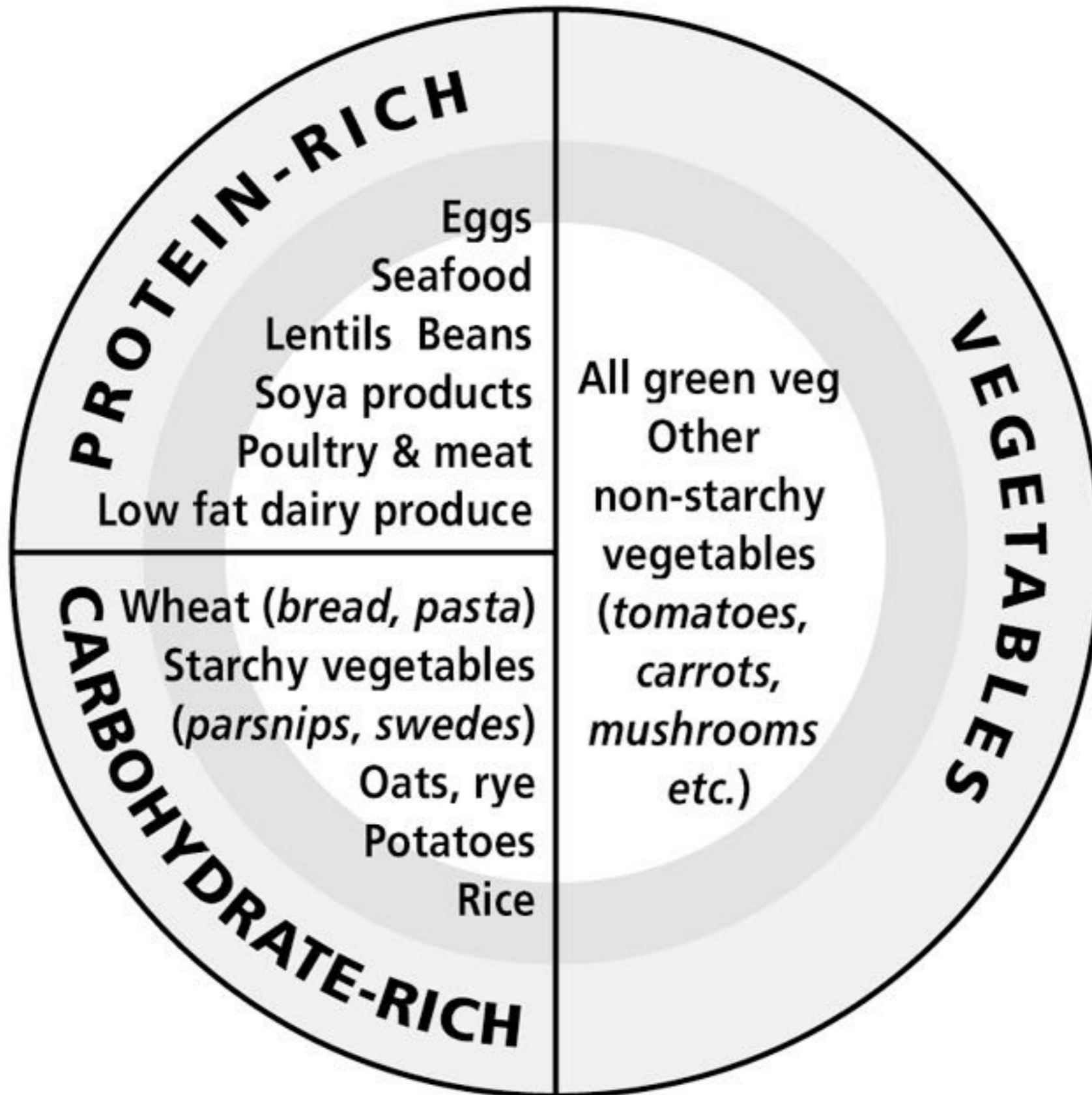
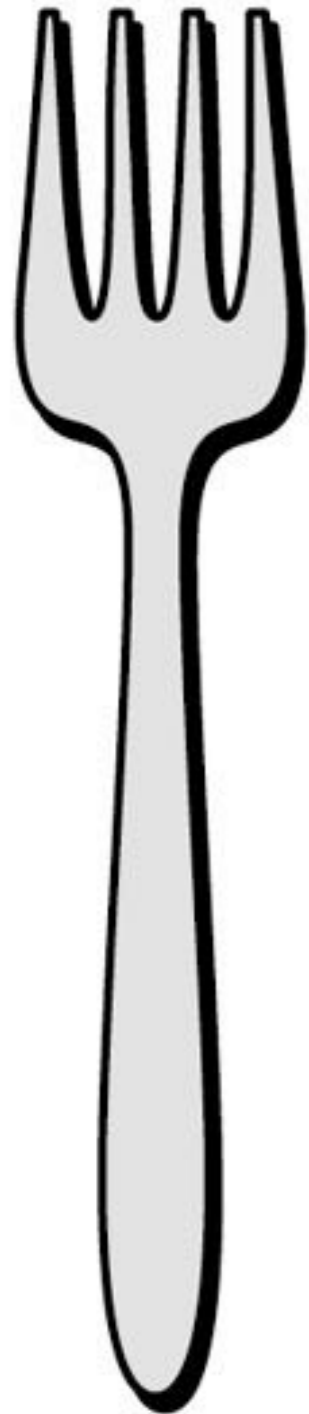
Benefits of legumes



Kim S, Am J Clin Nutr . 2016 -/ 27030531; Jenkins D, Arch Intern Med. 2012 -/ 23089999

- ▶ A review of 21 trials reports overall significant weight reduction of -0.34 kg (95% CI: -0.63, -0.04 kg; $P = 0.03$) in diets containing dietary pulses (median intake of 132 g/d or 1 serving/d) and a reduction on body fat percentage, compared with diets without a dietary pulse intervention over a median duration of 6 wk.
- ▶ A trial giving diabetics one cup a day of legumes, low GL, reduced HbA1c values by -0.5% over 3 months.







Exercise - aerobic + resistance is key



- ▶ Switches on anti-ageing genes and may lengthen telomeres
- ▶ Improves insulin sensitivity and promotes growth hormone
- ▶ Reduces stress, improves mood and memory
- ▶ Reduces risk for so many age-related diseases,
- ▶ Builds/preserves lean body mass (muscles)
- ▶ Boosts hormone levels (DHEA, testosterone)
- ▶ Resistance training for 4 months = 1kg/2lbs of lean muscle gain
25–30% increased strength. If you don't do any exercise after the age of 50 you lose half a pound a year of muscle.
- ▶ *“Exercise is the closest thing to an anti-ageing pill.”* Professor Wayne Derman, Cape Town University



Reversing Diabetes



- ▶ A strict low GL diet & soluble fibres
- ▶ Basic supplements, inc Magnesium
- ▶ Chromium 600mcg
- ▶ Cinnamon - 3g/300mg cinnulin
- ▶ Extra antioxidants inc C 2g+
- ▶ Exercise



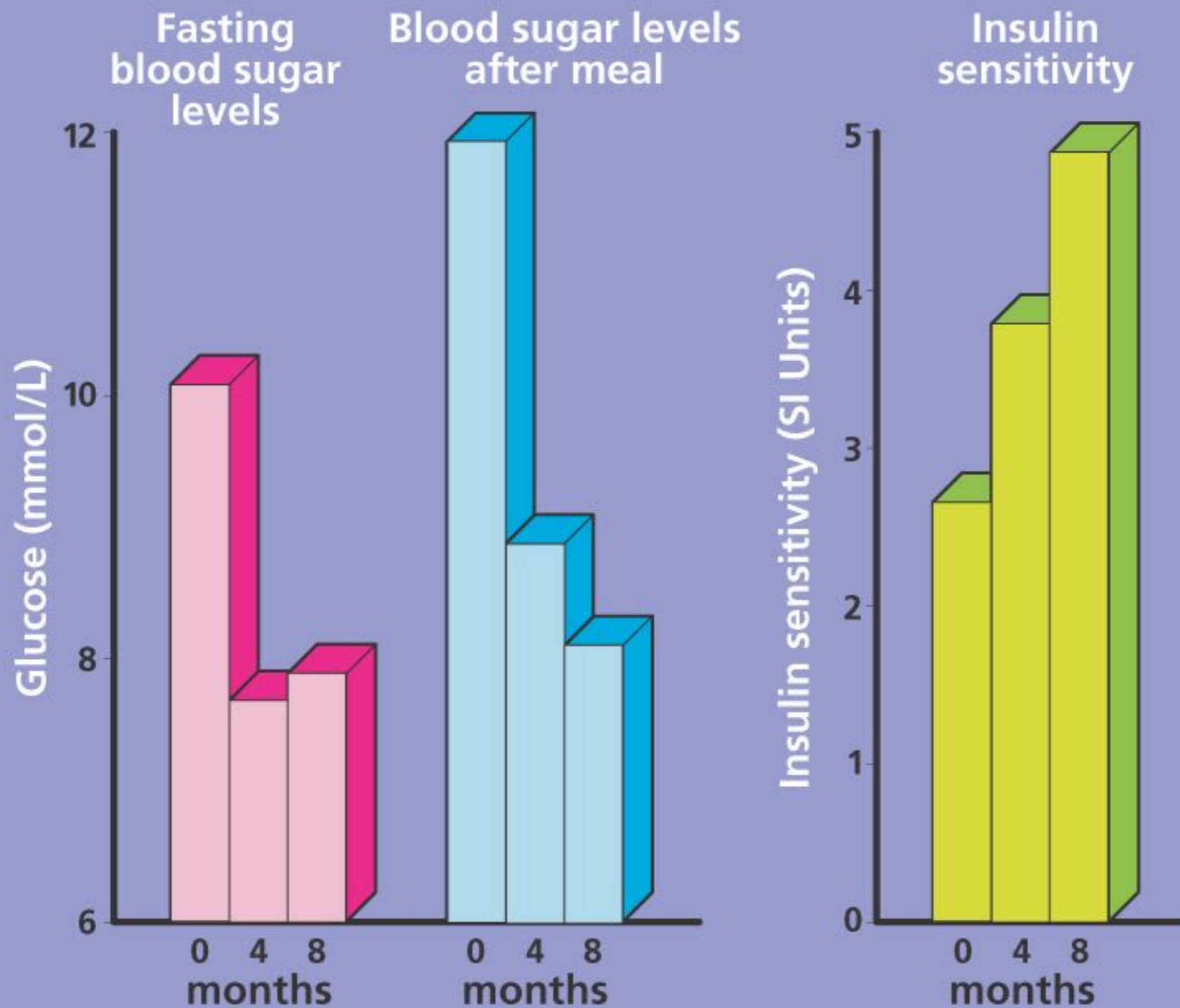
Benefits of chromium



Balk, Diabetes Care, 2007; Anton, Diab.Technol.Thera, 2008; Brownley, J.Diet Suppl 2013; Brownley, J Psychosom. Res. 2013. See [advice/chromium-the-evidence](#)

- ▶ A systematic review in the top diabetes journal Diabetes Care, concludes: “Among participants with type 2 diabetes, chromium supplementation improved glycosylated hemoglobin levels and fasting glucose. Chromium supplementation significantly **improved glycemia in patients with diabetes.**”
- ▶ A study gave healthy, overweight women chromium or placebo for 8 weeks. Those on chromium **ate less, felt less hungry, craved fat less and lost more weight.**
- ▶ A study gave chromium to **women with premenstrual mood disorders** and found **significant mood improvements.**
- ▶ A placebo controlled study reported those on chromium having ‘**greater reductions in bingeing, weight, and depression**’.





Length of time taking chromium supplements (500µg)

Cheng N, Zhu X, Hongli S, Wo W, Chi J, Cheng J, Anderson R: Follow-up survey of people in China with type 2 diabetes mellitus consuming supplemental chromium. J Trace Elem Med Biol 1999;12:55–60.54.

Atypical vs melancholic depression



Thase M. J Clin Psychiatry. 2007;68 Suppl 8:11-6; Lasserre A, JAMA Psychiatry, 2014

- | | |
|--------------------------------------|----------------------------|
| ● Mood reactive | ● Mood fixed |
| ● Excessive appetite or weight gain | ● Weight loss, anorexia |
| ● Unexplained exhaustion | ● Agitation |
| ● Daytime sleepiness or “grogginess” | ● None |
| ● Excessive sensitivity to rejection | ● Less rejection sensitive |

15% to 29% of patients with major depressive disorder have atypical depression.

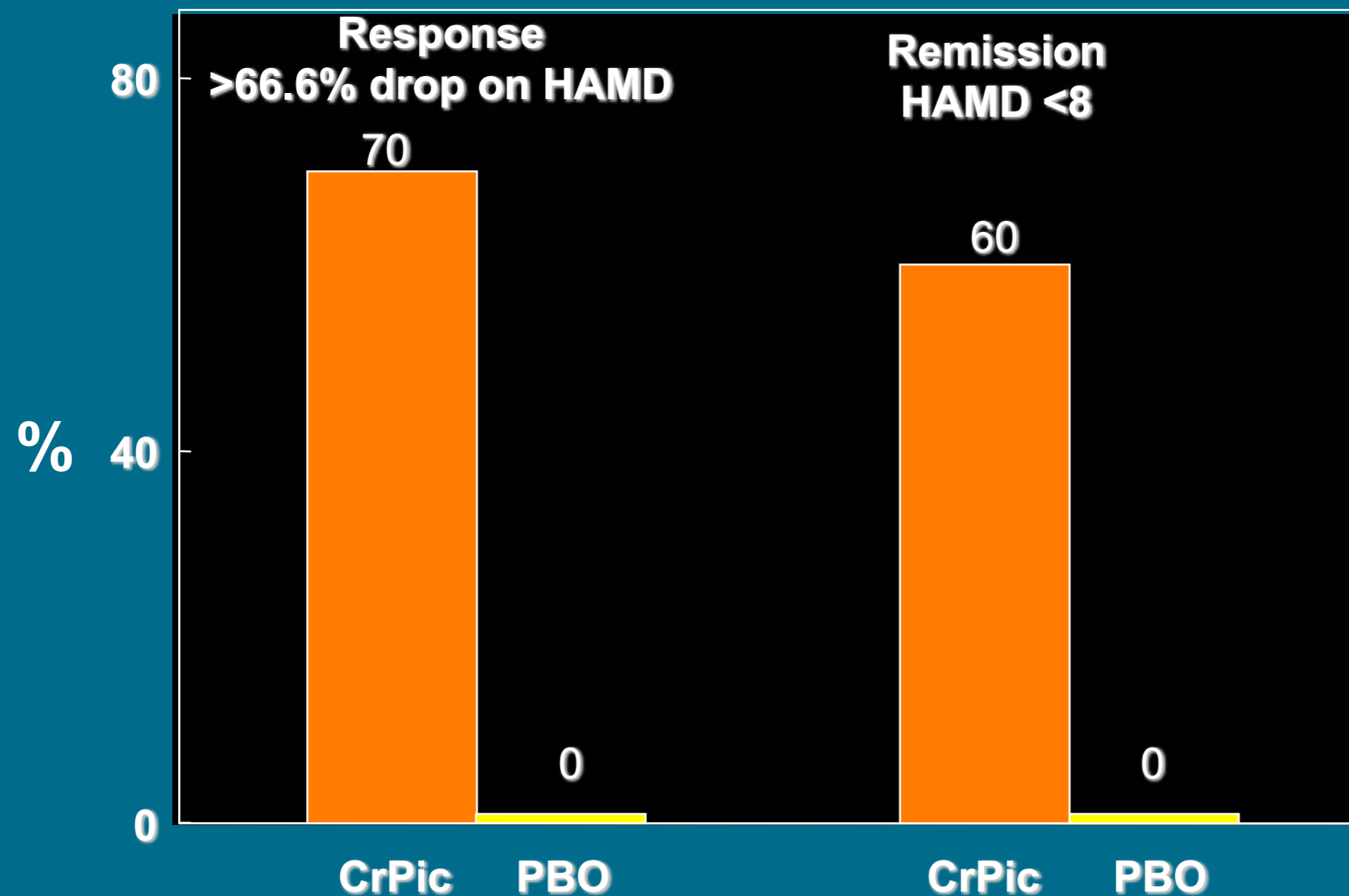
Those with atypical depression are three times more likely



Response and remission rates: Chromium Picolinate in Atypical Depression



Davidson et al. Biol Psychiatry 2003 -/12559660



Diabetes reversed with a low GL diet



Kyra reversed her diabetes in under six weeks by following my low GL diet, plus daily walking, plus the following supplements:

	AM	PM
Optimum Nutrition Pack	1	1
Cinnachrome	2	1

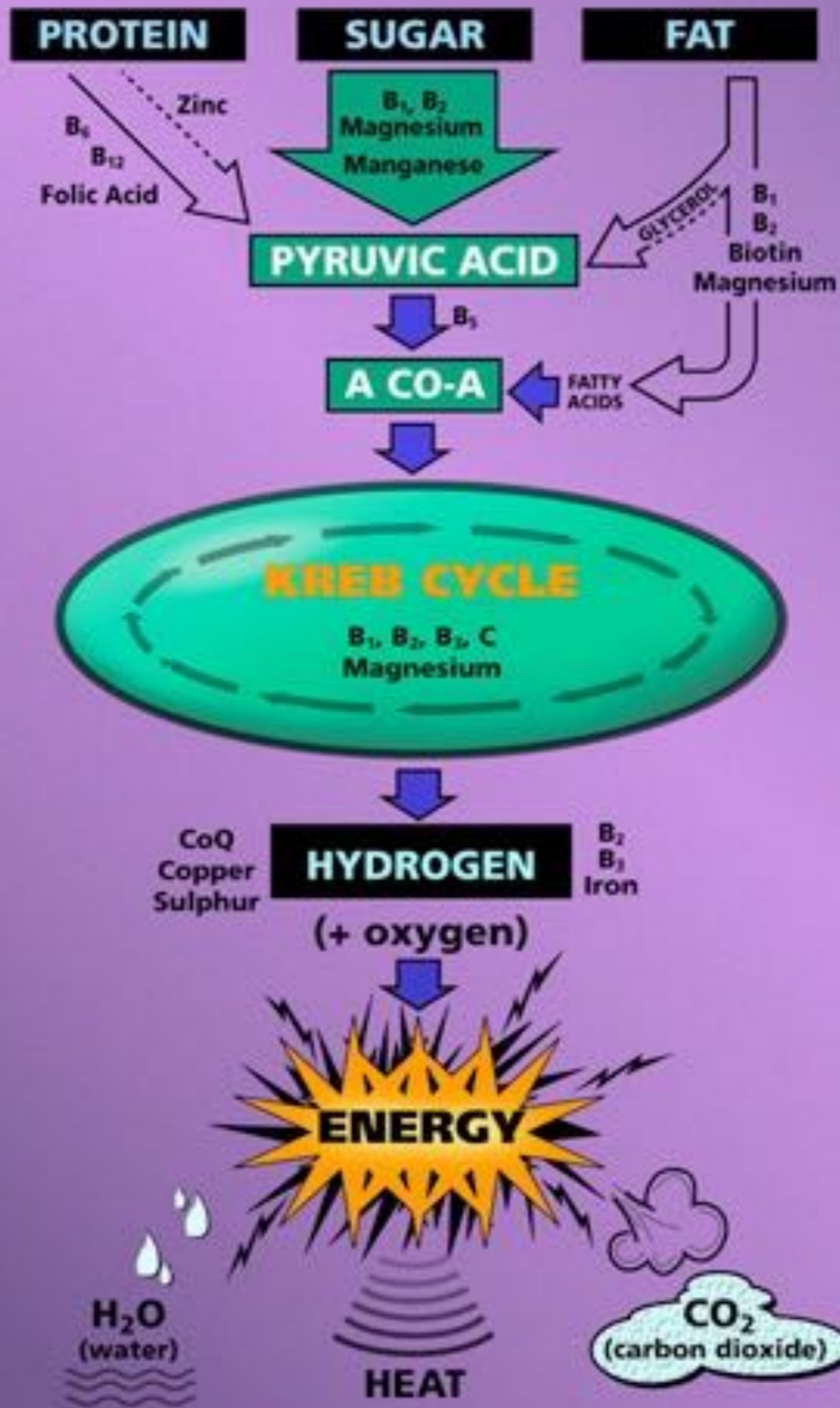
Cinnamon reduces blood sugar



See www.patrickholford.com/advice/cinnamon-may-help-weight-loss

- ▶ Pre-diabetics given a cinnamon extract (Cinnulin) for 12 weeks, had improvements in several features of metabolic syndrome (reduced blood sugar levels, blood pressure, body fat percentage, oxidation).
- ▶ 39 patients given cinnamon extract for four months and showed a substantial reduction in post-meal blood sugar levels and a 10 per cent reduction in fasting blood sugar levels.
- ▶ Diabetics were given 1g, 3g or 6g (a heaped teaspoon) of cinnamon per day. All responded within weeks, with blood sugar levels 20 per cent lower on average than those of a control group. Some achieved normal blood sugar levels. The biggest improvements were with 6g.
- ▶ Volunteers were given rice pudding, with or without cinnamon, found that those given 3g cinnamon produce less insulin after the meal.
- ▶ 1g of cinnamon versus placebo reduced glucose by >17% after 12 weeks.
- ▶ **6g=heaped teaspoon Cinnachrome = equ. 1gram per pill**





Energy nutrients



These nutrients are involved in turning food into energy. The following levels, supplemented daily, ensure optimum energy.

B1 (thiamine)	35mg	Co-enzyme Q	10-90mg
B2 (riboflavin)	35mg	Vitamin C	1000mg
B3 (niacin)	35mg	Calcium	300mg
B5 (pantothenate)	75mg	Magnesium	200mg
B6 (pyridoxine)	75mg	Iron	10mg
B12 (cobalamin)	10mcg	Zinc	15mg
Folic acid	200mcg	Chromium	30-200mcg

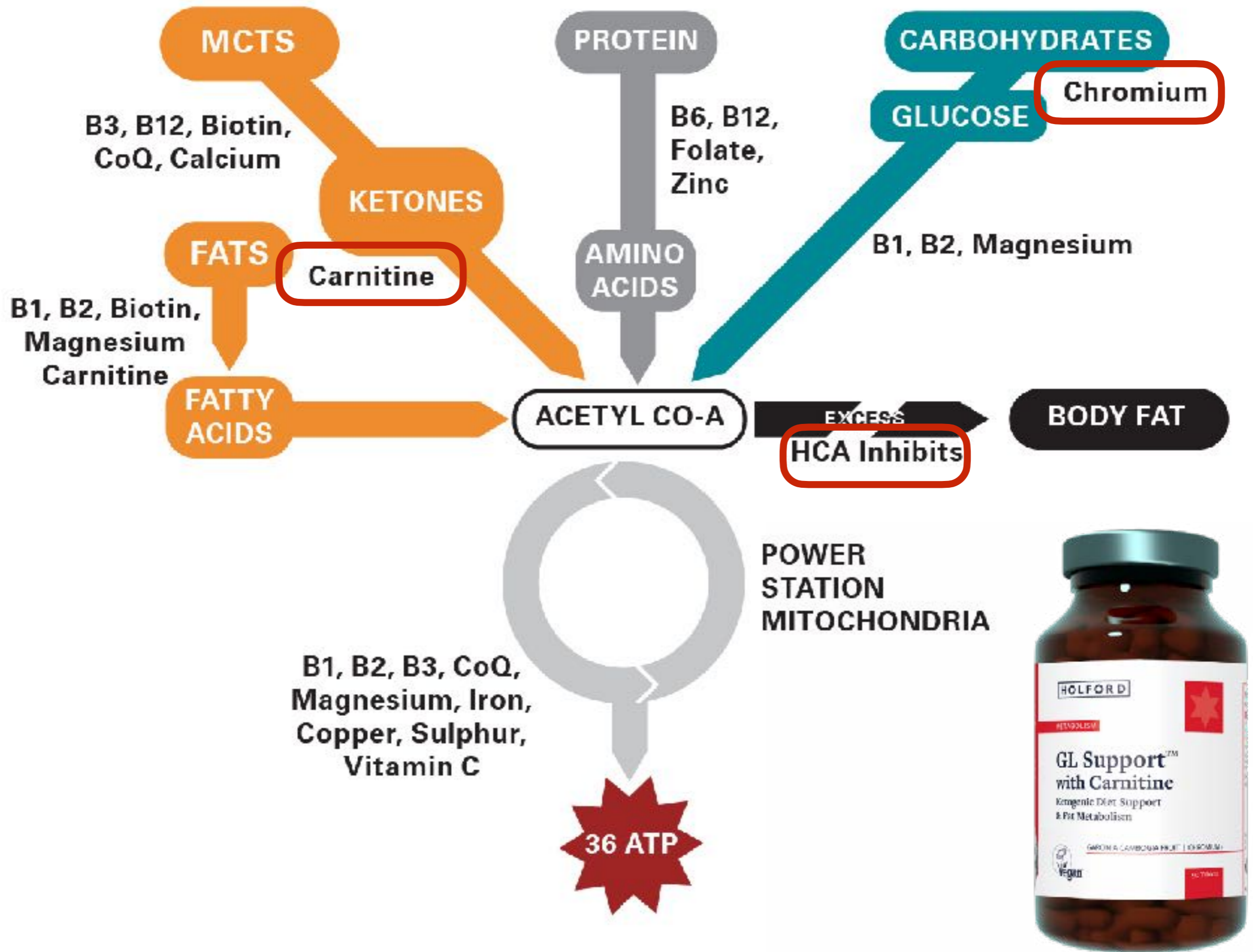


Kyra's statistics



	Start	After 6 weeks	Finish (1 yr later)
Medication	2 x 500mg Metformin	None	None
Glucose (mmol/L)	11	5.5	5
HbA1c (%)	7.8	6.2	5.2
Weight (lbs)	252	238	210





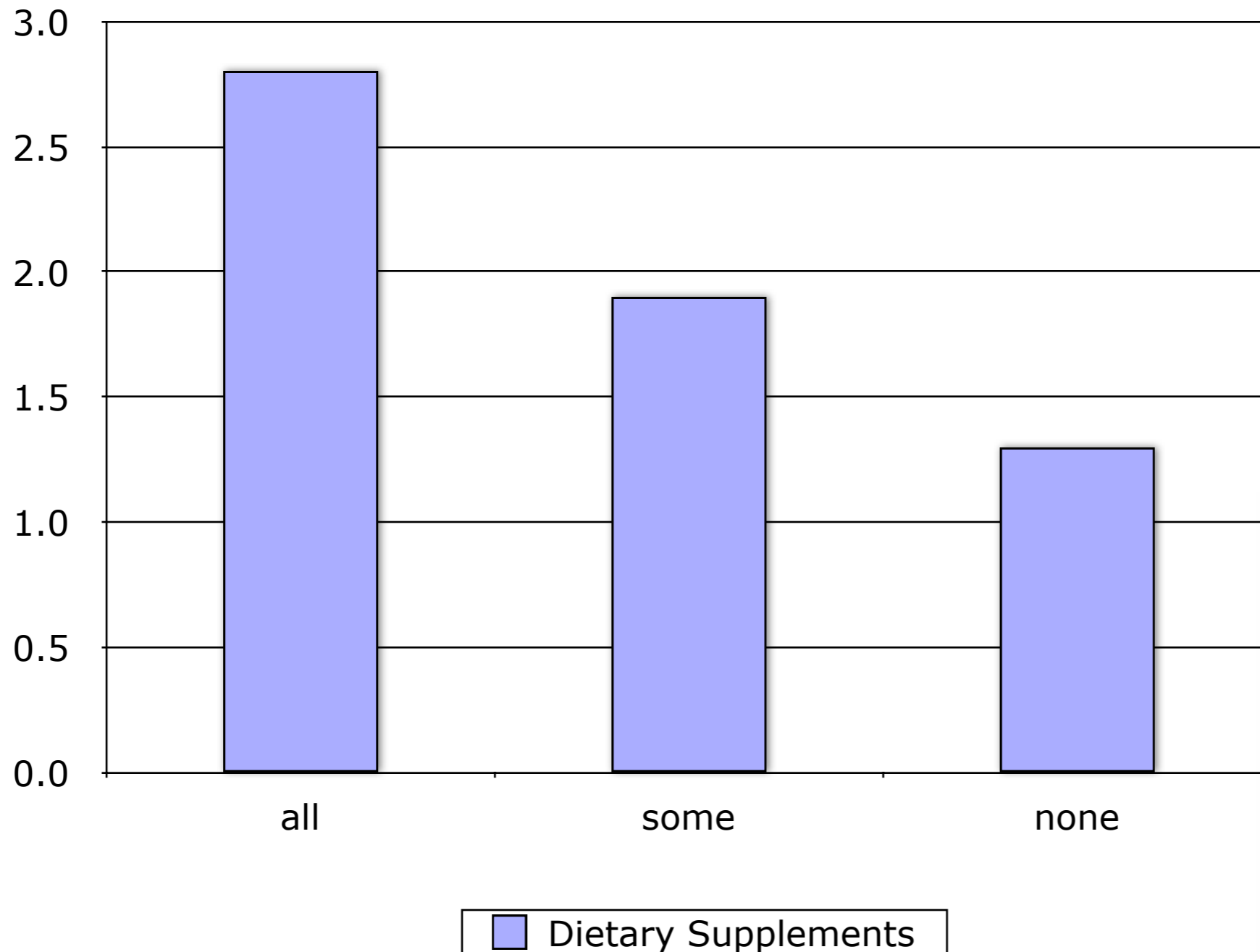
HCA & weight loss



Onakpoya I et al, J Obes. 2011;2011:509038

- ▶ Meta-analysis of all trials revealed significant mean difference - loss of 1.22kg in 3 weeks.
- ▶ Best results are with 2.8g/day averaging 3.5kg weight loss = 1lb a week. **3 x GL support = 2.25g**
- ▶ *HCA promotes autophagy*, the cellular self-cleansing process that rids cells of junk and that is so important in anti-aging.
- ▶ Oral administration of HCA to mice for 2 days **triggered systemic autophagy comparable to that induced by starvation**. Prolonged treatment (2 weeks) with HC is known to cause significant weight loss, and this effect was not accompanied by reduced food intake.

Effect of supplements(lbs/week lost)



All = HCA,
Chromium



Some =
multi, vit C



Weight support supplements



- ▶ Chromium
- ▶ HCA (tamarind extract)
- ▶ 5-HTP (a form of tryptophan)

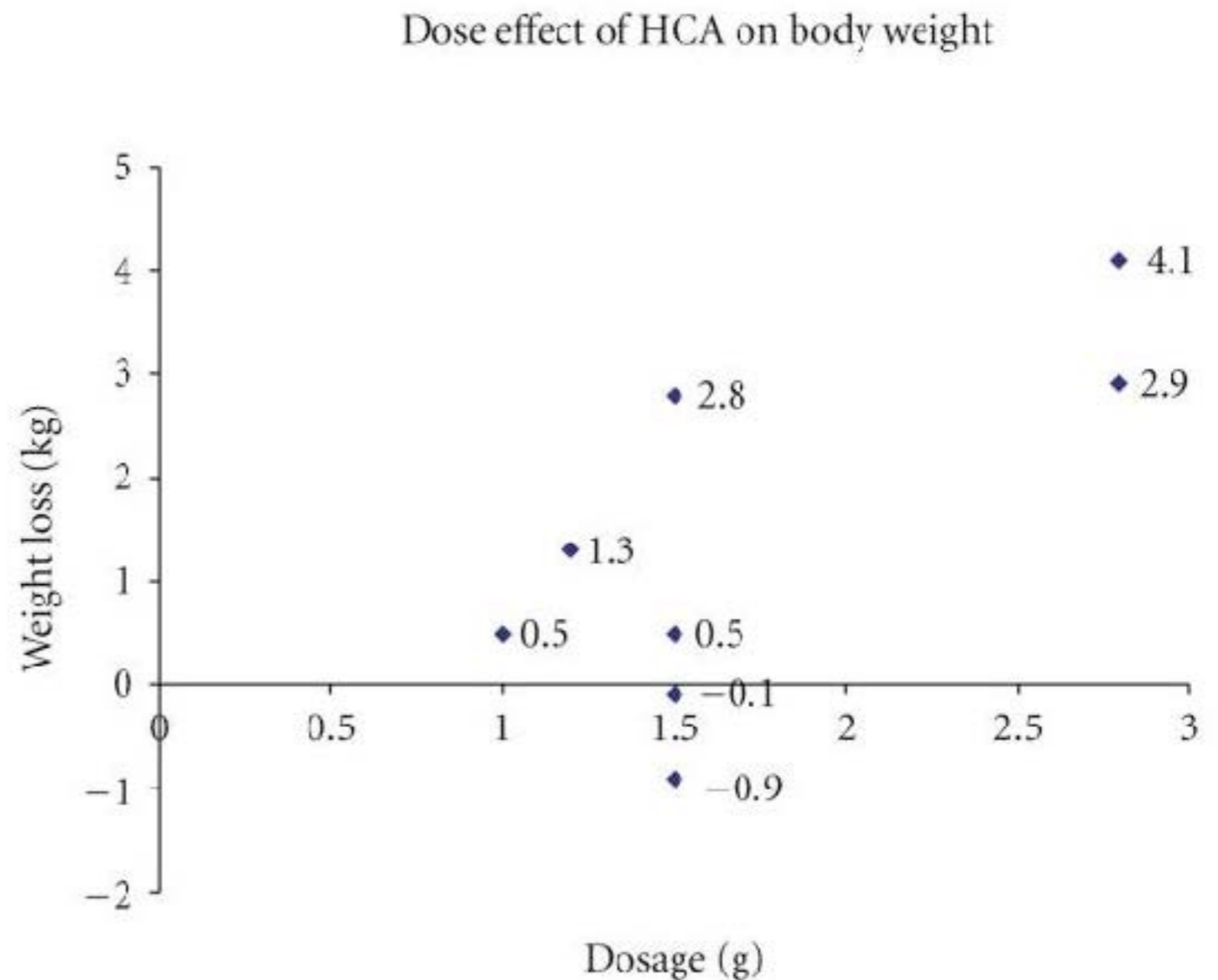


HCA meta-analysis of RCT trials



Onakpoya I et al, J Obes. 2011;2011:509038

- ▶ Meta-analysis of these trials revealed significant mean difference of -1.22kg (95% CI: $-2.29, -0.14$). Heterogeneity was substantial. Trials varied from 2 to 12 weeks, most 8 weeks.
- ▶ Best results are with 2.8g a day, averaging 3.5kg weight loss = 1lb a week.



Good and bad foods in relation to key health factors

	Overall Health	Energy/ Blood Sugar	Digestion	Food Sensitivity	Immunity	Hormones (Male)	Hormones (Female)	Mind & Mood
Sugary Snacks	Very strong negative impact	Very strong negative impact	Very strong negative impact	Very strong negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Very strong negative impact
Salt	Very strong negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Very strong negative impact	Very strong negative impact
Refined Foods	Very strong negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact
Tea/Coffee	Very strong negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Very strong negative impact	Moderate negative impact
Wheat	Very strong negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact
Sugar	Very strong negative impact	Very strong negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Very strong negative impact	Very strong negative impact	Moderate negative impact
Processed Foods	Very strong negative impact	Very strong negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact
Dairy	Very strong negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact
Red Meat	Moderate negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact
Alcohol	Moderate negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Moderate negative impact	Very strong negative impact	Moderate negative impact	Very strong negative impact
Water	Moderate positive impact	Strong positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact
Oily Fish	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact	Moderate positive impact
Fresh Veg	Moderate positive impact	Strong positive impact	Moderate positive impact	Strong positive impact	Moderate positive impact	Moderate positive impact	Strong positive impact	Moderate positive impact
Fresh Fruit	Strong positive impact	Strong positive impact	Moderate positive impact	Strong positive impact	Moderate positive impact	Moderate positive impact	Strong positive impact	Moderate positive impact
Nuts/Seeds	Strong positive impact	Strong positive impact	Moderate positive impact	Strong positive impact	Moderate positive impact	Strong positive impact	Moderate positive impact	Strong positive impact

Key: This chart shows the apparent impact of increasing consumption of each food for key health factors

- = Moderate negative impact
- = Strong negative impact
- = Very strong negative impact
- = Moderate positive impact
- = Strong positive impact
- = Very strong positive impact

**SUB-OPTIMUM
NUTRITION**

fatigue



**USE OF
STIMULANTS**

more energy



WITHDRAWAL



**OVER-USE OF
STIMULANTS**

stress, anxiety,
fatigue,
mood swings



DEPENDENCE ON STIMULANTS

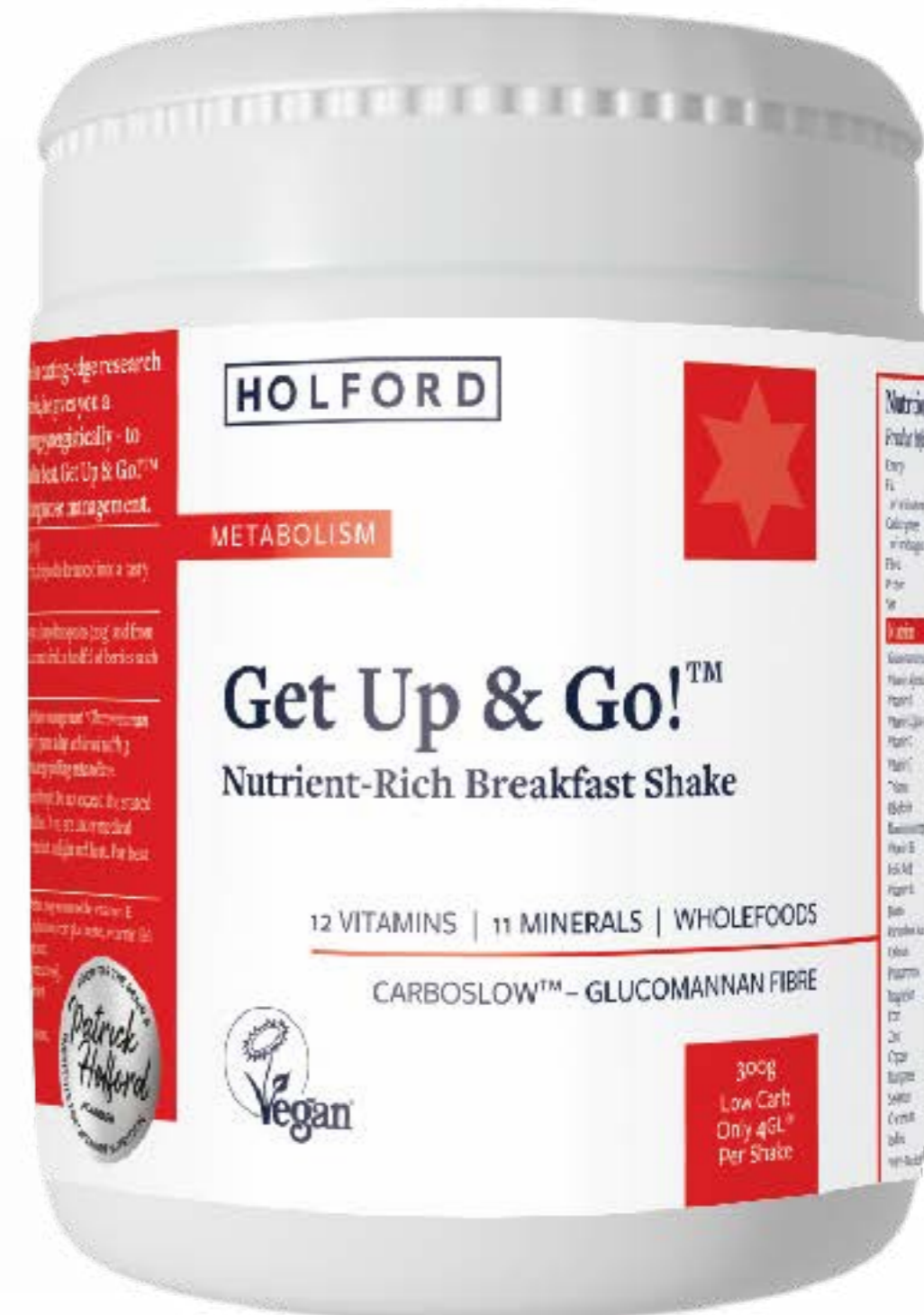
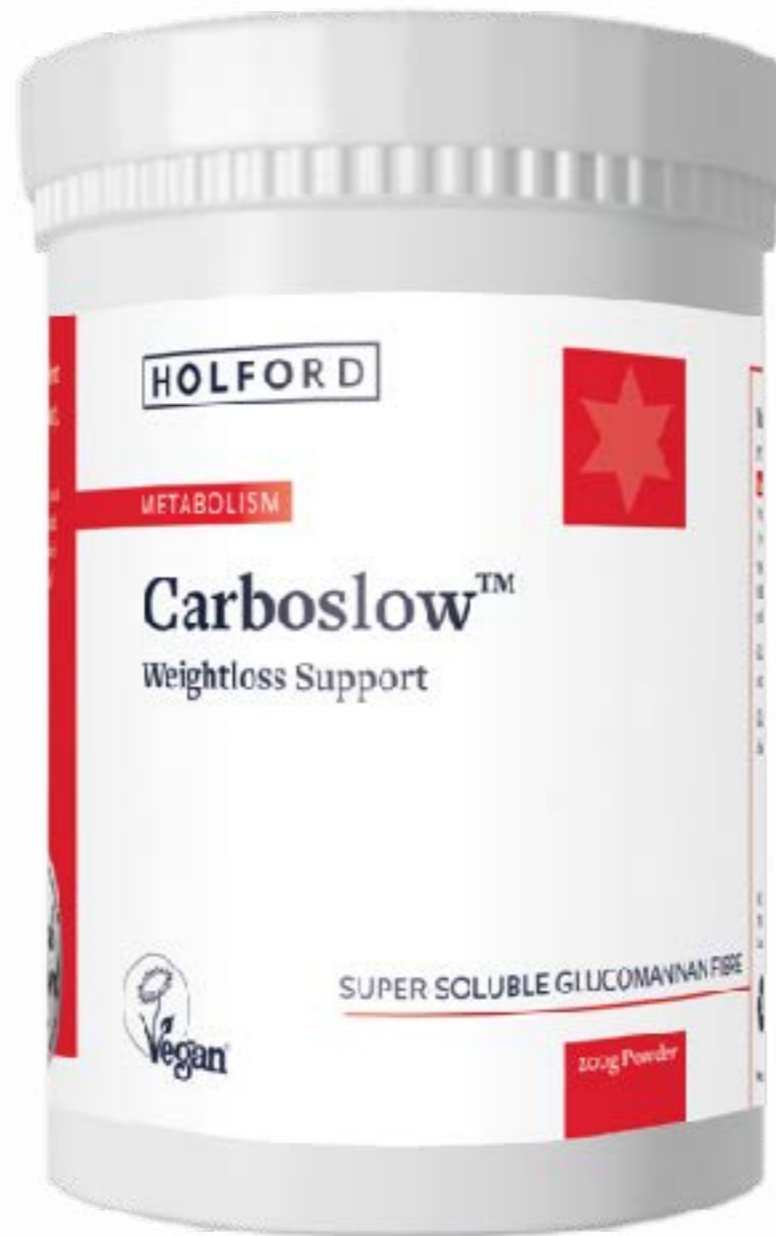
exhaustion, depression,
chronic fatigue, can't cope with stress



The vicious circle of stress and fatigue



Optional extras



Coffee & croissant - a deadly duo?



Moisey L, Am J Clin Nutr, 2008;87:1254–61.

Britain's most popular pick-me-up, a coffee and a croissant, may be fuelling an epidemic of weight gain and diabetes, according to research at Canada's University of Guelph. Participants were given a carbohydrate snack, such as a croissant, muffin or toast, together with either a decaf or coffee. **Those having the coffee/carb combo had triple the increase in blood sugar levels** and insulin sensitivity, the hormone that controls blood sugar levels, was almost halved.



ACTION for sugar balance



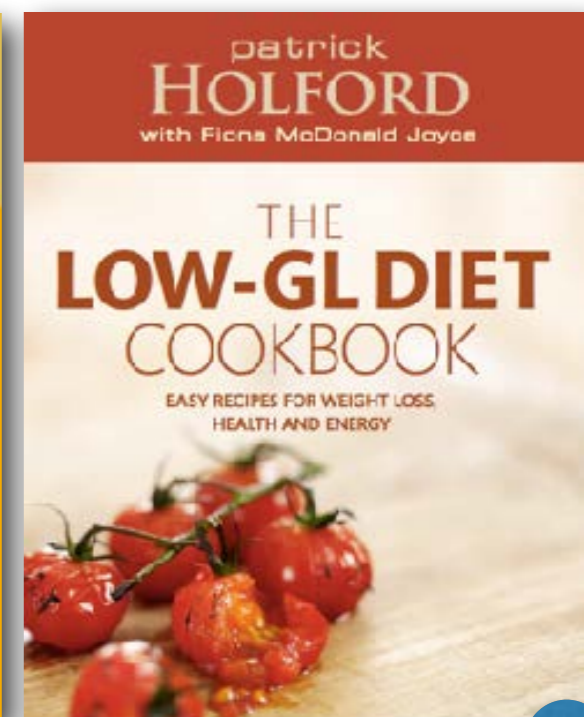
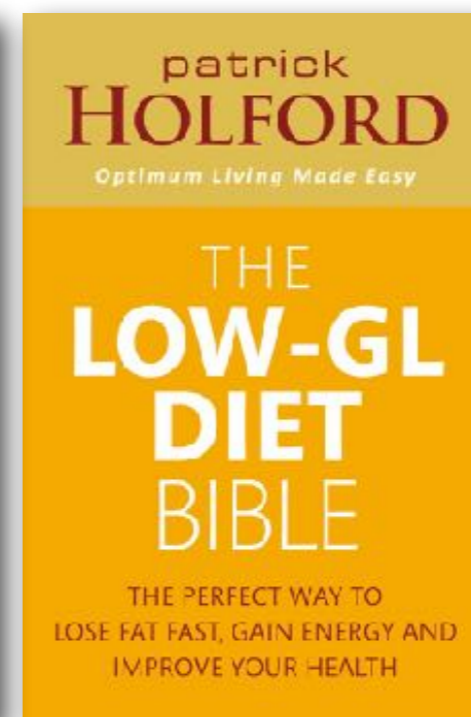
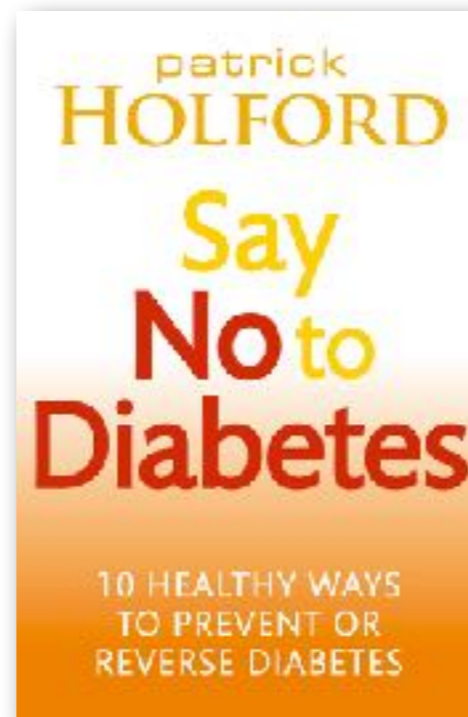
- ▶ Follow a low GL diet
- ▶ Exercise every day
- ▶ 1-3 Cinnachrome or 3 GL Support pday
- ▶ Optimum Nutrition Pack



or



+





SUPER FIBRE

glucomannan




Best sources of superfibre




Chia**bia**

100% Natural Milled Chia Seed


Ancient super food of the Aztecs for your



heart



mind



body

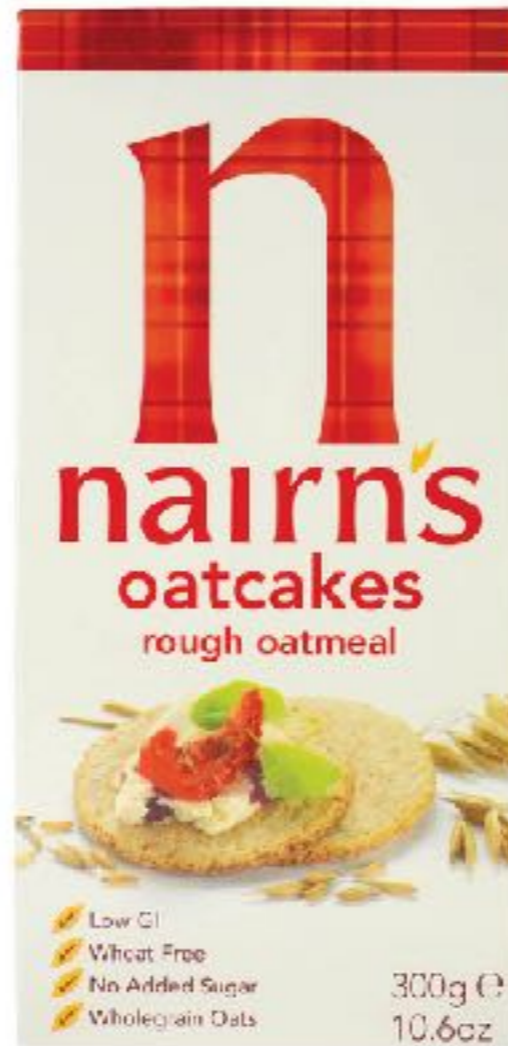
Rich in: Omega 3
Protein
Fibre
Antioxidants

All our chia seeds are sourced and approved by
Dr. Wayne Coates

Each portion contains:

Carbohydrate	Sugars	Fat	Saturated Fat	Salt
7g	0g	4.5g	0g	0g
4%	0%	6%	0%	0%

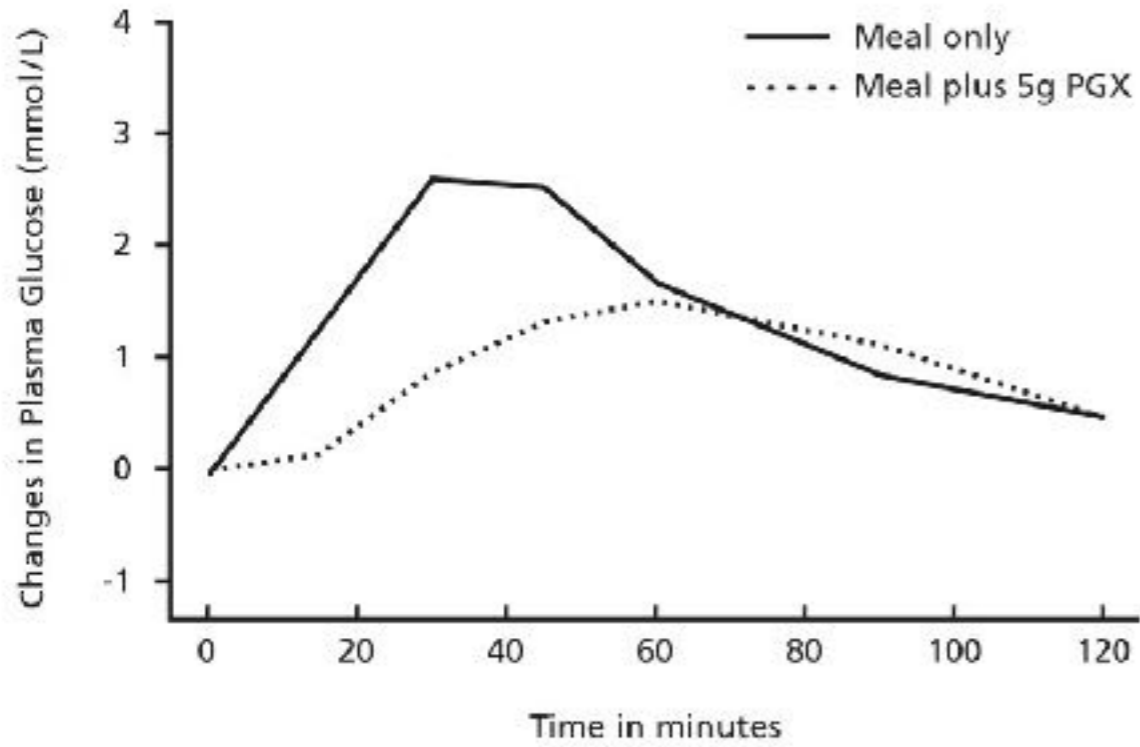
(Of an adult's guideline daily amount)



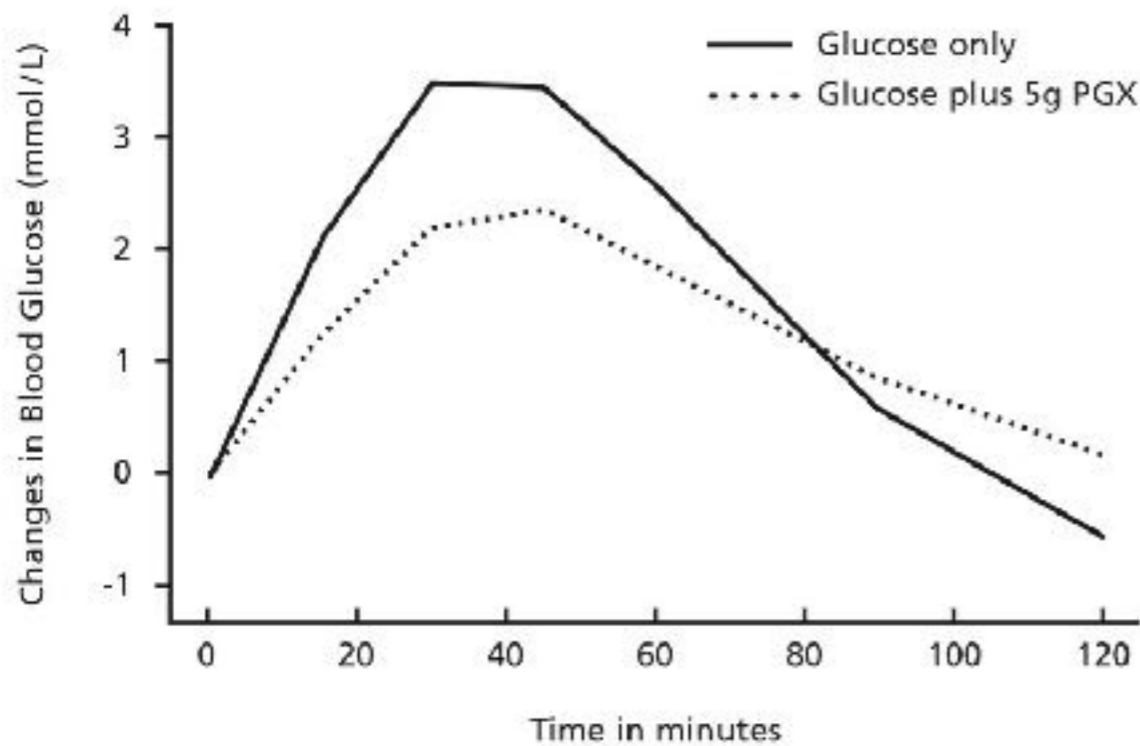
Effect of PGX on the GL of a meal



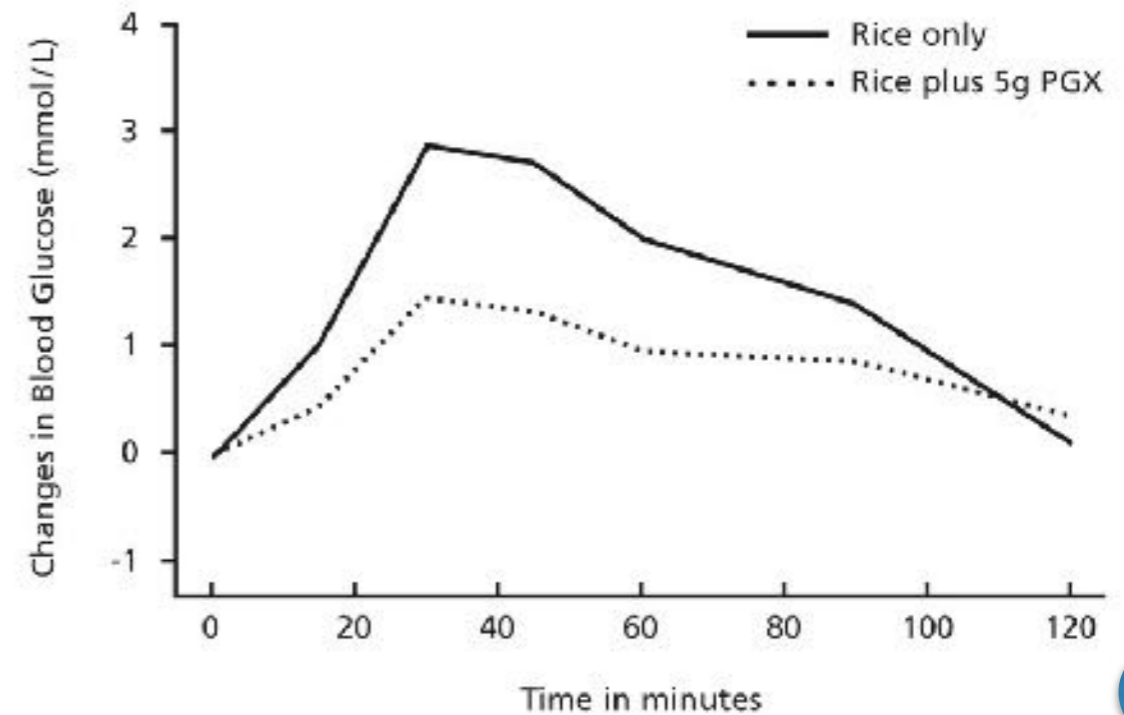
A



B



C



Glucomannan for weight loss



G.Katz et al, Journal of the American College of Nutrition, 2016

- ▶ Dr Gilbert Kaatz and colleagues gave 73 overweight men and women either 1 gram of glucomannan, taken three times a day before meals, or an identical placebo pill for 60 days.
- ▶ Those on placebo gained an average of 2.18lbs. Those on glucomannan lost an average of 2.75lbs. **So those on glucomannan lost 4.93lbs, almost 5lbs more over 60 days.** Further analysis found that most of this weight loss, almost 4lbs (3.86lbs) was actually fat loss. LDL cholesterol, reduced by 3mg/dl in those taking glucomannan.
- ▶ **Glucomannan reduces appetite (fills you up), lowers cholesterol and is great for the bowels.**



Eating out tips



- ✓ Choose Thai, Chinese, Japanese or Malaysian
- ✓ Take away the bread
- ✓ Order olives
- ✓ One portion of rice/noodles two or three
- ✓ Order a salad or portion of vegetables
- ✓ Change the menu
- ✓ Stay away from desserts

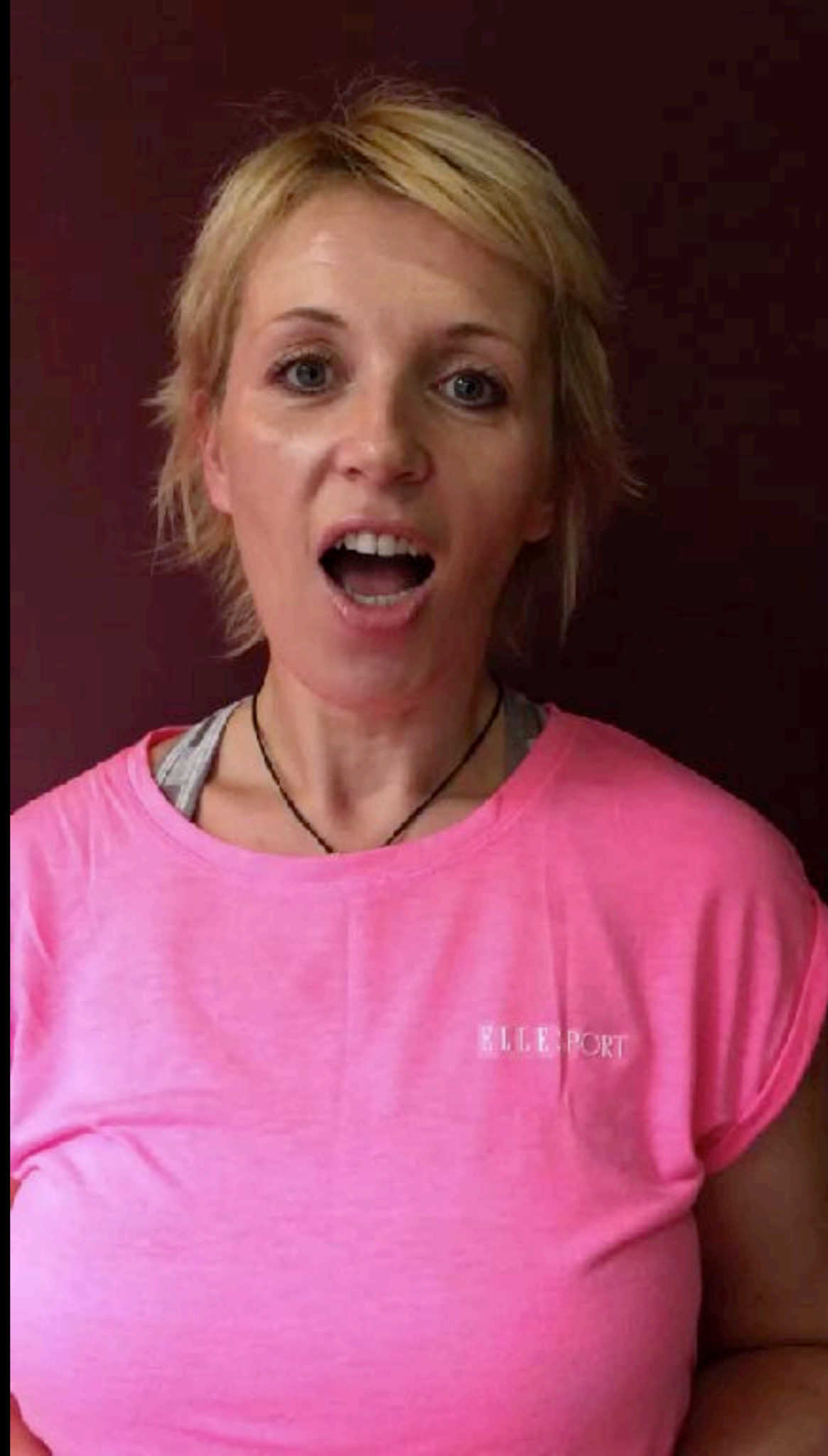


Simple ways to lower the GL of a meal



- **Add lemon juice**
- **Soup it and soak it**
- **Chew it and sip water**
- **Put your fork down between mouthfuls**
- **Add a spoonful of oatbran**
- **Don't add sweet sauces**
- **Wait 30 minutes before eating something sweet**
- **Have dessert as a snack**







21 people on my GL diet for 12 weeks



Health Marker	Before	After	% change	Greatest % change
Weight	92kg	85kg	7.4% -7kg	11.6%-14kg
HbA1c	6.9	5.9	15%	32%
Cholesterol	5.3	4.6	11%	23%
Triglycerides	1.7	1.2	27%	77%
B.Pressure	137/81	131/73	4/10%	22%/25%
Chol/HDL	4.1	3.7	9%	39%
Trig/HDL	1.5	1.1	27%	78%



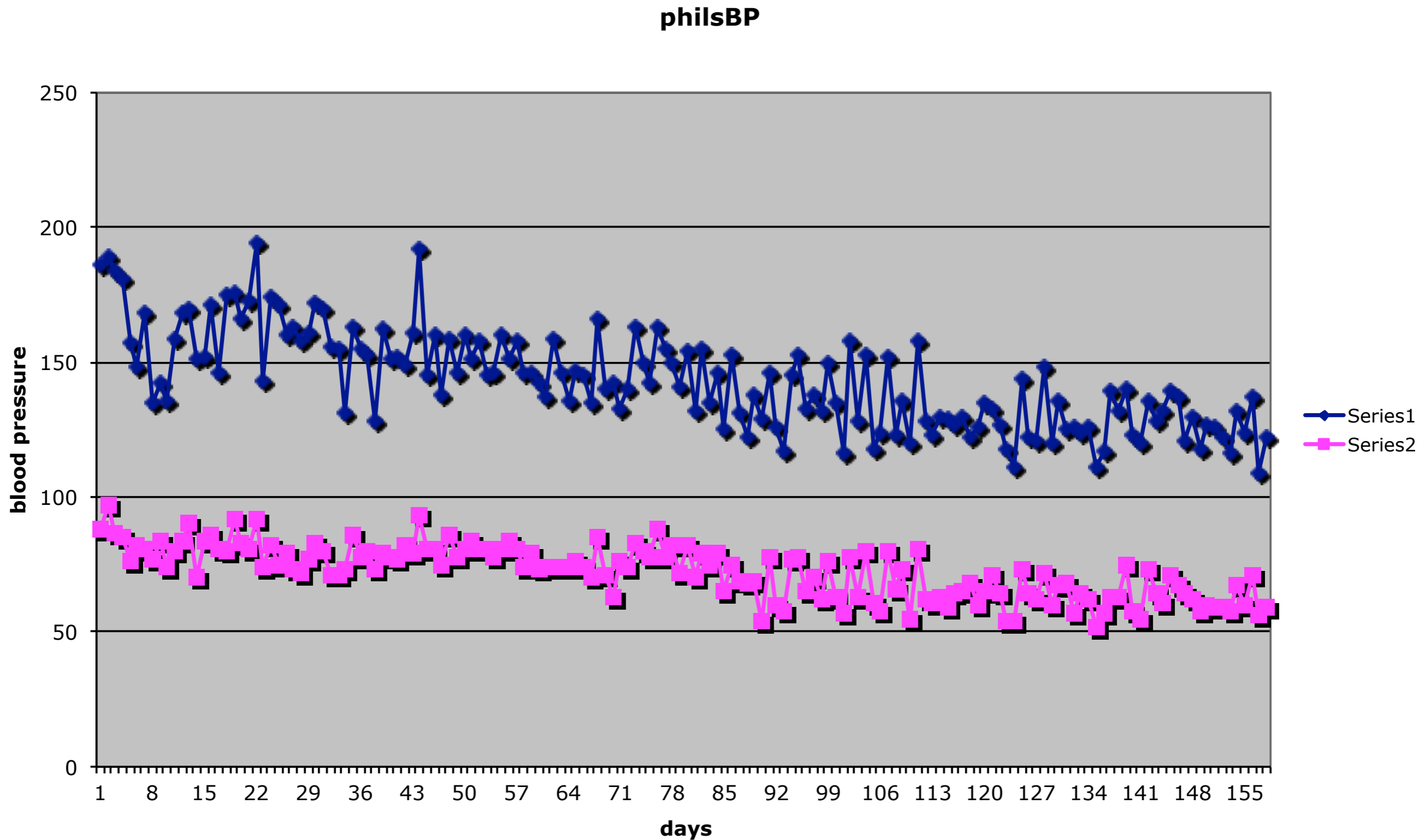
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HbA1c	6.9	5.9	15%	32%
Cholesterol	5.3	4.6	11%	23%
Triglycerides	1.7	1.2	27%	77%
B.Pressure	137/81	131/73	4/10%	22%/25%
Chol/HDL	4.1	3.7	9%	39%
Trig/HD	Low carb diet results 9kg over 15 months			78%



Blood pressure normalised on GL diet



Helpful nutrients



- ▶ The following nutrients have RCTs showing lowering of blood glucose levels, HbA1c and/or improving insulin resistance

Vitamins

Vitamin D (15–50mcg)

Vitamin C (1–2g)

Vitamin E (100–300mg) with vit C

B complex (B1, B2, B3, B6, B12, folic acid) (depending on your Hcy level)

Minerals

Chromium (200–1,000mcg)

Magnesium (150–300mg)

Essential Fats

Omega-3

Super Fibres

Glucomannan or PGX (5-15g)

Antioxidants

CoQ10 (10–100mg)

alpha lipoic acid (10–600mg)

Glutathione or NACysteine (50–500mg)

Resveratrol/anthocyanidins (10–40mg)

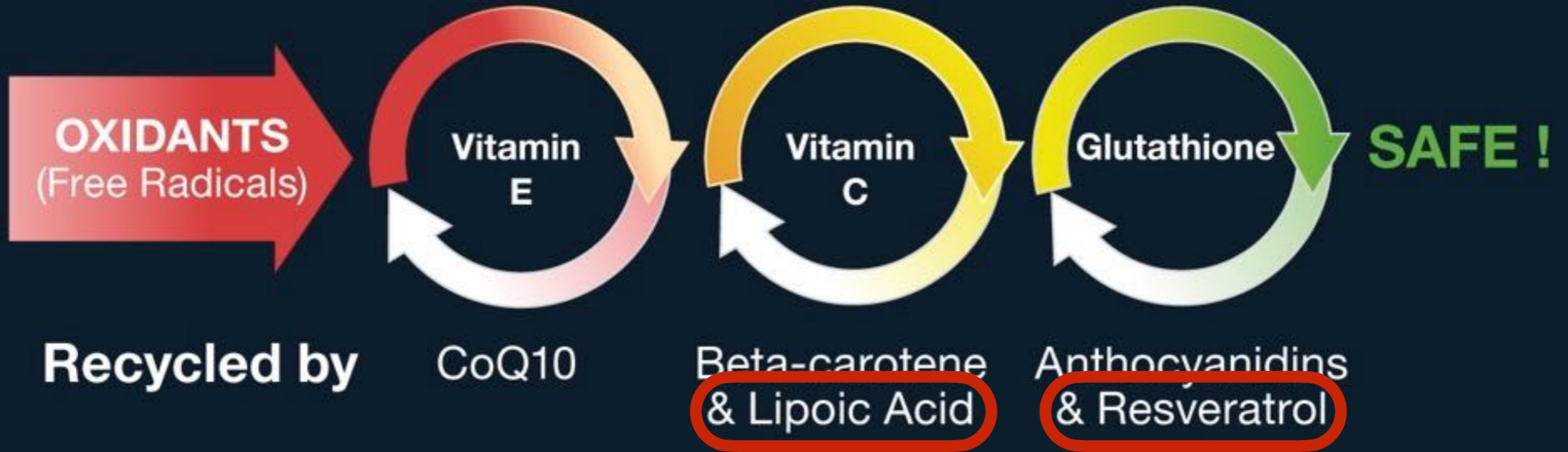
Herbs

Cinnamon (3–6g) or Cinnulin (0.5-1g)





Antioxidants are team players



Lipoic acid, resveratrol and vitamin C encourage AUTOPHAGY

Evidence for vitamin C



Those with the highest amounts of vitamin C in their blood plasma were **62 per cent less likely to develop diabetes**, compared to those with the lowest amounts. (Harding A, *Archives of Internal Medicine*, 2008 -/18663161)

One study in india gave people with diabetes either 500mg or 1,000mg of vitamin C. Those taking 1,000mg had a **significant decrease in both their blood sugar levels and glycosylated haemoglobin, as well as triglycerides and cholesterol**. (M. Afkhami-Ardekani and A. Shojaoddiny-Ardekani, *Indian Journal of Medicine Research*, 2007 -/18160753)

31 obese hypertensive or diabetic patients were given 500mg x 2 vitamin C for eight weeks. **Vitamin C significantly reduced** the levels of high-sensitivity C-reactive protein (hs-CRP), interleukin 6 (IL-6), **fasting blood glucose (FBG)**, compared to controls. (M Ellulu, *Drug Des Devel Ther*. 2015 -/26170625)

A high intake (2g) of vitamin C a day also protects the eyes, which are prone to damage from the accumulation of slowly processed sorbitol, a consequence of diabetes. Taking a daily dose of vitamin C halves the amount of sorbitol the body produces. (J. S. Vinson, et al., *Diabetes*, 1989 -/2753234)



Magnesium and diabetes

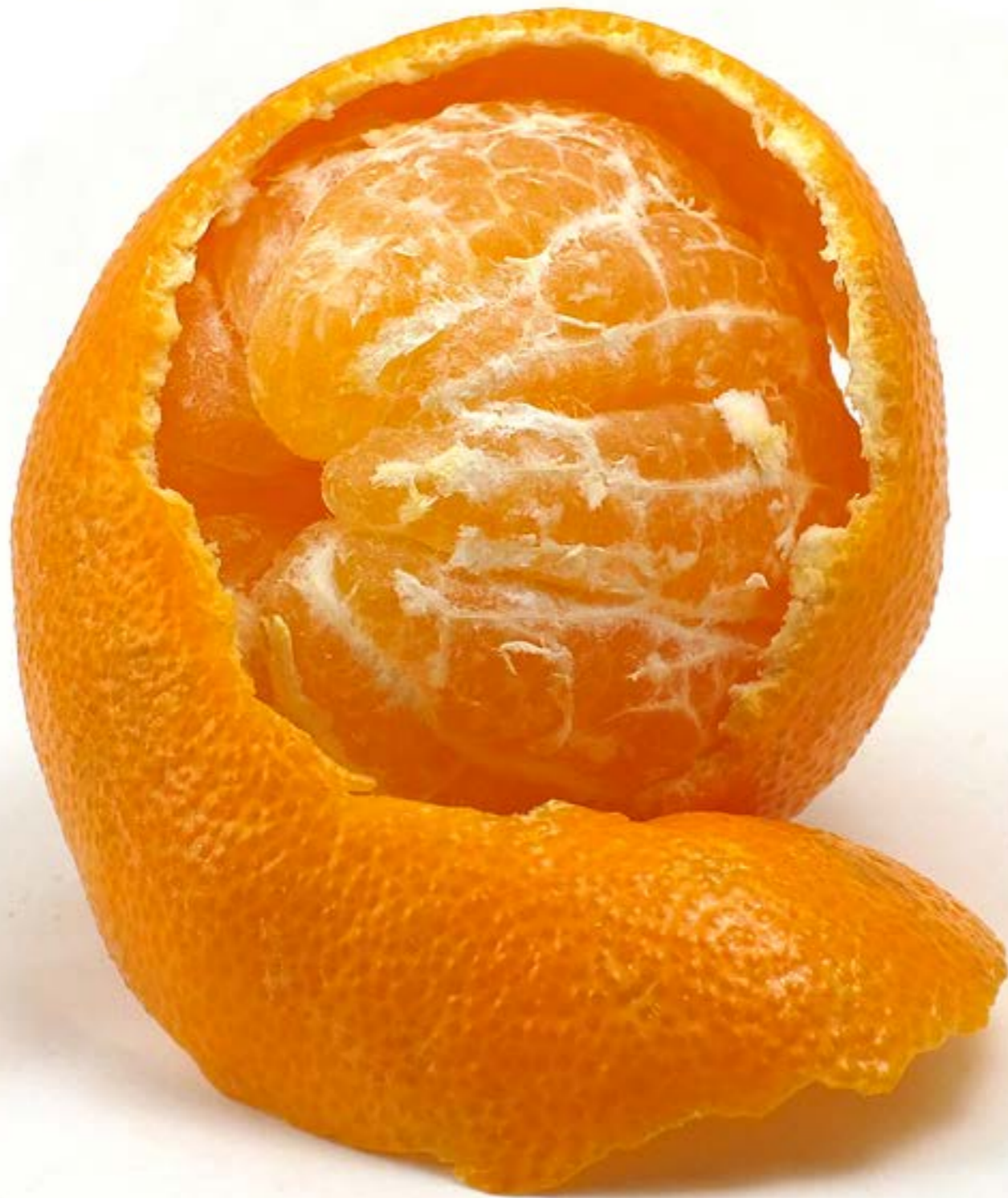


Magnesium levels tend to be low in people with diabetes, and the lower the magnesium the higher the insulin levels. (J. Ma et al., Journal of Clinical Epidemiology, 1995)

A 14-year study tracking over 75,000 people found that the lower a person's magnesium level the higher was their risk of diabetes. (B. N. Hopping, et al., Journal of Clinical Epidemiology, 1995)

In an RCT, diabetics with low magnesium were given magnesium 382mg or a placebo for 16 weeks. At the end of that period only **those taking the magnesium had lower blood sugar levels, insulin levels and HbA1c, which dropped from an average of 10% to an average of 8%.** (M. Rodriguez-Moran and F. Guerrero-Romero, Diabetes Care, 2003 and Diabetes Metabolism 2015 -/25937055)





PatrickHOLFORD

100% health for life

Take a break!


Holford Retreat

Creating Healthy Habits



MARCELLE DUBRUEL
transform your weight, health & life

Creating Habits which serve you



**Success is nothing more than
a few simple disciplines,
practiced every day.**

Jim Rohn

BrainyQuote

We are what we
repeatedly do.
Excellence,
therefore, is not an
act but a habit.

-Aristotle

What are Habits?

Habits have a recognizable neural signature:

When you are learning a response you engage your associative **basal ganglia**, which involves the **prefrontal cortex** and supports working memory so you can make decisions.

As you repeat the behaviour in the same context, the information is reorganized in your brain.

It shifts to the **sensory motor loop** that supports **representations of cue response associations**, and no longer retains information on the goal or outcome. This shift from goal directed to context cue response helps to explain why our **habits may become rigid behaviours**.

Habits allow us to focus on other things

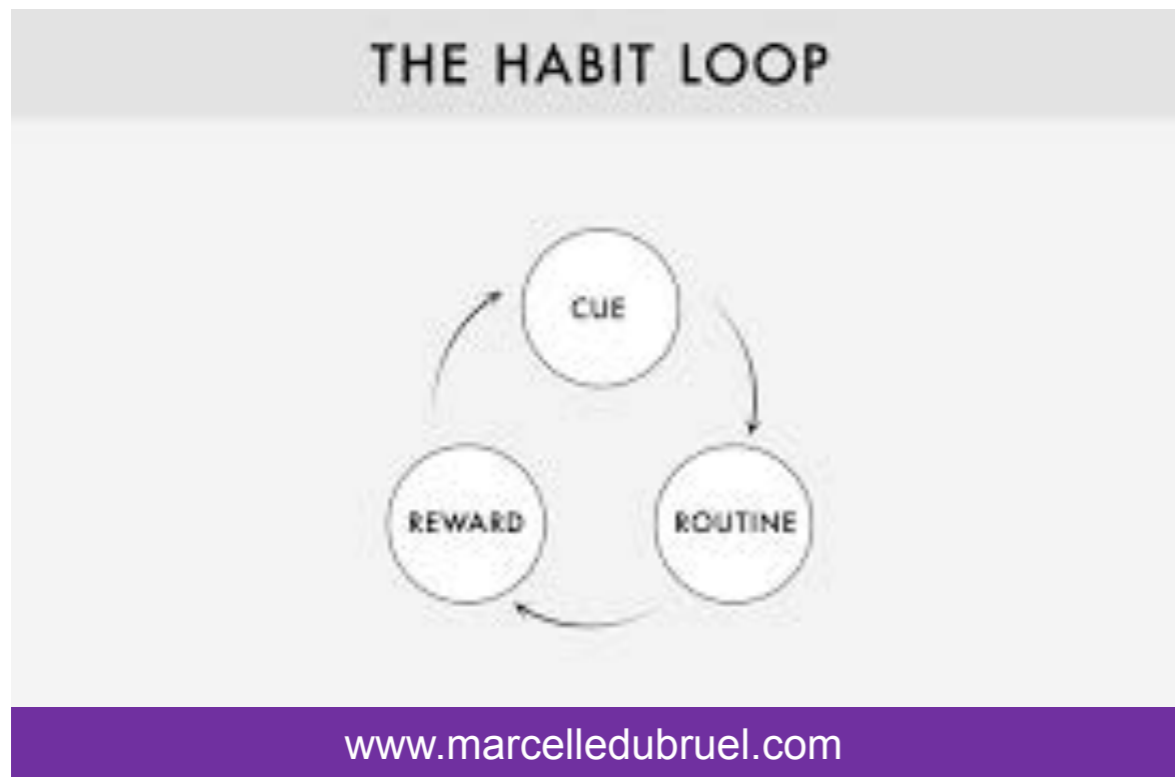
Participants in a study were asked to taste popcorn, and as expected, fresh popcorn was preferable to stale.

But when participants were given popcorn in a movie theatre, people who have a habit of eating popcorn at the movies ate just as much stale popcorn as participants in the fresh popcorn group.

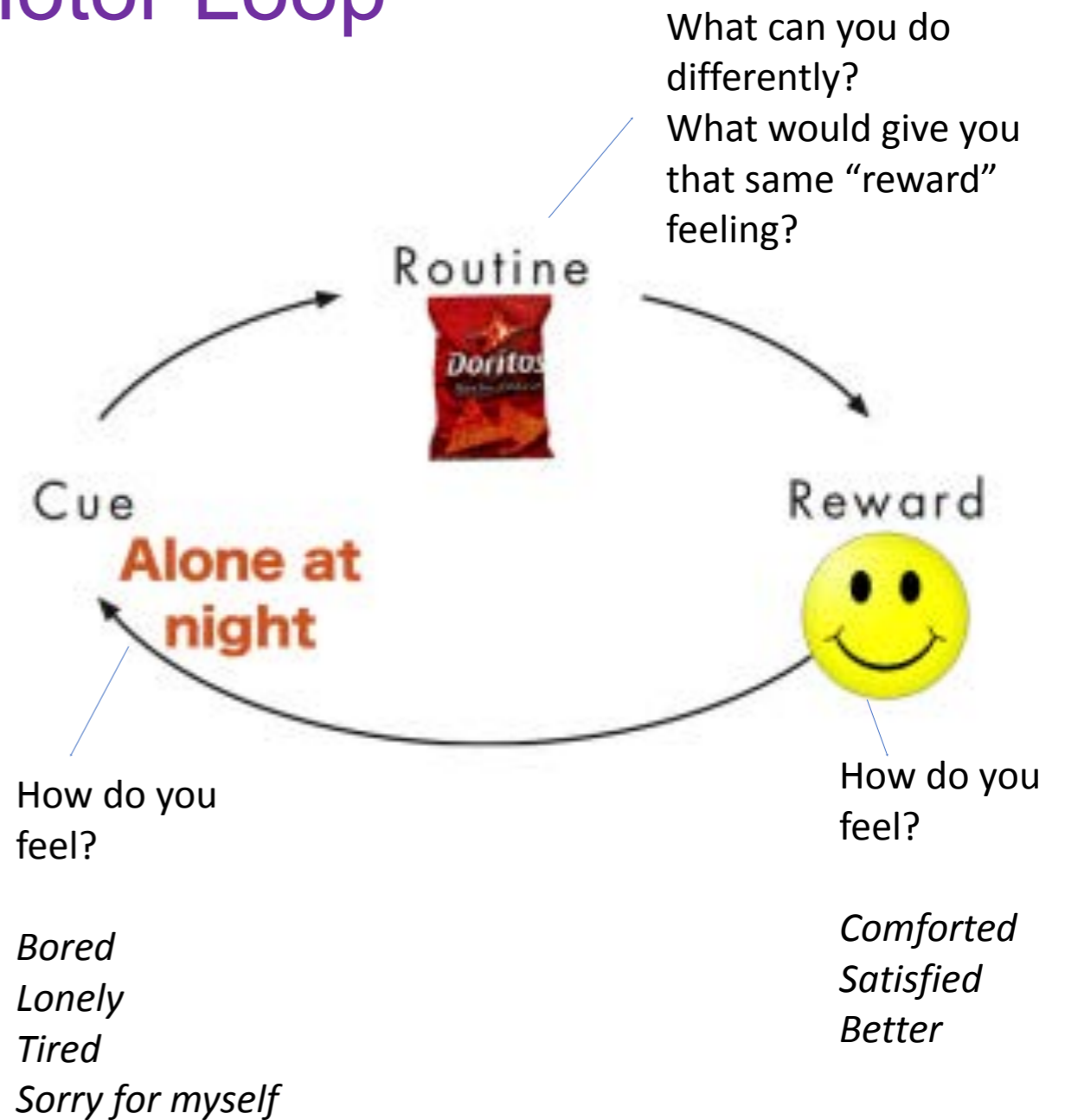
"The thoughtful intentional mind is easily derailed and people tend to fall back on habitual behaviours.

Forty percent of the time we're not thinking about what we're doing," Wood interjects. "Habits allow us to focus on other things...Willpower is a limited resource, and when it runs out you fall back on habits."

Sensory Motor Loop



Recognize what the cue is and keep that constant. Switch the routine into something positive and make sure there is still a reward.



Healthier Habits

- 1) Complete the habit worksheet
- 2) Add any of your own habits that you want to work on.
- 3) Look out for any links between a habit you want to adopt and one you want to give up
- 4) Use the habit loop to help you understand your cues or triggers.
- 5) What could you do instead, which gives you the same feeling of reward?
- 6) What else?

Healthy lifestyle habits

A habit is a way a learnt behaviour that has been repeated many times, so it has become something we do without thinking, whether good or bad. In order to break habits that don't serve us, we need to consider what has to be replaced. Here are a few suggestions of good and bad behavioural habits with space to add your own. What habits would you like to give up or do less often, and what habits would you like to adopt or do more often?

ADOPT OR DO MORE OFTEN

- Create a better balance between work and enjoyment / fun
- Have in regular rewards and things to look forward to (not food)
- Take time out for myself each day
- Have in more relaxation
- Practice taking better care of myself
- Practice re-framing things in a more positive way
- Do things that energise me
- Do things that make me feel happy
- Spend time with people who are positive influences
- Read quality material to support my health journey
- Practice gratitude and appreciation (not just in the bedroom)
- Acknowledge my successes
- Get organised, plan in advance
- Get some fresh air every day

ADD YOUR OWN:

GIVE UP OR DO LESS OFTEN

- Watching TV
- Being late
- Negative thinking
- Stress
- Smoking
- Drinking
- Eating sweet foods
- Comfort eating
- Eating when not hungry or when bored
- Drinking so much coffee
- Snacking late at night
- Staying up too late / not getting enough sleep
- Responding with anger or frustration
- Internet surfing / social media
- Procrastinating

ADD YOUR OWN:

Identify what habits you want to make or break and add these to your weekly goals.

What is getting in your way of reaching your dream health and weight?

- Physical – underlying health issues acting as barriers that need addressing
- *Habitual – ingrained habits – the known / normal*
- Practical – lack of time, lack of resources, practical difficulties in making changes
- *Motivational – no clear ‘why’ established and lack of motivation and commitment to change*
- Environmental – the environment in which you live does not support a healthy lifestyle
- *Emotional – food is used to deal with emotions*

In Summary

- Let go of old default habits which are not serving you
- Create new habits which bring you joy and support your goals
- Put in place what you need to support your new habits, until they become your new default



MARCELLE DUBRUEL
transform your weight, health & life

PatrickHOLFORD

100% health for life

Take a HIIT!
(exercise)

patrick
HOLFORD

& Kate Staples
Optimum Living Made Easy

INCLUDES
FAT-BURNING
WORKOUT

BURN FAT FAST

THE ALTERNATE-DAY
LOW-GL DIET PLAN

WEIGHT

PatrickHOLFORD

100% health for life

Lunch time!

7 key processes

- ? Glycation - sugars, soluble fibres
- ? Lipidation - EFAs, phospholipids, VitD
- ? Methylation - B vitamins etc
- ? Oxidation - antioxidants/polyphenols
- ? Hydration - water
- ? **Digestion - enzymes, probiotics, fibres etc**
- ? Communication - hormones, neurotransmitters, cytokines & inflammation





**Stomach
produces
stomach acid
(betaine Hcl)**

**HCl+ pepsinogen
= pepsin**



**Intrinsic factor =
B12 absorption**



Stomach acid declines with age



You need stomach acid to:

- ▶ Kill bugs
- ▶ Digest protein
- ▶ Trigger pancreatic enzyme release
- ▶ Absorb vitamin B12
- ▶ Shut the valve from oesophagus to stomach (LES)

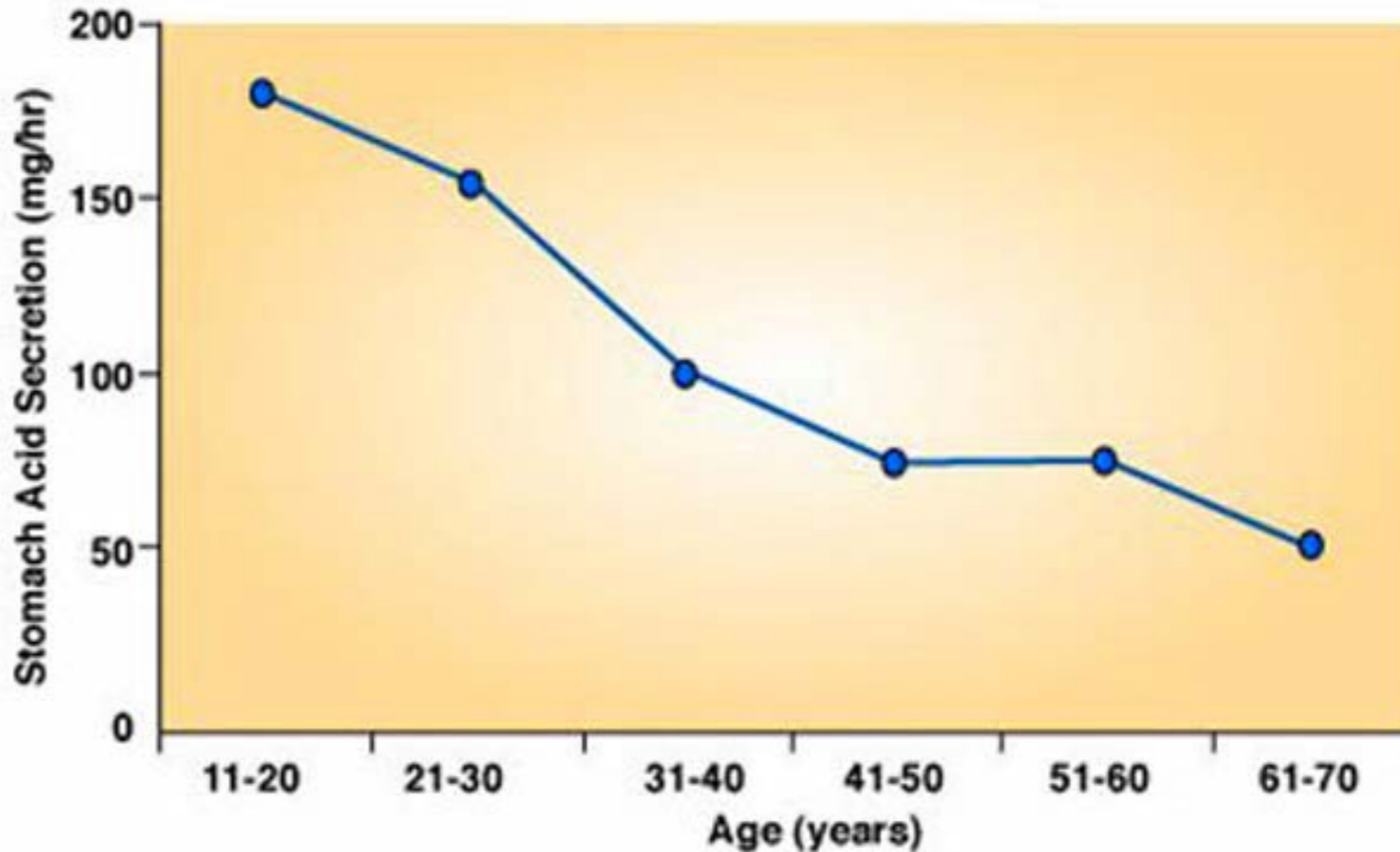


Fig. 1. Contrary to popular belief, stomach acid secretions drop with advancing age. This graph shows average decline in stomach acid secretion in humans between age 20 to age 80. (From “*Why Stomach Acid is Good For You.*”)



With too little stomach acid you get:



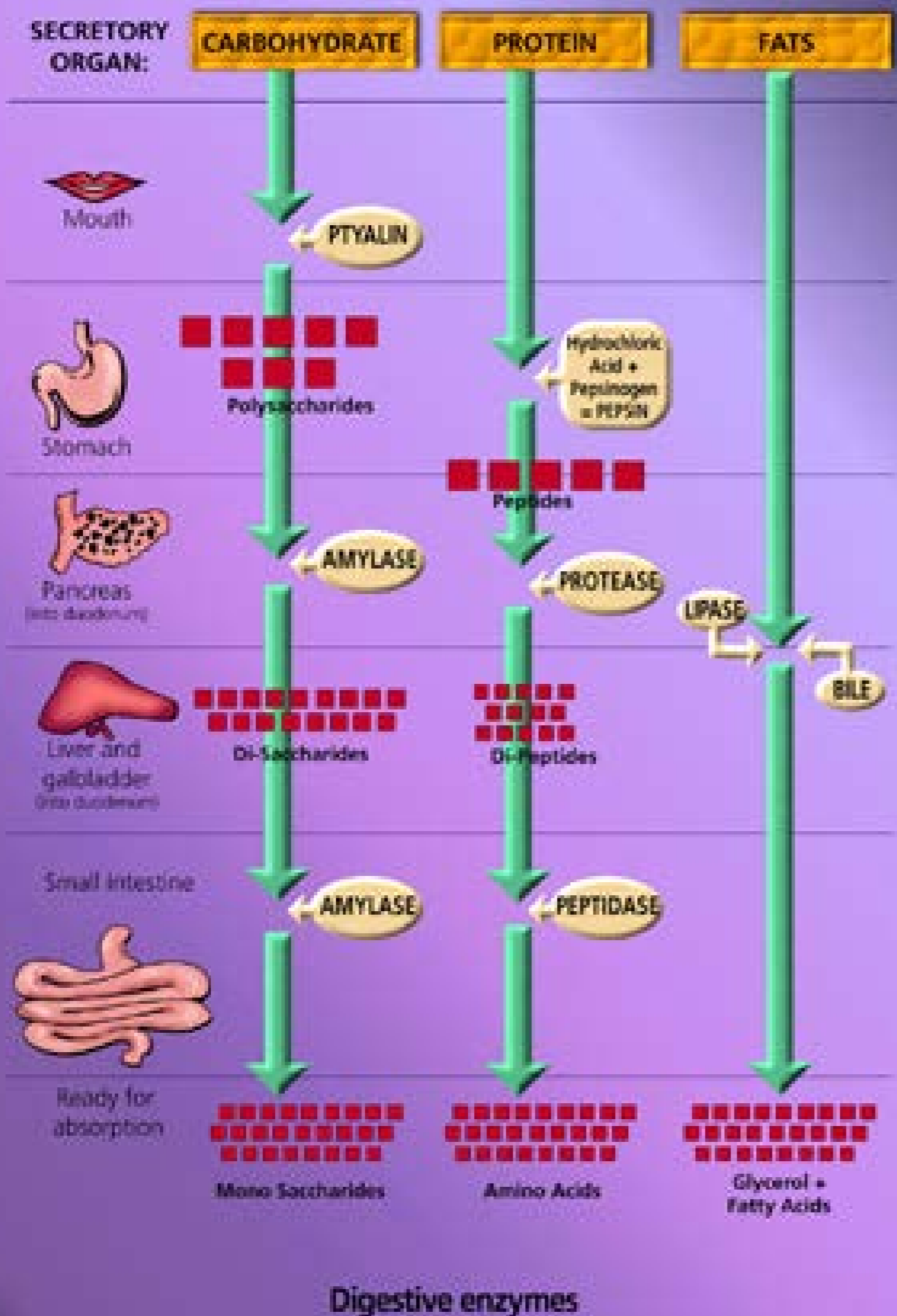
- ▶ Heart burn
- ▶ Indigestion
- ▶ Bloating
- ▶ Belching

Take 2 capsules (600mg) with a meal. Keep increasing up to 3,000mg. Stop if you get any discomfort or heartburn.

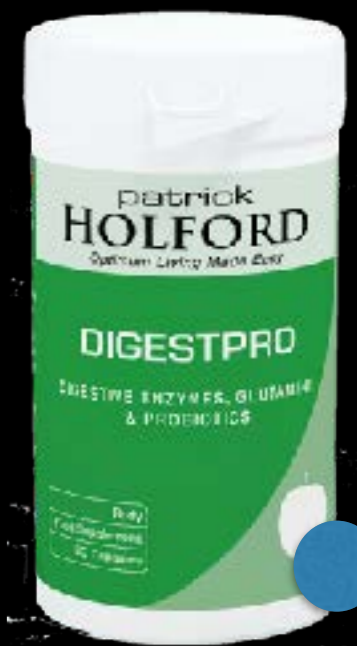


on't take if you have or suspect an ulcer





Amylase for carbs
Invertase for sugars
Lactase for milk sugar
Protease for protein
Lipase for fat
Glucoamylase for greens
Galactosidase for beans





Digestion & Absorption





THE BAD GUYS

Staphylococci

Salmonella

Campylobacteria

Non Resident

THE GOOD GUYS

Lactobacilli

Acidophilus, Rhamnosus, Salivarius

Bifidobacteria

Bifidum, Infantis, Bacterium

Resident



Enterobacteria

E. coli

Who's Who of Bacteria Inside You

Lactobacillus

Bulgaricus, Casei

Streptococcus

Thermophilus, Salivarius

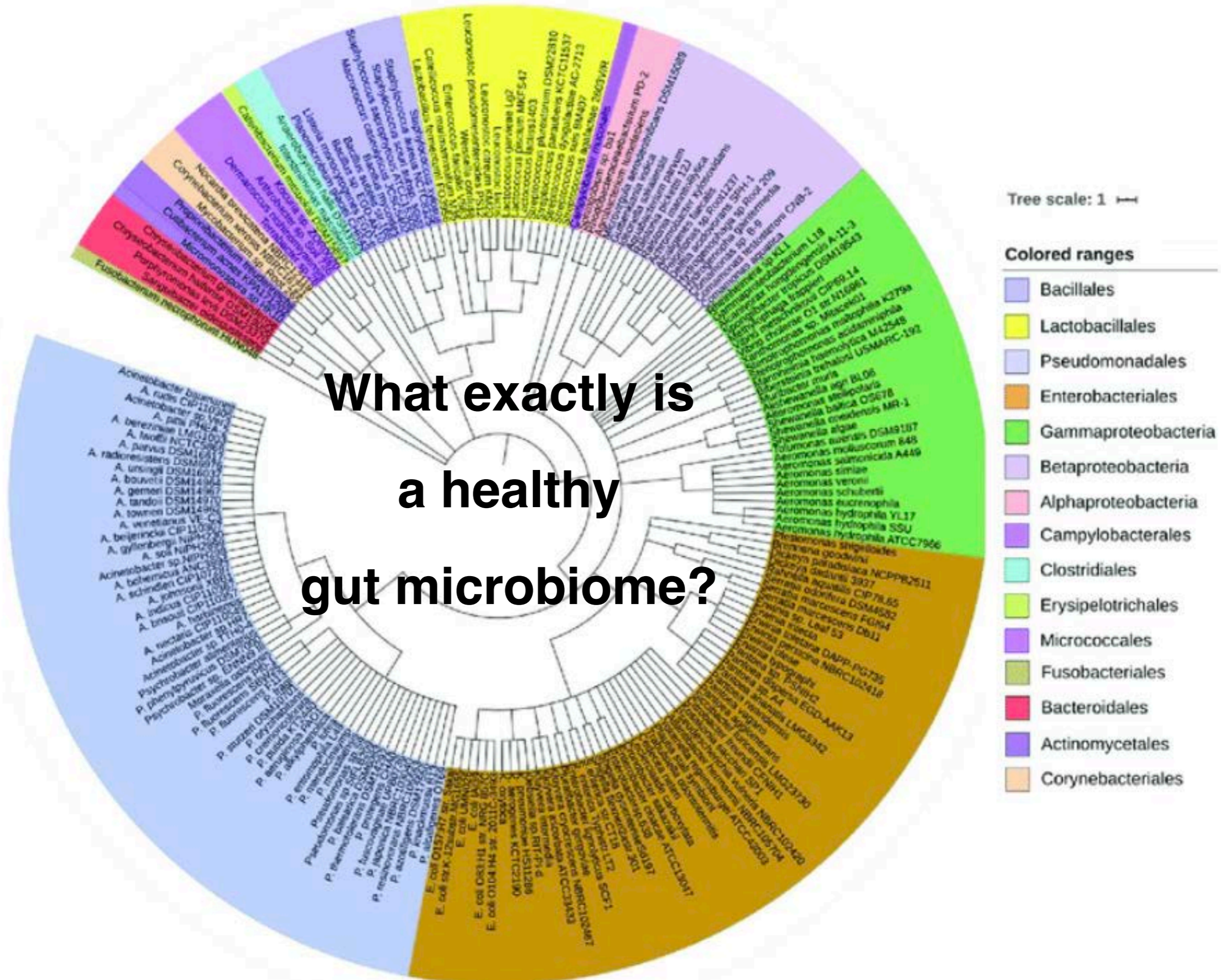
Non Resident

"Lactobacillus

Salivarius

We have 100 trillion bacteria, weighing 2 kg of about 130 different types

What exactly is
a healthy
gut microbiome?



Vitamin C promotes healthy gut



Hazan S, Future Microbiol 2022; A Otten, Antioxidants (Basel) 2021

- ▶ Two studies have shown that supplementing vitamin C (1g a day; 3g+ a day) increases healthy gut bacteria such as bifidobacteria, while reducing unhealthy gut bacteria such as enterococci.
- ▶ The author of the more recent study, Dr Sabine Hazan says “This study suggests the possibility that vitamin C could be successful for improving infection outcomes, possibly even COVID-19, partially because it improves the gut bacteria present.”

What gut bacteria do



- ▶ **Make vitamins**, including vitamins B1, B2, B3, B5, B6, B12, biotin, vitamins A and K as well as short- chain fatty acids.
- ▶ **Ensure normal function of the intestine**, including motility, secretion of mucus and absorption as well as helping to eliminate cholesterol and bile.
- ▶ **Help to digest carbohydrates and proteins**, such as casein and gluten, and digesting lactose and other carbohydrates.
- ▶ **Fight infections**: they have been shown to halve recovery time from diarrhoea and prevent the overgrowth of harmful bacteria & fungi



What gut bacteria do - continued



- ▶ **Boost your immunity** by increasing the number of immune cells and the production of secretory IgA.
- ▶ **Promote other ‘good’ bacteria**, while reducing ‘bad’ bacteria.
- ▶ **Repair and promote gut- wall integrity**
- ▶ **Probiotics produce** butyric acid, which is used as fuel by the intestinal lining, helping it to repair itself, by fermenting sugars
- ▶ **Reduce inflammation and allergic inflammatory reactions** by inhibiting pro- inflammatory cytokine production



Is your gut your second brain?

The health of your gut, and the balance of the bacteria and other microbiota that make up your gut's microbiome, are increasingly being associated with playing a role in memory, learning, and potential protection against dementia.

This super highway called the microbiota-gut-brain axis, is one of the hottest fields of research with as many as 30 new studies published every day!

Consequently, attention is now turning to how the microbiota can become the target of nutritional and therapeutic strategies for improved brain health and well-being. However, while such strategies that target the gut microbiota to influence brain health and function are currently under development with varying levels of success, **still very little is yet known about the triggers and mechanisms underlying the gut microbiota's apparent influence on cognitive or brain function.**



Dr. David Vauzour is Senior Research Fellow and Principal Investigator at Norwich Medical School at the University of East Anglia, UK. He completed his PhD in Chemical and Biological Sciences for Health, Faculty of Pharmacy at the University of Montpellier in France. His research interests concern novel dietary or therapeutic strategies to delay brain ageing, cognitive decline and cardiovascular disease, including stroke and vascular dementia and involves the fields of oxidative stress, free radical biochemistry, neurodegeneration and the health effects of dietary polyphenols, as well as the role and impact of the microbiota and the microbiome-gut-brain axis on mental health

Do microbes play a role in



Z Williams, D Vazour et al Microbial technology, March 2024

- ▶ In the brain, neuronal loss, synaptic dysfunction, proteinopathy, neurofibrillary tangles, and neuro-inflammation are the hallmarks of Alzheimer's disease pathophysiology.
- ▶ In addition, recent evidence has highlighted that microbes, whether commensal or pathogenic, also have the ability to interact with their host and to regulate its immune system, therefore participating in the exchanges that lead to peripheral inflammation and neuropathology. Because of this intimate relationship, **bacteria, viruses, fungi, and protozoa have been implicated in the development of Alzheimer's disease.**



Gum disease increases Alzheimer's



- ▶ 10+ years of gum disease = 70% increased risk of Alzheimer's Disease (Beydoun et al, 2020; Chang-Kai et al, 2017)
- ▶ More tooth loss more dementia (Dominy et al, 2019)
- ▶ Having p.gingivalis in mouth associated with increased Alzheimer's
- ▶ P.gingivalis found in Alzheimer's brains
- ▶ 30% of mouth bacteria is between teeth
- ▶ Brush teeth twice a day for 2 minutes.
- ▶ Floss daily, says Dr Victoria Sampson



Dr Victoria Sampson BDS

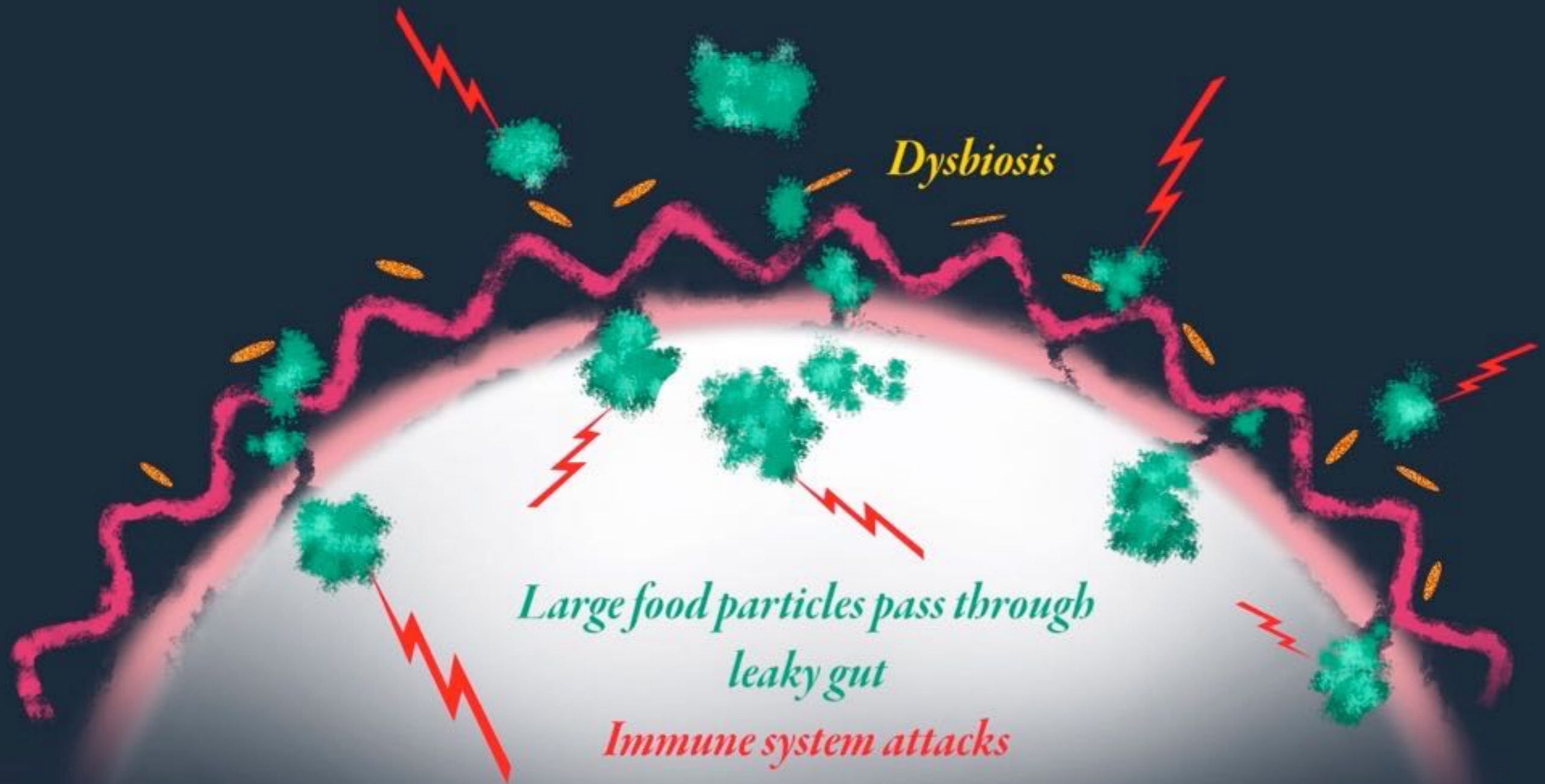
What kills beneficial bacteria



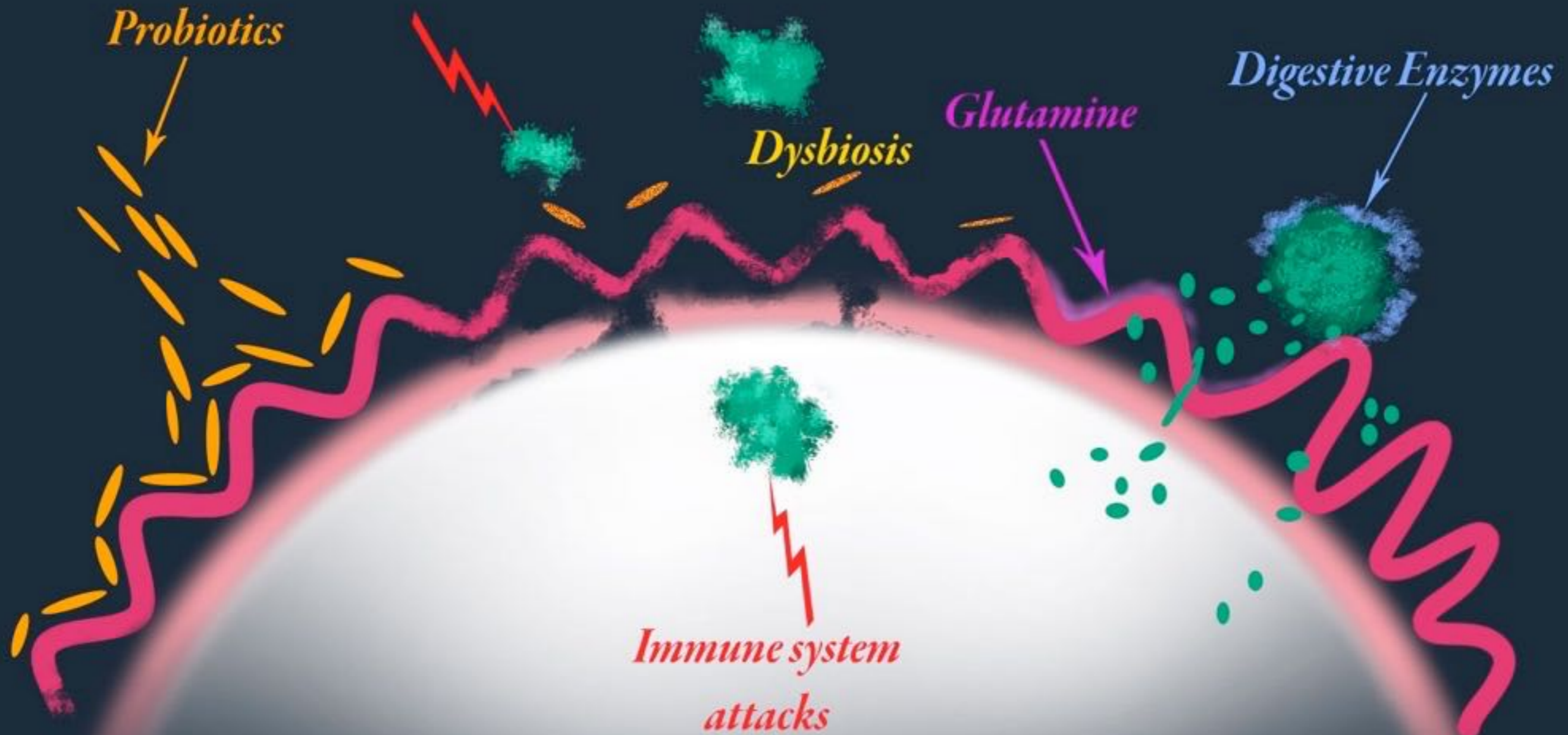
- ▶ Alcohol
- ▶ Gut infections
- ▶ Antibiotics



Indigestion & Malabsorption



Indigestion & Malabsorption



© Patrick Holford 2007



Benefits of glutamine



Shu.X. et al., Experimental and Therapeutic Medicine, 2016: Ren W, Front Immunol, 2016

- ▶ Glutamine is the the most abundant amino acid in the human body. There's five times more than any amino acid in breast milk and lots in food - 150mg in a tomato.
- ▶ It's essential for your digestive tract, but it's also highly beneficial for your immune system and brain.
- ▶ It nourishes, repairs and rebuilds the small intestine, reducing gut permeability, to aid recovery after surgery an infection.
- ▶ It reduces gut inflammation (CRP, TNF-a, IL-6)
- ▶ It promotes secretory IgA protecting the gut from pathogens
- ▶ When gut is damaged take 1-2 teaspoons (5-10 grams) in cold water (heat destroys it) before bed



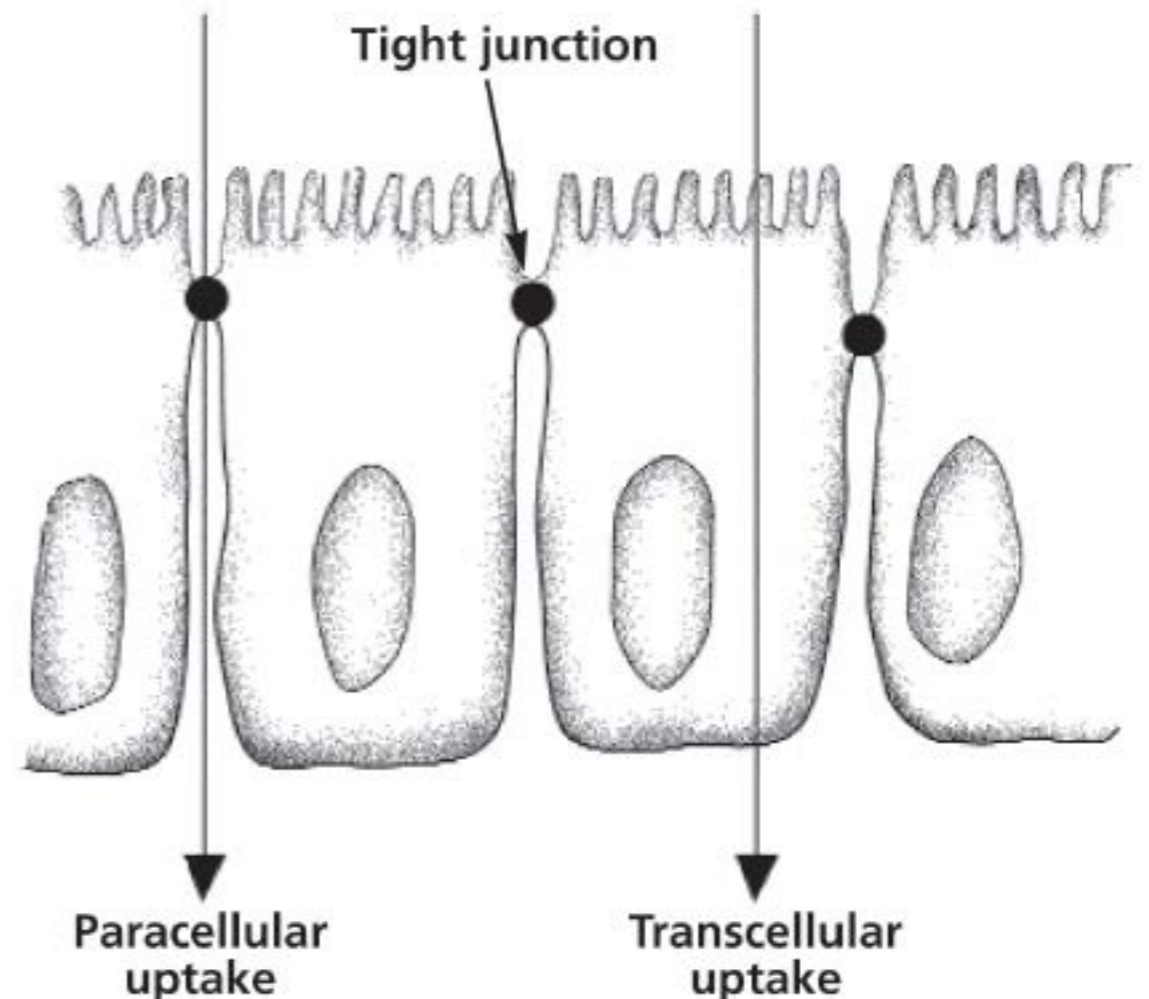
What affects gut integrity



Fasano, A., Clin Gastroenterol Hepatol, 2010

- ▶ Alcohol
- ▶ Painkillers (NSAIDs)
- ▶ Some gliadins in wheat
- ▶ Caffeine
- ▶ Dysbiosis (wrong bacteria)
- ▶ Poor digestion
- ▶ Gut inflammation
- ▶ Food intolerances

Activated GALT (gut associated lymphatic tissue) promotes ZONULIN which opens junctions



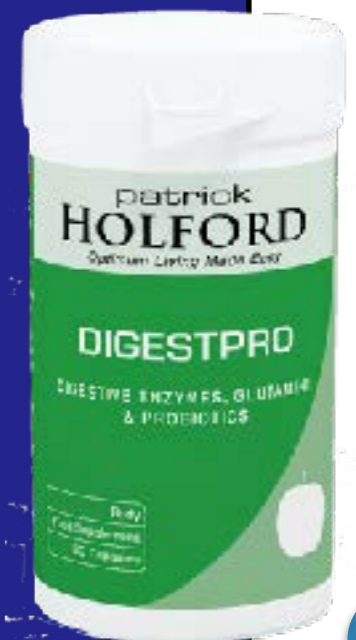
How nutrients pass across the gut lining





How to heal the digestive tract:

1. Good diet
2. Digestive enzymes with each major meal
3. Probiotics
4. A heaped teaspoon of glutamine powder
5. Check for, and remove, allergens



Symptoms of food allergy/intolerance



- ▶ Child history of colic, eczema, asthma, rashes, ear infections
- ▶ Eczema, asthma
- ▶ Joint aches
- ▶ Colds, blocked nose, sinus
- ▶ Sore throat
- ▶ Bloating, IBS
- ▶ Facial puffiness, circles or discolouration around eyes
- ▶ Seasonal (e.g. hayfever)
- ▶ Red ears, sleepiness or blocked nose after eating
- ▶ Headaches
- ▶ Depression
- ▶ Brain fog
- ▶ Anxiety, panic, stress
- ▶ Difficulty sleeping
- ▶ Hyperactivity/attention deficit
- ▶ Underactive thyroid
- ▶ Weight gain (water retention)

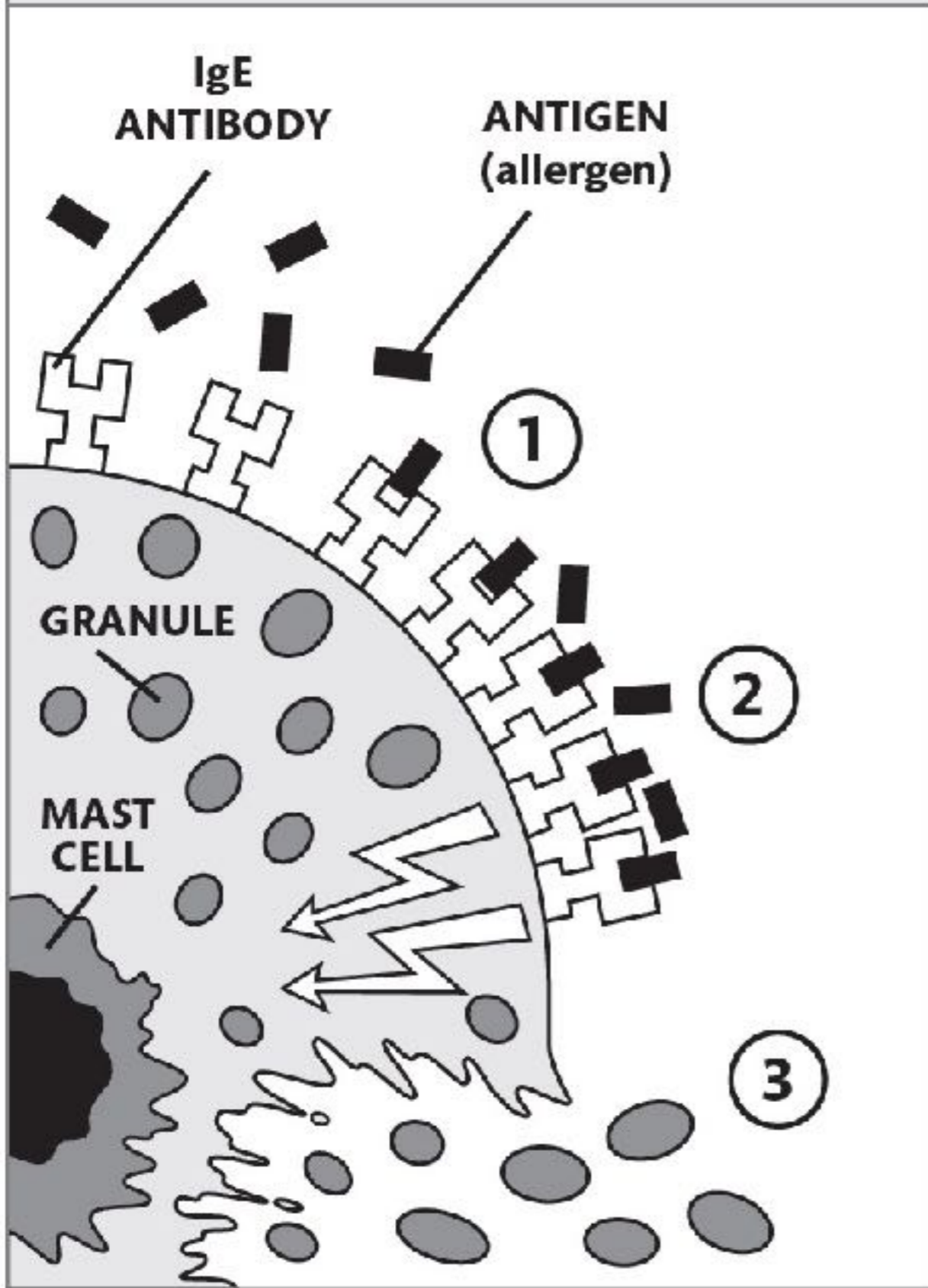
Classic (IgE) & delayed (IgG) reactions



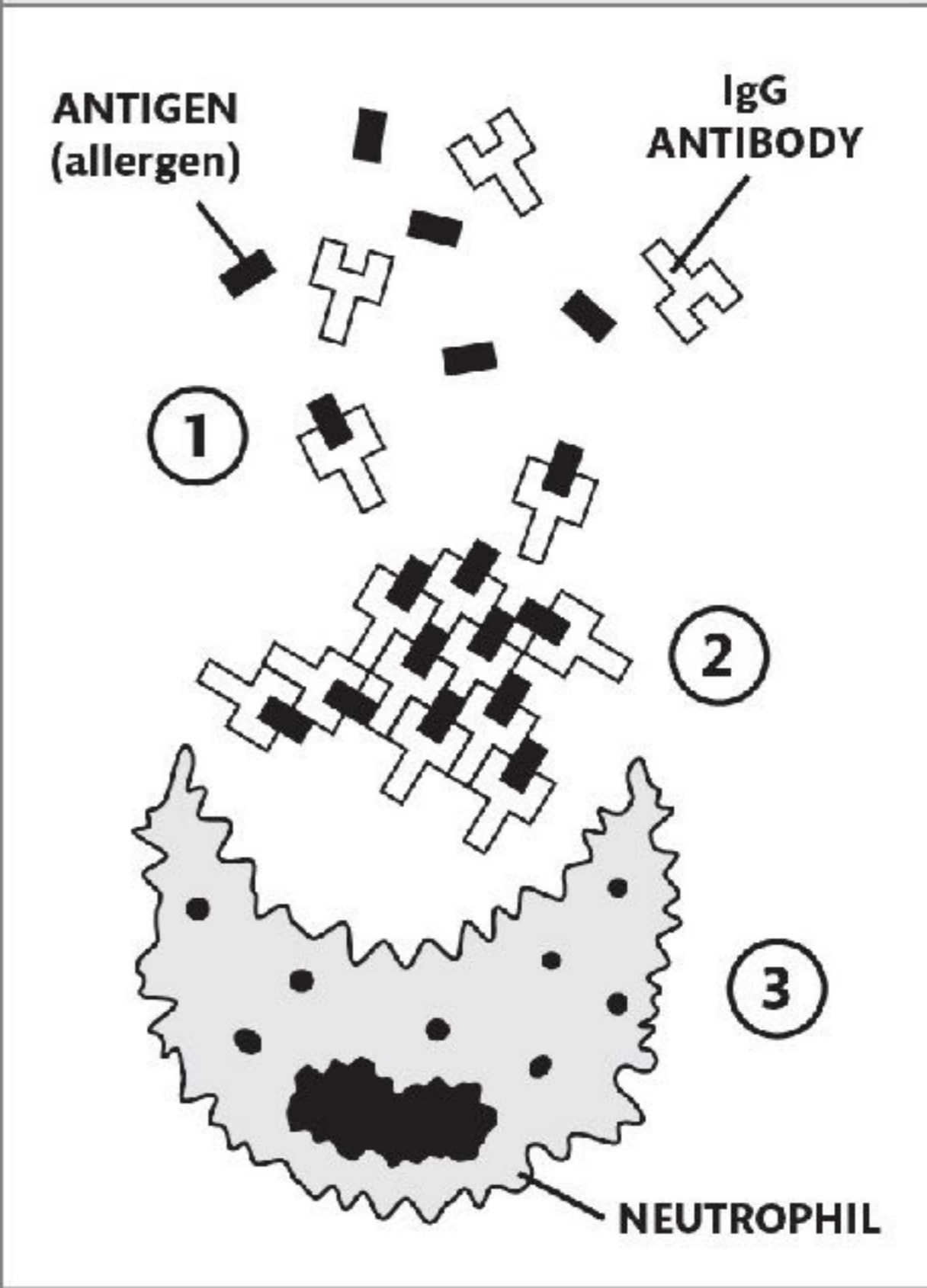
- ▶ **IgE – normally only 1 to 2 foods involved -symptoms appearing within 2 hours**
 - ▶ Potentially dangerous anaphylactic reaction (eg to peanuts, shellfish)
 - ▶ Effects limited primarily to gut, skin & airways
 - ▶ Usually self-diagnosed, doctor rarely seen
 - ▶ Involves rarely eaten foods
 - ▶ Usually IgE RAST &/or skin test positive
- ▶ **IgG – 4 to 5 foods (*or more*) involved - symptoms from 2 to 72 hours**
 - ▶ Chronic conditions affecting any organ or tissue
 - ▶ Involves commonly eaten foods, addictive component
 - ▶ IgG blood test positive (IgE & skin test negative)



IgE



IgG



IgG, not IgE linked to IBS



Sameer Z. et al., American Journal of Gastroenterology 2005; 100:p1550-1557

Researchers at St. Georges Hospital Medical School in London measured both types of antibodies in 108 people with irritable bowel syndrome (IBS), and compared the levels with 43 healthy controls. The researchers found that the people with IBS had significantly higher levels of IgG antibodies to specific foods, including wheat, beef, lamb, pork, and soy. Both groups had raised IgG antibody levels to dairy products. Neither group, however, had raised levels of IgE antibodies.



Double-blind IBS trial



Atkinson W. et al., Gut, vol 53, pp. 1391-1393 (2004) 2004

Researchers at the University of York devised an ingenious study. They tested 150 IBS sufferers using an IgG allergy test and then gave their doctors either the real results or fake results, and a supposedly 'allergy-free' diet to follow for the next three months. Neither the patients nor their doctors knew they were on a fake diet. At the end of the three month trial there was a significant improvement only in those people on their true food allergy-free diet. What's more, those who stuck to it most strictly had the best results. Level of compliance, on the other hand, didn't make a difference in those on the sham diets.

The NNT for Yorktest was 2.5 compared to 17 for drug treatment.



Denise Lewis suffered from IBS



“Since removing my allergy foods, tested by Yorktest a year ago I haven’t had a single IBS attack. It’s not always easy to avoid the foods but the benefits are worth it. for a pain-free existence. Finding out what I’m allergic to with an IgG allergy test has transformed my life. For the first time in 13 years I’m pain free.”



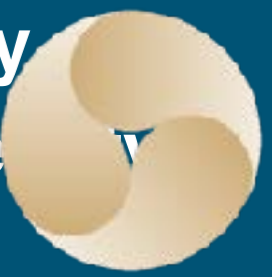
Of those who rigorously followed the diet 76% showed noticeable improvement in their chronic symptoms:



Hardman G. and Hart G., (2007) Nutrition and Food Science 37:16-23

Chronic Symptoms	Noticeable Benefit
Gastro-intestinal	80%
Respiratory	72%
Neurological	78%
Dermatological	76%
Musculo-skeletal	64%
Psychological	81%
Other	79%



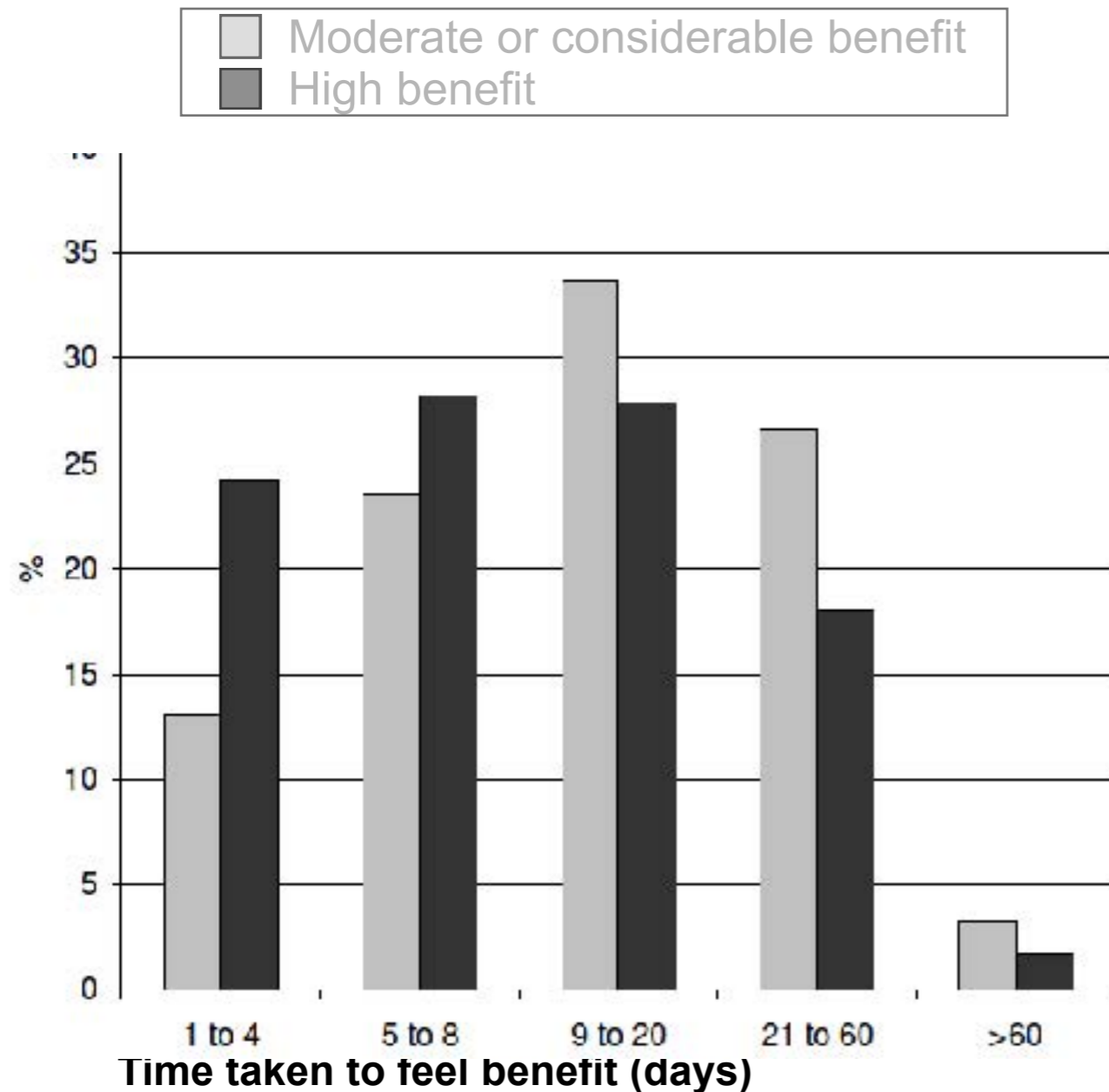


Further analysis of data in Hardman G, Hart G, 2007: Nutrition and Food Science 37, 16-23

Symptoms (n)	Moderate benefit %	High benefit %	Total benefit %	Low or no benefit %
Musculo-skeletal				
Arthritis (130)	35%	39%	74%	26%
Fibromyalgia (24)	42%	33%	75%	25%
General aches and pains (177)	34%	54%	88%	12%
Swollen joints (32)	31%	53%	84%	16%
Restless leg syndrome (1)	0	100%	100%	0
MS (51)	41%	33%	74%	25%



How long after altering their diet did people start to feel the benefits ?



For those who dieted rigorously and reported a high level of benefit, 92.3% noticed a return of symptoms on reintroduction of the offending foods.

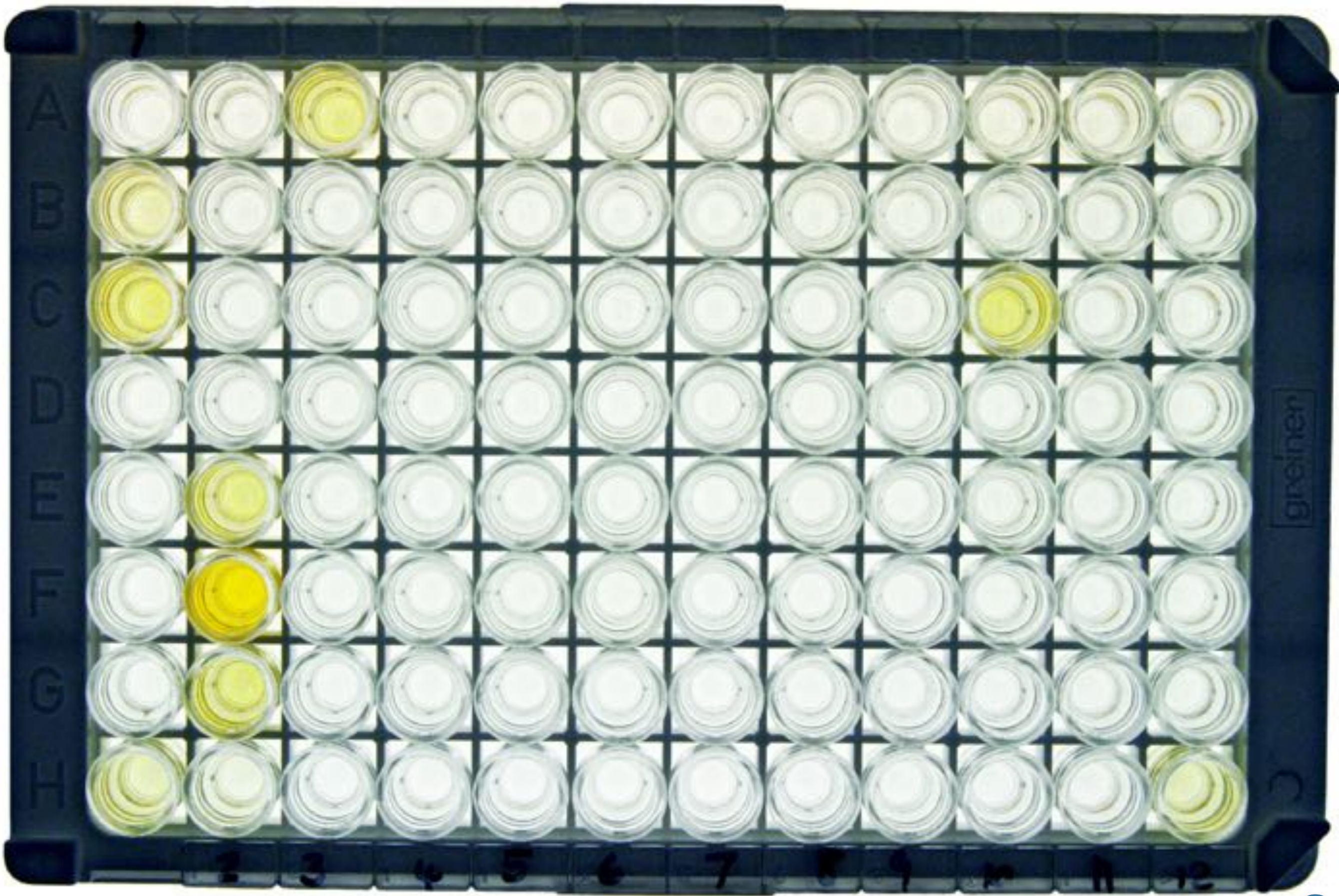


Testing for food & drink intolerance



- ▶ Premium Food Intolerance - food and drink intolerance programme
- ▶ Easy to use finger-prick home-to-laboratory test
- ▶ Return sample by post, results within 10 working days
- ▶ Comprehensive results pack
- ▶ 2 telephone consultations with a nutritionist to discuss your results
- ▶ Recommended by Allergy UK



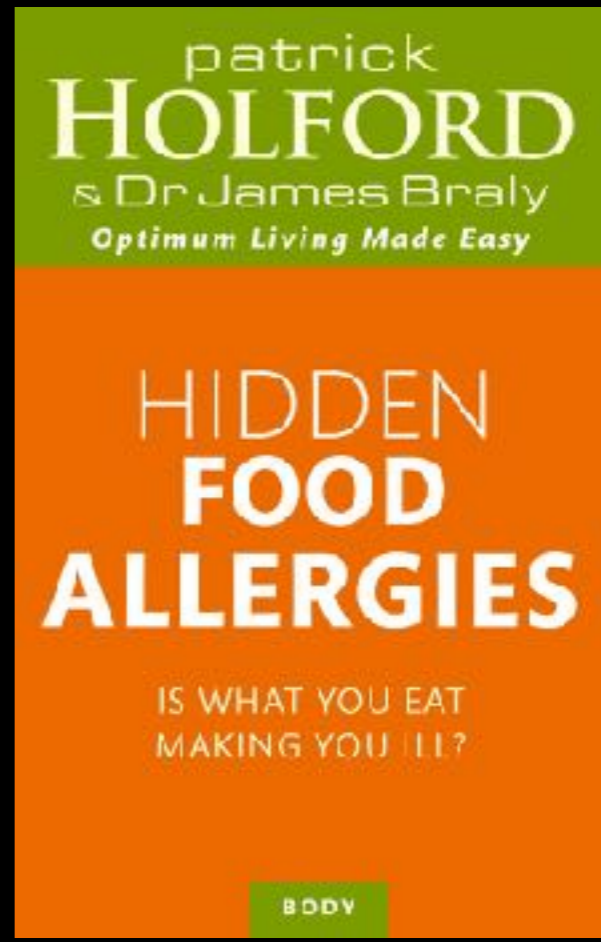


Food Intolerance Test

Client Name: Example Results
 Contact ID: 339797
 Sample ID: 200/008011
 Results Date: 27/04/2007

REACTION
 BORDERLINE
 NO REACTION

	REACTION	BORDERLINE	NO REACTION
Almond	●		●
Apple			●
Apricot			●
Asparagus			●
Aubergine			●
Avocado			●
Barley			●
Beef			●
Blackberry			●
Blackcurrant			●
Brazil			●
Buckwheat			●
Carob			●
Carrot			●
Cashew			●
Cherry			●
Chicken			●
Chilli Pepper			●
Cinnamon/Clove			●
Cocoa Bean			●
Coconut			●
Coffee			●
Cola Nut			●
Coriander/Cumin/Onion			●
Corn (Maize)			●
Cows Milk			●
Cranberry			●
Crustacean Mix			●
Cucumber			●
Duck			●
Egg White			●
Egg Yolk			●
Garlic			●
Ginger			●
Gluten (Gliadin)			●
Grape			●
Grapefruit			●
Hempseed			●
Hazelnut			●
Hops			●
Kidney Bean			●
Kiwi			●
Lamb			●
Lemon			●
Lentils			●
Lettuce			●
Lime			●
Melon Mix			●
Millet			●
Mint Mix			●
Mollusc Mix			●
Mushroom			●
Mustard Mix			●
Mustard Seed			●
Nutmeg/Topcream			●
Oat			●
Oily Fish Mix			●
Olive			●
Onion			●
Orange			●
Paralicy			●
Pea			●
Peach			●
Peanut			●
Pear			●
Poppo (Capsicum) / Paprika			●
Pineapple			●
Plum			●
Pork			●
Potato			●
Raspberry			●
Rice			●
Rye			●
Salmon/Trout			●
Sesame Seed			●
Soya Bean			●
Spinach			●
Strawberry			●
String Bean			●
Sunflower Seed			●
Tea			●
Tomato			●
Tuna			●
Turkey			●
Vanilla			●
Walnut			●
Wheat			●
White Fish Mix			●
Yeast			●



www.yorktest.com/
PH30 - 30% off



20 most common food intolerances



- ▶ cow's milk
- ▶ yeast
- ▶ egg white
- ▶ wheat
- ▶ gluten/gliadin
- ▶ cashew
- ▶ egg yolk
- ▶ garlic
- ▶ soya bean
- ▶ brazil nut
- ▶ almond
- ▶ corn
- ▶ hazelnut
- ▶ oat
- ▶ lentils
- ▶ kiwi
- ▶ chilli pepper
- ▶ sesame seed
- ▶ sunflower seed
- ▶ peanut



Facts about milk



- ▶ 75% of people (25% of Caucasians, 80% of Asians, native Americans or Africans) stop producing lactase once weaned.
- ▶ The incidence of breast and prostate cancer is 100 to 1,000 times lower in non-dairy consumers
- ▶ The incidence of cardiovascular disease is also lower in non-dairy consumers
- ▶ One in ten people are allergic to dairy products
- ▶ Children are more likely to become allergic if exposed to dairy products before the age of 4 months
- ▶ Infant onset diabetes is often linked to early dairy exposure
- ▶ Milk is not an essential food, nor does it prevent osteoporosis



Staff of life or cereal killer?



1 in 10 coeliacs go undiagnosed



Coeliac Disease affects 1 in 111



Gerarduzzi T et al. Journal of Pediatric Gastroenterology and Nutrition 31 (suppl) 2000: S29, Abst. 104

Coeliac disease can be diagnosed by a simple blood test called IgATissueTransGlutaminase Test. When this test was randomly carried out on schoolchildren, unexpectedly it was found to occur in one in every 167 so-called normal healthy children and one in every 111 “normal, healthy” adults. Among those who report gastrointestinal symptoms, it occurs in one in 40 children and one in 30 adults. Among those who have a father, mother, brother, sister or grandparent with coeliac, the risk is one in eleven.



80% of coeliacs don't react to oats



Facts about gluten



- ▶ Gluten is highest in wheat, then rye, barley. It's also in spelt, kamut, triticale.
- ▶ There's no gluten in rice, corn, millet, buckwheat, quinoa, gram.
- ▶ It is a sticky protein that probably aggravates most people's guts, some of whom become IgG sensitive. Most people react only to 'gliadin' gluten - which is what's in wheat.
- ▶ An IgG Food Intolerance test will tell you if you're gliadin sensitive, in which case oats are OK. 8 in 10 coeliac sufferers don't react to oats.
- ▶ IgE sensitivity is, in part, probably inherited.



Kamut® is ancient organic grain



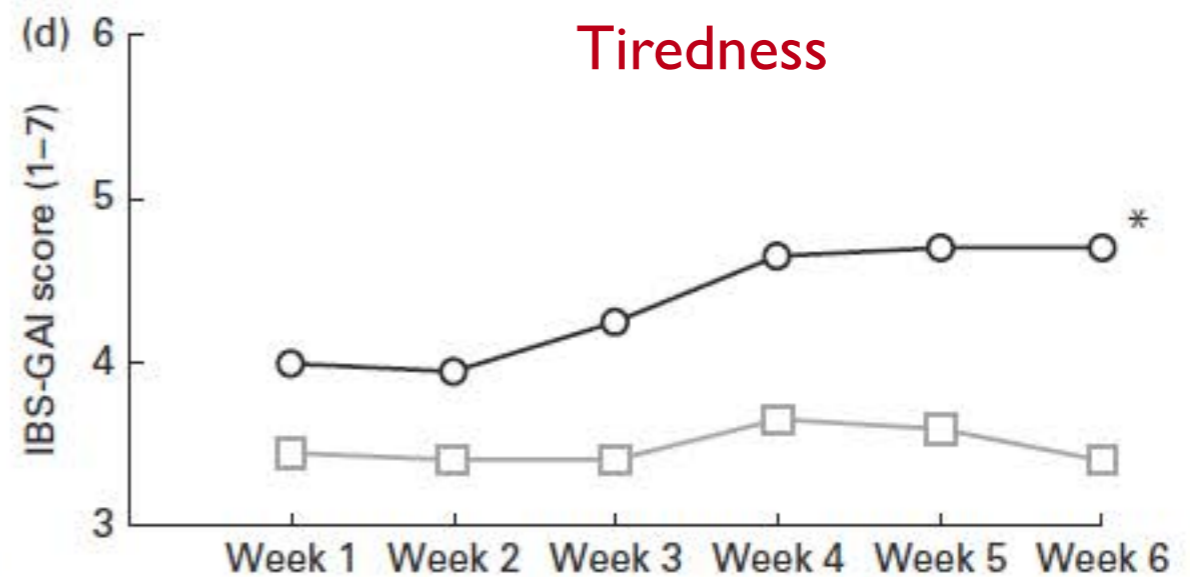
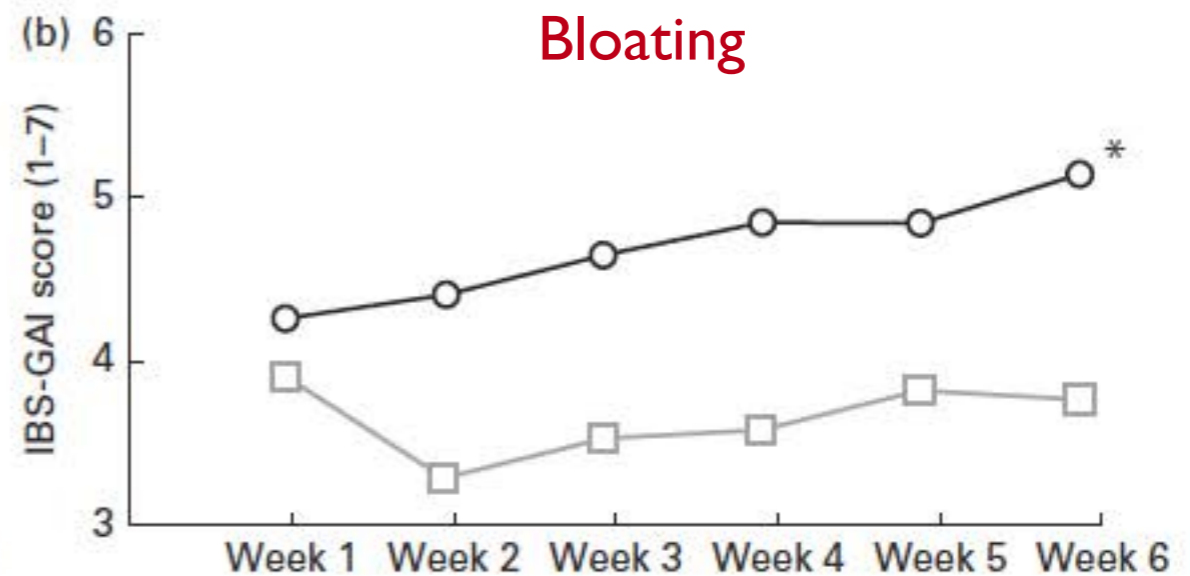
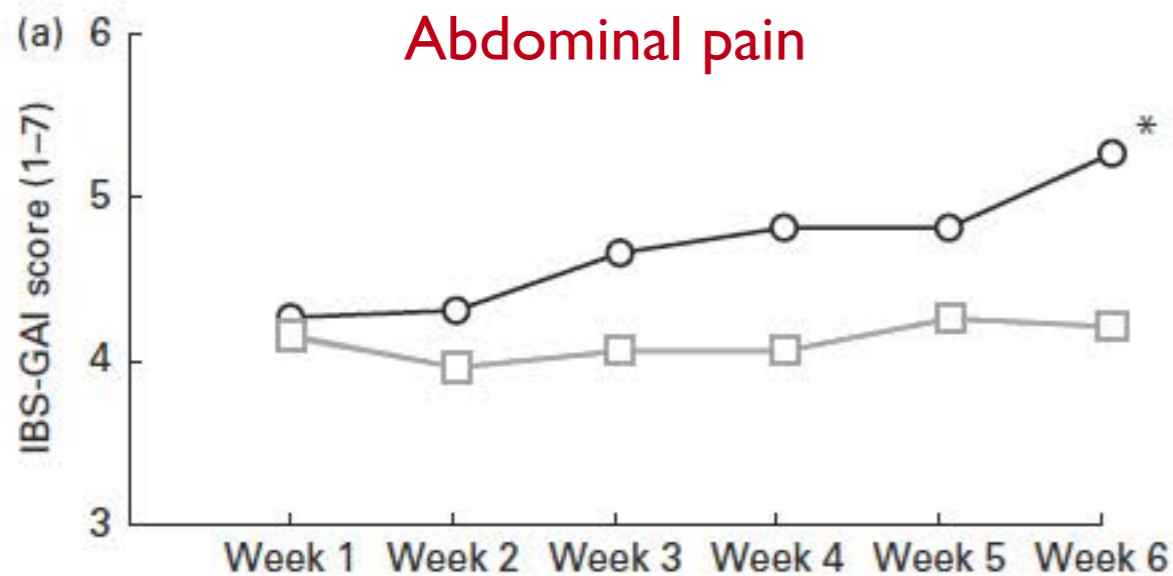
- ▶ Kamut khorasan was the form of wheat in ancient Egypt.
- ▶ Kamut khorosan has 28 chromosomes
- ▶ Wheat and spelt have 42 chromosomes
- ▶ Modern wheat has been through hundreds of hybridisations, introducing new genes
- ▶ Kamut® is guaranteed organic and uncontaminated.



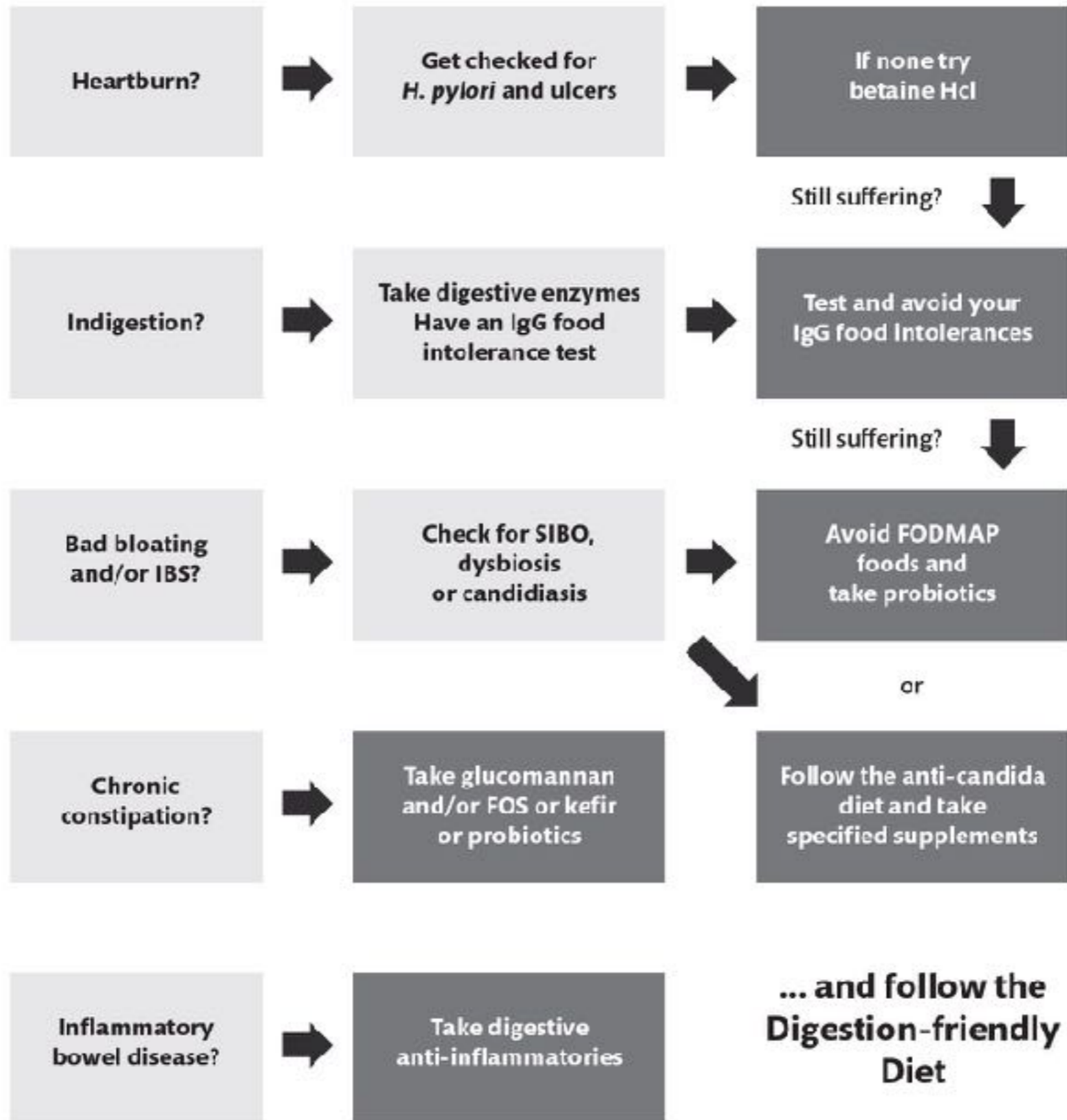
Kamut improves IBS



“A significant reduction in inflammatory markers.” e.g. IL-6 >36.2



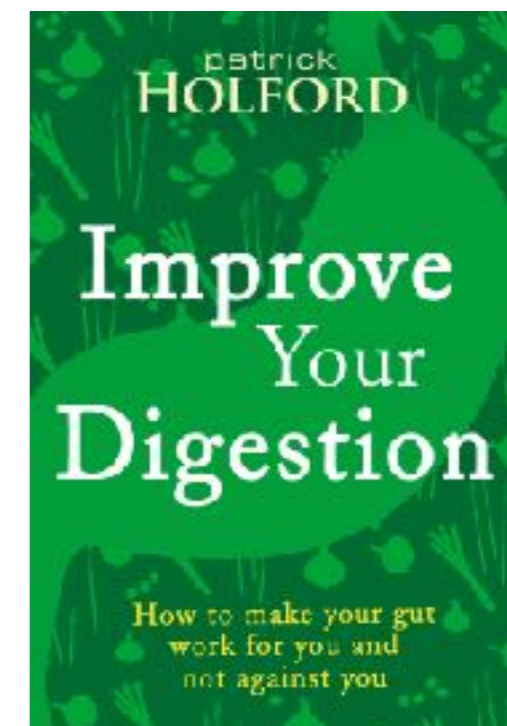
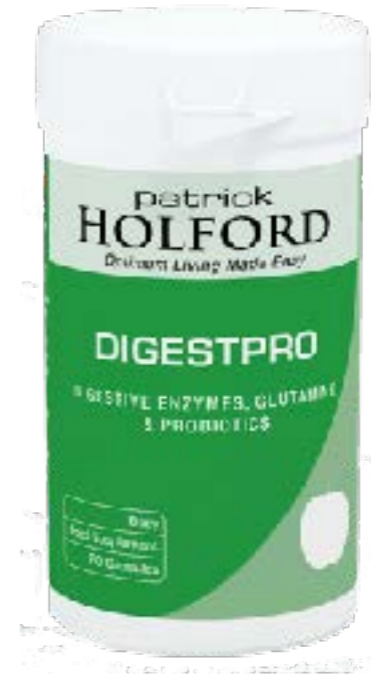
Do you have...

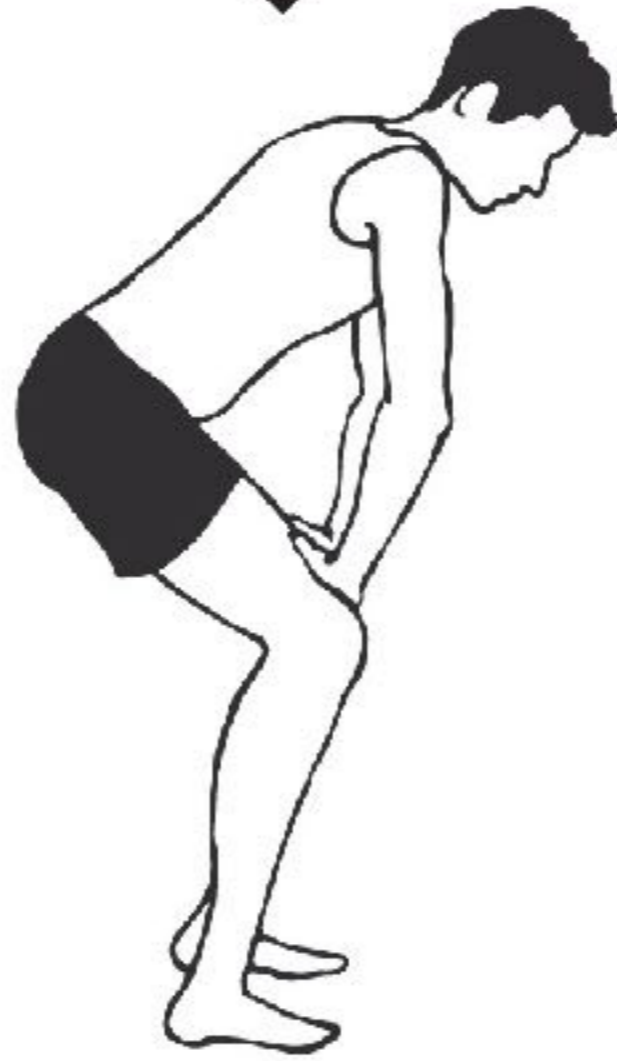


ACTION for good digestion



- ▶ Eat a low allergen diet (get yourself tested)
- ▶ Minimise/avoid wheat and other gluten grains
- ▶ Minimise/avoid dairy products
- ▶ Limit alcohol and coffee
- ▶ Limit fried foods, especially deep-fried foods
- ▶ Eat something raw with every meal
- ▶ Choose whole, not refined foods
- ▶ Restore gut integrity with glutamine powder
- ▶ Reinoculate the gut with probiotics
- ▶ Assist digestion with digestive enzymes



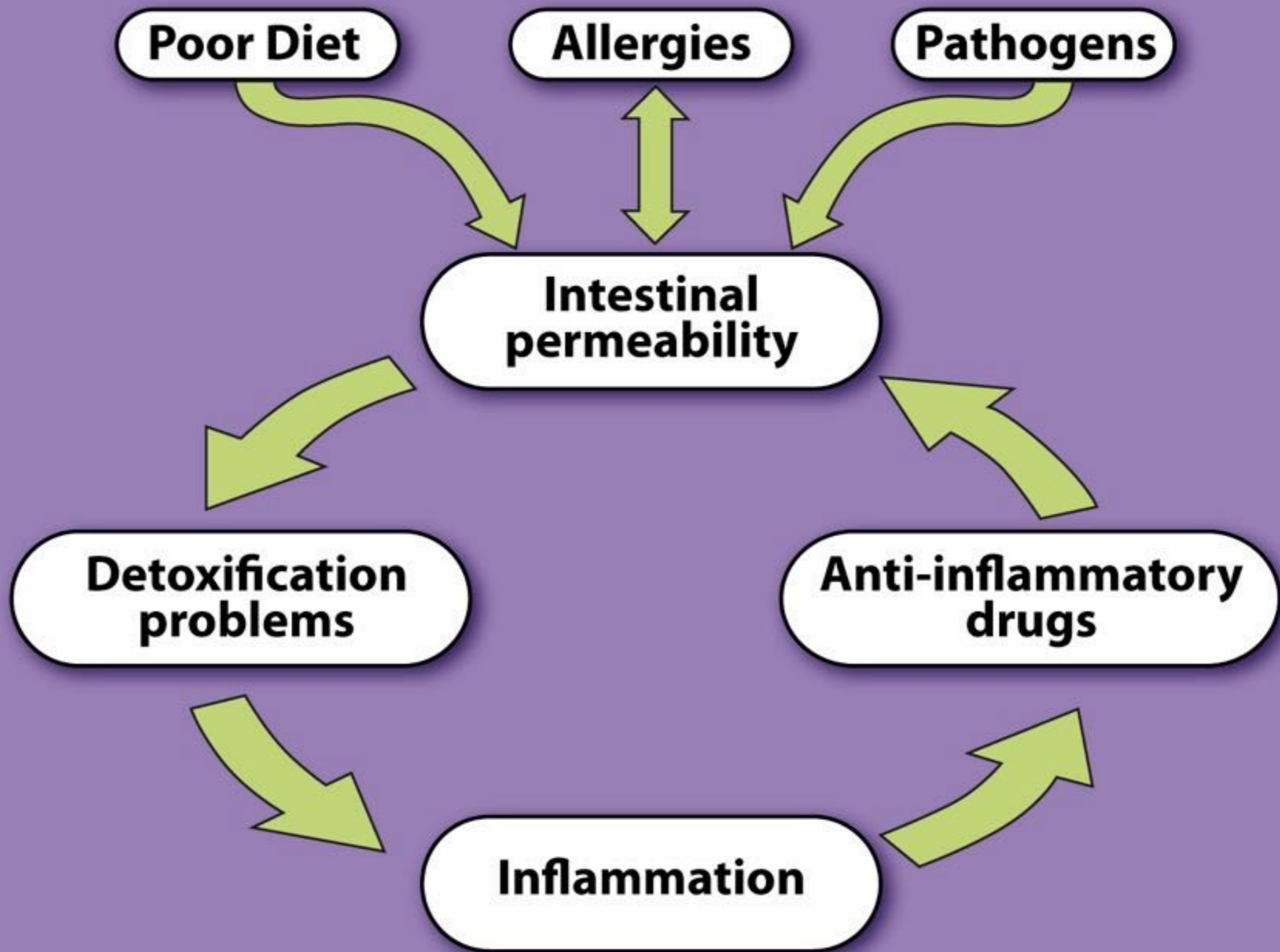


FOOT POSITION: 3 foot-widths

BREATHING: *Inhale, 3 beats Exhale, 3 beats*

Hold breath, contract and release muscles, 9 beats

Repeat 3 times.





TOXINS



**PHASE 1
DETOX**



Need antioxidants
such as:
Glutathione
N-acetyl cysteine
Coenzyme Q10
Vitamin C
Vitamin E
Selenium
Beta-carotene

**PHASE 2
DETOX**



GLUCORONIDATION

Needs
Glucosinolates
(in cruciferous veg)



**GLYCINE
+ GLUTAMINE
CONJUGATION**

Needs
Glycine +
Glutamine



**GLUTATHIONE
CONJUGATION**

Needs
Glutathione
N-A-Cysteine



SULPHATION

Needs
Sulphur
(MSM)



METHYLATION

Needs
B vitamins





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- Supporting guidebook provided to help you make effective lifestyle changes.
- Receive advice to better support your overall health.

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patrick
HOLFORD

& Fiona McDonald Joyce

Optimum Living Made Easy

THE 9 DAY LIVER DETOX

THE DEFINITIVE
DETOX DIET
THAT DELIVERS
RESULTS



BODY

AFRICAN DANCE MUSIC

Detoxify Your Life



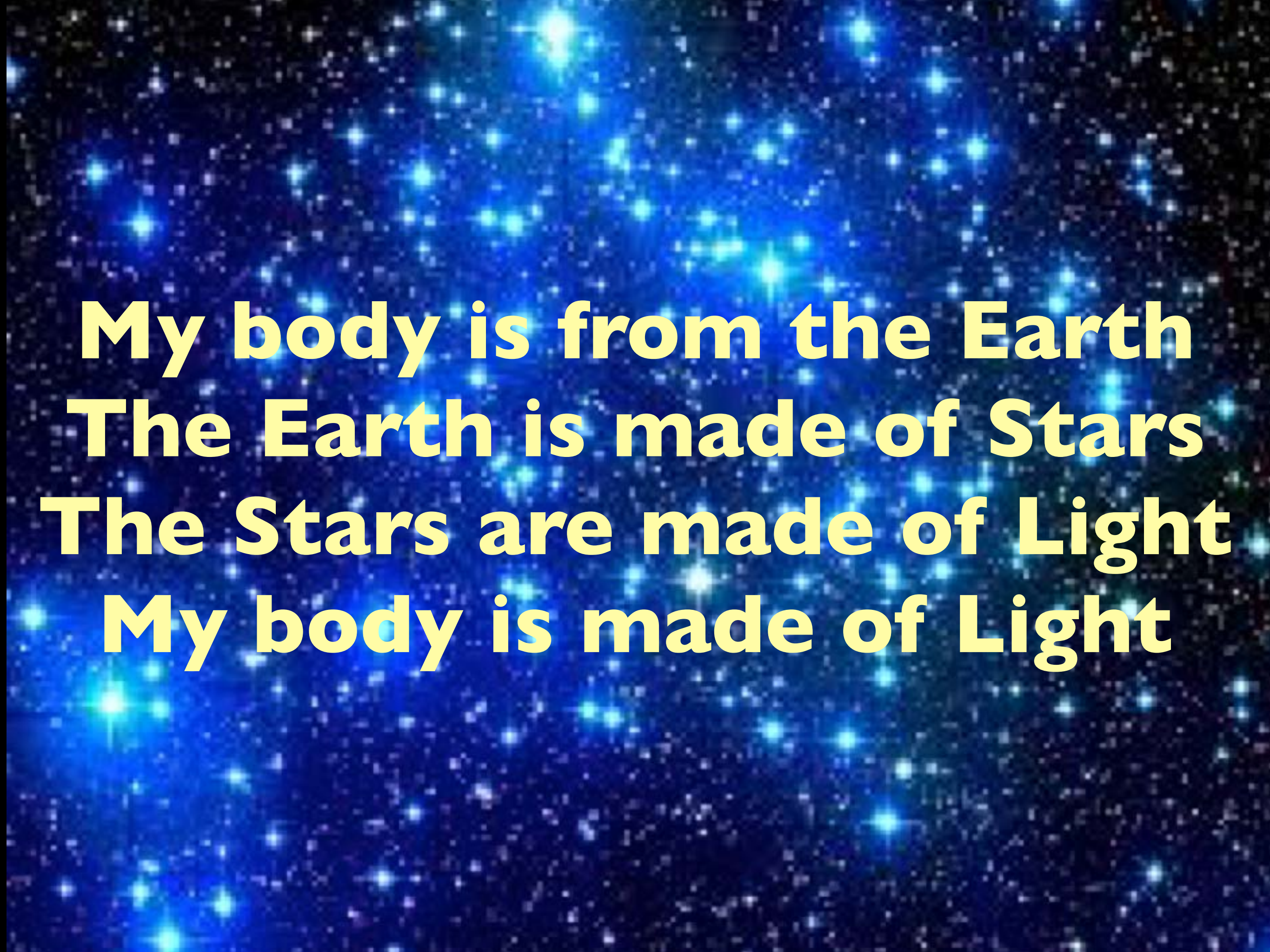
Detoxification is about eliminating what is unnecessary.

- **Spring clean a room in your house or workplace** - perhaps your living room, bedroom, study or office. Go through each drawer and cupboard and throw away that which you never use. If in doubt, throw it out. Now open the windows and clean your room thoroughly. Buy some flowers or a plant for your room, burn some incense or aromatherapy oil.
- **Have a massage** - the body stores toxins, tension and negative emotions. A good massage helps to restore balance. Regular deep tissue massage is part of my on-going strategy for superhealth.
- **Have a digital detox** - no media, no tech, no complaining.
- **Is there something you want to forgive yourself for or to forgive others for? Write it down.**
- **Write down the drama of your life**
- **Resolve an issue you have with someone.**
- **Identify and free yourself from a negative emotional pattern (tomorrow)**

Resolve an issue you have with someone



- Make a list of everyone you have an emotional issue. Write a comprehensive letter expressing all your negative feelings about their behaviour/attitudes, going through every emotionally charged incident with them, really letting rip, holding nothing back, telling them that you won't accept their negative projections. Don't send it.
- Now write a letter detailing everything you like about them, how much you've learned from them, going through every incident you can recall where you felt uplifted and supported by them. Don't send it. This simple exercise will make you clearer and more able to meet them and resolve the issue.



My body is from the Earth
The Earth is made of Stars
The Stars are made of Light
My body is made of Light

PatrickHOLFORD

100% health for life

Time for a walk!

**Get your boots on, take your water
bottle and meet at the top of the
stairs**



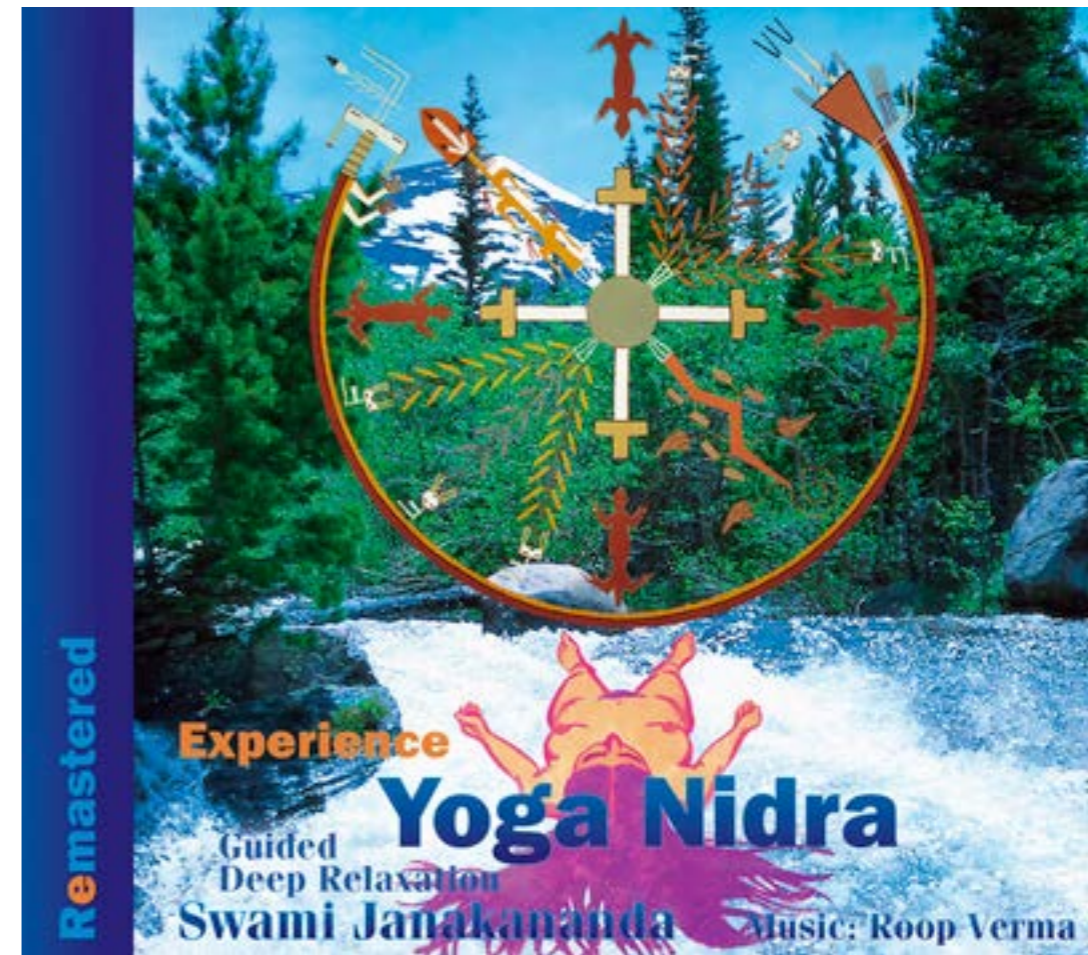
Evening Relaxation Yoga Nidra

Finding Your Purpose & Yoga



1. What do you enjoy or love to do?
2. What gives you a sense of satisfaction and fulfillment?
3. What are you good at? We all have certain gifts or talents. For some, it's the ability to listen; for others, it's having a clear mind. What are some of your gifts?
4. What is needed now in the world, in your community or your family?
5. How can you use your gifts to help or to serve?

96% of the healthiest people have a clear sense of purpose or direction in life.



When you contemplate these questions, then do Yoga Nidra, you'll find some powerful insights into your own purpose and ways of connecting with community spirit.

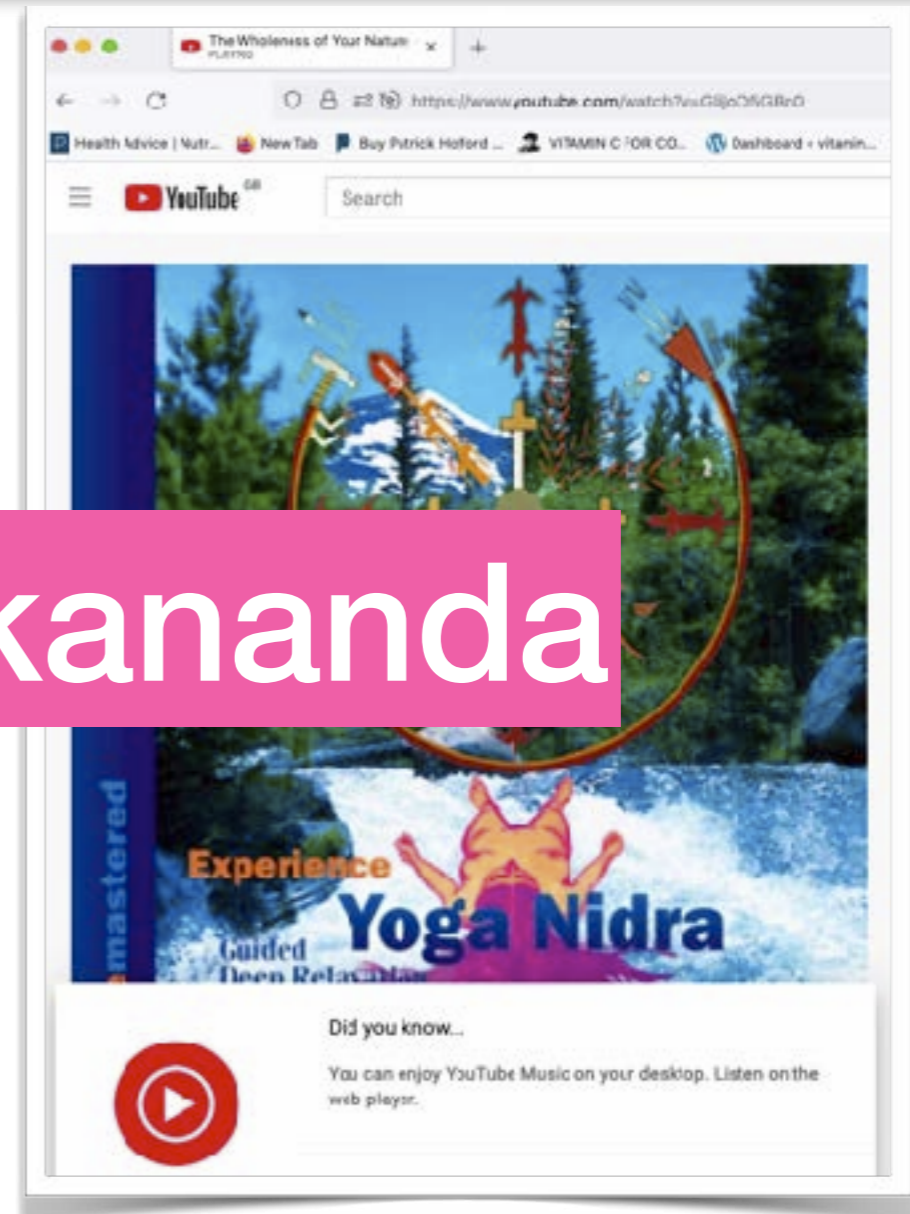
Swami Janakanda's Yoga Nidra
The Wholeness of Your Nature

Finding Your Purpose & Yoga

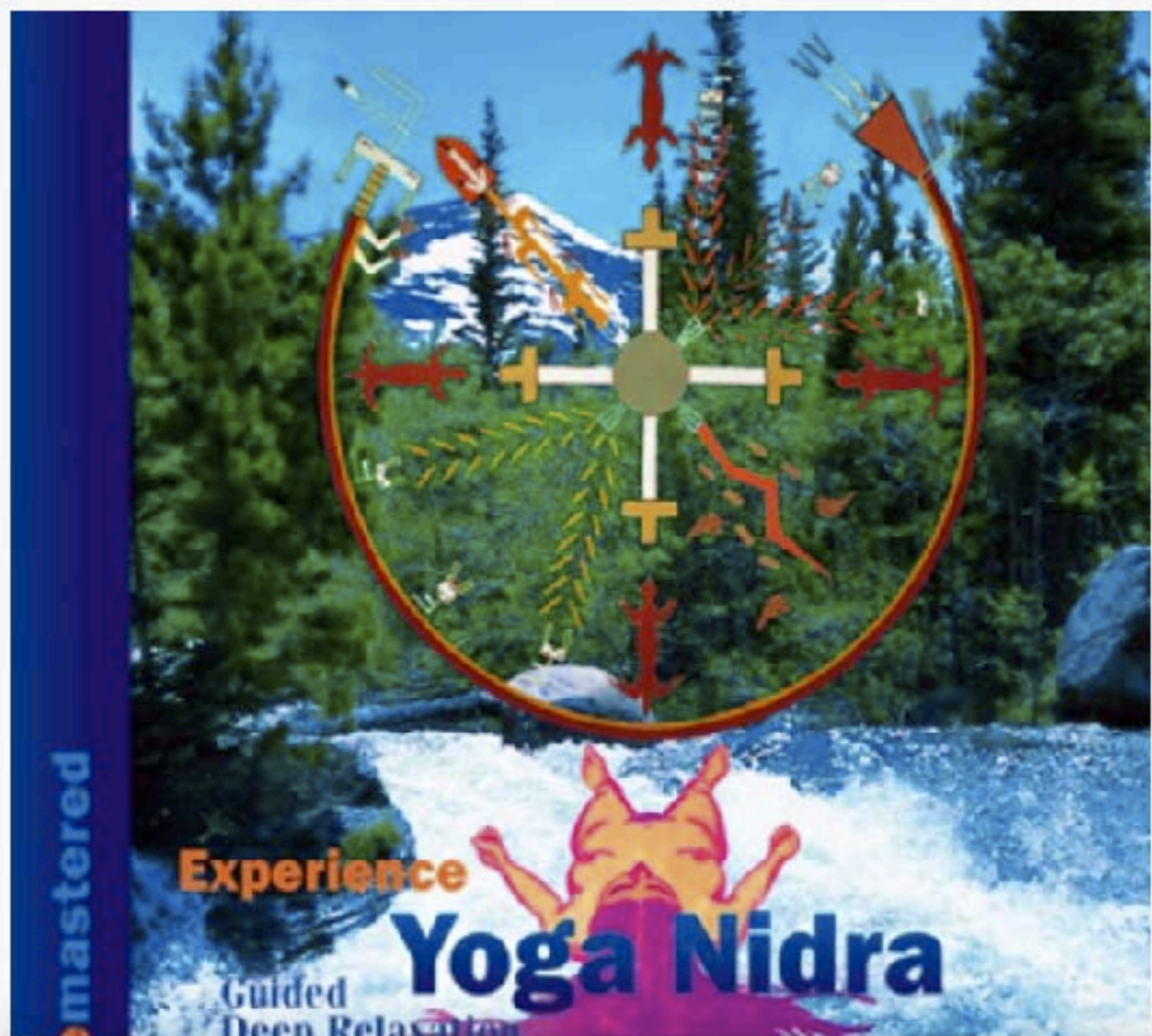


1. What do you enjoy or love to do?
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What are some of your gifts?
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When you contemplate these questions, then do Yoga Nidra, you'll find some powerful insights into your own purpose and ways of connecting with community spirit.



Did you know...

You can enjoy YouTube Music on your desktop. Listen on the web player.



Mountain Film

Tomorrow morning (7.30am)



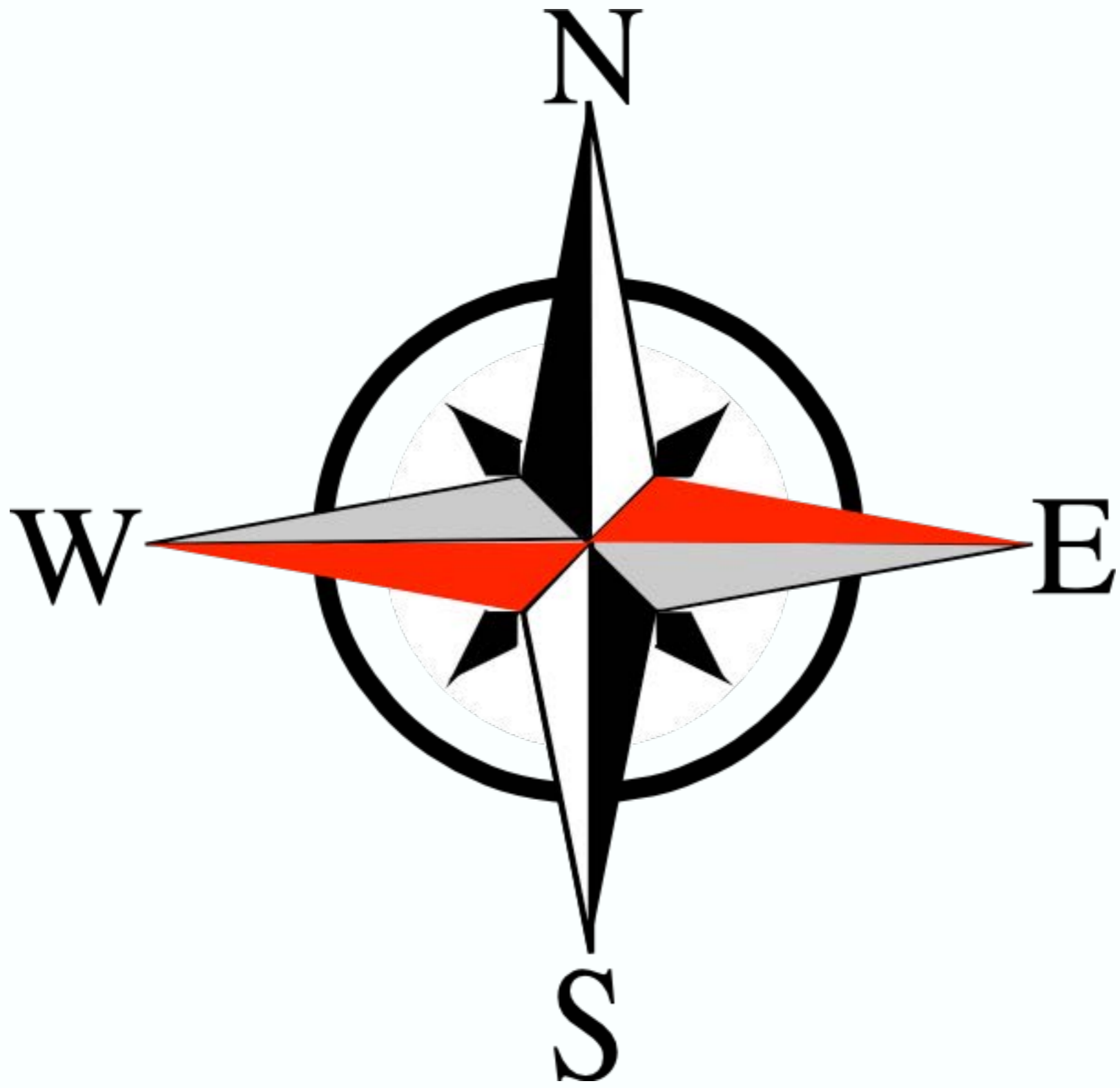
Bring your smart phone with Inner Balance App downloaded for 'heartmath' exercises

(Note to self: charge bluetooth versions)



Day 3 Exercises

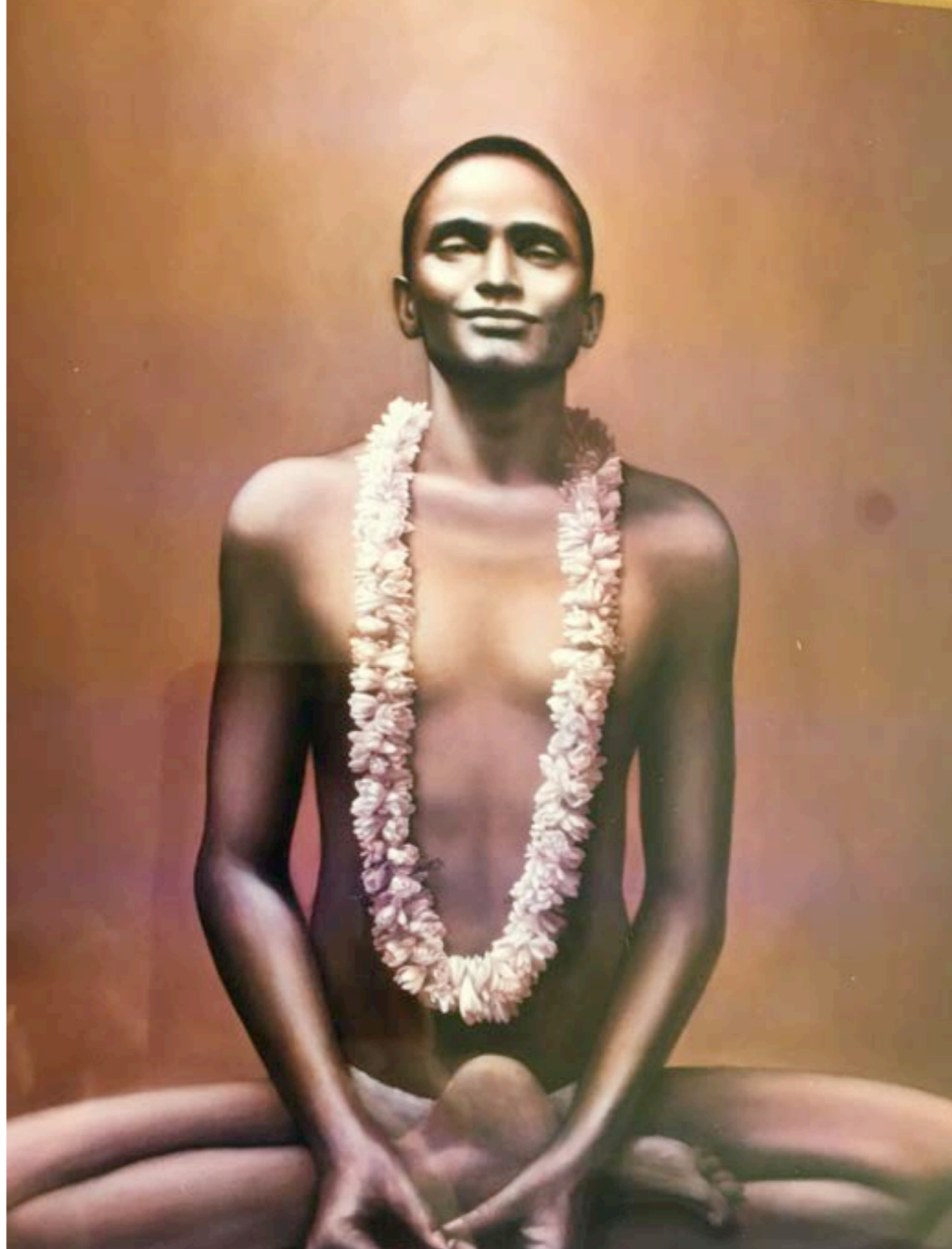
Bring your smart phone with Inner Balance App
downloaded for 'heartmath' exercises



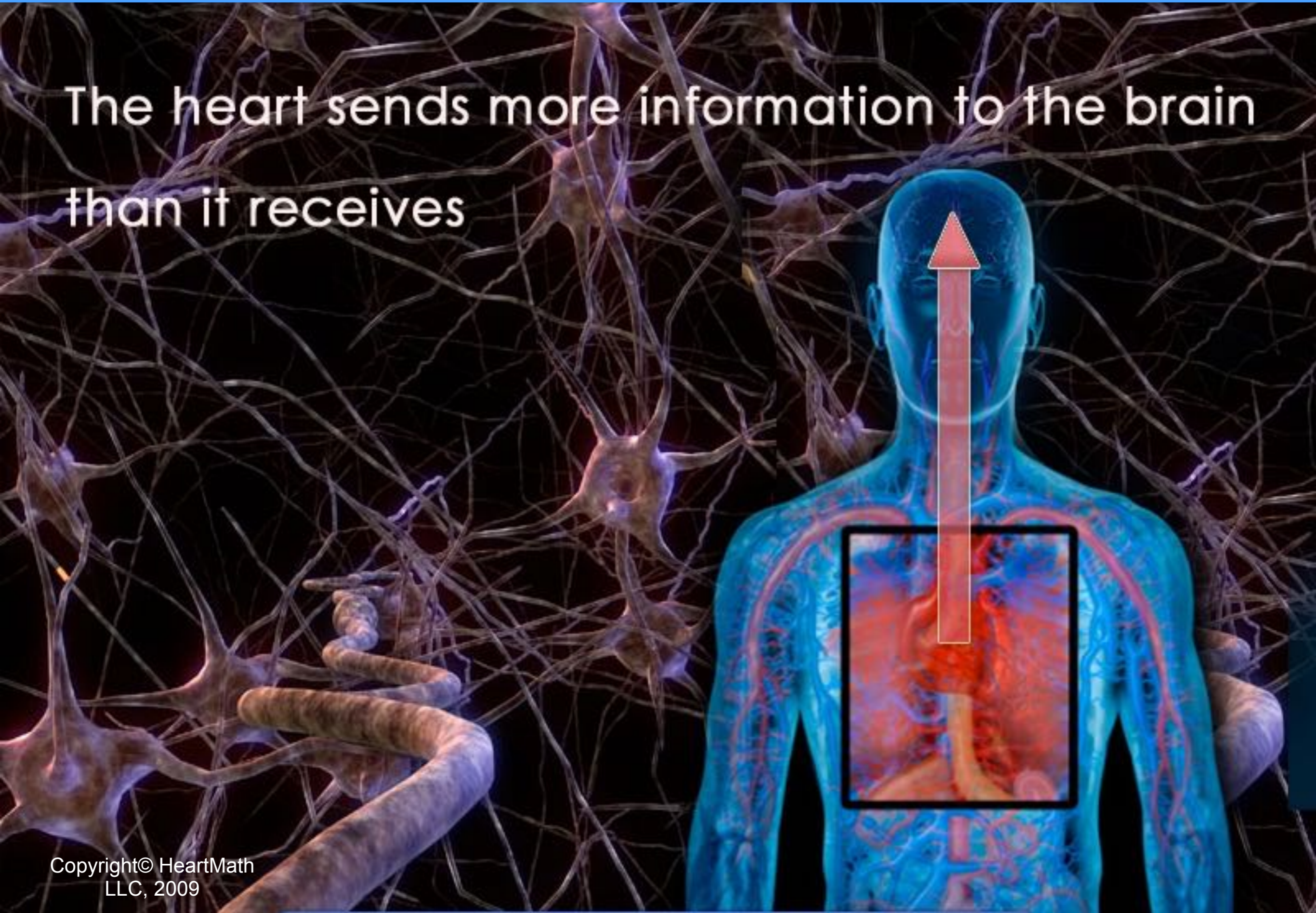
**The Heart is
the hub of
all sacred
places.**

**Go there
and roam.**

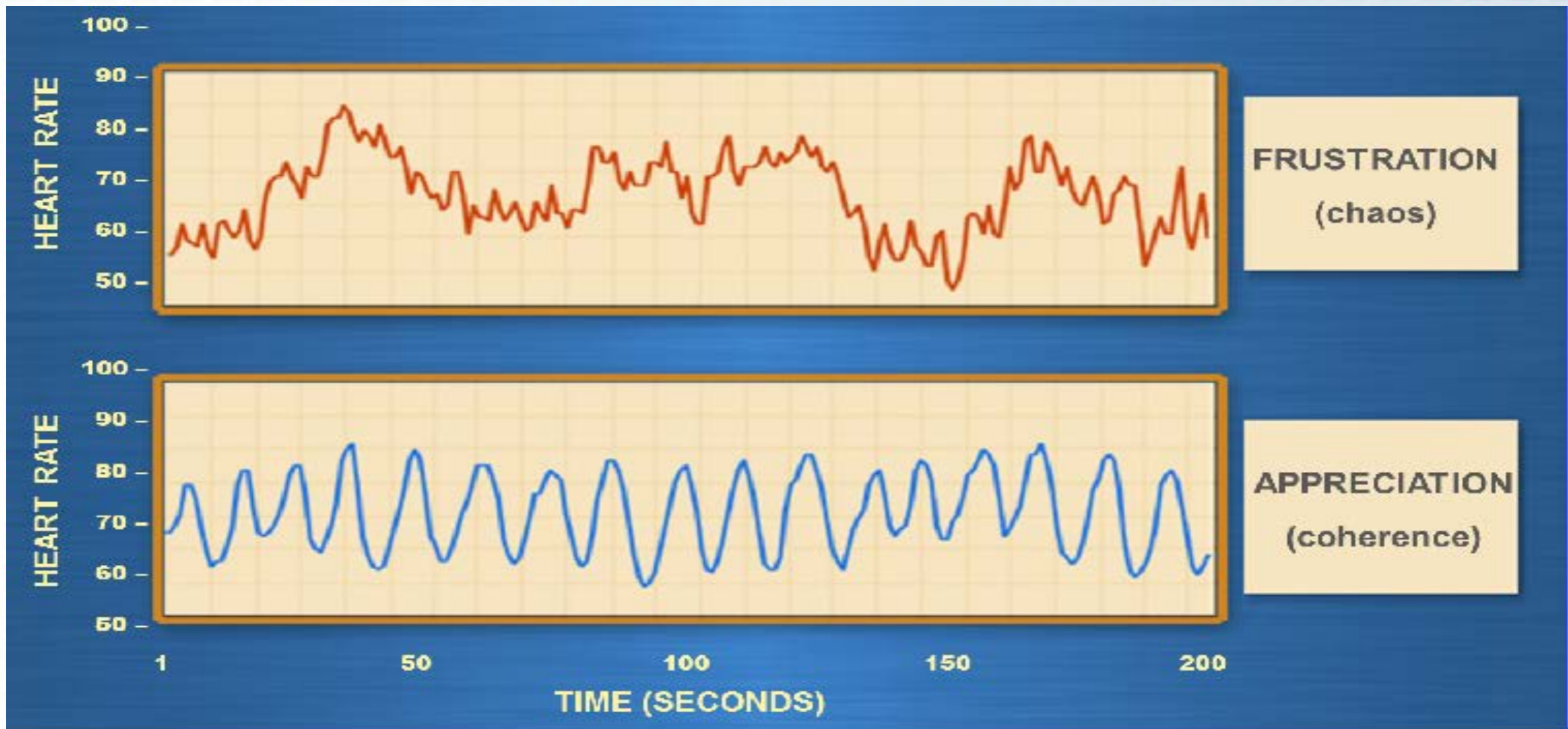
Nityananda



The heart sends more information to the brain
than it receives



Heart rhythms and emotions



Quick Coherence® Quick Steps

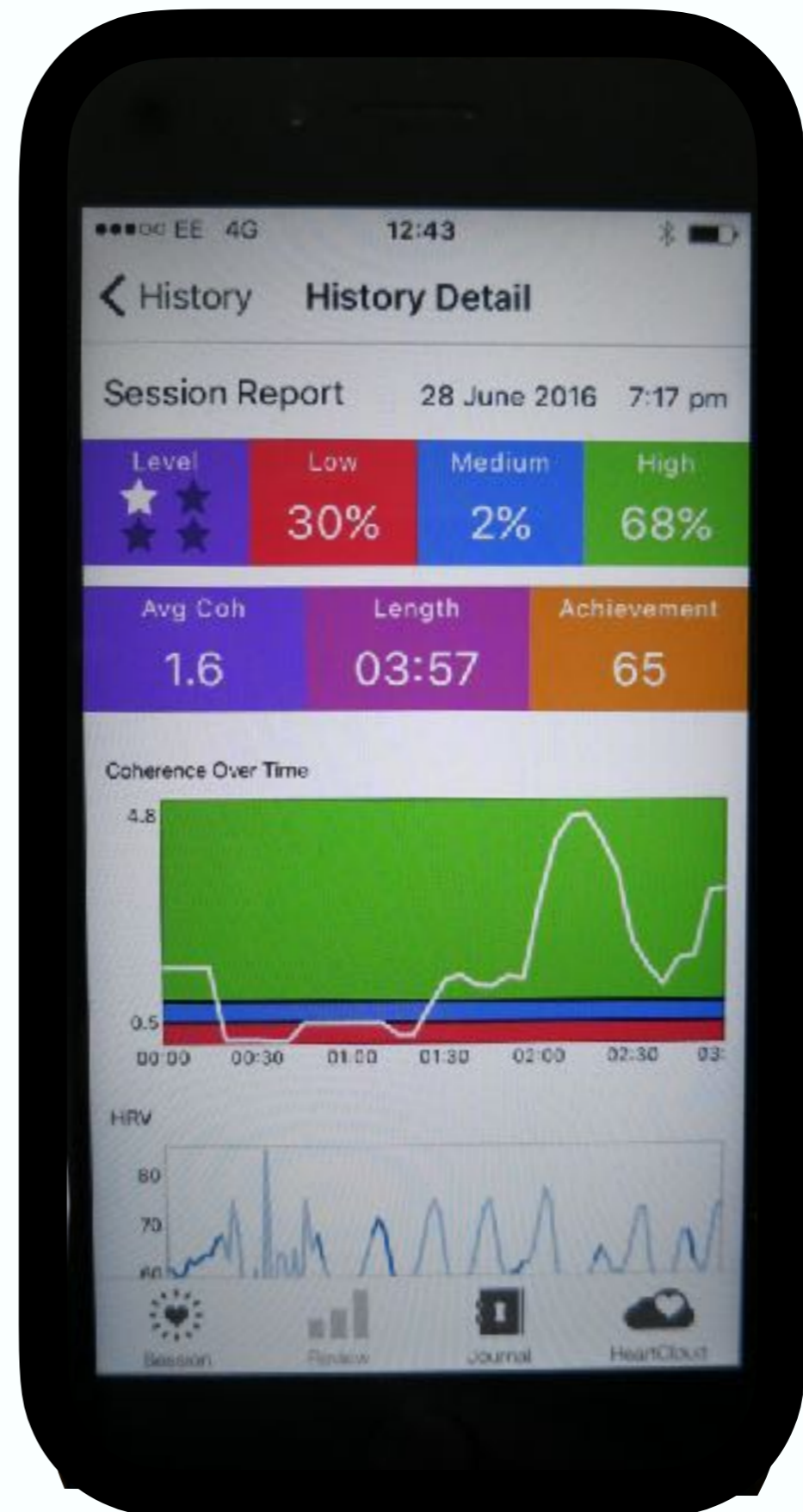
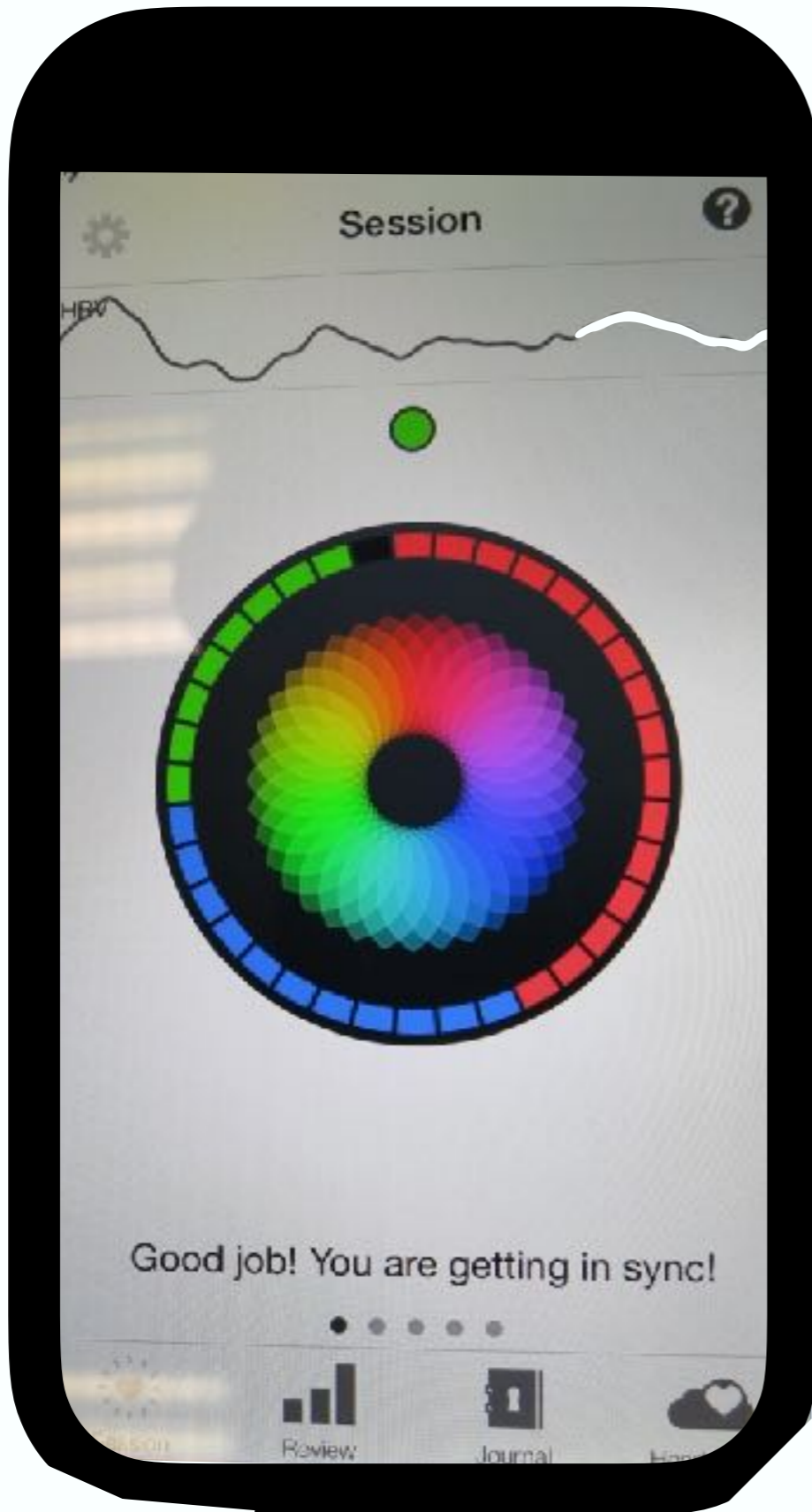
1. Heart-Focused Breathing
2. Activate a positive or renewing feeling



Heart Lock-in steps

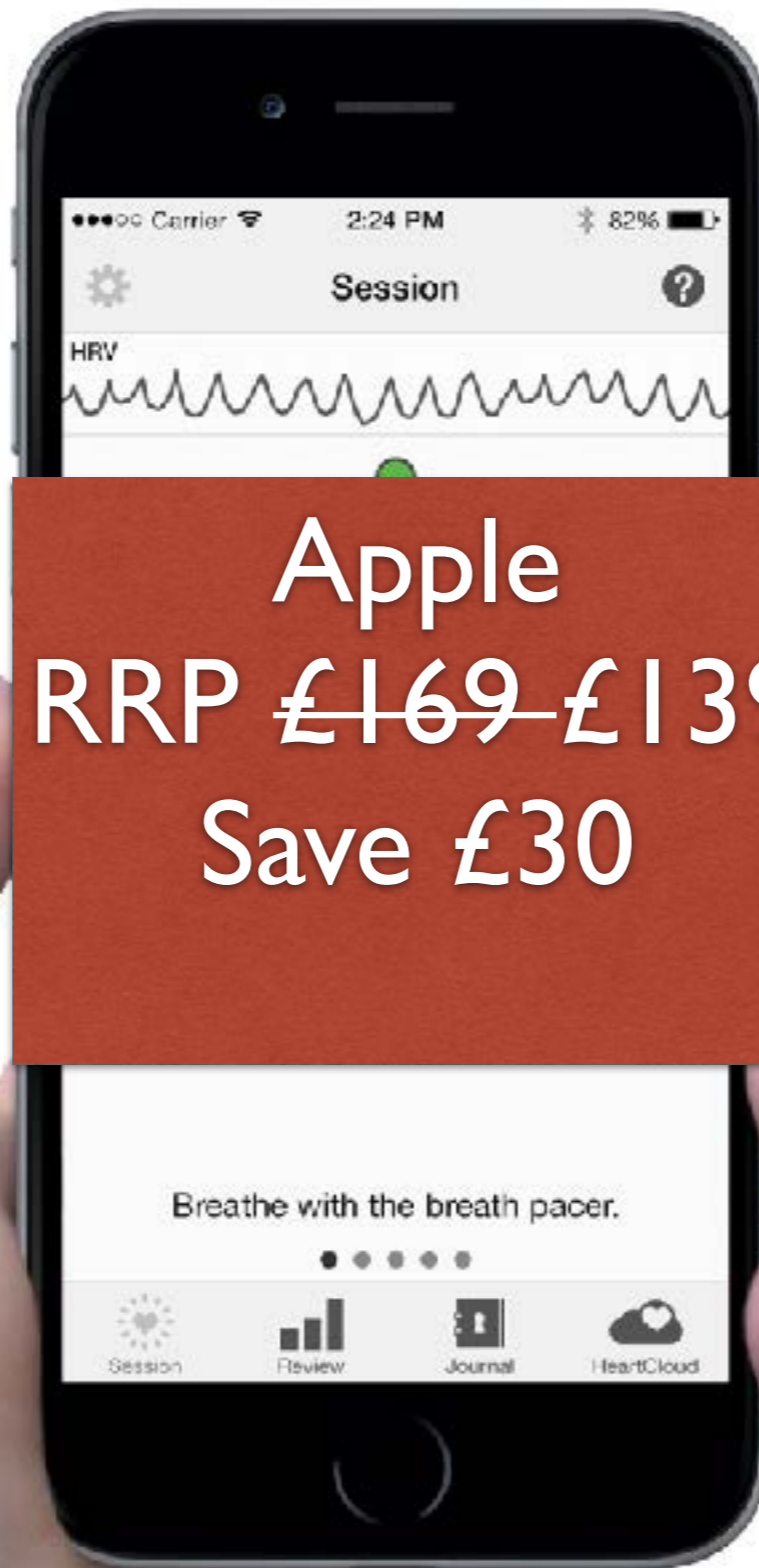
1. Focus your attention in the area of the heart. Imagine your breath is flowing in and out of your heart or chest area, breathing a little slower and deeper than usual.
2. Activate and sustain a regenerative feeling such as appreciation, care or compassion.
3. Radiate that renewing feeling to yourself and others.



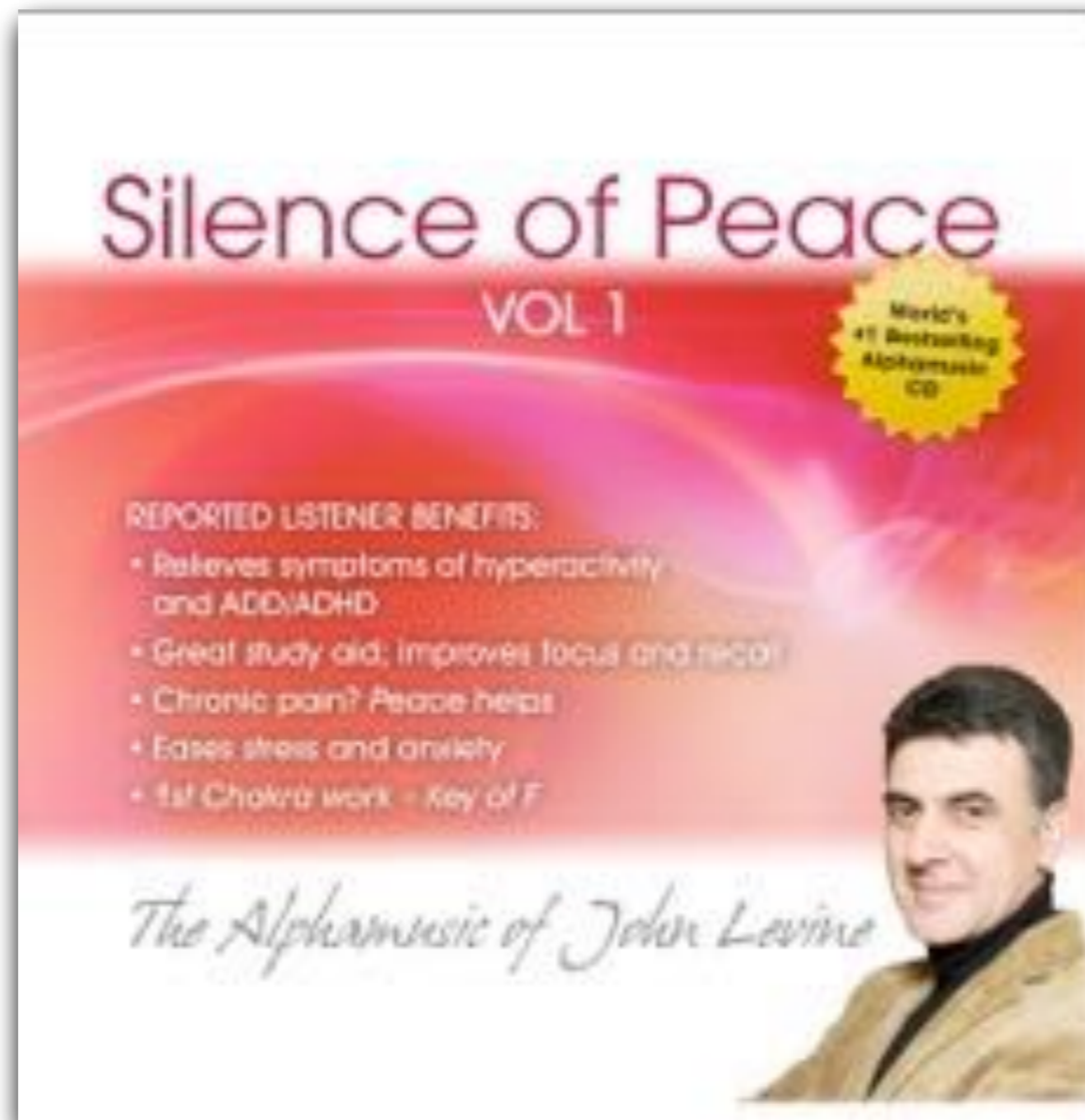


Download free
INNER BALANCE
app

Apple
RRP ~~£169~~ £139
Save £30



Go to heartmath.co.uk
Use discount code
PH21
for 15% discount

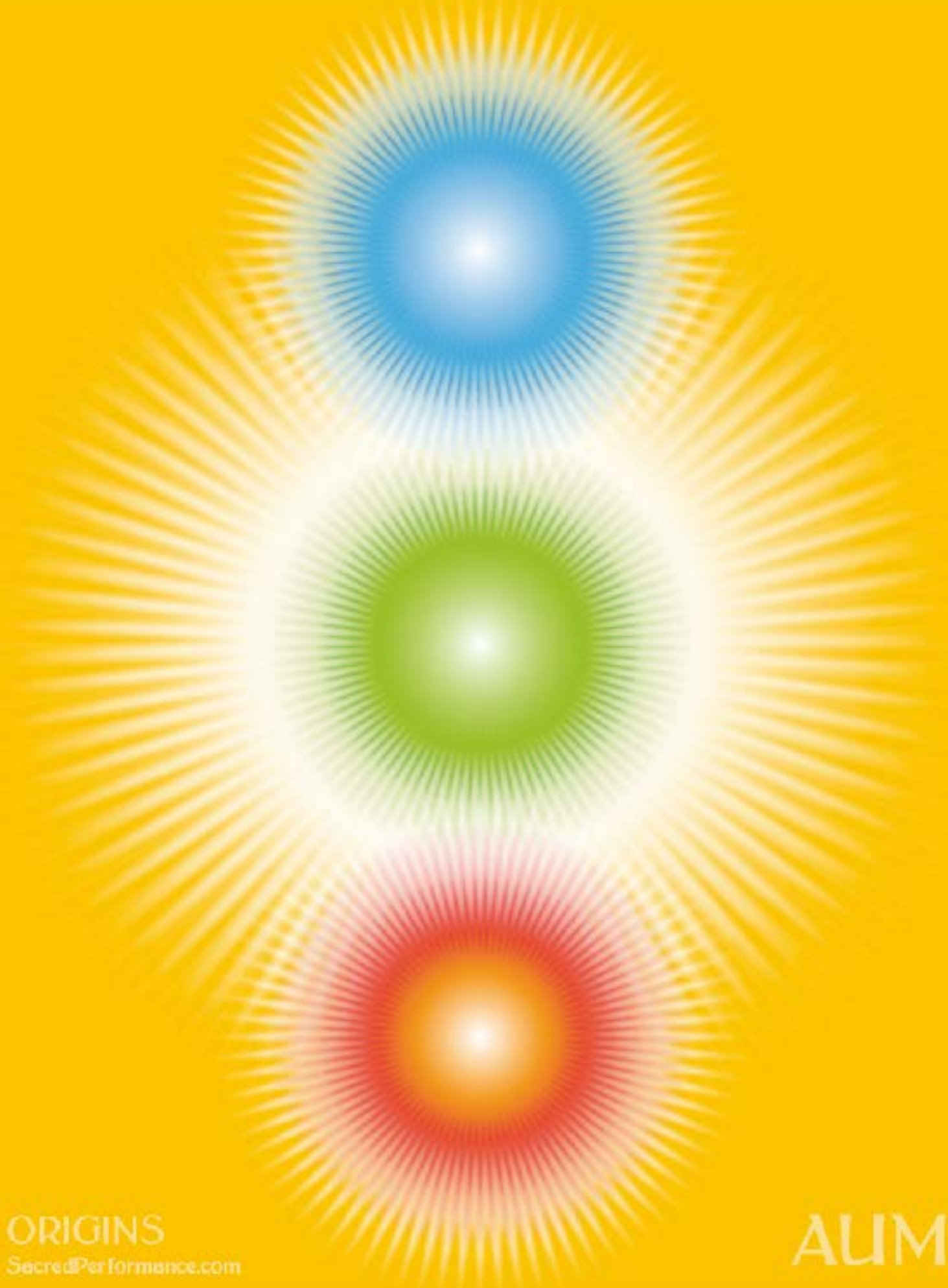


digital download from <http://silenceofmusic.com>
FFB10

PatrickHOLFORD

100% health for life

Breakfast time!



mind

intelligence & adaptability

heart

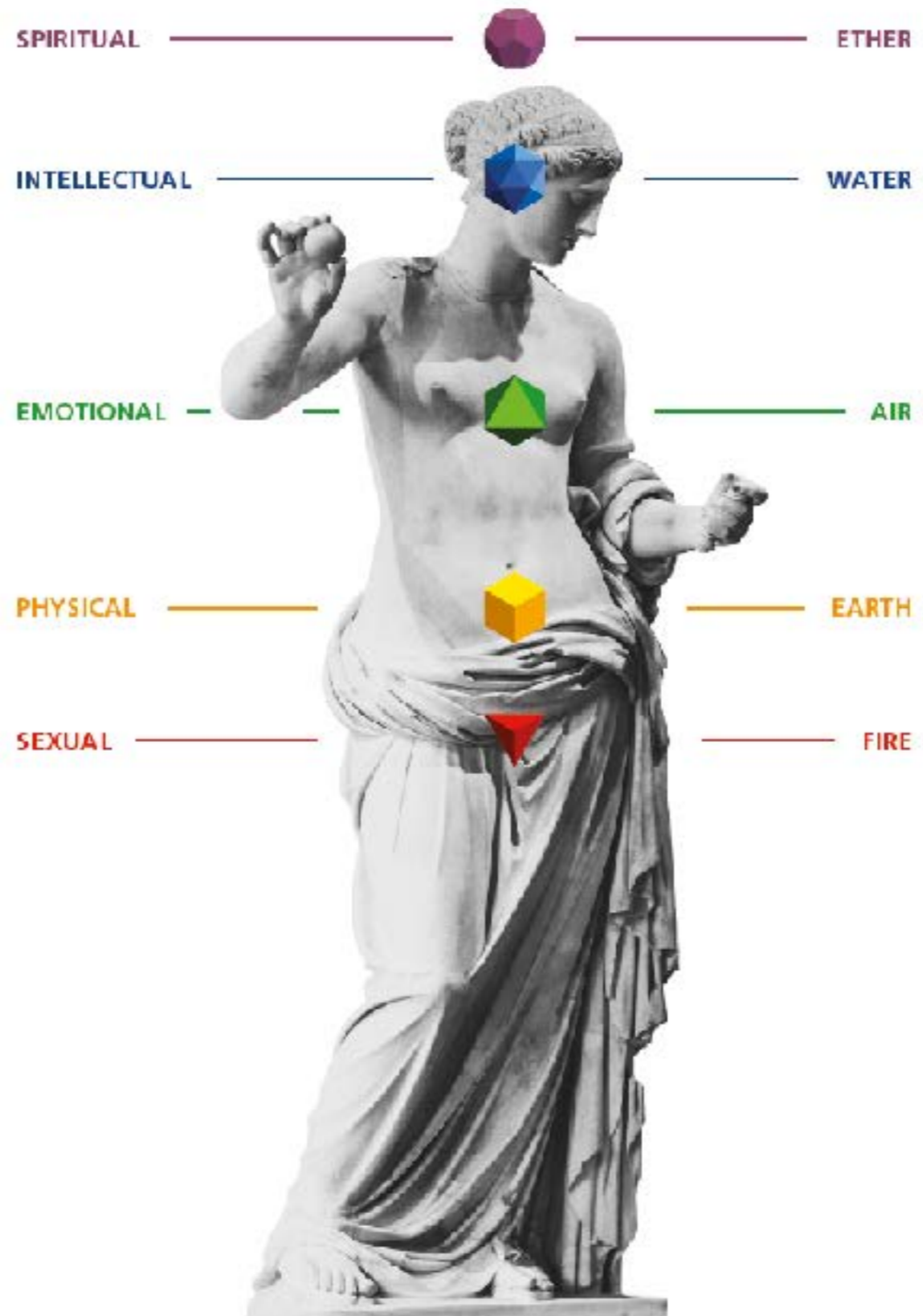
emotions & relations

body

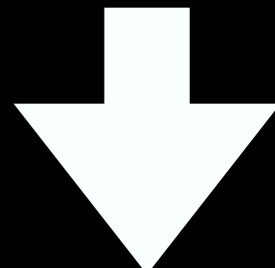
being, direct experience

ZONE

ELEMENT



*The five zones of connection.
(Reproduced with kind permission of Malcolm Stewart from Symbols of Eternity.)*



violet

spiritual

blue

intellectual

green

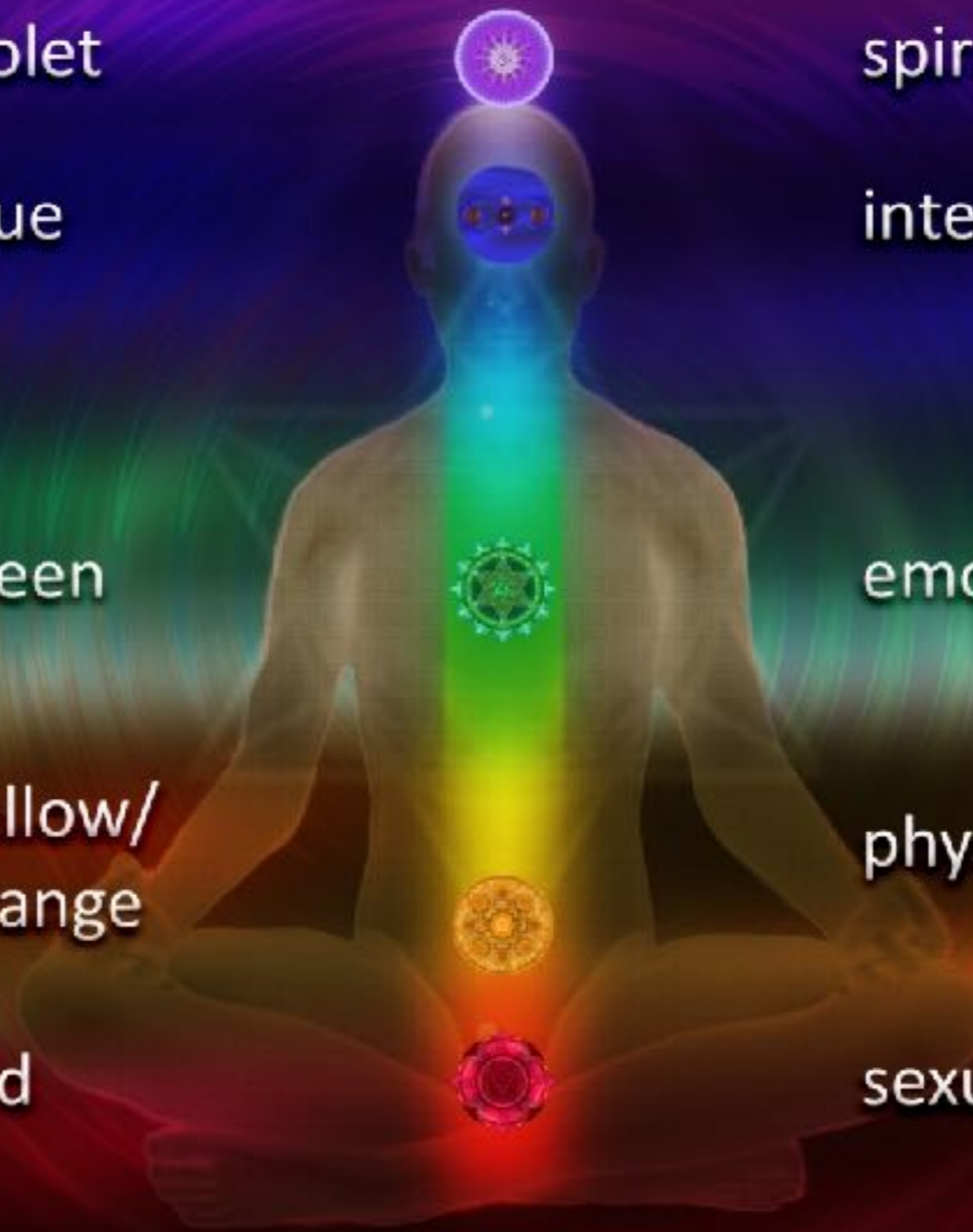
emotional

yellow/
orange

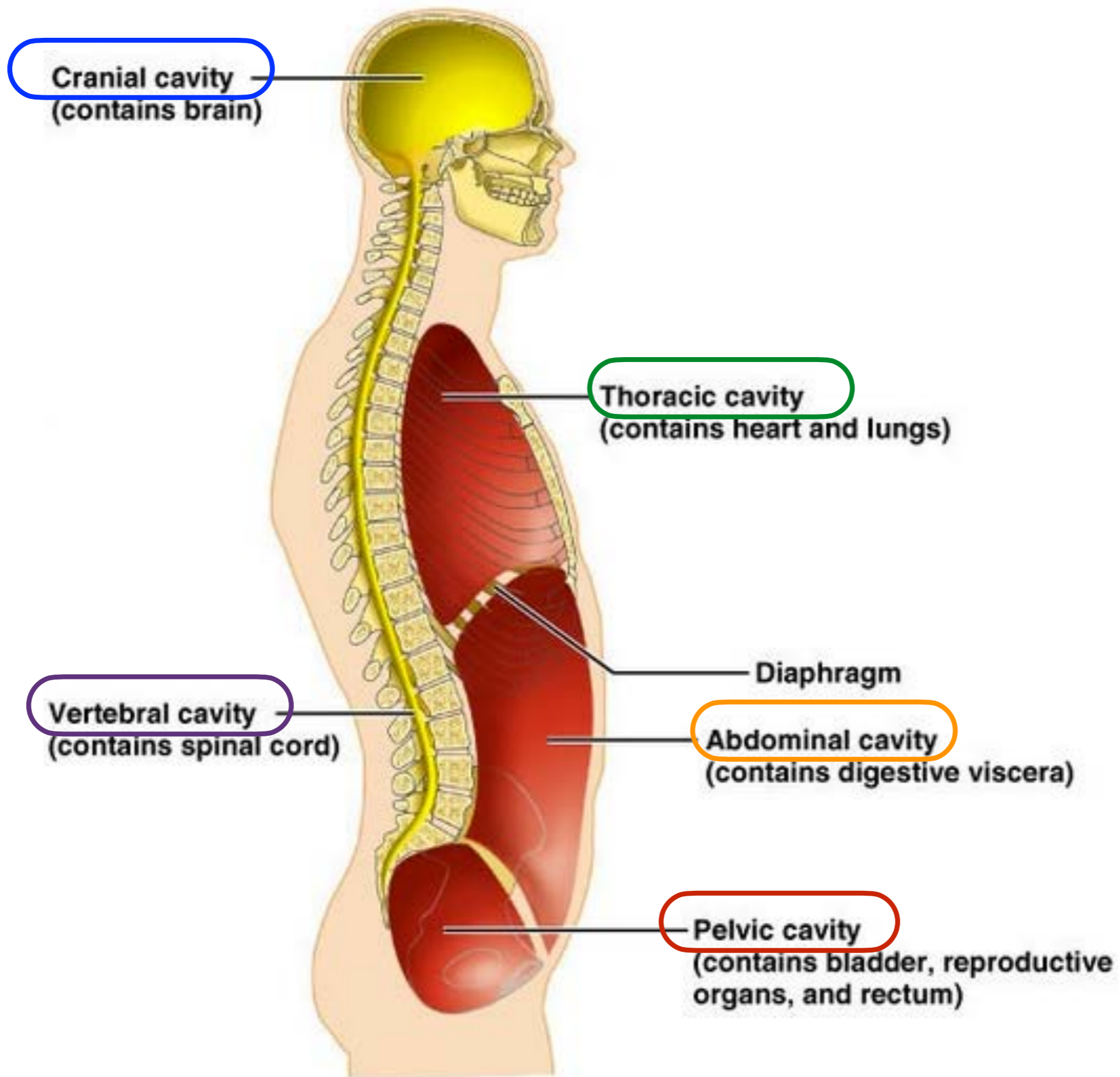
physical

red

sexual



Aspirations



7 key processes

- ? Glycation - sugars, soluble fibres
- ? **Lipidation - EFAs, phospholipids, VitD**
- ? Oxidation - antioxidants/polyphenols
- ? Methylation - B vitamins etc
- ? Hydration - water
- ? Digestion - enzymes, probiotics, fibres etc
- ? Communication - hormones, neurotransmitters, cytokines & inflammation



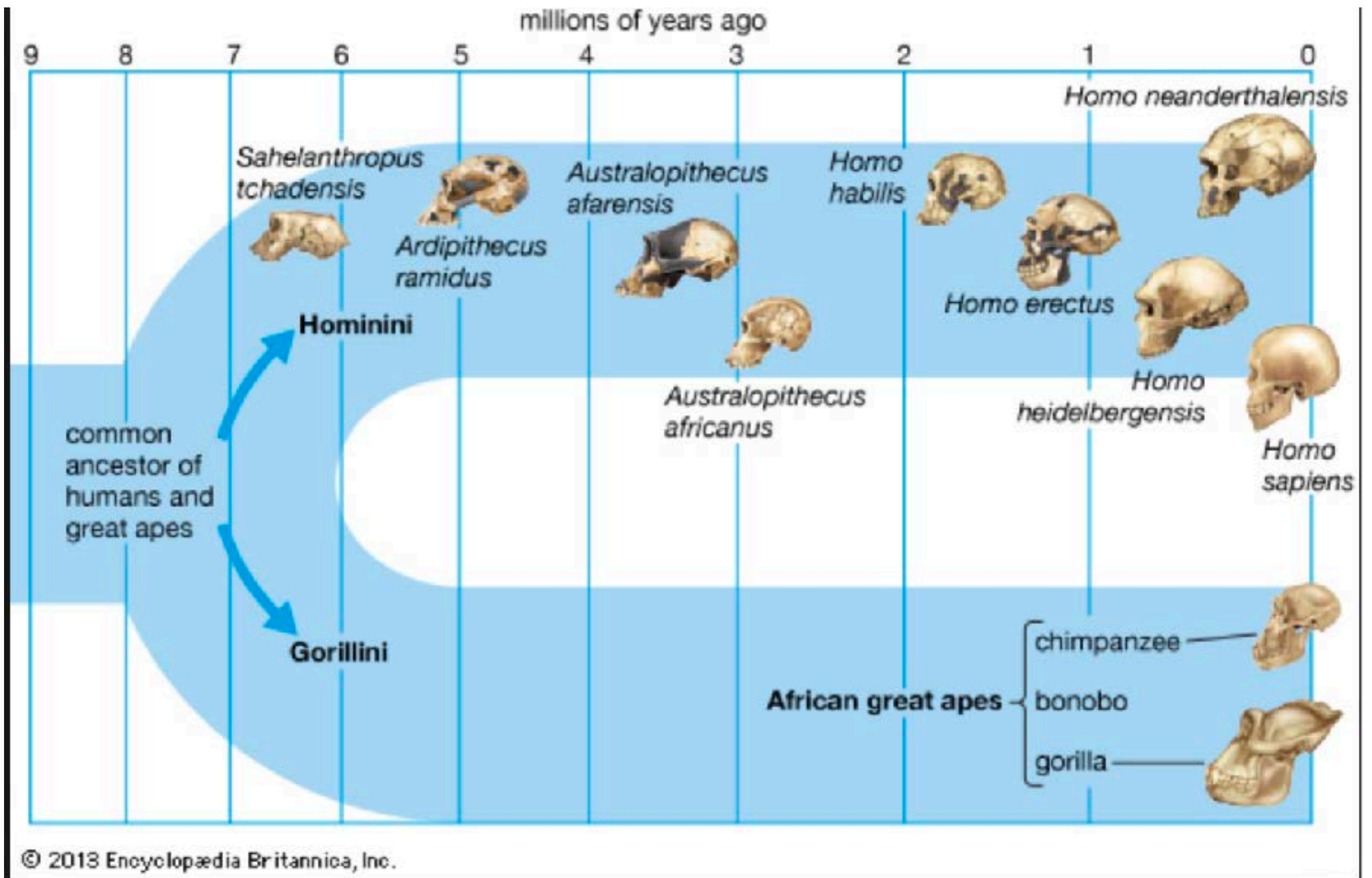


Table 1

Brain and body weights of several species of australopithecine (A.) and *Homo* (H.), compared with *Pan troglodytes* (revised from Cunnane, 2010).

	Brain weight (g)	Brain/body (%)
<i>A. afarensis</i> (3.6–2.8 Ma)	455	1.7
<i>A. africanus</i> (3.0–2.2 Ma)	450	1.0
<i>H. habilis</i> (1.9–1.5 Ma)	600	1.7
<i>H. erectus</i> (1.8–0.3 Ma)	940	1.6
<i>H. heidelbergensis</i> (600–200 ka)	1200	1.8
<i>H. neanderthalensis</i> (200–40 ka)	1450	1.9
H.sapiens 29,0000	<u>1660</u>	
<i>H. sapiens</i> (100–10 ka)	1490	2.4
<i>H. sapiens</i> (present day)	<u>1336</u>	
Adult male	1350	2.3 (2.7 ^a)
Newborn	380	<u>10.9</u> (13.1 ^a)

Homo Sapiens brain size has SHRUNK by more than 20%!

Homo Aquaticus



- ▶ Our ancestors found a niche in wetlands, swamplands, rivers and the coast
- ▶ We became upright wading in water
- ▶ Developed manual dexterity opening shells
- ▶ An insulating layer of fat, hairless body and nose for swimming, ear exostoses that protrude in divers and a diving reflex
- ▶ We are born with vernix- a waxy waterproof layer, as are seals
- ▶ The high marine food diet (omega-3 fats, selenium, iodine, B12) accelerated brain development

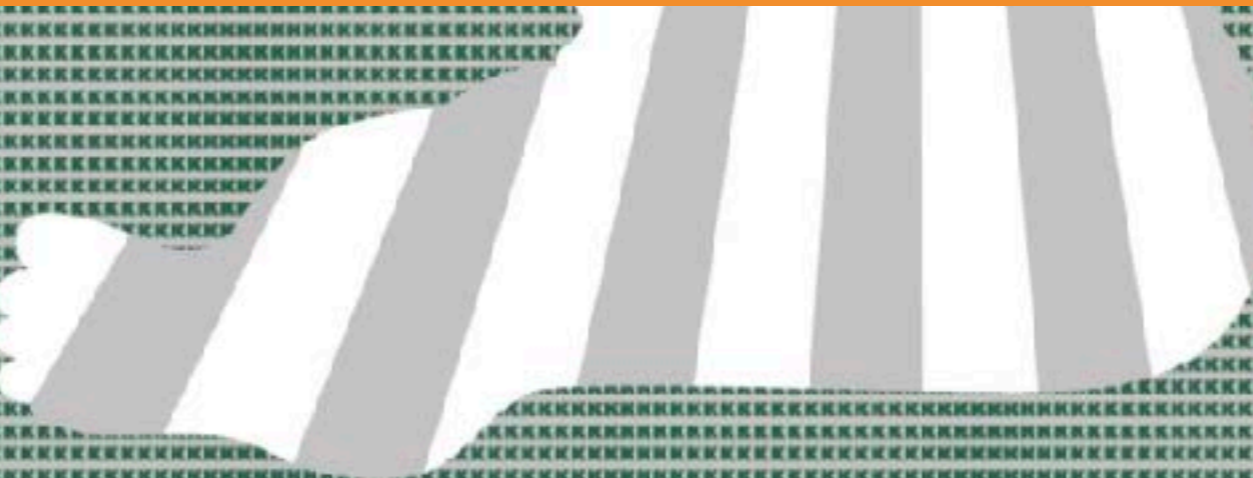


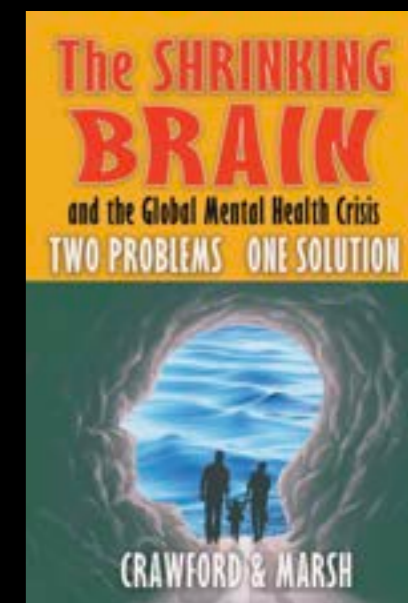
The Moken 'sea nomads'
of Indonesia hold their
breath for 13 minutes -
same as a dolphin!





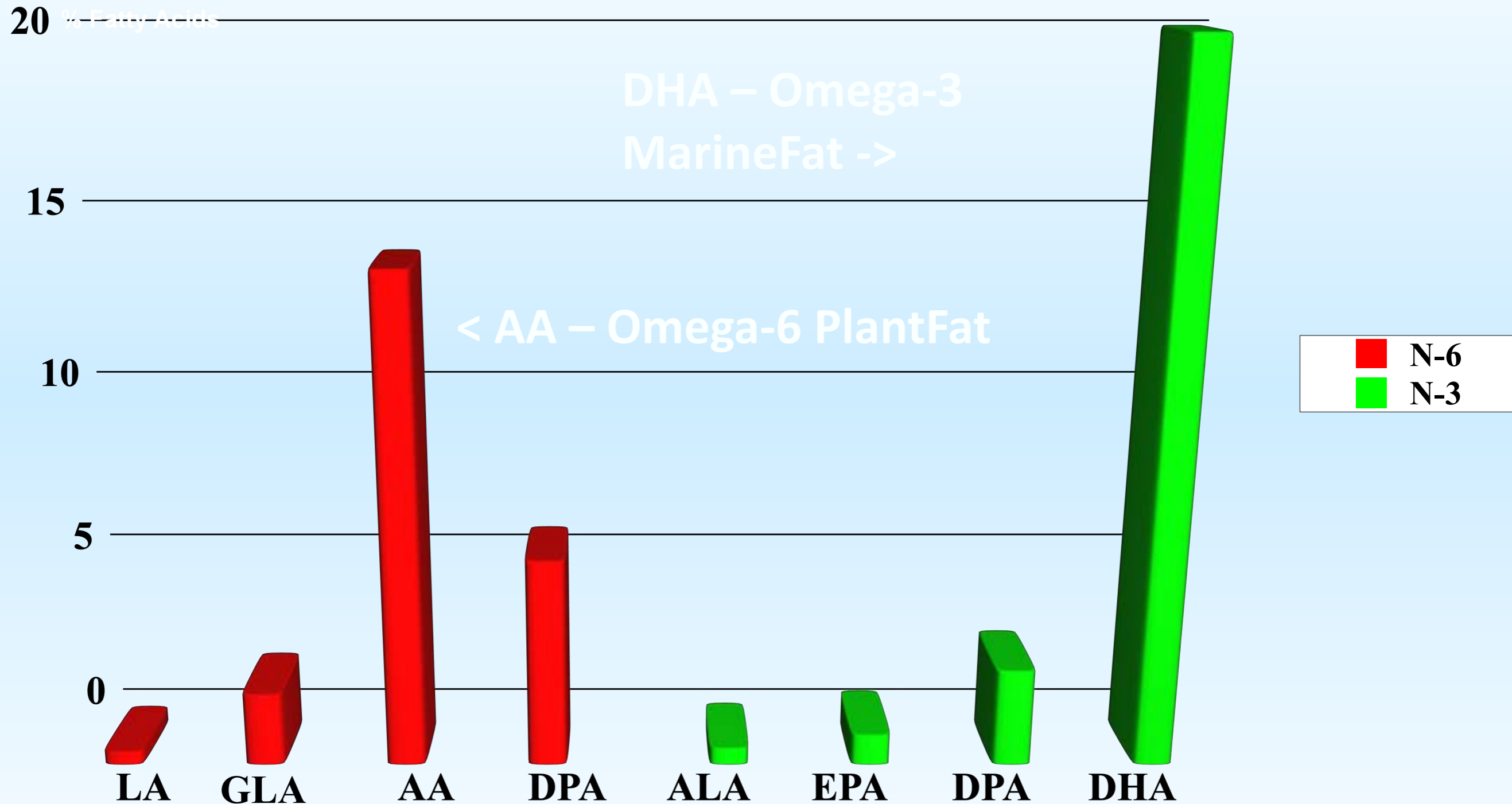
Babies are born with 50 trillion brain connections making a million a second in the first few months, with the brain consuming 75% of all energy from food!





“We are heading
for an idiocracy.”
Professor Michael
Crawford, 1980

Reminder: Brain Fat (EPG)

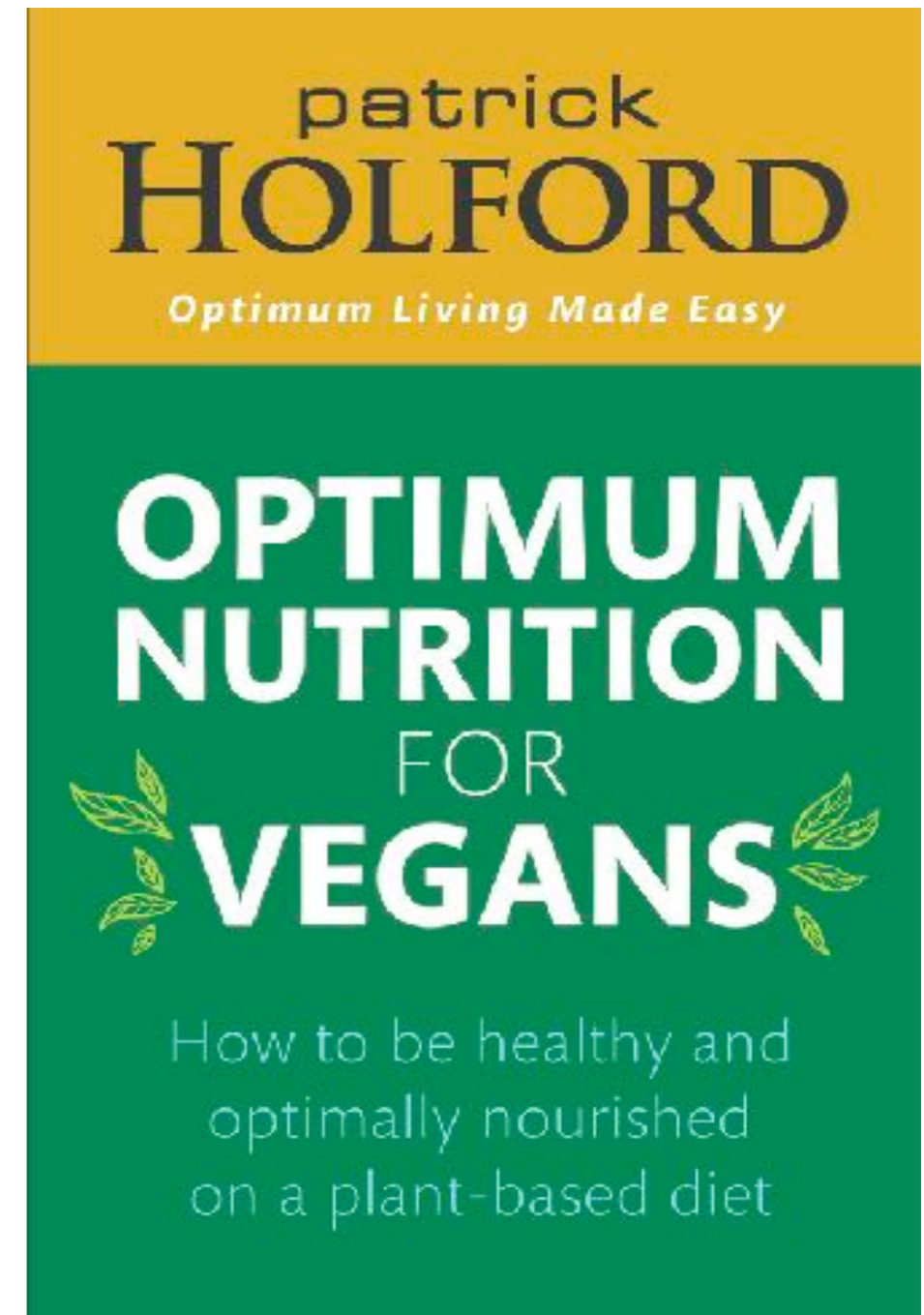


Crawford & Sinclair (1972) "Nutritional influences in the evolution of the mammalian brain" Ciba Foundation Symposium (1971), Ed K Elliot & J Knight, 267-292

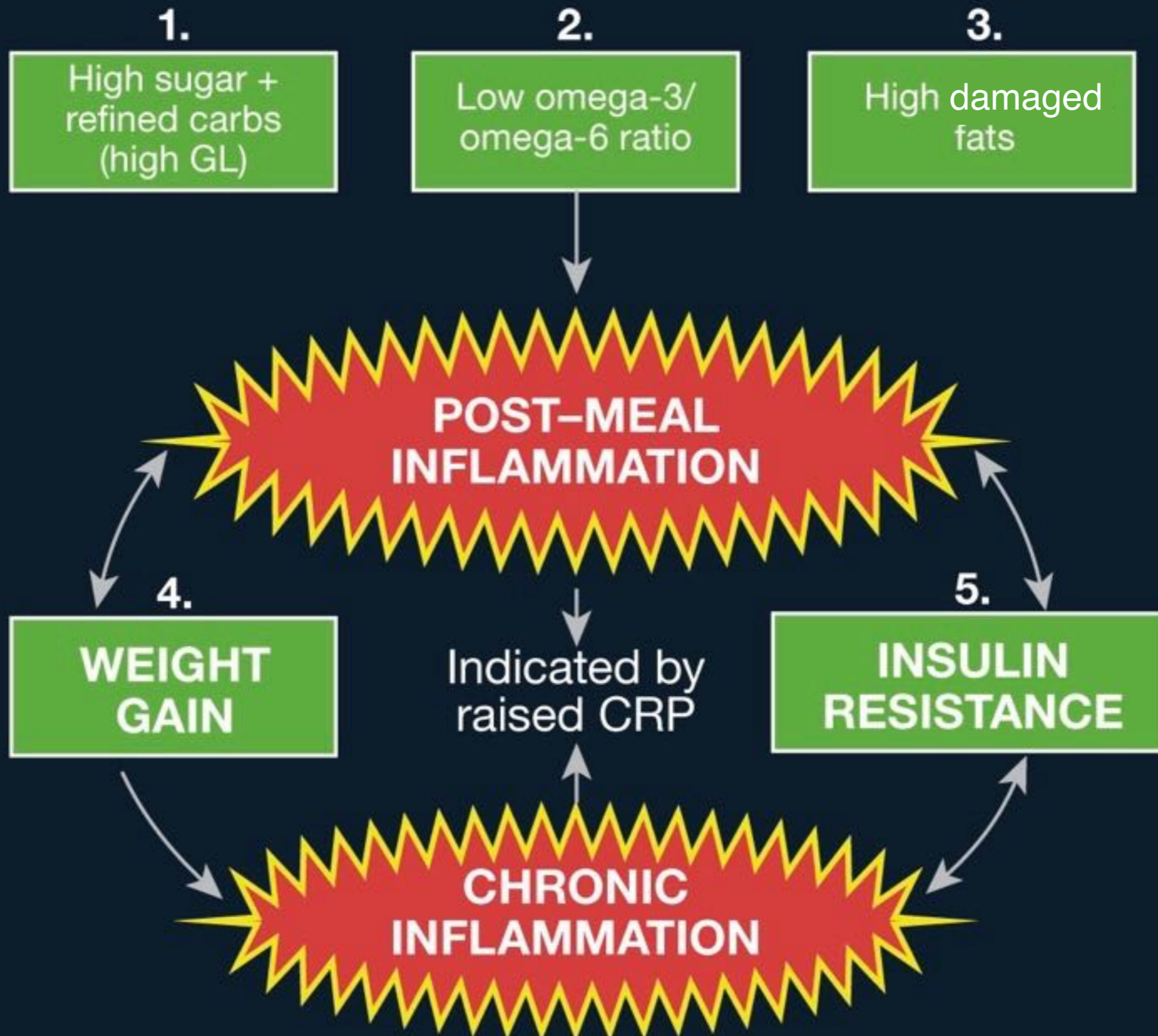
What's missing in a vegan diet



- ▶ Omega-3 DHA
- ▶ Phospholipids
- ▶ B12
- ▶ Potentially vitamin D (D3)

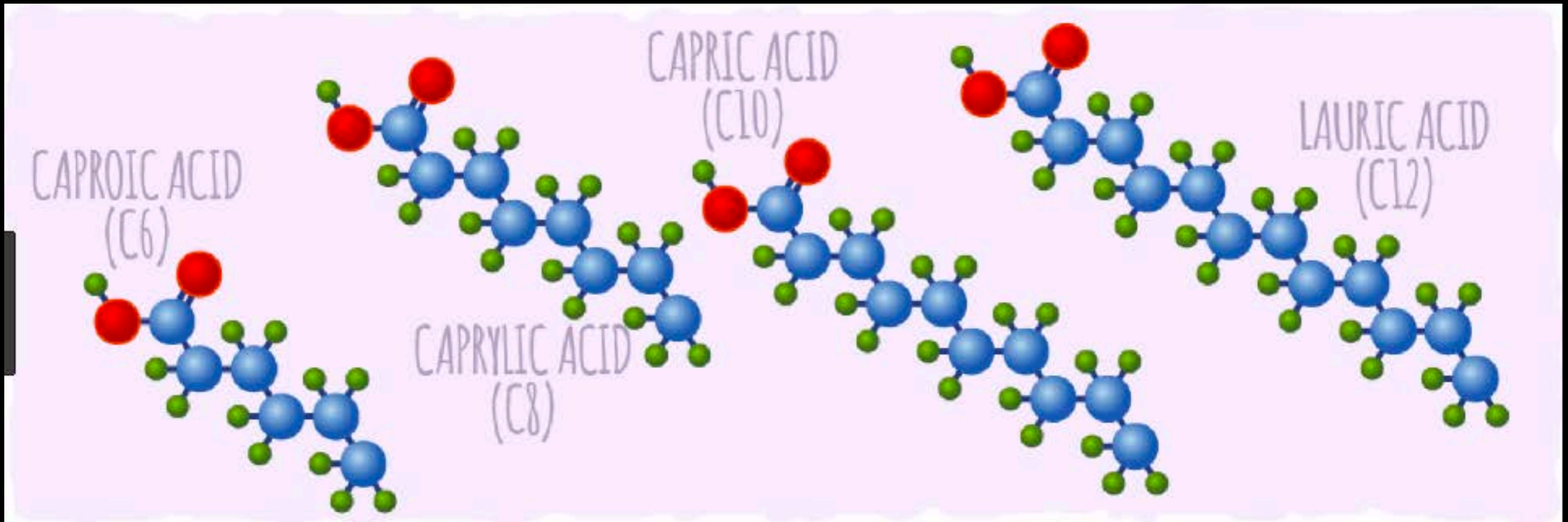


INFLAMMATION is promoted by:



Butyric acid in goat's cheese & ghee is 4 carbons long

Coconut and palm oil has these four 'medium chain' fats

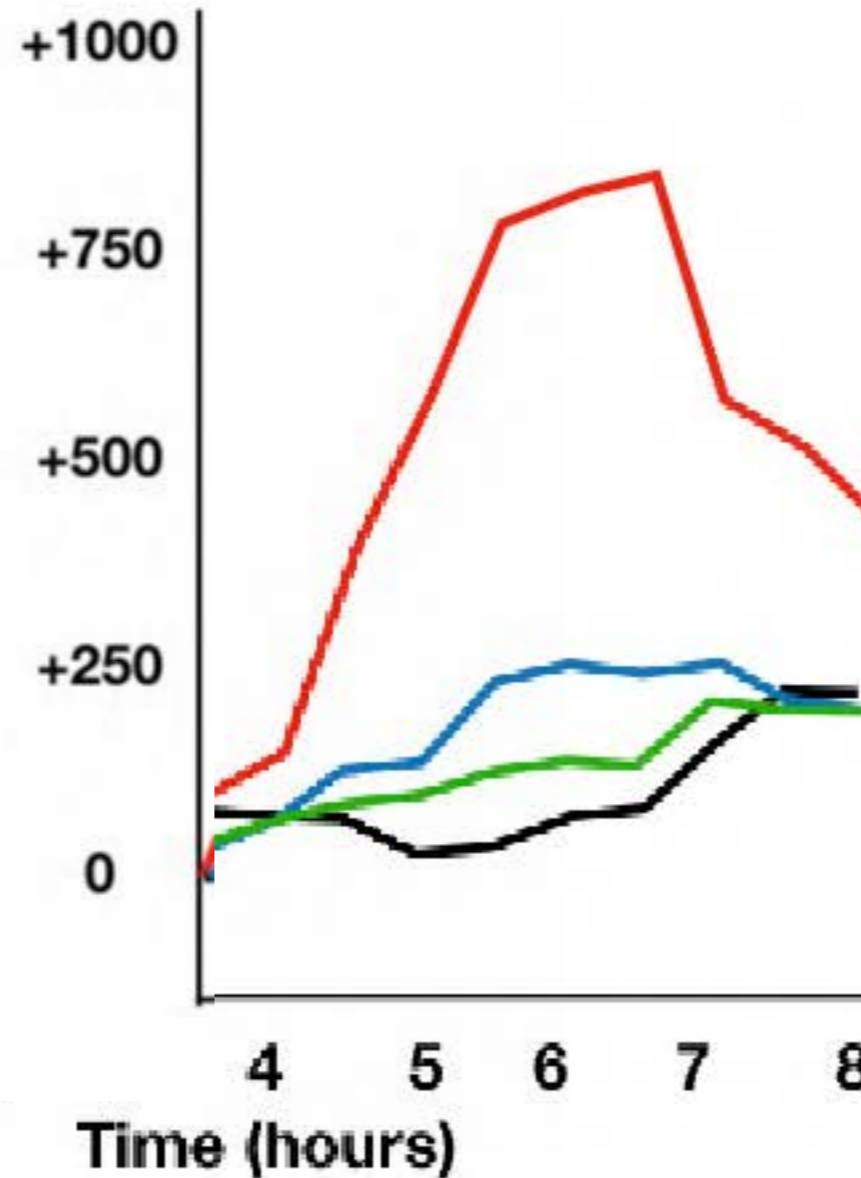


Olive oil is 14 carbons +

Only 7 % of coconut oil is C8



Total ketones ($\mu\text{mol/L}$)



Red = C8 oil
Blue = C10 oil
Green = Coconut oil
Black = control

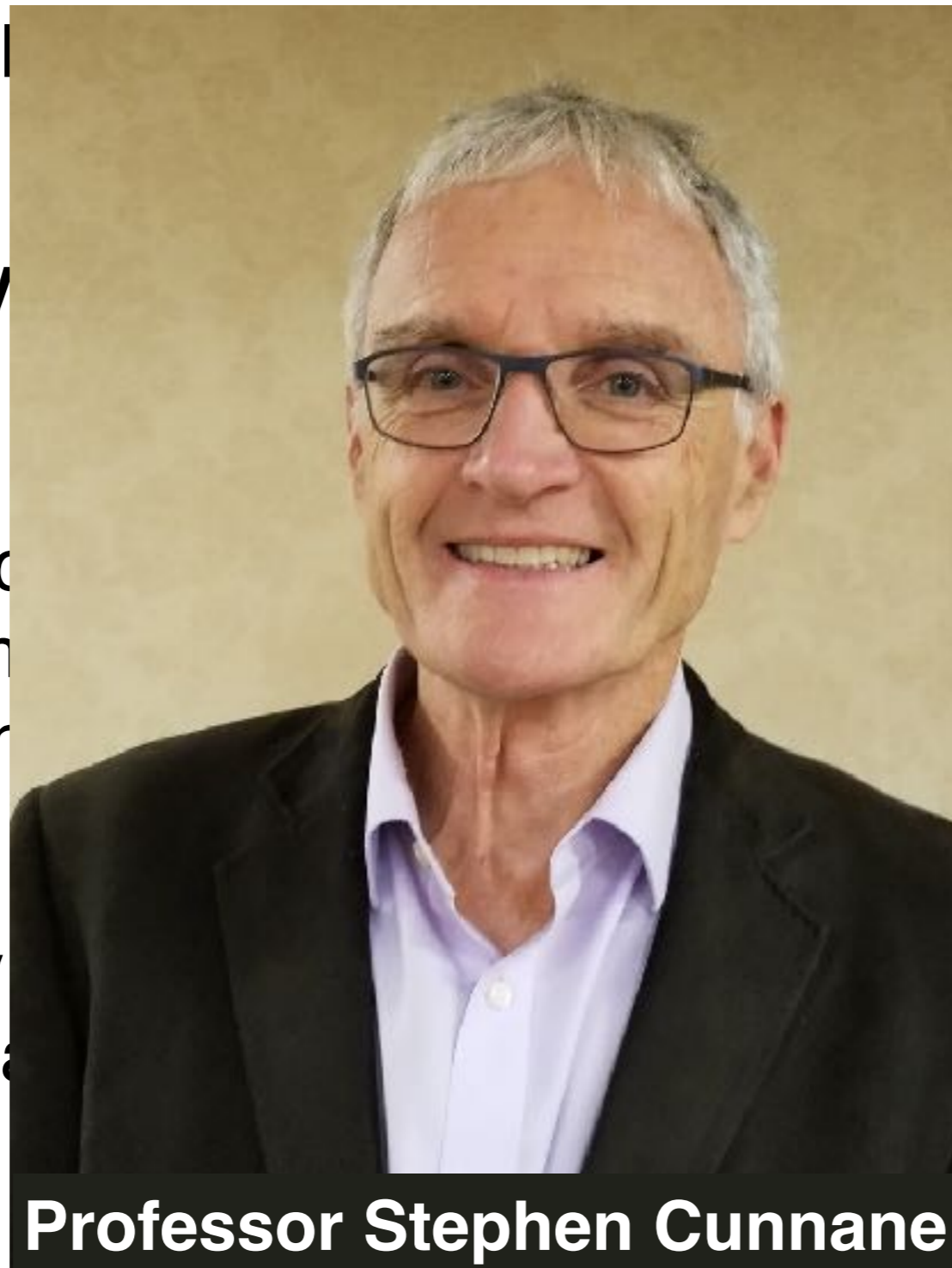
Data from Vandenberghe et al, Current Developments in Nutrition, 2017

C8 keto drink & brain function



M.Fortier, Alzheimers & Dementia, 2019 ; Journal of Alzheimer's Disease, 2018

- ▶ 52 people with Alzheimer's or placebo
- ▶ **Brain energy**
- ▶ No change in
- ▶ Measures of cognitive function, episodic memory improved in the C8 keto placebo.
- ▶ Same energy - cognitive change



Professor Stephen Cunnane

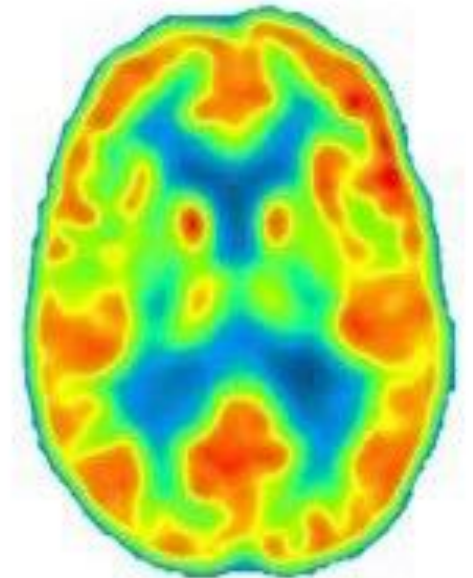
(spoons)

230%

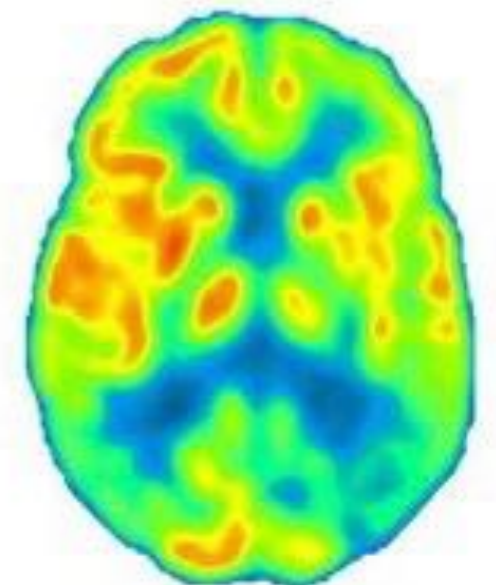
function,
(age)
on

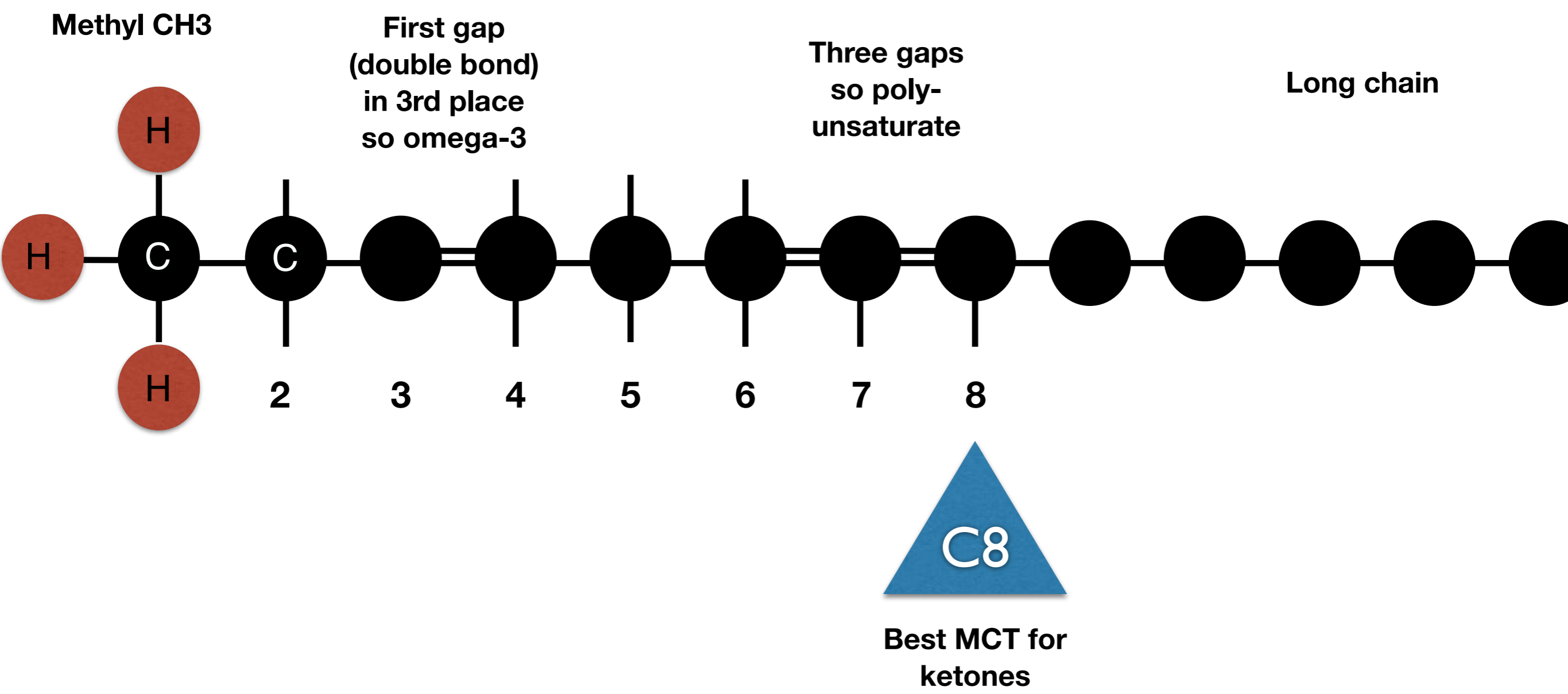
Alzheimer's

Normal



Alzheimer





Make a Hybrid Latté



1 tbsp CB oil (Ketofast)



120ml (4fl oz) filtered coffee or run through



1 rounded tsp cacao powder



Half a tsp ground cinnamon



240ml (8fl oz) no carb almond milk (unsweetened)



1 heaped tbsp almond butter or peanut butter



1 tbsp walnuts, pecans or peanuts (optional)



Blend all ingredients in a blender

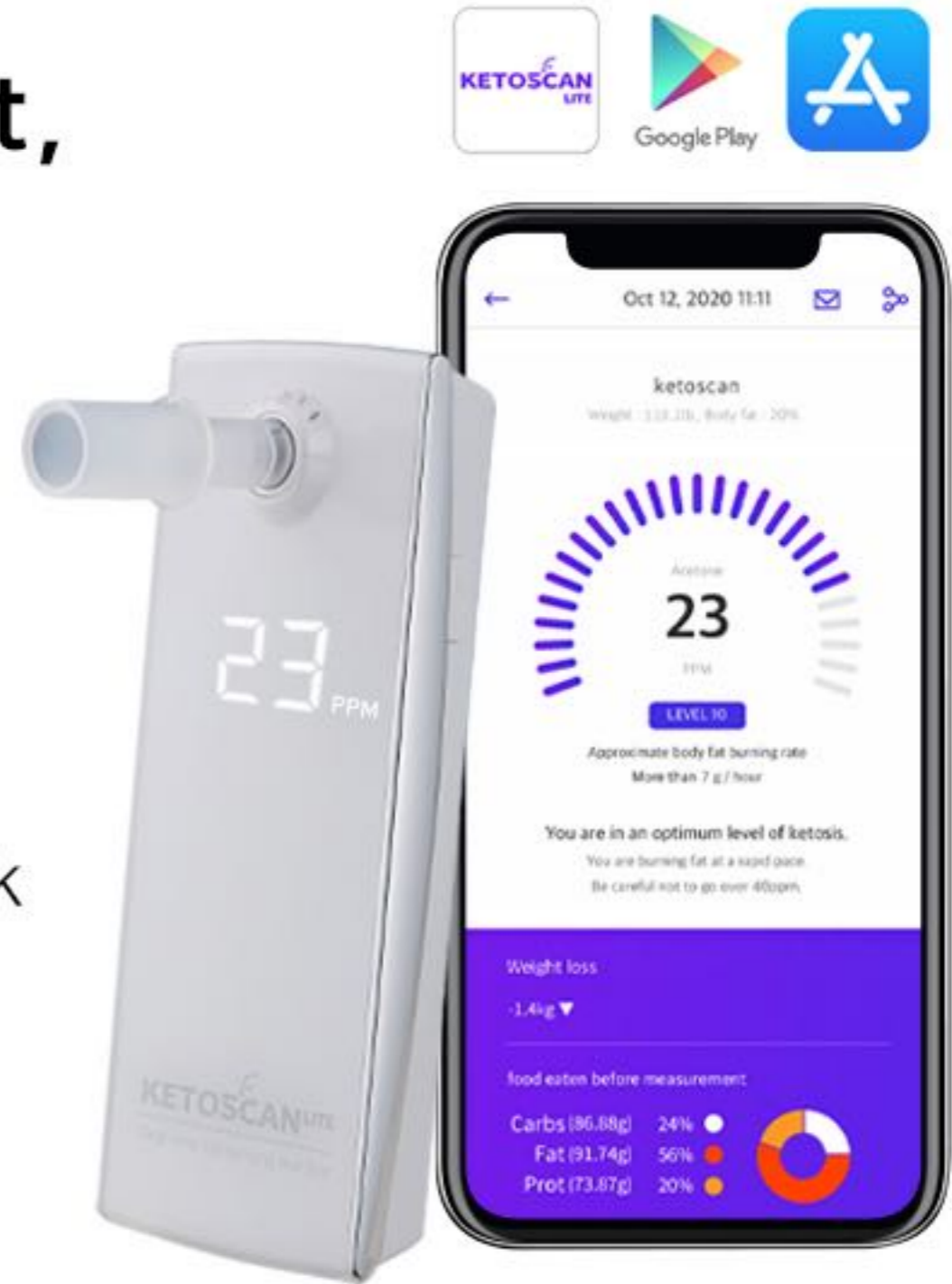


18 HOUR CARB FAST
Dinner 7pm
Lunch 1pm
Hybrid Latté breakfast
Seaveg
Crispie for snack



If You Can't Measure It, You Can't Improve It

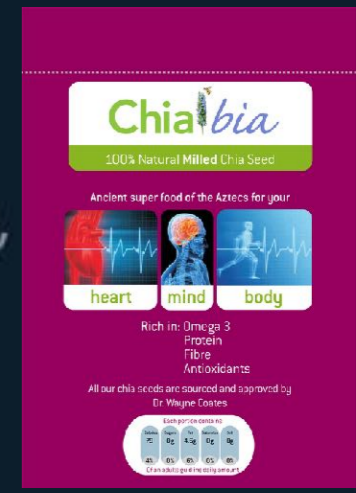
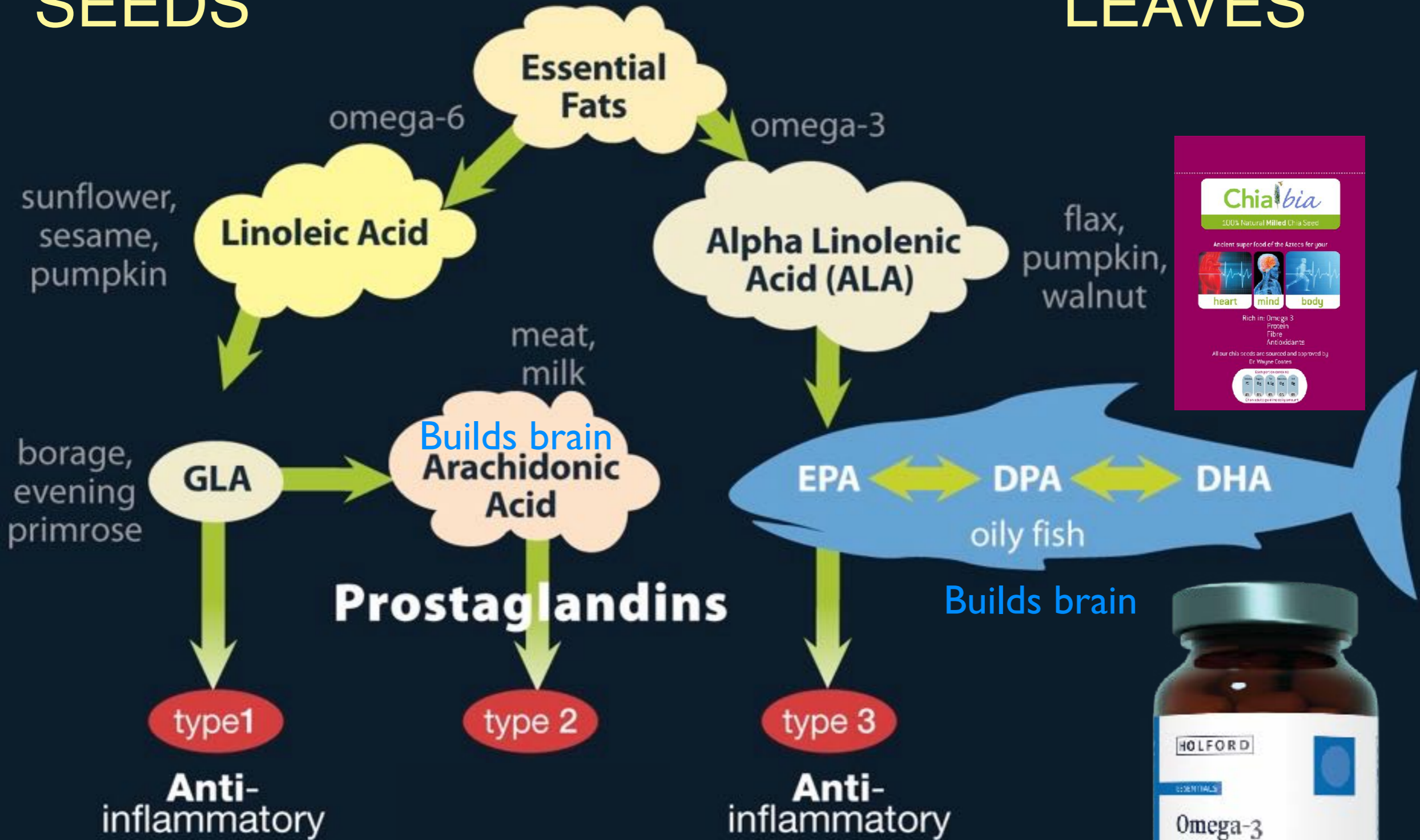
Discover your breath acetone resolution from 0 to 40 PPM (Parts Per Million) and follow 10 level guidance. Set your own goal and keep track your ketone level with Ketoscan Lite at home or on the go!



Price ~~£100~~ £95

SEEDS

LEAVES



Omega-3 index predicts brain health

Sala-Vila, Nutrients 2023; Loong, Brain Sciences 2023; Patan, Am J Clin Nutr 2021; W Harris, Nature 2021

- ▶ **Higher omega-3 = 20% less dementia” risk, says UK Bio Bank data study..**
- ▶ **“The omega-3 index is significantly correlated with the total white matter volume.” ...and cognition, says Loma Linda study.**
- ▶ **“Omega-3 EPA (900mg) improves global cognitive function in healthy, young adults.” 6 month UK study UK.**
- ▶ **“Risk for death from all causes was significantly lower (by 15–18%, at least $p < 0.003$) in the highest vs the lowest quintile” of omega-3 index [cardiovascular disease, cancer and other causes]. No associations were seen with ALA.**

Omega-3s - many benefits



- ▶ Fish oils improve insulin resistance
- ▶ Fish oils promote fat burning
- ▶ Fish oils reduce risk of heart attack
- ▶ Fish oils make you less anxious and aggressive and improve your mood
- ▶ Fish oils reduce joint pain and inflammation
- ▶ Fish oils stop dry skin, making your skin velvety smooth



How much Ω 3/EPA in fish? Smash



Fish and Seafood (per 85g)	EPAmg	DHAmg	EPA+ DHAmg
Caviar	2,428	3,279	5,707
Fish roe	836	1,159	1,995
Anchovy			
Atlantic			
Atlantic			
Atlantic			
Bluefin			
Mackerel			
Sockeye			
Rainbow			
Sardines (canned)	402	433	835
Albacore (or white) tuna (canned)	198	535	733
Shark (raw)	267	444	711
Swordfish	117	579	696
Sea bass	175	473	648

A large study of over 3,000 people in the US looking at fish consumption, and the intake of omega-3 and selenium on the plus side, and the toxic elements of mercury and cadmium on the down side, has found **that the overall benefit far exceeds the risk.**

N.Sasaki, Am J Clin Nutr 2023

How much omega 3 is ideal?

- ▶ Joe Hibbeln, one of the world's leading experts on omega-3 and disease risk, concludes: **“the majority of the populations (98-99%) are protected from...increased risk of chronic illnesses [with an intake of] 2g a day of omega-3”.**
- ▶ **Eat oily fish three times a week. (serving of fish is >1g Ω-3.)**
- ▶ **Supplement 600mg of EPA+DHA (equivalent to 1.4g Ω-3)**
- ▶ Eat a serving (small handful/tblspoon) chia/flax/walnuts every day(15g tablespoon gives circa 3g of ALA)
- ▶ 3 x 1g = 3g from fish
- ▶ 7 x 1.4 = 10g from supplements
- ▶ handful of seeds/nuts = ?1g but conversion poor
- ▶ **3g*7 = 21g - 5% conversion - 1g**



The best seeds are chia seeds



- ▶ Richest source of Omega 3 in vegetable kingdom
- ▶ High in protein
- ▶ High in soluble fibres
- ▶ High in antioxidants
- ▶ Rich in minerals inc magnesium
- ▶ Soft husk means grinding unnecessary



Omega-3s work for depression



Grosso G et al, PLoS One, 2014

- ▶ The most comprehensive review and meta-analysis of 19 trials on patients with mild and major depression concludes that ‘the use of omega-3 fats is effective both in patients with major depressive disorder and milder depression’.

The greater the amount of EPA, not DHA, the more effective was the treatment likely to be.

Most effective studies give 1,000mg of EPA. Lowest effect with 300mg combined EPA/DHA. (2 x Essential Omegas = 600mg)



Omega 3 reduces joint pain



Goldberg R., Pain, May 2007

We conducted a meta-analysis of 17 randomized, controlled trials assessing the pain relieving effects of omega-3 PUFAs in patients with rheumatoid arthritis or joint pain. Supplementation with omega-3 PUFAs for 3-4 months reduces

- ✓ **patient reported joint pain intensity (by 26%),**
- ✓ **minutes of morning stiffness (by 43%),**
- ✓ **number of painful and/or tender joints (by 29%),**
- ✓ **and NSAID consumption (by 40%).**

The results suggest that omega-3 PUFAs are an attractive adjunctive treatment for joint pain.



Vitamin D prevents/treats...



<https://www.vitamindwiki.com/Proof+that+Vitamin+D+Works>

- ▶ Depression and other mental health problems
- ▶ Diabetes
- ▶ Cardiovascular disease and stroke
- ▶ Arthritis & osteoporosis
- ▶ Auto-immune diseases
- ▶ Pregnancy outcomes
- ▶ Infections
- ▶ Cancer



How much vitamin D?



Bischoff-Ferrari H, Adv Exp Med Biol. 2014 -/25207384; Pludowski P J Steroid Biochem 2017 -/28216084

- ▶ The most advantageous serum levels for 25(OH)D appeared to be 75 nmol/l (30 ng/ml). An intake of **800IU** (20 μ g) of vitamin D3 per day for all adults brings 97% of the population to level of at least 50 nmol/l and about 50% up to 75 nmol/l. 1600 to 2000IU (40-50 μ g) vitamin D3 needed to achieve 75nmol/l.
- ▶ For bones achieving 50 nmol/L (20ng/mL) with daily vitamin D doses of 400–**800** IU. For optimising disease prevention a concentration of 75 nmol/L is required from vitamin D doses ranging from 400 and 2000IU(50 μ g).
- ▶ Diet plus 30 mins sun exposure can provide 600IU(15ug). Supplement 600IU (15 μ g) + 1000IU(25 μ g) for those 'at risk', to correct deficiency and possibly in winter.
- ▶ In winter (and pandemics) take 3,000iu a day



Action to increase vitamin D and $\Omega 3$

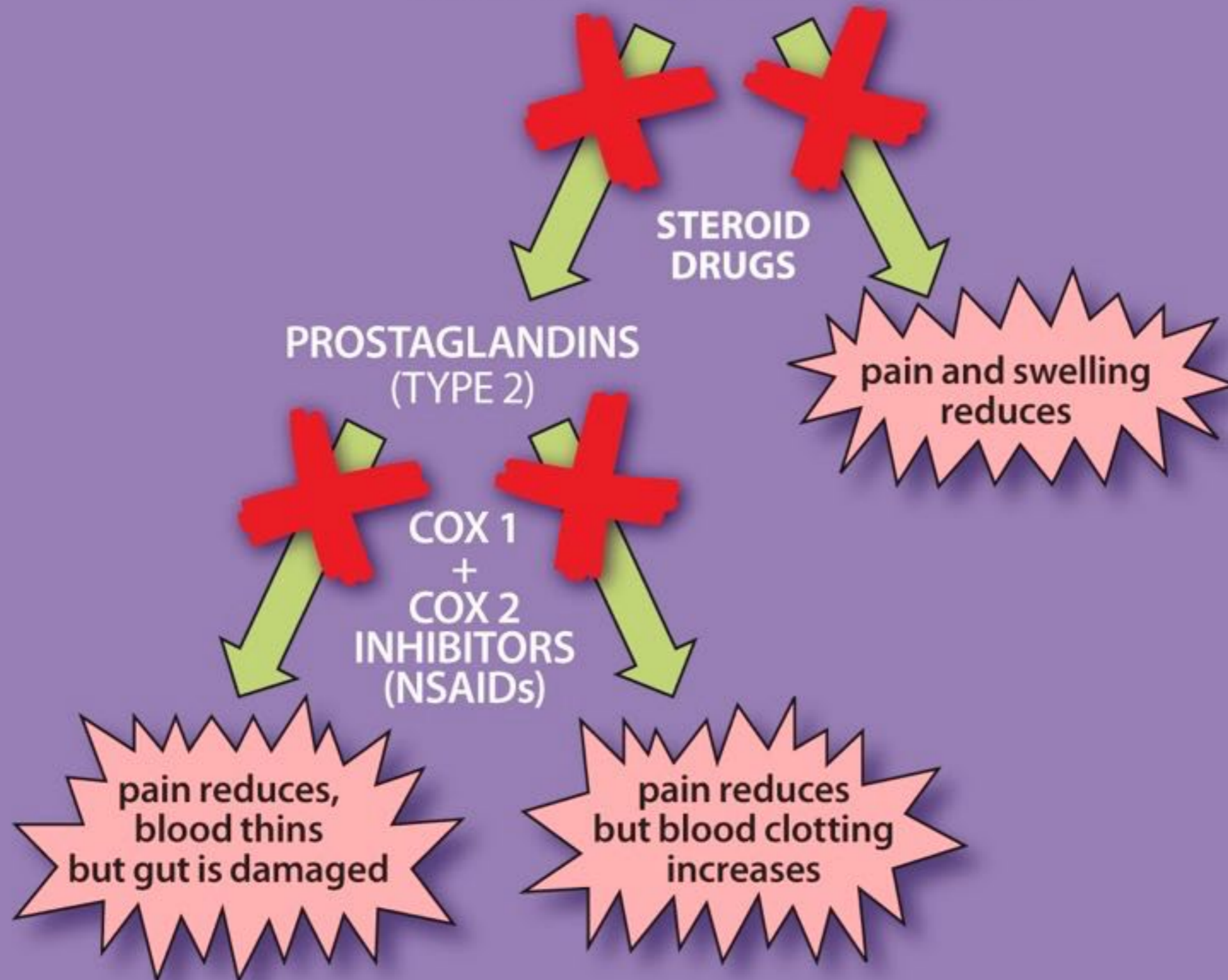


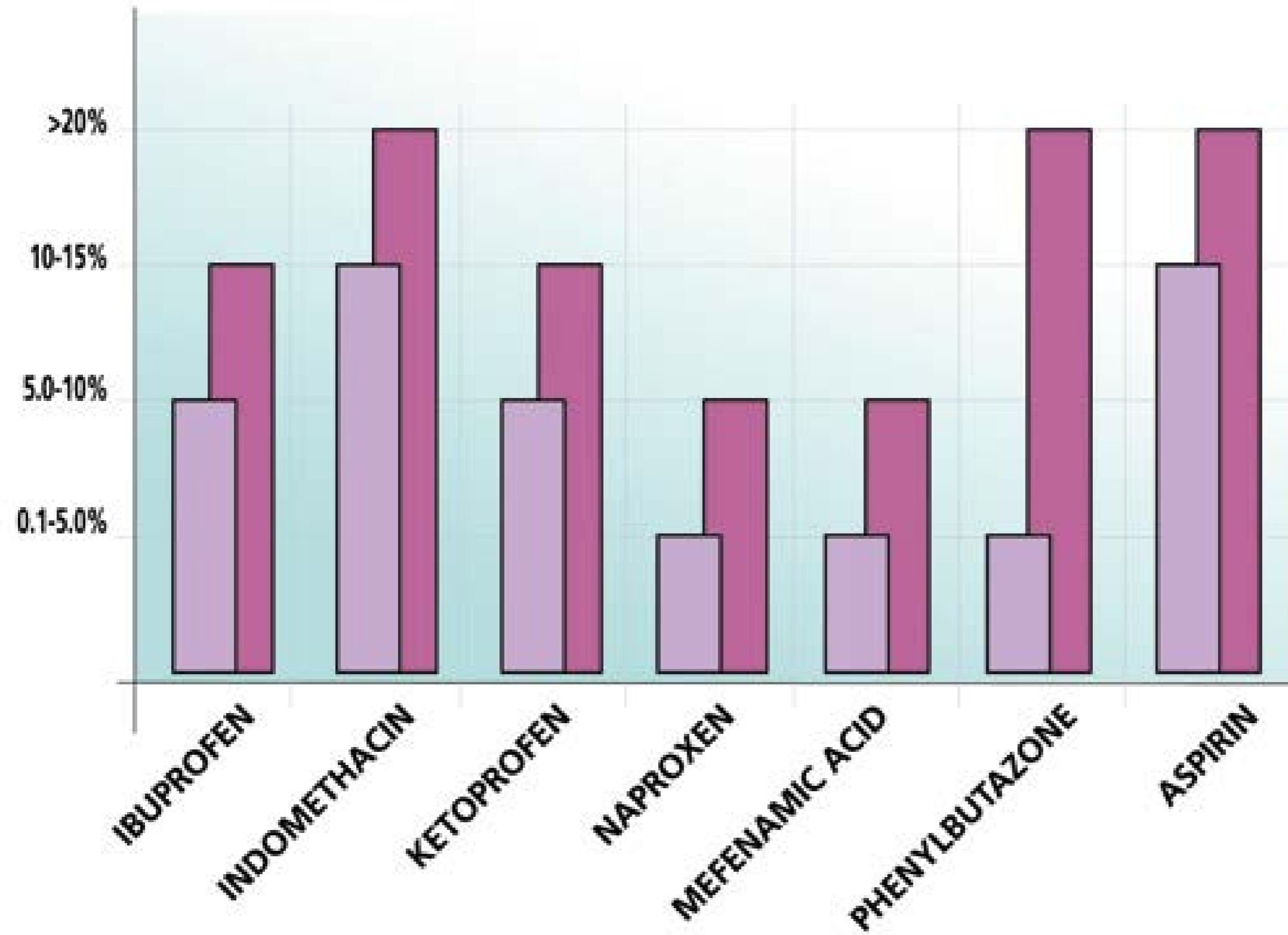
- ▶ **Eat more fish**, especially oily (carnivorous fish with teeth), ideally three or more times a week
- ▶ **Eat chia, flax or pumpkin seeds** almost every day
- ▶ Supplement a daily **Essential Omega** supplement
- ▶ If you are depressed also **take an Omega 3 fish oil supplement with the most EPA**
- ▶ Supplement **15mcg of vitamin D, 25mcg (1000iu)** in the winter
- ▶ **Get outdoors** for 30 minutes a day with skin exposed, especially on sunny days



ARACHIDONIC ACID

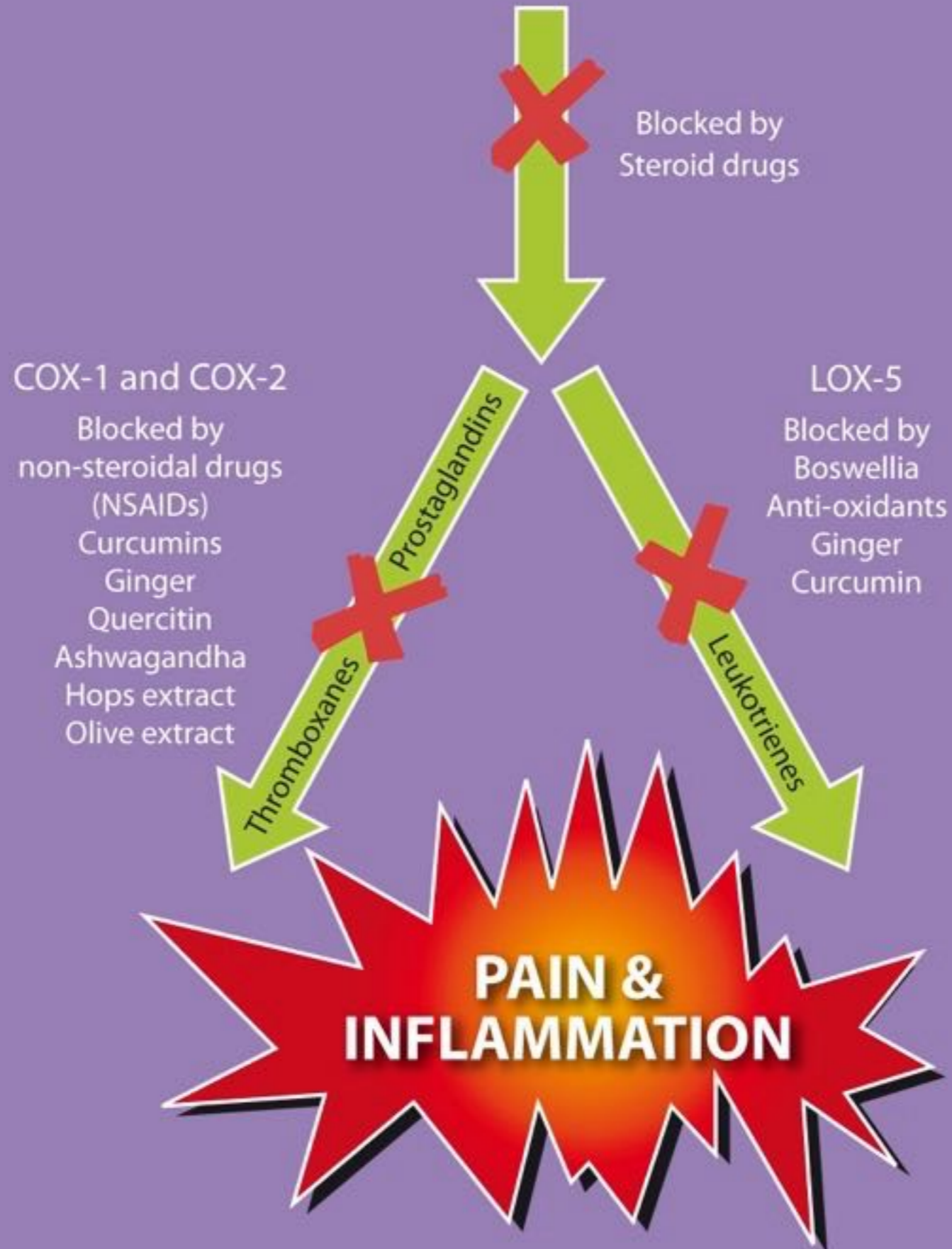
made in the body, rich in milk and meat





Dairy Products and Meat

Arachidonic acid



CHOLINE (in diet)

PHOSPHATIDYL CHOLINE

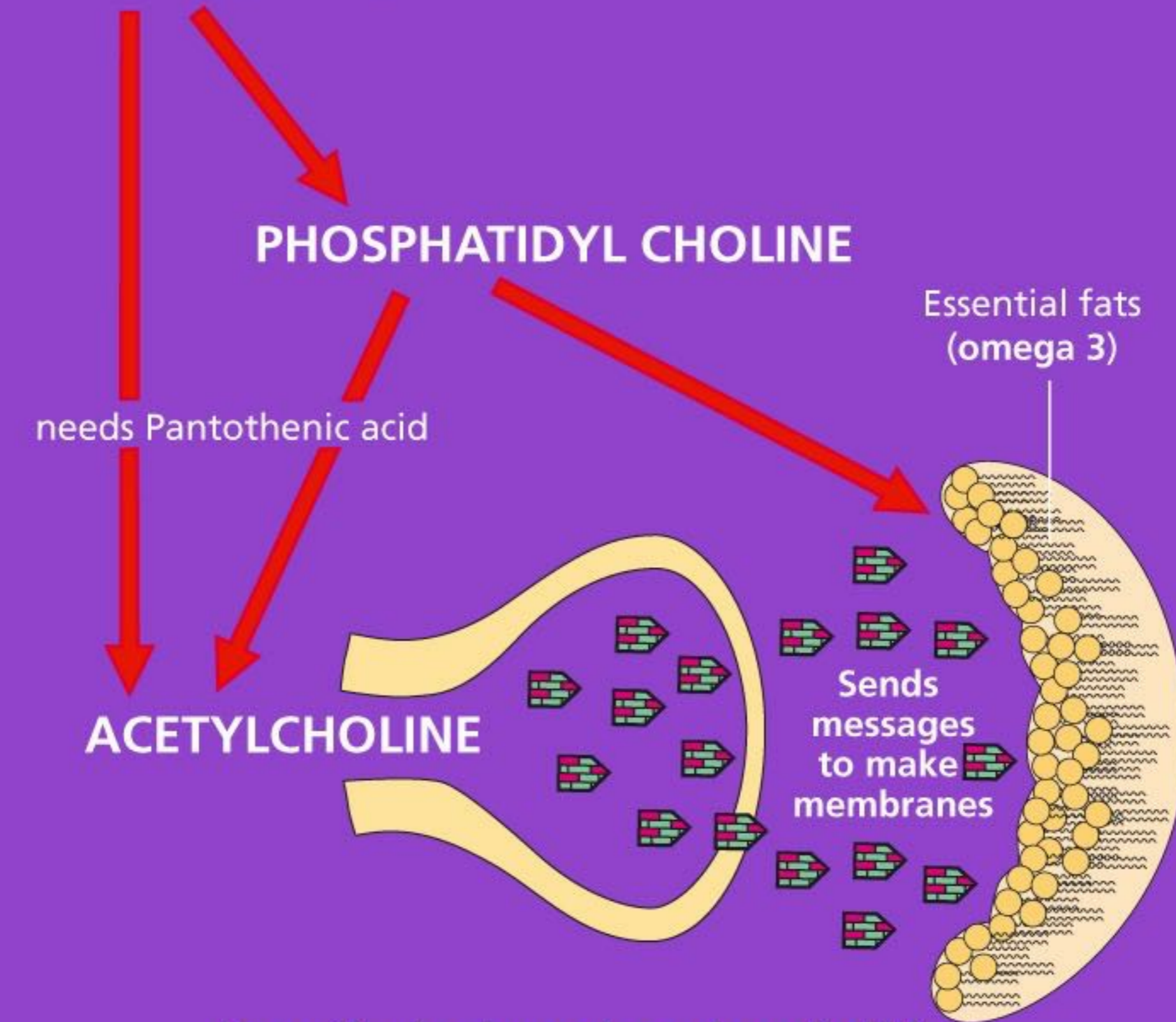
Essential fats
(omega 3)

needs Pantothenic acid

ACETYLCHOLINE

Sends
messages
to make
membranes

How the brain makes phospholids



Phosphatidyl CHOLINE & SERINE



Pyapali G., J Neurophysiol, 1998; Meck, W.H., et al. Neuroreport, 1997. Zeisel S., J Am College Nutrition, 2000; Hung S et al., Br J Neur 2001; Jacob N et al., Atherosclerosis, 1999; Ladd S et al., Clin Neuropharmacol, 1993; Amenta F et al., Clin Exp Hypertens. 2002; Wurtman RJ Aging 1982; Kidd P, Alt Medicine Review, 1996, 1(2). 70

- ▶ Infants of pregnant rats fed choline half way through their pregnancy have more dendrite connections, plus improved learning ability and better memory recall.
- ▶ A placebo-controlled trial giving a single dose of phosphatidylcholine found a significant improvement in explicit memory 90 minutes later.
- ▶ The lower your homocysteine the better your ability to make phospholipids
- ▶ If essential fat or choline levels are depleted, a woman's brain size shrinks in pregnancy
- ▶ 16 clinical trials indicate that PS benefits measurable cognitive functions which tend to decline with age; these include memory, learning, vocabulary skills and concentration, as well as mood, alertness and sociability.

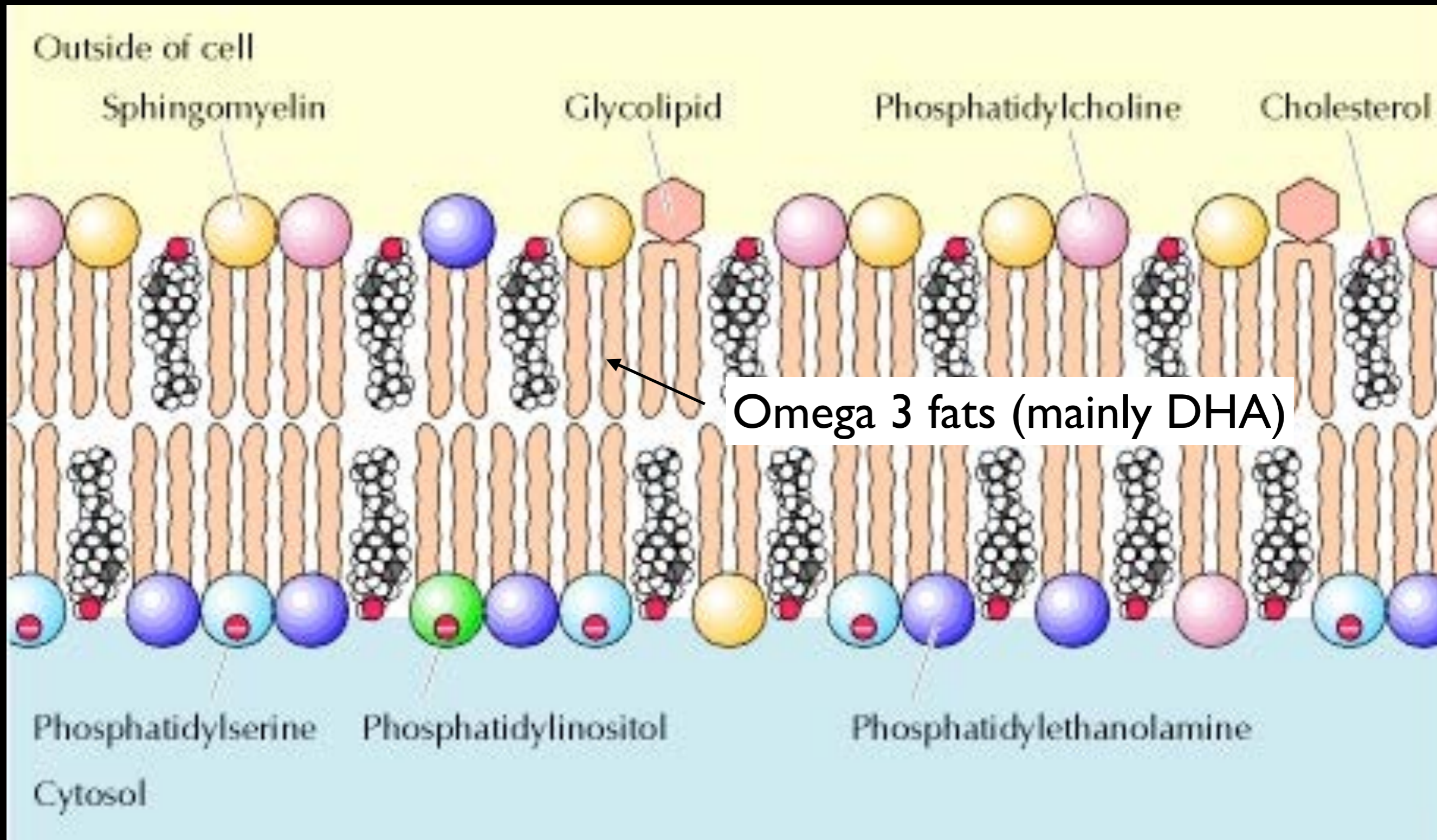


How to increase phospholipids



- ▶ Add a tablespoon of lecithin granules to your cereal every day.
- ▶ Eat root vegetables, high in TMG.
- ▶ Or eat an egg a day, or six eggs a week – preferably free-range, organic and high in Omega 3's.
- ▶ Eat fish at least three times a week
- ▶ Supplement a brain food formula providing phospholipids, plus B vitamins, inc B5 and pyroglutamate or LECITHIN





• Attaching omega 3 to phospholipids requires methylation.

7 key processes

- ? Glycation - sugars, soluble fibres
- ? Lipidation - EFAs, phospholipids, VitD
- ? **Methylation - B vitamins etc**
- ? Oxidation - antioxidants/polyphenols
- ? Hydration - water
- ? Digestion - enzymes, probiotics, fibres etc
- ? Communication - hormones, neurotransmitters, cytokines & inflammation



	Weakest System	Weakest Process
Romilda	Immunity/Mind&Mood	Methylation
Steph	Energy/Hormones	Hydration/Glycation
Jane	Energy / Detox	Hydration/Gylcation
Marilyn	Detox	Hydration/Lipidation
Anna	Mind&Mood/Hormones	Glycation
David	Hormones/Inflammation	Hydration/Methylation
Jo	Immunity/food sensitivity	Hydration/Lipidation/Methylation
Bridget	Mind & Mood	Oxidation
Alicky	Mind & Mood	Methylation



METHYLATION

SAY NO ALZHEIMER'S,
STAY SHARP, HAPPY & MOTIVATED



Homocysteine is biomarker for 100



AD Smith and H Refsum, J Intern Med, 2021

Insufficient B vitamin status

Folate, B12, B6, B2

Cardiovascular diseases

Myocardial infarction

Severity of coronary artery disease

Hypertension

Restenosis of coronary arteries & adverse outcomes Stroke

Stroke mortality

Silent brain infarct

Carotid plaque area, stenosis, intima-media thickness

Intracerebral arterial stenosis

Peripheral vascular disease

Venous thrombosis

Arterial aneurysm

Arterial stiffness

Atrial fibrillation

Cerebral small vessel disease

Cerebral microbleeds

Disruption of blood-brain-barrier

Endothelial mediated dilatation – impaired

Vascular complications of diabetes

Raynaud's syndrome

Takayasu arteritis

Thromboangiitis obliterans (Buerger's disease)

Moyamoya disease

Behçet disease

Erectile dysfunction

Other syndromes

Mortality

Frailty

Cancer

Metabolic syndrome

Obesity

Bone disease, **osteoporosis**

Inflammatory bowel disease, Crohns

Non-alcoholic fatty liver disease

Renal insufficiency, chronic kidney disease

Chronic obstructive pulmonary disease

Alcohol abuse

Psoriasis

Vitiligo

Sclerosis

Sickle-cell disease

Sclerosis

Sickle-cell disease

Burning mouth syndrome

Atrophic glossitis

Quality of life in centenarians

Obstructive sleep apnea

Hypothyroidism

Telomere shortening

Systemic lupus erythematosus (SLE)

Dermatomyositis

Inflammatory response

Periodontal disease

Hearing loss

Gout

Blood lead concentration

Maternal tHcy

Pregnancy complications

Outcomes in child

– small for gestational age, fetal growth

– **neural tube defects**

– congenital heart disease

– orofacial clefts

Central nervous system diseases

Incident Alzheimer's disease/dementia

Vascular dementia, vascular cognitive impairment

Post-stroke cognitive impairment

Cognitive decline after concussion

Cognition in children

Cognition in elderly

Initiation of cognitive decline in ageing

Conversion from cognitive impairment to dementia

Cognitive decline in **dementia**

Atrophy of brain tissue/gray matter

Atrophy of brain white matter

White matter damage

Alzheimer brain pathology (P-tau)

Multiple sclerosis

Cognitive decline in **Parkinson's disease**

Depression

Bipolar disorder

Schizophrenia

Amyotrophic lateral sclerosis/ **Motor Neuron Disease**

Multiple System Atrophy

Impaired motor development in infant

Early neurological deterioration after stroke

Glasgow coma scale

Migraine

Autism spectrum disorder

Ocular diseases

Macular degeneration

Ectopia lentis

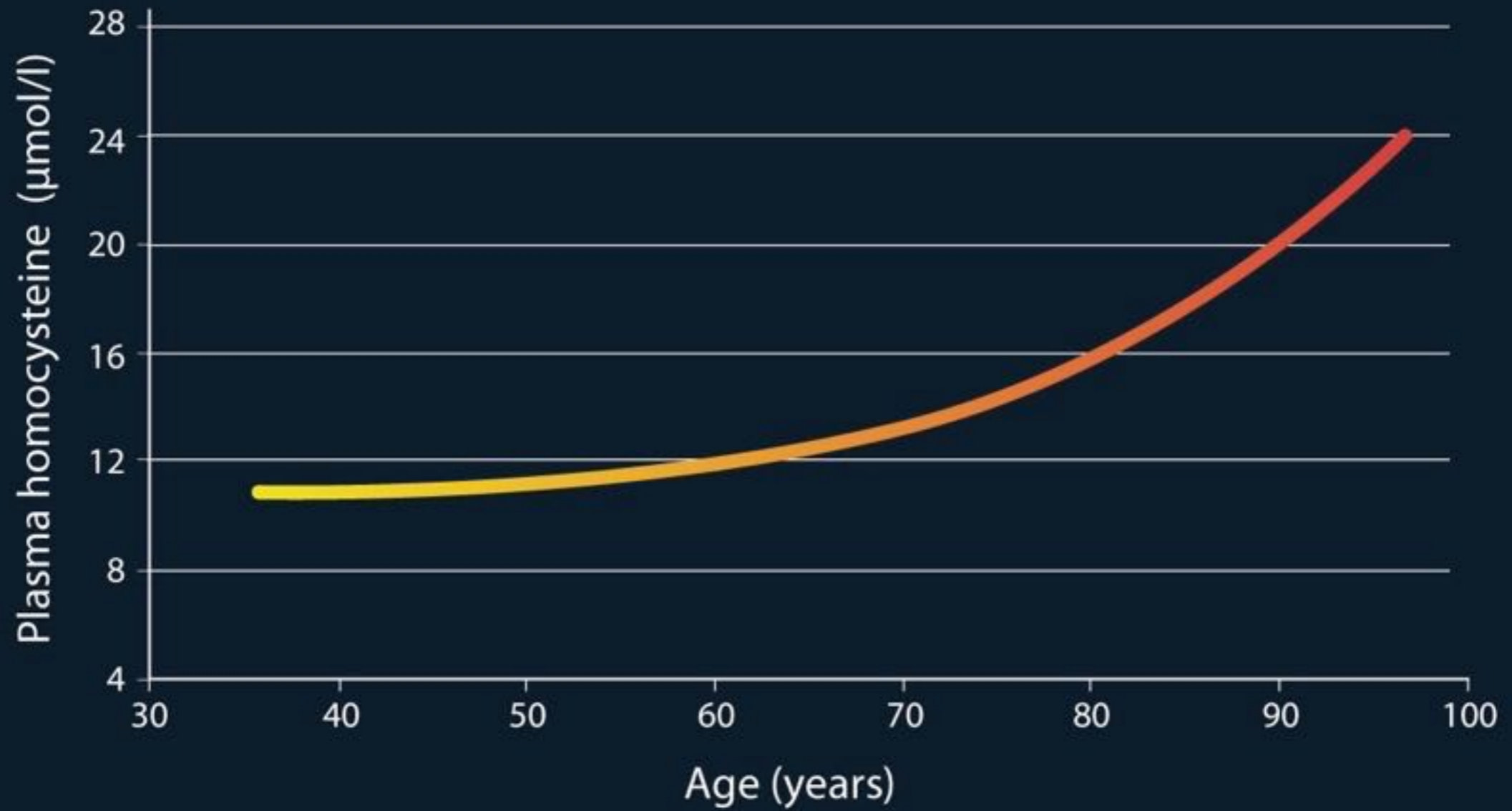
Retinal vascular occlusion

Retinal arteriosclerosis

Diabetic retinopathy

Exfoliation syndrome & glaucoma

Average homocysteine level with age



Subtraction of serial MRI scans at 6 month intervals



Control: Hcy 7.8

Alzheimer's disease Hcy 13.1

Used with permission of Optima

Homocysteine levels in 60+ year olds



Pfeiffer C, Clin Chem. 2008; R. Xu, Nature Sci 2022; Vogiatzlou A, Neurology, 2008; OConnor, BJN, 20

- ▶ **US** - 40% over 60 have homocysteine above $11\mu\text{mol/l}$
- ▶ **China** - . 'the mean Hcy levels in adult males less than 30 years of age and greater than 60 years were higher than the upper limit of normal ($15\text{ }\mu\text{mol/L}$).'
- ▶ **UK** - 2 in 5 over 61 have insufficient plasma B12 to prevent accelerated brain shrinkage.



Above $10\text{ }\mu\text{mol/l}$
needs treatment
with B12 500mcg,
B6 20mg,
folate $>400\text{mcg}$

Homocysteine co-factor nutrients



- ▶ Folic acid, folate, MTHFolate (methylfolate)
- ▶ B12 (methylB12, glutathional B12)
- ▶ B6 - pyridoxine (pyridoxal-5-phosphate)
- ▶ (B2 - riboflavin)
- ▶ (B3 - niacin)
- ▶ Zinc
- ▶ Tri-Methyl Glycine (TMG)
- ▶ N-Acetyl Cysteine (NAC)



How much B12 to correct deficiency?



Vogiatzoglou A et al Neurology 2008 ; Euseen SJ et al Arch Intern Med. 2005

“Two in five people over age 61 have insufficient B12.”

A randomized, parallel-group, double-blind, dose-finding trial to determine the lowest oral dose of B12 required to normalize methylmalonic acid, the biochemical marker of deficiency in older people with mild vitamin B12 deficiency.

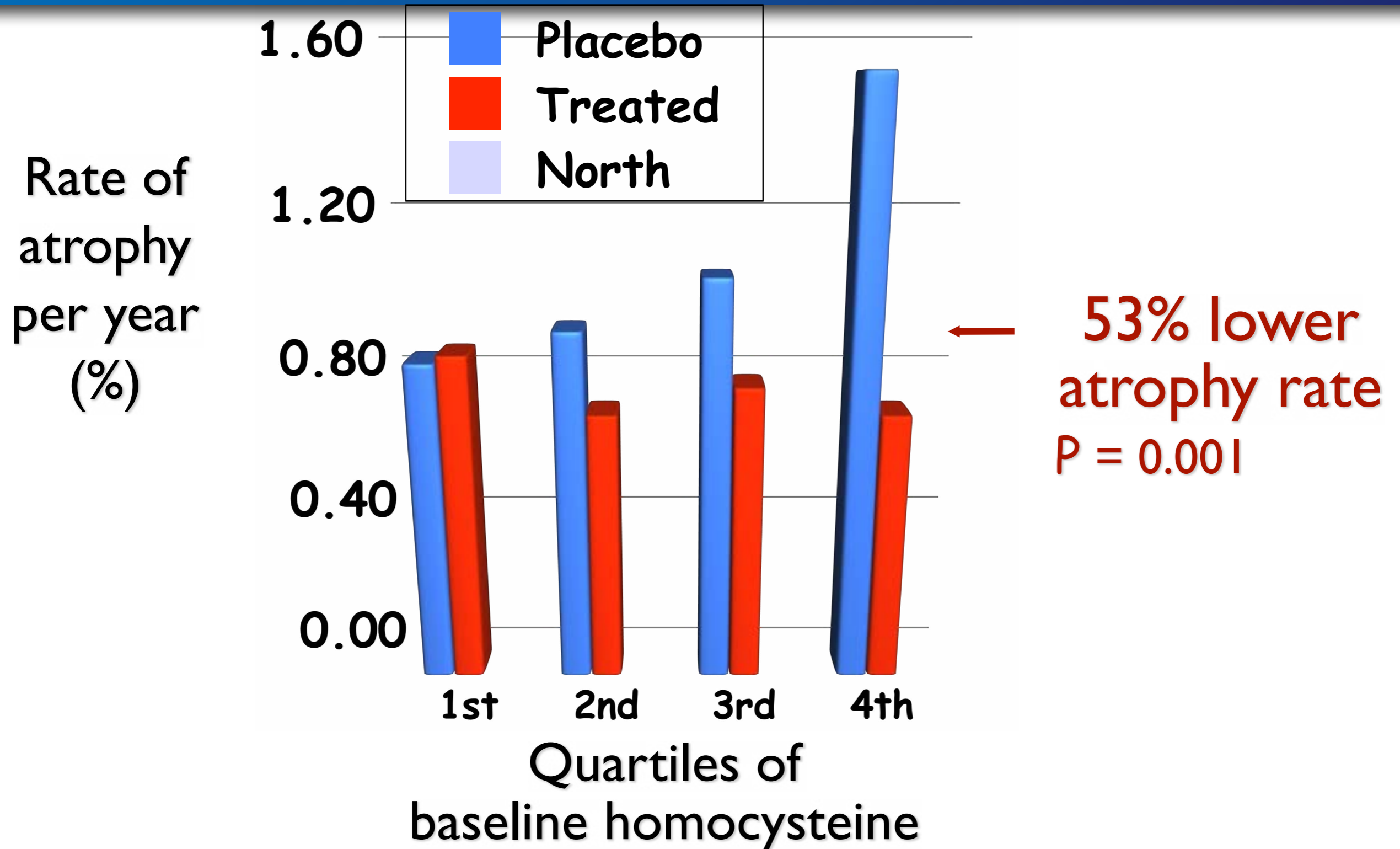
RESULTS: Only doses of 647 to 1032 mcg of B12 were associated with 80% to 90% of the estimated maximum reduction in the plasma methylmalonic acid concentration.

CONCLUSION: The lowest dose of oral B12 required to normalise mild B12 deficiency is more than 250 times greater than the RDA, (2.5µg).

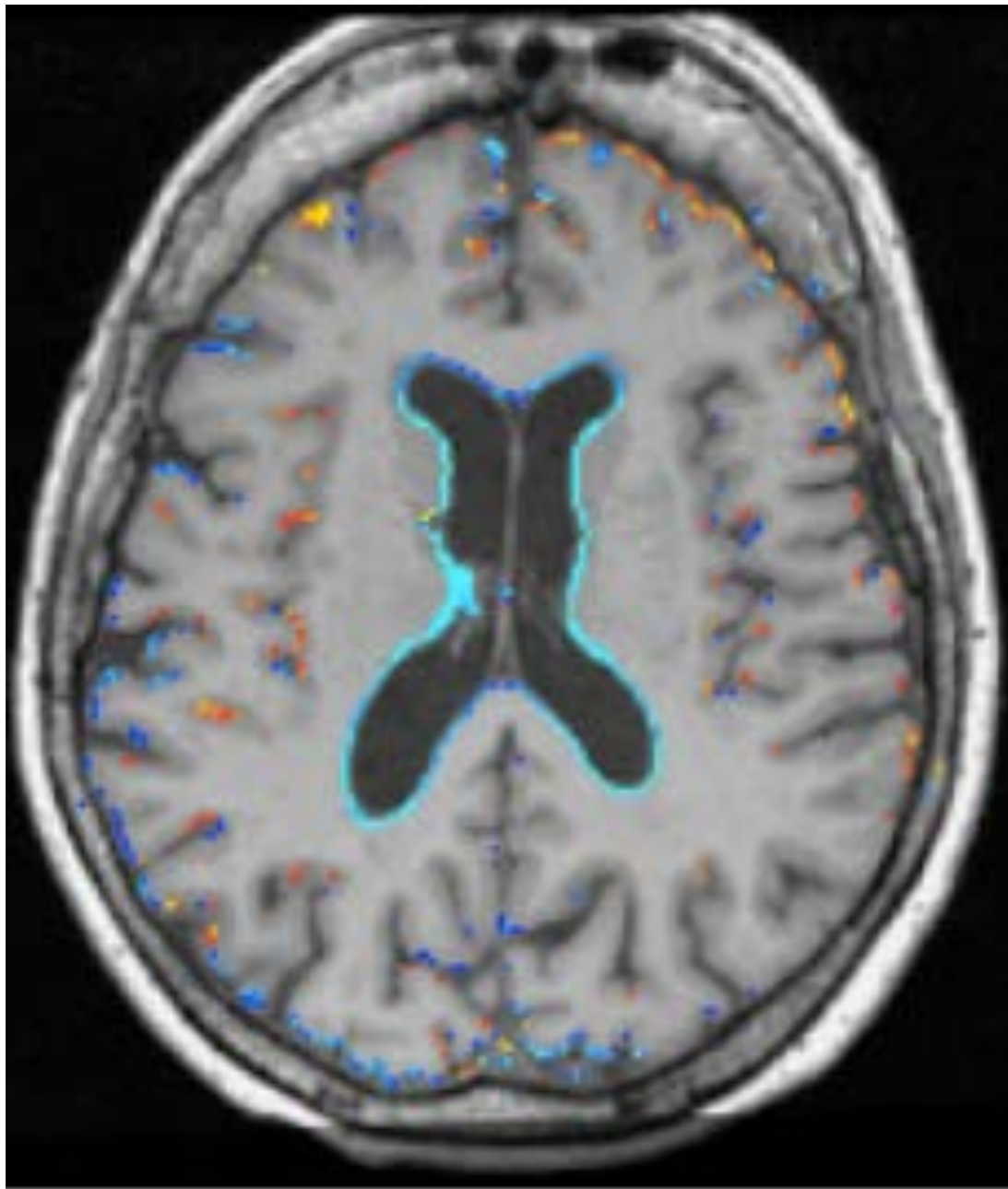


Slowing of atrophy depends on baseline Hcy

AD.Smith et al, PLoS ONE, September 2010 | Volume 5 | Issue 9 | e12244

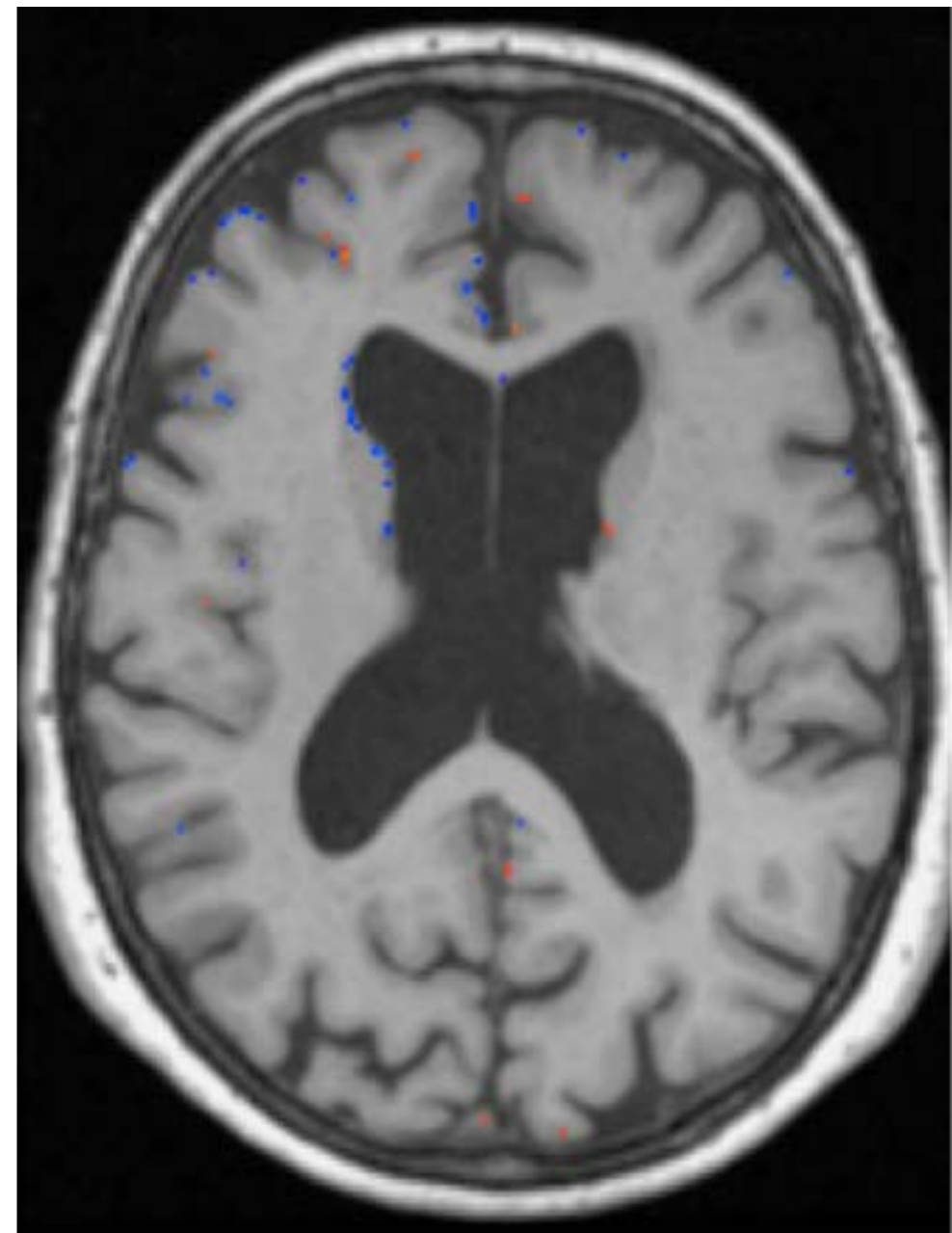


Turquoise blue indicates shrinkage: 0.3 to 1mm



Atrophy 2.5% per y
Placebo

Hcy - up from 22 to 30

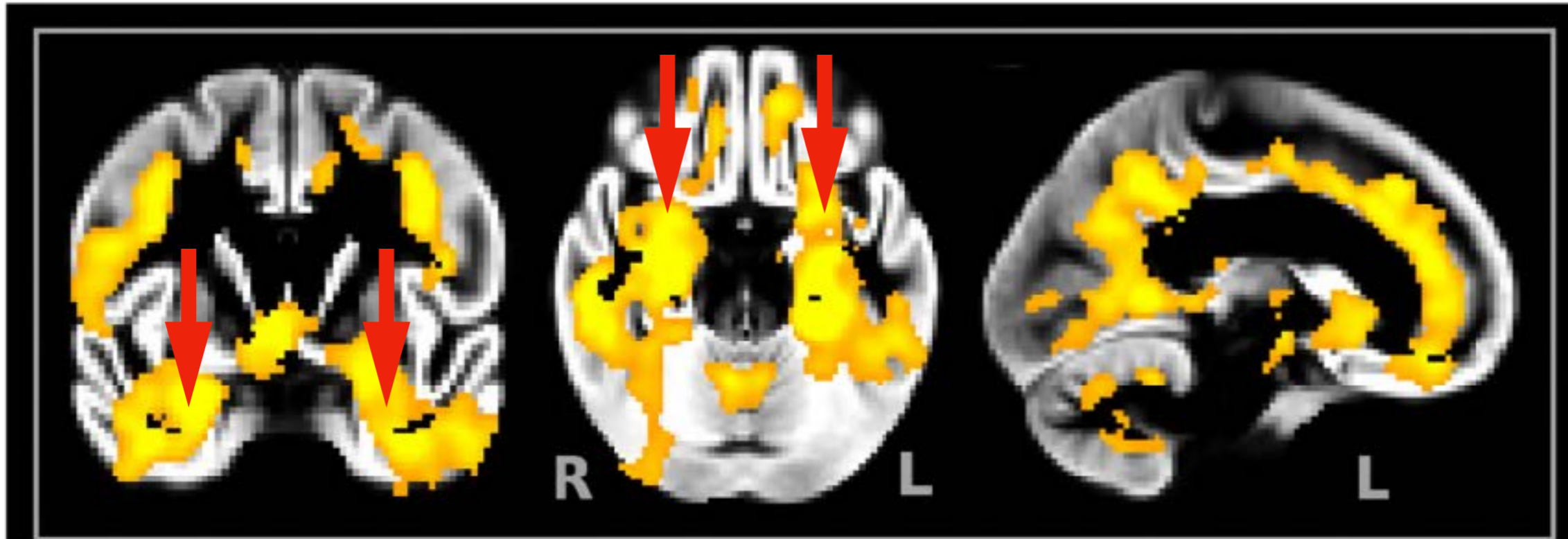


Atrophy 0.46% per y
Active treatment

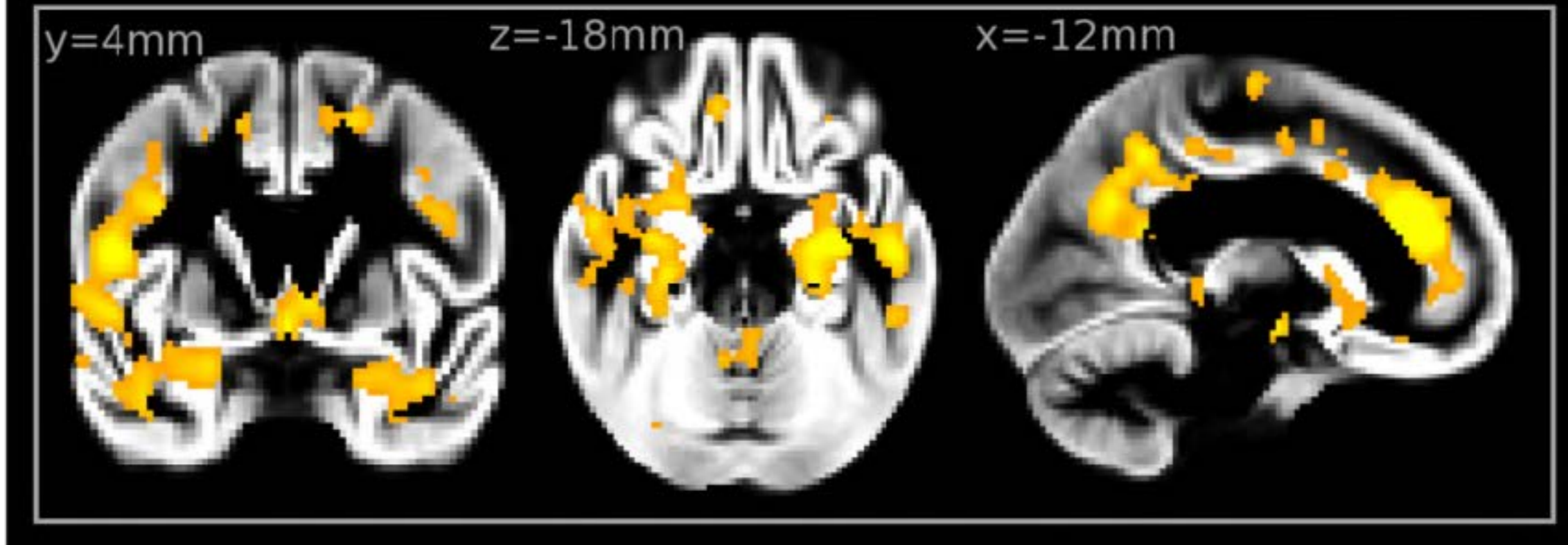
Hcy - down from 24 to 12

Almost 9 times less shrinkage in AD areas

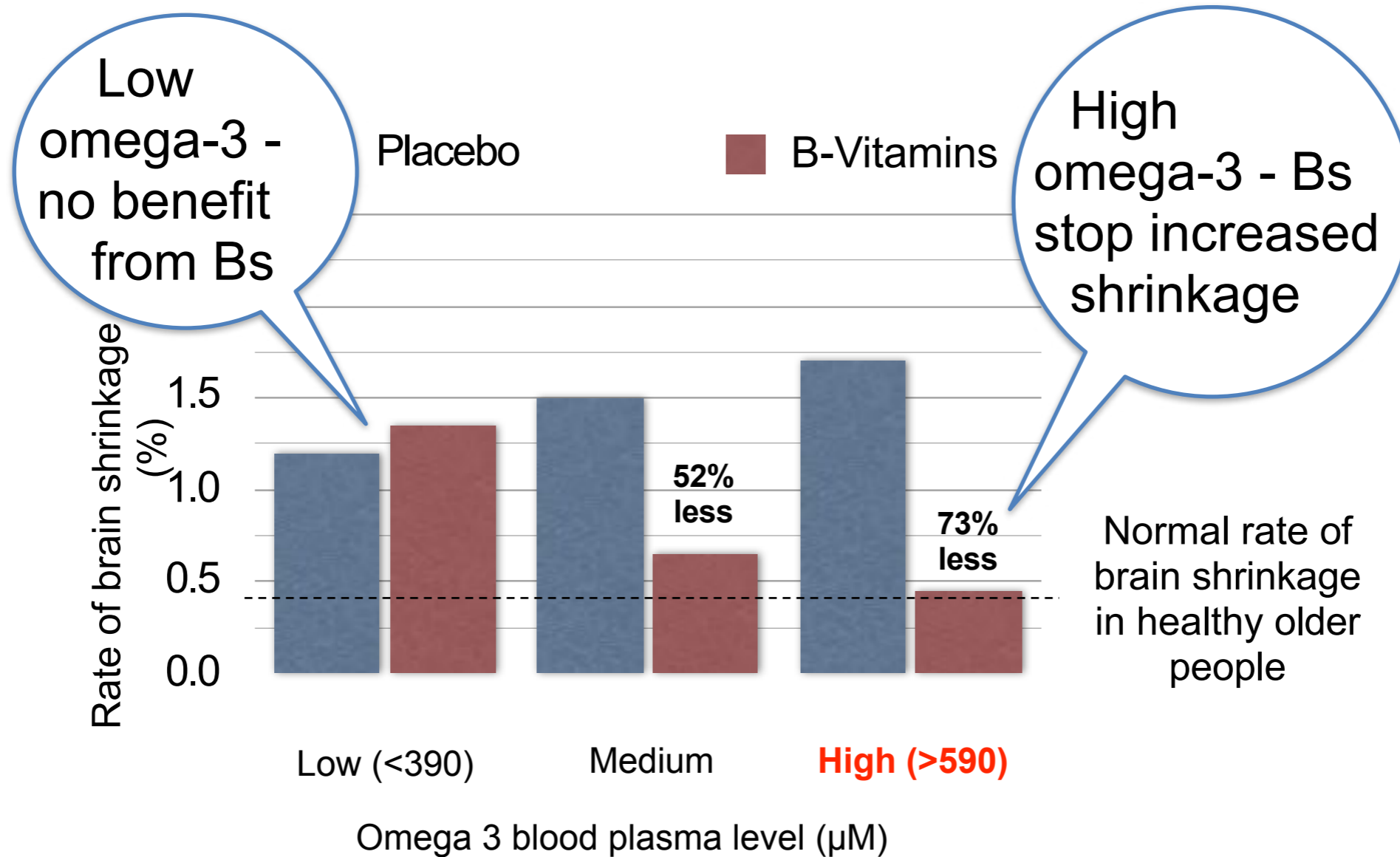
Placebo
group



B vitamin
group

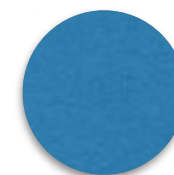






Used and adapted with permission of Prof. David Smith, University of Oxford

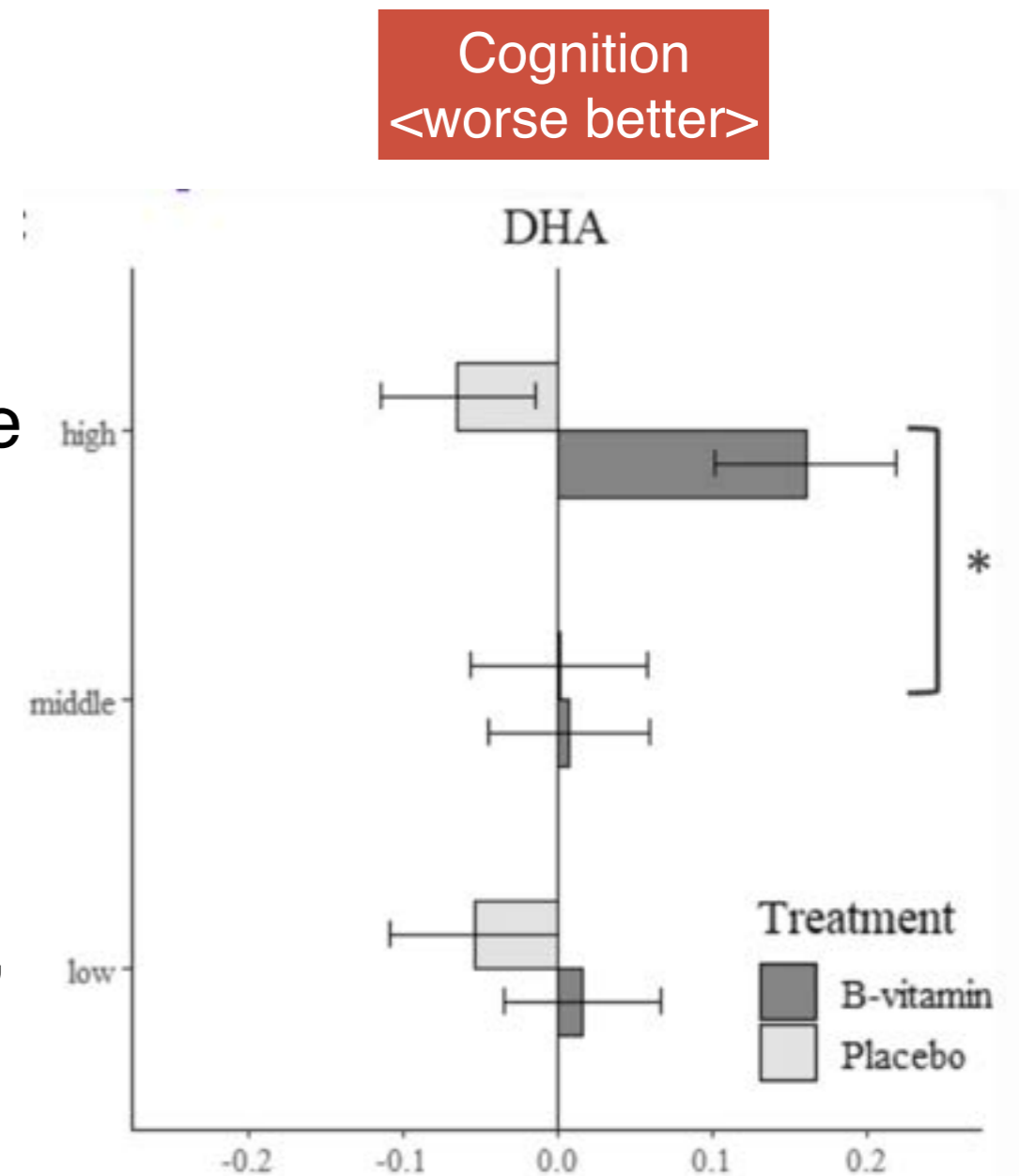
Rate of brain shrinkage reduced by 73% who started with a high omega-3 level, no further cognitive decline and 30% end the trial with a clinical dementia rating of zero.



B-Proof reanalysis DHA+B works

van Soest, A. et al 'post-hoc analysis of the B-proof trial'. Eur J Nutr (2022).

- ▶ This finding led another trial called B-proof that had tested the effects of B vitamins on cognitive function in adults over 65 with high homocysteine and found only modest reduction in the rate of decline of global cognition – to test the omega-3 status of the participants from frozen blood samples they had taken at the start of the trial to investigate whether those with higher omega-3 blood levels had more improvement in cognition. They did. Or more specifically, those in the top tertile for DHA had a significantly greater improvement in cognition.



Importance of B vitamin status for beneficial effect of omega-3 fatty acids in Alzheimer's disease

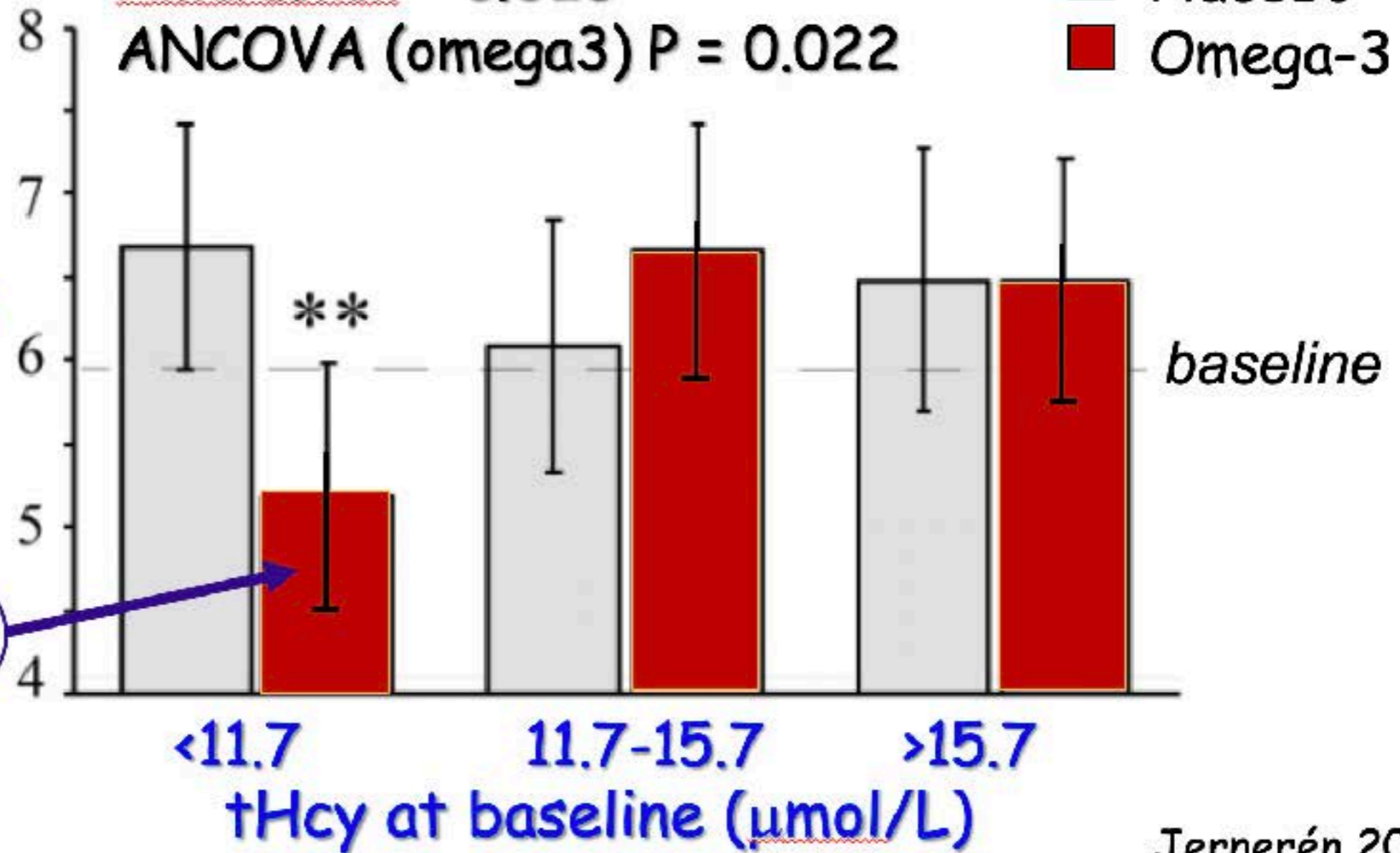
OmegAD trial: omega-3 treatment for 6 months

Pinteraction = 0.023

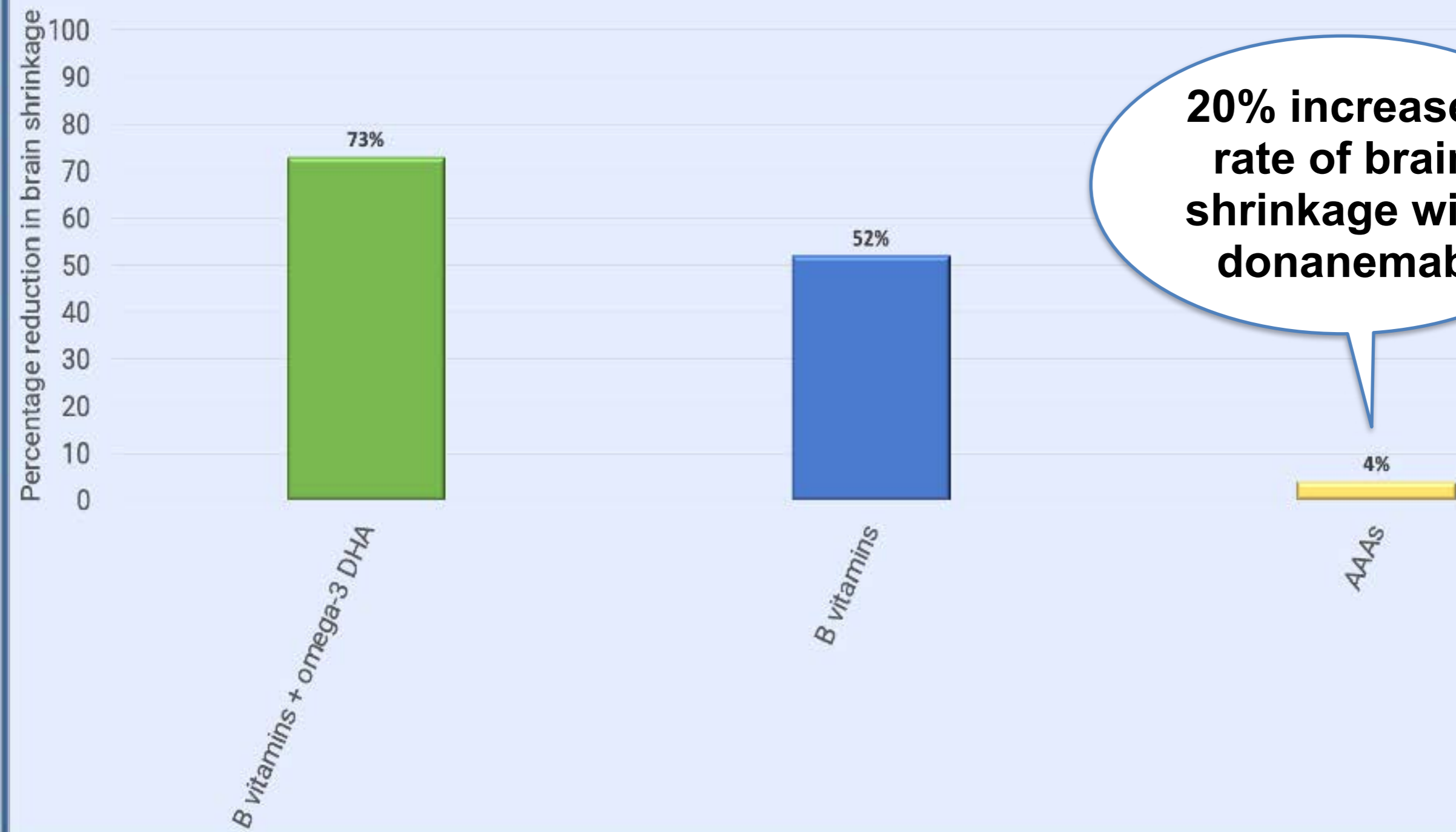
ANCOVA (omega3) P = 0.022

□ Placebo
■ Omega-3

Clinical dementia rating score (CDR_{sob})

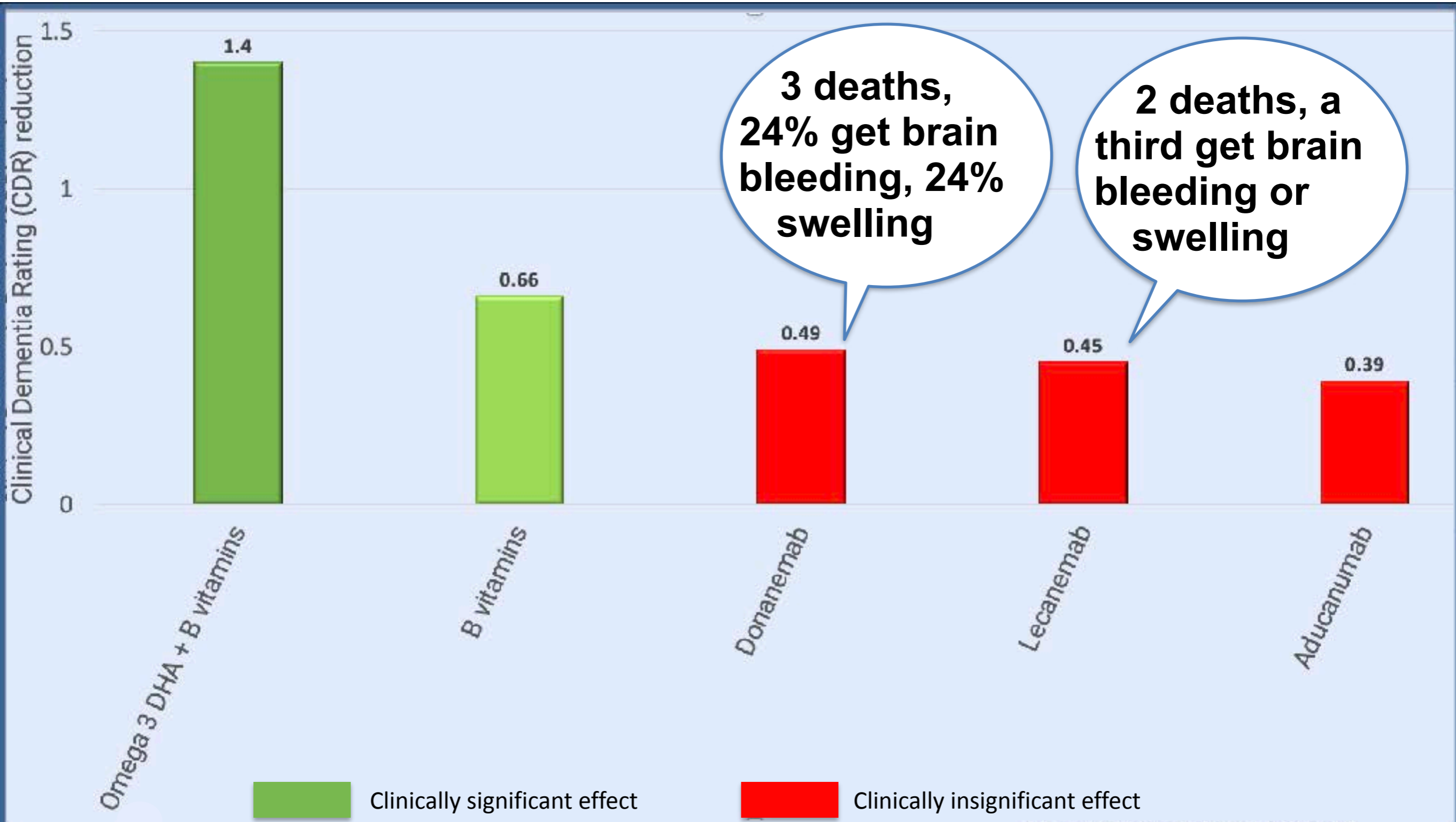


Jernerén 2019



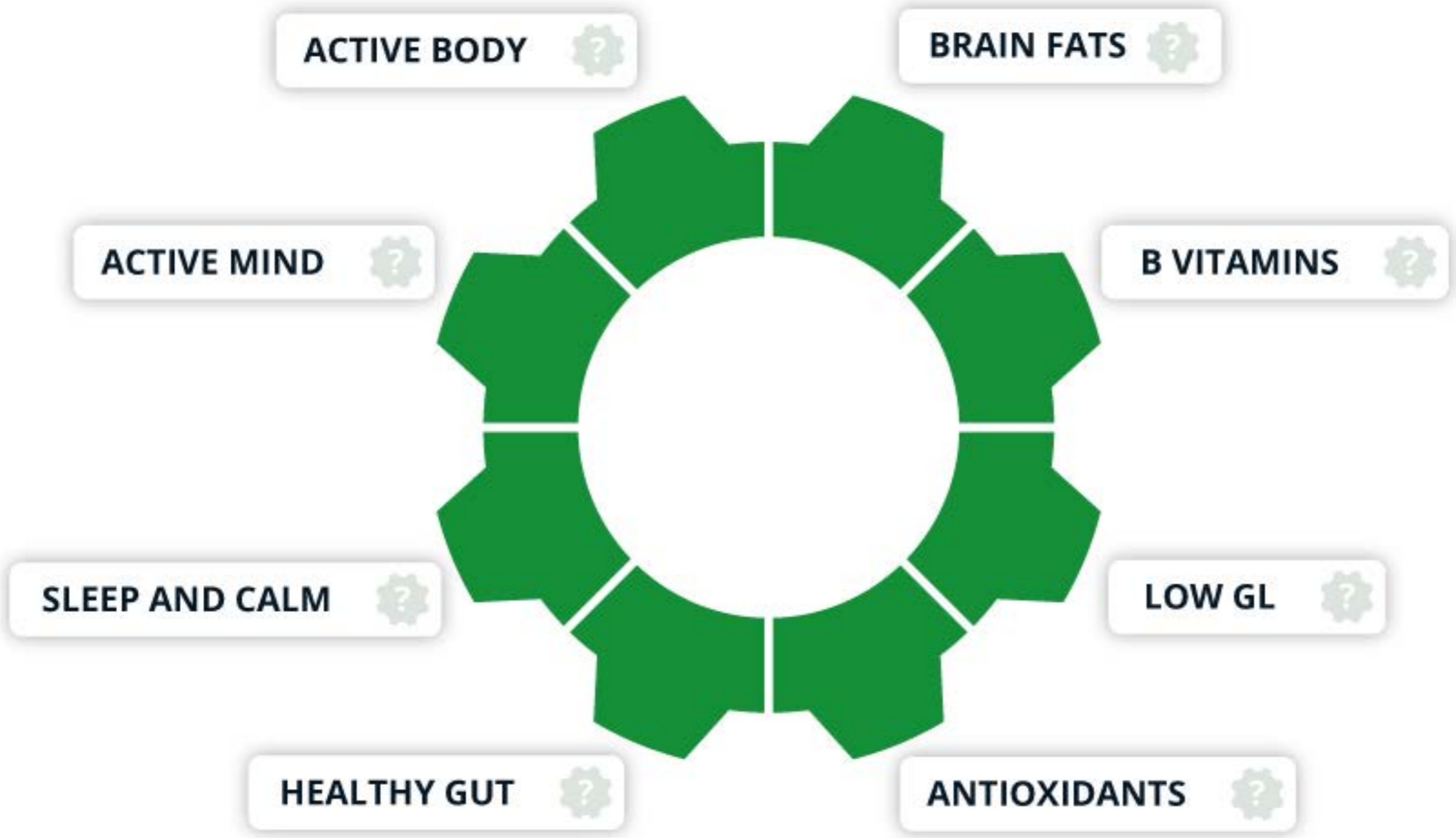
Reduction in brain shrinkage B vitamins and omega 3 vs AAAs.

Sources: Jerneren F, Elshorbagy AK, Oulhaj A, et al. Am J Clin Nutr. 2015 Jul;102(1):215-21; Schwarz AJ, Sundell KL, Charil A, et al. Alzheimers Dement (N Y). 2019 Jul 30;5:328-337; Smith AD, Smith SM, de Jager CA, et al. PLoS One. 2010;5(9):e12244.



Clinical Dementia Rating (CDR sob) reduction from B vitamins, Omega-3 and anti-amyloid drugs

Sources: Oulhaj A, Jerneren F, Refsum H, et al. J Alzheimers Dis. 2016;50(2):547-57; Van Dyke C N Engl J Med 2023 Jan 5;388(1):9-21; Tampi RR, Forester BP, Agronin M. Drugs Context. 2021 Oct 4;10:2021-7-3; Jerneren F, Cederholm T, Refsum H, et al. J Alzheimers Dis. 2019;69(1):189-197.



COGNITION[®]



UPGRADE
YOUR BRAIN

FUNCTION SCORE



Best result showed that you performed at or above the norm for your age. This is showing the early cognitive function problems that that can be a symptom of future Alzheimers disease. To find out more about what your score means see [Interpreting Test Results](#) and [Frequently Asked Questions](#).

YOUR RISK FACTORS

Please click on the question mark to find out more for each domain result.



LOW RISK SMALL SIGNIFICANT HIGH RISK

Interactive, personalised things to read, watch, do, report back
14 emails
12 whatsapp/text reminders
Facebook group
Zoom groups
Positive feedback

foodforthebrain.org

FOOD FOR THE BRAIN

See **COGNITION**[®] benefits

UPGRADE YOUR BRAIN

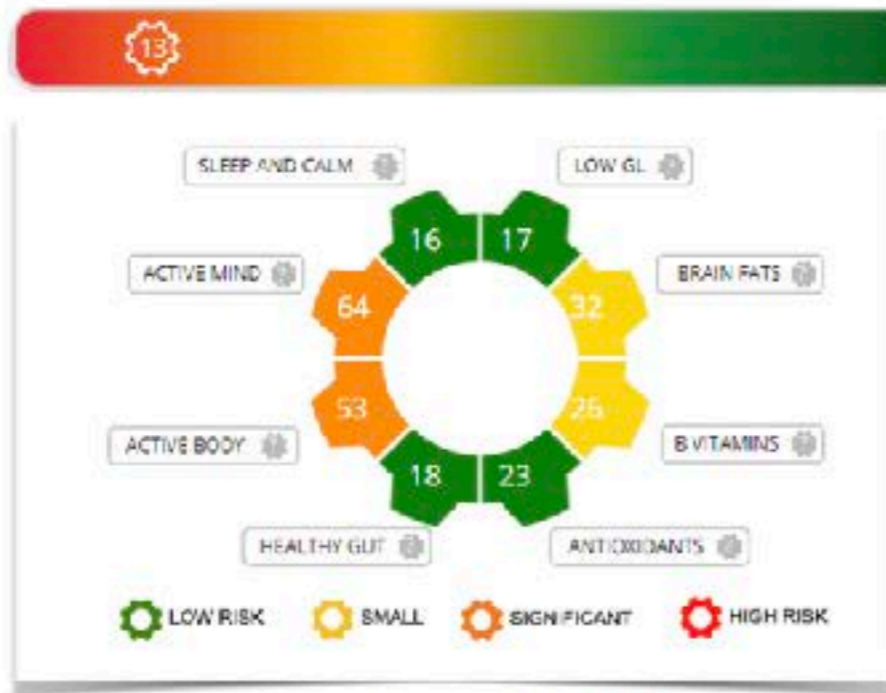
Name: Nodge

BEFORE 15th December

AFTER 14th March

YOUR COGNITIVE FUNCTION SCORE

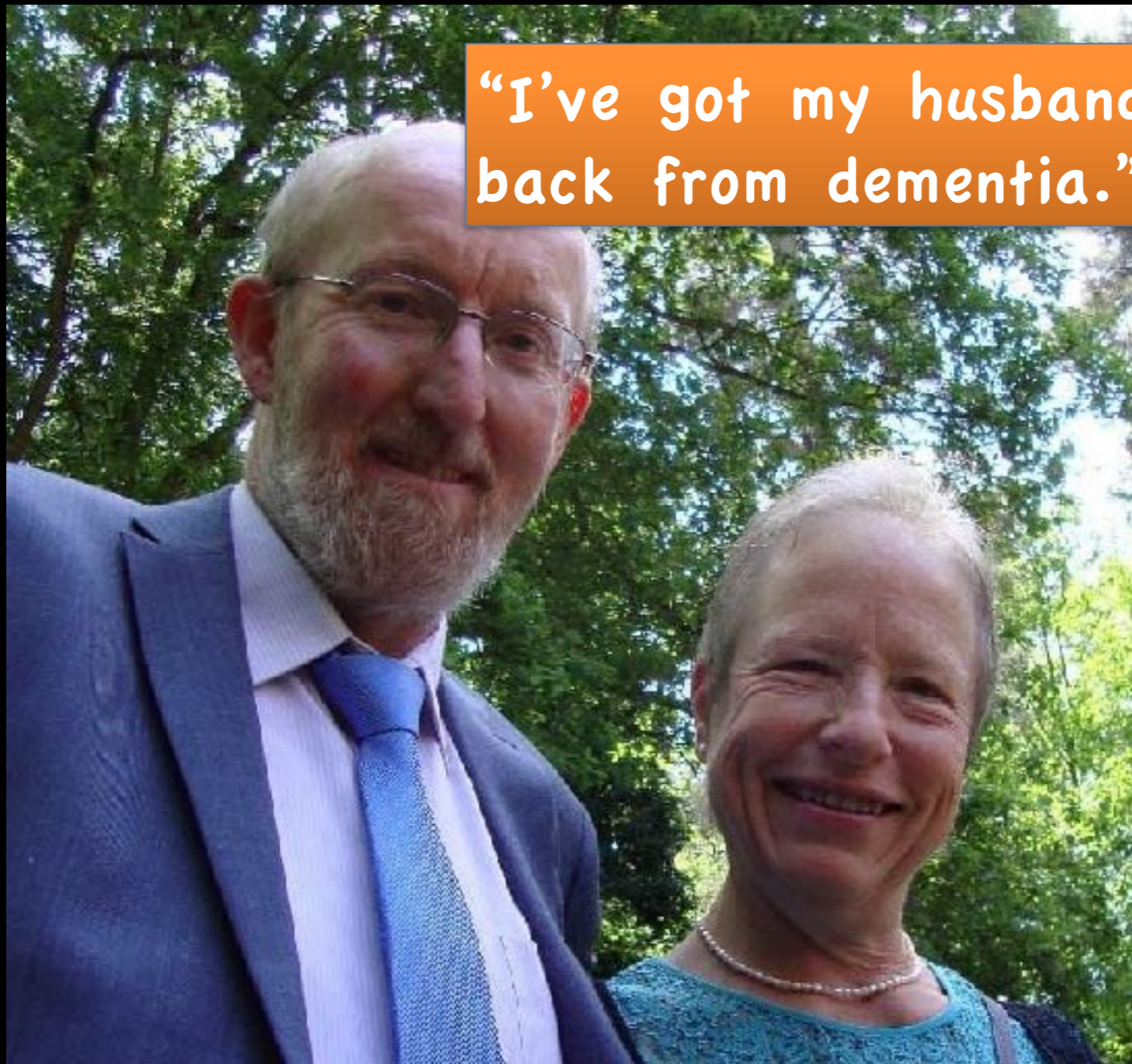
YOUR COGNITIVE FUNCTION SCORE



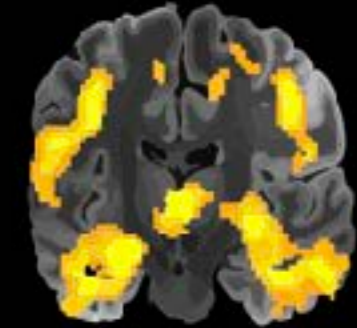
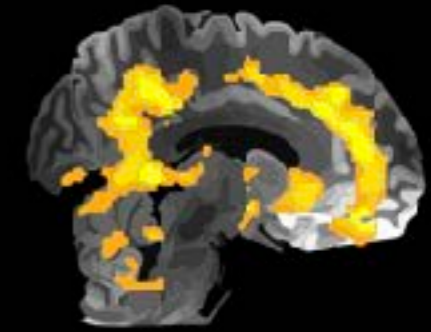
YOUR DEMENTIA RISK INDEX

YOUR DEMENTIA RISK INDEX



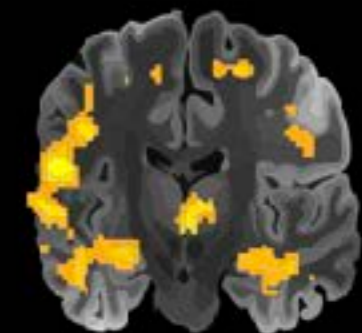


“I’ve got my husband back from dementia.”



PLACEBO


YELLOW = BRAIN SHRINKAGE OVER 1 YEAR



VITAMIN TREATMENT

“I’ve got my husband back from dementia”

FOOD FOR THE BRAIN

 Take the Cognitive Function Test

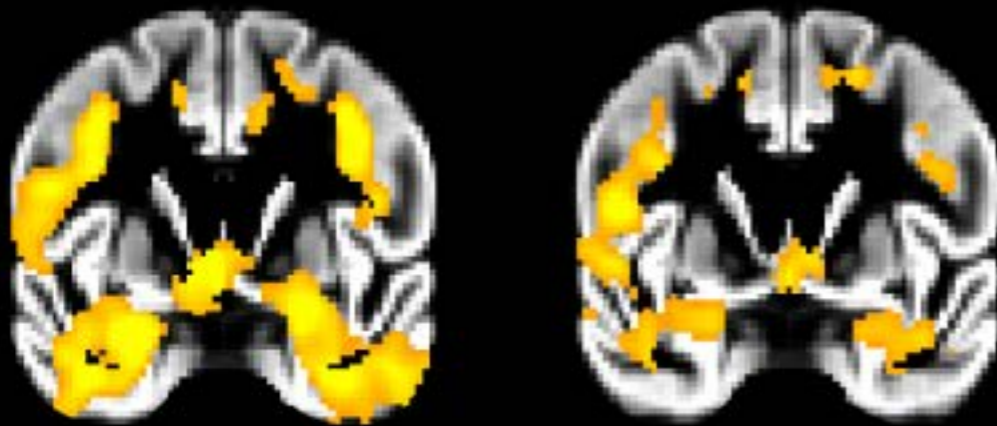
@

foodforthebrain.org

Registered Charity No. 1116438

Alzheimer's is PREVENTABLE

A MANIFESTO FOR CHANGE



PLACEBO

VITAMIN TREATMENT

yellow = brain shrinkage over 1 year



1% OF ALZHEIMER'S IS 'IN THE GENES'

Identify your risk

Protect your brain

Become a Friend of Food for the Brain

By becoming a **Friend** you support the charity and get access to an array of tools and resources to help you take control of your brain health:

COG-NITION® – Your personalised, interactive brain upgrade app (your free 1 year subscription will start on launch on November 1st)

MY LIBRARY – A growing library of health reports and filmed interviews with experts in mental health

PAST WEBINARS – A growing library of past webinars with world class pioneers

FRIEND'S FACEBOOK GROUP – Where you can ask questions, share experiences with others, find out what works

foodforthebrain.org/friend

Do Nutrition for Brain Health

Masterclass on 1st November! REGISTER NOW >

Nutrition Information by Condition >

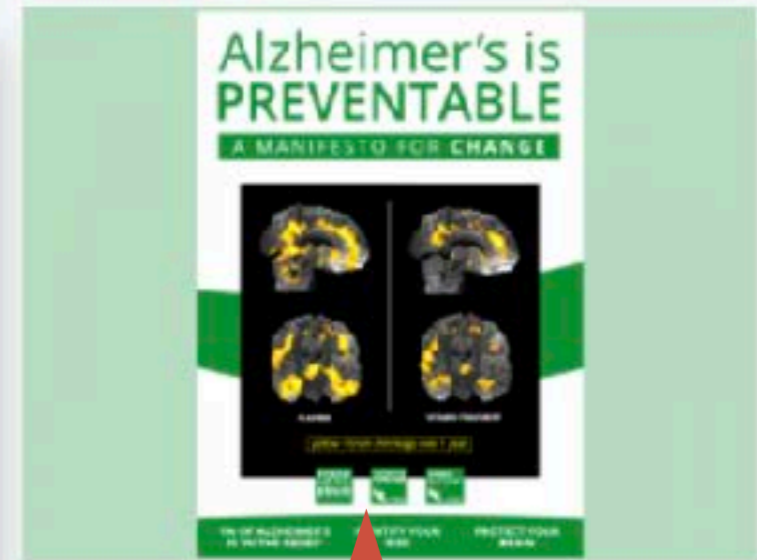
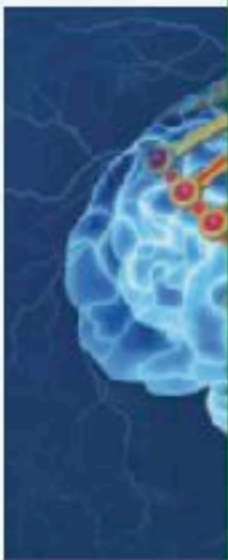
Nutrition Information by Life Stage >

Risk Factors >

Brain Nutrients A-Z

Seeking Help

Preventing Alzheimer's ←



Myths about Alzheimer's

from amyloid drugs to genes



8 Ways to Upgrade Your Brain

Watch this film



Our Manifesto for Change

Download and read



↓ 3 films - how to build, fuel and protect your brain ↓

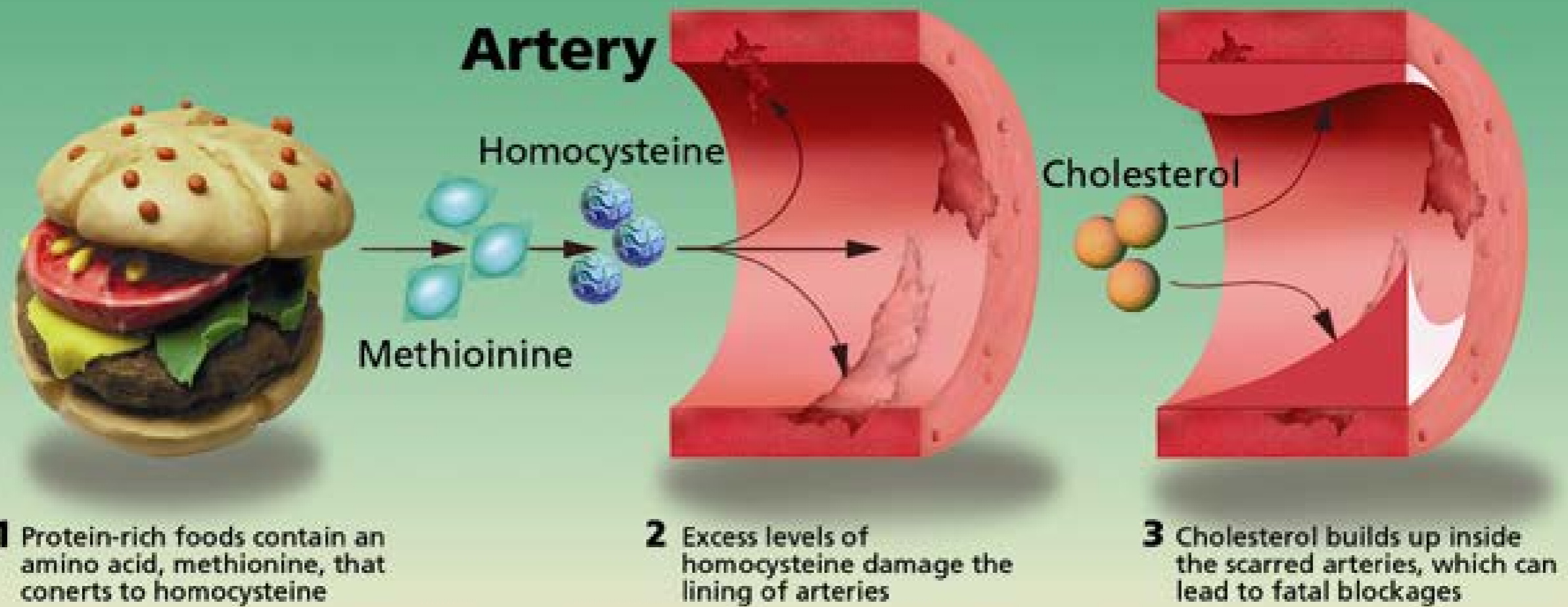
Homocysteine lowering nutrients



H SCORE	VERY LOW	LOW RISK	AT RISK	HIGH RISK
	<7	7-9	10-15	>15
Dose per day		1	2	3
Folic acid	200µg	400µg	500µg	800µg
MethylB12	10µg	250µg	500µg	750µg
B6	10mg	20mg	40mg	60mg
Zinc	5mg	10mg	15mg	20mg
TMG		500mg	1000mg	1500mg
NAC		250mg	500mg	750mg

Halve this if using MTHF





3 in 4 heart attack patients don't have high cholesterol.

Two thirds of heart attacks in the elderly are predicted by high homocysteine.

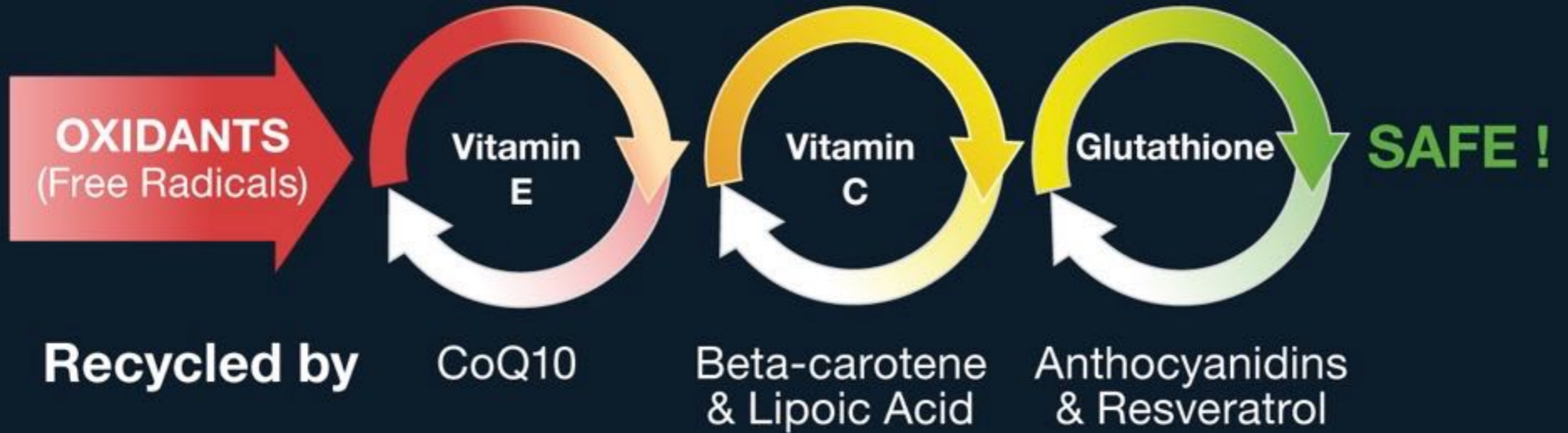


7 key processes

- ? Glycation - sugars, soluble fibres
- ? Lipidation - EFAs, phospholipids, VitD
- ? Methylation - B vitamins etc
- ? **Oxidation - antioxidants/polyphenols**
- ? Hydration - water
- ? Digestion - enzymes, probiotics, fibres etc
- ? Communication - hormones, neurotransmitters, cytokines & inflammation



Antioxidants are team players



CAROTENOIDS

Isopenoid Derivatives

FLAVONOIDS

Benzopyran Derivatives

CHLOROPHYLL

Tetrapyrrole Derivatives

BETATAINE

Betacyanin Derivatives

ANTHOXANTHINS

ANTHOCYANDINS

PROANTHOCYANDINS



7+servings of fruit & veg halves

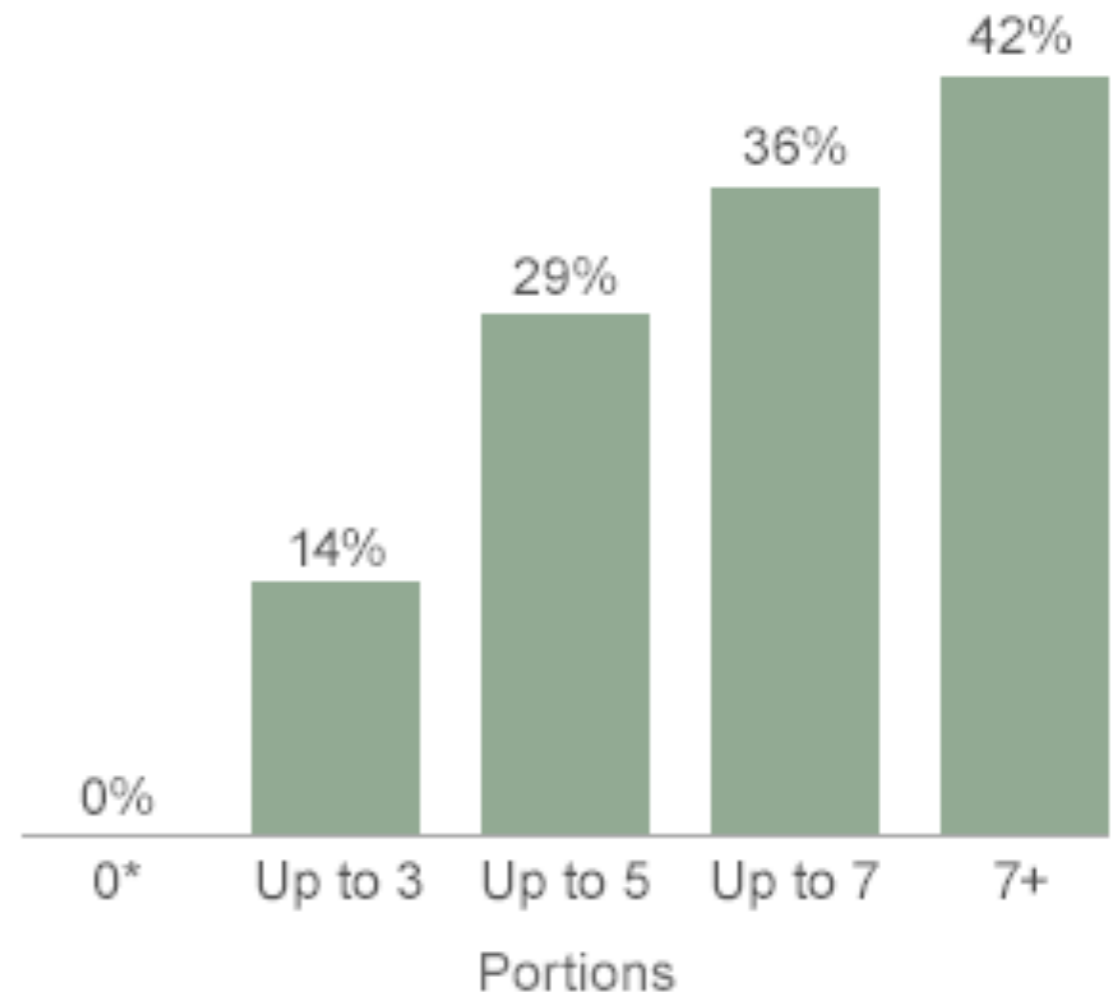


- ▶ Antioxidants
- ▶ Polyphenols
- ▶ B vitamins
- ▶ Low GL sugars/fibres

Fruit juices and canned fruits are not associated with reduction in mortality

How fruit and veg intake reduces risk of death

Percentage decrease



*0 portions = 0%

Source: Journal Epidemiol Community Health



Each of these is 2,000 ORACs



1	1/3 tsp Cinnamon, ground	11	7 Walnut halves
2	1/2tsp Oregano, dried	12	8 Pecan halves
3	1/2tsp Turmeric, ground	13	1/4cup Pistachios
4	1 heaped tsp Mustard	14	1/2cup cooked lentils
5	1/5 cup Blueberries	15	1 cup cooked Kidney beans
6	1/4 cup Cherries or a quarter shot of Cherry Active concentrate	16	1/3 medium Avocado
7	1/2cup Blackcurrants & berries, raspberries, strawberries	17	1/2 cup of red cabbage
8	Half a pear, grapefruit or plum	18	2 cups of broccoli
9	An orange or apple	19	1 medium Artichoke or 8 spears of asparagus
10	4 pieces of dark Chocolate (70% cocoa)	20	1/3 medium glass (150ml) Red Wine



Source: Oxygen Radical Absorbance Capacity of Selected Foods – 2007, US Department of Agriculture



Not just any five a day...



Comparative ORACs for two days' food choices

Day 1

Fruit/vegetable portion ORAC

1/2 large cantaloupe melon	315
1 kiwi fruit	802
1 medium carrot, raw	406
1/2 cup green peas, frozen	432
1 cup spinach, raw	455

Total **2,410**

Day 2

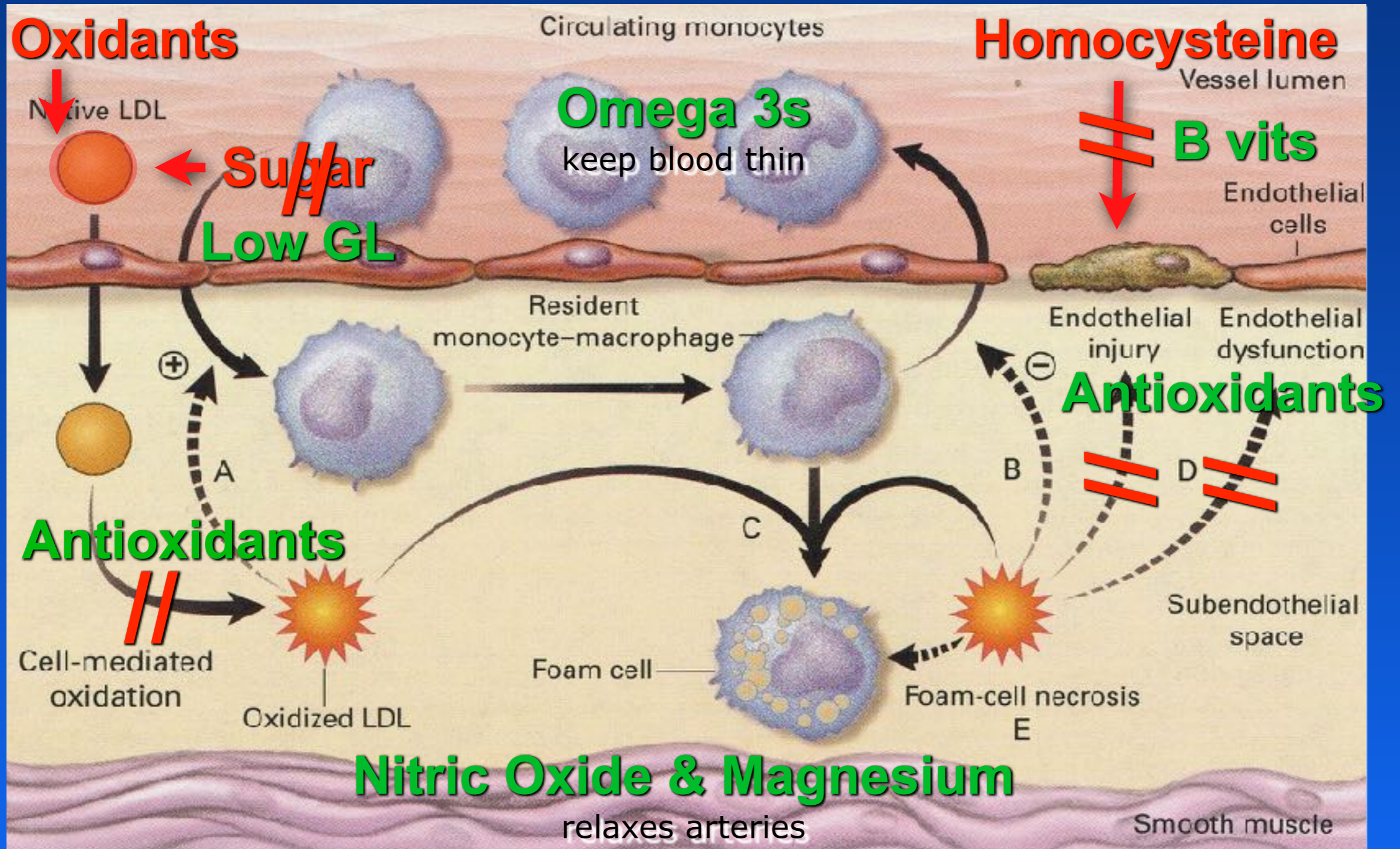
Fruit/vegetable portion ORAC

1/2 pear	2,617
1/2 cup strawberries	2,683
1/2 avocado	2,899
1 cup broccoli florets, raw	1,226
4 spears asparagus, boiled	986

Total **10,411**



The real causes of heart disease



Glycosylated lipoprotein



Luo W et al, J Clin Lab Anal. 2018

- ▶ 200 heart attack patients were investigated for the causes of their heart disease. Conclusion “Hyperlipidemia (cholesterol) is not an important cause of coronary atherosclerosis. High glucose levels and glycosylated lipoprotein are of high importance in the development and progression of coronary atherosclerosis.”
- ▶ Best predictors were level of either glycosylated (sugar damaged) lipoprotein, HDL or LDL, or HBA1C.



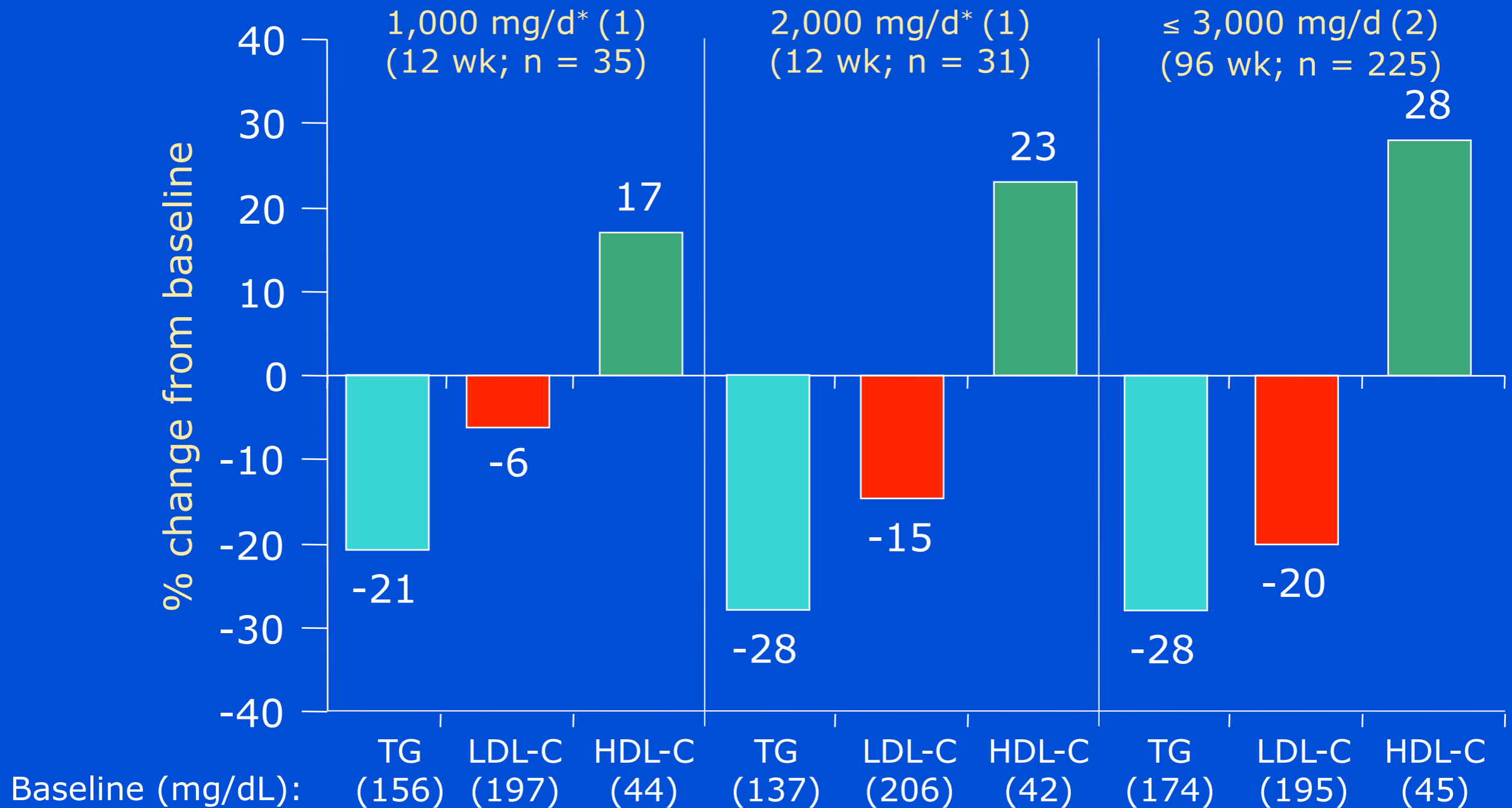
Vitamin C halves heart disease risk



- ▶ Vitamin C is superb at preventing lipid peroxidation. Vitamin C halves HPNE with 1g a day for 17 days.[1] A study on smokers 2g a day, (not vitamin E 800iu) significantly reduced F2-isoprostanes.[2] Another on marathon runners showed that 1g a day lowers F2-isoprostanes.[3]
- ▶ It also helps circulation by protecting Nitric Oxide (NO).
- ▶ Vasodilation becomes almost normal in heart disease patients with 2 grams after 2 hours or with 500mg a day for 30 days.[4]
- ▶ **Meta-analysis of 29 trials show blood pressure drops by 5 points, on average, in those with high blood pressure supplementing 500mg of vitamin C, and by 10 points with 2grams a day.[5]**
- ▶ A study of >85,000 nurses found that those supplementing over 400mg a day for 10 years+ had a 30% reduced risk of developing heart disease.[6]
- ▶ The EPIC study of >19,000 people, **those in the highest fifth for plasma vitamin C had half the risk of premature death[7] and stroke[8]**



Extended-Release Niacin for Treatment of Dyslipidemia



*Significant difference ($P < 0.001$) between dosage groups.

1. Morgan JM et al. *Am J Cardiol* 1998;82(12A):29U-34U

2. Capuzzi DM et al. *Am J Cardiol* 1998;82(12A):74U-81U

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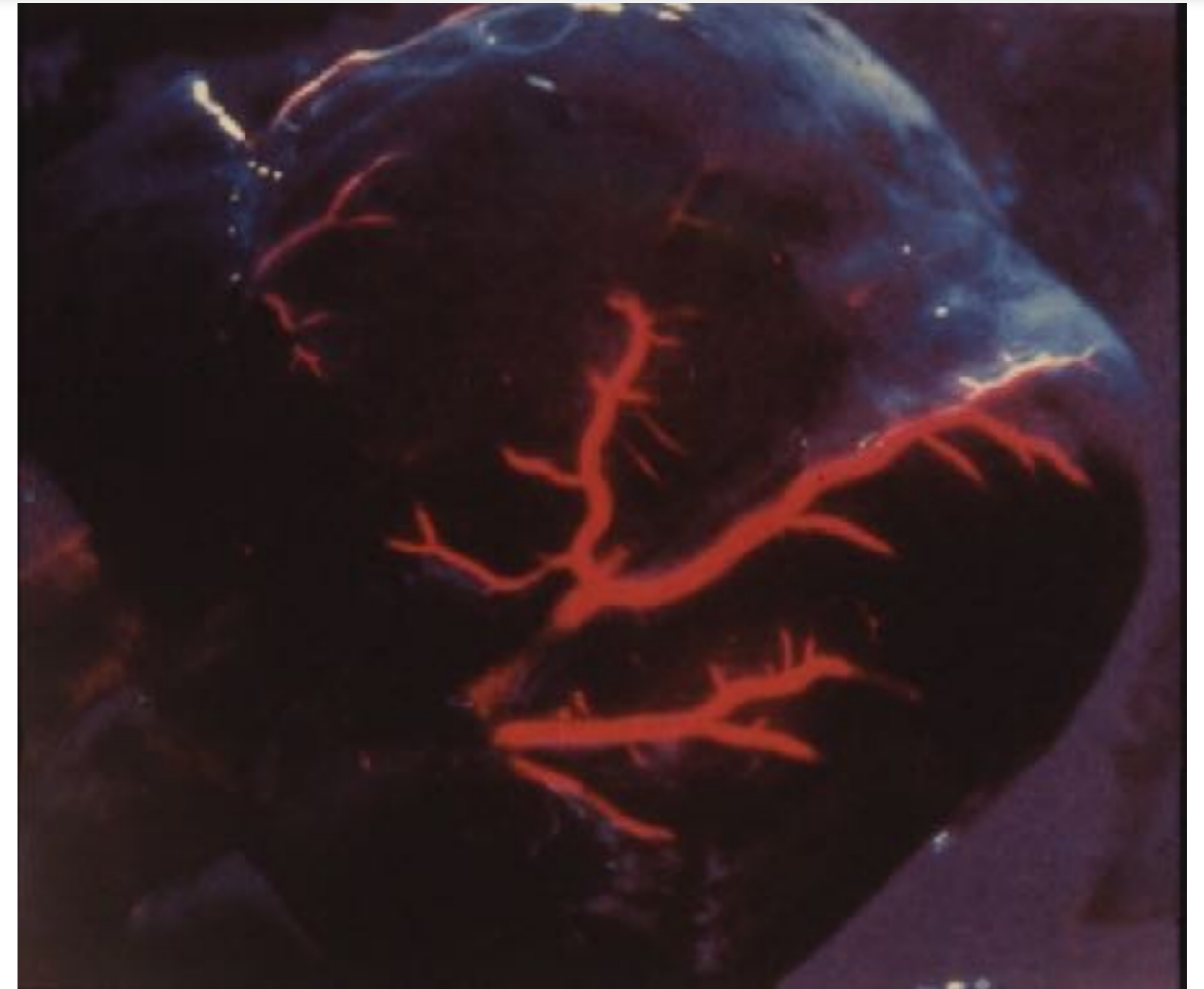
Lipids Online Slide Library

www.lipidsonline.org

CoQ+carnitine for heart & brain



- ▶ More than half of your heart's energy comes from fat.
- ▶ Carnitine 'feeds' fats to the heart and brain
- ▶ Propionyl-L-carnitine (PLC) best for the heart
- ▶ L-carnitine & acetyl-L-carnitine (ALC) best for brain
- ▶ CoQ10 is highly synergistic - the best antioxidant for heart, and blocked by statins



Product information per daily intake (2 Capsules)

	Amount
Acetyl-L-carnitine	107mg
L-Carnitine	167mg
Propionyl-L-carnitine	167mg
Coenzyme Q10	60mg



The magic of Magnesium



- ▶ It lowers high blood pressure by about 10%
- ▶ It lowers cholesterol, triglycerides and glucose
- ▶ It reduces carotid artery thickness
- ▶ It is a natural diuretic
- ▶ Most people are deficient in it - think greens & seeds
- ▶ For diabetes, hypertension or cardiovascular disease supplement 300mg a day

“Magnesium supplementation can produce a favourable effect on fasting glucose, HDL, LDL, triglycerides and blood pressure. Therefore, magnesium supplementation may decrease the risk T2D associated cardiovascular diseases.” Versa, H J Hum Nutr Diet. 2017 -/28150351



The Earth
receives
50,000
lightning
strikes a day



This is free energy - a powerful antioxidant

It nitrogenises the soil. Things grow, and we feel, better.



Say YES to NO (nitric oxide)



- ▶ 78% of air is nitrogen
- ▶ The amino acid **arginine** is essential to 'store' nitrogen as NITRIC OXIDE (NO)
- ▶ NO lowers blood pressure
- ▶ Improves cardiovascular function
- ▶ Reduces risk for heart disease and stroke
- ▶ Reduces the risk of cancer
- ▶ Enhances sexual performance and enjoyment in both men and women



How to boost NO



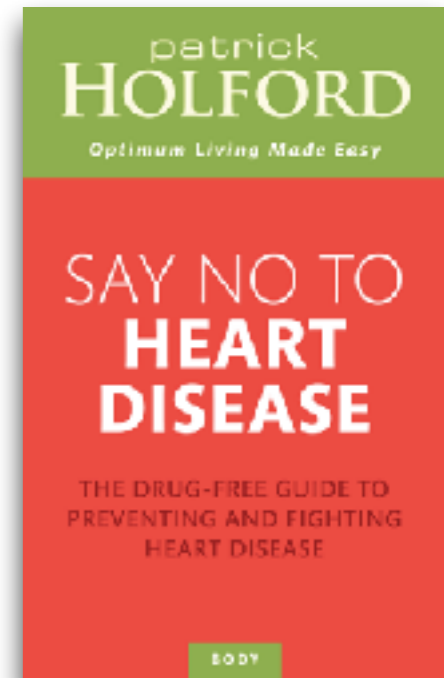
- ▶ Eat beetroot, green leafy vegetables, celery and radishes
- ▶ Have a daily shot of Beet Active (beetroot juice concentrate)
- ▶ Supplement 2-3 grams of arginine and 500mg of citrulline
- ▶ Supplement an antioxidant complex including vitamins C, E, Co-Q and ALA.



Action for Heart Disease prevention



- ▶ Eat a low-GL diet, with plenty of beans, lentils, nuts and seeds, oats, chia and flax seeds, which are high in soluble fibre.
- ▶ Eat oily fish at least three times a week, and omega-3 rich walnuts, flax or chia seeds. These are all also high in magnesium.
- ▶ Avoid salt. Eat lots of fruits, vegetables, beetroot, spices, herbs.
- ▶ Exercise is also essential. So is reducing stress.
- ▶ Bring your homocysteine level below 7 by supplementing a high-dose B vitamin formula designed to lower homocysteine.
- ▶ If you have high blood pressure or heart disease, make sure you are supplementing at least 300mg of **magnesium** a day. Consider arginine 2g.
- ▶ If you have a high cholesterol/lowHDL, take **non-blush niacin** 1,000mg p.d
- ▶ If you are on statins, supplement at least 90mg of **CoQ10**. If you have heart problems supplement at least 90mg **CoQ10 together with carnitine**.



Supplements for heart disease



Vitamin C - 2,000 mg
Magnesium - 155mg



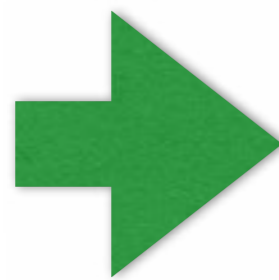
Omega-3—1,400 mg
(EPA+DHA- 575mg)



Vitamin E (261iu)
Selenium 80µg
Glutathione 50mg -
Resveratrol 20mg -
Alpha Lipoic Acid 10mg -
Coenzyme Q10 10mg -
Beta Carotene

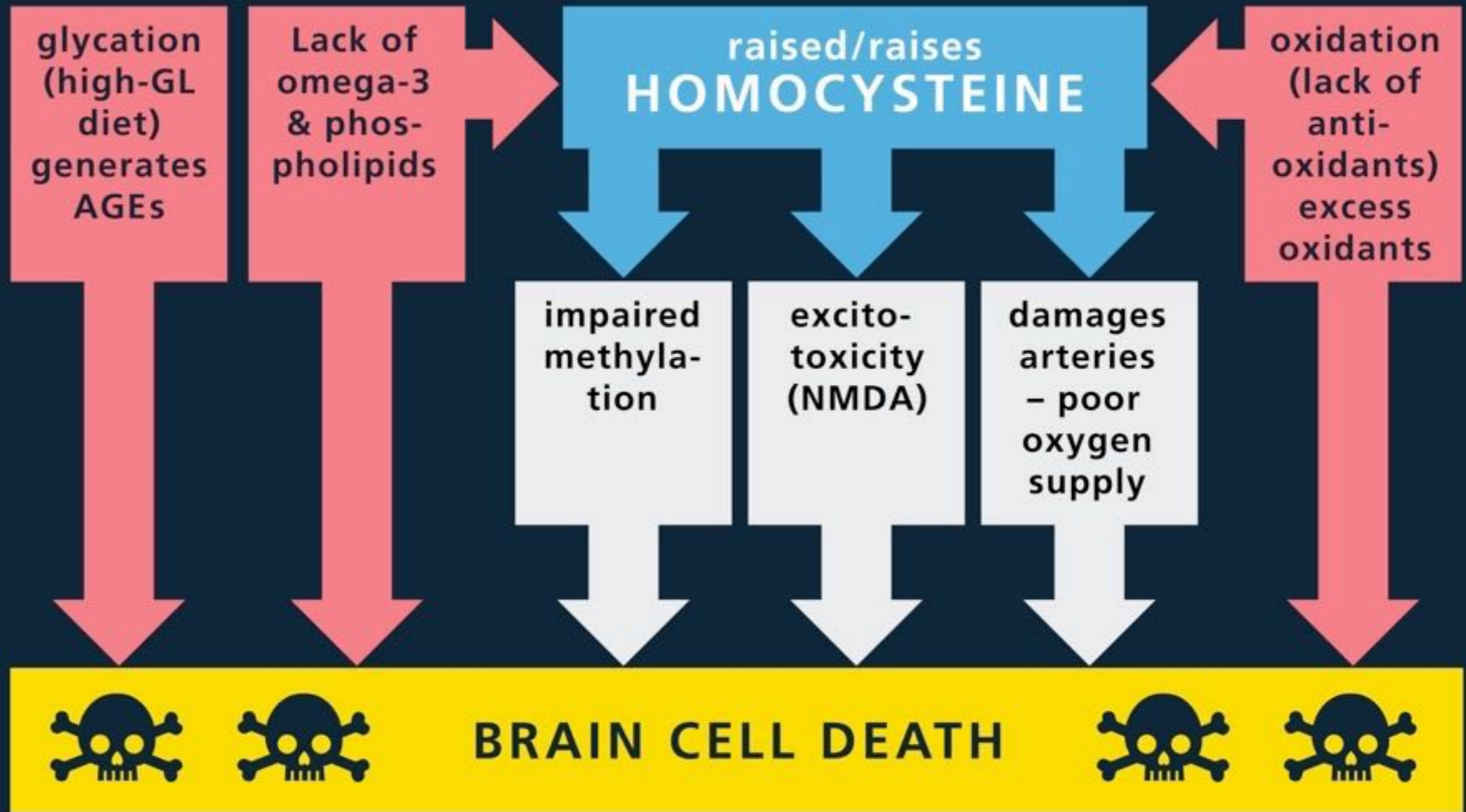


Omega-3—1,150 mg
(EPA+DHA- 450mg)



Vitamin C -490mg - 2,445mg
Magnesium - 290mg - 445mg
Niacin - 1,000mg

The real causes of Alzheimer's



Metabolic syndrome and dementia



J. A. Luchsinger, et al., *Neurology*, 2004; A. M. Abbatecola, et al. *Journal of American Geriatric Society*, 2004;; W. L. Xu, et al., *Neurology*, 2004;. Yaffe, K, et al., *Archives of Neurology*, 2009

- ▶ Researchers at Columbia University, New York found that twice as many people with high insulin levels developed dementia. People with high insulin had the worst memory.
- ▶ An Italian study of people free from dementia and diabetes showed that high insulin levels were strongly associated with poorer mental function.
- ▶ A six-year Swedish study showed that those with diabetes were 1.5 times more likely to develop dementia.
- ▶ Researchers at the University of California found postmenopausal women with HbA1C levels above 7 per were four times more likely to develop dementia.



Omega 3, DHA & Alzheimer's disease

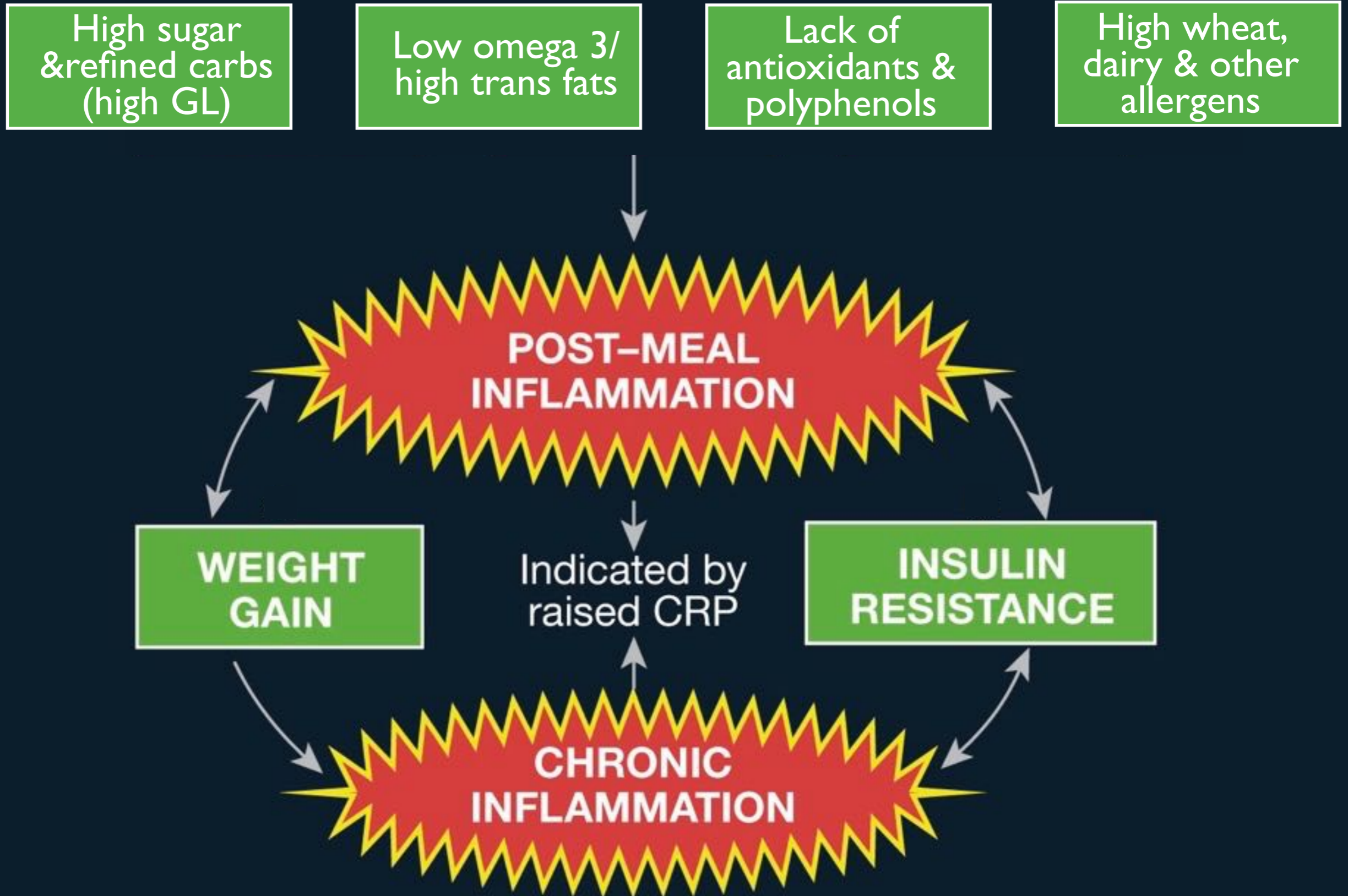


M.Morris Arch. Neurol 2003; K.Yurko-Mauro, Alz.Dem. 2010: AJCN 2013; Witte, Cortex, 2013

- ▶ **Eating fish once a week reduces risk of developing AD by 60%.** The strongest link was the amount of DHA.
- ▶ A study giving elderly with memory decline **900mg of DHA for 24 weeks versus placebo found a significant improvement in memory**, but not in those already with Alzheimer's disease.
- ▶ A study giving adults who didn't eat much fish found **memory improvements after 6 months taking DHA 1,160mg a day**
- ▶ **A study in healthy 50-75 year olds found beneficial structural changes and improved function after 26 weeks on fish oils.**



INFLAMMATION is promoted by:



7 key processes

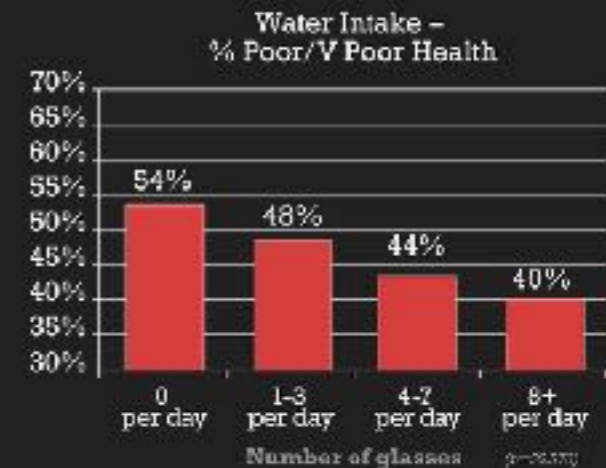
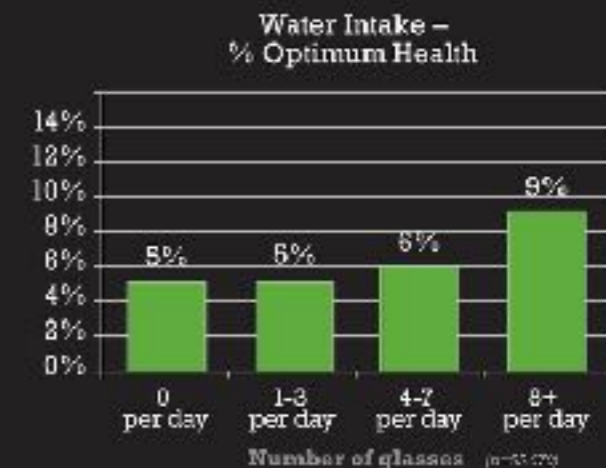
- ? Glycation - sugars, soluble fibres
- ? Lipidation - EFAs, phospholipids, VitD
- ? Methylation - B vitamins etc
- ? Oxidation - antioxidants/polyphenols
- ? **Hydration - water**
- ? Digestion - enzymes, probiotics, fibres etc
- ? Communication - hormones, neurotransmitters, cytokines & inflammation



The Importance of Water



- ▶ Two-thirds of your body is water. Your brain is about 85 per cent water, whereas muscles are 75 per cent, and even bone is 22 per cent.
- ▶ In a normal day, drink around 2 litres (3 1/2 pints) – eight glasses – of water, including hot drinks
- ▶ Start by drinking a glass of fresh water when you get up in the morning.
- ▶ Drink good quality water - use a water filter
- ▶ Spring water is not the same as mineral water



Those who drink eight glasses of water a day are twice as likely to be in optimum health than those who don't drink water.

7 key processes

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AFRICAN DANCE MUSIC

PatrickHOLFORD

100% health for life

Take a break!

**Shoes on - time for a
walk**

Holford Retreat Wellness Vision

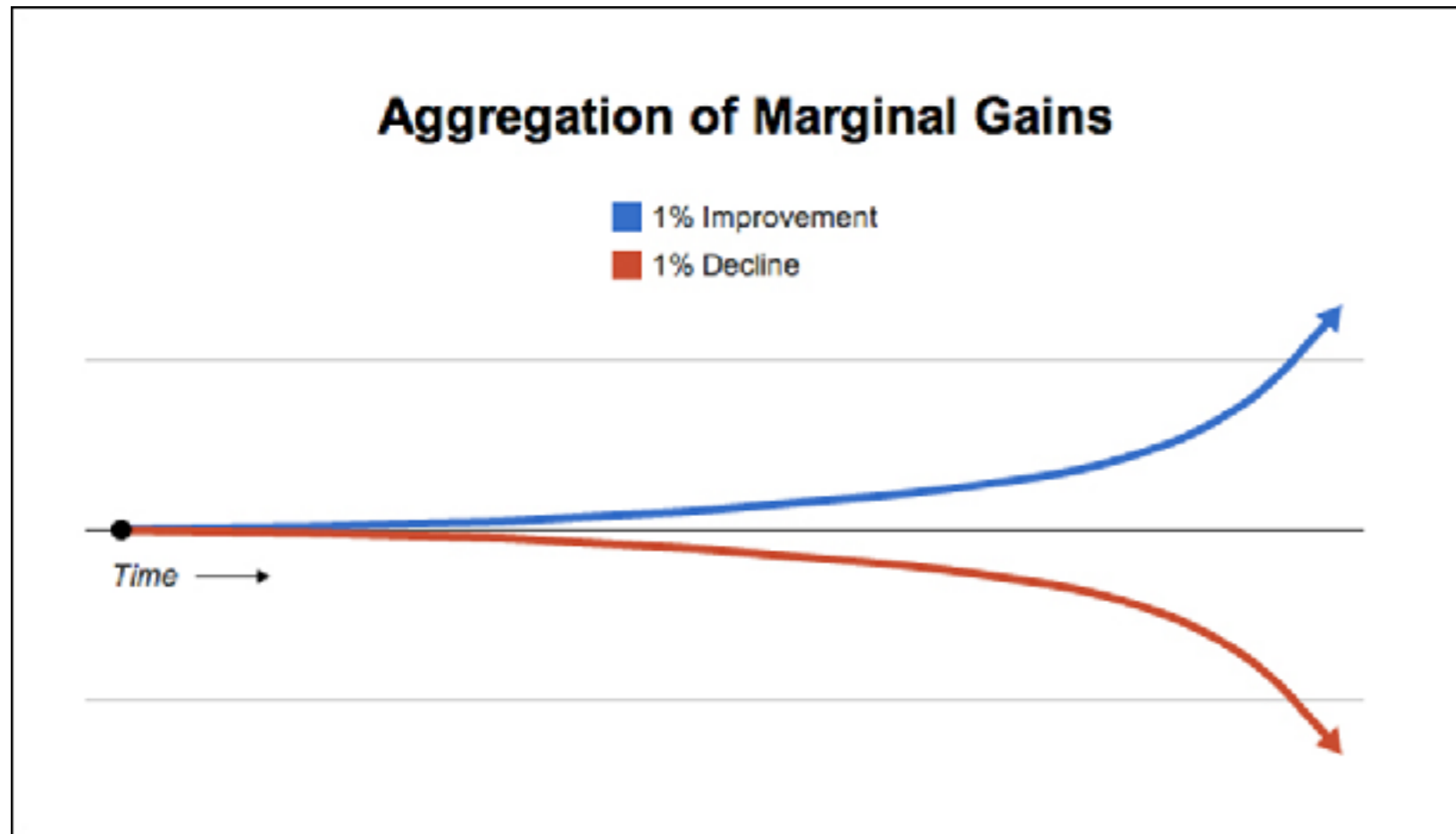


MARCELLE DUBRUEL
transform your weight, health & life

What is getting in your way of reaching your dream health and weight?

- Physical – underlying health issues acting as barriers that need addressing
- Habitual – ingrained habits – the known / normal
- Practical – lack of time, lack of resources, practical difficulties in making changes
- Motivational – no clear ‘why’ established and lack of motivation and commitment to change
- Environmental – the environment in which you live does not support a healthy lifestyle
- Non-hunger eating food is used to deal with emotions – boredom, sadness, lonely, restless

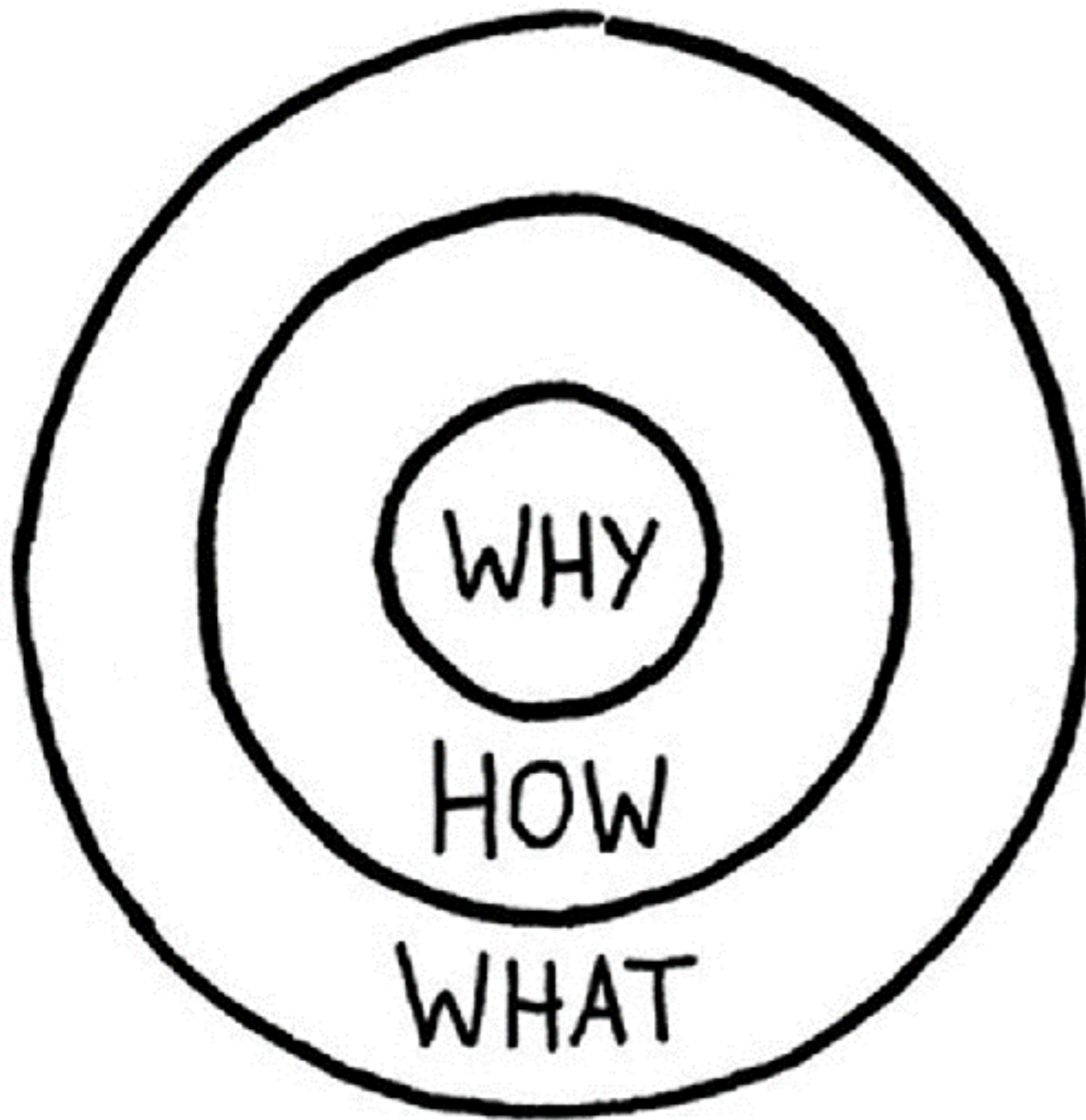
One Healthier Habit at a time



"The whole principle came from the idea that if you broke down everything you could think of that goes into riding a bike, and then improved it by 1%, you will get a significant increase when you put them all together."

Dave Brailsford Team GB
cycling 2012

Purpose



Why = The Purpose

What is your cause? What do you believe?

Apple: We believe in challenging the status quo and doing this differently

How = The Process

Specific actions taken to realize the Why.

Apple: Our products are beautifully designed and easy to use

What = The Result

What do you do? The result of Why. Proof.

Apple: We make computers

Simon Sinek



Wellness Vision

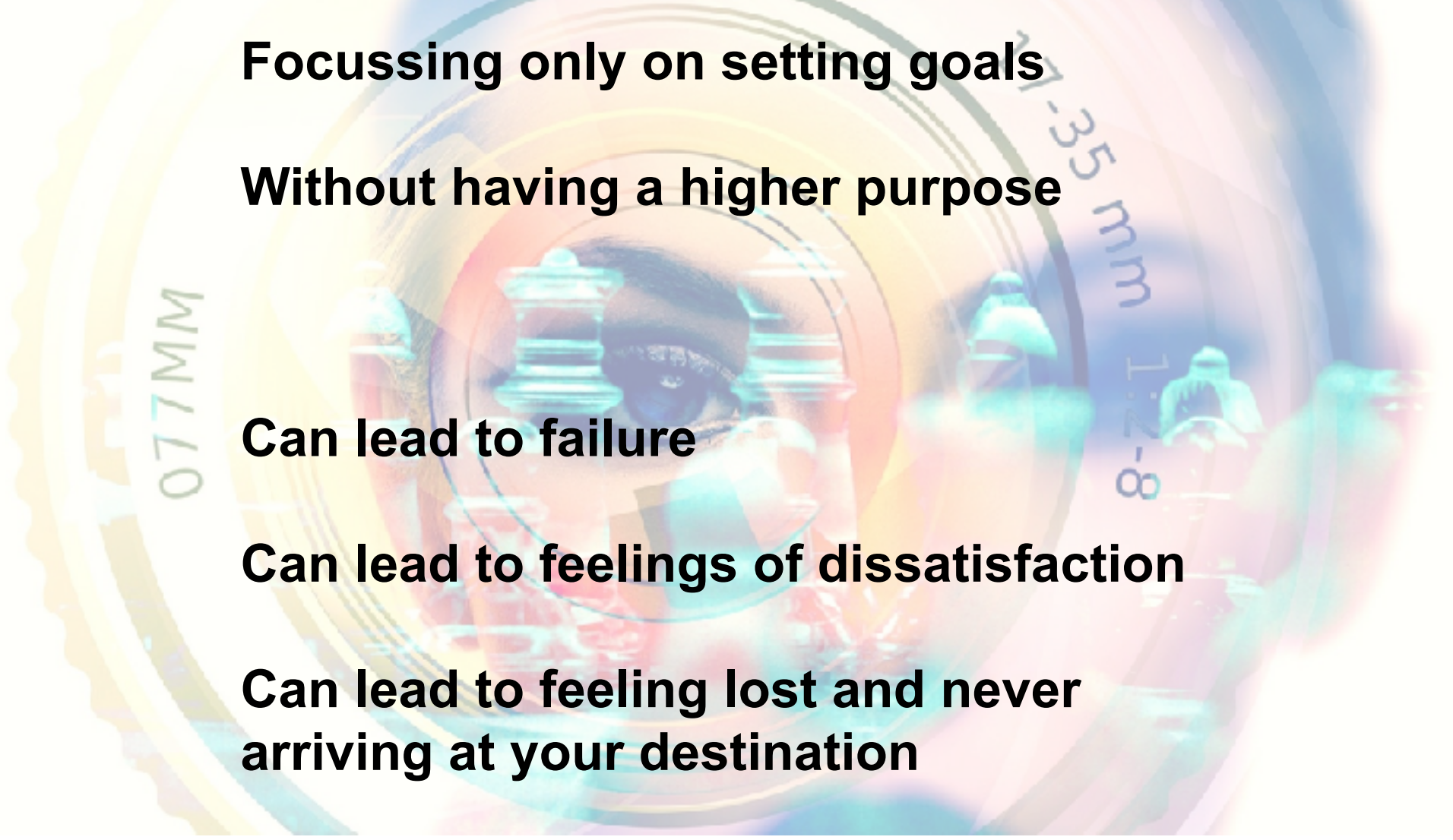
If you had a magic wand, and that is all it took for you to wake up every day feeling energised and fabulous..... what do you wish for?

Getting clear on what you want for your health and wellbeing is important. Your Brain is the best GPS system.

Once you know exactly what you want it is much easier for you to make daily choices, aligned with what is important to you.



Create an inspiring vision fuels your excitement and passion to reach your goals



**Focussing only on setting goals
Without having a higher purpose**

Can lead to failure

Can lead to feelings of dissatisfaction

**Can lead to feeling lost and never
arriving at your destination**

Goals versus Vision

- Goal: To increase my energy levels, less exhausted
- Vision: To wake up with enthusiasm and vitality, to enjoy each day

- Goal: To reduce brain fog
- Vision: To feel mentally alert and curious

- Goal: To improve my own health and get fitter
- Vision: To enjoy maximum energy and be a good role model for others

Your vision usually includes how you want to feel

Wellness Vision - notes

Get clear on your health goals?

What do you want?

How will life be different?

What would it mean to you?

How does that make you feel?

Creating your 'wellness vision'

What do you really want? List what you would ideally like for your health, wellbeing and lifestyle. Include your ideal weight and fitness level.

How will your life be improved by you achieving this? List as many ways as you can think of. How will you feel? How will you look? How will life be different for you?

Why do you want this? List at least 3 reasons:

What other benefits can you think of?

Who else will benefit and in what way?

Wellness Vision

I am strong and in control
I am willing to be slim
I am free
I am an example to my children of how to live life to the full & make healthy choices
I am light and flexible
I am free to choose
I am a living example of my healthy choices
I feel proud of my choices & achievements
I believe I can
I feel confident
I am energised
I feel good in my clothes

Wellness vision

"If you are working on something exciting that you really care about, you don't have to be pushed. The vision pulls you." **Steve Jobs**

Imagine it is 3, 5 or 12 months from now and you have reached or are closer to your goal. Capture how your future self feels and create your 'Wellness Vision'. Once you have clarity around what you want, you will feel excited and motivated about reaching your goals.

Use the examples below to help you.
I am the right weight for me.
I feel energised.
I enjoy exercise.
I am willing to make healthy choices.

Wellness Vision example

I wake up every day feeling energised
I look my best, love my shape & feel confident
achieving it.

I enjoy my life by living each moment to the fullest with
enthusiasm.

I am a living example of my healthy choices,
determination & commitment!

I am proud and I feel beautiful

In Summary

- Your wellness vision speaks to your “why”
- Getting clear on what you want for your health and how having that will make you feel, keeps you motivated and in action
- Align your vision to underpin your goals



MARCELLE DUBRUEL
transform your weight, health & life

AFRICAN DANCE MUSIC

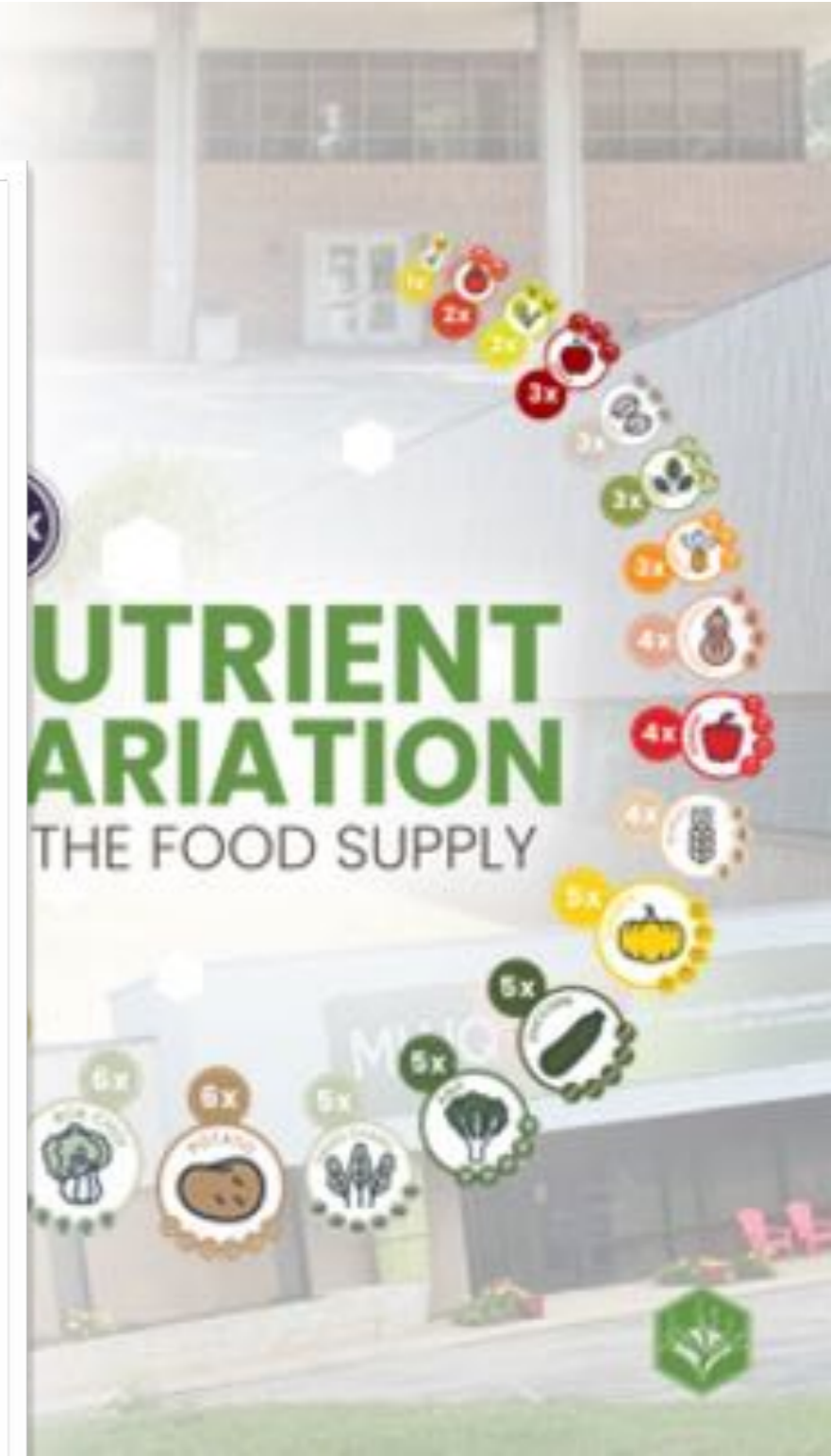
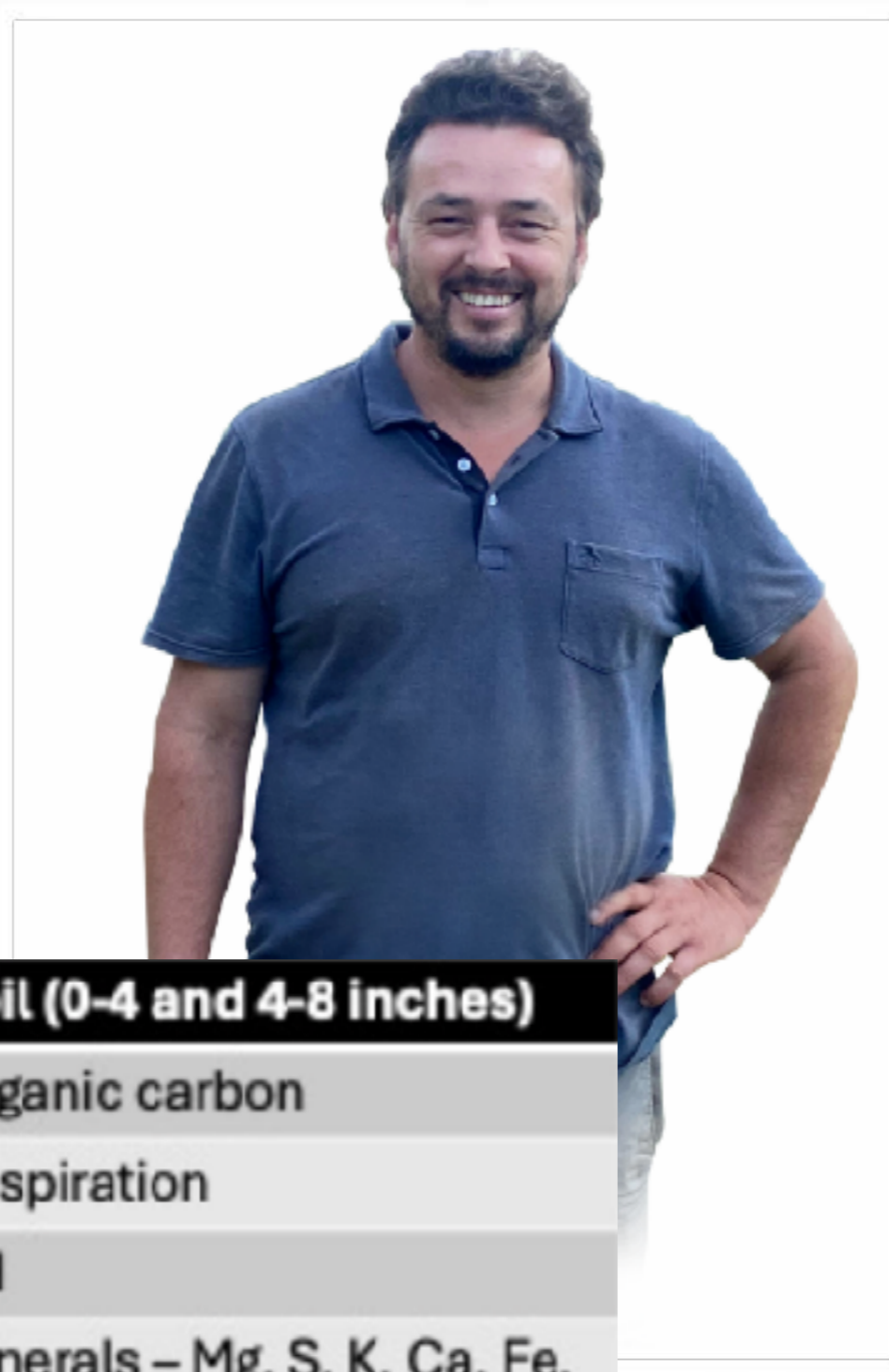
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History 2016-2020

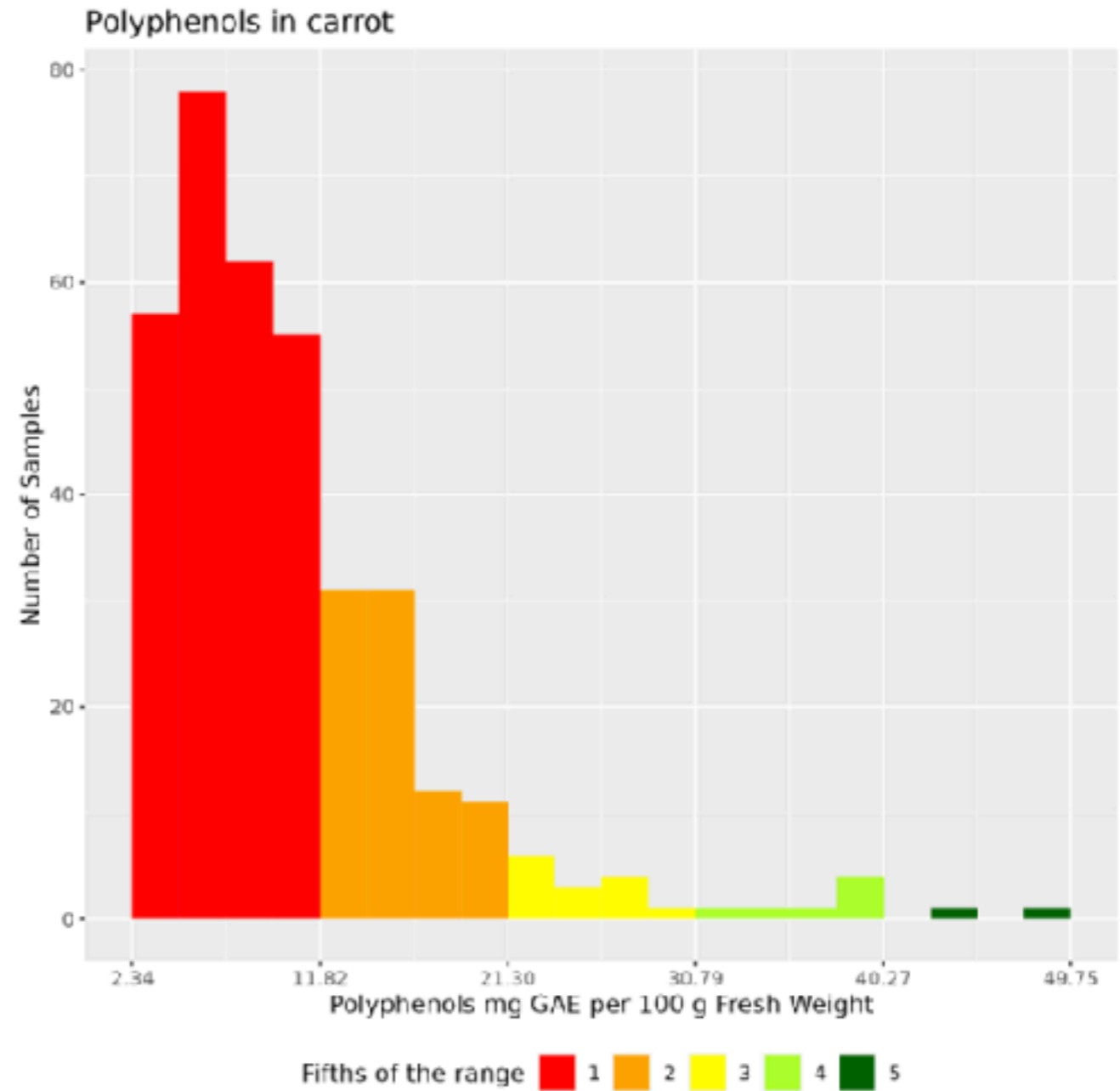
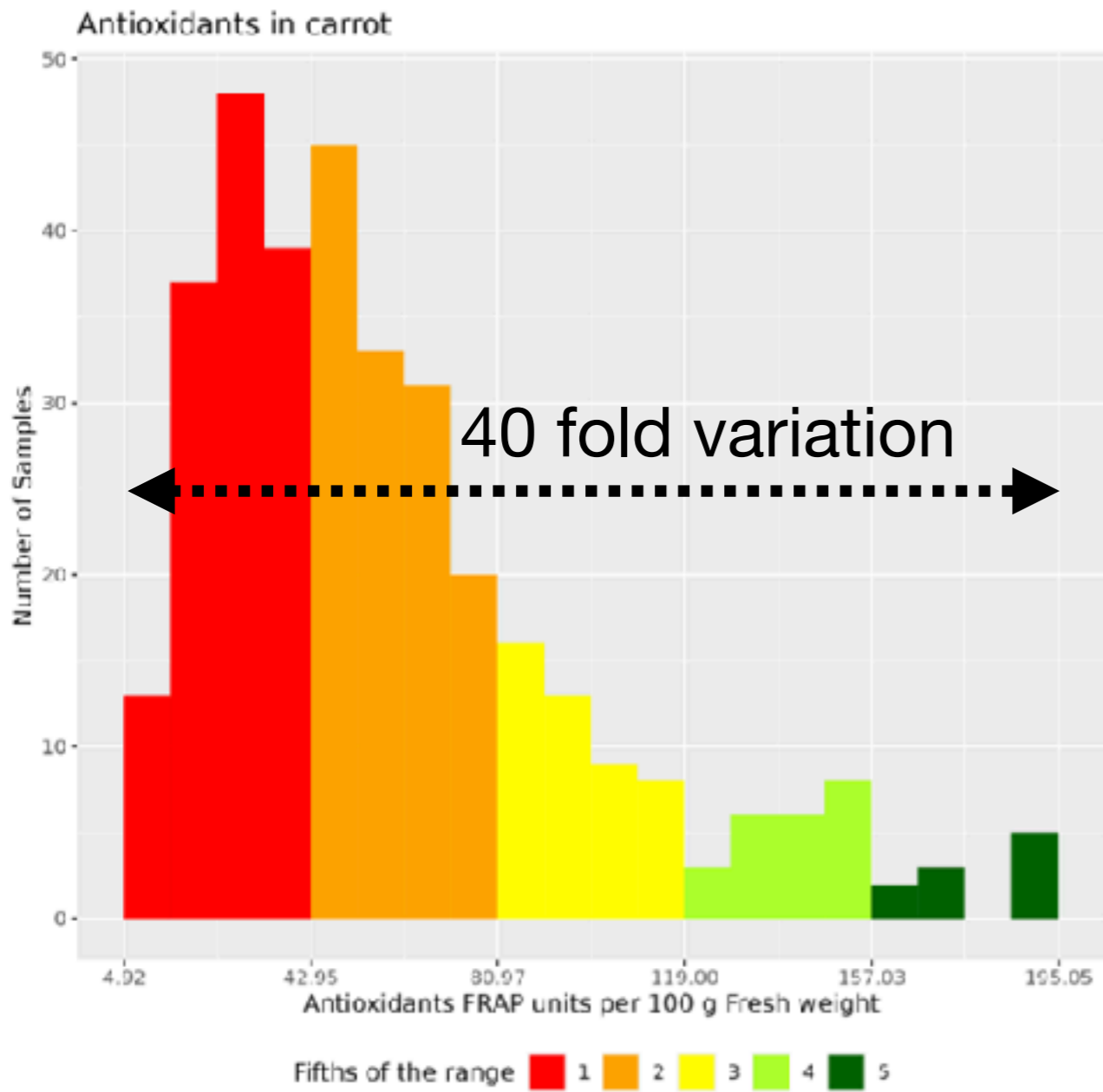
- Built the framework for a market standard:
 - Established 3 labs to define nutrient variation across 25
 - Built an open and collaborative data framework to connect practices with nutrient variation
 - Built and calibrated an open handheld spectrometer for use to assess nutrient variation



Food	Soil (0-4 and 4-8 inches)
Antioxidants	Organic carbon
Polyphenols	Respiration
Protein (grain only)	pH
Minerals – Mg, S, K, Ca, Fe, Zn, P, Si, Al, Mo, Mn, Na, Ni, Cl, Cu	Minerals – Mg, S, K, Ca, Fe, Zn, P, Si, Al, Mo, Mn, Na, Ni, Cl, Cu
Brix	

over 4,000 samples analysed so far

Nutrient Variation



a 40 fold variation in nutrient content

Selenium in Brazil nuts

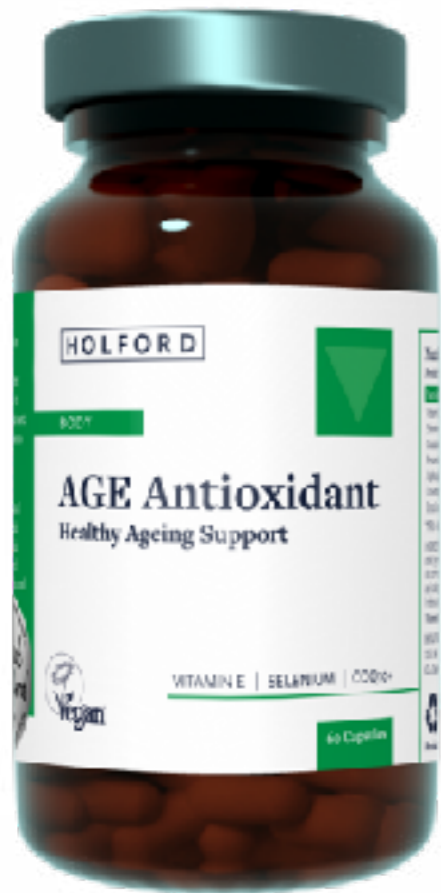
E Silva Junior, Chemosphere, 2017

- ▶ The selenium concentration in Brazil nuts varied from 2 mg/kg to 68mg/kg - **34 fold variation**
- ▶ The total Selenium concentration in the soil also varied considerably, ranging from <65.76 to 625.91 µg/kg. - **9.5 fold variation**



June 17th/18th -
Dan Kittredge workshop
foodforthebrain.org/events





Anthocyanins



Glutathione



Vitamin C



Vitamin E

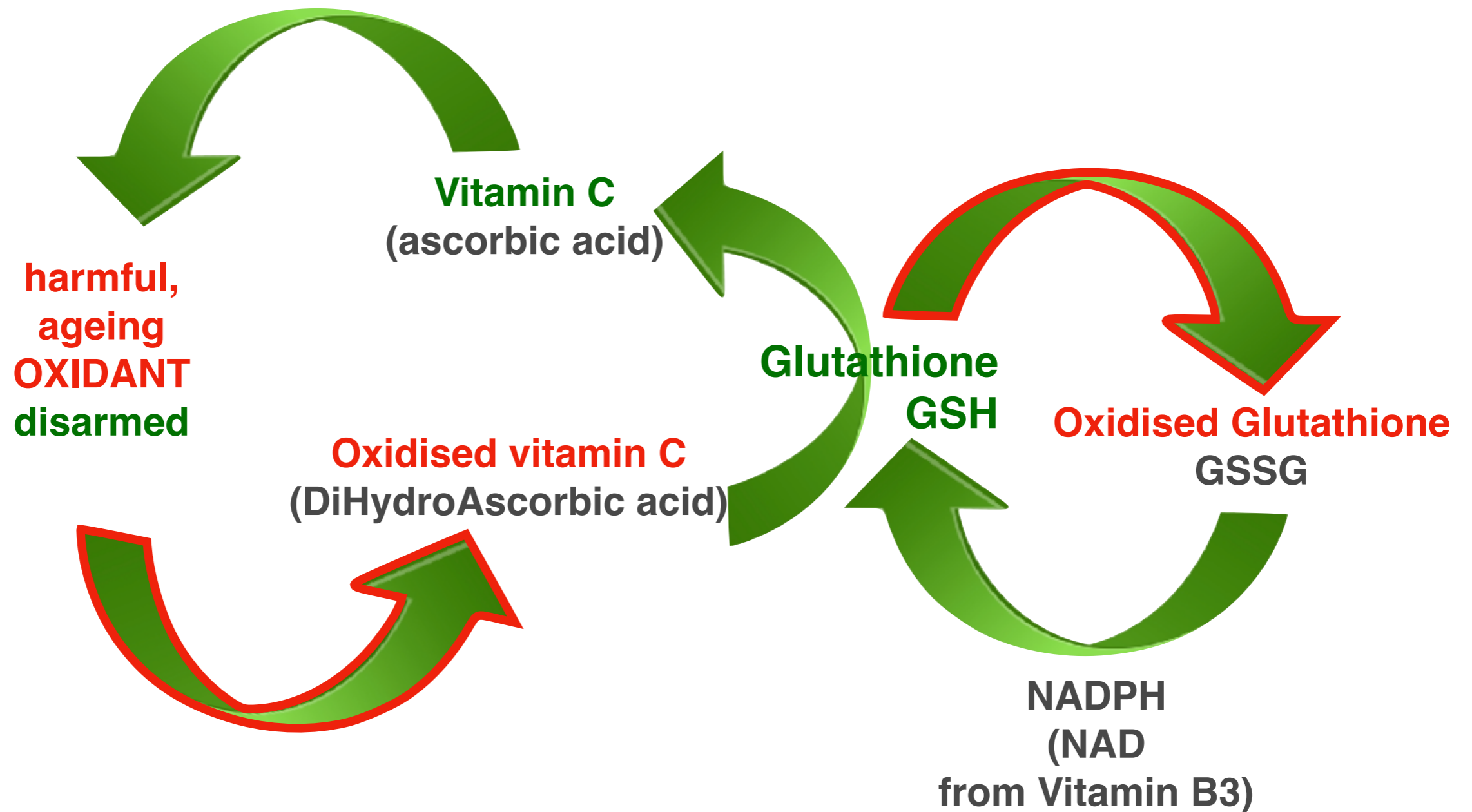


Lipoic acid



Co-Q10

This is the antioxidant team that keeps your brain young



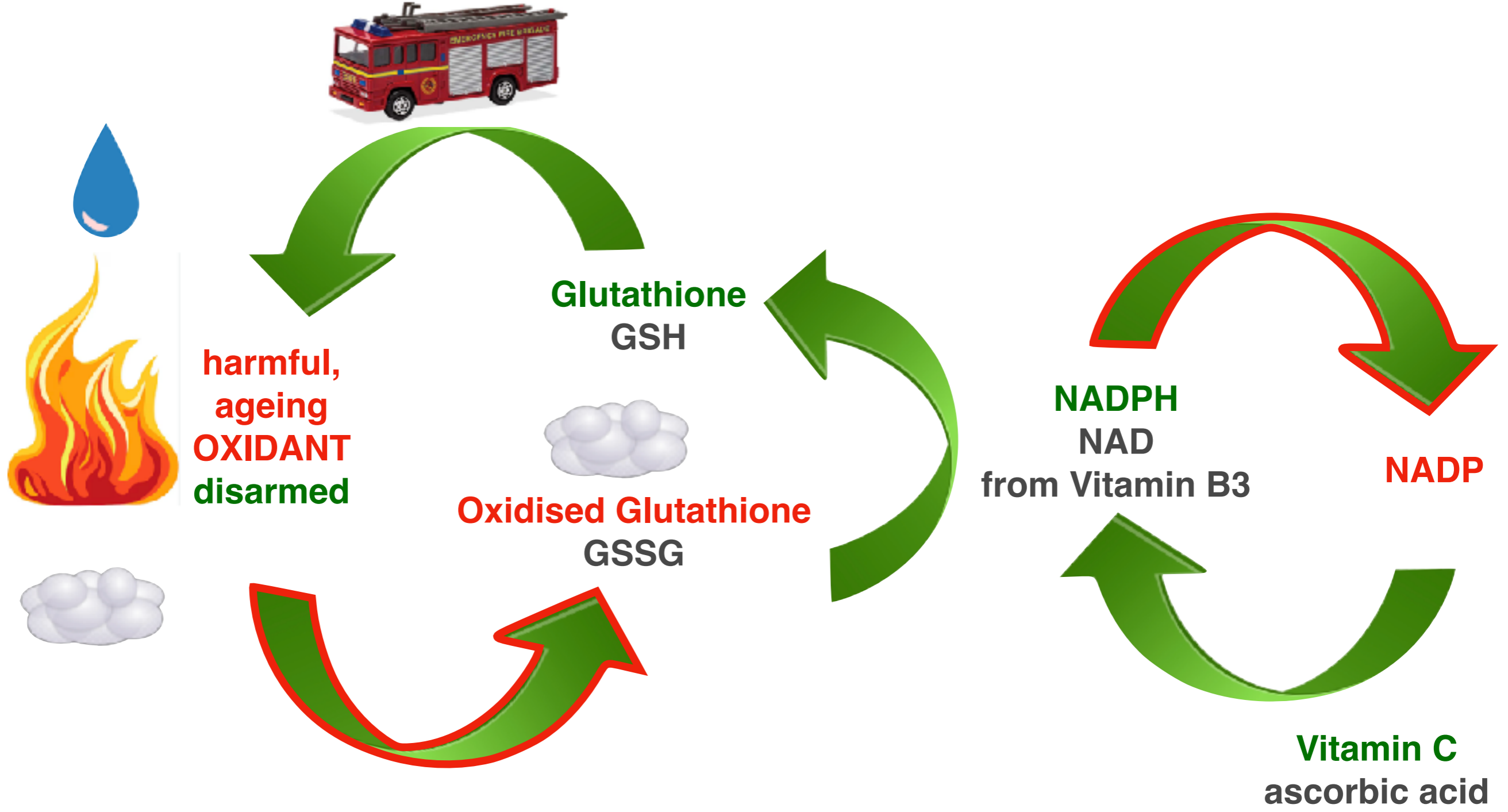
JOURNAL ARTICLE CORRECTED PROOF

The ascorbate–glutathione cycle coming of age

Christine H Foyer , Karl Kunert

Journal of Experimental Botany, erae023, <https://doi.org/10.1093/jxb/erae023>

Published: 18 January 2024 **Article history** ▼



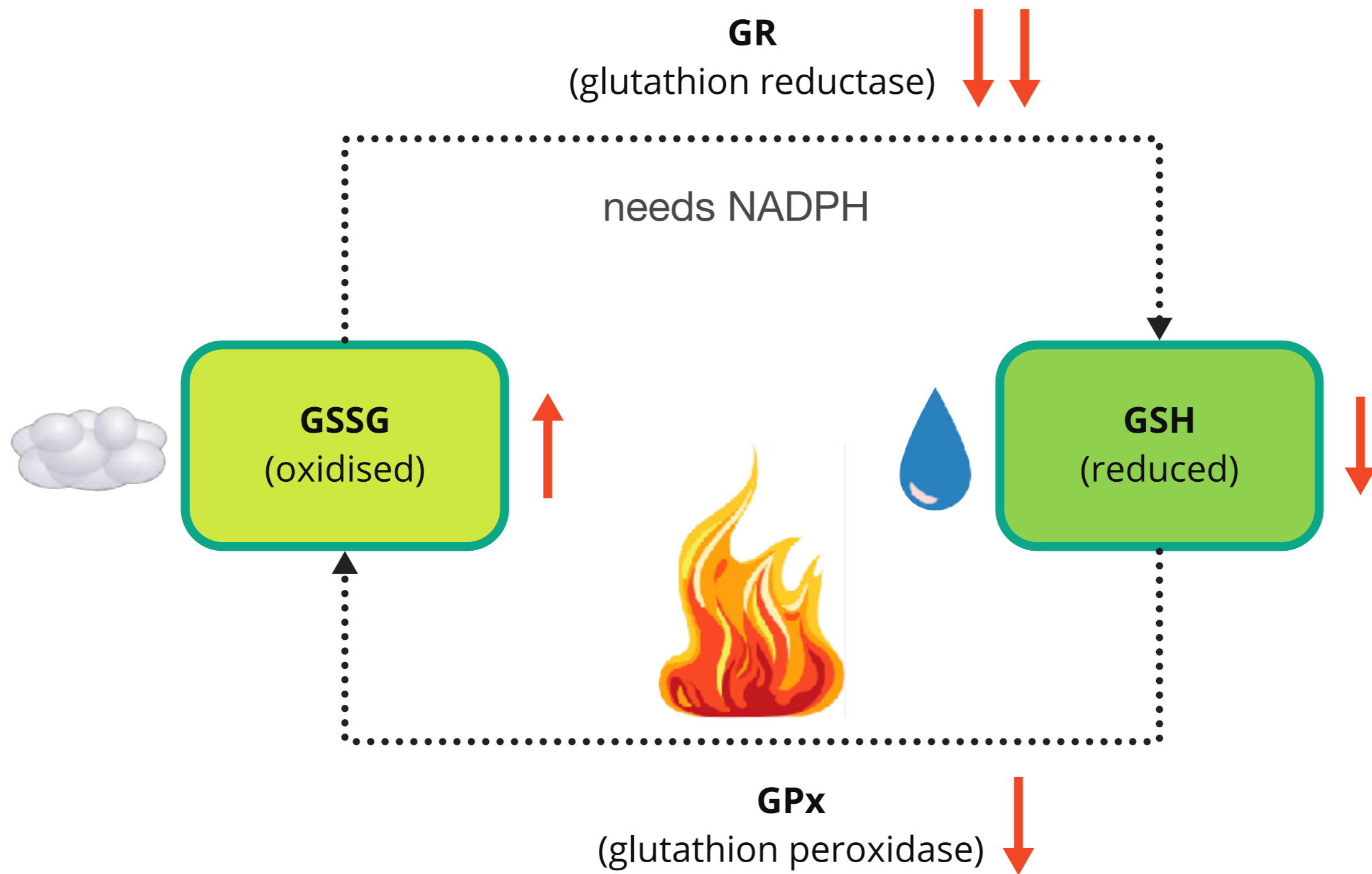
[Plant Physiol.](#) 2011 Jan; 155(1): 2–18.

Published online 2011 Jan 6. doi: [10.1104/pp.110.167569](https://doi.org/10.1104/pp.110.167569)

Ascorbate and Glutathione: The Heart of the Redox Hub¹

[Christine H. Foyer](#)* and [Graham Noctor](#)

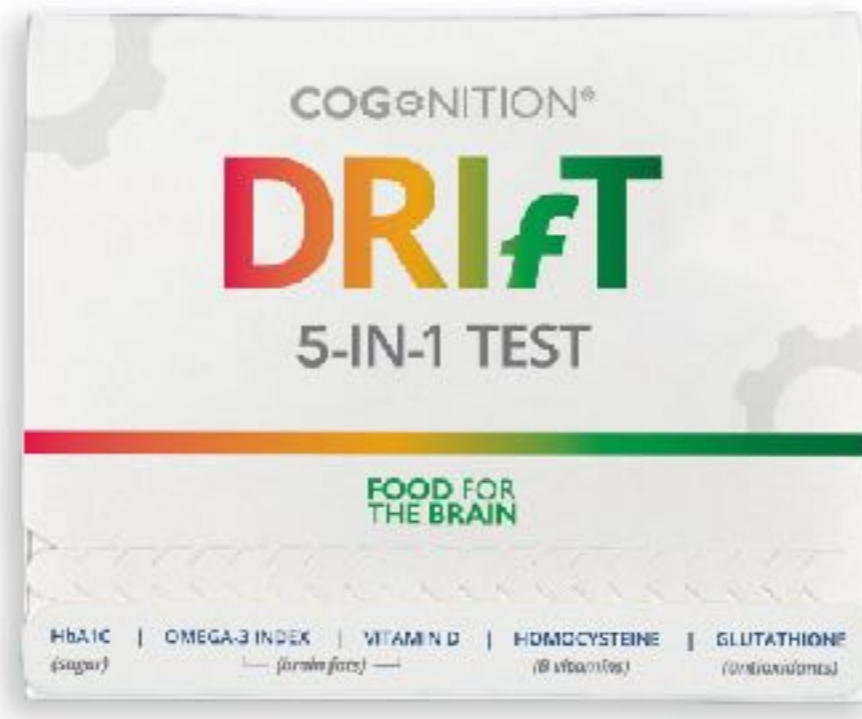
“GR activity is lower in MCI and AD patients than in healthy aged subjects.”



Increase your Total Antioxidant Capacity

Peng, M., *et al.* Dietary Total Antioxidant Capacity and Cognitive Function in Older Adults. *J Nutr Health Aging* (2023).

The higher your TAC score of your diet the lower is your risk of cognitive and memory decline. This was the finding of a recent study of 2,716 people over age 60. The researchers measured their TAC score from their diet, splitting them into the highest to lowest quarter of TAC score, and compared this to a number of memory tests. **Those in the highest quarter, eating the most antioxidant rich foods had half the risk of decreasing memory.**



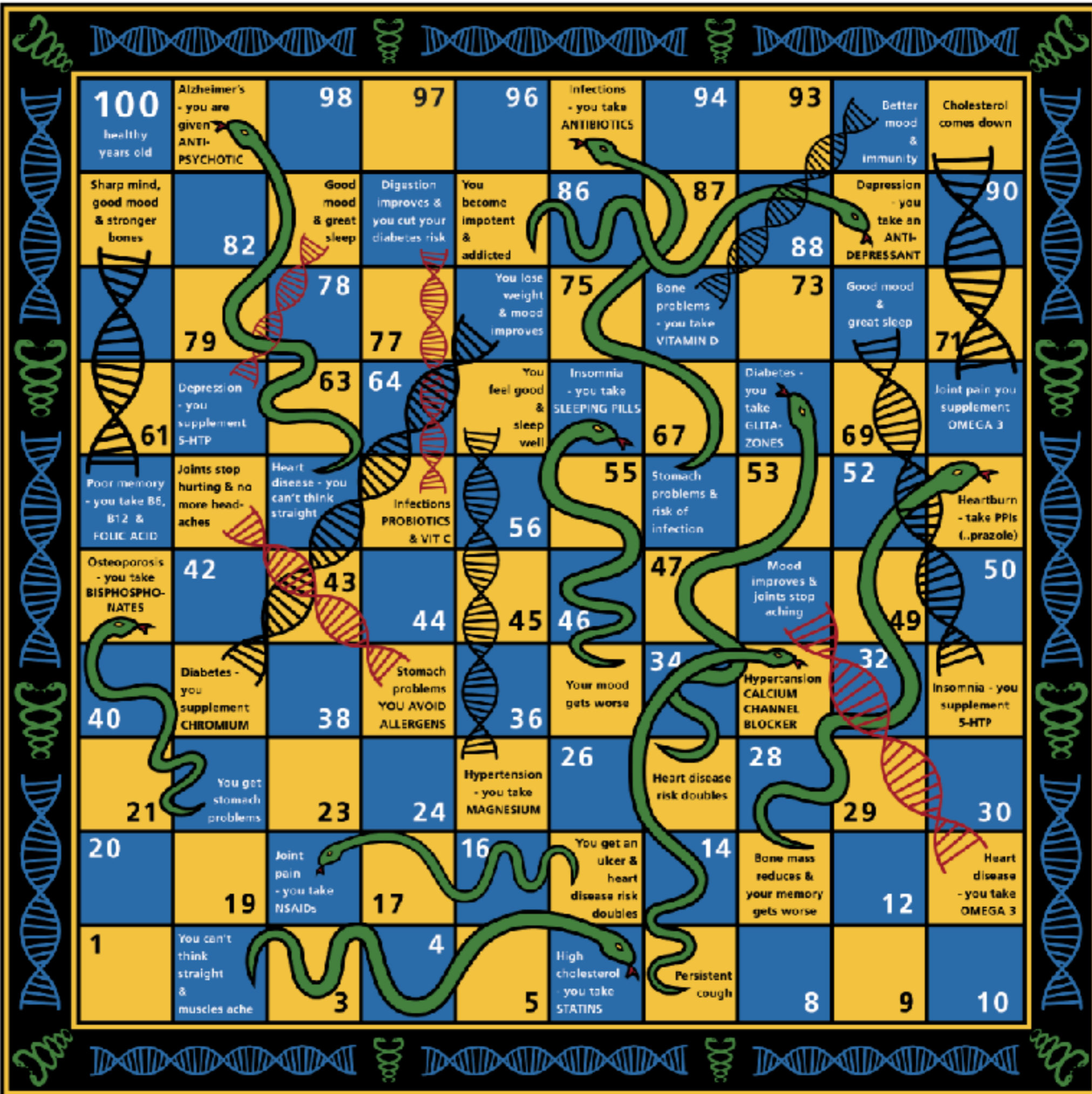
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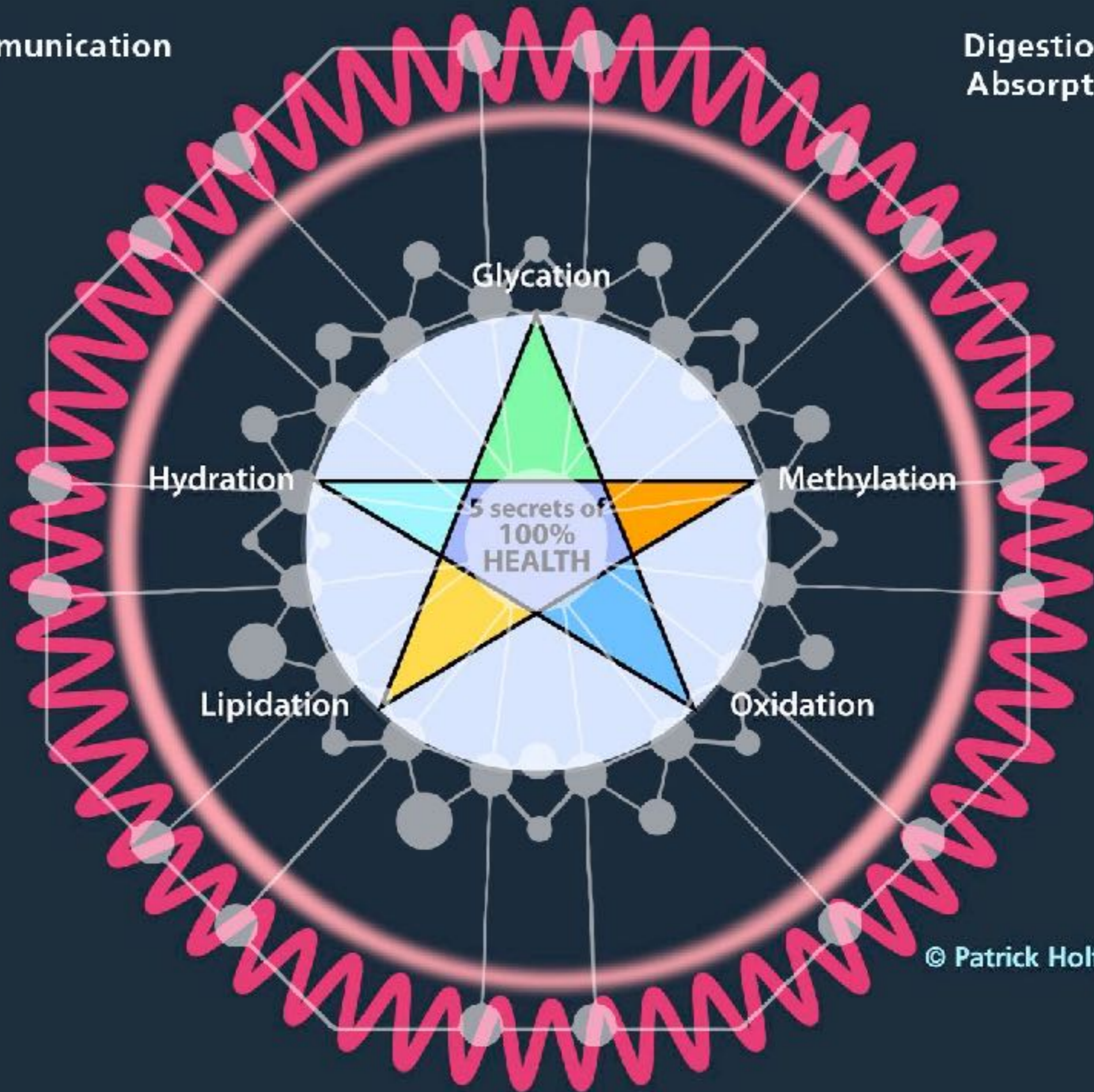


foodforthebrain.org/tests



Communication

Digestion & Absorption



© Patrick Holford 2008

Chemicals of Communication



- ▶ Neurotransmitters
- ▶ Hormones
- ▶ Immunoglobulins - allergy, food intolerances
- ▶ Cytokines - inflammatory mediators (after lunch)



Injury

Infection

Allergy

Auto-immune

Obesity



Most diseases involve inflammation:

**heart disease
cancer
diabetes
Alzheimer's
depression
asthma
eczema**



INFLAMMATION
producing
inflammatory cytokines
(TNF, IL1 and IL6)



**Activates
immune system,
increasing risk
for allergy and
auto-immunity**



SYMPTOMS

**Aching
Flu-like
Fatigue**



**Leads to
weakened immunity,
increasing risk
of infection**



Anti-inflammation diet



- ▶ Eliminate your food intolerances
- ▶ Follow a 3 or 4 day rotation diet for minor intolerances
- ▶ Minimise modern wheat and milk products even if you're not intolerant
- ▶ Eat oily fish, rich in omega-3 fats, three times a week
- ▶ Have seven servings of fruit and veg a day - high antioxidants and polyphenols
- ▶ Eat quercetin foods such as red onions, apples and berries and eat turmeric, mustard, ginger and olives



Ed's story

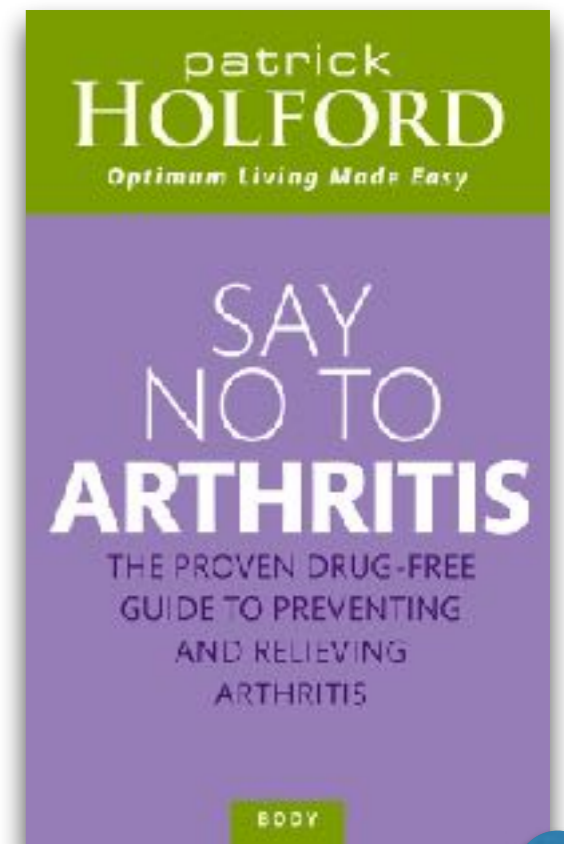


Ed first started getting joint pain in his mid-thirties.

After an accident in which he tore a ligament, he needed surgery, which revealed that the cartilage in his knee was severely damaged. The damaged cartilage was surgically removed. A few years later the same thing happened to his other knee.

A few years on, he needed a second operation on the first knee!

Now, in his mid-forties he was suffering from severe arthritis, with ever-increasing pain.



Six months on...



There was little improvement in the first two months, but by the third month his knees were feeling a whole lot better. By six months he was virtually pain-free.

“I used to have constant pain in my knees and joints, could not play golf or walk more than 10 minutes without resting my legs. Since following your advice my discomfort has decreased 95-100%. It is a different life when you can travel and play golf every day. I never would have believed my pain could be reduced by such a large degree, and no return no matter how much activity.”



Quercetin rich foods

Food	Quercetin per 100g	Food serving size for 10 mg
● red onions	19.93 mg	50g (an onion)
● cranberries	14.02 mg	71g (one cup)
● spinach	4.86 mg	206g (three servings)
● apples	4.42 mg	226g (two small apples)
● red grapes	3.54 mg	282g (two medium servings)
● carrots	3.50 mg	286g (two large carrots)
● broccoli	3.21 mg	312g (three servings)
● blueberries	3.11 mg	322g (large punnet)
● lettuce	2.47 mg	405g (4 lettuces)
● cherries	1.25 mg	800g (two large punnets)



Ginger - antioxidant & anti-inflammatory

Ginger inhibits the synthesis of pro-inflammatory prostaglandins and thromboxanes, another type of inflammatory mediator. It also has strong antioxidant properties.



Turmeric contains curcumin



Curcumin works as well as anti-inflammatory drugs, but without the side effects. Like NSAIDs, it blocks the formation of the pro-inflammatory prostaglandins (PGE2), as well as leukotrienes. In fact, it turns out to be what everyone hoped drugs like Vioxx would be (a mild 5-Lox and Cox-2 inhibitor that not does not affect Cox-1) and has been used for its medicinal properties in Ayurveda (Indian traditional medicine), for hundreds of years. There is no evidence of any downsides, even in high doses of 8g a day.

Mustard is good too



Curcumin - as good as painkillers

Shep D et al, Trials, 2019

- ▶ A study from India compared a higher dose of **curcumin (500mg) given three times daily with the NSAID diclofenac** and found that **pain reduced from 7.8 to 2.2 (out of a maximum score of 10)** after four weeks in both groups. Function and quality of life also improved to similar extents in both groups.
- ▶ Curcumin was just as effective as this painkiller. This confirmed an earlier **pilot study involving 19 patients, 5 of which were able to stop their pain medication completely while 11 were able to reduce it. None in the placebo group were able to stop their medication.**

Curcumin is anti-cancer



Hallman K et al. Breast Cancer 2017 -28331366

- ▶ Curcumin is a compound that has antibacterial, antiviral, anti-inflammatory, and anti-cancer properties.
- ▶ In this study, we have analyzed the effects of curcumin on the expression of Estrogen Receptor- α and p53 in the presence of hormones and anti-hormones in breast cancer cells. In cell proliferation studies, **Curcumin caused a 10-fold decrease in cancer cell proliferation** compared with the treatment with estrogen, which suggests its antiproliferative effects.



Theracurmin - super absorption



Theracurmin - super absorption



H. Sasaki et al. Biol. Pharm. Bull. 34(5) 660 - 665 (2011)/21532153; also see /21603867

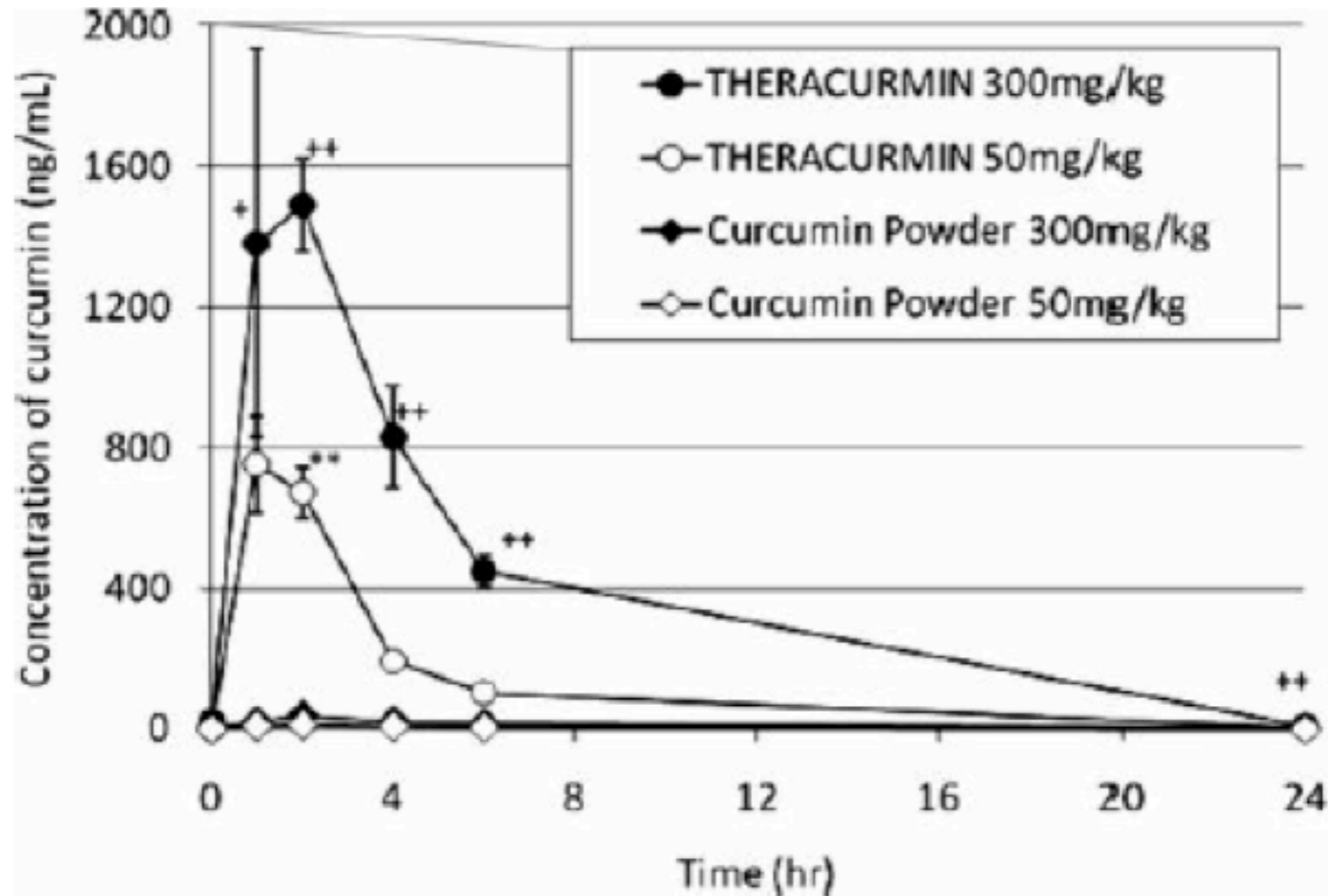
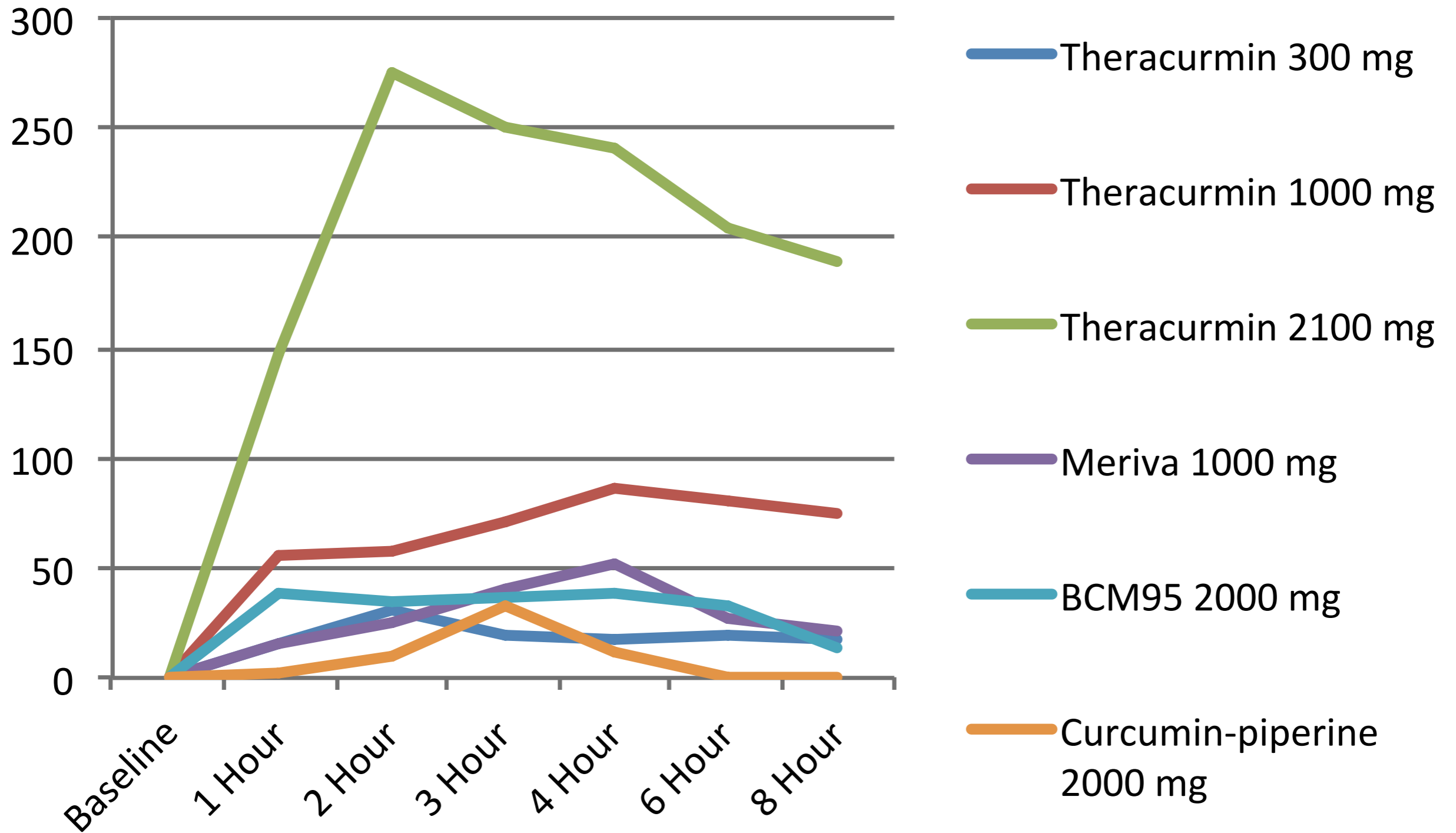


Fig. 3. Concentration of Curcumin in Rat Plasma after the Oral Administration of THERACURMIN and Curcumin Powder





Olives contain two potent painkillers



See www.patrickholford.com/advice//natural-pain-killers

Hydroxytyrosol - a very powerful antioxidant and anti-inflammatory effects. This is a 'polyphenol.'

Oleocanthal which is chemically related to ibuprofen, though has none of the negative side effects.



10 times more polyphenols



- ▶ The highest recorded polyphenols in olive oil, according to a study at the University of Athens of over 2500 samples from around the world measured using the NMR method, is a type of olive called Olympia (also known as Ladolia or Palaiokastritsa), grown in a mountainous valley in the Peloponnese in Greece.
- ▶ 'Drop of Life' olive oil and contains over 1900mg/kg of polyphenols, which is eight times higher than the level needed to make health claims and ten times higher than average olive oils.

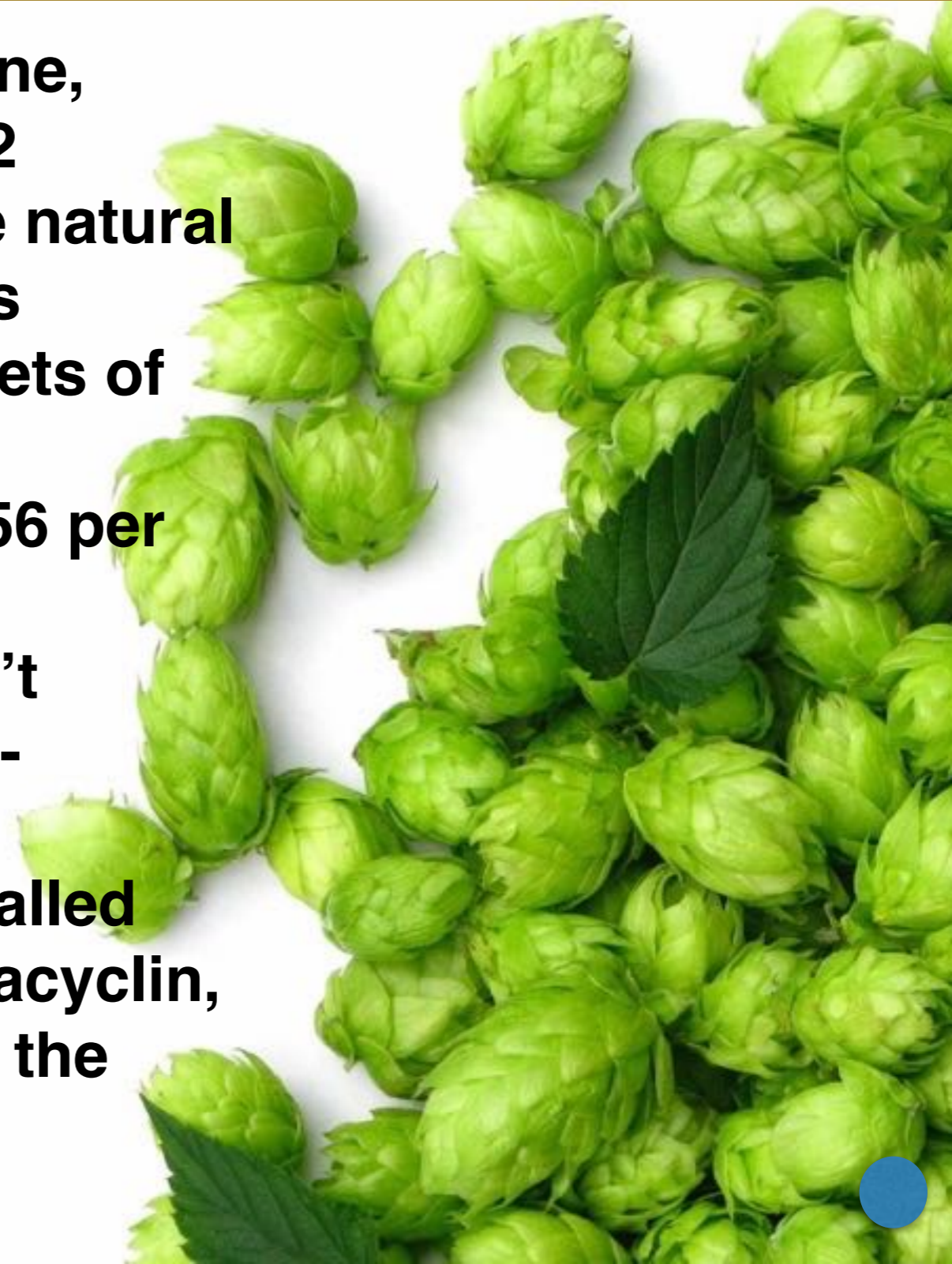


Hop extract is an anti-inflammatory



See www.patrickholford.com/advice/natural-pain-killers

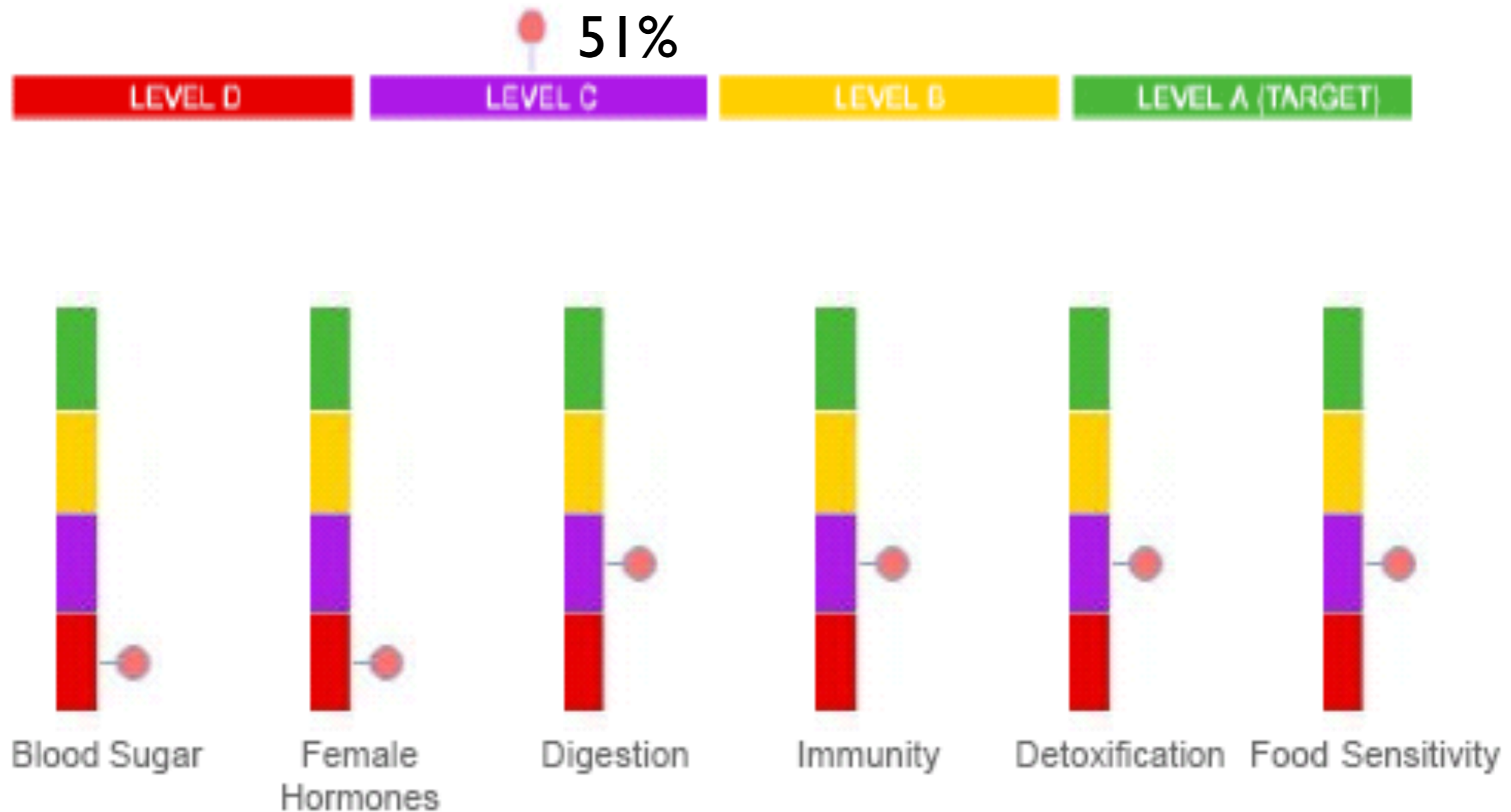
An extract from hops, called IsoOxygene, is one of the most potent natural COX-2 inhibitors and one of the most effective natural painkillers of all. It works just as well as painkilling drugs. In one study two tablets of ibuprofen inhibited COX-2 by 62 per cent, whereas IsoOxygene achieved a 56 per cent inhibition. Not only is it almost as effective as ibuprofen but it also doesn't have the gut-related side effects of anti-inflammatory drugs. This is because ibuprofen also inhibits COX-1 (the so called 'good' COX, because it produces prostacyclin, which protects the gut lining), whereas the hop extract does not.



Sonia – before



Cow's milk (+4), egg white (+3) egg yolk (+1), kidney bean, kiwi



FREE 100% HEALTH CHECK -
www.patrickholford.com



My five favourites



- ▶ Quercetin - 765mg in 3
- ▶ Glutamine - 750mg
- ▶ Vitamin C - 750mg
- ▶ MSM (a form of sulphur) 750mg
- ▶ Bromelain (an enzyme from pineapple) 200mg



Some results of pilot trial

- ▶ 11 people with arthritic pain took G&T three times a day containing Theracurmin, glucosamine, MSM and quercetin. Each participant rated their pain and their joint stiffness out of 10 at the start and 30 days later. **Overall, pain rating reduced by 43% and stiffness by 40%.**
- ▶ “I feel better than ever. Love this product. Genuinely worked.”
- ▶ “The joint pain has noticeably lessened over the past month and am now able to walk much further. The pain does not wake me up at night as much as it used to so my sleep had improved.”
- ▶ “I feel less stiff in the morning, my knee joints feel stronger and less sore. I am able to move my leg and knee to a greater degree. A definite improvement.”
- ▶ “My fingers are less stiff after the trial. I am able to walk further.”

Sonia - after



- ▶ Health score 82%.
- ▶ After ten days, almost all of Sonia's symptoms were gone.
- ▶ Since then, she hasn't had to take a single antihistamine.
- ▶ At the end of four weeks she told me, "After a diet of healthy fresh fruit, vegetables and oily fish, I've noticed a huge difference in energy levels. Not only have I conquered my hayfever, it has been a very easy diet to follow. I don't feel like I've missed out on anything, except for an occasional desire for cheese. I look at it as an eating plan, not a diet, and something that I will follow for the foreseeable future. I wish I had known all this ten years ago!"
- ▶ Now, one year later, she remains symptom-free and is no longer allergic to eggs. Milk, however, is still a problem.



What about glucosamine?



- ▶ It slows progression of osteoarthritis of the knee.
- ▶ It works as well as ibuprofen but with less side-effects.
- ▶ In four high-quality 2005 studies that gave glucosamine sulphate versus NSAIDs, the glucosamine worked better in two, and was equivalent to the NSAIDs in the other two.
- ▶ Although there is evidence that chondroitin works, the research does not show that it works better than glucosamine. Most of the research has been done using glucosamine sulphate, but the most absorbable form is glucosamine hydrochloride.
- ▶ Promising results are reported for pain relief and relief from arthritis in people taking daily supplements supplying 1 to 3g of one of the most effective sources of sulphur, methylsulfonylmethane (MSM). A combination of both glucosamine and MSM is particularly effective.

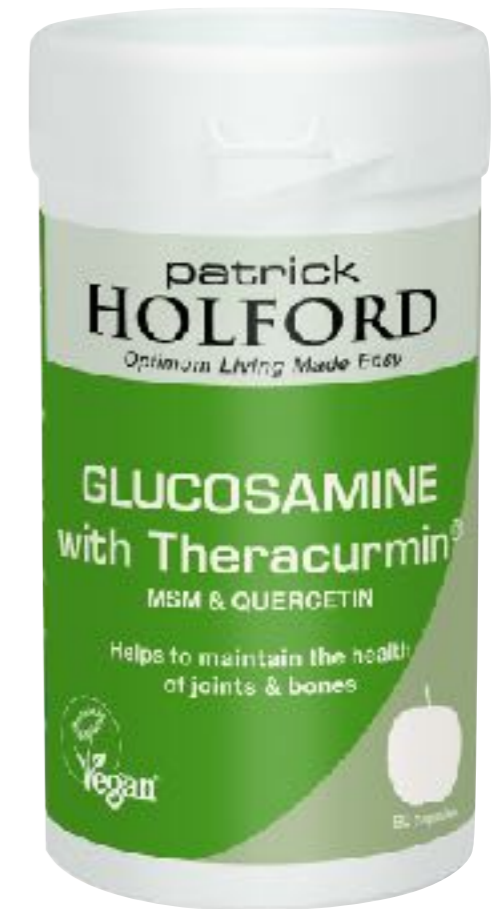


Supporting supplements



Choose supplements that contain:

- ▶ Glucosamine hydrochloride
- ▶ MSM (absorbable sulphur)
- ▶ Theracurmin
- ▶ Quercetin





PATRICK HOLFORD

SAY NO TO ARTHRITIS



How to prevent, relieve and
resolve joint and muscle pain

Common contributors to chronic pain



- ▶ Digestive problems
- ▶ Unidentified food allergy/intolerance
- ▶ Poor liver detoxification
- ▶ Pro-inflammatory diet (eg high in alcohol, meat & milk)
- ▶ Lack of anti-inflammatory nutrients, herbs and foods
- ▶ Raised homocysteine and poor methylation
- ▶ Poor blood sugar balance, stress and overweight
- ▶ Lack of magnesium
- ▶ Physical tension - eg joint strain or injury



Migraines? Think magnesium



Assarzadegan F, Int Clin Psychopharmacol. 2016-271040442; Chiu H, Pain Physician. 2016 -/26752497

- ▶ A dip in magnesium level can trigger a migraine, and giving a high oral or intravenous dose can stop it. One recent study found that, among migraine sufferers, the odds of having a migraine increased by 36 times when magnesium levels dropped below normal levels. Another reviewed 10 studies giving high dose oral magnesium and 11 giving intravenous magnesium, both of which showed a dramatic and significant relief of symptoms. Most studies gave 1,000mg of magnesium.
- ▶ Comment: The strongest evidence for magnesium's effectiveness is in patients who have aura with their migraines. Magnesium may prevent the wave of brain signaling, called cortical spreading depression, which produces the visual and sensory changes associated with aura. Magnesium also improves platelet function and decreases release or blocking of pain transmitting chemicals in the brain. Magnesium may also counter the narrowing of brain blood vessels caused by the neurotransmitter serotonin.



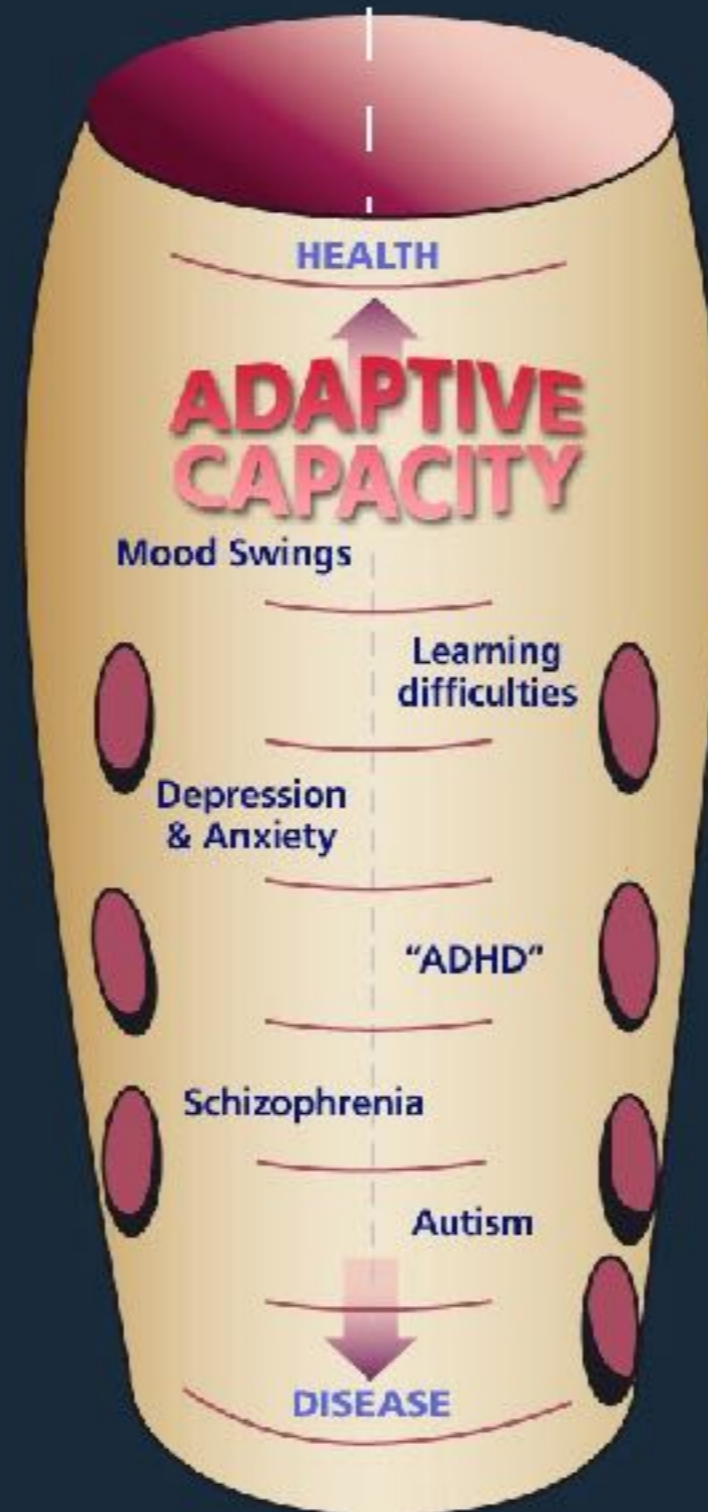
Chemicals of Communication



- ▶ Neurotransmitters
- ▶ Hormones
- ▶ Immunoglobulins - allergy, food intolerances
- ▶ Cytokines - inflammatory mediator



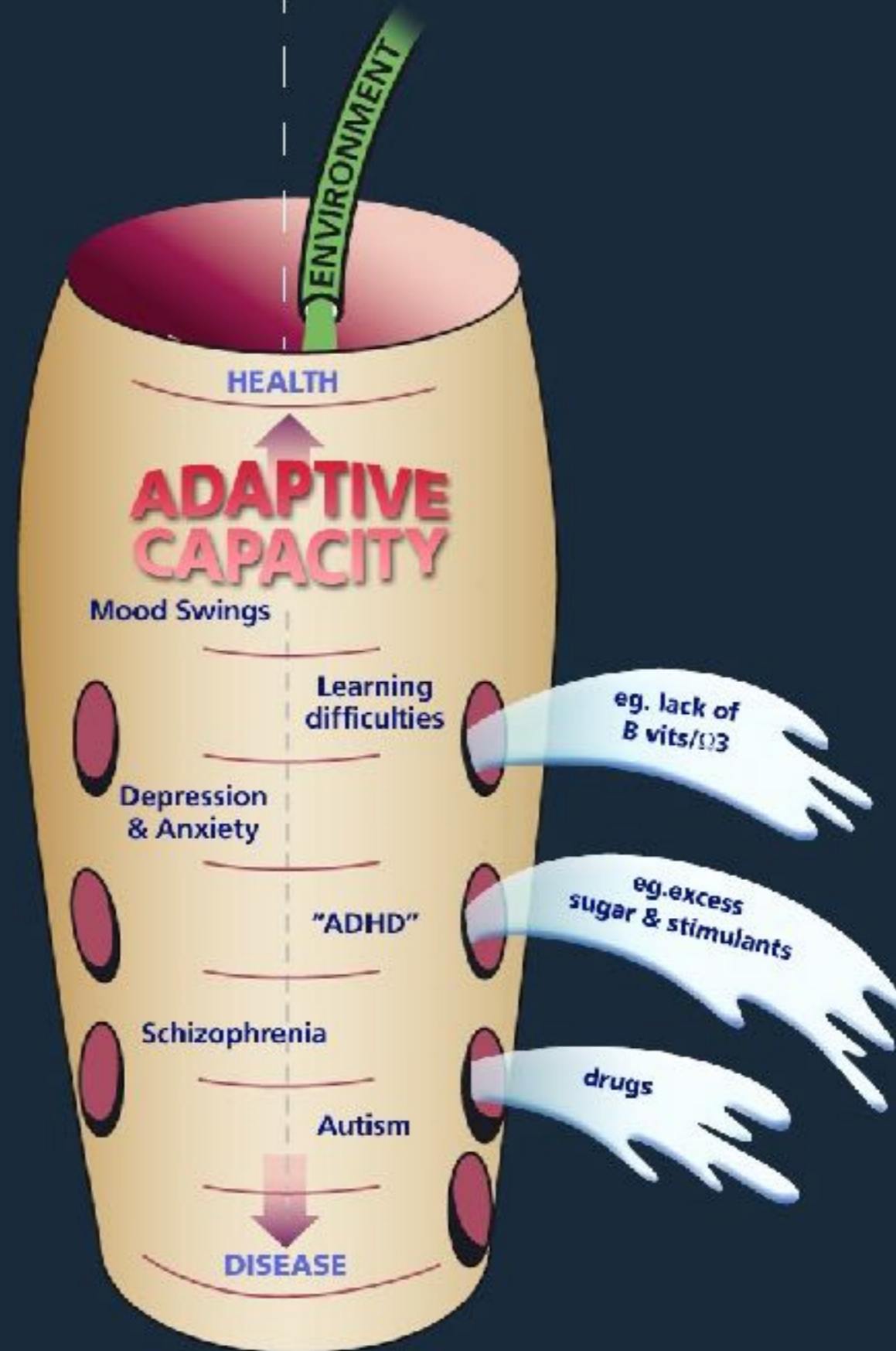
YOUR INHERITANCE | YOUR LIFE



An Integral Model of Mental Health

YOUR INHERITANCE

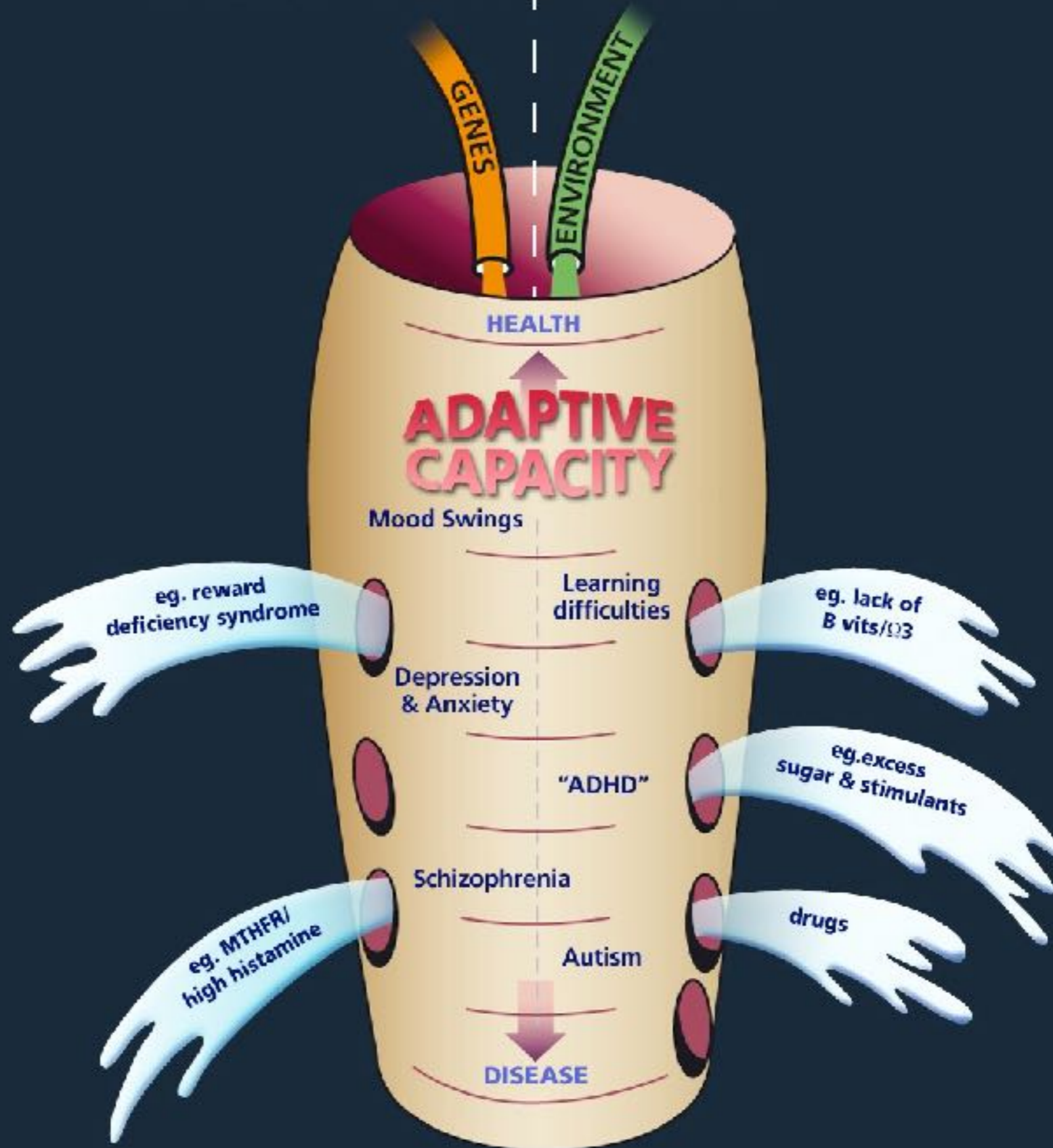
YOUR LIFE



An Integral Model of Mental Health

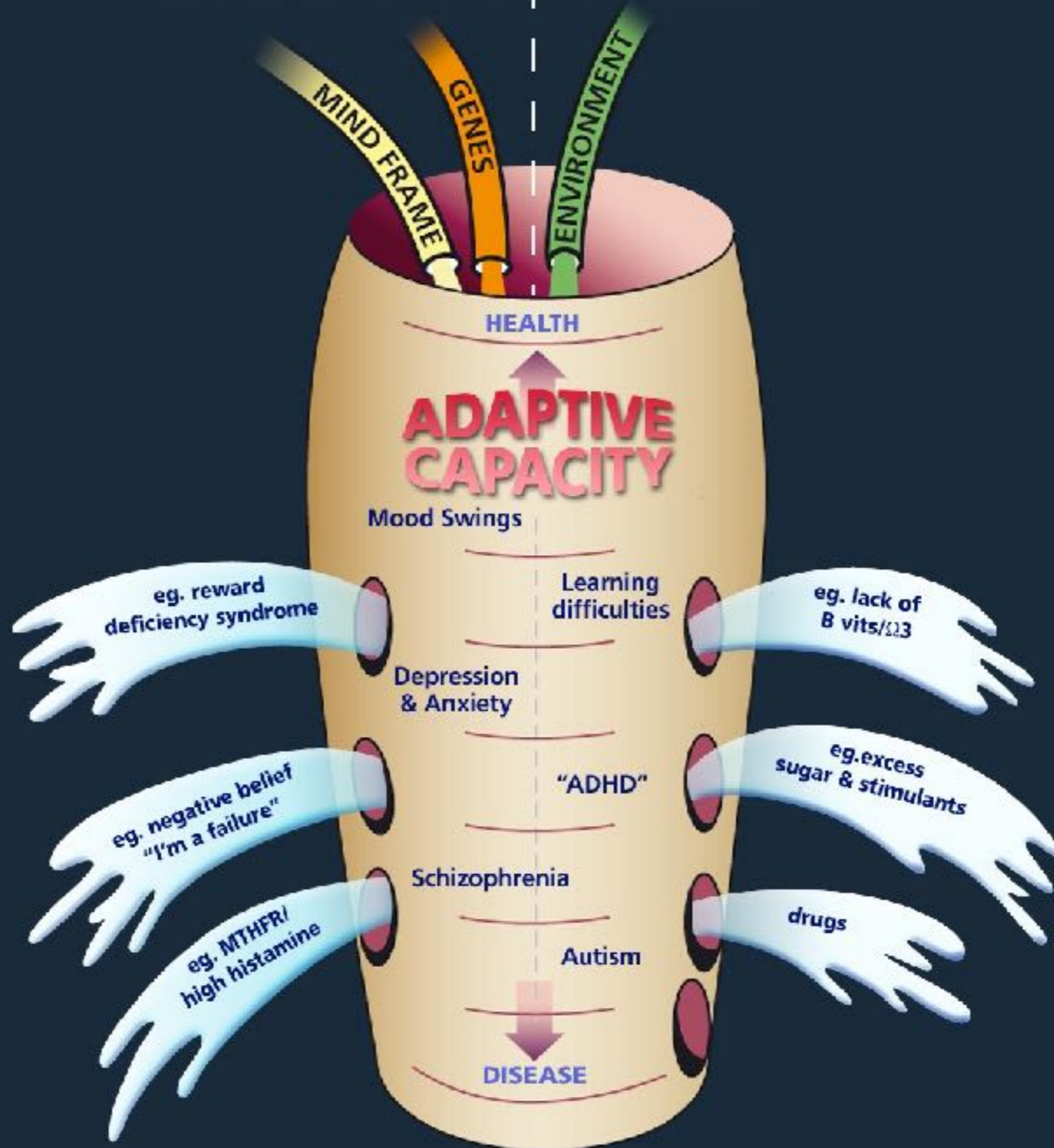
YOUR INHERITANCE

YOUR LIFE



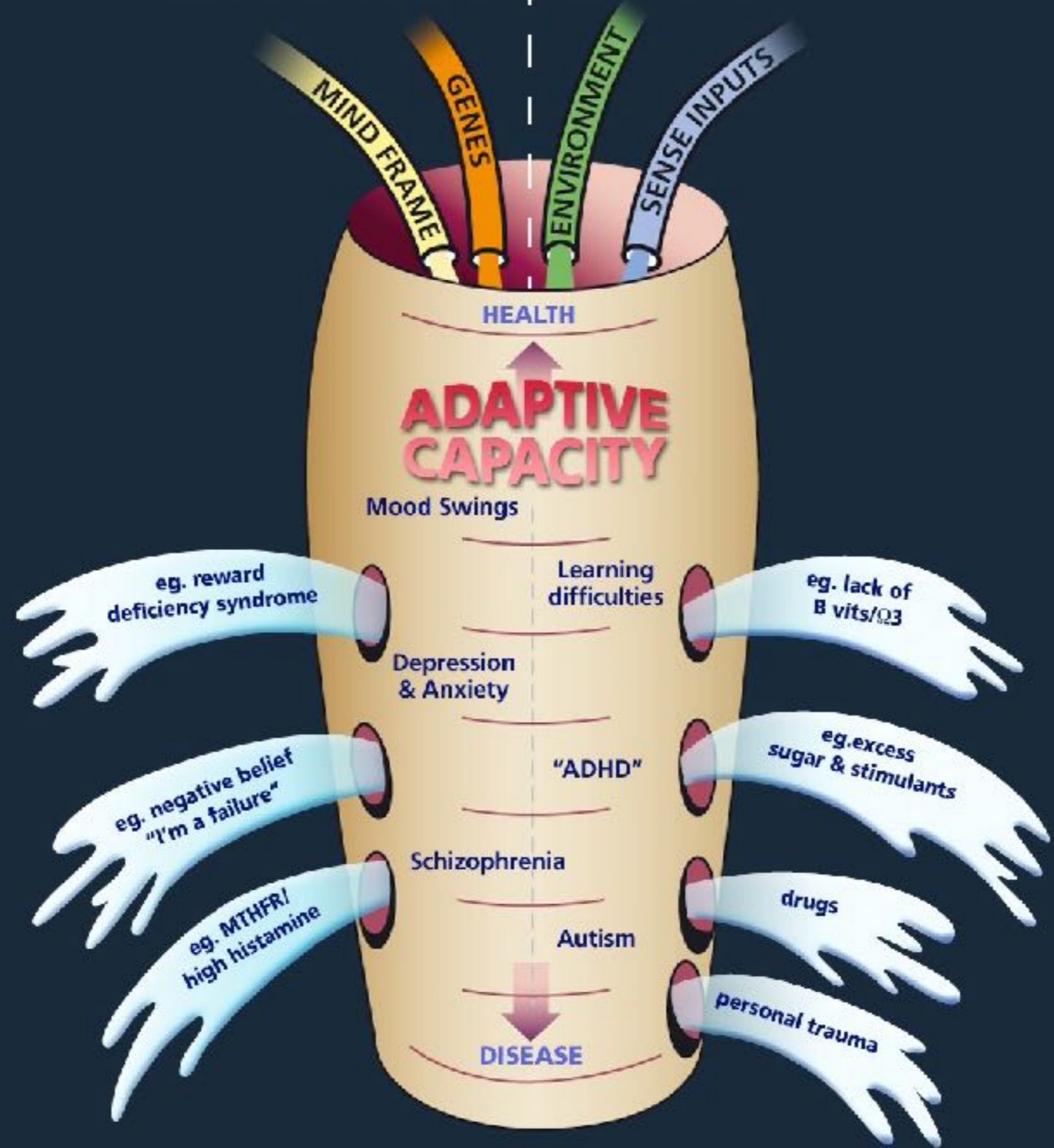
An Integral Model of Mental Health

YOUR INHERITANCE | YOUR LIFE



An Integral Model of Mental Health

YOUR INHERITANCE | YOUR LIFE



An Integral Model of Mental Health



Nutritional medicine as mainstream in psychiatry



Jerome Sarris, Alan C Logan, Tasnime N Akbaraly, G Paul Amminger, Vicent Balanzá-Martínez, Marlene P Freeman, Joseph Hibbeln, Yutaka Matsuoka, David Mischoulon, Tetsuya Mizoue, Akiko Nanri, Daisuke Nishi, Drew Ramsey, Julia J Rucklidge, Almudena Sanchez-Villegas, Andrew Scholey, Kuan-Pin Su, Felice N Jacka, on behalf of The International Society for Nutritional Psychiatry Research

“Nutritional medicine should now be considered as a mainstream element of psychiatric practice, with research, education, policy and health promotion supporting this new framework.”



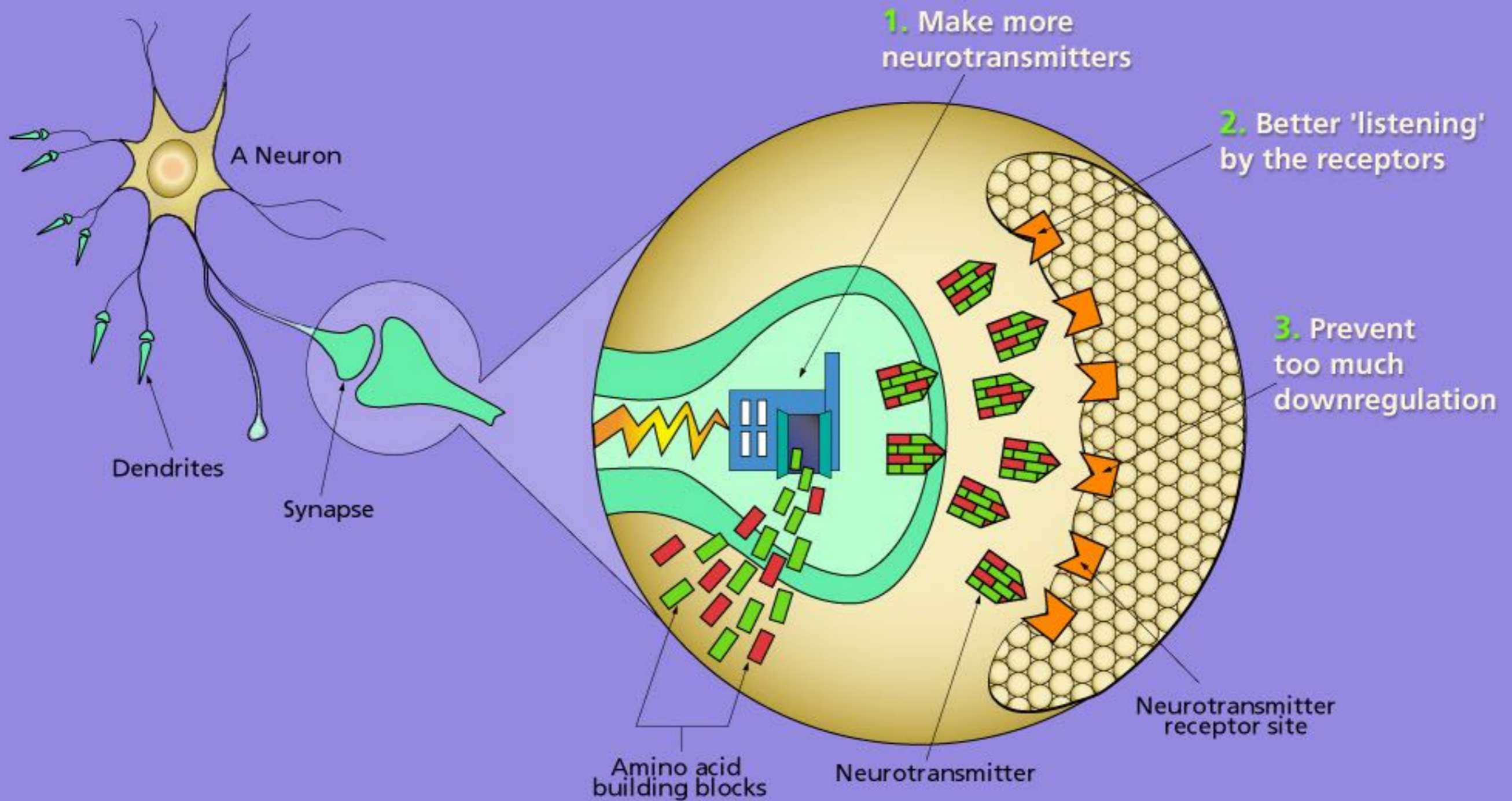
Are we a nation of pill poppers?

- » 80 million prescriptions a year for psychiatric drugs
- » 16.5 million for addictive benzodiazepines and sleeping pills, many for more than four weeks - the time needed for addiction
- » 53 million for anti-depressants, up 500% in two decades
- » 8.4 million for anti-psychotic drugs, despite inefficacy
- » 1.1 million prescriptions of stimulant drugs for children
- » Doctors deny these drugs harm, and don't support withdrawal
- » WHO rate SSRIs among highest ranking drug dependencies

Source: Council for
Evidence-based
Psychiatry, 2013 data

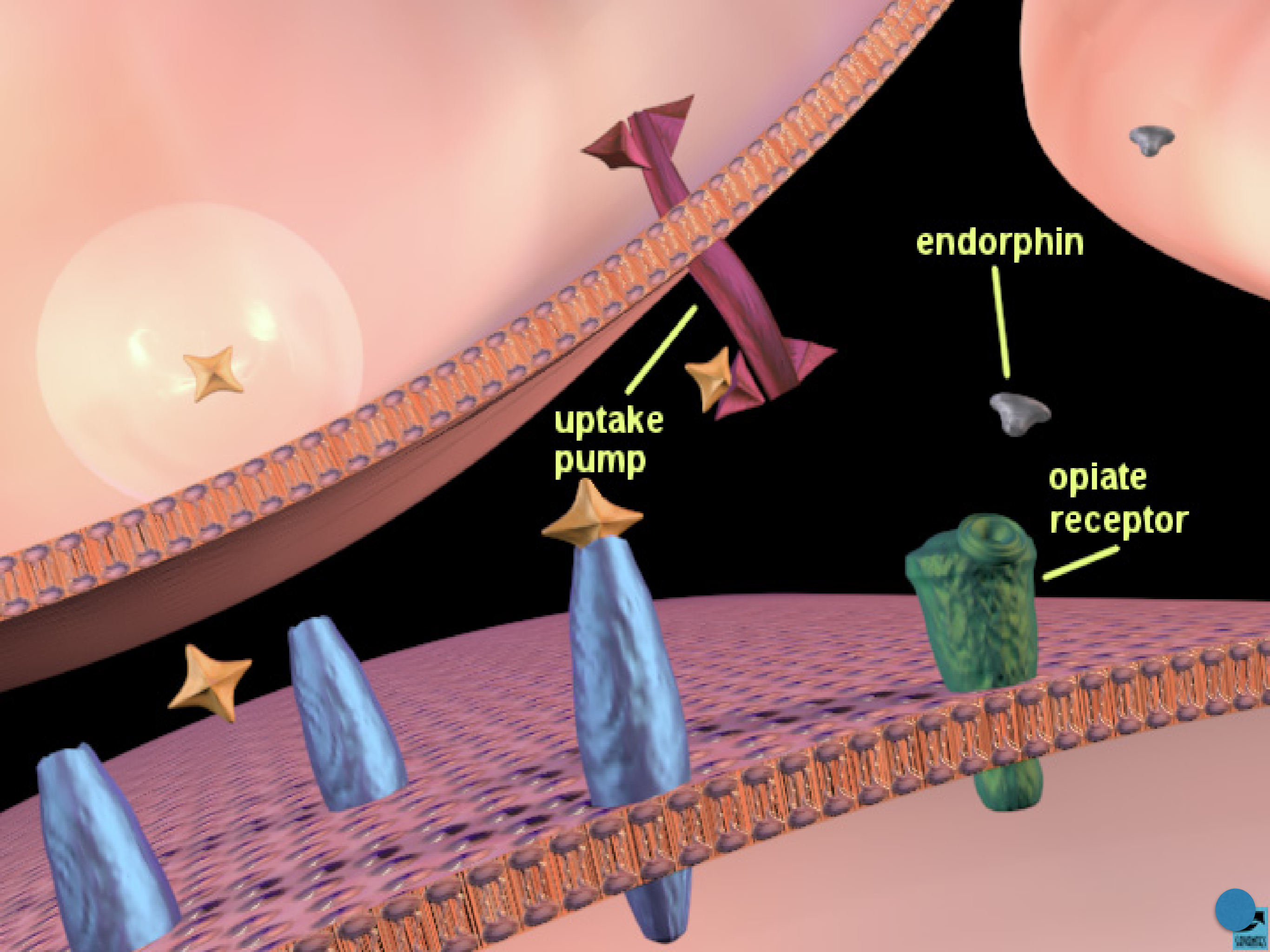
“Doctor, I seem to have become addicted to prescribing drugs.”





Three Ways to Improve Neurotransmission

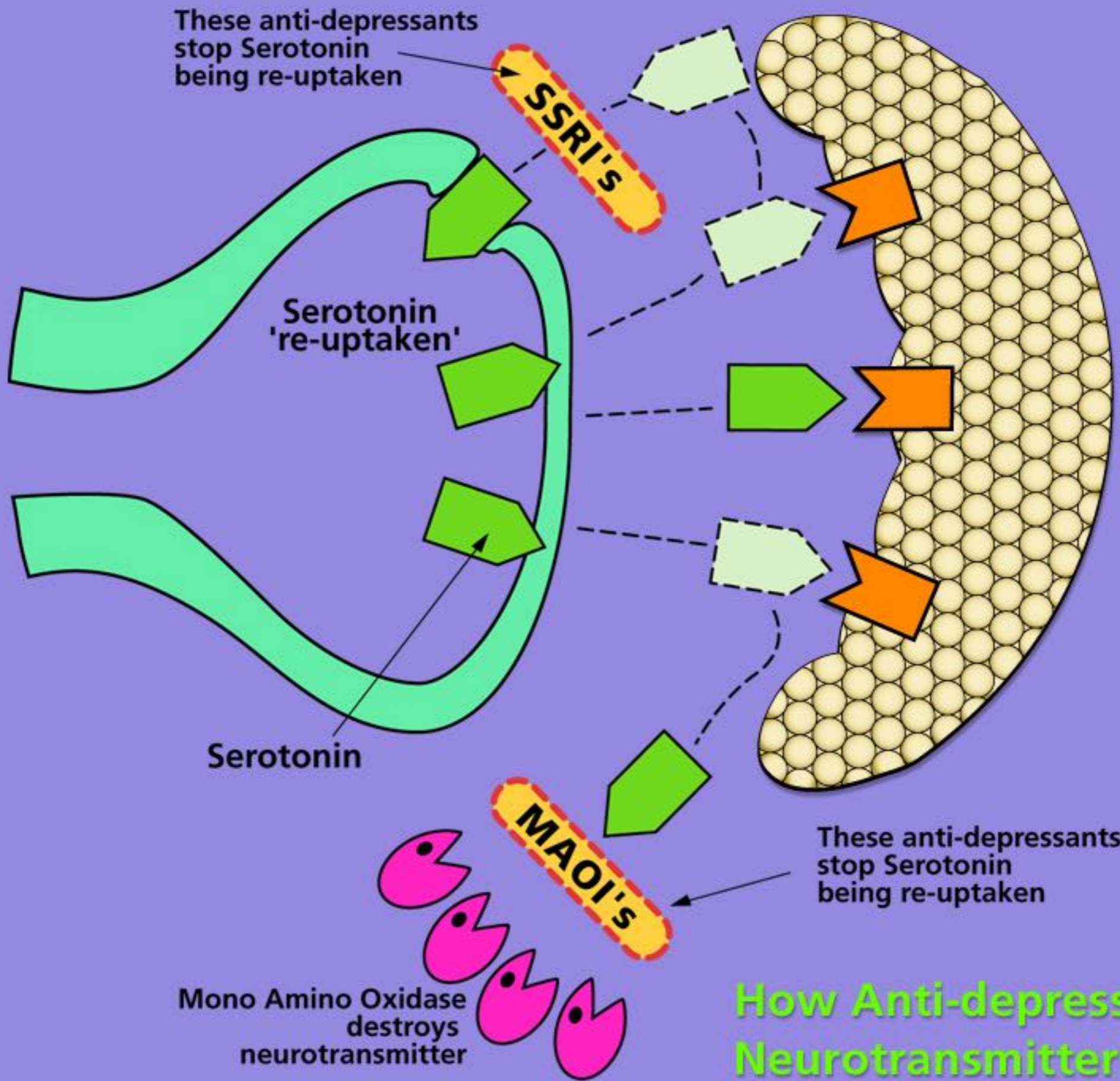




uptake pump

endorphin

opiate receptor



How Anti-depressants Keep Neurotransmitters in Circulation



Serotonin



...is associated with mood, sleep patterns, dreaming, and visions. Low levels of serotonin are associated with:

- ▶ Depression
- ▶ Anxiety
- ▶ Premenstrual syndrome (PMS)
- ▶ Decreased sexual desire
- ▶ Carbohydrate cravings
- ▶ Sleep disturbances
- ▶ Increased sensitivity to pain
- ▶ Emotional volatility, including violent behaviour against self and others
- ▶ Obsessive thinking
- ▶ Alcohol and drug abuse
- ▶ Suicide



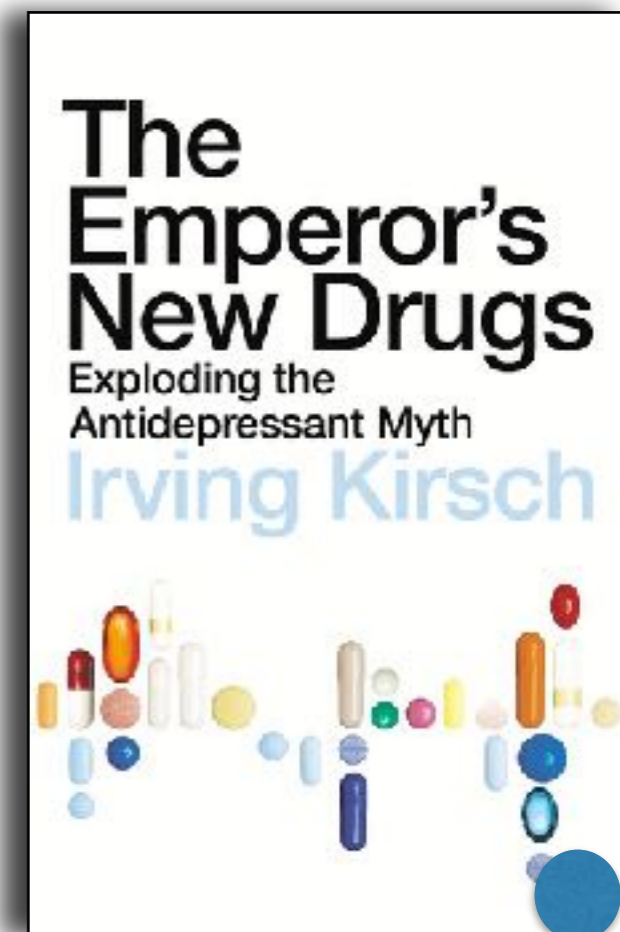
SSRI's more than double suicide risk



D. Healey et al, British Medical Journal 2005;330;396-404

A review of 702 studies on SSRI antidepressants showed that people taking an SSRI were more than twice as likely to attempt suicide compared with those taking a dummy pill. The researchers also noted that the actual number of suicide attempts is likely to be much higher, because many of the studies did not gather information on suicide.

Despite these risks doctors wrote out 57 million prescriptions for anti-depressants last year, costing NHS £265 million.



Anti-depressants - placebos?



J. C. Fournier, et al., *Journal of the American Medical Association*, 2010;303(1):47–53

- ▶ An analysis of six large studies found that for people with mild or moderate depression, which accounts for the vast majority of those with depression, antidepressants are really no better than a placebo. To quote the study, *‘The magnitude of benefit of medication compared with placebo . . . may be minimal or nonexistent, on average, in patients with mild or moderate symptoms.’*
- ▶ A recent report on all treatments for depression from the UK’s National Institute for Health and Clinical Excellence agrees, *‘There is little clinically important difference between antidepressants and placebo for mild depression.’*



TRYPTOPHAN

PHENYLALANINE



5-HTP

TYROSINE

**B vitamins,
C + Zinc**
help these
conversions

TMG + SAME

helps make
these

SEROTONIN

**DOPAMINE
NORADRENALIN
ADRENALIN**

OMEGA 3 fats

improve neurotransmitter
reception

Mood Enhancing Nutrients



Relapse of depression after depletion of tryptophan

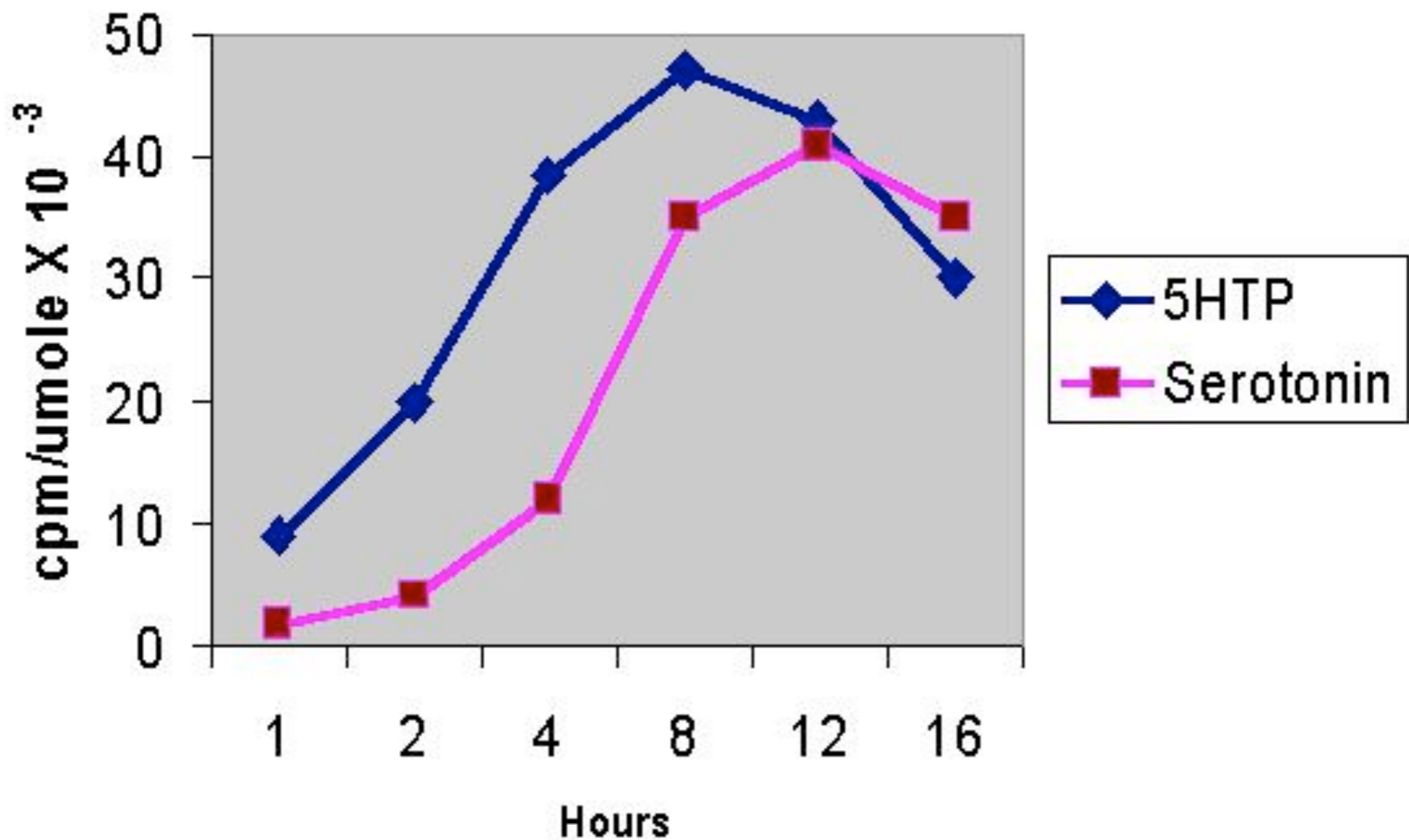


Smith, K. A. et al (1997). *Lancet*, 349, 915-919

An experiment was carried out at Oxford University's Department of Psychiatry which proved this connection very clearly. Fifteen women were given a diet devoid of tryptophan. Within eight hours ten of the women started to feel more depressed. When tryptophan was added back into their diet, without them knowing, their mood improved.



Biosynthesis of Serotonin in CSF (on fasting rat)



Rats were given 60 uci ¹⁴C-tryp (3ml; orally)



5-HTP effective for depression



Turner E et al., Pharmacology&Therapeutics (2005)

- ▶ There have been 27 studies using 5-HTP for the treatment of depression, involving 990 people to date, most of which proved effective. Of these, 11 were double-blind placebo controlled, six of which measured depression using the Hamilton Rating Scale.

% Improvement in Hamilton Rating Score vs placebo or drug

Alino et al	39% improvement
Nardini	56% improvement
Rousseau	13% improvement
Van Praag (72)	40% improvement
Van Praag (84)	30% improvement
Quadbeck	34% improvement



How much?



- ▶ **100 to 300mg a day is most effective, but start with 100mg. Mood Food contains 100mg in 2 capsules.**
- ▶ best taken on an empty stomach, or with a carbohydrate snack (eg fruit)
- ▶ rarely, people experience mild nausea when first taking 5-HTP which tends to go after a couple of days
- ▶ if you become more hyper or anxious then the chances are you are not low in serotonin and don't need 5-HTP.
- ▶ Don't take with anti-depressants unless under the guidance of a health care professional.



5-HTP & melatonin for sleep



- ▶ Supplementing **100 to 200mg of 5-HTP** half an hour before you go to bed helps you get a good night's sleep.
- ▶ **Melatonin**, which is a neurotransmitter, not a nutrient, is proven to help you get to sleep but needs to be used much more cautiously than a nutrient. In controlled trials it's a bit less effective than the drugs, but has a fraction of the side effects. Discuss with your doctor. **Try between 3mg and 6mg before bed.**
- ▶ **Listen to 'Silence of Peace'** to switch your brain off.
- ▶ **Magnesium and GABA** help you to relax. So does **theanine**. Take a supplement containing all these.



Silence of Peace



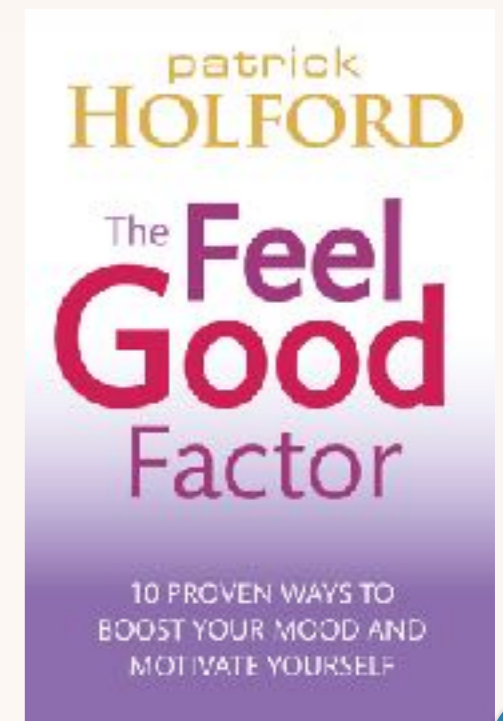
- ▶ Sue suffered from PTSD. *“I used to sleep about 3 hours and woke every 45 mins. The improvement happened from night one, now just one week later I am sleeping 6 to 7 hours. If I wake - which is becoming rare I simply tune in again! I haven’t heard the end of the CD yet.”*
- ▶ Peter was too stressed to meditate and uses Silence of peace to calm down. *“I couldn’t believe it. In seconds I felt my heart slowing down and my whole body tingling.”*
- ▶ Olga had chronic insomnia. *“It was a miracle. minutes I experienced a miracle! I received rest that I was desperate for!”*



Serotonin & mood-related nutrients



- ▶ Sunlight/full spectrum light (and **vitamin D**)
- ▶ Exercise
- ▶ Low GL diet plus **chromium**
- ▶ Tryptophan/**5-HTP**
- ▶ Lack of stress/**tyrosine**
- ▶ Co-factors (eg B3, **B6**, folate, C **Zn**, Mg)
- ▶ Methyl nutrients (S_AM_e, **TMG**, **B12**, **folic acid**)
- ▶ Omega 3 (EPA)



Omega-3s work for depression



Grosso G et al, PLoS One, 2014

- ▶ The most comprehensive review and meta-analysis of 19 trials on patients with mild and major depression concludes that **‘the use of omega-3 fats is effective both in patients with major depressive disorder and milder depression’**.

The greater the amount of EPA, not DHA, the more effective was the treatment likely to be.

Most effective studies give 1,000mg of EPA. Lowest effect with 300mg combined EPA/DHA. (2 x Essential Omegas = 600mg)



Vit D improves mood & memory



R. Jorde, *Archives of general psychiatry*, 2008; Littlejohns, *Neurology*, 2014

C. Shipowick, *Applied Nursing Research*, 2009; A. Lansdowne, *Psychopharmacology*, 1998

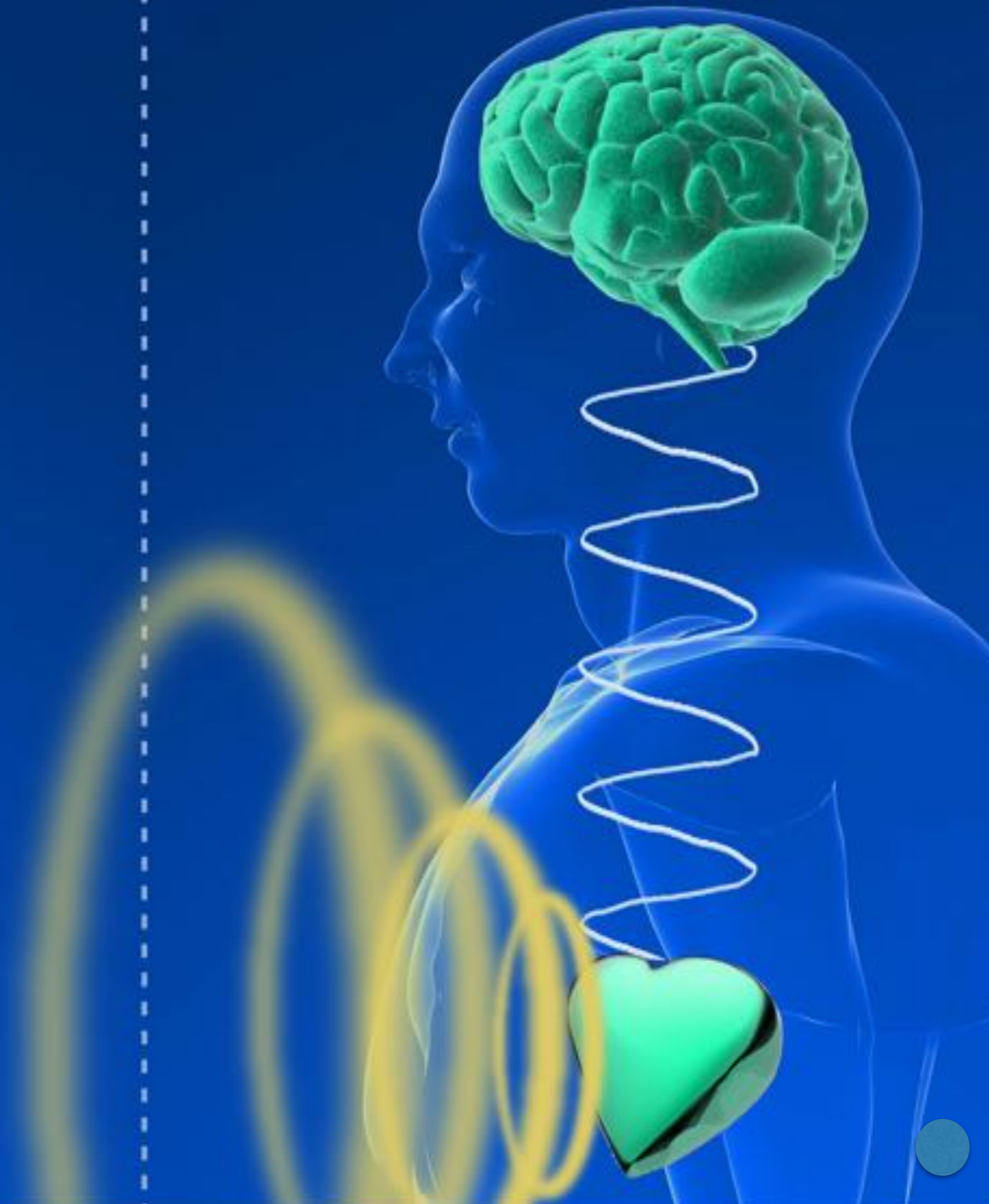
- ▶ The lower your vitamin D the worse your mood.
- ▶ Low vitamin D doubles dementia risk.
- ▶ Supplementing vitamin D improves mood.
- ▶ We are all deficient in winter and need to supplement at least 15mcg (600iu), although twice this may be necessary to correct deficiency.
- ▶ It is also linked to less cancer, heart disease and healthy bone mass.

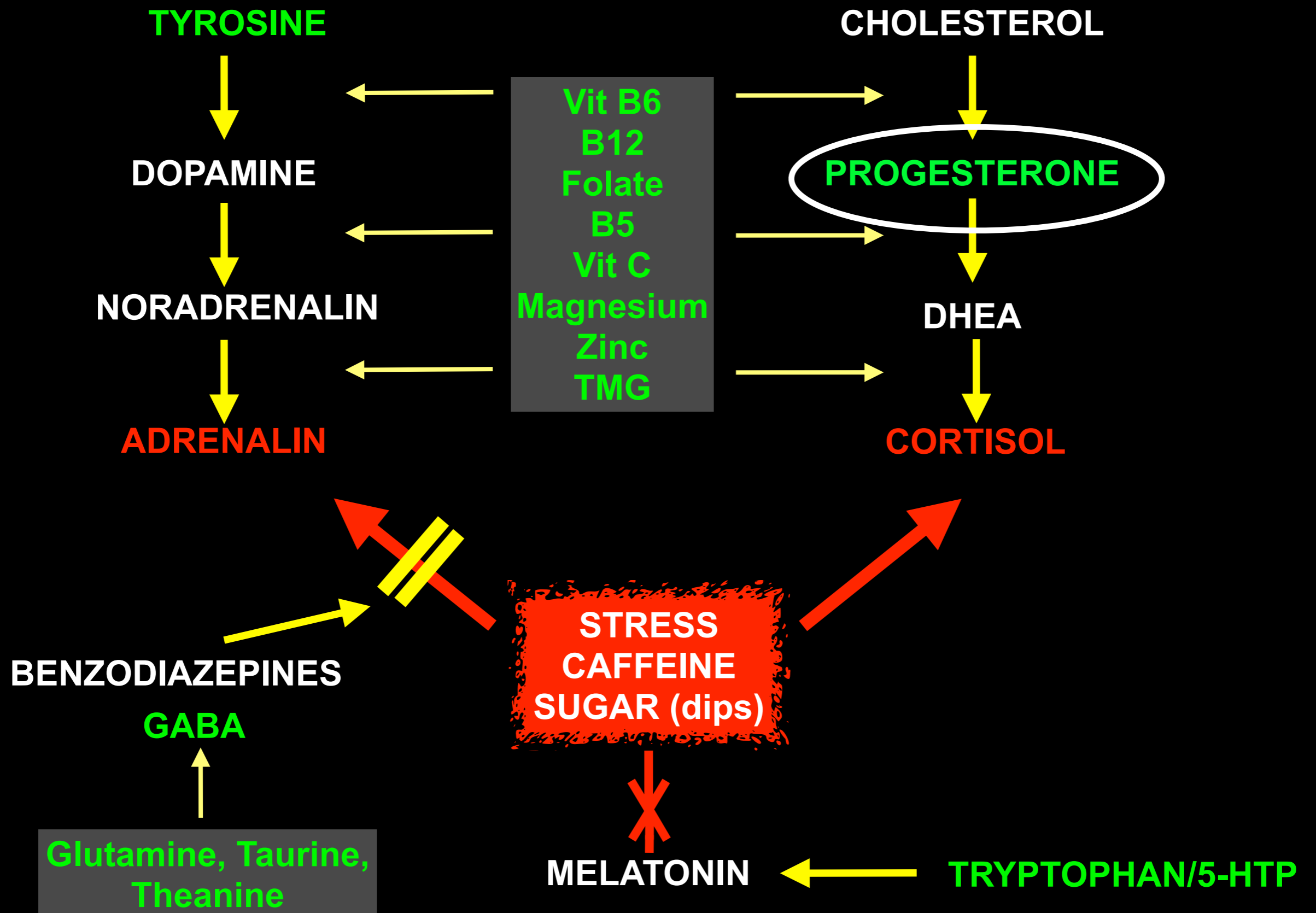


Out of Sync



In Sync





Adrenalin dominance-symptoms &



- ▶ Anxiety, irritability, anger,panic attacks
- ▶ Insomnia
- ▶ ADHD
- ▶ Depression
- ▶ PMS
- ▶ Thyroid problems
- ▶ Chronic interstitial cystitis
- ▶ IBS
- ▶ Fibromylagia, aches and pains
- ▶ Restleg leg syndrome
- ▶ Hot flushes



Stress - why you need to crack this



- ▶ One in five people take time off because of it
- ▶ 59% say life is more stressful than 5 years ago
- ▶ Heart disease risk goes up five-fold
- ▶ Diabetes, obesity and dementia risk more than doubles
- ▶ It's as bad for you as smoking or having a high cholesterol

“There is nothing either good or bad but thinking that makes it so.”



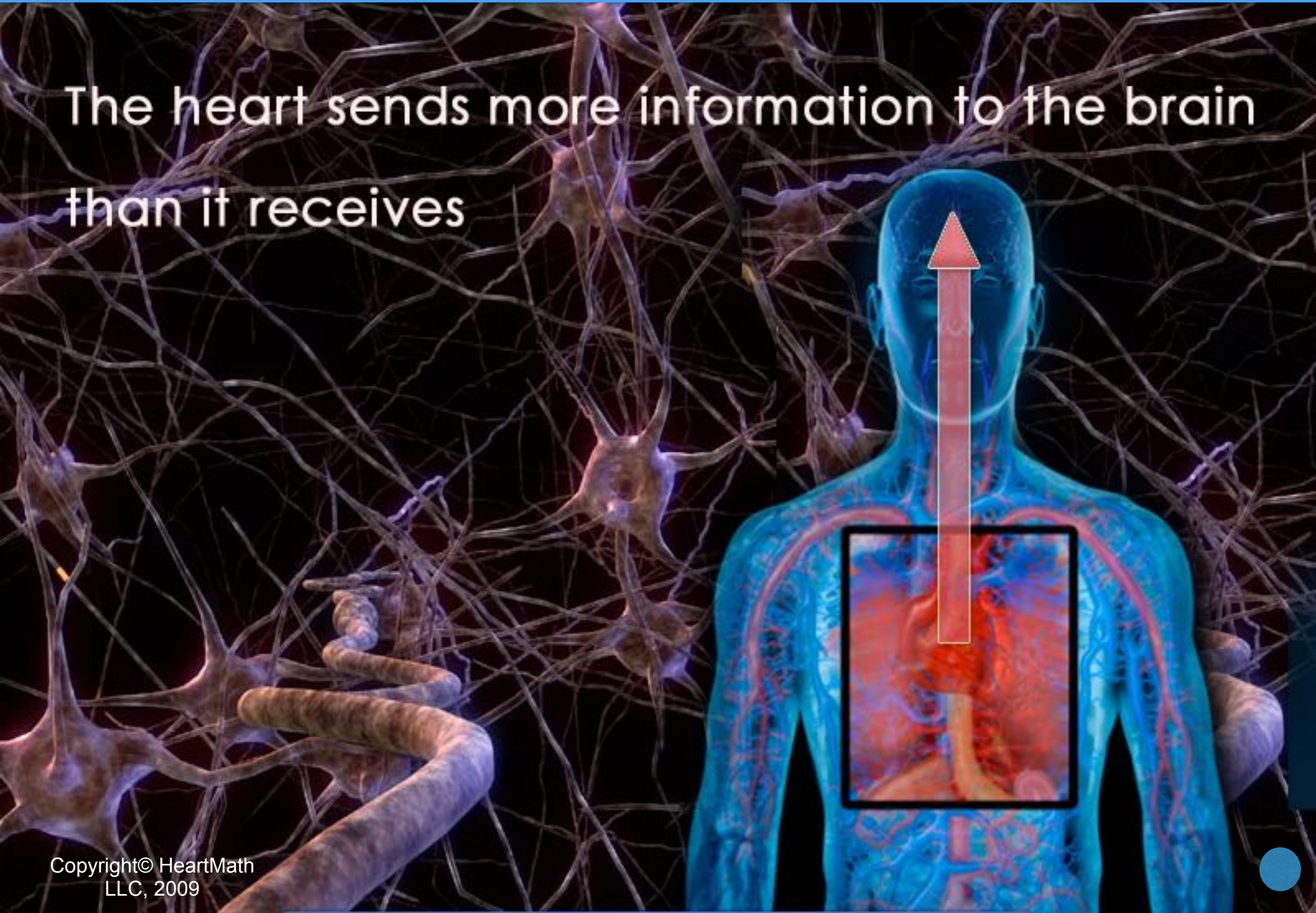
Four ways to raise adrenal

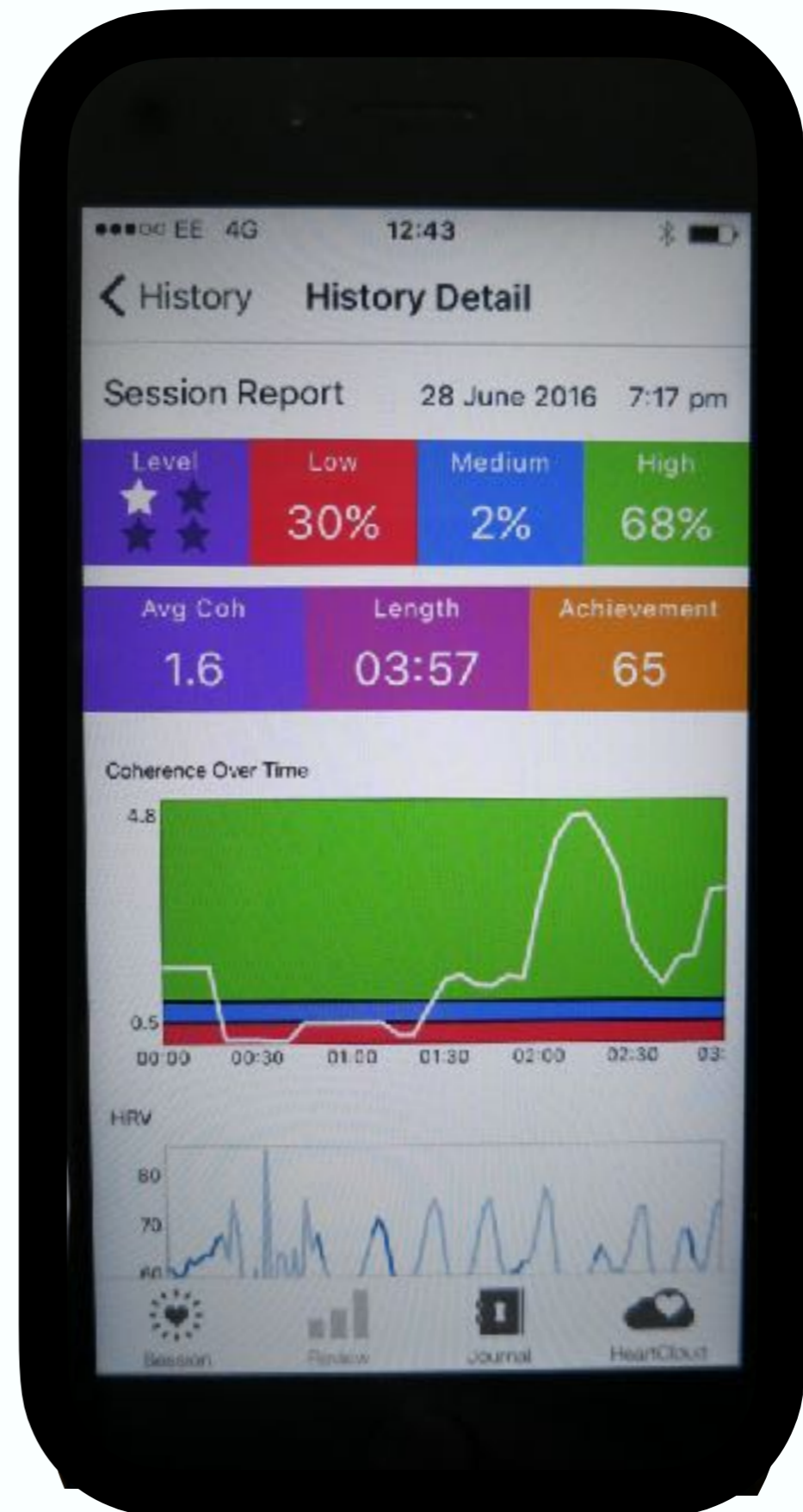
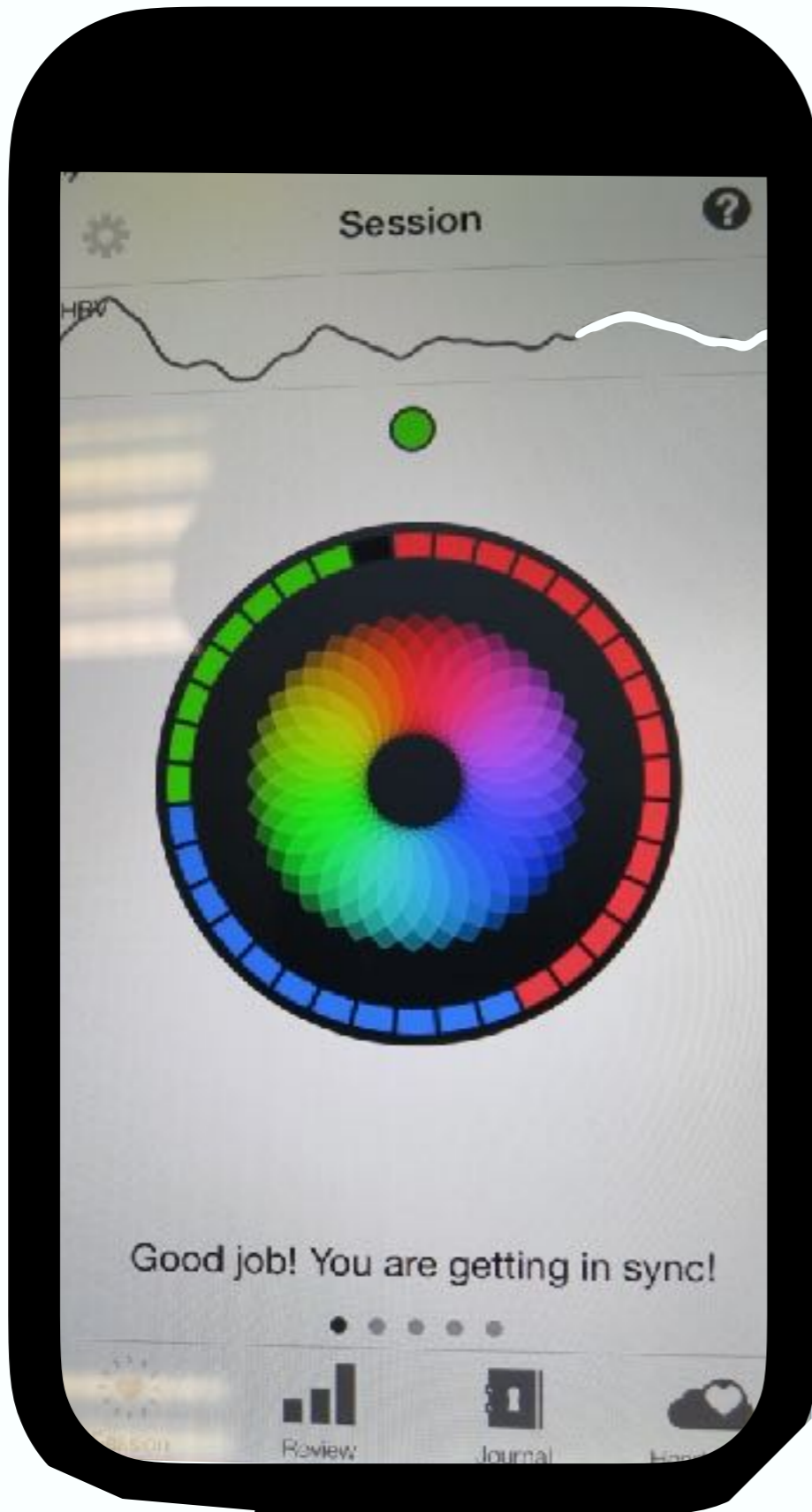


- ▶ A stressful thought
- ▶ A blood sugar dip
- ▶ Caffeine (and other stimulant drugs)
- ▶ Progesterone deficiency



The heart sends more information to the brain
than it receives









Brain Bio Centre

international consultations by skype

see <https://www.ion.ac.uk/Pages/Category/the-brain-bio-centre>



Stand up

violet

spiritual

blue

intellectual

green

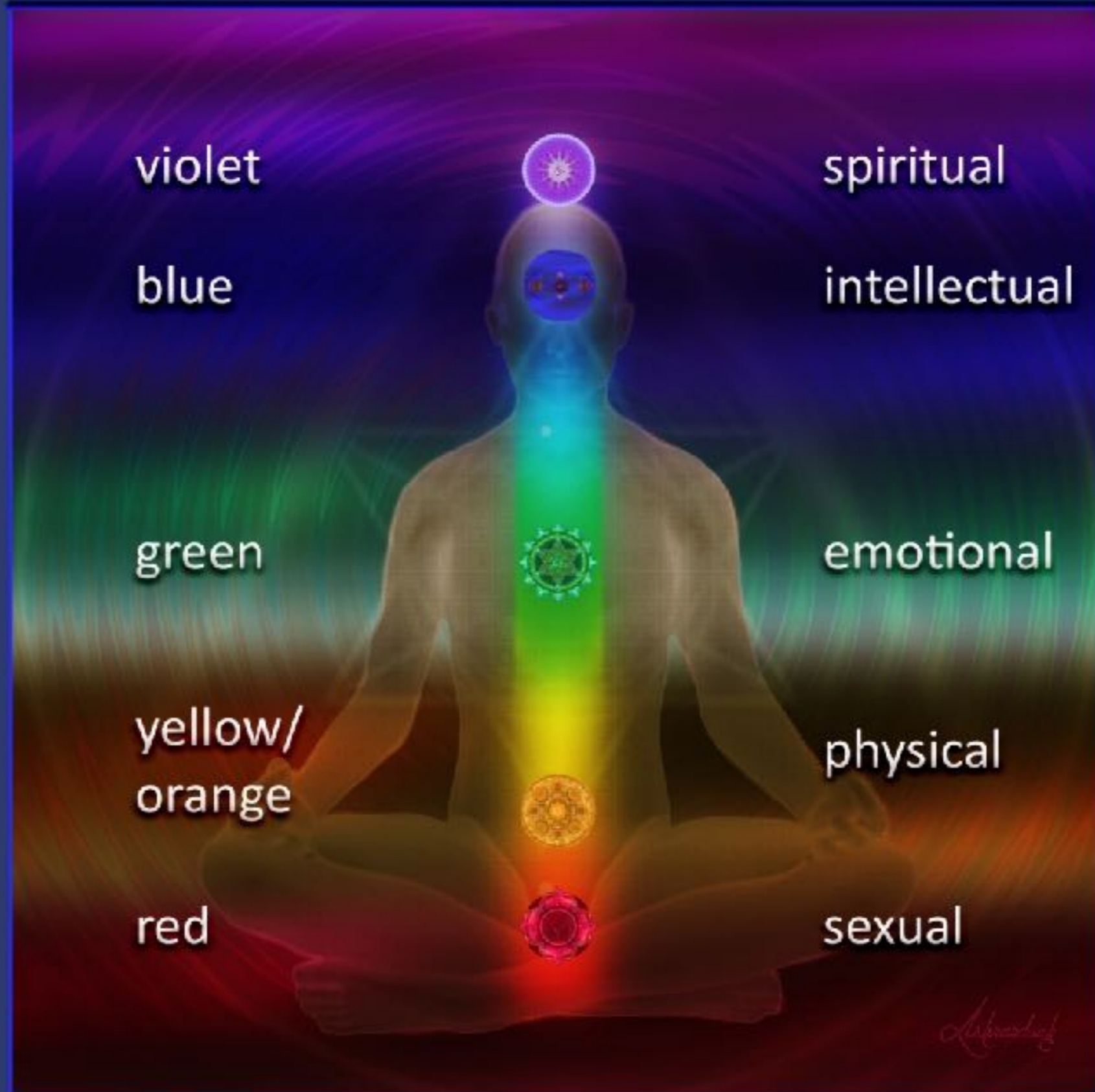
emotional

yellow/
orange

physical

red

sexual

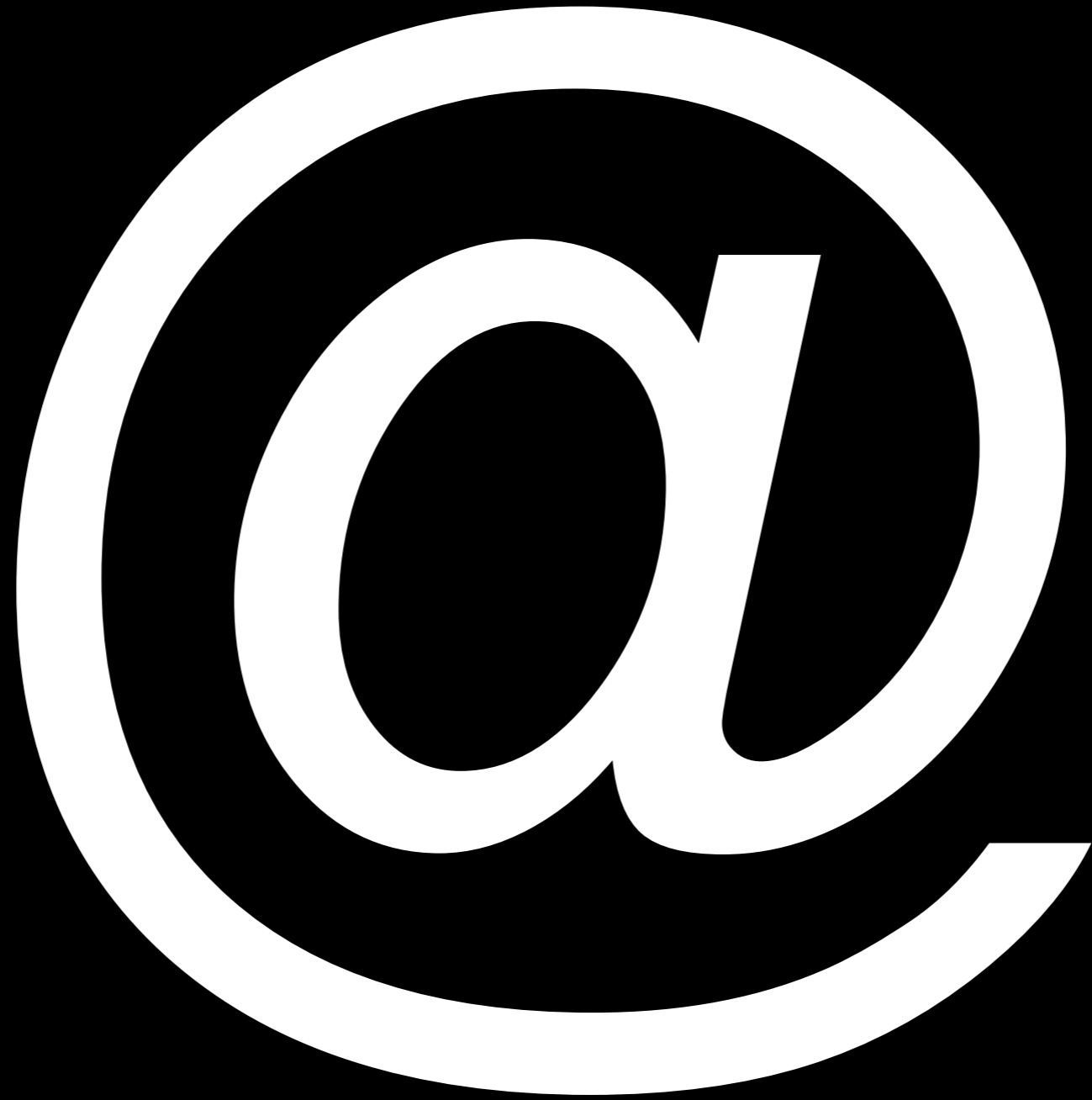


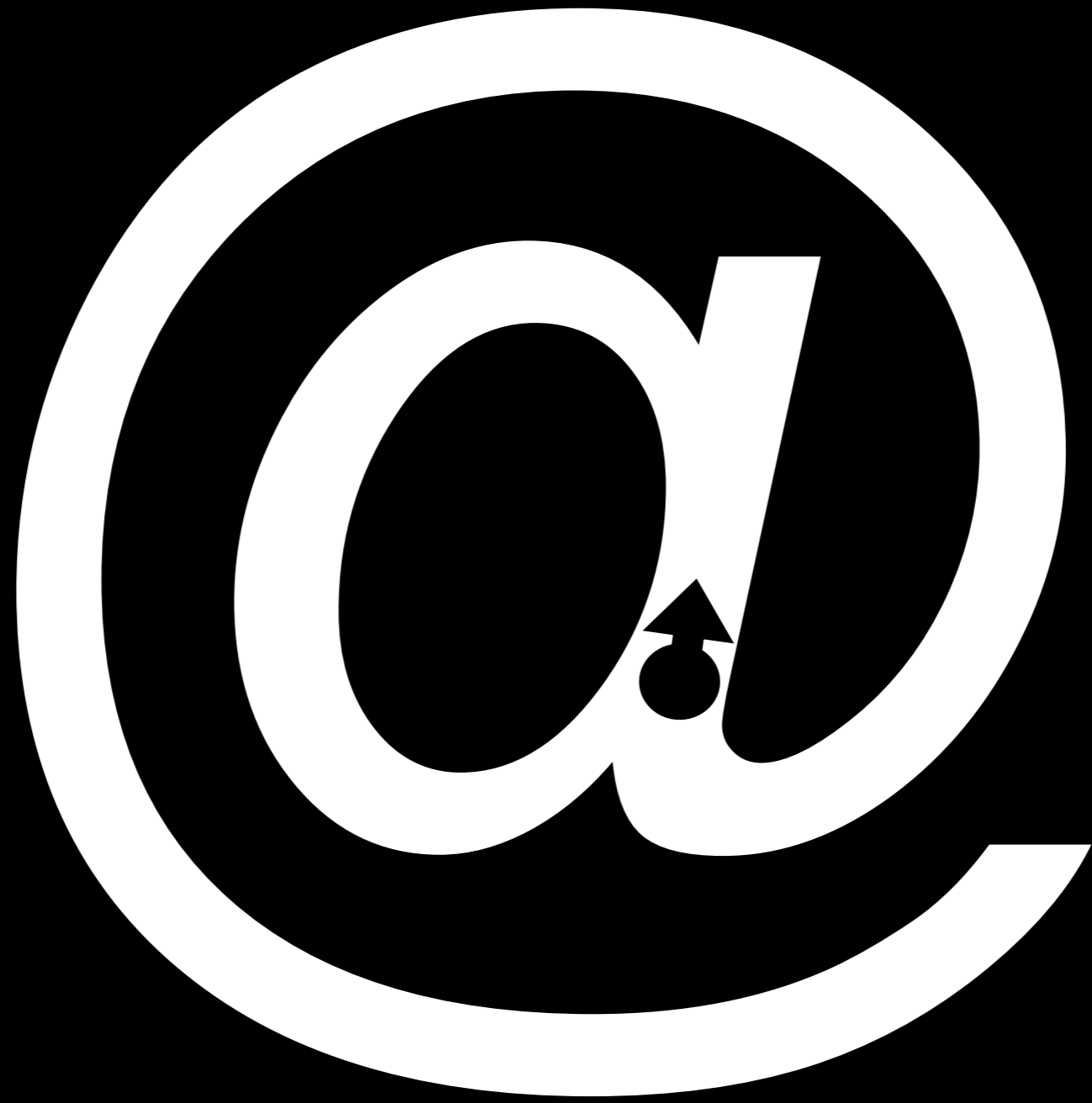
Arpan Singh

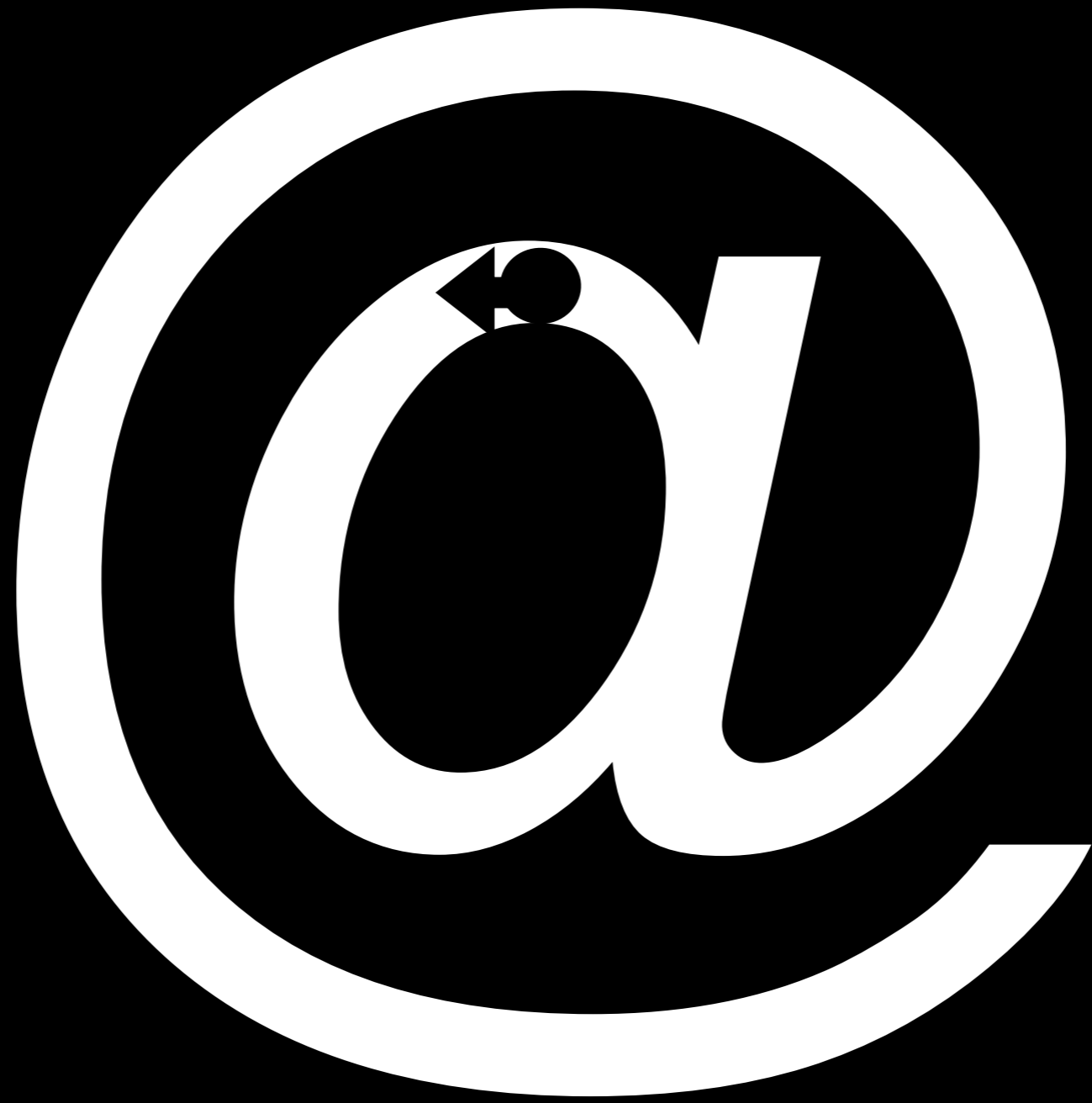


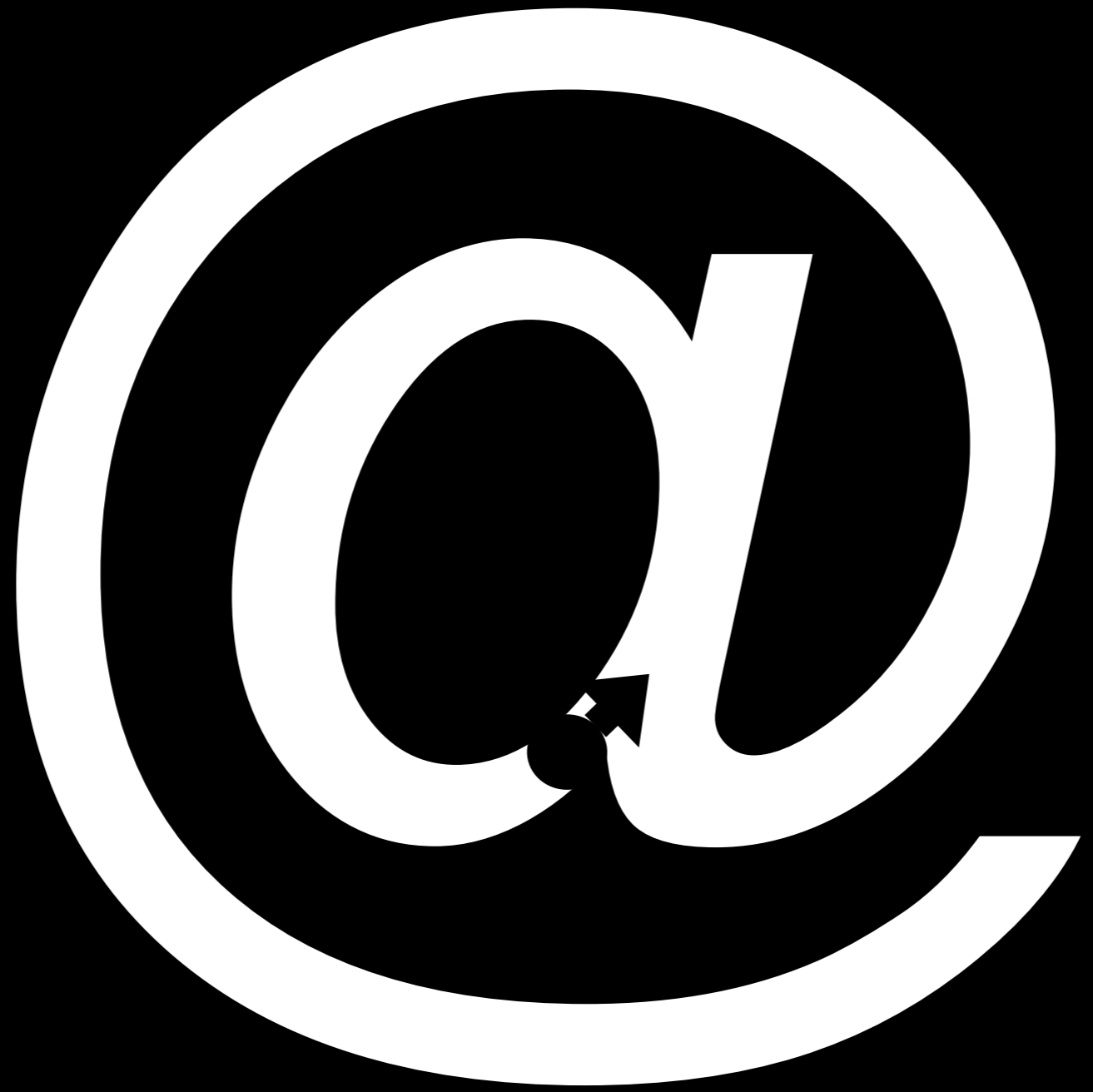
Adams



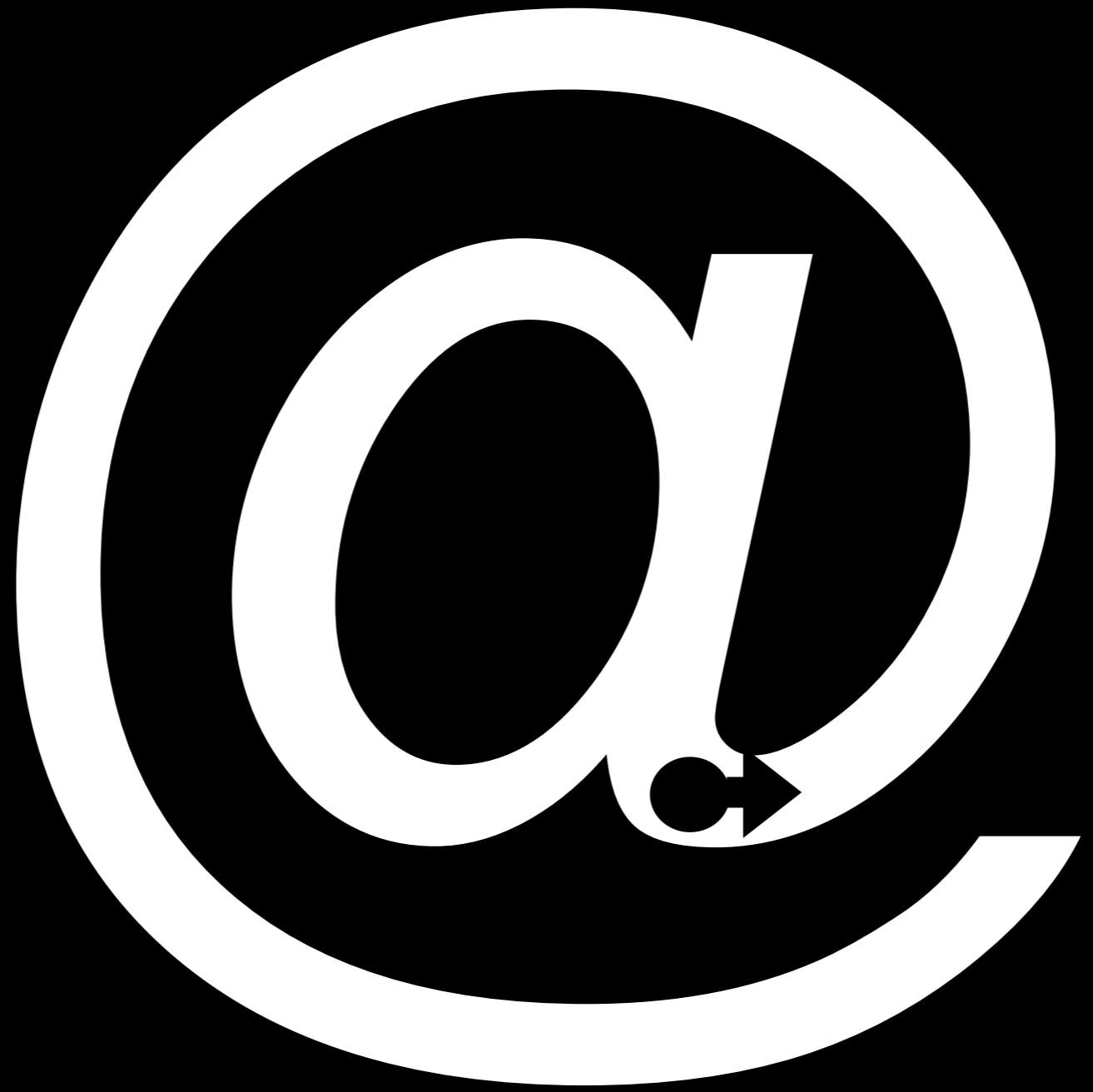




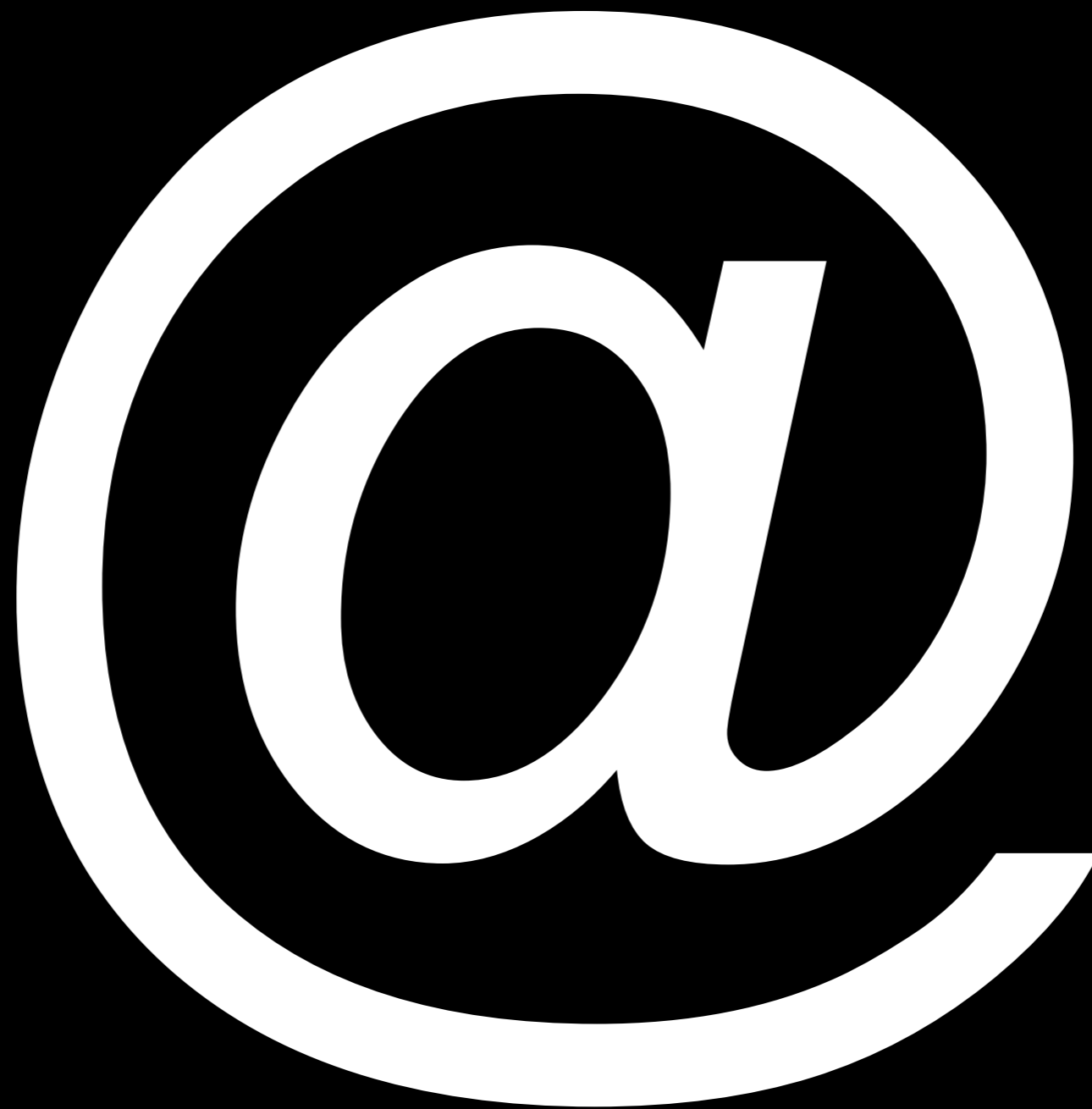


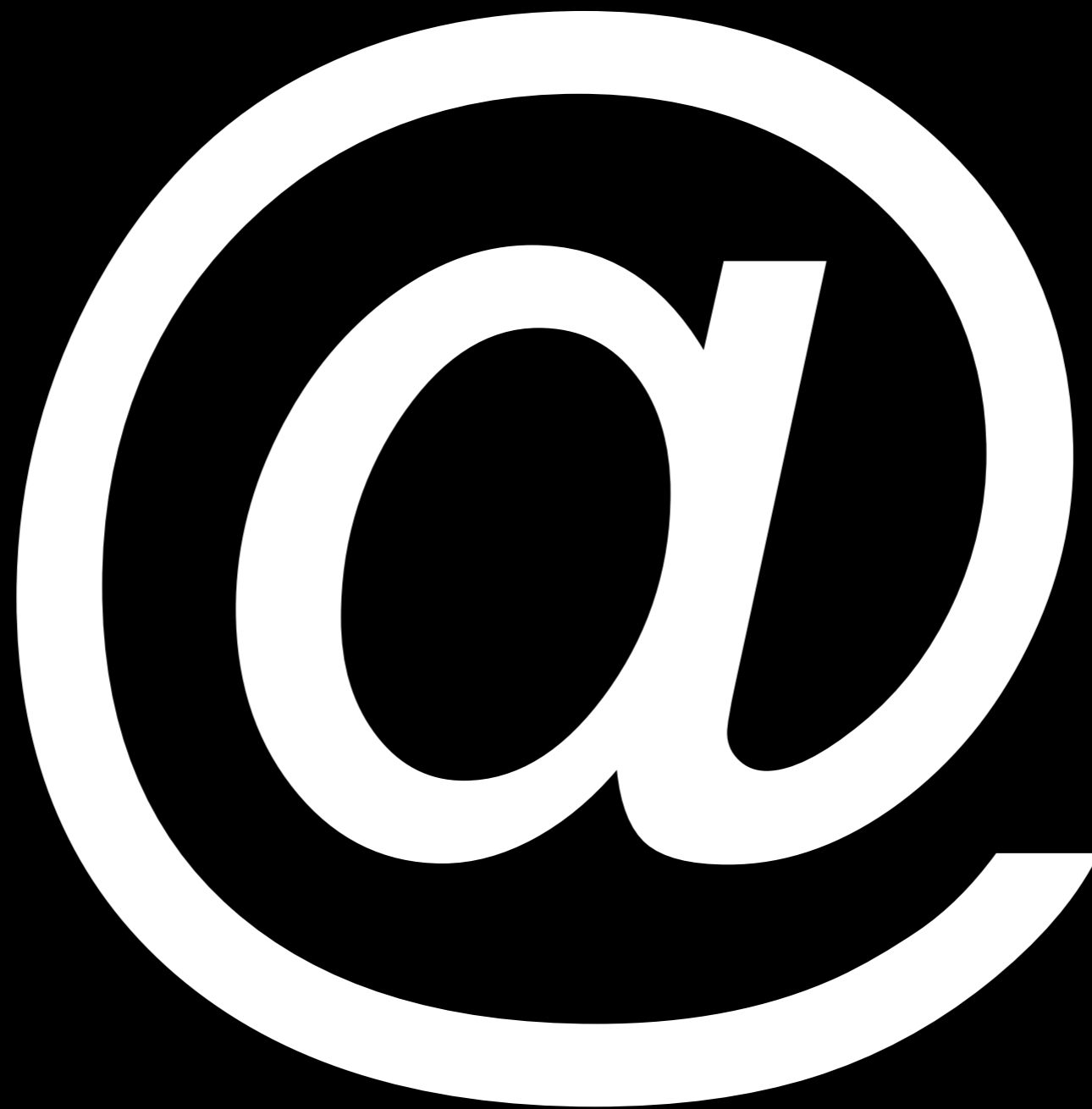












patrick



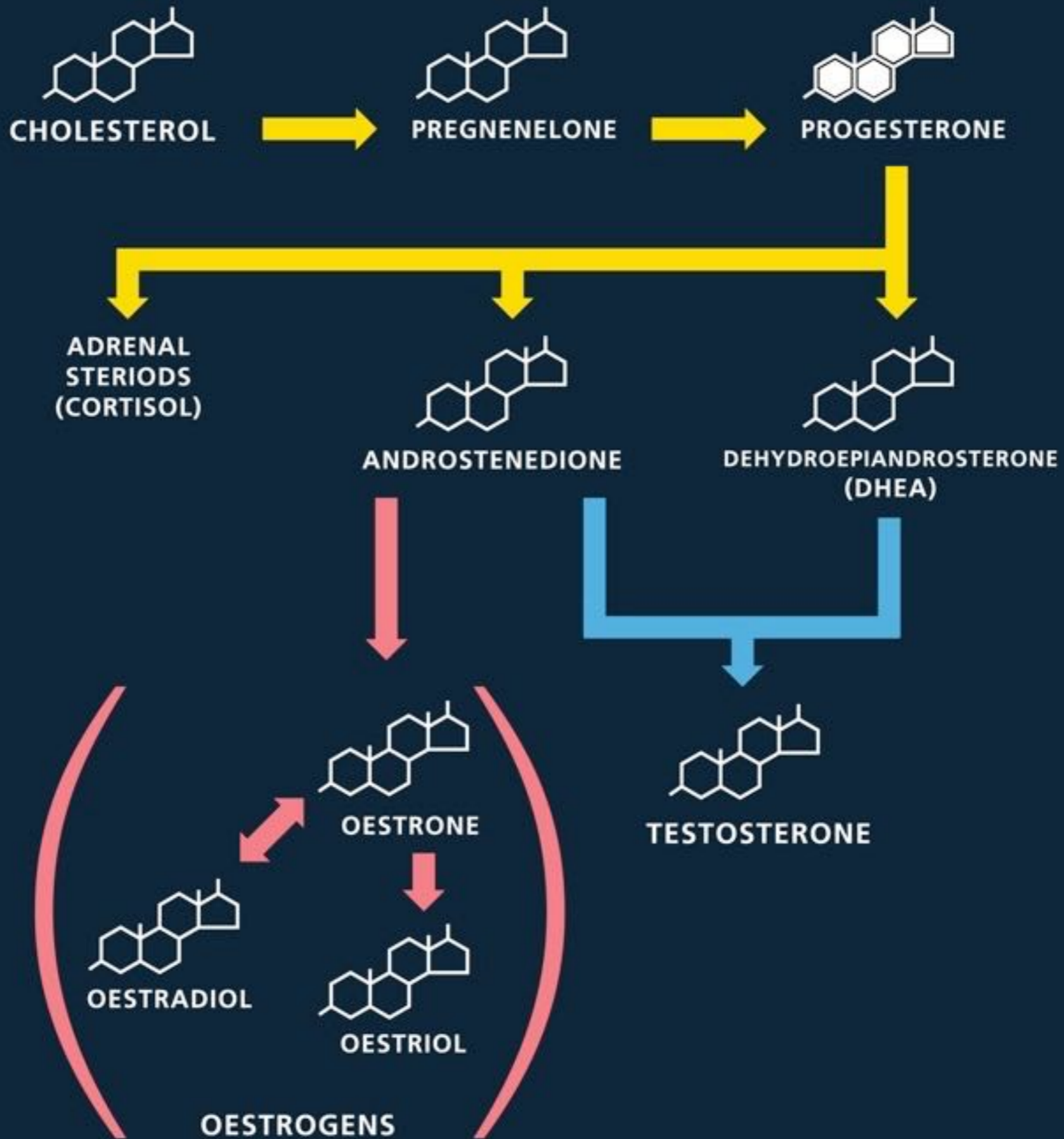
gmail.com



BALANCE YOUR HORMONES

**SAY NO TO PMS &
MENOPAUSAL SYMPTOMS
IMPROVE YOUR (SEX) DRIVE**



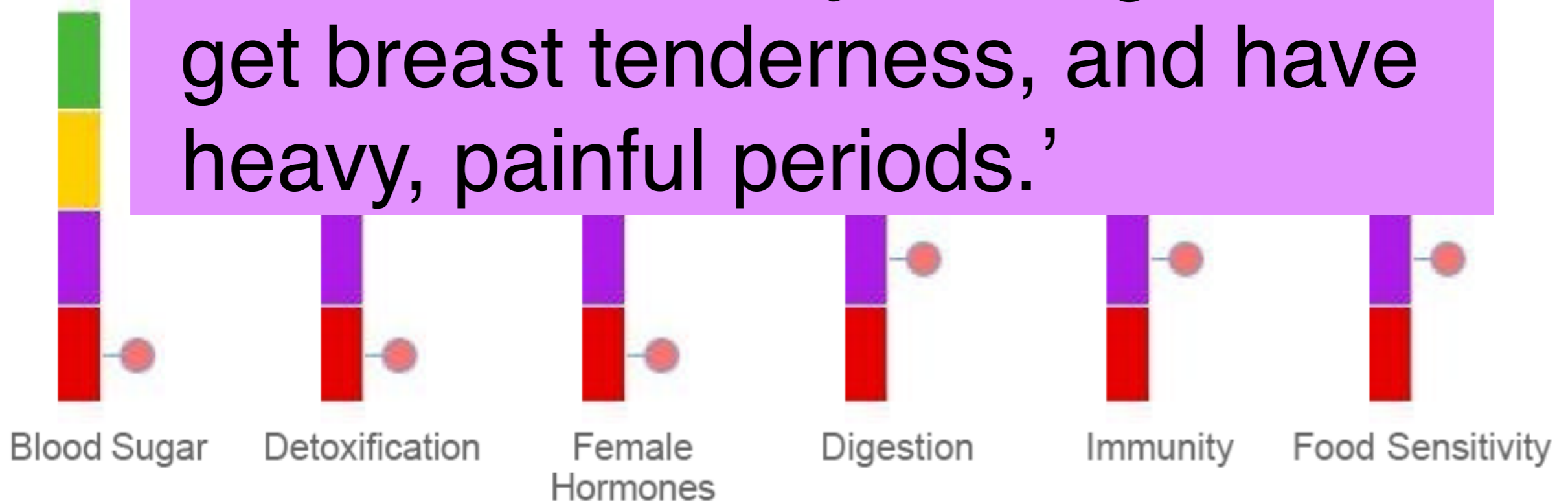


Elaine – Before

Overall I

▶ ‘My PMS starts a week before a period. For the first two days I can handle it, my stomach starts churning, I get worse and worse, won’t listen to anyone, I go nuts, get breast tenderness, and have heavy, painful periods.’

Key health



Elaine – After

- ▶ “I haven’t had any PMT – should be really bad right now. None of my outbursts. No breast tenderness. I’ve stuck to the diet completely. My energy has gone through the roof. I just feel like a completely different person. I can’t believe it’s happened so quickly. My husband can’t believe the change. I’m really enjoying the diet. I’m trying new foods and the taste is great.’

Digestion

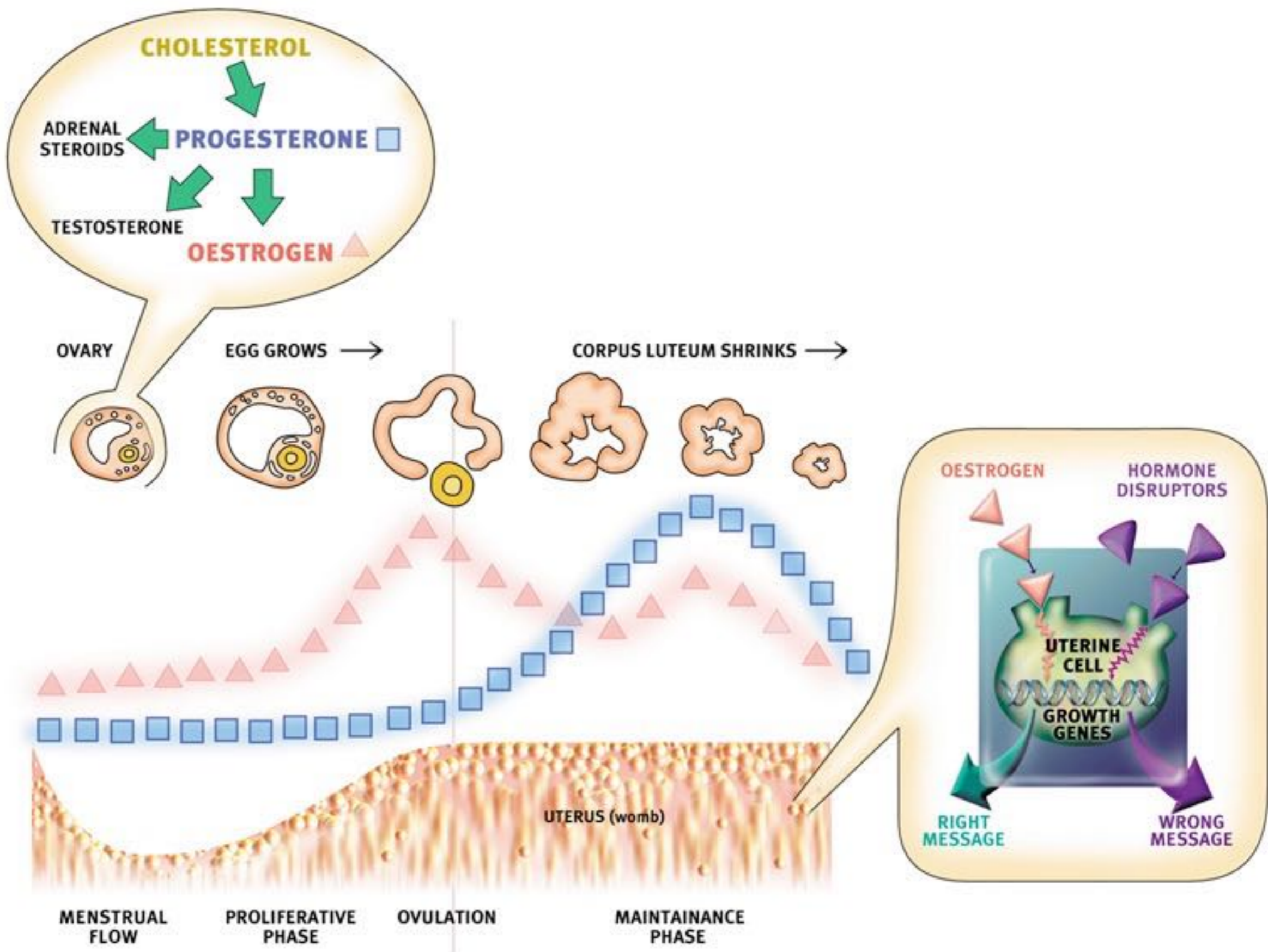
Detoxification

Food Sensitivity

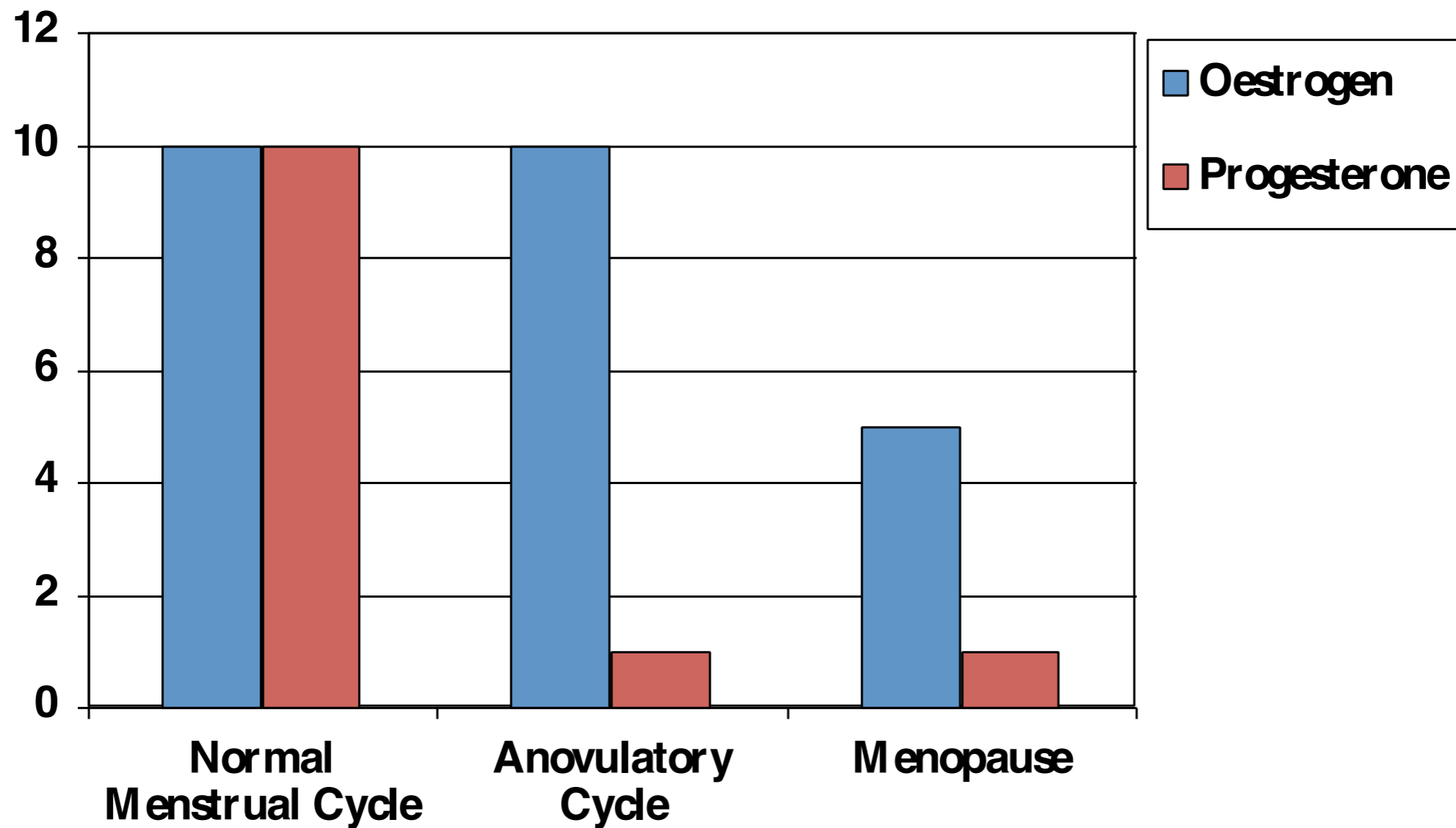
Blood Sugar

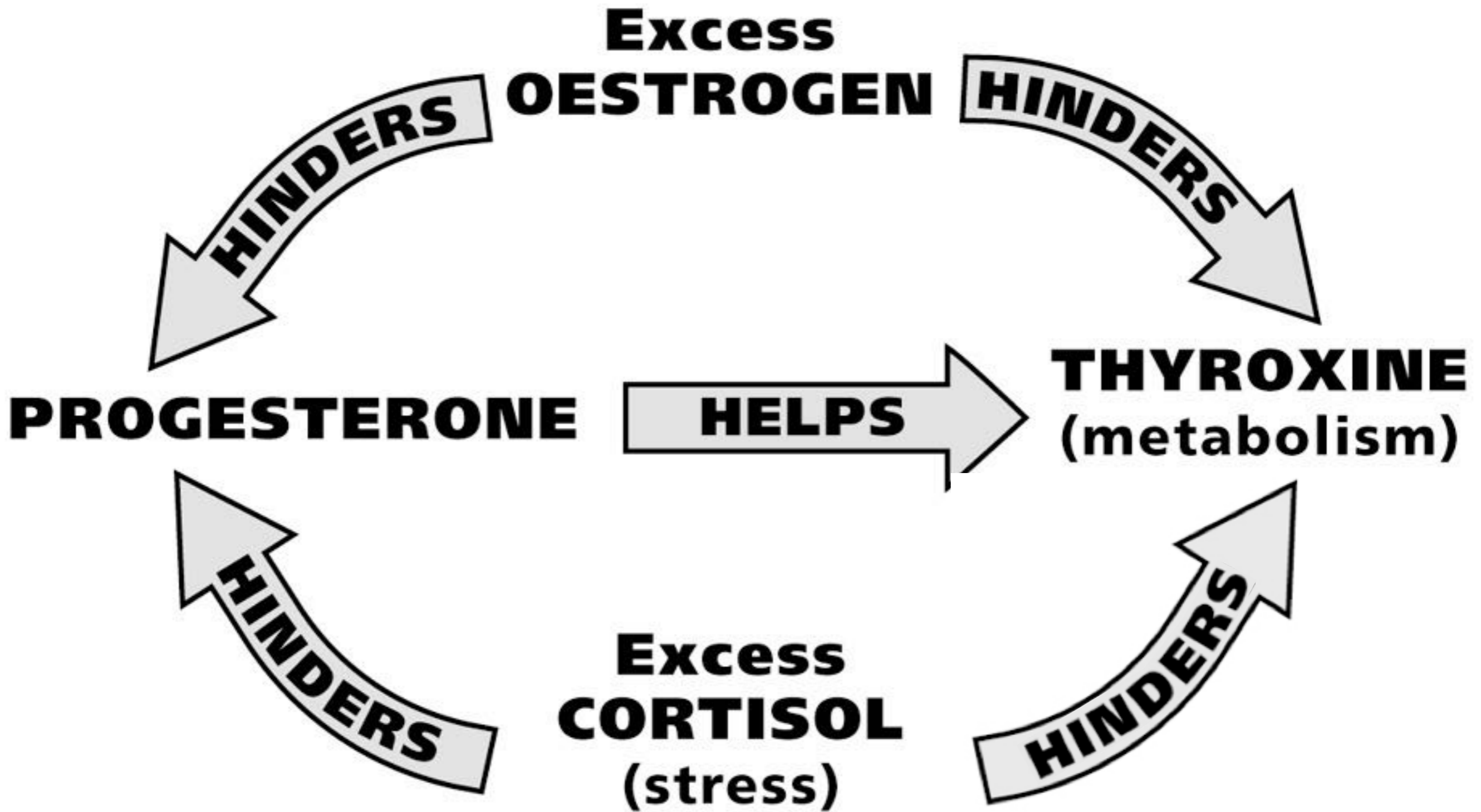
Immunity

Female
Hormones



Oestrogen & progesterone ratios





Abdominal fat has four times more cortisol receptors

OESTROGEN
dominance
leads to ...



pear-shaped
weight
gain

CORTISOL
dominance
leads to ...



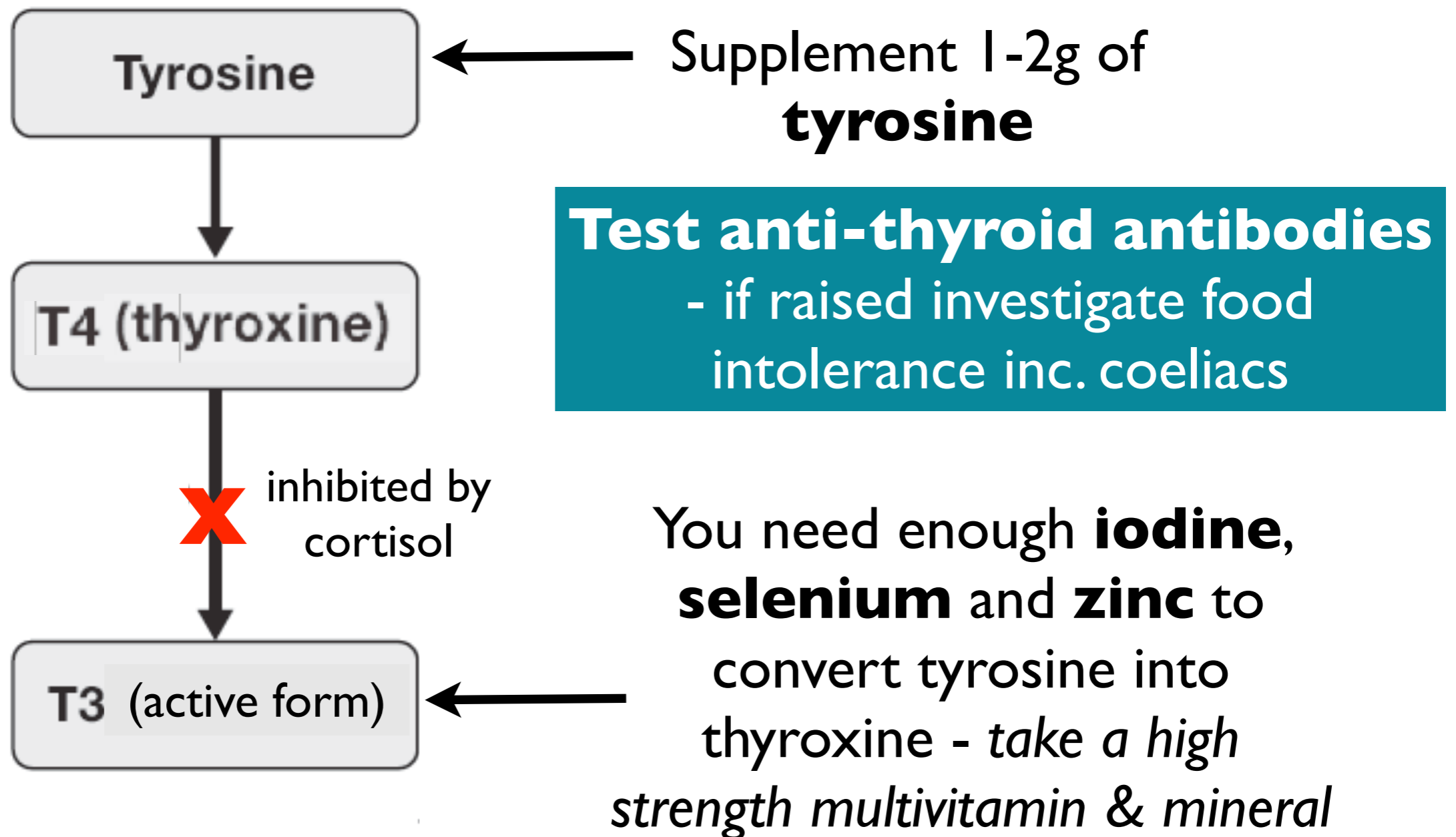
apple-shaped
weight
gain



Underactive thyroid



Symptoms: depression, lethargy, poor concentration, panic attacks, poor temperature tolerance, weight gain, indigestion, constipation



Vitamin C normalises thyroxine



Jubiz W et al., J Clin Endocrinol Metab. 2014 -/ 24601693

- ▶ 31 people with hypothyroid were given 500mg of vitamin C for 3 months. TSH levels were normalised in 17 patients. The average decrease was 69.2% compared to controls. ($p < .001$)
- ▶ T4 was higher in 30 out of 31 patients.
- ▶ T3 increased as well in all 16 patients in whom it was measured



Evidence for isoflavones



- ▶ Cross-sectional study - the higher the isoflavone intake the lower the PMS scores (Kim H et al. Nurs Health Sci, 2006)
- ▶ RCT - Soya protein (high in isoflavones versus milk protein placebo) reduced PMS scores and specifically headaches and breast tenderness (Bryant M, Br J Nutr, 2005)
- ▶ Adolescents with the higher isoflavone or soya intake had the lowest risk for premenopausal breast cancer (Lee S, Am J Clin Nutr, 2009)
- ▶ cruciferous vegetables contain indoles, **Di-IndolylMethane** (DIM) and **Indole-3-Carbonol** (I3C) which help eliminate excess oestrogen. (TMG converts I3C to DIM.)



Soya and breast cancer



Mai Z et al., Carcinogenesis. 2007 -/ /17234721; Fan S et al, Br J Cancer. 2006 -/16434996

- ▶ Genistein or Tamoxifen alone inhibited the growth of oestrogen-dependent human BRCA cancer cells
- ▶ The combination of TAM with genistein or soya phytochemical concentrate, especially at the lower dose of TAM, had synergistic effects on delaying the growth of tumors.
- ▶ Combination of **I3C** and **genistein** inhibit oestrogen receptor (ER-alpha) activity in human breast cancer cells.



Phytoestrogens in common foods



mcg per 100G		mcg per 100G	
Miso	126,500	Brown rice	132
Soya mince	121,000	Chick peas	124
Tofu	78,000	Mixed nuts + raisins	100
Soya cheese	33,000	Nut cutlets	61
Veg Sausage/burger	26,300	Muesli, Swiss style	51
Tofu burger	24,200	Green / French beans	38
Soya milk, plain	11,815	Blackeye beans	32
Soya yoghurt, plain	11,815	Hazelnuts	24
Chickpea channa dahl	1,960	Haricot beans	23
Soy sauce	1,800	Peanuts, plain	23
Wholemeal bread	829	Noodles, wheat	23
Beansprouts	758	Lentils, green and brown	22
Rye bread	757	Prunes, ready-to-eat	13
Granary bread	369	Apples	12
Currants	250	Brown rice	12
Runner beans	221	Red kidney beans	12
Nut and seed roast	162	Hummus	11



Evidence for nutrients



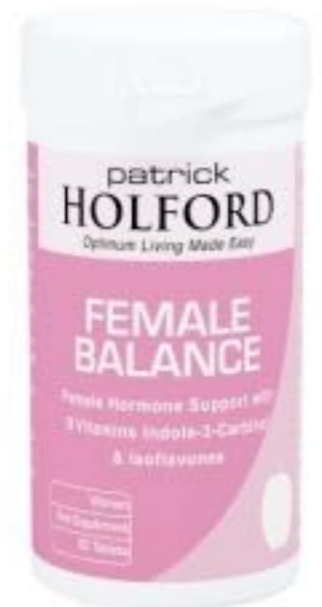
- ▶ Systematic review - B6 generally favourable up to 100mg p.d (Wyatt K, BMJ. 1999)
- ▶ RCT - B6 (100mg p.d for three months) significant effect on PMS scores. (Sharma P et al, Ind. J. Physiol.Pharmacol. 2007)
- ▶ Open label - Magnesium (250mg p.d) in luteal phase reduces PMS symptoms (Quaranta S et al,Clin Drug Investig. 2007)
- ▶ RCT - Magnesium (200mg p.d.) reduces water retention. (Walker et al, J Womens Health 1998)
- ▶ RCT - Magnesium (360mg p.d) improves mood. (Facchinetti, F et al, Obstet Gynecol. 1991)
- ▶ Zinc and magnesium levels tend to be lower in PMS sufferers, especially in luteal phase. Both appear to boost serotonin levels and zinc has an anti-depressant effect. Siwek M et al., J Affective Disorders 2009)
- ▶ Higher dietary thiamine and riboflavin (B2) associated with lower risk of PMS (Cochano-Bedoya P et al., Am J Clin Nutr 2011)



Which supplements might help?



- ▶ High-dose B vitamin complexes containing B2 (20mg), B3 (20mg), B6 (50mg), B12(10mcg), folic acid (200mcg) and biotin (50mcg)
- ▶ Extra vitamin C (1–2g a day)
- ▶ Magnesium (200-300mg a day), zinc (10-15mg a day)
- ▶ Omega-3 and especially omega-6 essential fats (up to 300mg of GLA)
- ▶ Isoflavones
- ▶ I3C(+betaine) or DIM for oestrogen dominance





FEMALE BALANCE

Patrick Holford Female Balance is a unique combination of nutrients including B Vitamins, Magnesium and Zinc with Indole-3-Carbinol and Isoflavones, designed for women.



Product information per daily intake (1 Tablet)

	Amount	% EC NRV [†]
Vitamin C	50mg	63
Niacin	10mg †NE	63
Vitamin B6	25mg	1786
Folic Acid	133µg	67
Vitamin B12	5µg	200
Magnesium	100mg	27
Zinc	7.5mg	75
Betaine Hydrochloride	100mg	-
Soy Isoflavones	80mg	-
Indole-3-Carbinol	50mg	-

*NRV – Nutrient Reference Value †NE – Niacin Equivalents

The main benefits of Female Balance are:

- Contains Vitamin B6 which contributes to the regulation of hormonal activity.
- Contains Vitamin B6, B12 and Folic Acid which contribute to normal homocysteine metabolism
- Contains Niacin, Vitamin B6, B12, C, Folic Acid and Magnesium which contribute to normal psychological function and the reduction of tiredness and fatigue.

Suitable for Vegetarians and Vegans

Which herbs might help?



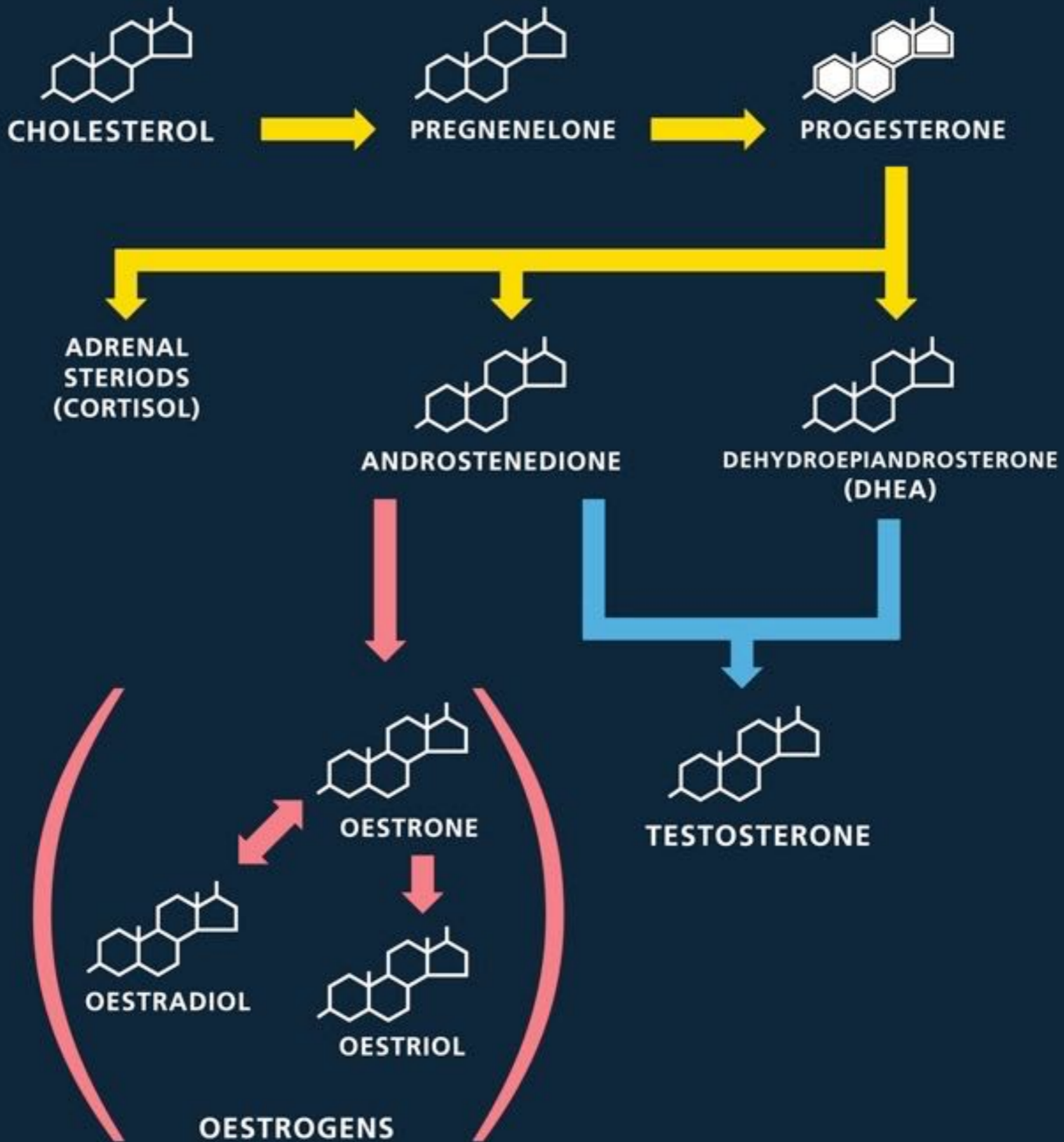
- ▶ **Black cohosh**, originally used by the native North American Indians, may help to counteract excess oestrogen. It may also act on serotonin receptors and raise levels of the 'happy' neurotransmitter, serotonin. This makes it a useful supplement for treating PMS-related depression.
- ▶ **Agnus castus/chasteberry** has been shown to promote progesterone while decreasing excess oestrogen levels. Taking agnus castus (20mg pd) can significantly reduce PMS symptoms.
- ▶ **Dong quai** (*Angelica sinensis*) is one of the most commonly prescribed herbs in Chinese medicine for female problems. It promotes normal hormonal balance and helps sufferers of menstrual cramps, as it has muscle-relaxing qualities.

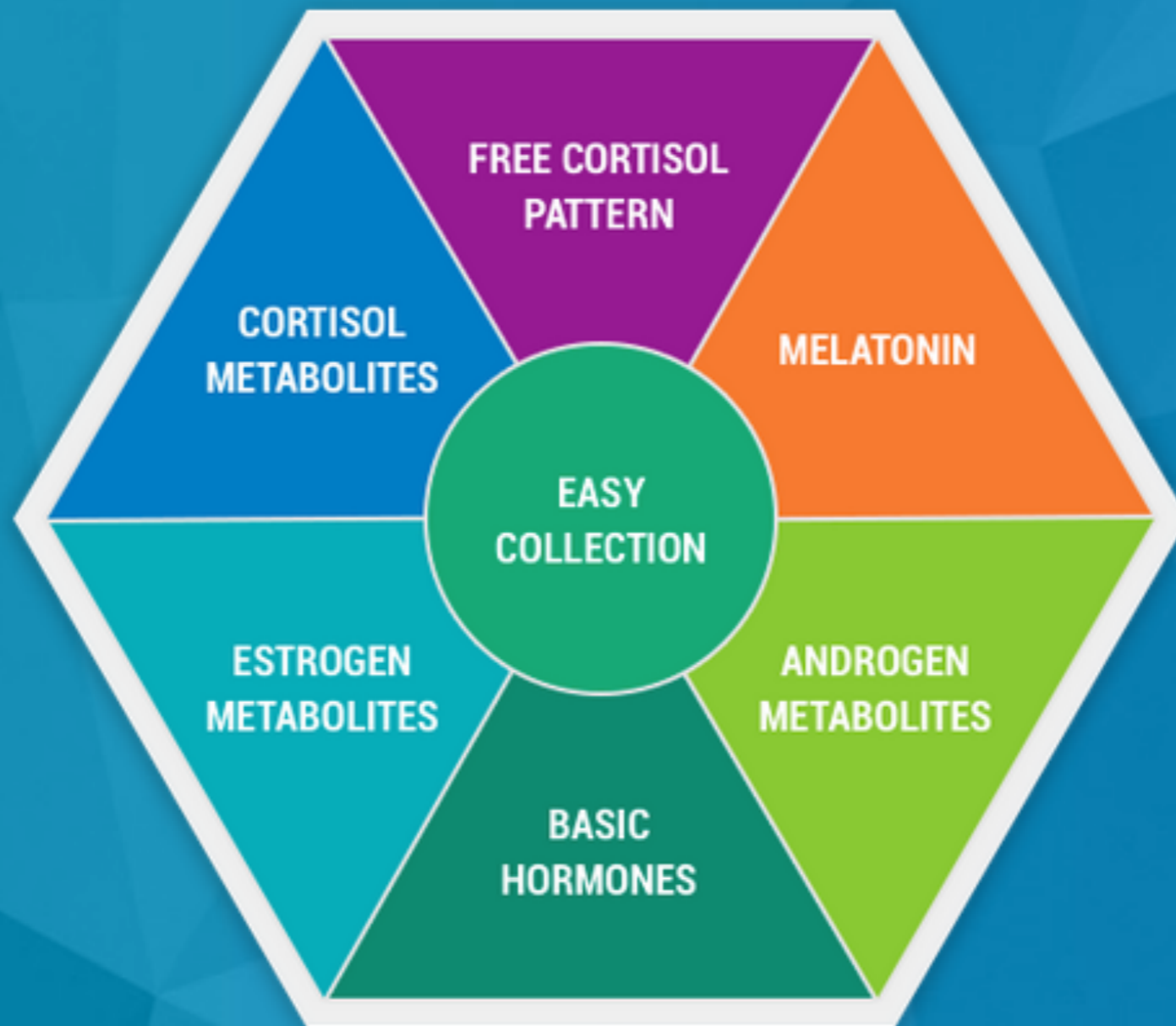


Six actions for hormonal health



- ▶ Eat a low GL diet
- ▶ Choose organic or wild fish or meat (eat less beef)
- ▶ Less reliance on dairy products
- ▶ Have oily fish three times a week and seeds most days
- ▶ Eat 15mcg of phytoestrogens a day - beans, nuts, seeds
- ▶ Eat more cruciferous vegetables - cabbage, Brussels sprouts, broccoli, cauliflower, kale, turnip, swede, radish, horseradish, mustard and cress.
- ▶ Supplement B vitamins inc. B6, zinc, magnesium, plus essential 3/6 fats, isoflavones, IC3
- ▶ Consider herbs - agnus castus, black cohosh, dong quai





hormones

dutch

UK agent: www.regeneruslabs.com





Dried Urine Test for Comprehensive Hormones



Accession # 00239871

Jane Doe
123 4th St.
Anytown, FL 97155



PRECISION ANALYTICAL INC.
SIMPLY - BETTER - TESTING

Last Menstrual Period:

Collection Times:

2016-10-01 06:01AM
2016-10-01 08:01AM
2016-10-01 06:01PM
2016-10-01 10:01PM

Ordering physician:
Precision Analytical

DOB: 1976-01-03

Age: 40

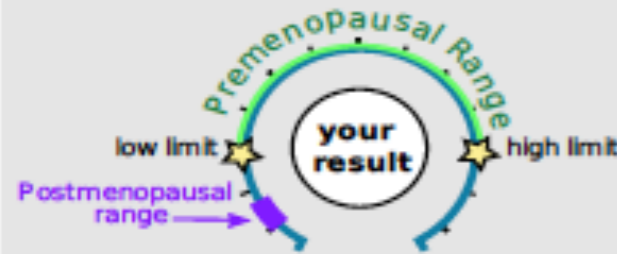
Gender: Female

Hormone Testing Summary

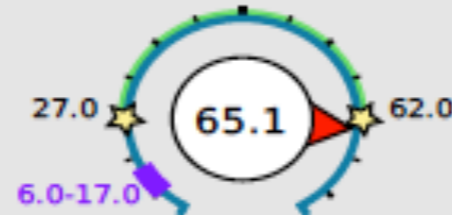
All units are given in ng/mg creatinine

Sex Hormones

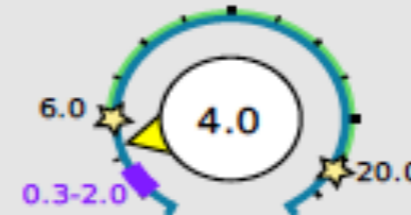
See Pages 2 and 3 for a thorough breakdown of sex hormone metabolites



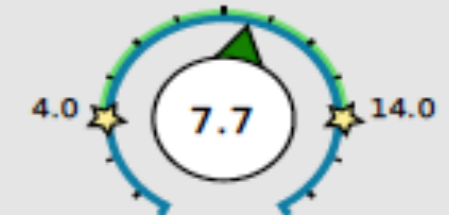
How to read the graphical representation of results



Total Estrogen
(Sum of 8 Estrogen Metabolites)



Progesterone
(Serum Equivalent, ng/mL)

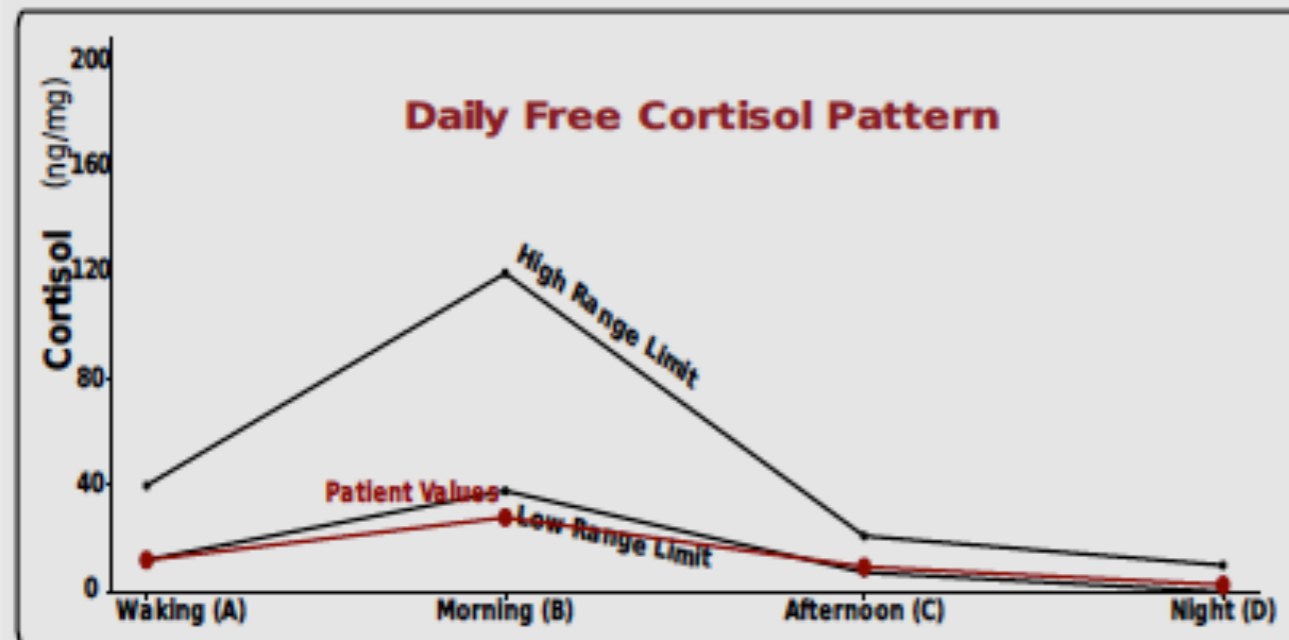


Testosterone

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

Adrenal Hormones

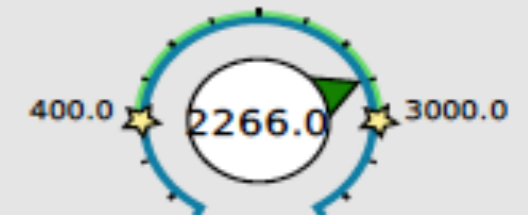
See pages 4 and 5 for a more complete breakdown of adrenal hormones



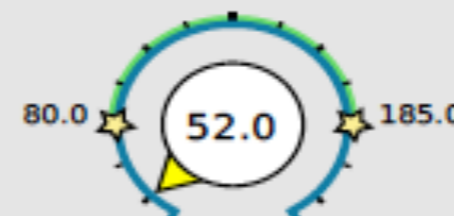
Free cortisol best reflects tissue levels. Metabolized cortisol best reflects total cortisol production.

Total DHEA Production

Age	Range
20-30	1000-3000
30-40	800-2000
40-60	530-1550
>60	400-1350

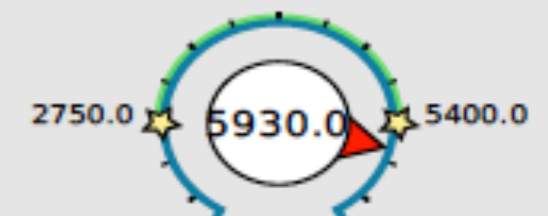


Total DHEA Production
(DHEAS + Etiocholanolone + Androsterone)



24hr Free Cortisol
(A+B+C+D)

cortisol
metabolism



Metabolized Cortisol (THF+THE)
(Total Cortisol Production)

Homocysteine, bones & arthritis



Kim J et al., J Bone Metab. 2016 -/27622176; Ennerman A Calcif Tissue Int. 2015 -/25712255

- ▶ High homocysteine promotes inflammation
- ▶ High homocysteine damages bone
- ▶ High homocysteine doubles osteoporosis risk, as does B12 deficiency. In women <50 Hcy predicts bone mass density.
- ▶ Homocysteine is higher in rheumatoid arthritis (17.3 vs 7.6 in one study) and ankylosing spondylitis
- ▶ Taking homocysteine lowering B vitamins reduces pain
- ▶ B12 stimulates osteoblasts to build new bone. However, RCT giving 500mcg did not show improvement in BMD.



Calcium, BMD & osteoporosis



Tai V et al BMJ 2015 -/26420598; Wu J Osteoporos Int. 2017 -/28337524;

- ▶ Increasing calcium intake from dietary sources or by taking calcium supplements produces small non-progressive increases in BMD, which are unlikely to lead to a clinically significant reduction in risk of fracture.
- ▶ Calcium intake can effectively postpone the tendency of BMD decrease in postmenopausal women. An increased calcium dose contributes to the shortening of the onset time. Menopausal women can be administered with a rational dose of 1200 mg/day to reduce bone loss.



What's driving osteoporosis?



- ▶ Lack of vitamin D and K
- ▶ Lack of B12 and raised homocysteine
- ▶ Lack of weight bearing exercise
- ▶ Lack of hormones - progesterone
- ▶ Lack of bone building minerals - calcium, magnesium, zinc, boron



PatrickHOLFORD

100% health for life

Take a break!

**Shoes on - time for a
walk**

PatrickHOLFORD

100% health for life

Lunch

Holford Retreat Wellness Vision

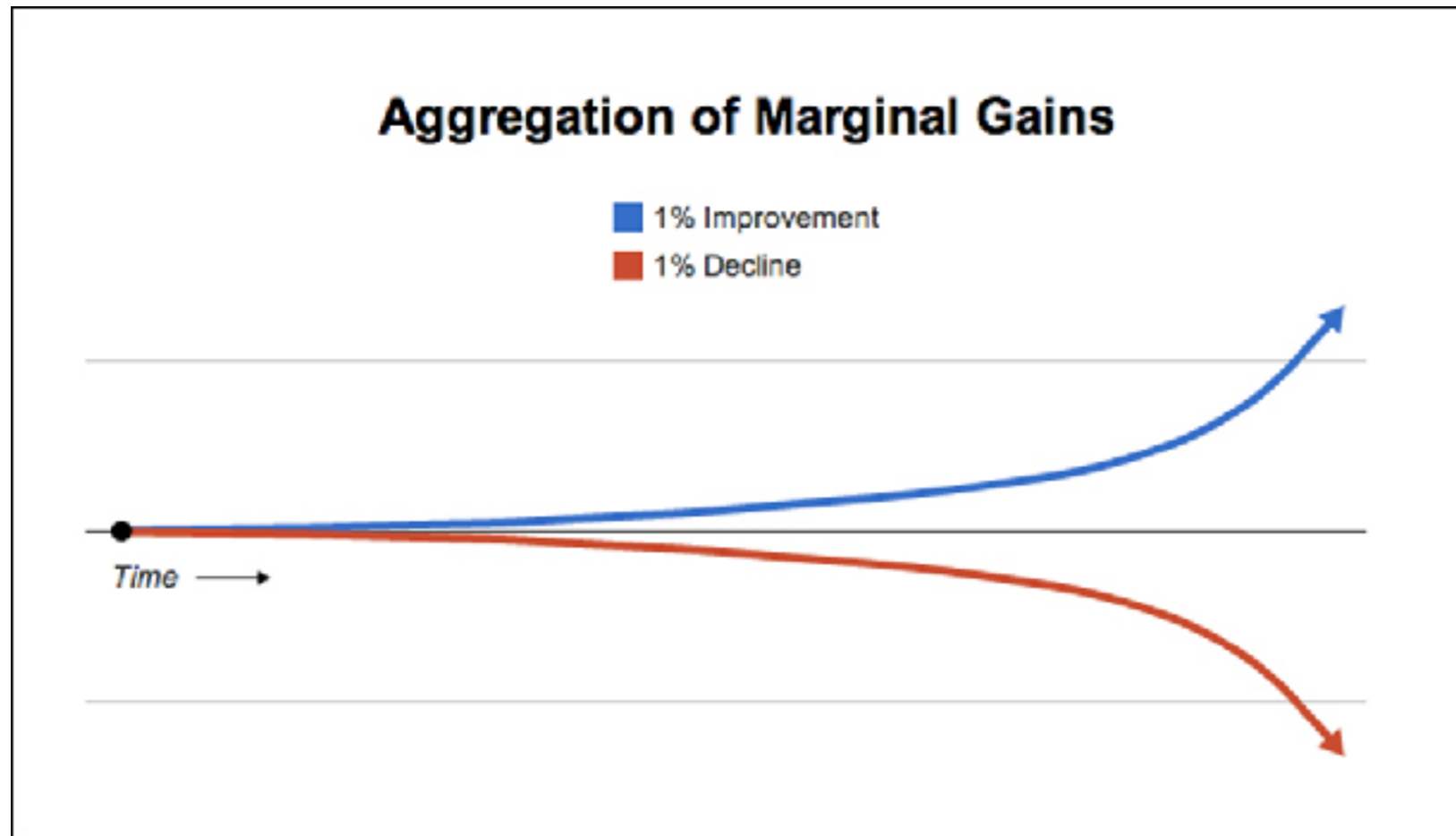


MARCELLE DUBRUEL
transform your weight, health & life

What is getting in your way of reaching your dream health and weight?

- Physical – underlying health issues acting as barriers that need addressing
- Habitual – ingrained habits – the known / normal
- Practical – lack of time, lack of resources, practical difficulties in making changes
- Motivational – no clear ‘why’ established and lack of motivation and commitment to change
- Environmental – the environment in which you live does not support a healthy lifestyle
- Non-hunger eating food is used to deal with emotions – boredom, sadness, lonely, restless

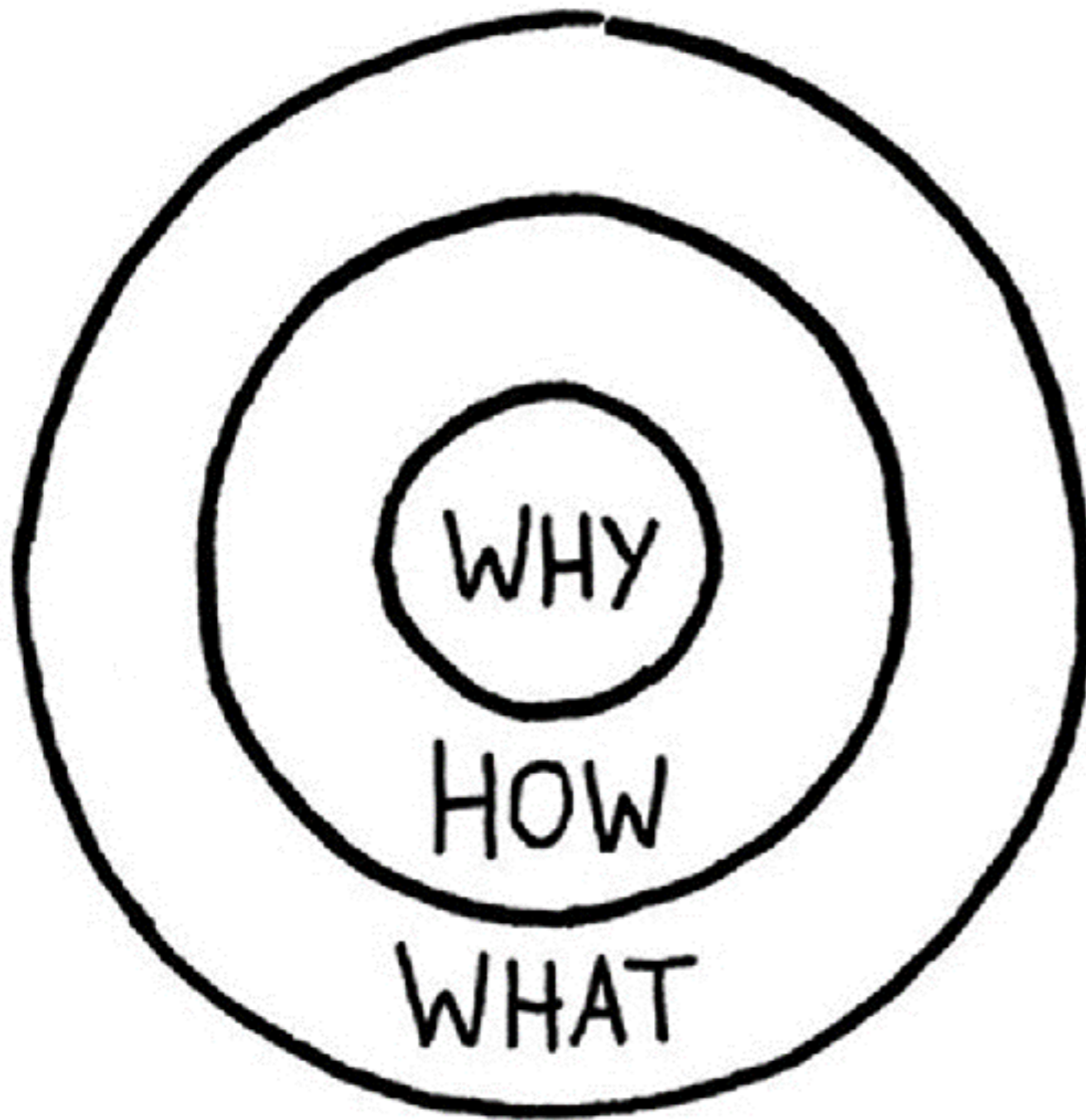
One Healthier Habit at a time



"The whole principle came from the idea that if you broke down everything you could think of that goes into riding a bike, and then improved it by 1%, you will get a significant increase when you put them all together."

Dave Brailsford Team GB
cycling 2012

Purpose



Why = The Purpose

What is your cause? What do you believe?

Apple: We believe in challenging the status quo and doing this differently

How = The Process

Specific actions taken to realize the Why.

Apple: Our products are beautifully designed and easy to use

What = The Result

What do you do? The result of Why. Proof.

Apple: We make computers

Simon Sinek



Wellness Vision

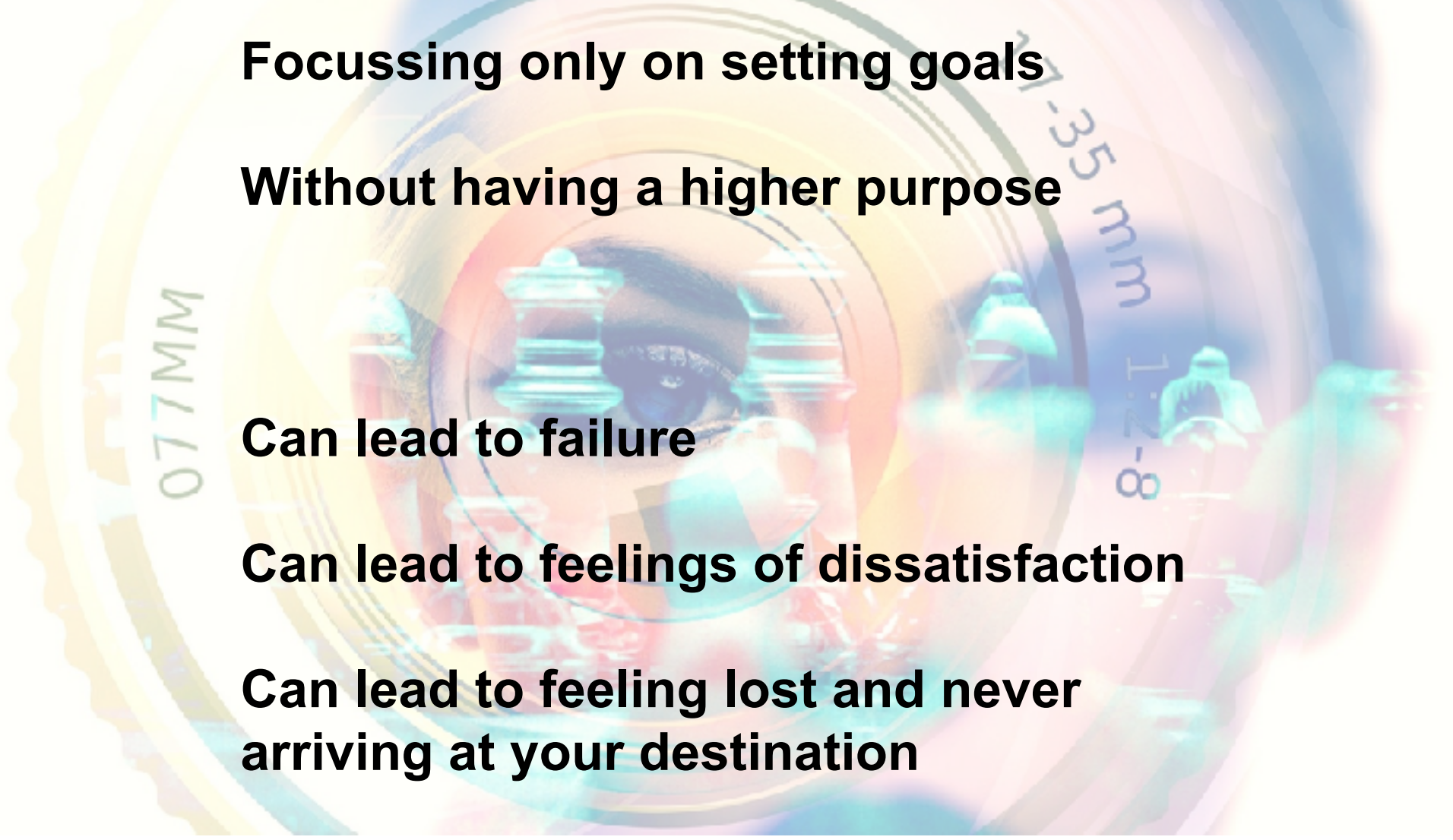
If you had a magic wand, and that is all it took for you to wake up every day feeling energised and fabulous..... what do you wish for?

Getting clear on what you want for your health and wellbeing is important. Your Brain is the best GPS system.

Once you know exactly what you want it is much easier for you to make daily choices, aligned with what is important to you.



Create an inspiring vision fuels your excitement and passion to reach your goals



**Focussing only on setting goals
Without having a higher purpose**

Can lead to failure

Can lead to feelings of dissatisfaction

**Can lead to feeling lost and never
arriving at your destination**

Goals versus Vision

- Goal: To increase my energy levels, less exhausted
- Vision: To wake up with enthusiasm and vitality, to enjoy each day

- Goal: To reduce brain fog
- Vision: To feel mentally alert and curious

- Goal: To improve my own health and get fitter
- Vision: To enjoy maximum energy and be a good role model for others

Your vision usually includes how you want to feel

Wellness Vision - notes

Get clear on your health goals?

What do you want?

How will life be different?

What would it mean to you?

How does that make you feel?

Creating your 'wellness vision'

What do you really want? List what you would ideally like for your health, wellbeing and lifestyle. Include your ideal weight and fitness level.

How will your life be improved by you achieving this? List as many ways as you can think of. How will you feel? How will you look? How will life be different for you?

Why do you want this? List at least 3 reasons:

What other benefits can you think of?

Who else will benefit and in what way?

Wellness Vision

I am strong and in control
I am willing to be slim
I am free
I am an example to my children of how to live life to the full & make healthy choices
I am light and flexible
I am free to choose
I am a living example of my healthy choices
I feel proud of my choices & achievements
I believe I can
I feel confident
I am energised
I feel good in my clothes

Wellness vision

"If you are working on something exciting that you really care about, you don't have to be pushed. The vision pulls you." **Steve Jobs**

Imagine it is 3, 5 or 12 months from now and you have reached or are closer to your goal. Capture how your future self feels and create your 'Wellness Vision'. Once you have clarity around what you want, you will feel excited and motivated about reaching your goals.

Use the examples below to help you.
I am the right weight for me.
I feel energised.
I enjoy exercise.
I am willing to make healthy choices.

Wellness Vision example

I wake up every day feeling energised
I look my best, love my shape & feel confident
achieving it.

I enjoy my life by living each moment to the fullest with
enthusiasm.

I am a living example of my healthy choices,
determination & commitment!

I am proud and I feel beautiful

In Summary

- Your wellness vision speaks to your “why”
- Getting clear on what you want for your health and how having that will make you feel, keeps you motivated and in action
- Align your vision to underpin your goals



MARCELLE DUBRUEL
transform your weight, health & life

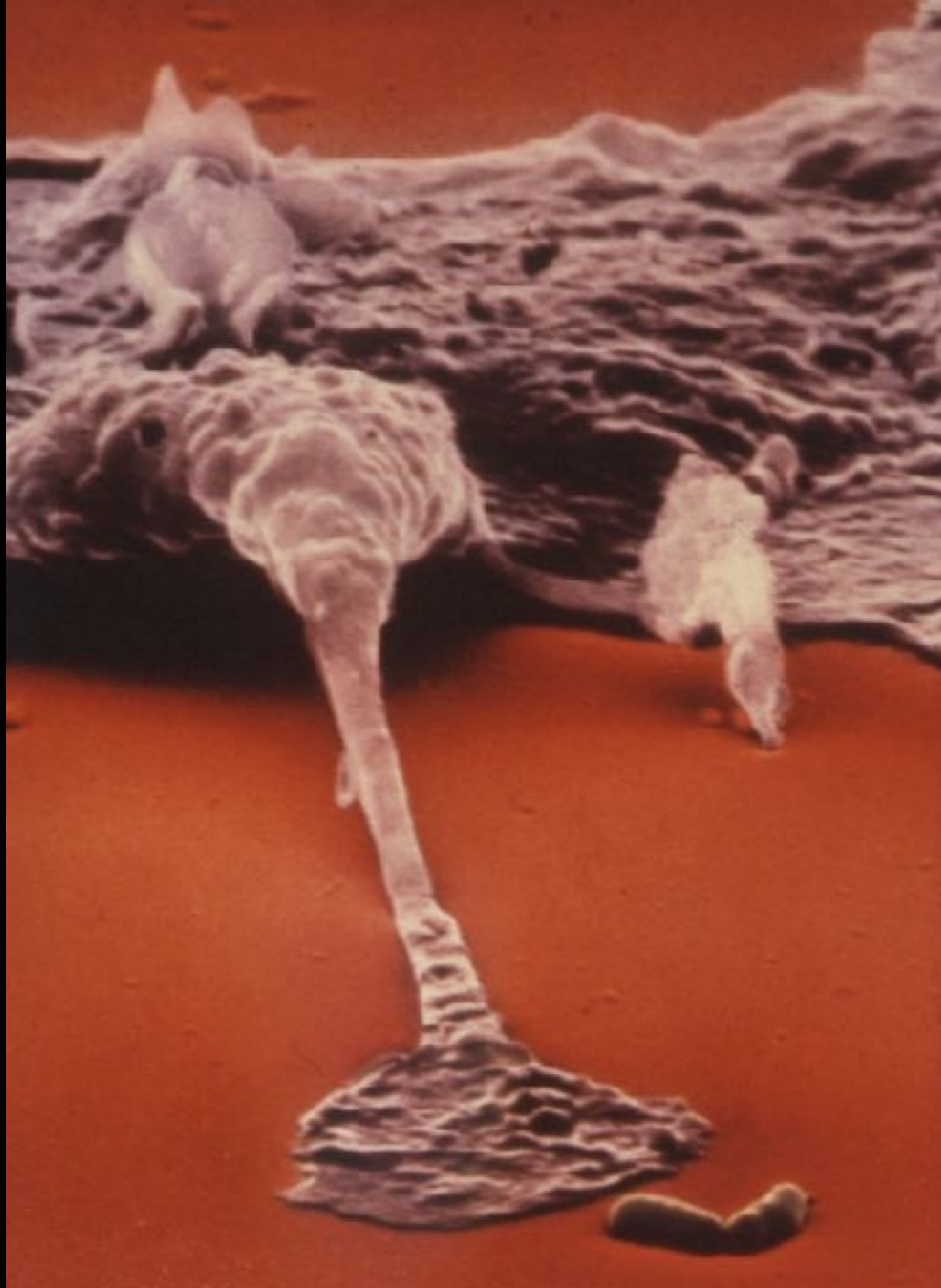


BOOST YOUR IMMUNE SYSTEM

SAY NO TO CANCER

GET RID OF INFECTIONS FAST



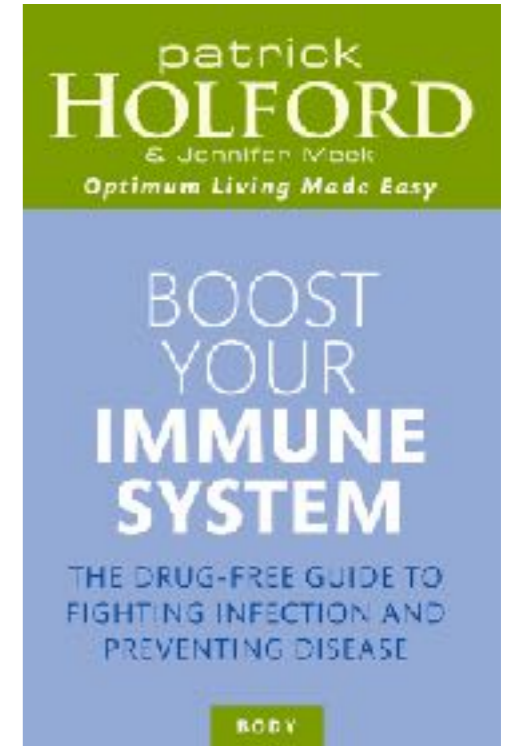


2000 immune cells every second!

Immune depressors



- ▶ Pollution and high oxidant exposure (anything burnt)
- ▶ Smoking
- ▶ Alcohol
- ▶ Sugar
- ▶ Low nutrient diets
- ▶ Chronic infection, allergies and inflammation
- ▶ Certain medical drugs eg antibiotics, painkillers
- ▶ Lack of sleep
- ▶ Stress
- ▶ Radiation



Immune heroes



- ▶ Vitamin C
- ▶ Other antioxidants, especially vitamin A, beta-carotene, selenium, zinc, B vitamins, N-acetyl cysteine or glutathione
- ▶ Vitamin D
- ▶ Essential (esp. omega 3) fats
- ▶ Black elderberry (for viruses)
- ▶ Herbs - Echinacea, Uncaria tomentosa (cats claw) etc.
- ▶ Beneficial bacteria (Acidophilus and Bifido bacteria)
- ▶ Foods rich in specific immune boosters - eg turmeric(curcumin), broccoli(I3C), oats (beta-glucans), garlic(isothiocyanates), red onions (quercetin) etc





Injury

Infection

Allergy

Auto-immune

Obesity



Most diseases involve inflammation:

**heart disease
cancer
diabetes
Alzheimer's
depression
asthma
eczema**



INFLAMMATION
producing
inflammatory cytokines
(TNF, IL1 and IL6)



**Activates immune system,
increasing risk
for allergy and
auto-immunity**



SYMPTOMS

**Aching
Flu-like
Fatigue**



**Leads to
weakened immunity,
increasing risk
of infection**

Superfoods



- ▶ **Broccoli** contains I3C and DIM which mop up excess oestrogens. **Watercress** contains anti-cancer isothiocyanate
- ▶ **Strawberries** have more vitamin C than oranges, while **blueberries** have among the highest ORAC score due to their anthocyanidin bioflavonoids. Strawberries and **raspberries** also contain ellagic acid, which help protect against cancer.
- ▶ **Carrots**, and other orange foods such as **sweet potato** and **butternut squash** contain carotenoids and other anti-cancer nutrients.
- ▶ **Red onions** contain quercetin, a potent anti-inflammatory.
- ▶ **Turmeric** and **ginger** are anti-inflammatories. Curcumin, in turmeric, has anti-cancer properties (>3,000 studies).
- ▶ **Beans** contains genistein and beta-sisterols



CYP 1B1 - an enzyme only in cancer cells



Murray et al *Cancer Research*, 57 3026-3031 (1997)

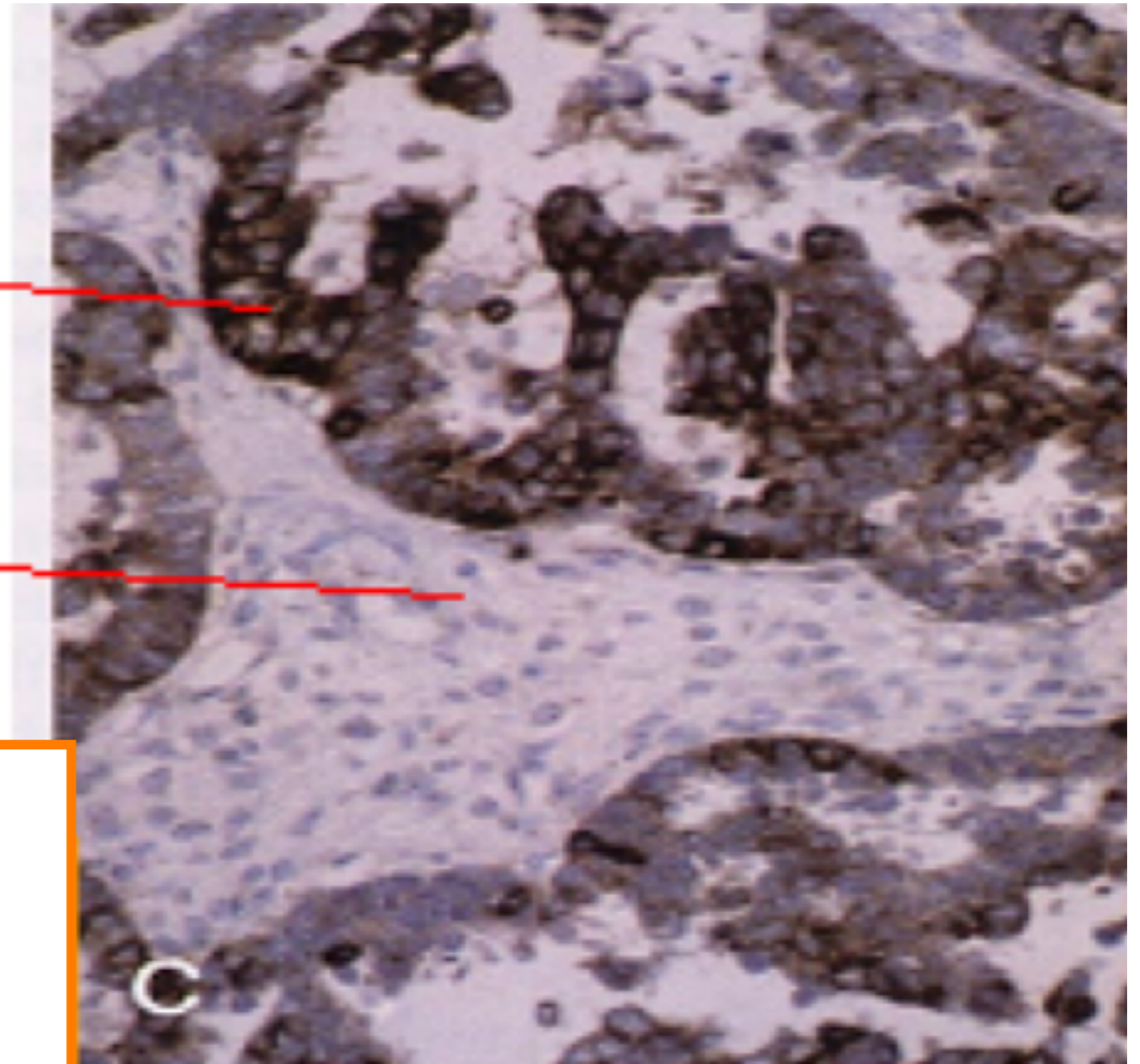
- ▶ CYP 1B1 is an enzyme that is only found in cancer cells.
- ▶ Salvestrols, in plants, are compounds that the CYP 1B1 enzyme converts into compounds that kill cancer cells.
- ▶ Salvestrols are not converted into toxic agents in normal cells.
- ▶ In the future, your CYP 1B1 enzyme level will be measurable as an indicator of early risk of cancer.



CYP1B1 stained black **in human ovarian cancer**

Cancerous

Normal



**tumours contain
cancer cells &
normal cells**

Salvestrol rich foods



Fruits

Apples
Blackberries
Blackcurrants
Blueberries
Cranberries
Grapes (and wine)
Oranges and tangerines
Pears
Strawberries
Redcurrants

Vegetables

Artichokes (globe)
Aubergines
Avocado
Beansprouts
Broccoli
Brussels sprouts
Cabbage
Cauliflower
Celery
Chinese leaf
Olives
Red/yellow peppers
Rocket
Watercress

Herbs

Basil
Chamomile
Dandelion
Milk thistle
Mint
Parsley
Rosemary
Sage
Thyme



Supplementing salvestrols



- ▶ **Salvestrol points per day**

 - Healthy (palaeolithic) diet 100

 - Extra protection 350

 - Rescue recovery (2 x 2000 doses) 4,000

- ▶ Salvestrols help trigger apoptosis of cancer cells.

- ▶ There is no toxicity.

Available from: www.practitionerchoice.co.uk



A dozen reasons to up vitamin C



- ▶ It is strongly anti-viral against every virus tested so far.
- ▶ It increases production of B-cells and T-cells.
- ▶ Infected cells produce more interferon when they have sufficient vitamin C.
- ▶ It is a neuramidase inhibitor stopping viruses from replicating.
- ▶ It is bacteriostatic or bactericidal, depending on the bug.
- ▶ It triggers B cells to manufacture more antibodies (IgA, IgG and IgM).
- ▶ It stimulates non-lysozyme anti-bacterial factor (NLAF) found in tears.
- ▶ Phagocytes use vitamin C to kill captured invaders.
- ▶ It enables phagocytic cells to carry out their clearing-up function.
- ▶ It detoxifies many bacterial toxins
- ▶ It also improves the performance of antibiotics.
- ▶ It is a natural anti-histamine.



Vitamin C and colds



H. Hemila. *Nutrients*, 2017 Apr; 9(4): 339; *Front. Immunol.*, 10 May 2021

- ▶ Vitamin C supplementation (averaging 500 to 2,000mg per day):
- ▶ Reduces the duration of symptoms
- ▶ Reduces severity
- ▶ No convincing evidence on reducing incidence
- ▶ Two controlled trials found a statistically significant dose–response, for the duration of common cold symptoms, with up to 6–8 g/day of vitamin C.
- ▶ All studies to date show an average 20% reduction in duration with 6-8g a day.
- ▶ The first study on covid outpatients showed 18% reduction (30% in more severe cases), representing a 70% improved recovery rate.
- ▶ Thus, the negative findings of some therapeutic common cold studies might be explained by the low doses of 3–4 g/day of vitamin C.



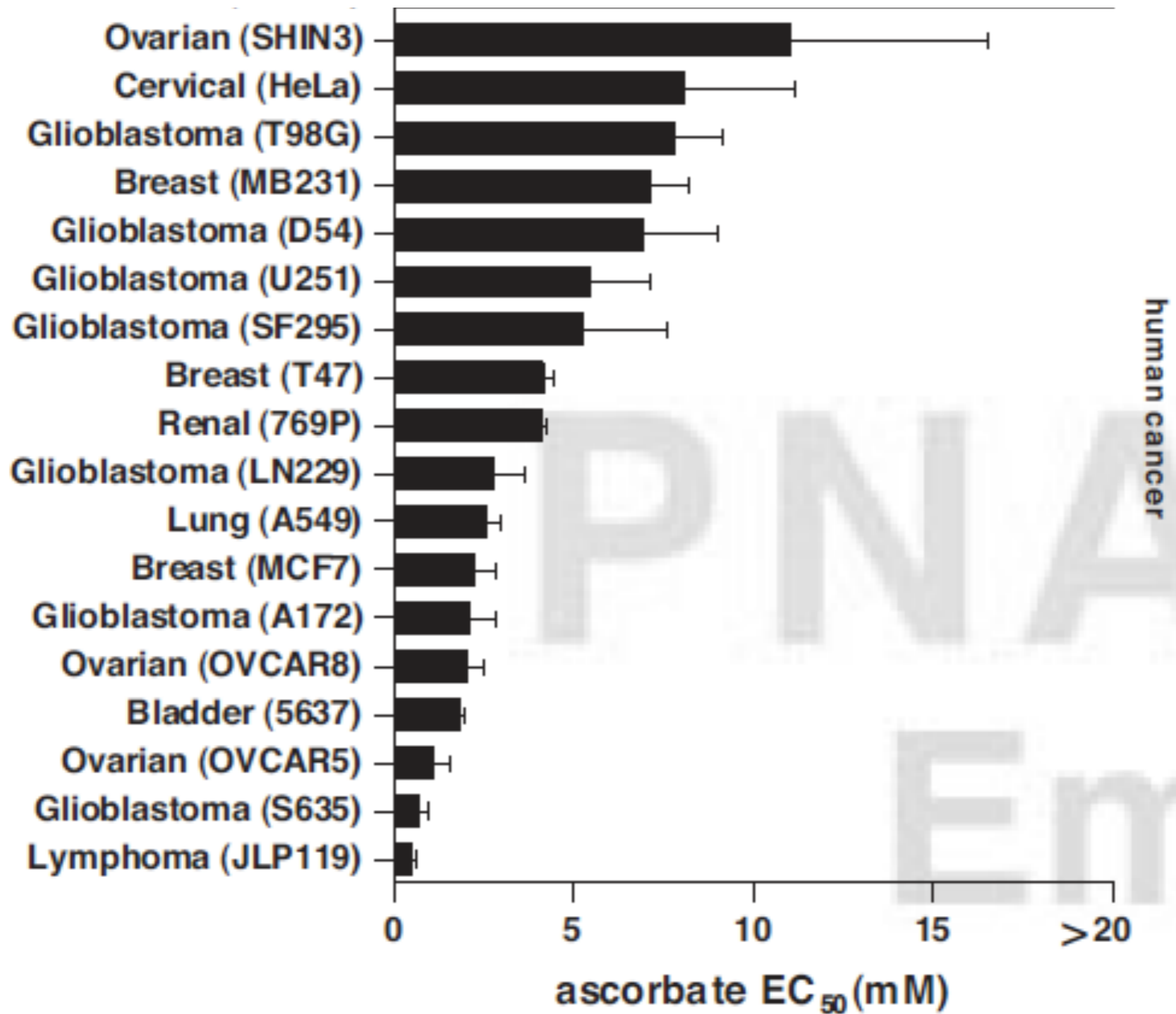
High dose vit C as cancer therapy



Cameron/Pauling *Proc Natl Acad* 1976; Padayatty SJ, et al. *PLoS One*. 2010 -/20628650

- ▶ The first clinical study by Cameron and Pauling compared survival times between 100 patients with terminal cancer treated with i.v. and oral vitamin C, usually 10 g/d, and 1,000 comparable patients not given vitamin C. Patients treated with vitamin C **survived approximately four times longer** than controls (P 0.0001). Overall, 22% of vitamin C-treated patients but only 0.4% of controls survived for more than 1 year.
- ▶ Normally 50-75g of vitamin C is given intravenously by IV, followed up with 10-20 grams of oral vitamin C a day (up to bowel tolerance)
- ▶ A US survey of 9,328 patients treated reported 101 side-effects, mostly minor.





The concentration of vitamin C needed to halve cancer cell survival
 Chen et al, Proceedings of National Academy of Sciences, 2008



Dynamics of vitamin C



- ▶ Blood levels continue to rise, certainly up to 5 grams a day. **Under infection/cancer, up to 18 grams a day.** 12g or more is needed for a really significant anti-viral effect.
- ▶ Vitamin C is in and out in 3 to 6 hours.
- ▶ Vitamin C is most profoundly anti-viral and anti-cancer if blood levels are maintained at high doses.
- ▶ **This is most easily achieved by an initial dose of 2 to 3 grams then 1 to 2 grams every one or two hours**
- ▶ The goal, in fighting disease, is to achieve blood levels of above 0.2mM. **Intravenous vitamin C usually involves infusing 50 grams over an hour.**



Zinc is vital for immunity



Tolunay BJ *Leukoc Biol* 2009; H.Hemila, *JRSM Open*. 2017

- ▶ Zinc supports healthy immune function and enhances T-cell activity.
- ▶ Zinc deficiency causes the thymus to shrink.
- ▶ Zinc assists in the elimination of cancer cells.
- ▶ Zinc helps T-cells mature as a co-factor for thymulin production.
- ▶ ‘The mean common cold duration was 33% (95% CI 21% to 45%) shorter for the zinc groups of the seven included trials.’
- ▶ No evidence that doses over 100mg are more effective.
- ▶ I recommend half this level (50mg) in zinc lozenges, for short-term use only or supplementing 25mg a day



Black Elderberry inhibits viruses



Z. Zakay-Rones et al., *Alt and Comp Med*, 1995; also *J Int Med Res*. 2004

- ▶ Viruses get into body cells by puncturing their walls with tiny spikes made of a substance called hemagglutinin. Black elderberry disarms these spikes by binding to them and preventing them from penetrating the cell membrane.
- ▶ In a double blind controlled trial elderberry extract, given to people with various strains of flu, showed a significant improvement in symptoms – fever, cough, muscle pain – in 20 per cent of patients within 24 hours, and in a further 73 per cent of patients within 48 hours. **After three days 90 per cent had complete relief of their symptoms** compared to another group on a placebo, who took at least six days to recover. A more recent study found that giving **elderberry extract 4 times a day, versus placebo, cut duration of flu symptoms by 4 days.**



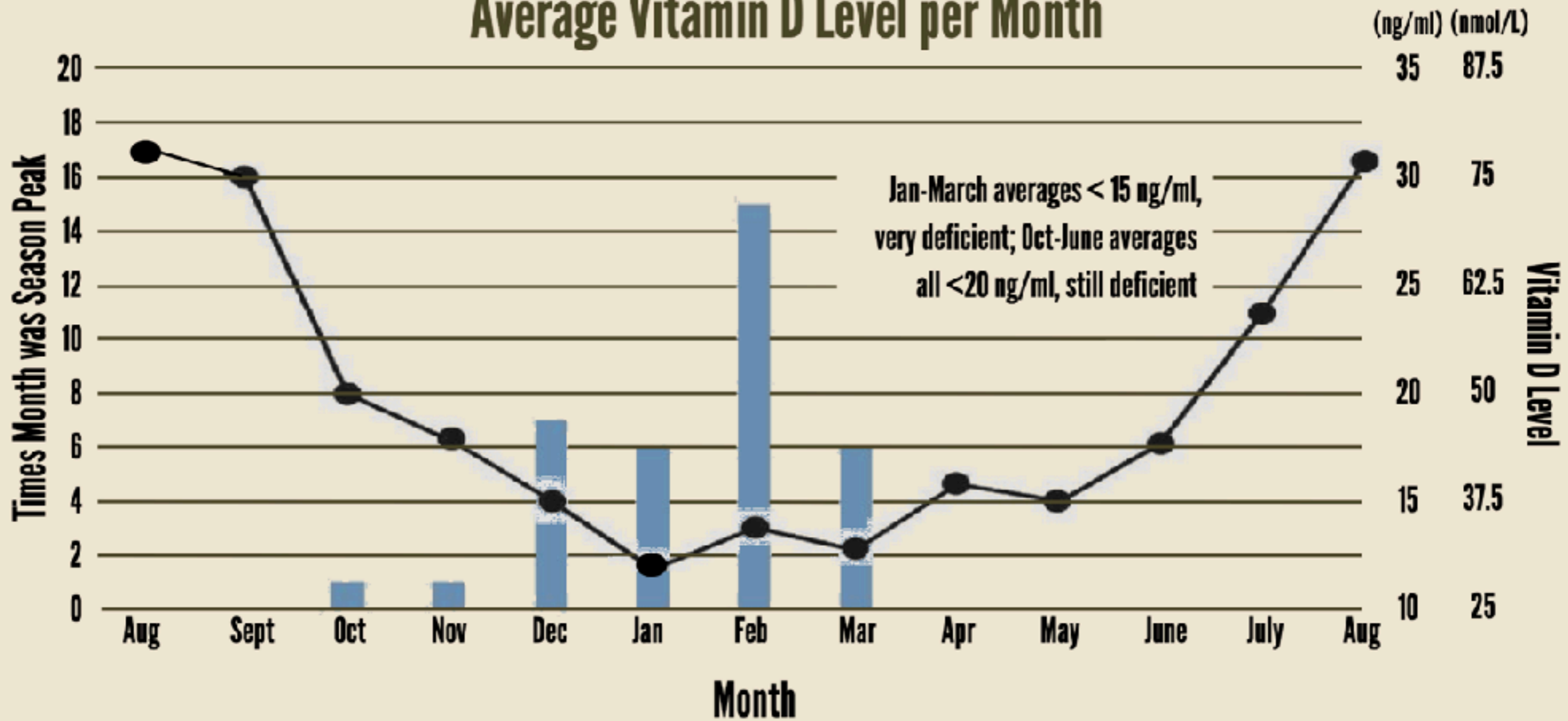
Other key immune boosting nutrients



- ▶ **Vitamin D** - a lack of sunshine and vitamin D is a major likely reason for more infections in the winter. Aim to supplement 15mcg every day, plus eating oily fish and exposing yourself.
- ▶ **Selenium** is required for glutathione related activity and has anti-cancer properties. Found in seafood, it is frequently deficient. Aim to supplement 100mcg if compromised immunity.
- ▶ **N-acetyl cysteine** is the precursor of **glutathione**, the most critical antioxidant in cells. NAC improves the anti-viral function of vitamin C.
- ▶ **B6, B12, folic acid** are both anti-oxidants and required for methylation. Faulty methylation is required to repair DNA, and is associated with increased cancer risk.
- ▶ **Vitamin A**, both retinol and beta-carotene, is anti-viral, stimulates T-cell growth and makes cells strong. For example, transdermal vitamin protects against skin cancer.
- ▶ **Black elderberry** extracts have been shown to reduce flu duration by 90%..and 4 days.



Peak Month of Flu Activity 1982-1983 through 2017-2018 with Average Vitamin D Level per Month



 **Vitamin D Level by Month**
 **Flu Season Peak Month**

Chart Date 3/23/2020

©2020 GrassrootsHealth

CDC.gov, 2018. (Flu Season Peak Month)

Cannell et al., Epidemiol Infect, 2006. (Vitamin D Level by Month)

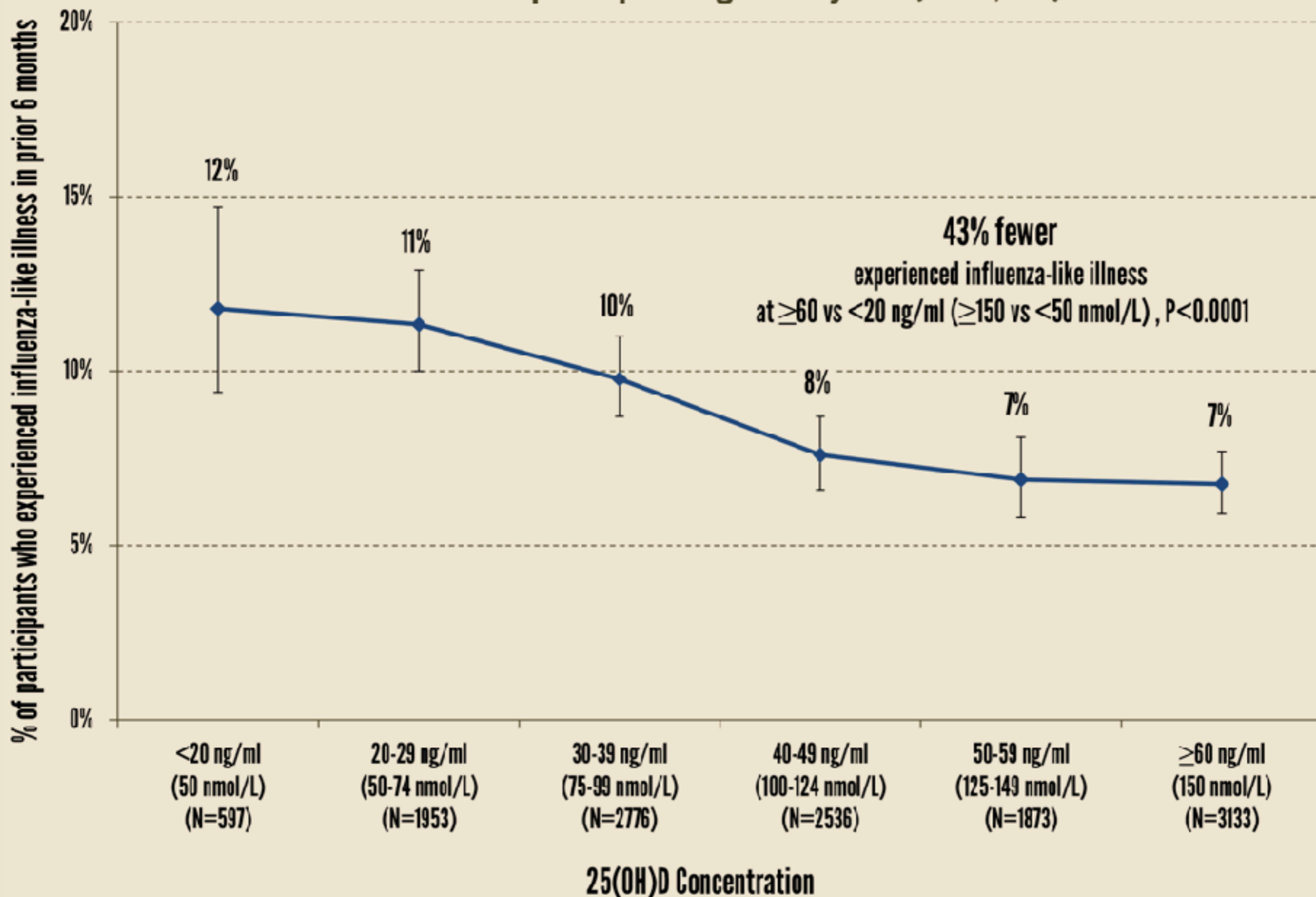


GrassrootsHealth
Nutrient
Research Institute | Moving
Research
Into Practice

www.grassrootshealth.net

Screenshot

Vitamin D status and influenza-like illness among GrassrootsHealth participants aged 18+ years (N=12,605)



C 4 COVID RECOMMENDATIONS

VITAMIN C
4 COVID
SAVE LIVES NOW



PREVENTION

- Vitamin C 0.5g (500mg) to 1g(g) twice a day, morning and afternoon

Also consider

- Vitamin D 3,000iu a day
- Zinc 10-15mg a day



EARLY TREATMENT

- Vitamin C 8g to 20g a day – 1 to 2g every two to four hours

When you get the first signs of a cold, or any infection, load up with 2 to 5g immediately, then take between 0.5 to 1g an hour, up to your 'bowel tolerance' until symptoms disappear. Based on clinical trials, the higher the dose, and the longer you take it, the greater is the reduction in both duration and severity of symptoms. With at least 6g in the first day, studies report between a 20% to 85% shorter infection.

Also consider

- Single loading dose of 100,000iu if low vitamin D3 level suspected or known (below 50nmol/l)
- Otherwise Vitamin D3 3,000 to 5,000iu a day or same dose (x7) once a week
- Zinc 70mg-100mg a day – lozenges can provide 10mg. Some vitamin C supplements contain zinc.



SEVERE COVID (hospitalised)

- Test vitamin C with a urine vitamin C stick
- If deficient give 6-20g – 1-2 g every two hours

There is a compelling case to give high dose oral vitamin C to hospitalised patients, or start them on an intravenous drip.

Also consider

- Single loading dose of 100,000iu if low vitamin D3 level suspected or known (below 50nmol/l) or vitamin D3 5,000iu a day

FLU FIGHTERS



HOW TO WIN THE COLD WAR
BY BOOSTING YOUR NATURAL IMMUNITY
WITH NON-TOXIC NUTRIENTS

PATRICK HOLFORD

THE BESTSELLING NUTRITION EXPERT

Combination nutrients work best



R.Jariwalla, BioFactors 31 (2007); M. Roomi BioFactors 32 (2008)

- ▶ A study tested the effects of vitamin C combined with other nutrients on cells infected with Asian flu virus. According to the researchers the nutrient mixture(NM) “ ***demonstrated high antiviral activity evident even at prolonged periods after infection. NM antiviral properties were comparable to those of conventional drugs (amantadine and oseltamivir/Tamiflu); however, NM had the advantage of affecting viral replication at the late stages of the infection process.***”
- ▶ The other nutrients given included the amino acids lysine, proline, N-acetyl cysteine, and selenium. N-acetyl cysteine and selenium both promote glutathione levels within cells, which has anti-viral activity.
- ▶ **Combination nutrients more or less double efficacy.**



Action to boost your immune system



- ▶ Don't smoke and minimise pollution exposure
- ▶ No more than one unit of alcohol a day, and preferably not every day
- ▶ Reduce stress and get enough sleep - between 6.5 and 8 hours
- ▶ Exercise regularly preferably in natural daylight - get outdoors
- ▶ Eat lots of fresh organic fruit and vegetables high in salvestrols
- ▶ Eat something orange/blue/red/dark green every day
- ▶ Eat a low GL, and low dairy diet (less meat, more fish)
- ▶ Don't eat foods you are allergic too
- ▶ Have half your diet raw and avoid fried foods
- ▶ Supplement 1-3 grams of vitamin C, plus zinc, berry extracts and other antioxidants and immune friendly nutrients, daily - twice a day



patrick
HOLFORD

Optimum Living Made Easy

SAY
NO TO
CANCER

THE DRUG-FREE
GUIDE TO PREVENTING AND
HELPING FIGHT CANCER

BODY

- ▶ Cancer causes explained - carcinogens, promoters, weakened immunity
- ▶ Natural anti-cancer nutrients, herbs & enzymes
- ▶ Strategies for preventing and reversing the cancer process
- ▶ Strategies for minimising side-effects of chemotherapy and radiation, and non-toxic chemotherapies.
- ▶ Nutritional support for specific types of cancer.

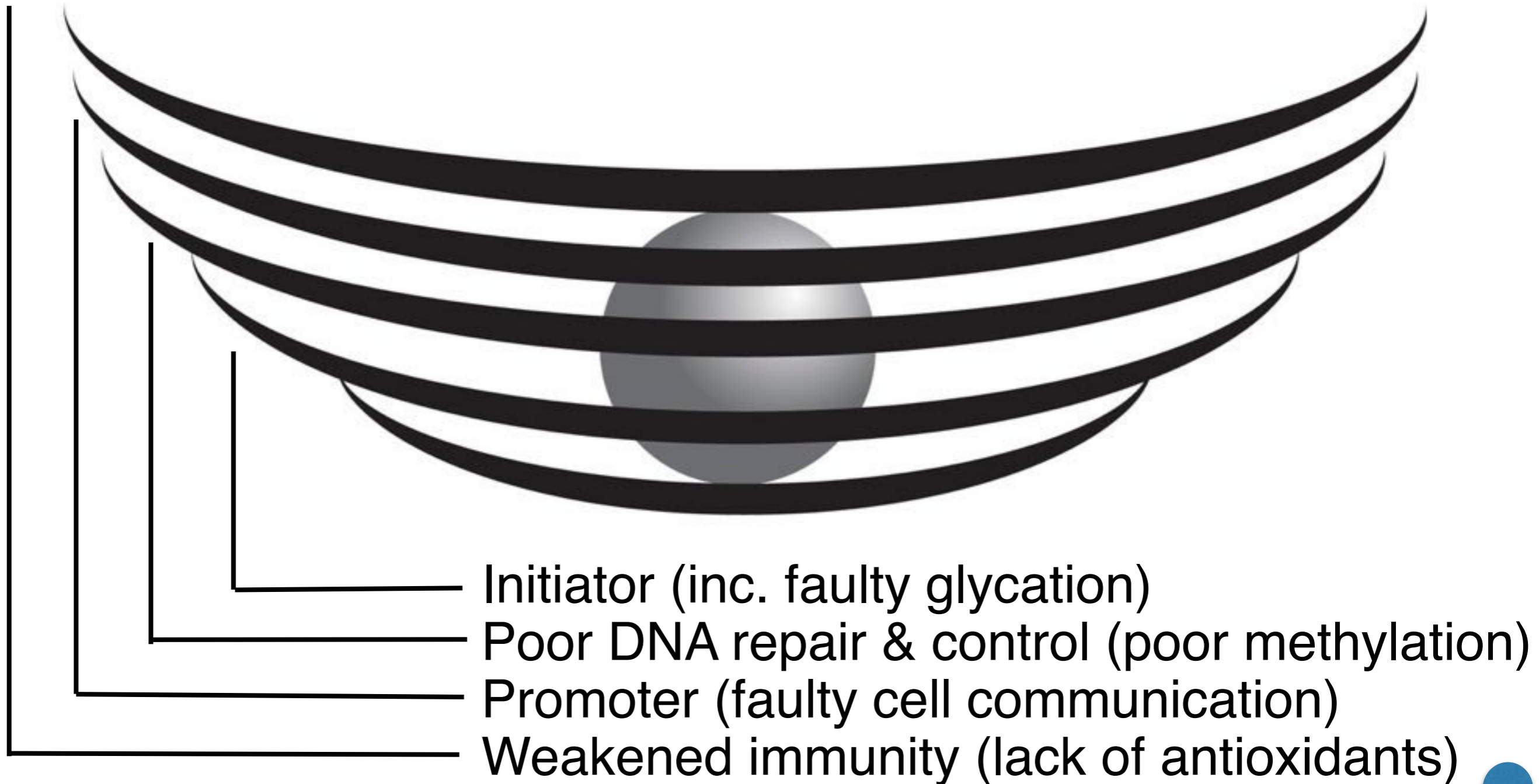
We are losing the war on cancer

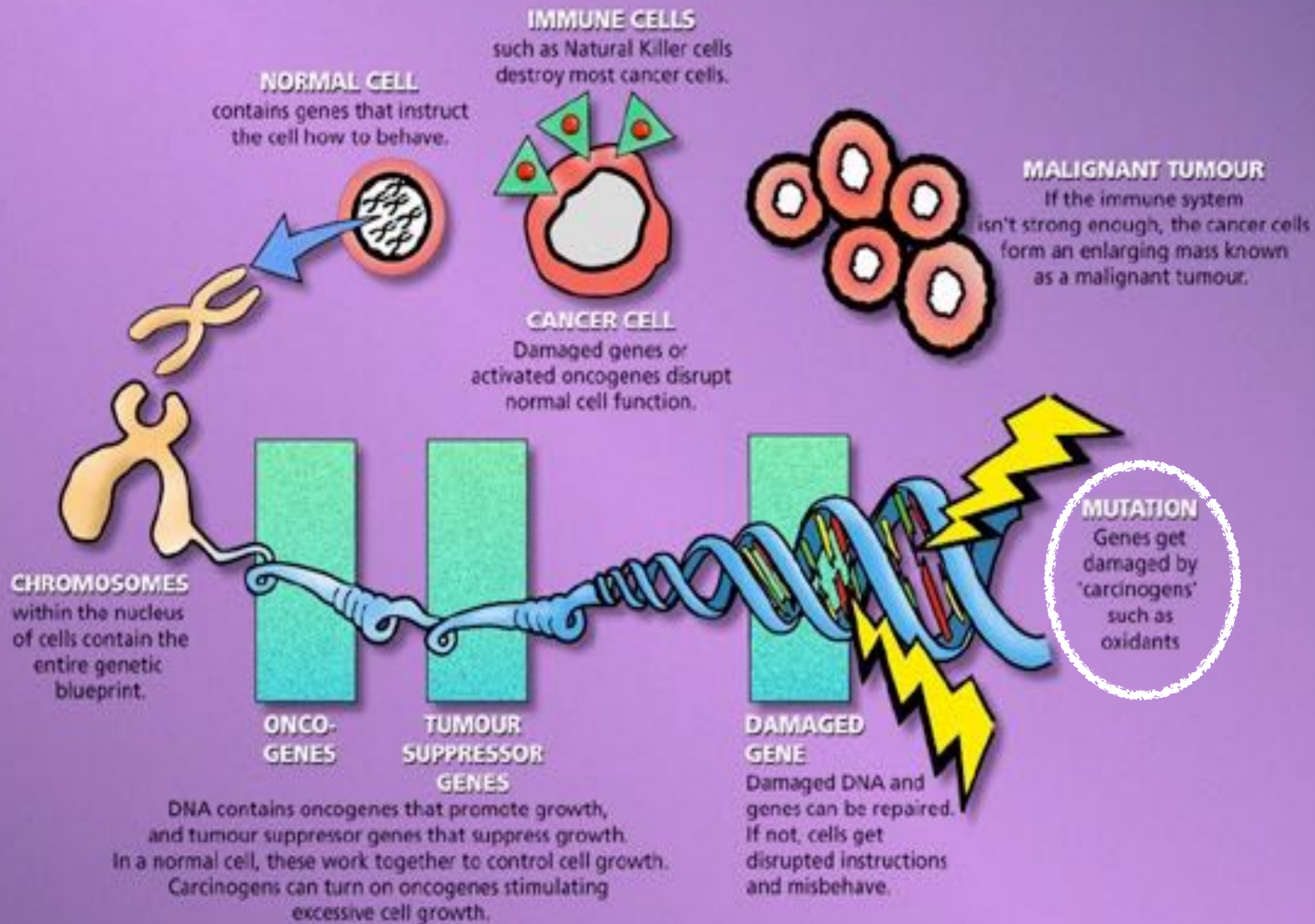


- ▶ Lifetime risk for cancer has risen by 49% in 30 years and is currently 1 in 3, expected to be 1 in 2 by 2020.
- ▶ Breast cancer is up 80% and prostate cancer is up by 100%. Colo-rectal cancer incidence is expected to increase by over 100% in those aged 20 to 34 by 2030.
- ▶ The five year survival rate has increased from 49% to 54% since 1970. This allowed Cancer Research Campaign to say 'more people survive than die from cancer' ignoring actual survival.
- ▶ As such it will soon be the number 1 killer of people under age 50. Currently, cancer kills 1 in 4 people.
- ▶ The top five - lung, breast, stomach, colorectal and prostate - were almost unheard of before the 20th century.
- ▶ **85 to 90% of cancers are caused by environmental factors.**
- ▶ **You can cut your risk by 40% by changing your diet, says World Cancer Research Fund. Three out of four cancers are preventable.**



Cancer is a
communication
breakdown
between cells





Initiation of Cancer

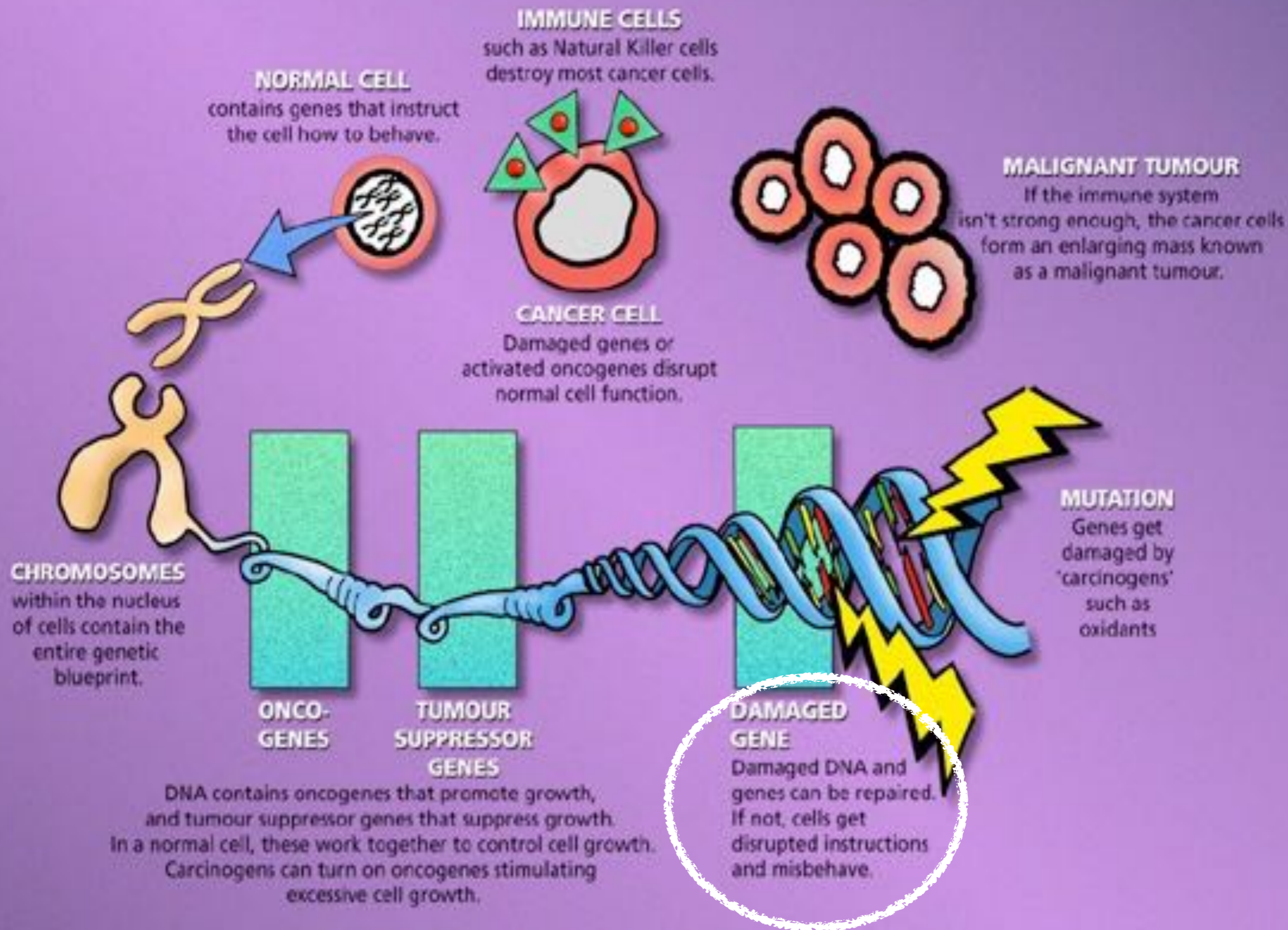


Common carcinogens - oxidants



- ▶ Pollution - exhaust and industrial pollutants such as PCBs
- ▶ Smoking and passive smoking
- ▶ Pesticides, herbicides
- ▶ Food carcinogens - nitrosamines, PAHs, HCAs, free radicals, acrylamides
- ▶ Radiation - sun, radon, low level radiation eg x-rays, and 'non-ionising' radiation eg mobile phones
- ▶ ?Sugar/lack of oxygen





Initiation of Cancer

Cancer and Methylation

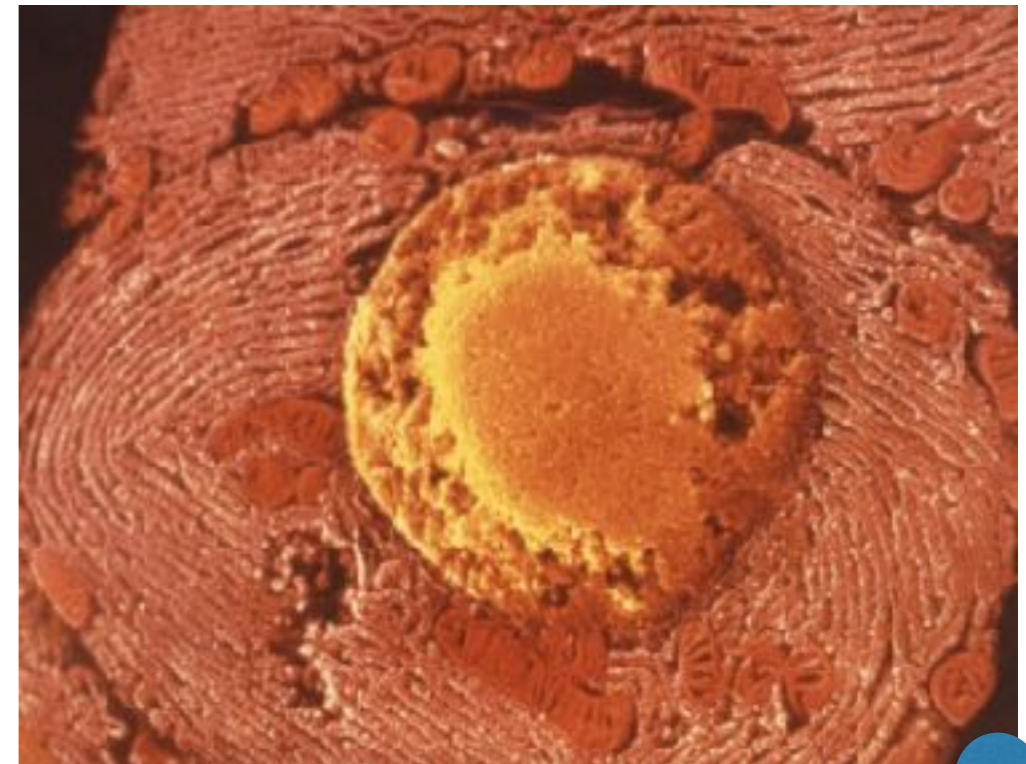


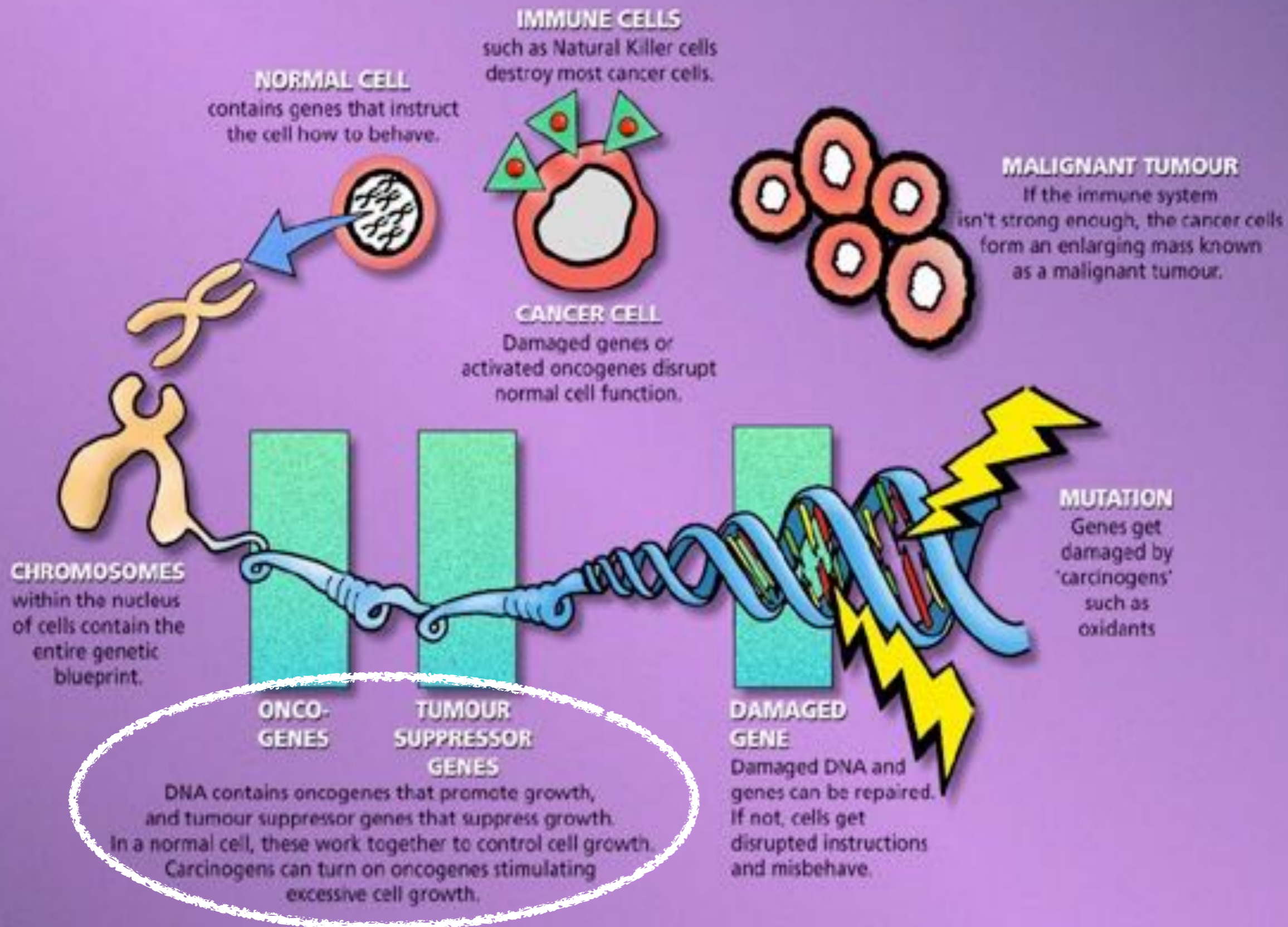
Ronald dePinho The Age of Cancer, Nature, 408, p18-23, 2000; B. Shannon, Surgery, Uni of West Aus

- ▶ Epithelial carcinomas, including breast, prostate, lung and colon, account for 83.6% of adult cancers. 55% of these cancers shown telomere dysfunction, associated with **poor methylation**.
- ▶ **Leukemias & dysplasias** associated with **high homocysteine**.
- ▶ Those with **colon cancer** are more likely to have a faulty MTHFR gene, and raised **homocysteine**.

“One in four gene mutations that cause human disease can be attributed to methyl groups on our genes.”

Dr Adrian Bird, Edinburgh University





Initiation of Cancer

Hormonal Cancer incidence & Risk

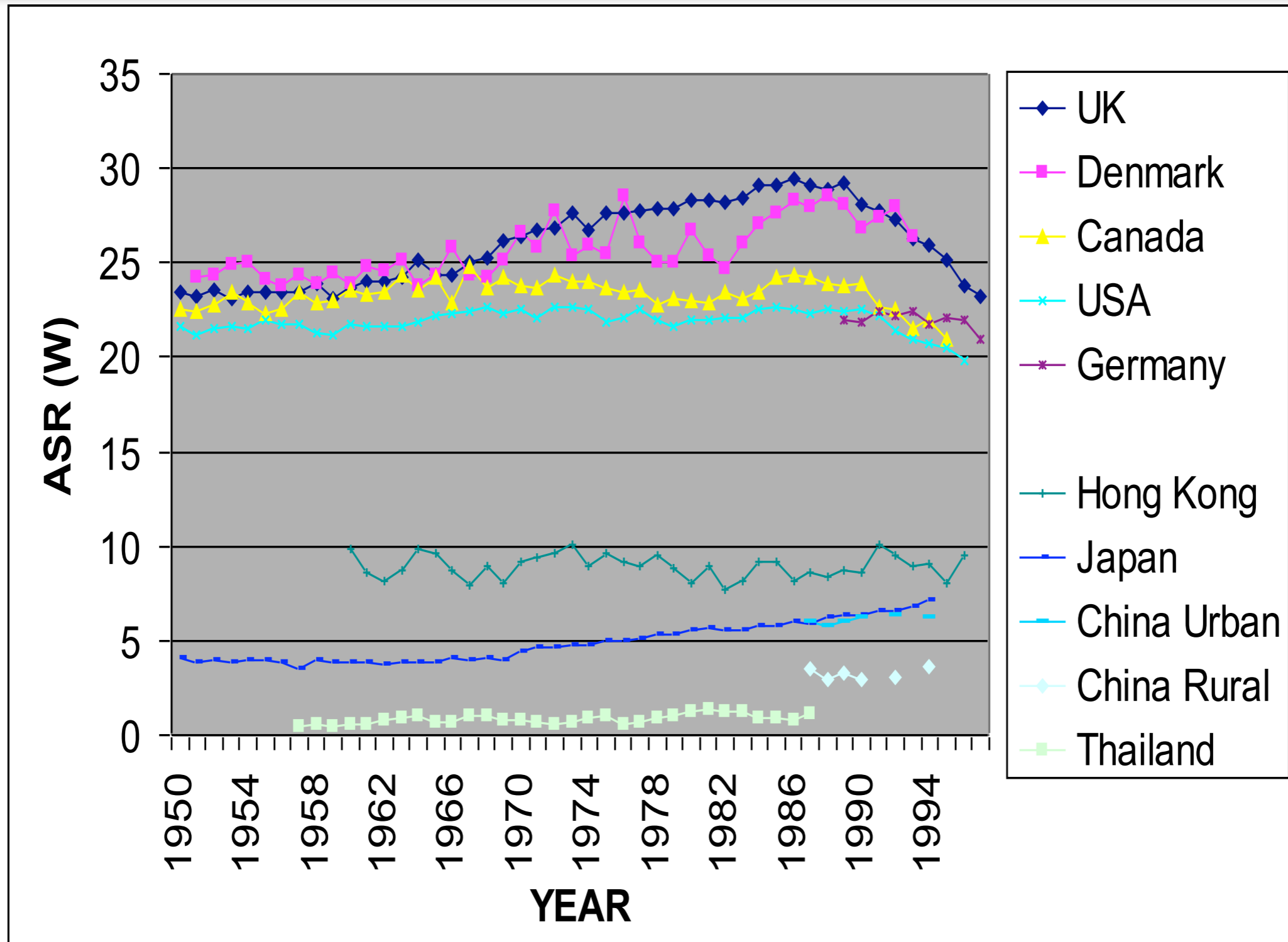


Source: Cancer Surveillance Unit, Cambridge University

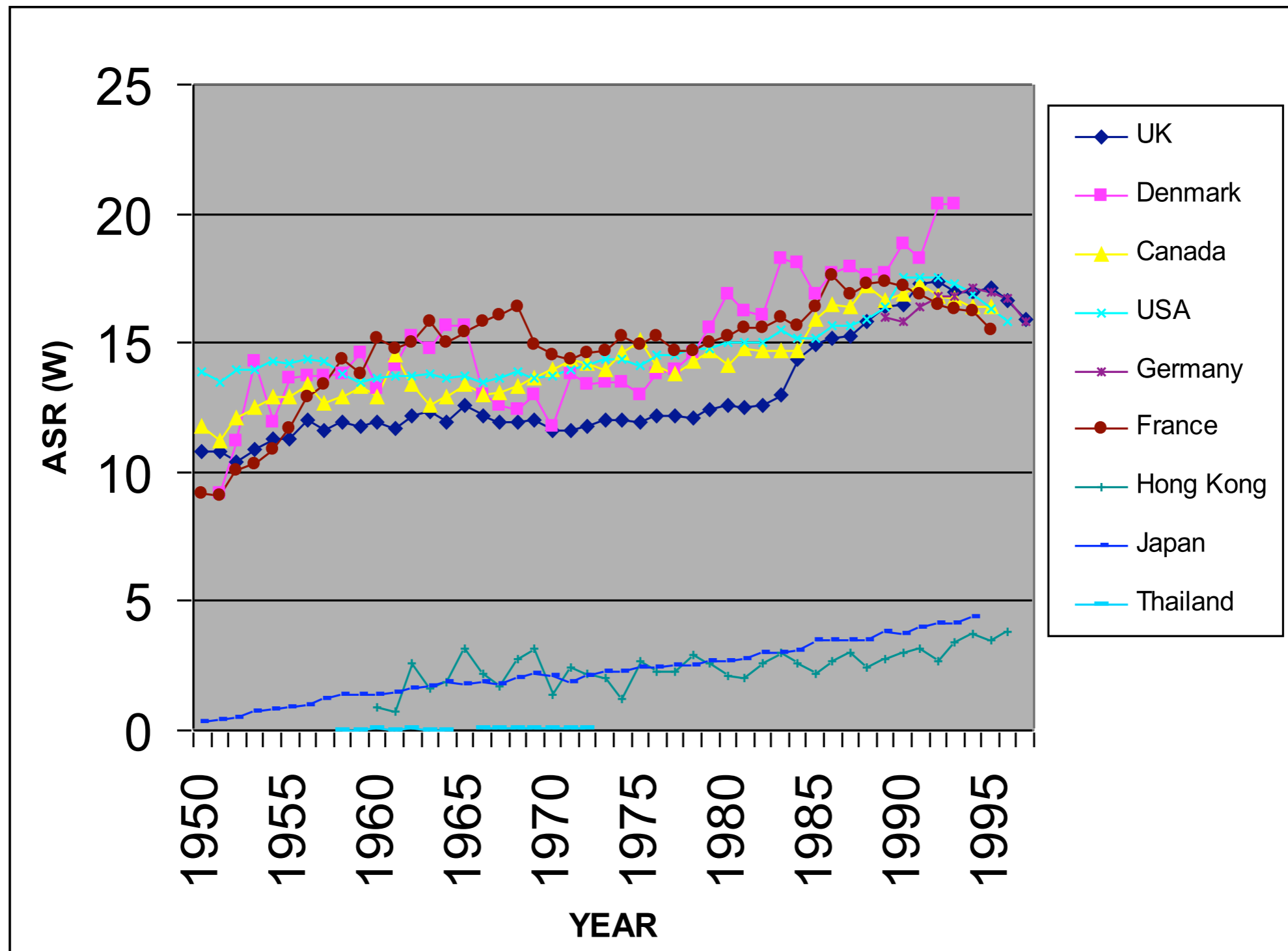
	1985	2000	2015	1985-2015
Breast (women)	8.6%	10.6%	13.1%	52%
Uterine (women)	1.2%	1.8%	2.2%	83%
Prostate (men)	7.1%	13.5%	23.7%	234%
Testicular (men)	0.4%	0.4%	0.6%	50%
CHINA				
Breast	0.001%			
Prostate	0.0005%			



Breast Cancer mortality rates by year and country (WHO)

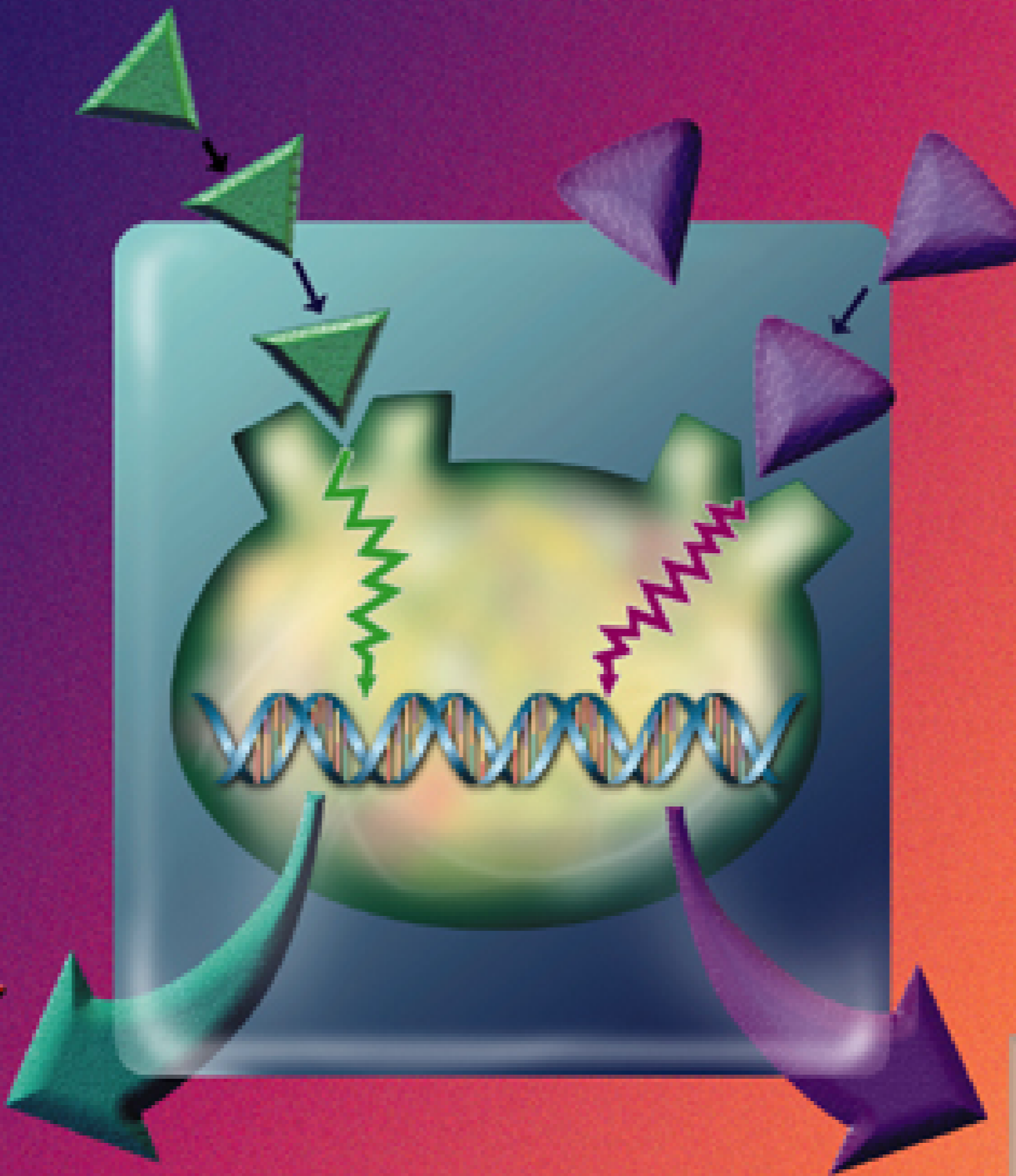


Prostate Cancer mortality rates by year and Country (WHO)



Oestrogen
Progesterone
Testosterone

PCBs
IGFs
Dioxins
Progestins
Excess
insulin
Excess
oestrogen



Growth promoters



- ▶ **Too much insulin** - sugar, high GL diets
- ▶ **Too much insulin-like growth factor (IGF-1)** - dairy
- ▶ **Too much cortisol** - stress, stimulants
- ▶ **Excess oestrogen** - linked to excess body fat
- ▶ **Progesterone deficiency** - linked to anovulation
- ▶ **Lack of oestrogen blockers/phytoestrogens** - beans etc
- ▶ **Lack of oestrogen detoxifiers** - greens, poor liver function
- ▶ **Excess hormone disruptors** - pesticides, plasticisers, detergents, industrial compounds, pharmaceuticals



Sweet foods & breast cancer risk



Tavani A et al, Annals of Oncology, October, 2006

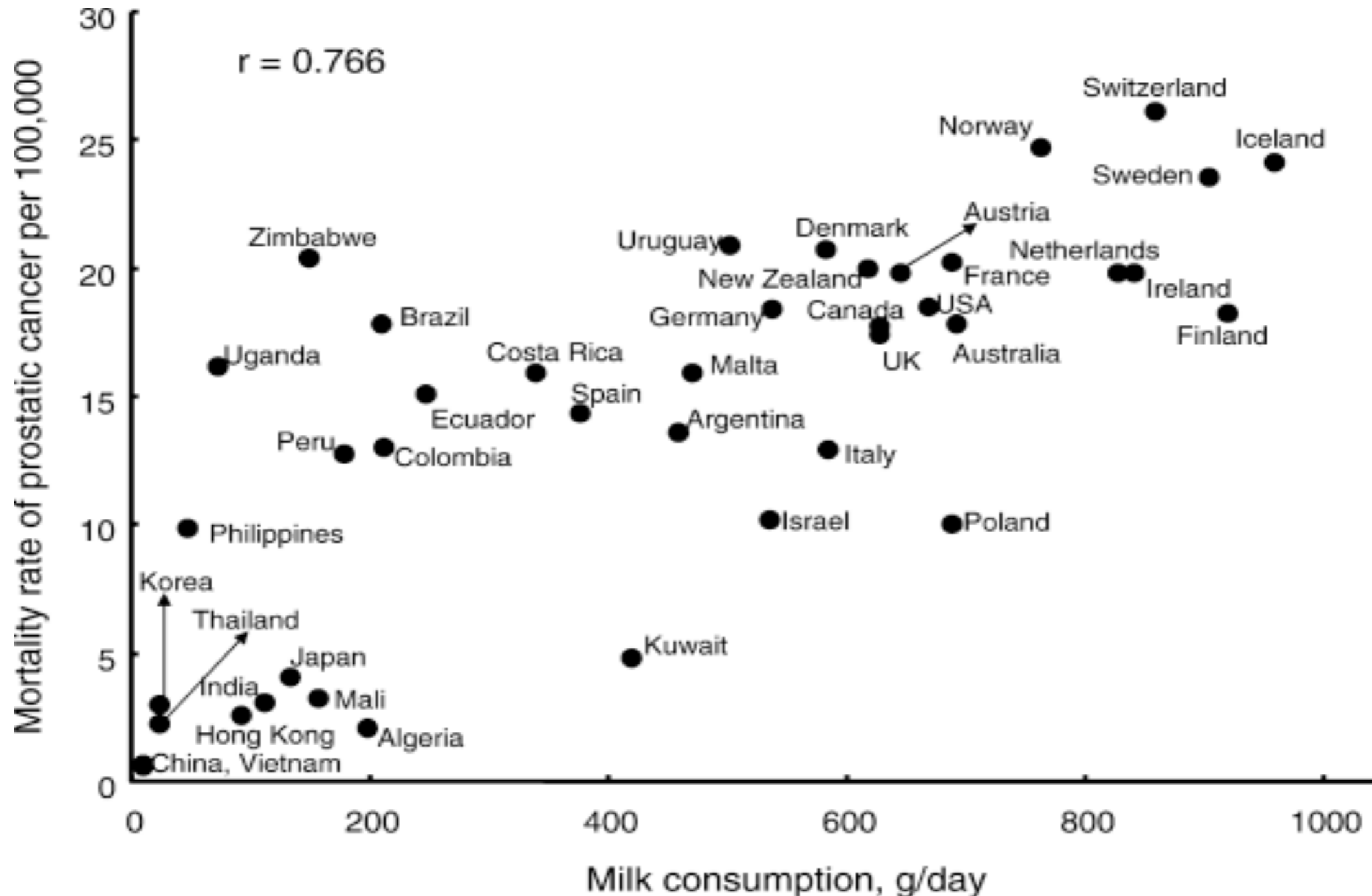
- ▶ Regularly eating sweet foods, including biscuits, ice cream, honey, and chocolate, may increase the risk of breast cancer. Results from a large case control study of more than 5000 Italian women have shown that the effects may be significant: “**If real, the excess risk for frequent sweet consumption may account for 12% of breast cancer cases** in this Italian population and, therefore, is far from negligible on a public health level,” say the researchers.



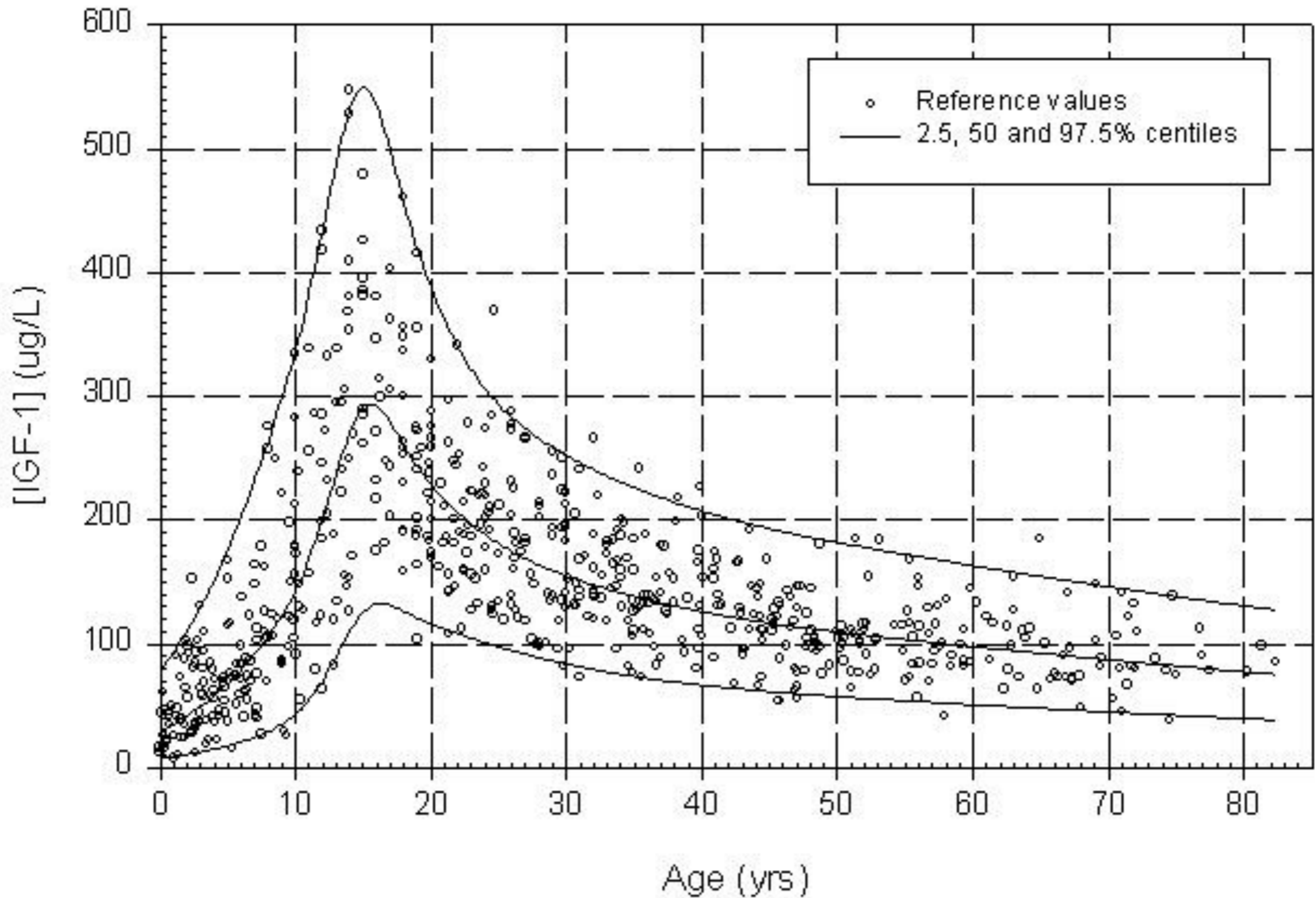
Milk consumption & prostate cancer deaths



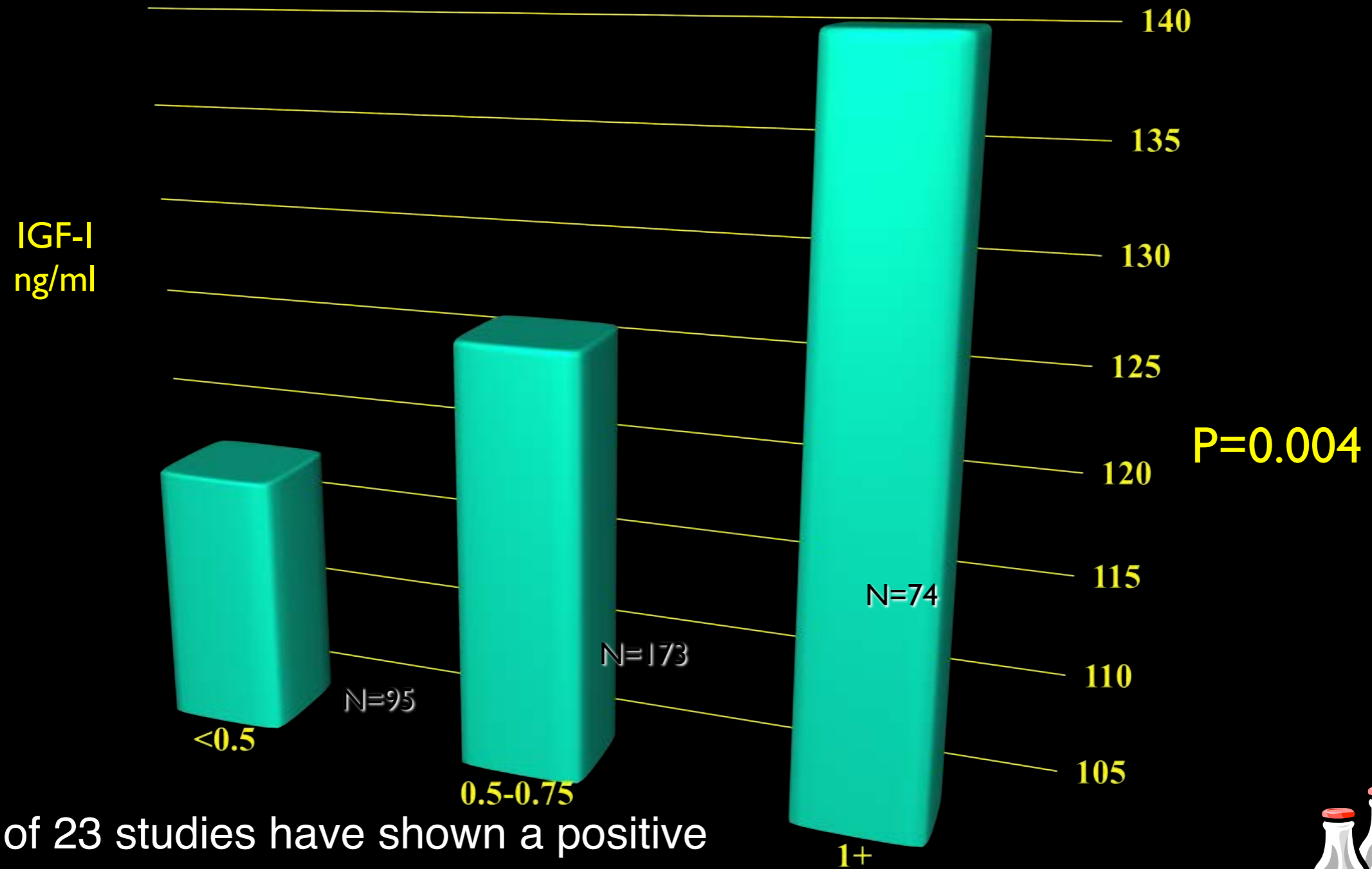
D Ganmaa et al, International Journal of Cancer, 2002, Volume 98, Issue 2, p. 262-267



Endolab IGF-1 reference intervals 27-9-2000



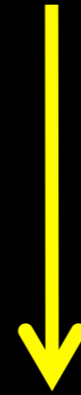
Serum IGF-I levels in men aged 50-70 according to milk consumption.



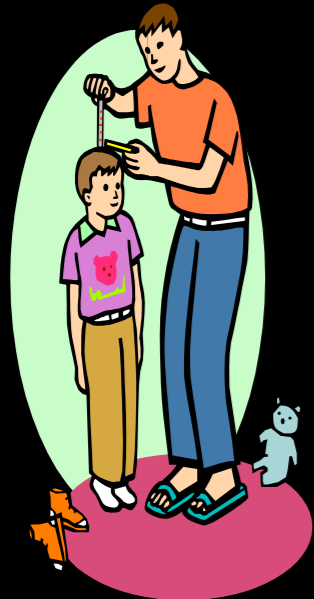
► 19 out of 23 studies have shown a positive association between dairy intake and prostate cancer. National Cancer Institute



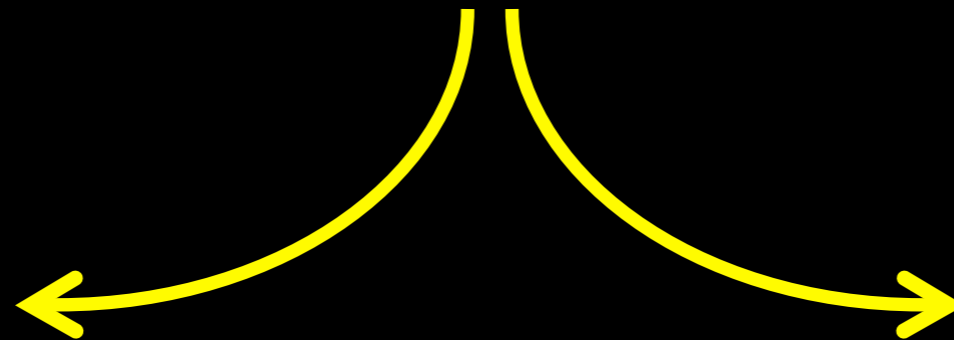
**Childhood
Nutrition**



IGF-I



Growth



**Cancer
Risk**

▶ “those in the top quarter for blood IGF-I levels have approximately a three to fourfold increase in risk of breast, prostate or colorectal cancer.” Prof Jeff Holly

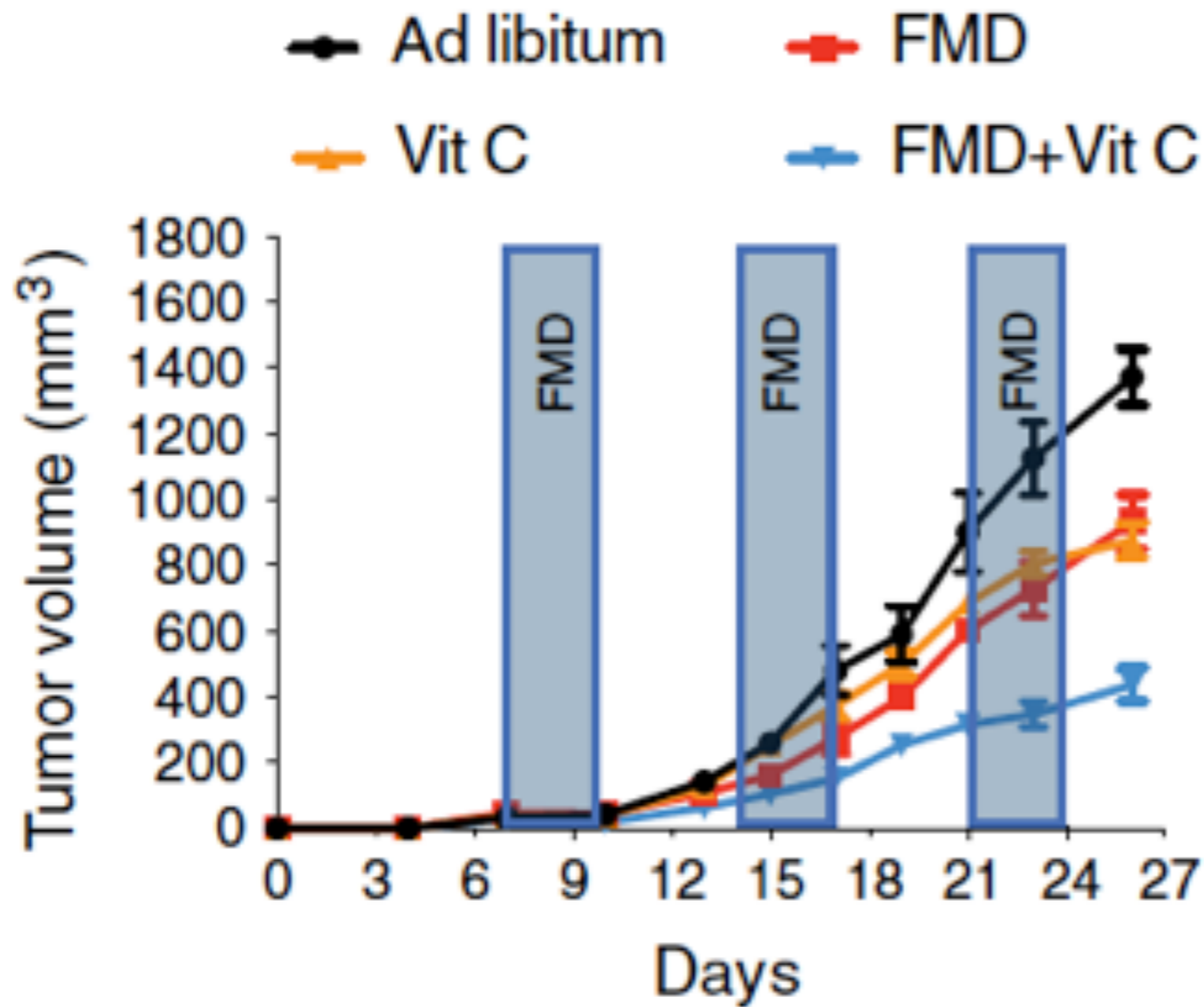


Actions to Cut Your Risk of Cancer



- ▶ Up intake of antioxidants and salvestrols, both with diet and supplements - more organic fruit, veg, herbs, spices
- ▶ Eat a low GL diet
- ▶ Supplement homocysteine lowering nutrients if H score is high
- ▶ Check your oestrogen/progesterone balance - consider progesterone HRT if oestrogen dominant
- ▶ Eat 15mg of phytoestrogens every day, plus cruciferous vegetables high in indoles
- ▶ Avoid or greatly limit dairy products, sugar, burnt meat, fried food, alcohol





M. Di Tanio et al, *Nature Communications* volume 11, Article number: 2332 (2020)



Go Hybrid for a week for weight loss, energy gain, cellular renewal with Patrick Holford & Marcelle Dubrue

At **Eforest Barn** MOUNTAIN RETREAT

HYBRID FAST DETOX RETREAT

- ✓ Massage
- ✓ Meditation
- ✓ Hot tub
- ✓ Steam shower
- ✓ Nature walks
- ✓ Stress Resilience
- ✓ Heartmath
- ✓ Health and Life Coaching

JUNE 21-28th 2019
Places limited to 20 people

BOOK NOW at hybriddiet.co.uk
Secure your place now with £300 deposit

Sometimes, to move forward... you have to retreat.

JOIN THE LOW CARB REVOLUTION



patrick
HOLFORD

Health Heroes Podcast Series

Cancer Is it Metabolic or Genetic?



Patrick Holford
in conversation
with
Professor
Thomas Seyfried
Boston College







Listen Now

[podbean.patrickholford](https://podbean.com/patrickholford)

INTERNATIONAL BESTSELLER

HOW TO STARVE CANCER

... AND THEN KILL IT WITH FERROPTOSIS

UPDATED & REVISED SECOND EDITION

JANE MCLELLAND

Grad. Dip. Phys

"A monumental accomplishment. A strategy for surviving advanced cancer regardless of the tissue or organ involved. Jane has done a great service to mankind!"

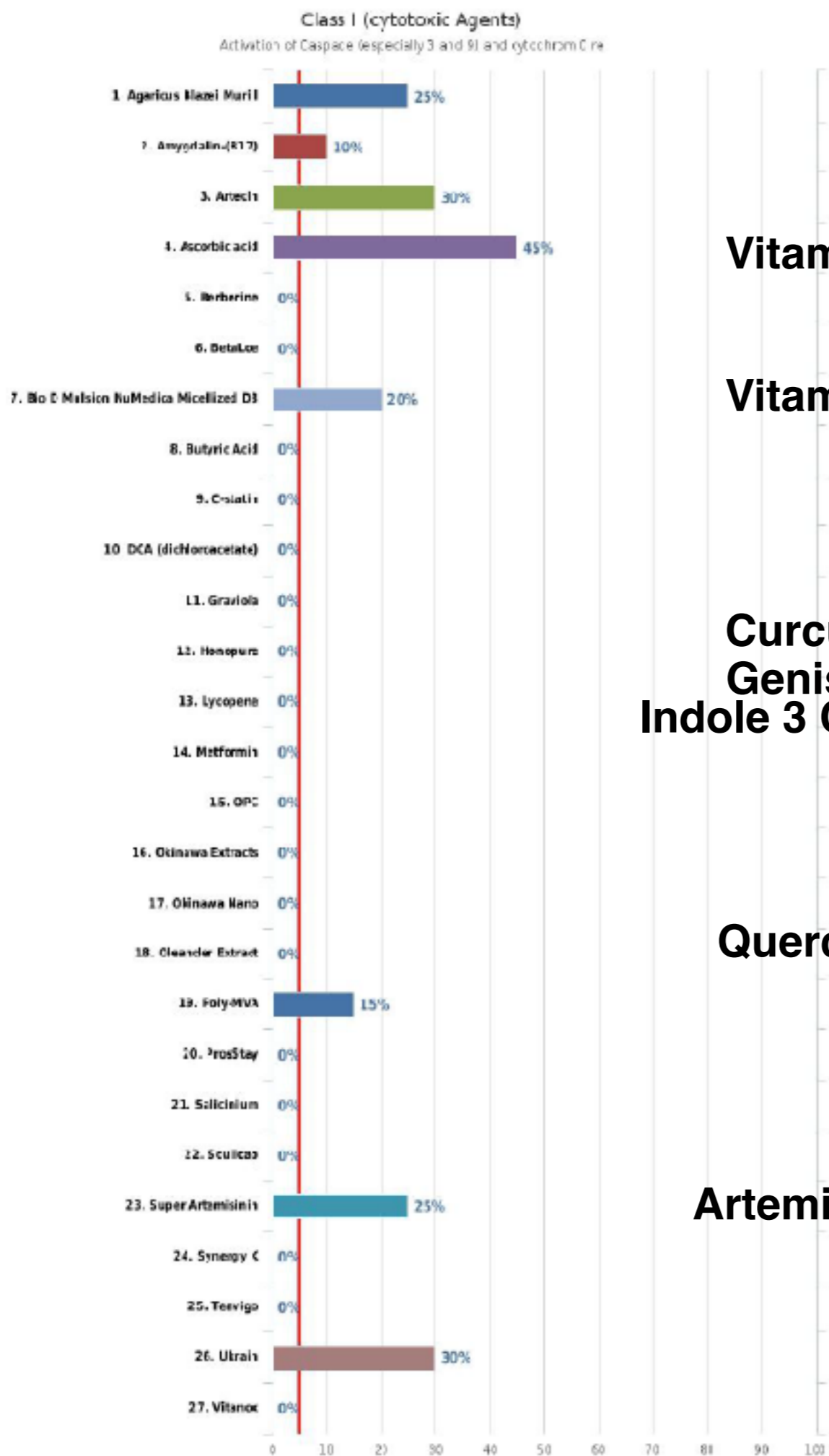
Professor Thomas Seyfried, leading cancer researcher and author of Cancer as a Metabolic Disease

Natural anti-cancer agents



- ▶ Vitamin A, C, D, K and B12
- ▶ Mistletoe
- ▶ Indole-3-carbonol (broccoli extract),
- ▶ Quercetin (red onions)
- ▶ Curcumin (turmeric)
- ▶ Green tea extract
- ▶ Alkalisating diets and sodium bicarb
- ▶ Ganoderma, Reishi
Cordyceps,
Maitake, AHCC
- ▶ Acemannan and
Aloe arborescens
- ▶ Resveratrol and
salvestrols
- ▶ Essiac
- ▶ Cat's claw (*Uncaria
tomentosa*)
- ▶ *Artemesia annua*
and Artemesinin
- ▶ Boswellia
- ▶ Grape seed extract
- ▶ Fulvic acid,
- ▶ Glutathione and
NAC
- ▶ Polyphenols rich
foods inc berry
extracts





▶ <http://rgcc-genlab.com/>

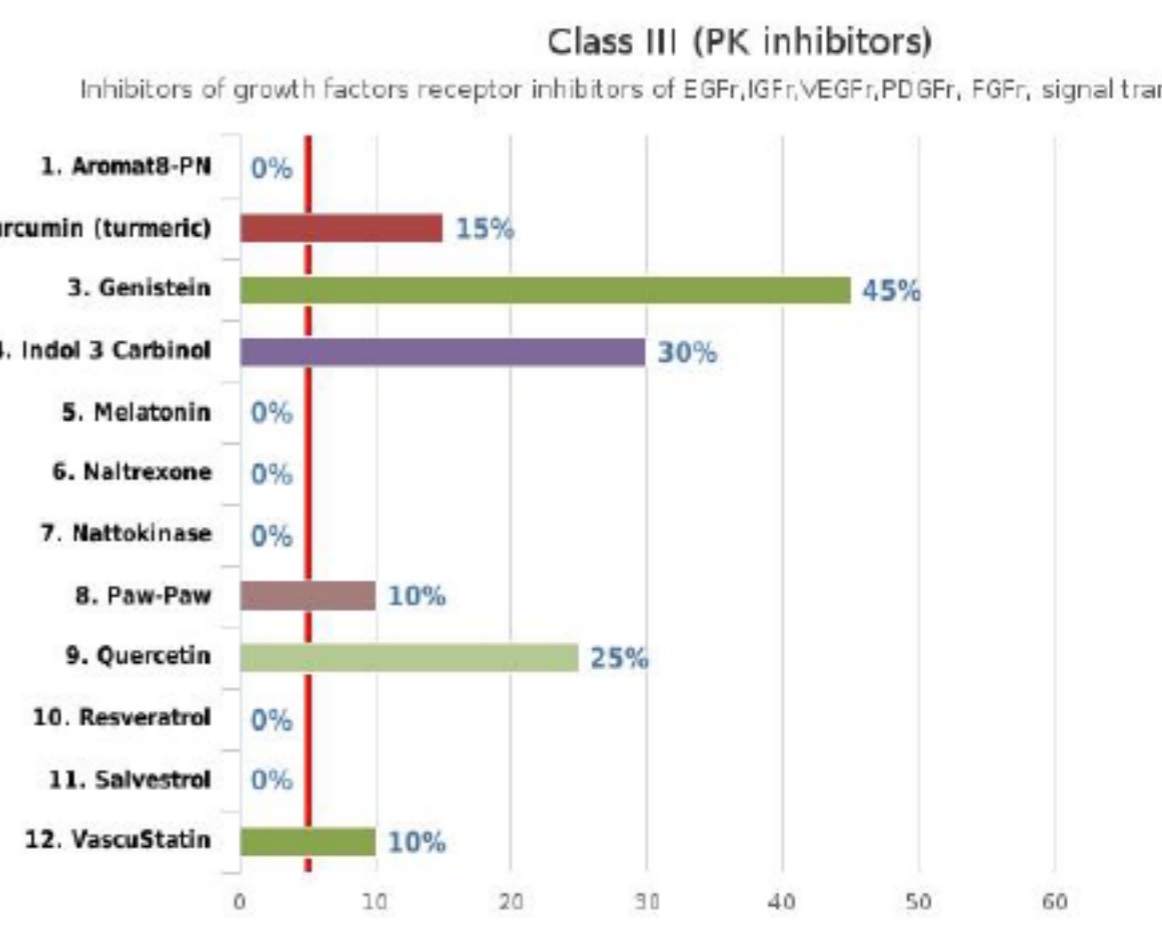
Vitamin C

Vitamin D

**Curcumin
Genistein
Indole 3 Carbonol**

Quercetin

Artemisinin



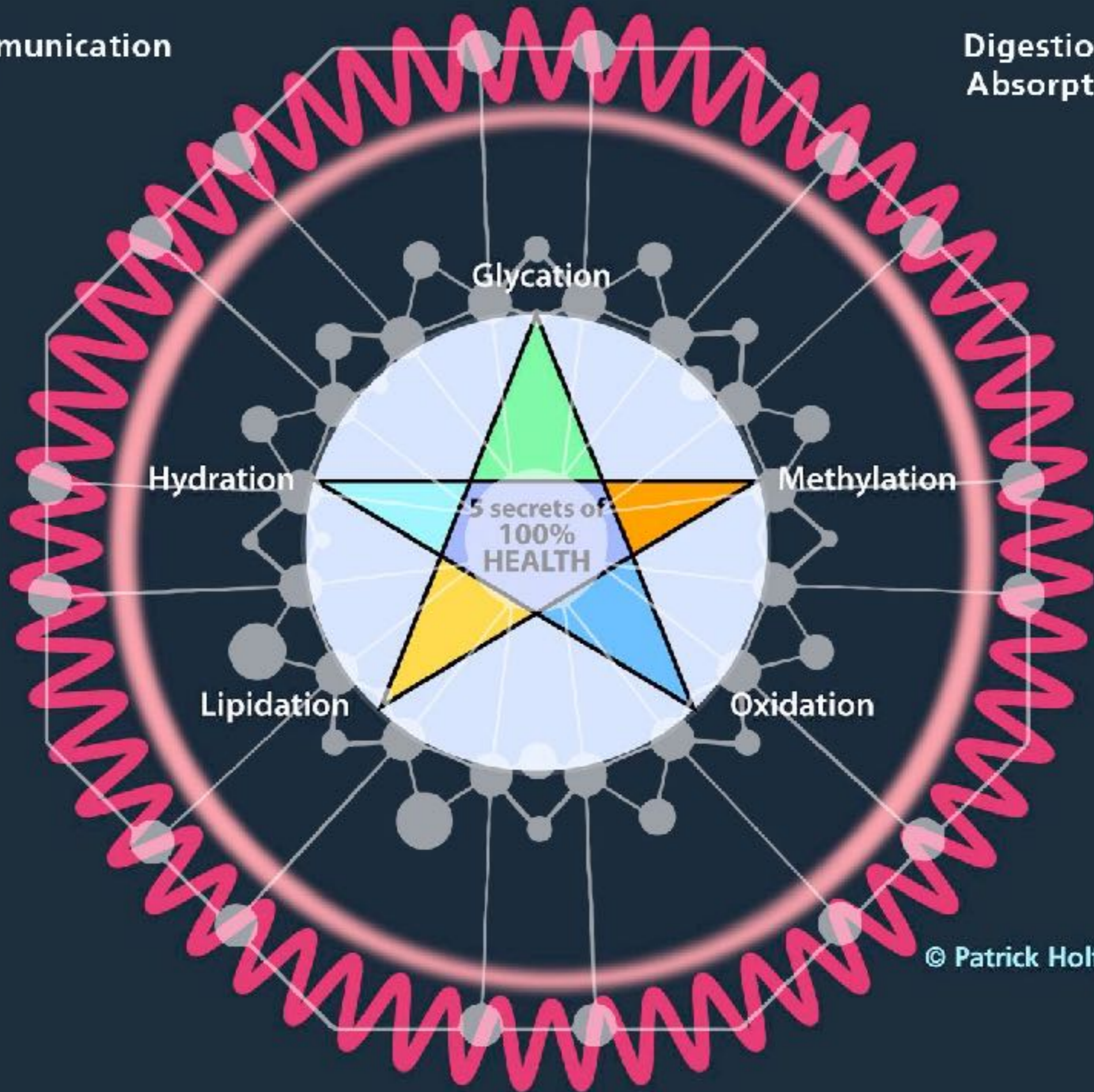
Three targets for cancer



- ▶ Cytotoxic (cancer cell killing) agents
- ▶ Growth inhibitors
- ▶ Immune boosters

Communication

Digestion & Absorption

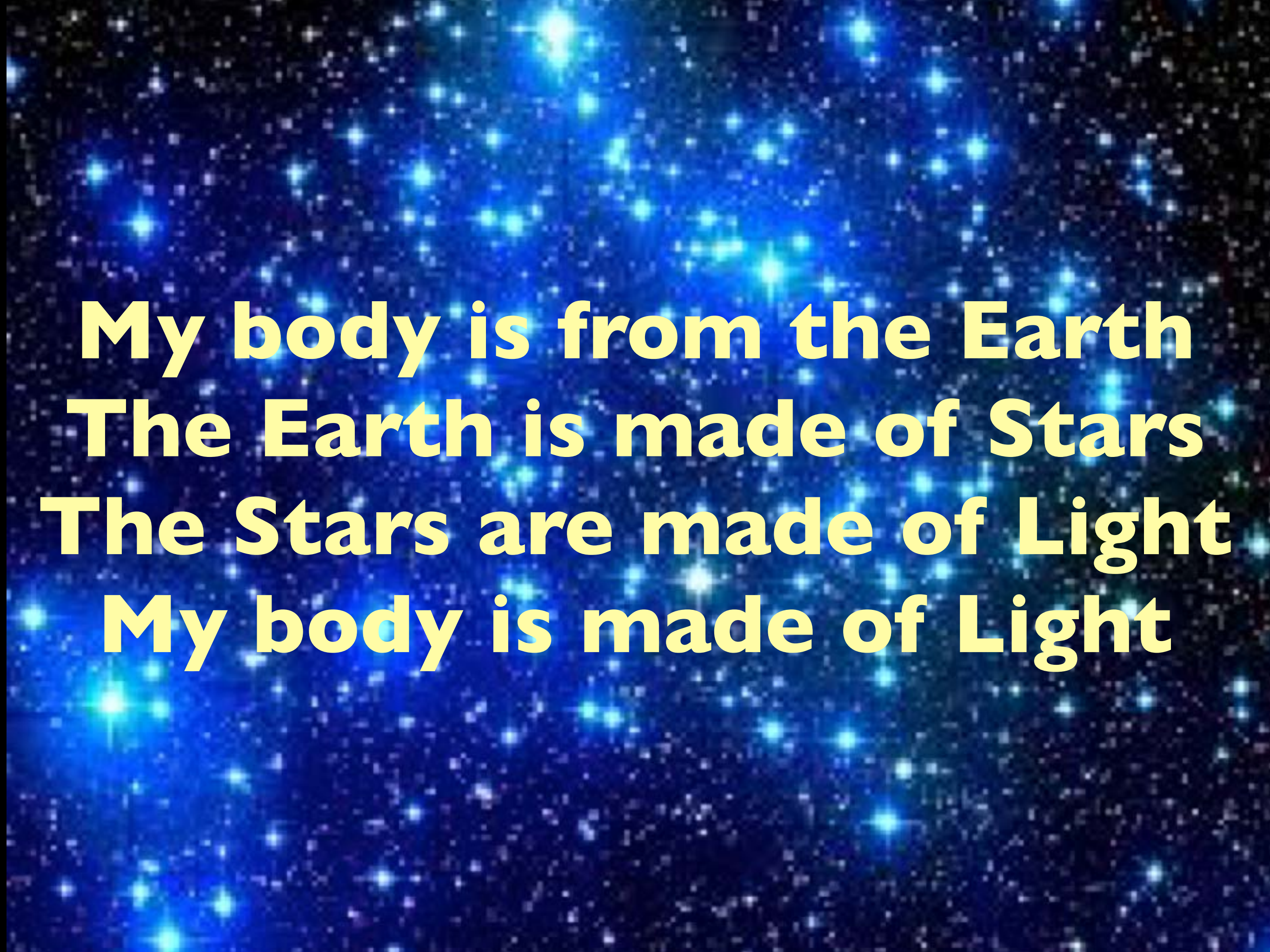


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PatrickHOLFORD

100% health for life

chill/walk time



My body is from the Earth
The Earth is made of Stars
The Stars are made of Light
My body is made of Light





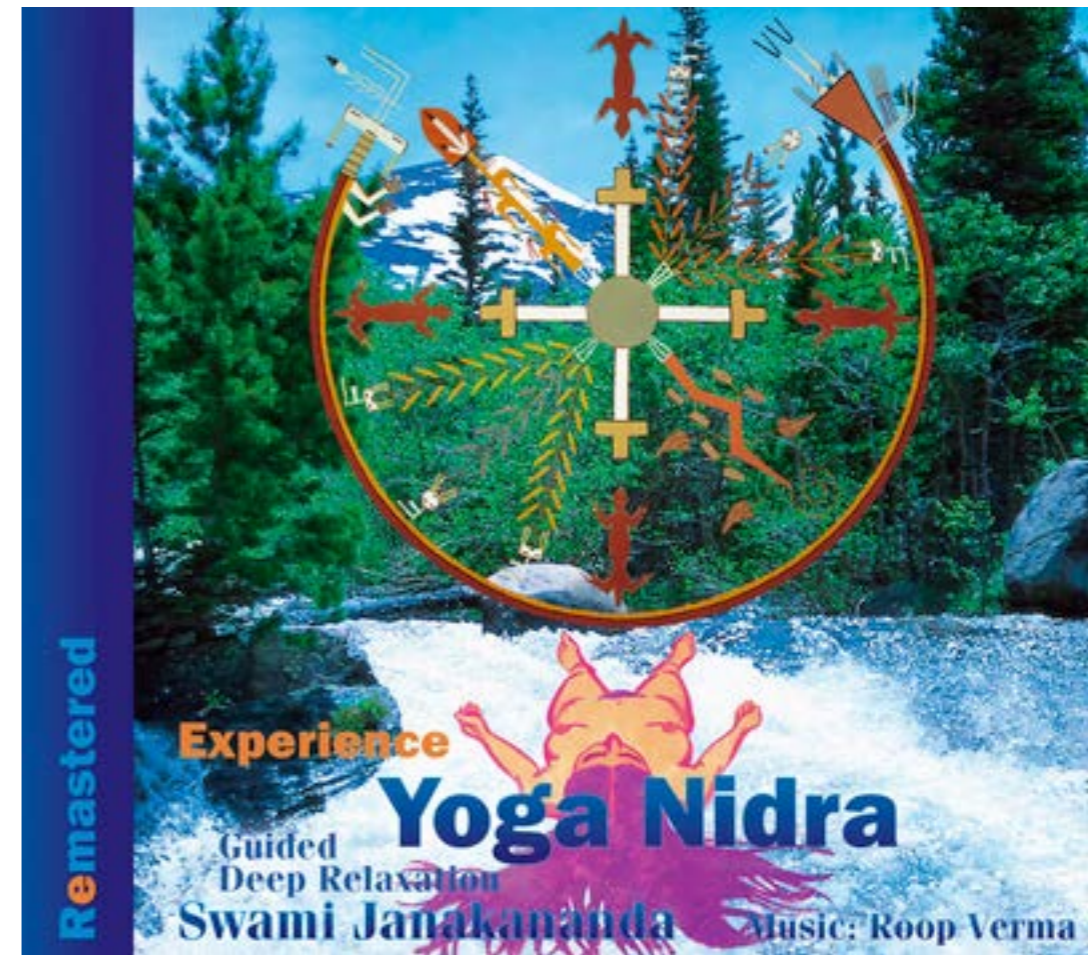
Evening Relaxation Yoga Nidra

Finding Your Purpose & Yoga



1. What do you enjoy or love to do?
2. What gives you a sense of satisfaction and fulfillment?
3. What are you good at? We all have certain gifts or talents. For some, it's the ability to listen; for others, it's having a clear mind. What are some of your gifts?
4. What is needed now in the world, in your community or your family?
5. How can you use your gifts to help or to serve?

96% of the healthiest people have a clear sense of purpose or direction in life.



When you contemplate these questions, then do Yoga Nidra, you'll find some powerful insights into your own purpose and ways of connecting with community spirit.

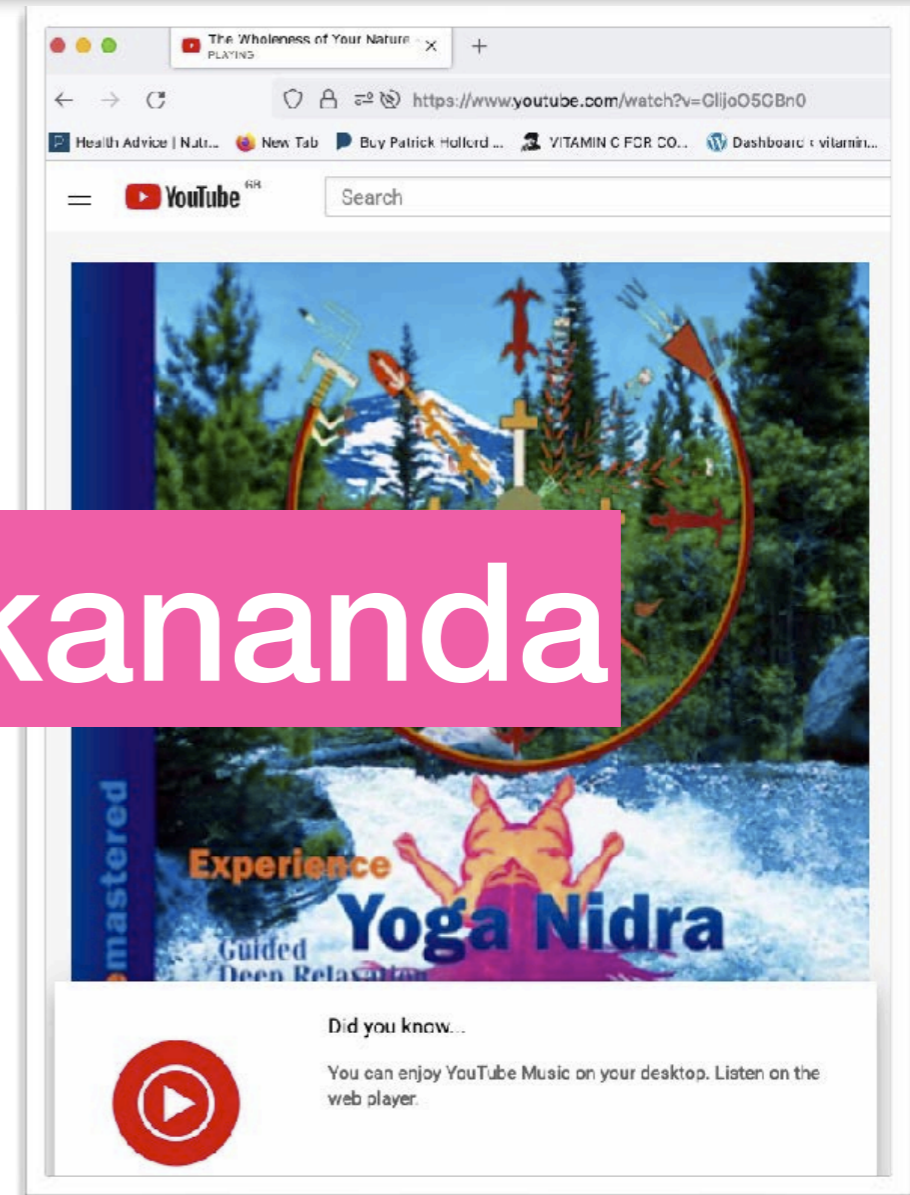
Swami Janakanda's Yoga Nidra
The Wholeness of Your Nature

Finding Your Purpose & Yoga



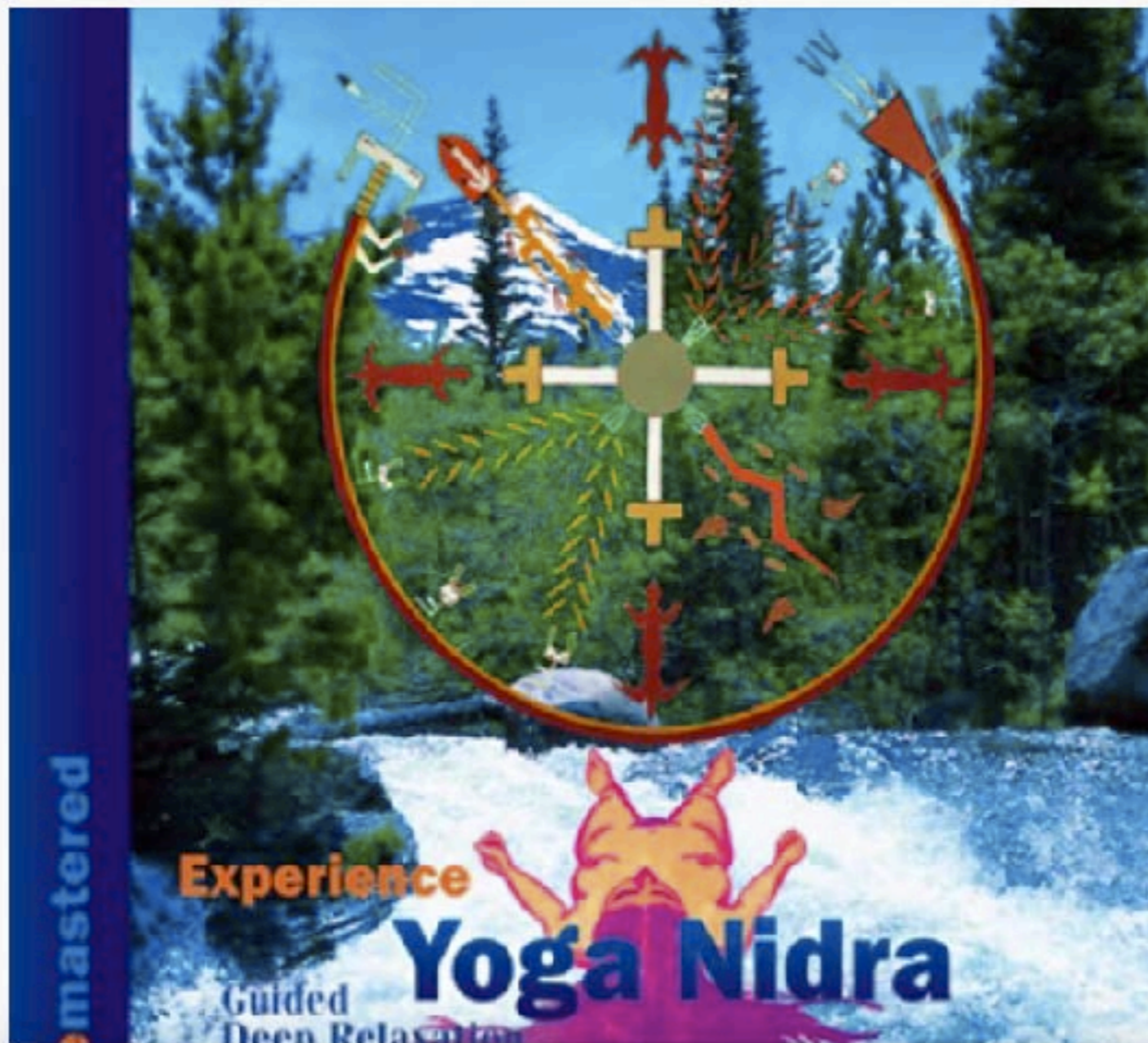
1. What do you enjoy or love to do?
2. What gives you a sense of satisfaction and fulfillment?
3. What are you good at? We all have certain gifts. For some, it's having a clear mind. For others, it's having a clear mind. What are some of your gifts?
4. What is needed now in the world, in your community or your family?
5. How can you use your gifts to help or to serve?

yoga nidra janakananda



When you contemplate these questions, then do Yoga Nidra, you'll find some powerful insights into your own purpose and ways of connecting with community spirit.

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Did you know...

You can enjoy YouTube Music on your desktop. Listen on the web player.



Day 4 Exercises



Crosslegged



Kneeling



Sitting in a chair

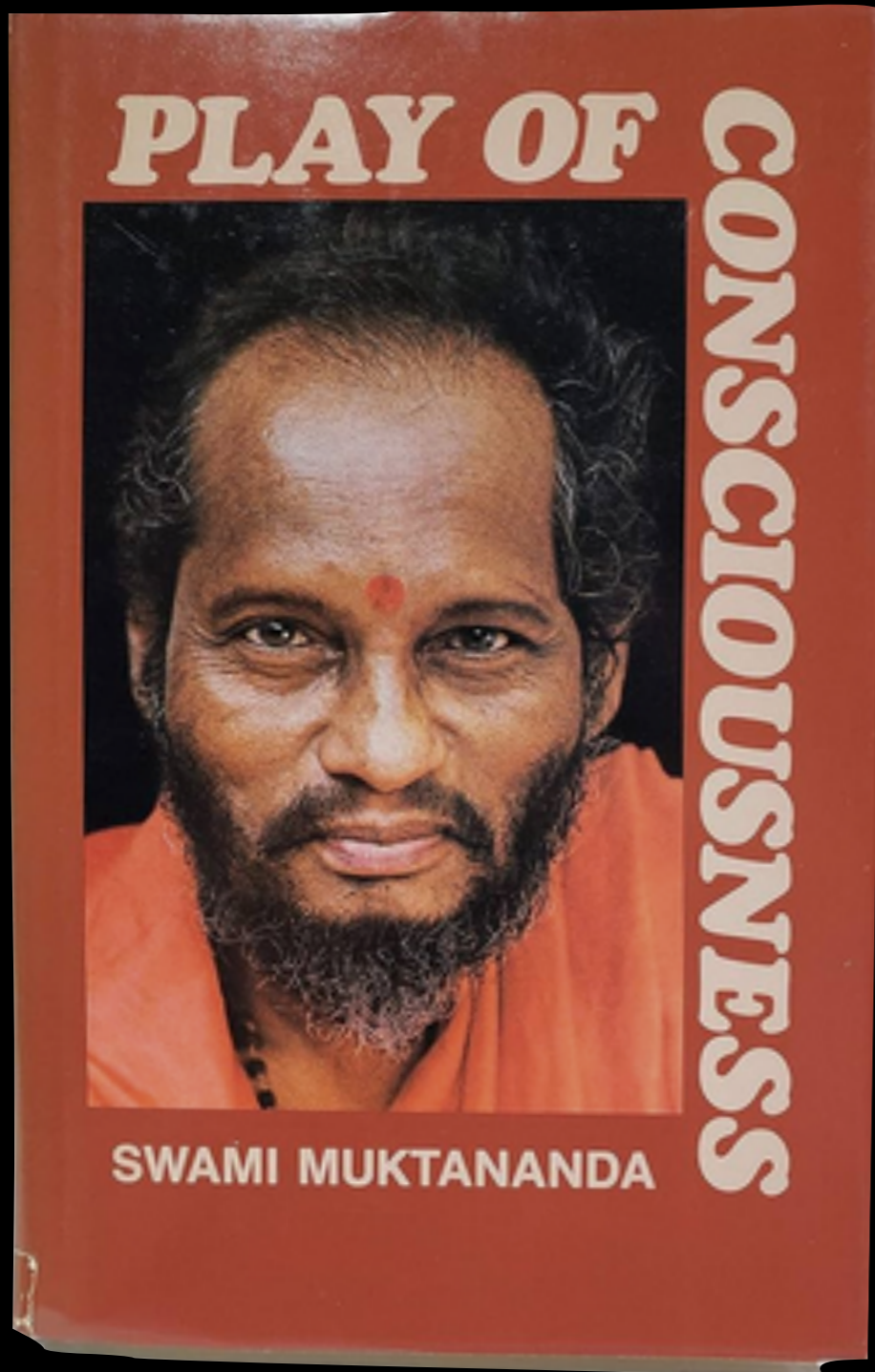


Half lotus



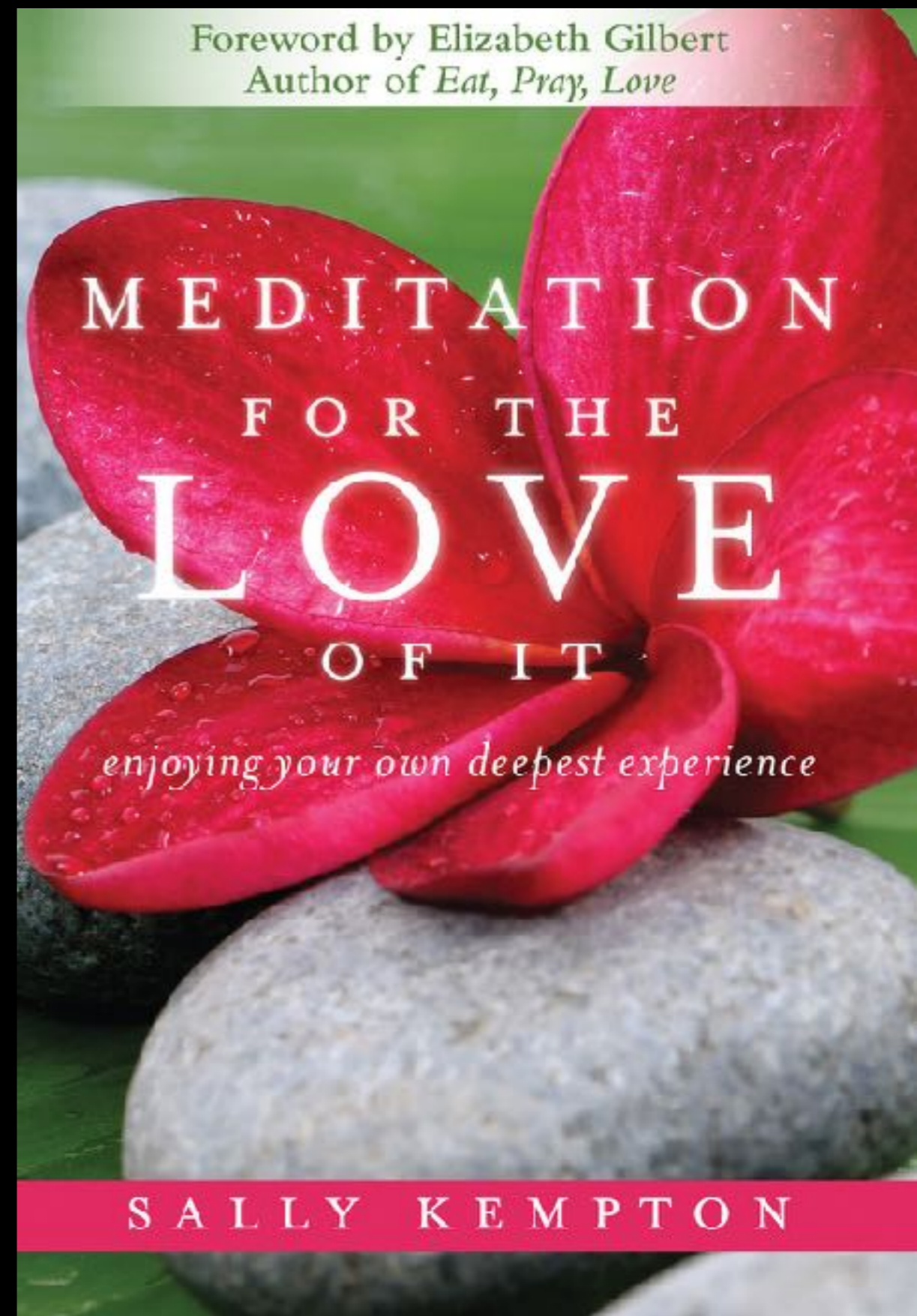
Sitting against a wall





- ▶ Download our 'calming energy boost' mp3 at www.patrickholford.com/stresscure

audio meditations
available from
www.sallykempton.com



available from amazon.co.uk

Finding Your Purpose & Yoga



1. What do you enjoy or love to do?

2. What gives you a sense of satisfaction?

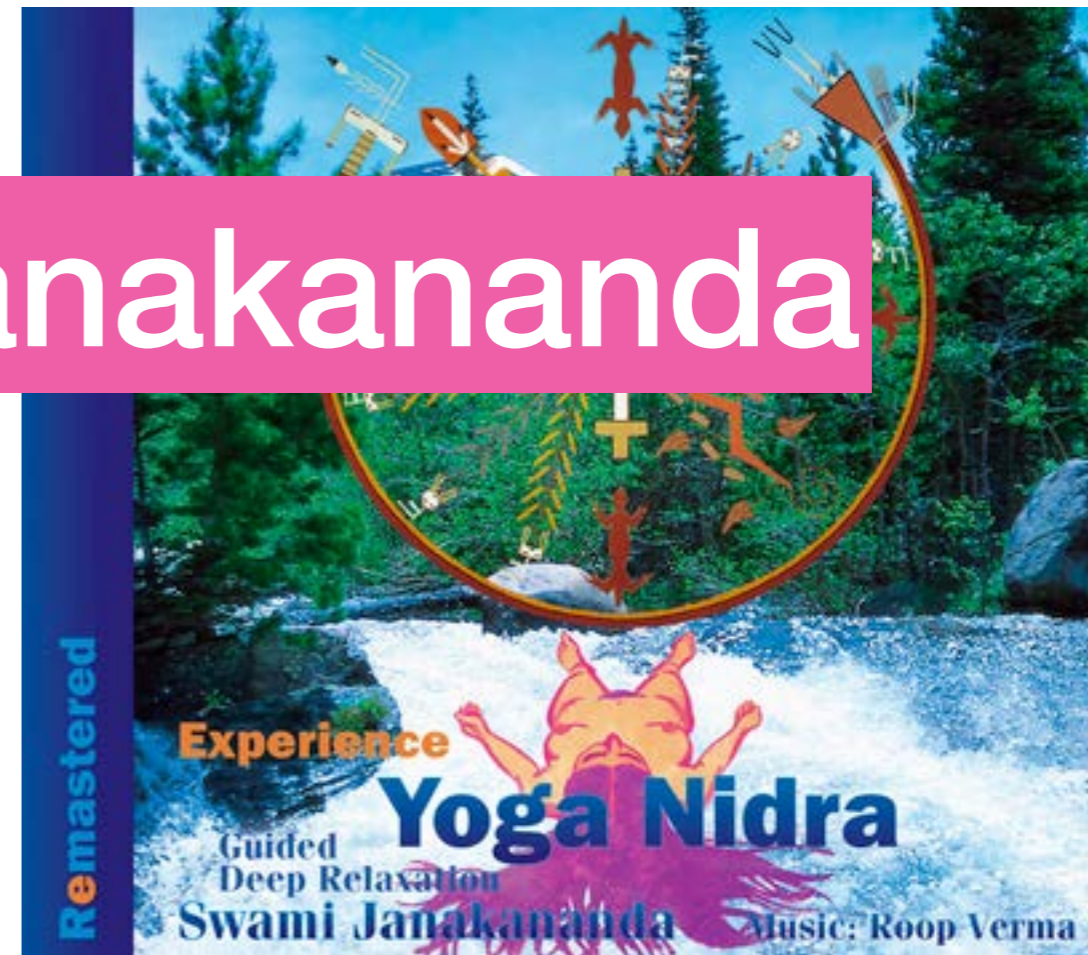
3. What are your gifts? Do you have certain gifts or talents. For some, it's the ability to listen; for others, it's having a clear mind.

What are some of your gifts?

4. What is needed now in the world, in your community or your family?

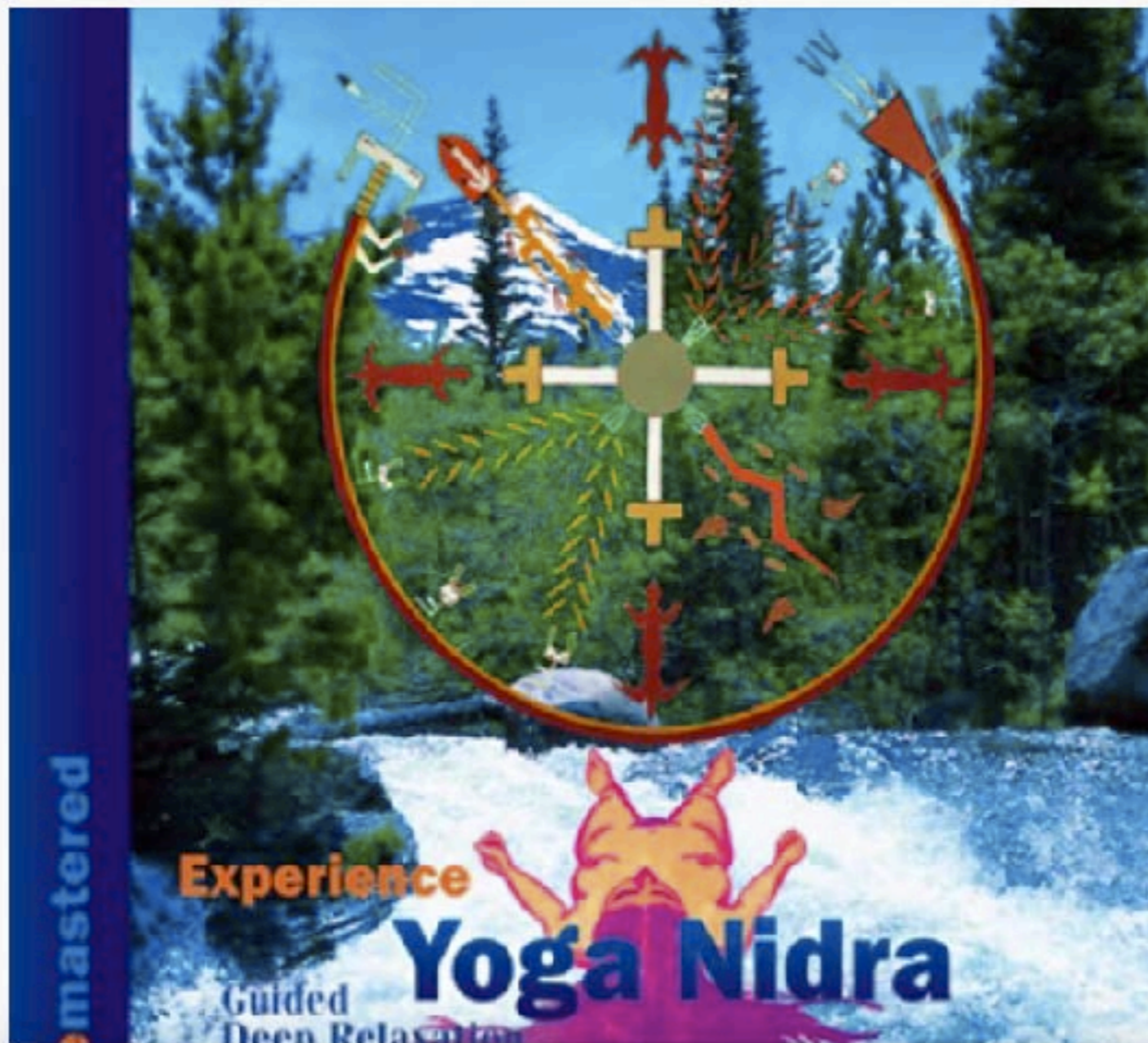
5. How can you use your gifts to help or to serve?

yoga nidra janakananda



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A few things...



- ▶ Put your name badges in your tray.
- ▶ Leave all sheets and towels in your room/bathroom
- ▶ Bring your bags down (put in garage or living room)
- ▶ Leave torches on hooks in Fforest Glen rooms
- ▶ Chamber pots: please rinse out (tap outside) and wipe with sanitiser in the shower
- ▶ Need a lift?
- ▶ 'Must see' places to visit: Llanthony Priory (20 mins away), Patricio Chapel (10mins away)



2 tubs for £39 - save £11

Get Up & Go with Carboslow (glucomannan)

Only 6 GLs per serving
with strawberries and
carb free milk

**TIPS: Add cinnamon
and chia**



There's no need to take a strip

Make a Hybrid Latté



1 tbsp CB oil (Ketofast)



120ml (4fl oz) filtered coffee or run through



1 rounded tsp cacao powder



Half a tsp ground cinnamon



18 hour fast

240ml (8fl oz) no carb almond milk (unsweetened)



1 heaped tbsp almond butter or peanut butter



1 tbsp walnuts, pecans or peanuts (optional)



Blend all ingredients in a blender



18 hour carb fast until lunch at 1pm (Seaveg snack)

We will leave out a Pulsin Keto Bar and other snacks for you for your journey home

**We value
your feedback**

PatrickHOLFORD

100% health for life

Breakfast time!

**Bring your 100% Health Report to next session
(you need the System and Process scores and
Action Plan)**

**Do your 'after' body composition analysis now
and during the next session**



Weakest System

Weakest Process

Natalia	Mind/Mood	Lipidation
Colette	Digestion	Hydration
Steve	Hormones	Oxidation
Gurvinder	FoodSens/Inflamm	Hydration
Raji	Hormones	Oxidation
Annika	Hormones	Hydration
Sue	Detoxification	Oxidation



BUILDING YOUR 100% HEALTH PROGRAMME

7 key processes

- ? **Glycation - sugars, soluble fibres**
- ? **Lipidation - EFAs, phospholipids, VitD**
- ? **Methylation - B vitamins etc**
- ? **Oxidation - antioxidants/polyphenols**
- ? **Hydration - water**
- ? **Digestion - enzymes, probiotics, fibres etc**
- ? **Communication - hormones, neurotransmitters, cytokines & inflammation**

Condition	Glycation	Methylation	Oxidation	Lipidation	Hydration	Digestion	Communication
Acne/skin	**		*	**	*	**	
ADHD	**	**		**			**
Alzheimer's	*	**	*	**			**
Arthritis	*		*	**		**	**
Autism	**	**	*	**		**	**
Autoimmune	*	**	**	**	*	**	**
Breast cancer	**	*	*	*			**
Cardiovascular	**	**	**	**	*		
Chronic fatigue	**	**	*	*	*	**	**
Colorectal cancer	*	**	*	*	**	**	**
Constipation	**				**	**	
Depression	**	**	*	**	*	*	**
Diabetes	**		*	*	*		
Infections		*	**	*	*	*	**
IBS	*			*		**	**
Insomnia	**	**		**			**
Migraines	*	*		*	*	*	*
Menopause/PMS	**	*	*	**			**
Prostate cancer	*	**	**	*		*	**
Osteoporosis		**		**			**
Stress & anxiety	**	*		*			**
Thyroid(hypo)	**	*		*		**	**
Weight gain	**			*	*	*	

Conditions with: *some association **strong association



	Glycation	Methylation	Oxidation	Lipidation	Digestion	Communication
Best Test	HbA1C	Homo-cysteine	Glutathione peroxidase	Vit D & fatty acids	IgG food intolerance Coeliacs Stool analysis	Dutch test IgE/IgG Neurotransmitters Inflammatory markers Chemosensitivity
Supporting supplements	Cinnachrome Carboslow GL Support	Connect Mood Food Brain Food	AGE Antioxidant, ImmuneC Theracurmin Detox Pack	Essential Omegas, Vitamin D Brain Food CoQ/Carnitine NoblushNiacin	Digestpro Carboslow Detox Pack	Female Balance Allex Glucosamine Support, Awake & Chill Theracurmin
Best foods	Oats, berries beans, veg Protein with carb	Lentils, beans, nuts, seeds, greens Fish & eggs	Brightly coloured fruit, veg, herbs & spices	Oily fish, walnuts, chia pumpkin, flax, seeds	Less dairy, gluten More Kamut products, soluble fibres e.g.oats chia	Anti-inflammatory foods Sufficient protein Isoflavones (beans) Indoles(greens)



What action are you going to take?

Mindless action - habit

or

Mindful action - discipline

Box's goals for the week

Goal 1 - Eat free-range, organic eggs or beans and legumes 6 times a week

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Target	Last Week
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	6	

Goal 2 - Eat one small handful of fresh seeds or nuts every day

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Target	Last Week
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	6	

Goal 3 - Have a 10GL portion of carbohydrates with each main meal

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Target	Last Week
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	6	

Goal 4 - Have no more than 1 caffeinated drink a day

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Target	Last Week
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	6	

Goal 5 - Eat 1 serving of lentils, tofu or soy protein every day

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Target	Last Week
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	6	

Goal 6 - Take supplements every day

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Target	Last Week
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	6	

My Top Foods	My Supplement Programme			
<p>Increase</p> <ul style="list-style-type: none"> • Lean protein (animal or vegetable) • Oily fish or flax/pumpkin seeds • Cinnamon • Wholefoods • Beans & Lentils <p>Avoid</p> <ul style="list-style-type: none"> • Caffeine • Sugar • Refined carbs 	<p>Supplement</p> <p>GL Support</p>	<p>AM</p>	<p>PM</p> <p>1 P.M</p>	<p>Notes</p> <p>Taken daily before food, on an empty stomach, with a starchy meal or snack</p>
	<p>Optimum Nutrition Pack</p>	<p>1 strip AM</p>	<p>1 strip PM</p>	<p>Take with food, one strip with breakfast and one with lunch</p>
	<p>Brain Food Formula</p>	<p>2 AM</p>	<p>1 PM</p>	<p>Take with food</p>
	<p>Mood Food Formula</p>	<p>1 AM</p>	<p>2 PM</p>	<p>Take on an empty stomach</p>

YOUR SYSTEM SCORES

Your body systems are responsible for keeping you healthy and dealing with the many environmental challenges thrown at you. Your system scores calculate how well different body systems are functioning based on your symptoms, click on a system to read about it in more detail.



Detoxification



Digestion



Energy



Food Sensitivity



Hormones



Immunity



Inflammation



Mind & Mood



YOUR PROCESS SCORES

Your body's chemistry is an amazing balancing act, dependent on five core biological processes. When these fundamental processes are out of balance it has knock on effects to many body systems. Your process scores are calculated from your symptoms, click on a process to read about it in more detail.



Glycation



Hydration



Lipidation



Methylation



Oxidation



Top Foods

Increase

seeds

Berries

Apples

Pears

Green veg

Orange veg

Avoid

Bananas

Grapes/raisins

Caffeinated

drinks

WEEK 1

RESULT

TARGET

/

WEEK 2

RESULT

TARGET

/

WEEK 3

RESULT

TARGET

/

RES

Example diet additions/subtractions

- ▶ Eat five servings of fruit & veg
- ▶ Have less meat, more fish/chicken
- ▶ Eat fish three times a week
- ▶ Eat free range/omega 3 eggs – 6 a week
- ▶ Eat chia seeds every day
- ▶ Eat something orange, blue, red, yellow
- ▶ Eat more garlic, ginger, turmeric, mustard, oregano and pepper
- ▶ Eat low GL foods (40/60 GLs a day)with protein
- ▶ Drink more water. Dilute juice
- ▶ Avoid/minimise refined food and sugar
- ▶ Avoid/minimise caffeine (tea, coffee, cola drinks)
- ▶ No more than x unit of alcohol a day/week
- ▶ Minimise wheat and gliadin grains (oats OK)
- ▶ Limit fried and avoid deep-fried foods
- ▶ Graze rather than gorge. Eat breakfast
- ▶ Have half my diet raw or steamed

Essential Supplements



- ▶ Take an optimum multivitamin & mineral
- ▶ Plus extra vitamin C and berry extracts
- ▶ Plus essential omegas(EPA,DPA,DHA,GLA)
- ▶ Plus brain-friendly phospholipids
- ▶ Plus antioxidants



=



Start with a Pack, then optional extras

- ? For carb cravings, low energy, diabetes consider **Cinnachrome** and **GL Support** to assist weight loss
- ? For homocysteine 'connecting' nutrients it's **Connect**
- ? For anti-ageing up antioxidants (in **Hybrid Pack/100%Pack**)
- ? For digestion it's **Digestpro**
- ? For inflammation/allergies **Alex** and joints **Glucosamine & Theracurmin**
- ? For mood its **Mood Food**
- ? For hormonal issues it's **Female Balance**



HOLFORDDirect

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Holford Health Club

JOIN TODAY TO SAVE 20%

Optimum Nutrition Supplements

Formulated by Patrick Holford

FOUNDER OF THE INSTITUTE FOR OPTIMUM NUTRITION

SHOP NOW



My 100% Health Action Plan

Week

GOAL

MON	TUES	WED	THU	FRI	SAT	SUN	This week's target	Result
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

Action Plan

Week **1**

GOAL

	MON	TUES	WED	THU	FRI	SAT	SUN	This week's target	Result
<i>Eat a small handful of raw nuts and seeds every day</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="text"/>
<i>Eat fresh fruit 2 or more times a day</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="text"/>
<i>Fill half my plate at lunch and dinner with vegetables</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="text"/>
<i>Eat oily fish 3 times a week</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3	<input type="text"/>
<i>Avoid caffeinated drinks</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="text"/>
<i>Take my supplements every day</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	<input type="text"/>

My 100% Health Action Plan

Week

1

GOAL

*Eat a small handful of raw nuts
and seeds every day*



6

6

*Eat fresh fruit 2 or more times
a day*



6

5

*Fill half my plate at lunch
and dinner with vegetables*



6

7

Eat oily fish 3 times a week



3

3

Avoid caffeinated drinks



6

6

Take my supplements every day



7

7

MON

TUES

WED

THU

FRI

SAT

SUN

This
week's
target

Result

Is it specific?

Is it achievable?

Is it realistic?

Possibilities for change

- ▶ Exercise and supplements - suggested for everyone
- ▶ Smoking
- ▶ Alcohol
- ▶ Coffee, tea, cola, chocolate – caffeine
- ▶ Sugar
- ▶ 45 GLs a day
- ▶ Avoiding food allergies – wheat, dairy, yeast etc
- ▶ Drink 2 litres of water
- ▶ 3 pieces of fruit, 3 servings of veg - blueberries, blackberries, strawberries, raspberries, kale, spinach, tenderstem
- ▶ Oily fish, seeds

Action Plan

Week **1**

GOAL

	MON	TUES	WED	THU	FRI	SAT	SUN	This week's target	Result
<i>Eat a small handful of raw nuts and seeds every day</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="text"/>
<i>Eat fresh fruit 2 or more times a day</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="text"/>
<i>Fill half my plate at lunch and dinner with vegetables</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="text"/>
<i>Eat oily fish 3 times a week</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3	<input type="text"/>
<i>Avoid caffeinated drinks</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="text"/>
<i>Take my supplements every day</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	<input type="text"/>

Is it specific?

Is it achievable?

Is it realistic?

**Pick a buddy -
swap phone numbers**

3- 6- 36 rule

Avoid caffeinated drinks

✓ ✓ ✓ ○ ✓ ✓ ✓ 6 6

Take my supplements every day

✓ ✓ ✓ ✓ ✓ ✓ ✓ 7 7

Top Foods

Increase

seeds

Berries

Apples

Pears

Green veg

Orange veg

Avoid

Bananas

Grapes/raisins

Caffeinated drinks

Supplement Programme

Supplement	AM	PM
<i>High strength multivitamin</i>	1	1
<i>Vitamin C 1000mg</i>	1	1
<i>Essential Omega 3&6</i>	1	1
<i>Chromium 200mcg & cinnamon</i>	1	

WEEK 1	
RESULT	TARGET
34	34

WEEK 2	
RESULT	TARGET
/	/

WEEK 3	
RESULT	TARGET
/	/

WEEK 4	
RESULT	TARGET
/	/

What has changed for you?

Energy score before and after

My promise to you

- ▶ You will leave with a new understanding about how what you eat and how you live is impacting on your health.
- ▶ As a result it will be impossible for you not to make changes in your life and, as a consequence, your health will improve.
- ▶ You will leave with a concrete and do-able plan of action to transform your health.
- ▶ Everything I say is based on science, has been tried and tested by thousands of people and works.
- ▶ I will answer all your questions.

Your commitment

- ✓ I will do my best to fulfil my weekly targets
- ✓ I will add up my week's results and set next week's
- ✓ I will call my buddy at the end of each week for 3 weeks
- ✓ I will re-score my questionnaire in a month (we'll remind you)

Lifestyle habits - your toolkit

- ▶ Heartmath's Quick Coherence Technique - practice it twice a day for 5 minutes 'in the green' and when you feel stressed
- ▶ Energy Generating Exercises daily and when you're tired
- ▶ Yoga Nidra
- ▶ Silence of Peace and play before bed and when you wake up
- ▶ Eat mindfully
- ▶ Practise meditation - download Sally Kempton's audio meditations or read her book Meditation for the Love of It

Ongoing group (practical) support

- ▶ 5 group Zoom support sessions – Wellness Wednesday - £75
- ▶ Start Date Wednesday t/f
- ▶ Time: 12:30 – 13:15
- ▶ Session structure: 15 mins education - 15 mins coaching -10 mins HM 5 mins agreed actions for the following week.
- ▶ Includes:
 - ✓ Low GL Summer recipe pack
 - ✓ Personal account in portal – access content and message Marcelle
 - 1) Low GL principles (how to make these work in your lifestyle)
 - 2) Consistent habits in place which serve you and your goals/vision (coaching)
 - 3) Heart Math
 - 4) Motivation & Accountability

Keep learning & moving forward

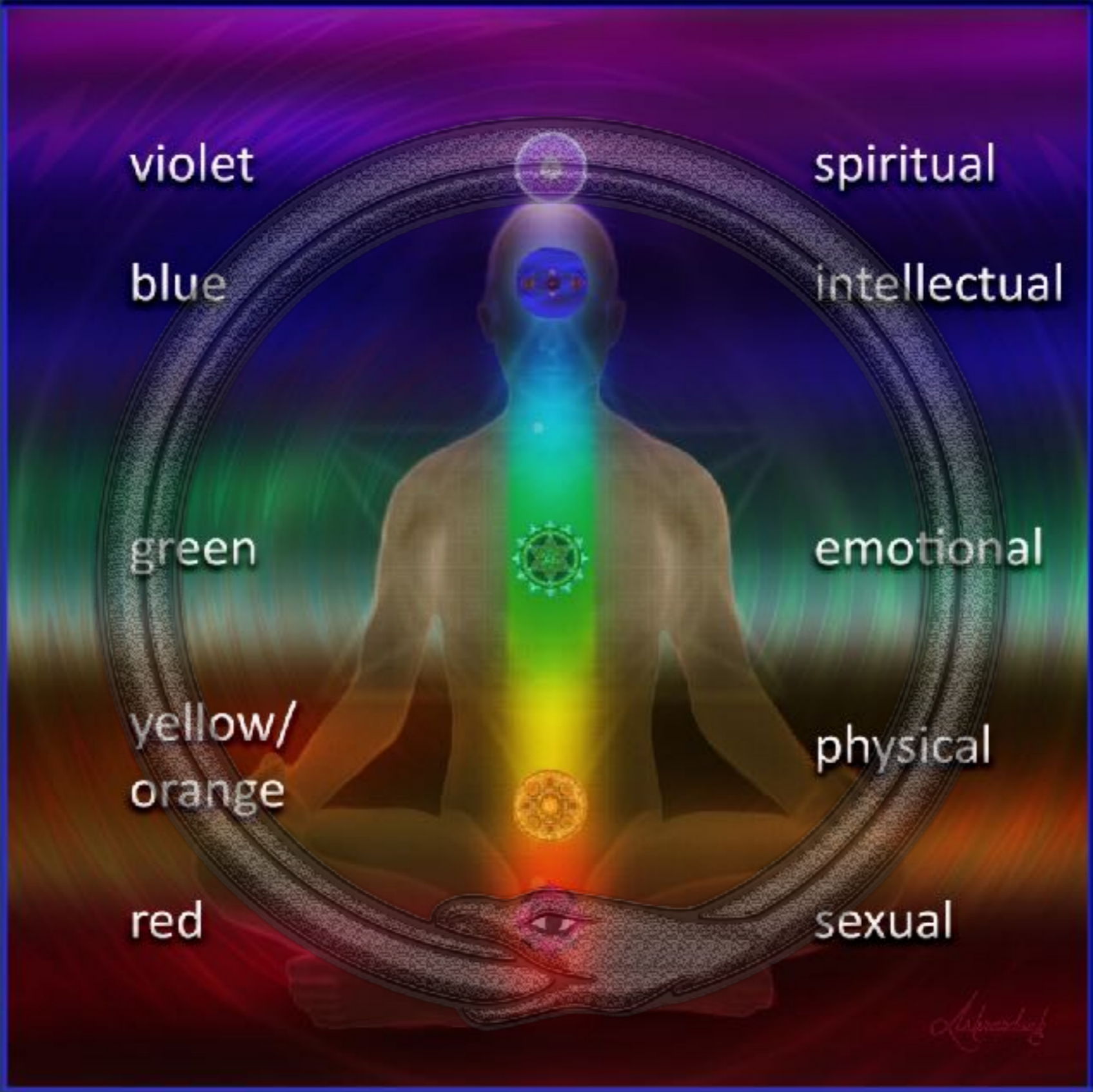
- ▶ Read books Hybrid, 5 Day Diet, 10 Secrets, Low GL cookbook, Chemistry of Connection etc.
- ▶ Read my blogs, articles and listen to the podcasts
- ▶ Come to future seminars/webinars/workshops/retreats
- ▶ Join Marcelle's ongoing online Holford Diet group
- ▶ Reassess yourself on the 100% Health Programme each month for the next three months to keep moving into the green
- ▶ Join my 100% Facebook group

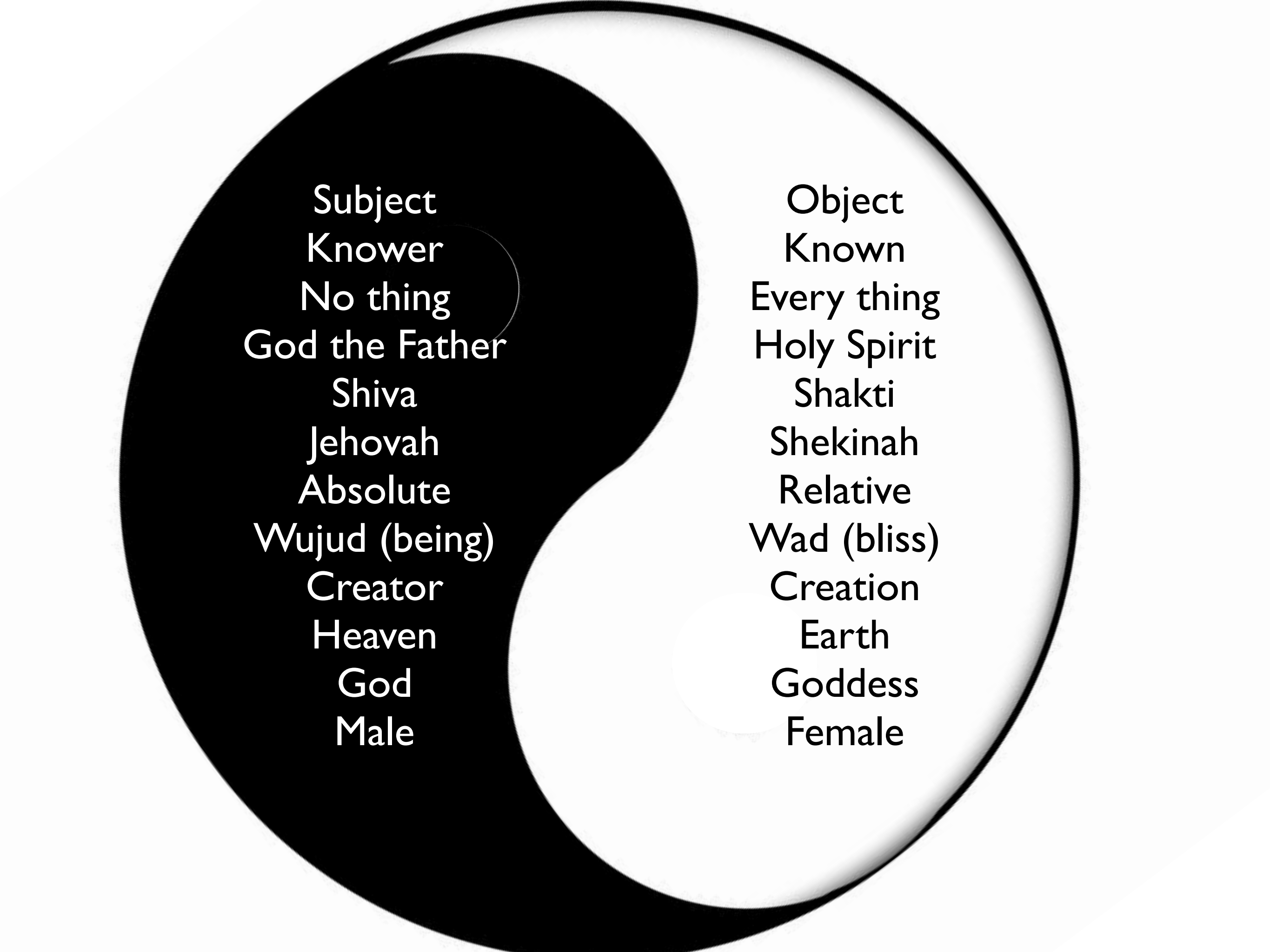
**Any questions or things
you'd like to share?**

**We value
your feedback**

- Take the rest of your TRAY contents
- Bring your BAGS to the garage or front door
- Last chance to SHOP
- Take a Pulsin Plant-based KETOBAR
- Fforest Glenfolk: wash out chamber pots; put your torches back on the hooks; turn heating off

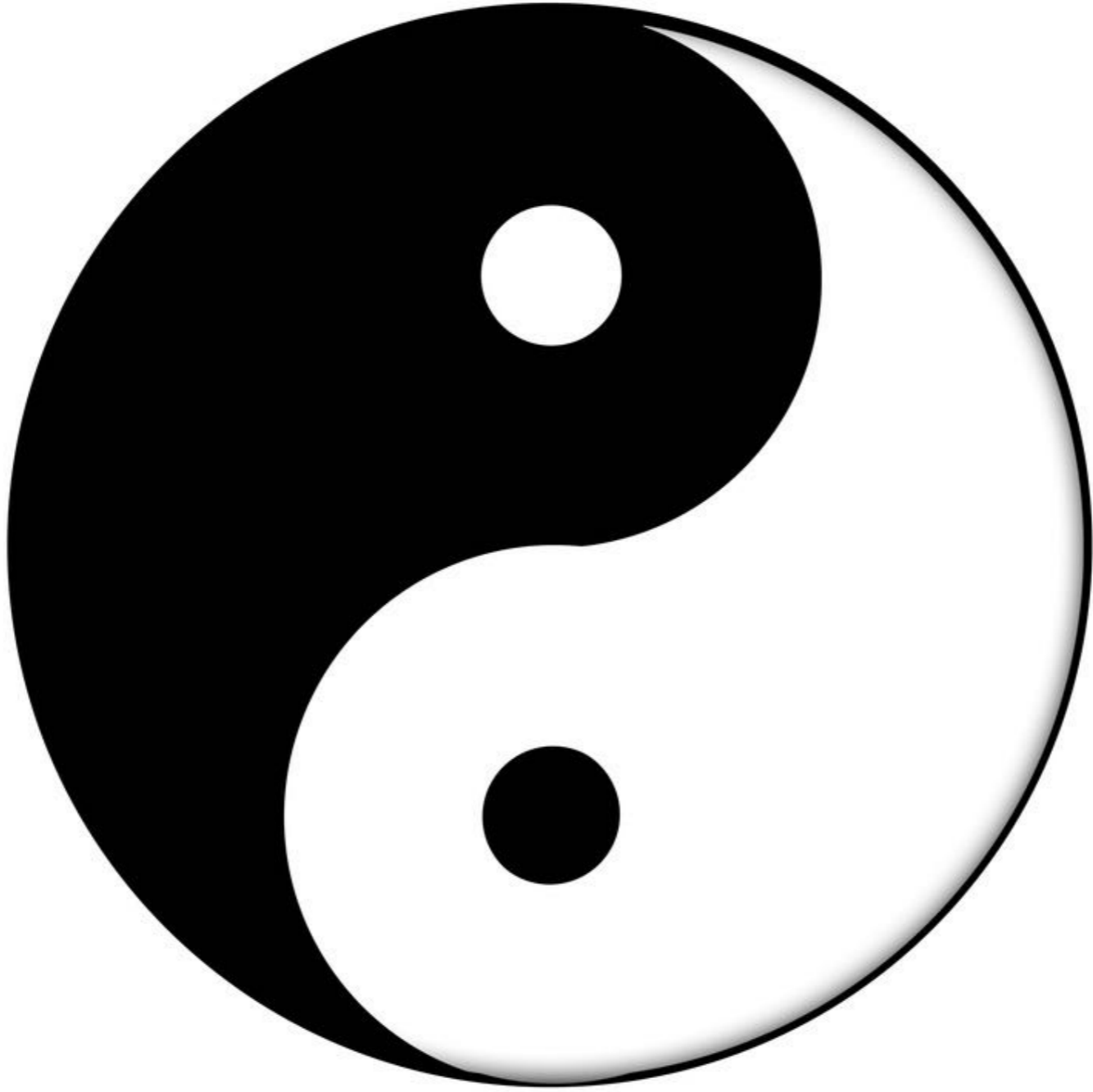
Please complete your feedback form - it helps us to know what works best.

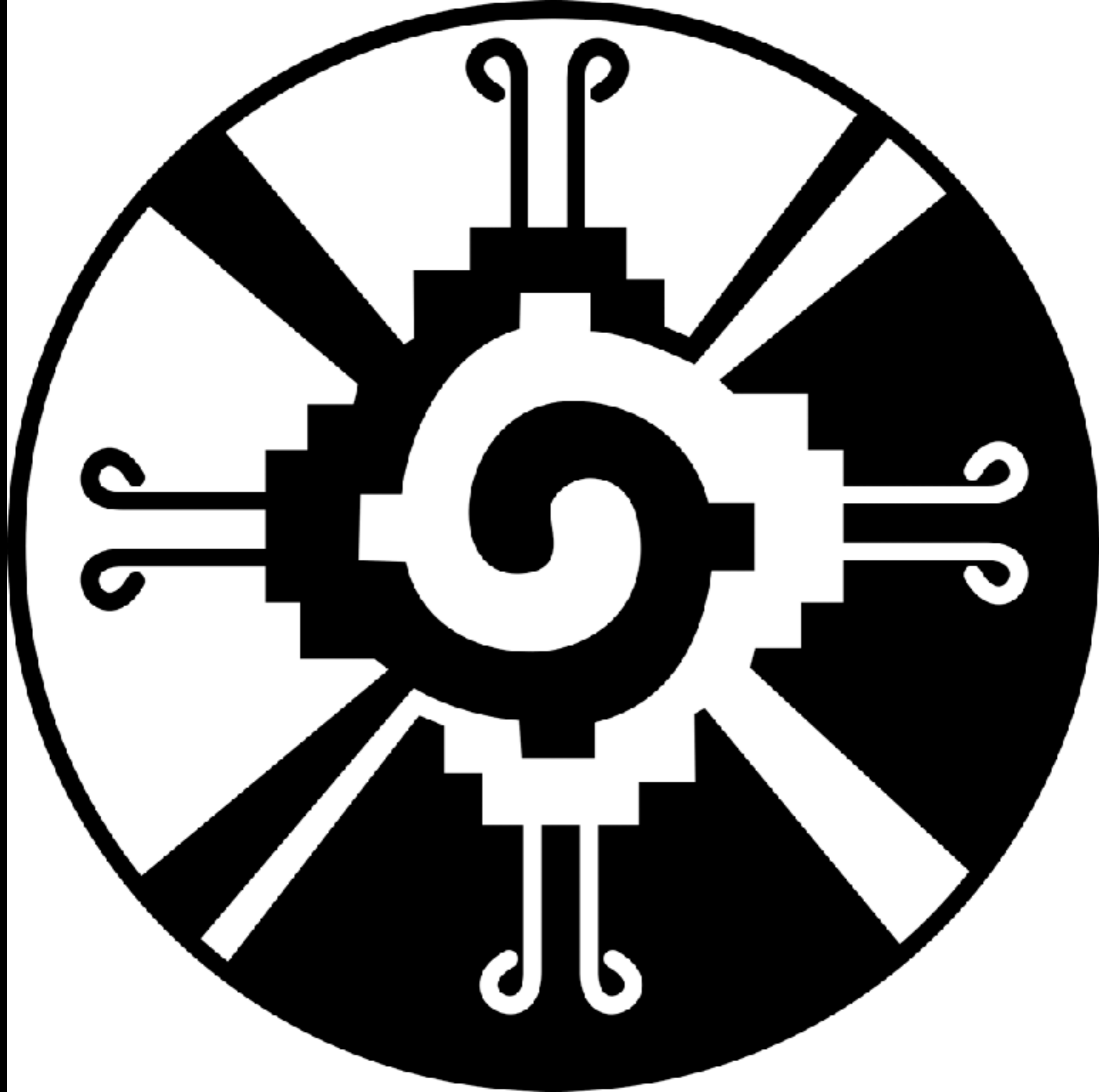


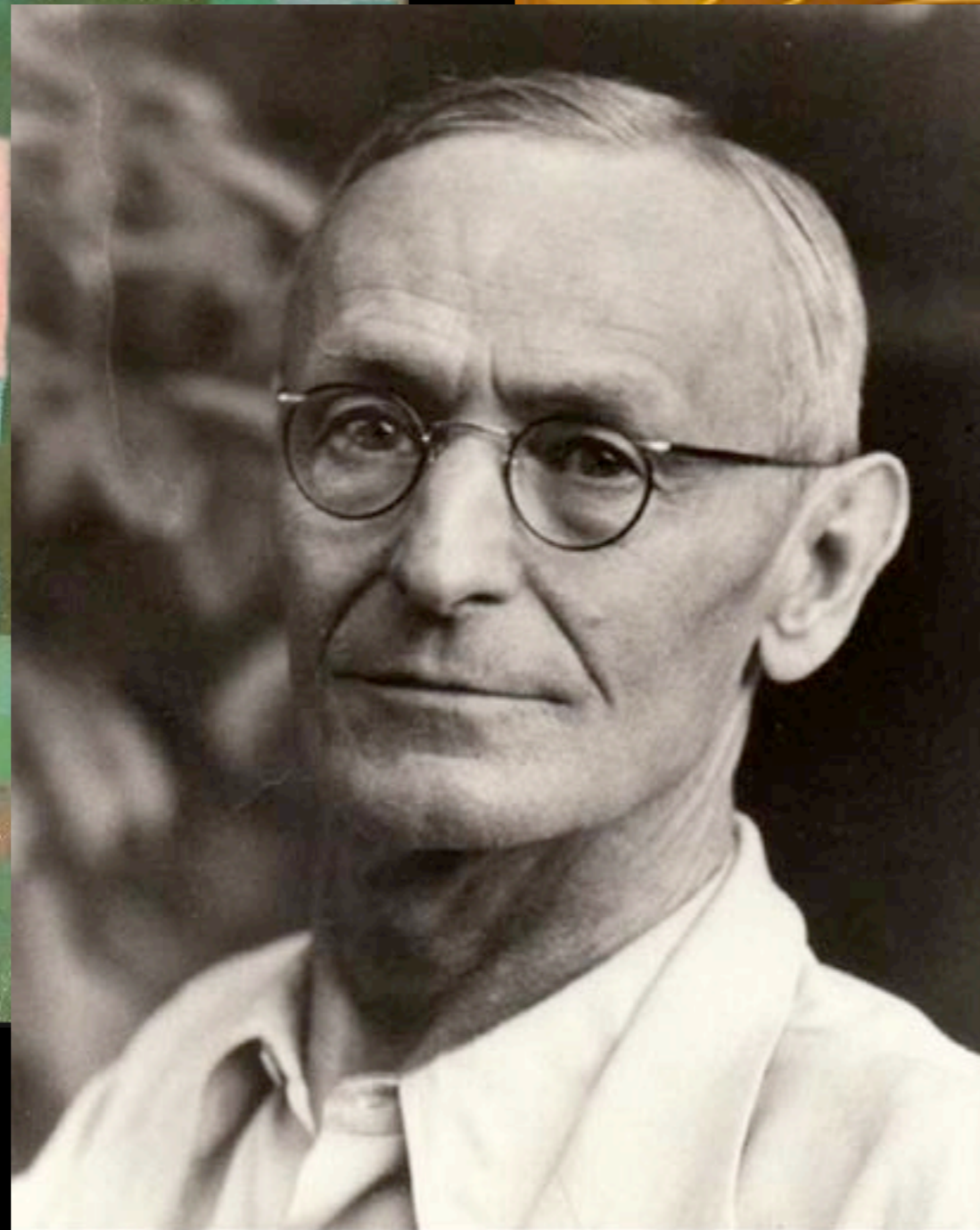
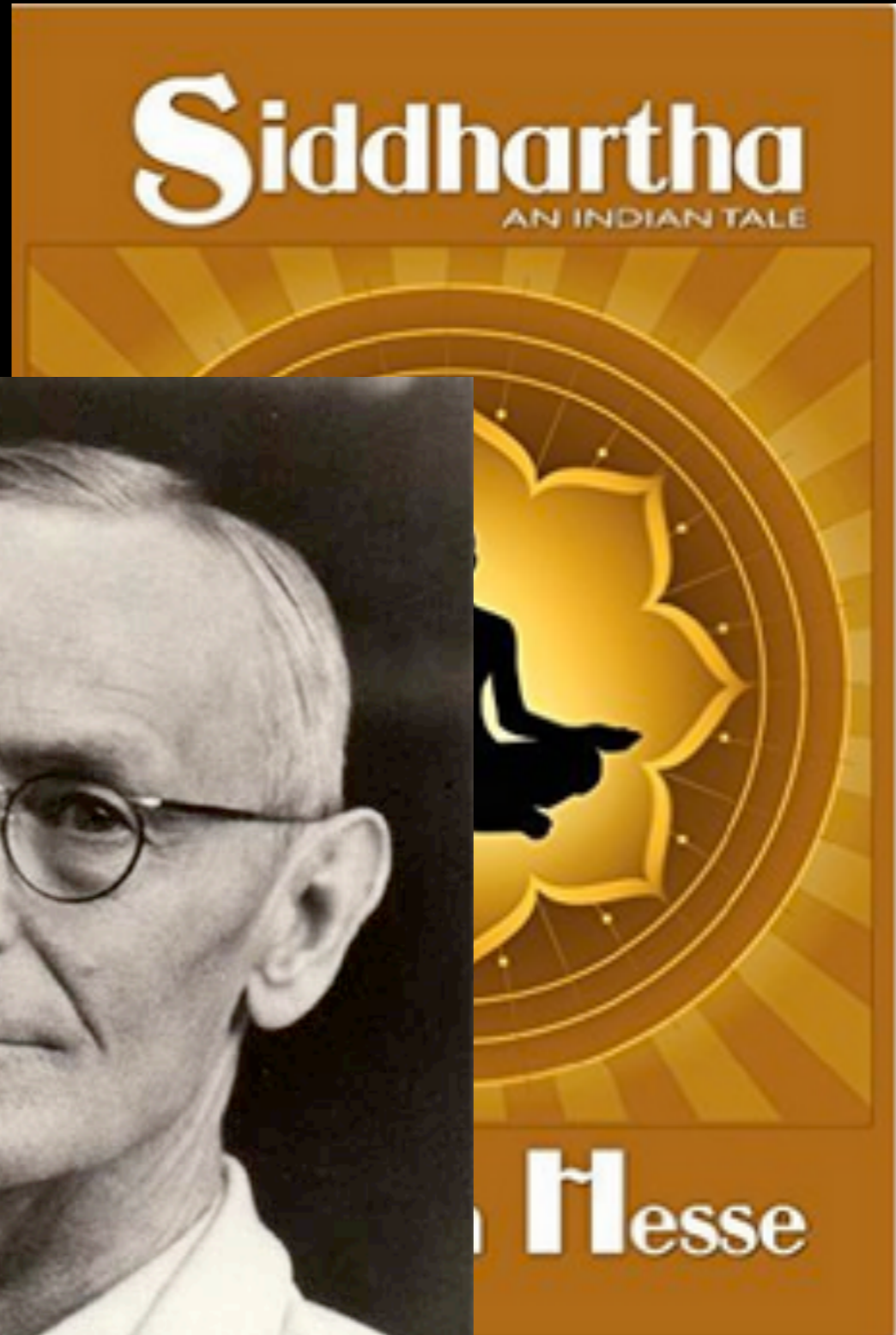
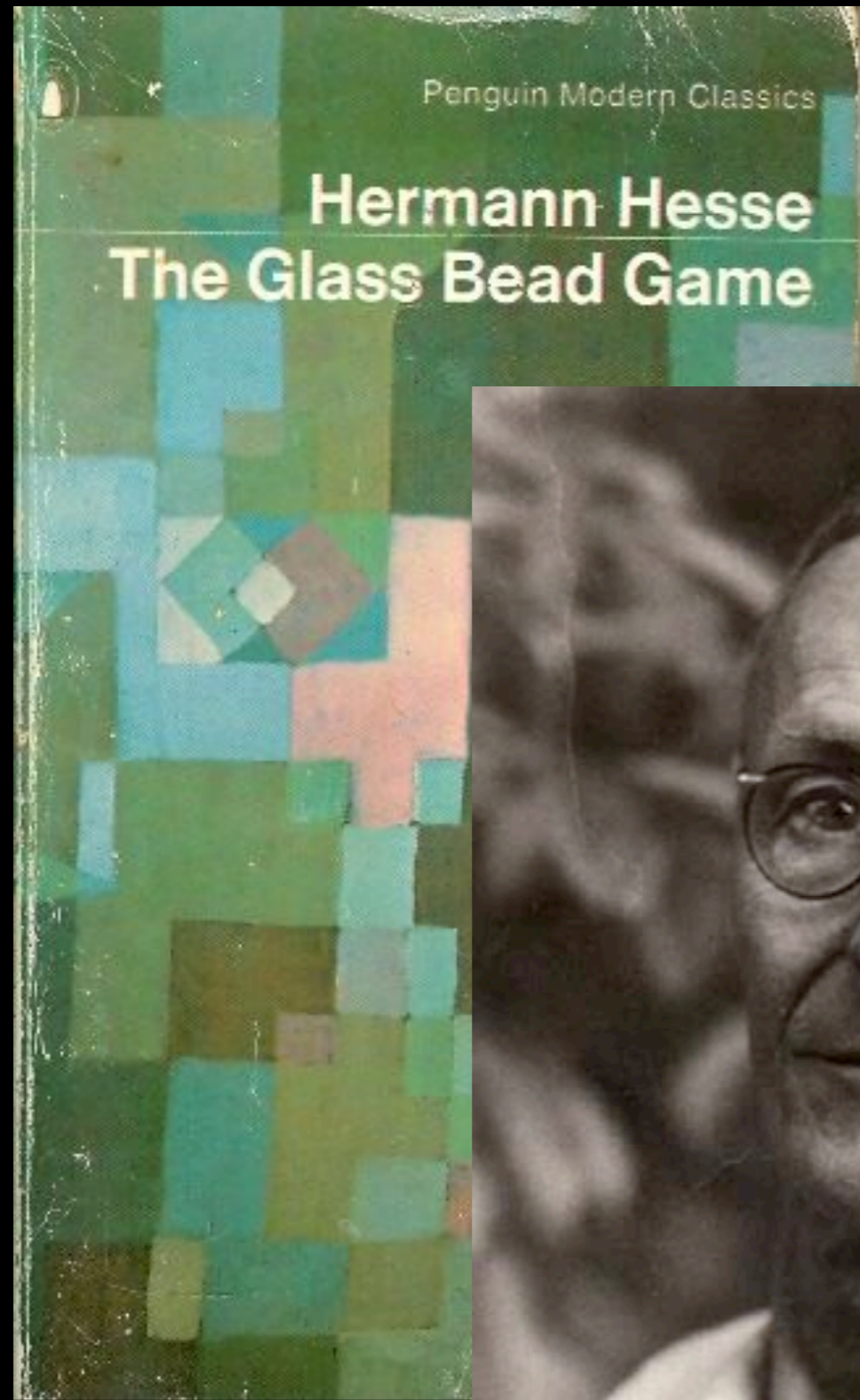


Subject
Knower
No thing
God the Father
Shiva
Jehovah
Absolute
Wujud (being)
Creator
Heaven
God
Male

Object
Known
Every thing
Holy Spirit
Shakti
Shekinah
Relative
Wad (bliss)
Creation
Earth
Goddess
Female











AWARENESS







سمادھی



samadhi





“The posture we take when we meditate signifies that we are linking absolute and relative, sky and ground, heaven and earth, like two wings of a bird, integrating the skylike, deathless nature of mind and the ground of our transient, mortal nature.”

Sogyal Rinpoche

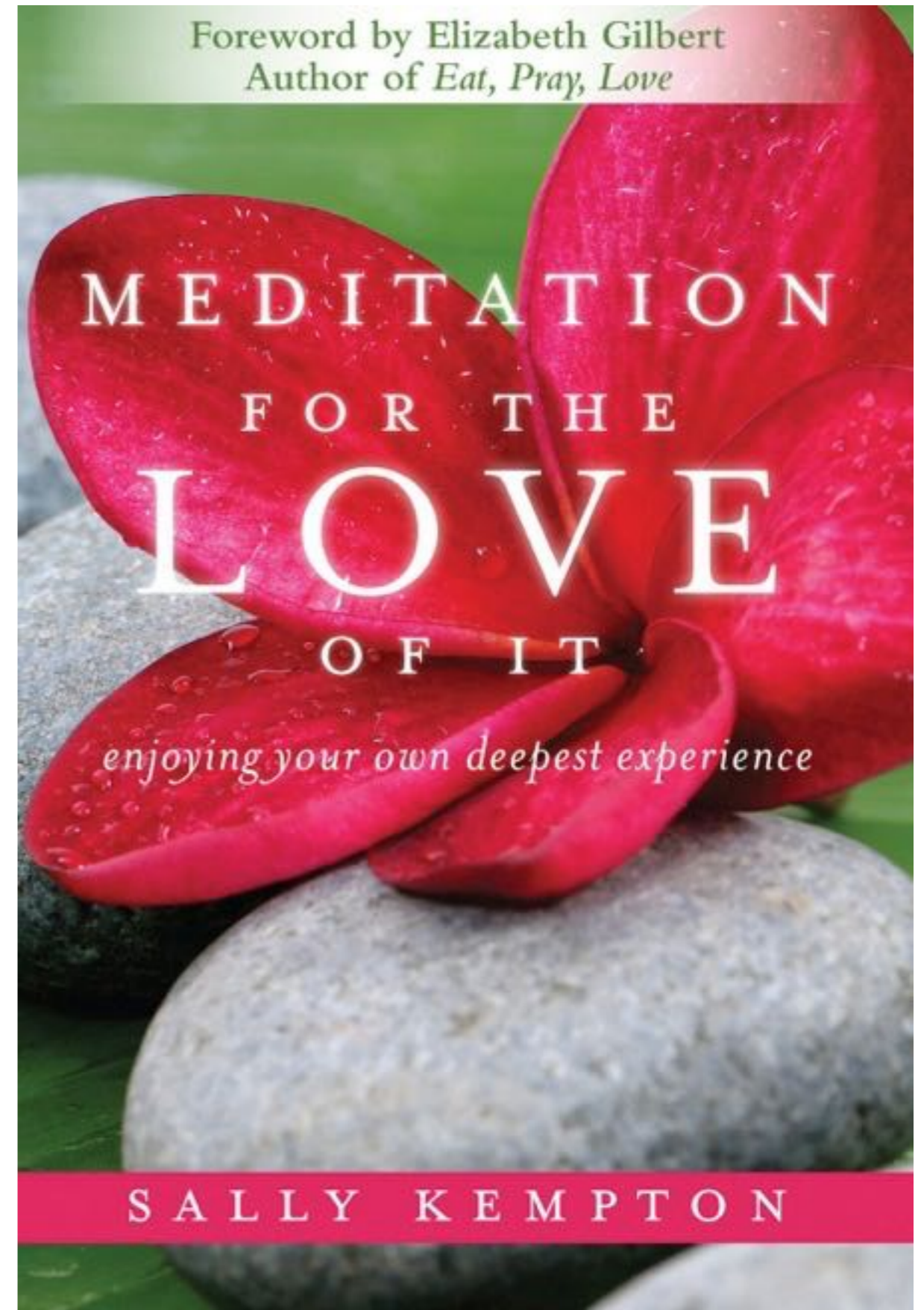
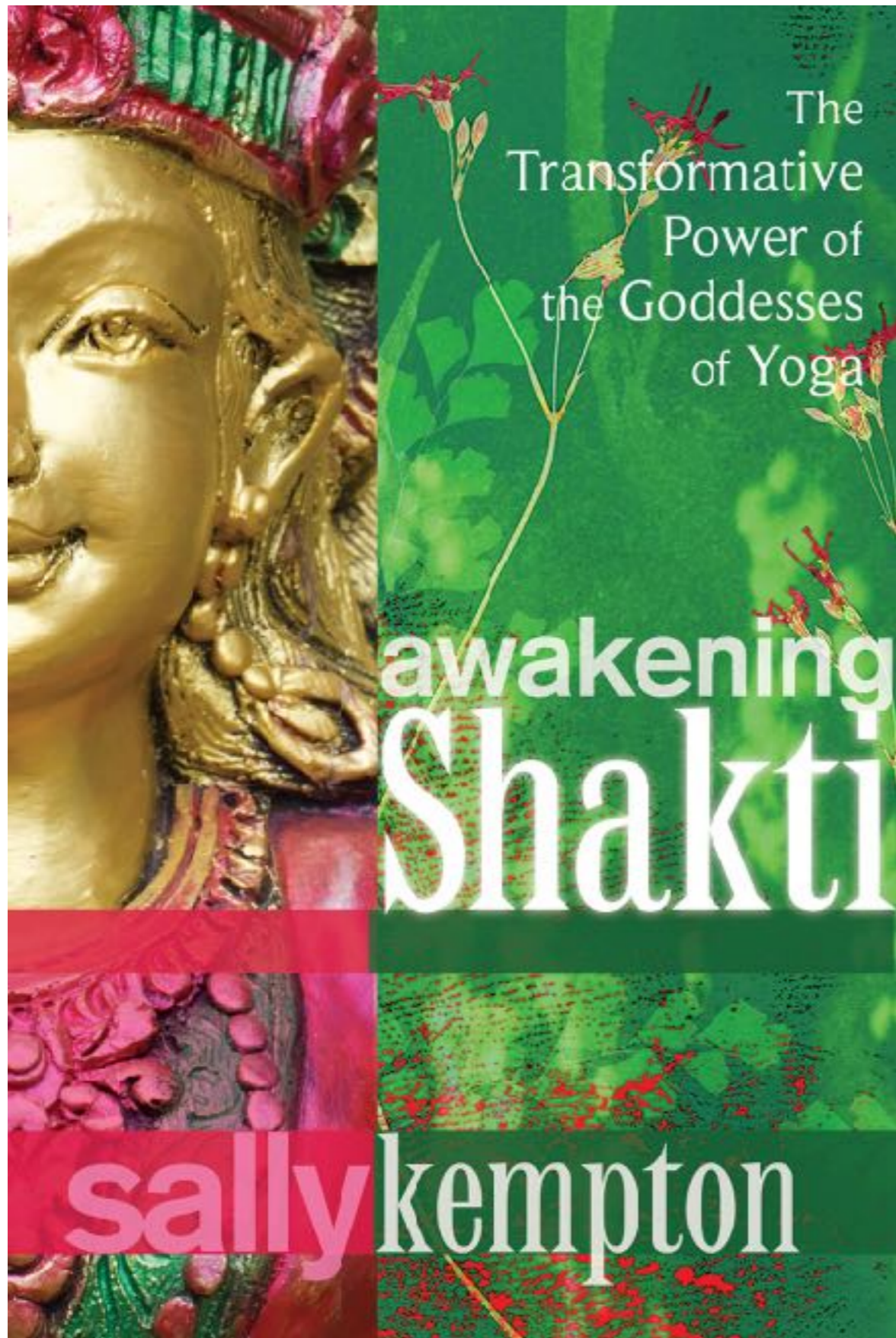
Principles of Advaita



Idea	made from
My mind	- thoughts feelings
My body	- feelings sensations
My bodymind	- thoughts feelings sensations
The world	- perceptions (sight, sound, smell etc)

**Love is the proof that
consciousness is shared.**

Rupert Spira



available from amazon

Audio meditations also available from www.sallykempton.com





Ouroboros visualisation

violet

spiritual

blue

intellectual

green

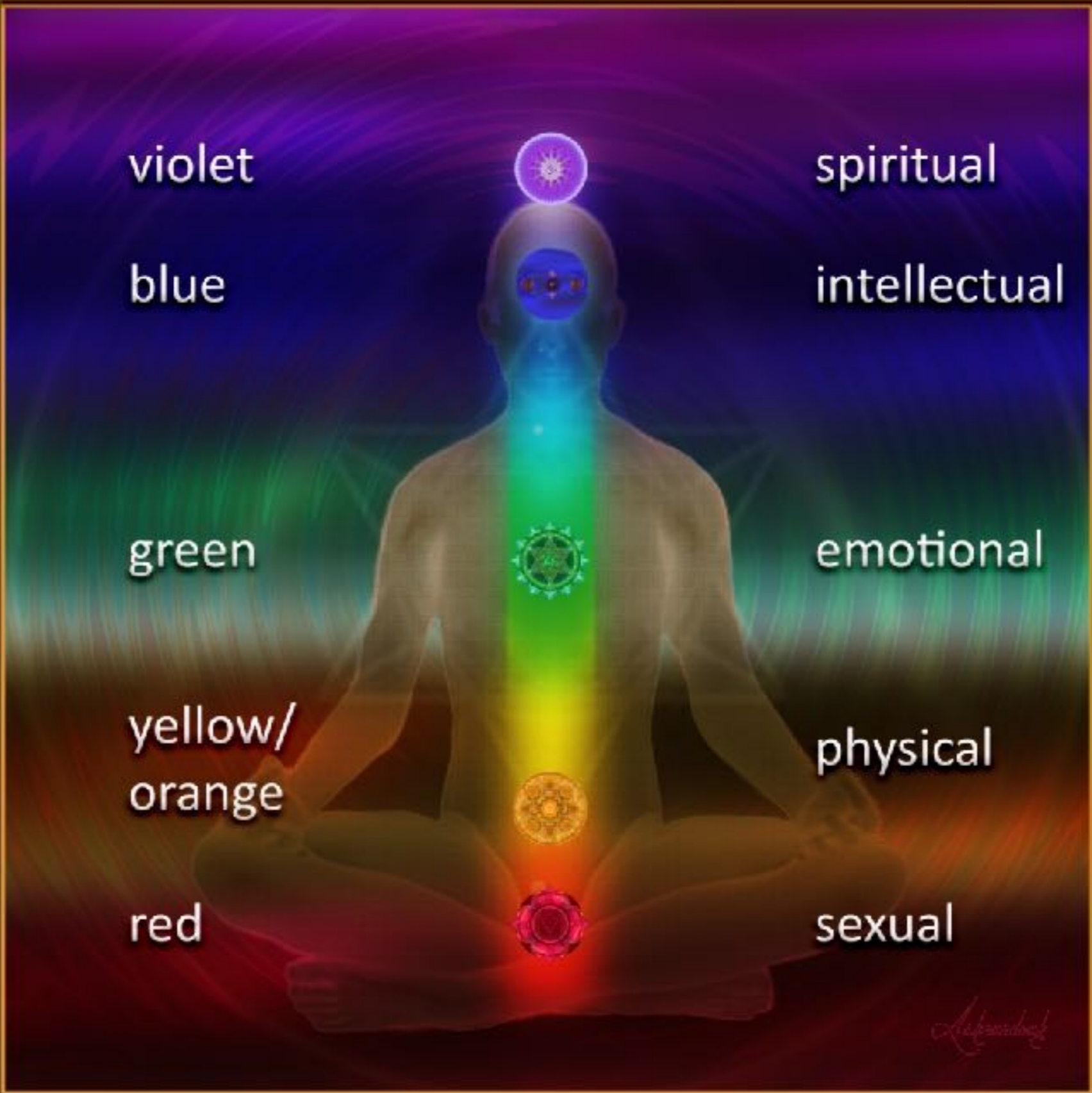
emotional

yellow/
orange

physical

red

sexual



Aspirations



Ashtanga

violet

spiritual

blue

intellectual

green

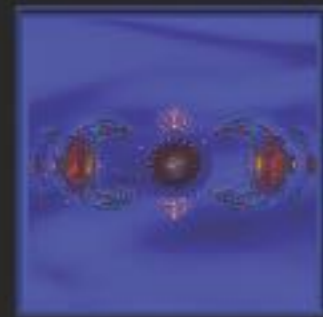
emotional

yellow/
orange

physical

red

sexual



Collect your poster

ASPECT/ KEY	ENERGY	CAVITY	CHAKRA	COLOUR	SOUND	SHAPE
Spiritual	Unity	Dorsal	Sahasrara	Violet	Ah or Aum	Dodecahedron
Intellectual	Clarity	Cranial	Ajna	Blue	Om	Icosahedron
Emotional	Love	Thoracic	Anahata	Green	Yam	Octahedron
Physical	Vitality	Abdominal	Hara	Yellow/ orange	Ram	Cube
Sexual/ sensational	Eros	Pelvic	Muladhara	Red	Lam	Tetrahedron



**We value
your feedback
& testimonials**

