

Herbal medicine 14

What naturals really work

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Erasmus Darwin (Father of Charles) on quacks

The descent of Man, 1871

- Ignorance and credulity have always been companions and have confused and enslaved mankind.
- The human race has always been duped by the fictions and fantasies of witchcraft, hobgoblins, vampires, fairies and the influence of stars, miracles wrought by the bones of saints, the flights of mutinous birds, the predictions of the bowels of dead animals, expounders of dreams, fortune tellers, conjurors, modern prophets, necromancy, cheiromancy, anti magnetism, metallic tractors, with endless variety of folly.

“Modern” alternative therapies – for ageing, impotence, VD, nervous disorders. “Irregulars”

- Faith cures
- Urine gazing
- Magnetism
- Galvanism (Electricity)
- Mesmerism (hypnotherapy)
- Bone setting
- Homeopathy (Like cures like)
- Colour therapy

Placebo effect (Latin - I please)

- The placebo effect demonstrates how positive thinking can improve treatment outcomes.
- Placebo effect is when you feel better after taking a **fake treatment**, like a sugar pill or a saline injection
- It works because your **mind expects** the treatment to help, and your body responds by releasing natural chemicals that ease your symptoms
- Placebo effect can be influenced by **many factors**, such as the color and shape of the pill, the doctor's attitude, and the type of condition
- Red and yellow most effective
- Increased cost improves result

Question time for alternative medicine – what really works?

- Naturopathy – non-regulated
- Homeopathy – not recognised by government, accepted by insurance
- Acupuncture – recognised since 2012
- Osteopathy - recognised
- Chiropractic - recognised
- Aromatherapy some evidence of benefit
- Iridology - quackery
- Reiki – Japanese, early 20th C , harmless

Wim Hof (the ice man) Breathing method

- **The Wim Hof Method is a practice combining controlled breathing, cold exposure, and mental focus to enhance physical and mental well-being.**
- Nine papers were included in this review which consisted of eight individual trials. The findings suggest that the WHM may reduce inflammation in healthy and non-healthy participants as it increases epinephrine levels, causing an increase in interleukin-10 and a decrease in pro-inflammatory cytokines.
- A new 2026 study from the University of Queensland and just published in *Nature*, involving over 400 participants, finds that the Wim Hof Method increasingly lowers stress, boosts energy, and enhances mental clarity when practiced consistently.

Most misguided medical treatments of all

- Radiation – initially, non-dose adjusted –side effects, til measurable
- Blood letting, “til mid 1800’s – no effect or worse – George Washington
- Pyrotherapy – heat in baths, to control infection, til Ab, eg syphilis
- Insulin shock therapy for psychosis, like ECT , til 1950’s
- Tobacco smoke enemas, til around 1900
- EVIDENCE BASED MEDICINE – modern eg stem cell therapy

Colour therapy (chromotherapy)

- Based on the idea that color and colored lights can help treat physical or mental health
- Green: Green is the color of nature, and according to chromotherapists, it can help relieve stress and relax a person. Yellow: Yellow can be used to improve your mood and make you happy, and optimistic. Orange: Orange, much like yellow, can be used to elicit happy emotions from people.
- Egypt, Greece and China are known for their forays into color healing and therapy. Painting rooms different colors with the hopes of treating certain conditions.
- Red, in its most positive sense, is the color for courage, strength and pioneering spirit.

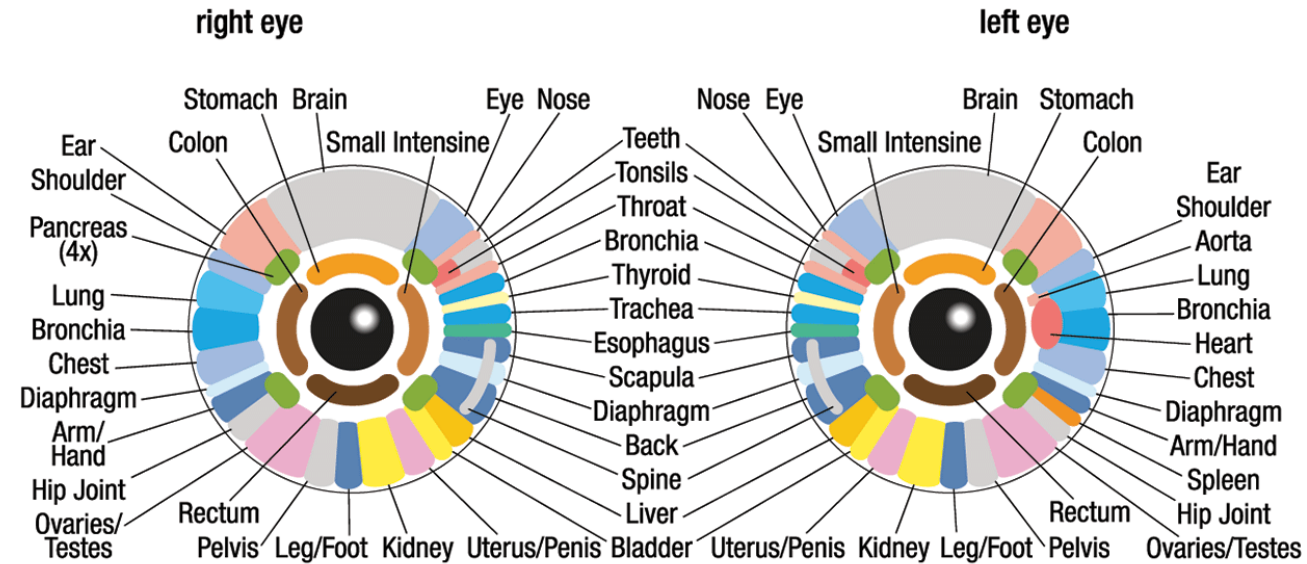
Colour and strength, (also reaction speed)

- The purpose of this study was to assess the effect of the color of light in a room on muscular strength and power. A convenience sample of 18 men (M age = 20.4 yr., SD = 1.2) performed a modified Wingate Anaerobic Cycle Test for muscular power and a hand grip strength test in each of the following conditions: red, blue, and white (neutral) ambient light.
- A repeated-measures multivariate analysis of variance indicated that average muscular power was significantly higher when performing the test in the room with red light compared to rooms lit with blue light or white light. The results also indicated that grip strength was significantly higher in the room lit with white light as compared to the room lit with blue light.

Iridology

As opposed to evidence-based medicine, iridology is not supported by quality research studies and is considered pseudoscience.

Iridology Chart



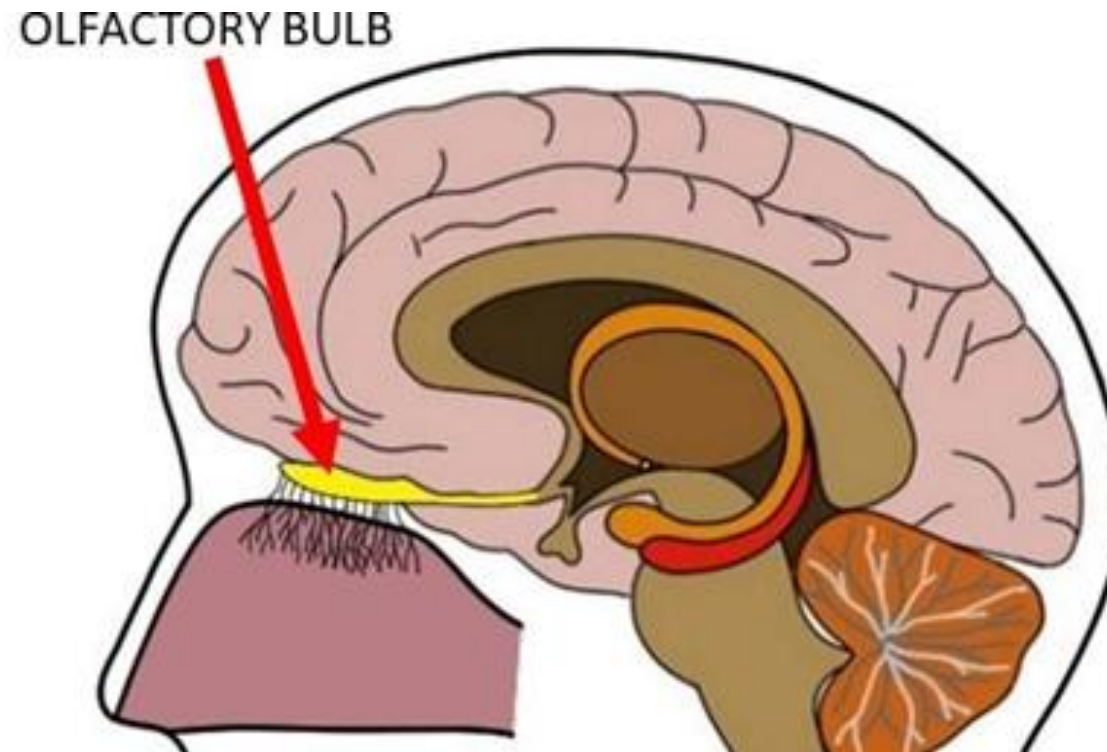
Colonic lavage

- “Welcome to Bottoms Up Maroochydore! We are a registered nurse led gut health clinic specialising in colon cleansing with an experienced team of talented therapists who specialise in digestive health. Our impressive team are a tight bunch with a passion for health and wellness. Our training meets very high standards along with our equipment and techniques. We look forward to seeing you in our clinic really soon”.
- **In the spirit of reconciliation Bottoms Up Colonics acknowledges the Traditional Custodians of Gubbi Gubbi country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal**

Colonic irrigation

- Improves muscle tone of the colon
- Reduced toxic waste and absorption
- Increased digestive function
- Restores hydration
- Purging of the liver
- Increases elimination of parasites, bad bacteria and fungi
- Clears the lymphatic system
- Increases immunity
- Clearer skin and eyes
- Clarity of mind (assists anxiety and depression)
- Parasite removal
- Increased vitality
- there's no evidence that colon cleansing produces these effects or is beneficial at all. And colon cleansing can sometimes be harmful.

Sense of smell- aromatherapy



Aromatherapy trials

- mixed results. While some randomized controlled trials indicate that essential oils (like lavender, ginger, or peppermint) may help reduce mild anxiety, stress, and nausea, systematic reviews note that many studies suffer from small sample sizes, lack of blinding, and low overall evidence certainty.

Diets and Health

- Dozens of fad options, a new one every week:
- Mediterranean
- Fruit and Veg
- Vegan
- Olive oil/ garlic
- Fish
- White meat
- Non-processed food
- Red wine
- Main health problem is excess calories and obesity

Supplements and health, 50% of US consume

- 1. Multivitamins: Don't Replace a Balanced Diet
 - 2. Vitamin D: Toxic Calcium Levels
 - 3. Omega-3s: Immune and Bleeding Complications
 - 4. Vitamin C: Kidney Stones and Drug Interactions
 - 5. Calcium: Hardening of the Arteries
 - 6. Magnesium: Digestive Upset and Toxicity
 - 7. Probiotics: Infection for Immunocompromised Individuals
- More indications to come
- 8. Iron: Dangerous Overdose Risks
 - 9 Peptides

Wellness - “Healthy habits for better physical, and mental outcomes”



The power of advertising, is nothing new

Promotions

- Weasel words
- Pseudo-science
- Testimonials
- Scientifically or clinically proven
- 2 for one deals
- Beware Chinese medicines (adulteration)
- Short versus long term use
- Rarely approved by FDA

Snake oils - Cure all ills



Fountain of Youth Lifestyle- another peptide revolution for skin care

- Purchased **127 collagen supplements** from leading retailers (Chemist Warehouse, Priceline, Amazon Australia, and official brand sites).
- Analysed their formulations and molecular composition in a certified Australian laboratory.
- Reviewed 42 peer-reviewed clinical papers on oral collagen efficacy.
- Conducted consumer trials on 120 volunteers
- **Collagen supplements cannot rebuild skin collagen.** Your digestive system breaks them down completely.
- **Collagen creams cannot penetrate the skin.** Their molecules are too large to reach the dermis.
- **The only proven way to restore firmness and elasticity** is to *stimulate* your skin's own collagen production.
- That means activating the fibroblasts that already exist in your skin – not feeding it broken collagen fragments.
- A healthy, balanced diet with an increase in proteins, nutrients and minerals that increase the quality of collagen in your body could be just as beneficial as taking supplements.

THE FOUNTAIN OF YOUTH - DUO

FREE
25ML FOUNTAIN
OF YOUTH ELIXIR

THE FOUNTAIN OF YOUTH
COLLAGEN

PURE TRIPEPTIDE COLLAGEN
100% GRASS-FED, BOVINE COLLAGEN
500 DALTON
100G / 3.52OZ

FREE SHIPPING

FREE SHIPPING

THE FOUNTAIN OF YOUTH ELIXIR
BY GLINDAWAND
A Enzyme Q10 Complex Elixir with Vit. A, C & H
GLINDAWAND
25ml / 0.84oz

**5 TIMES MORE POWERFUL
THAN ANY OTHER COLLAGEN**

PER. UNIVERSITY OF MILAN - DEPARTMENT OF PHARMACEUTICAL SCIENCES - JUNE 2025

Probiotics - the other wonder cure – a healthy gut biome. ? The cure waiting for a condition

- Gut contains 300 different bacteria
- Eg LACTIS (Japanese)– 16 strains of lactobacillus – for bowel Ca, polyps, IBS, colitis, constipation, general health, “may help control cholesterol”, nourishes resident bacteria”. Celebrity testimonials.
- Latest scam- harmful to take probiotics – instead prebiotics – powdered fibre from bananas, potatoes, yams - proven in clinical studies ??
- Symbiotics are pre and probiotics?????
- Probiotics beneficial for post-antibiotic or post infective diarrhoea, perhaps colitis
- Faecal transplants – FMT capsules (microbiota) – TGA approved only for C.Difficile diarrhoea

Orthodox versus alternative, the not-so- great divide, discussed in lecture 1

- Separation occurred in 19th Century with industrialisation
- Many modern medicines from plants
- Synthesis of chemicals allows:
- Standardisation of product
- Shelf life prolonged
- Clinical trials of efficacy
- Sometimes original plant is better, eg Chinese wormwood *Artemesia annua*, for malaria

Where to start?

Out of an estimated 250,000 flowering plant species globally, between 50,000 and 70,000 are known to be used in traditional and modern medicine across the world (Leaman, 2006). Of all the plant species worldwide, 15% have been evaluated phytochemically and only 6% have been screened for biological activity (Verpoorte, 2000).

Medicinal plants are important sources of chemical substances that have beneficial therapeutic effects on human health, and plant-based systems continue to play an essential role in the primary healthcare of almost 65% of the world's population (Farnsworth et al., 1985) and 80% of the people in the world's underdeveloped and developing countries.

Eg In the Balkans:

Serbian ethnomedicine today has knowledge of approximately 700 species, Bulgarian flora there are 768 medicinal plants, Romania, over 700 are medicinal plants, in Montenegro there are around 700 medicinal plants, in Bosnia and Herzegovina there are 221 medicinal plants

Monasteries in Europe – preserved literacy, education, grew medicinal plants in medieval warming period



Examples of Officinal plants – traditional European,
use in Monasteries - most not proven to work, *
equivalent used in orthodox medicine

- *Goats rue - (*Galega officinalis*)
 - French lilac – *Althaea officinalis*
 - Comfrey – *Symphytum officinalis*
 - *Ginger – *Zingiber officinalis*
 - Lemon balm – *Melissa officinalis*
 - Marigold – *Calendula officinalis*
 - Mandrake – *Mandragora officinarum*
 - Rosemary – *Rosemarinus officinalis*
 - *Sweet clover – *Melilotus officinalis*
 - Comfrey – *Symphytum officinalis*
 - *Valerian – *Valeriana officinalis*
- Verbena - *Verbena officinalis*
Sage – *Salvia officinalis*
+ 11 others, total 24

Symptomatic treatment versus natural cure –
short term or long-term illness. Spontaneous
recovery

- fever
- Sore throat
- cold
- Cough
- Vomiting
- Gastro
- Skin infection
- Joint injury
- Headache

Written by US Surgeon General in 1929

- Medicine of the future is beset by the pitfalls of mass-production, commercialism, advertising exploitation, the soullessness of corporations, evasion of increasingly complex regulations, periodic flights into mysticism, when orthodox medicine fails a resort to quacks and cultists.
- Nothing has changed
- When an alternative medicine is proven effective it becomes orthodox treatment. There is no competition, only scientific evaluation.

Why and how does medicine work?

Traditional cures - problems

- No knowledge of disease cause
- Long term use suggests may benefit
- Plants have similar chemicals to humans, and similar diseases
- Standardisation of product
- Small inadequate numbers
- Inadequate design of trials
- Cost
- Patent of product to recover cost

Orthodox – disease cause known

- Confirm disease cause
- Confirm active ingredient to treat
- Synthesise and standardise
- Lab, animal tests
- Clinical trials, randomised double blind cross-over, 3 stages
- Side effects
- Adequate numbers
- 90% failures. Costs \$60 billion for failed Cancer trials, annually
- New drug costs \$2- 3 billion

Evidence based medicine - future

- Tradition, anecdote, theoretical reasoning is not enough
- Negative trials are not published
- Cochrane collaboration
- Consensus guidelines, too much evidence
- Vested interests can distort –drug companies, politics
- Inapplicable to multiple pathologies
- Age of patient, eg treat cholesterol statins in 75 year-old, individualised for patient, one size does not fit all

Cochrane library, TCM for chronic hepatitis B

- We included 10 randomised clinical trials with 934 participants, but only five trials with 490 participants provided data for analysis. All the trials compared Xiao Chai Hu Tang formula with no intervention.
- The clinical effects of Xiao Chai Hu Tang formula for chronic hepatitis B remain unclear. The included trials were small and of low methodological quality. Despite the wide use of Xiao Chai Hu Tang formula, we lack data on all-cause mortality.
- serious adverse events from disease left untreated, which will respond to new anti-virals, improving health-related quality of life, hepatitis B-related mortality, and hepatitis B-related morbidity.

Cochrane library, pain, arthritis

- We included two studies (128 participants), diabetic neuropathy and non-diabetic neuropathic pain conditions were investigated across these two studies. There was insufficient evidence to determine whether nutmeg or St John's wort has any meaningful efficacy in neuropathic pain conditions.
- Twelve new studies for RA were added to the update, a total of 22 studies were included. There is moderate evidence that oils containing GLA (evening primrose, borage, or blackcurrant seed oil) afford some benefit in relieving symptoms for RA. *Tripterygium wilfordii* products may reduce some RA symptoms, however, oral use may be associated with several side effects.

What is proven to work - CVS

- Heart failure, arrhythmia: Hawthorne (*Crataegus monogyna*), Foxglove (*Digitalis purpurea*), mainstream treatment. Others eg Lily-of-the-valley, Oleander, studies still awaited
- PVD: Ginkgo (*biloba*), 8 studies, improves claudication
- Varicose eczema: Horse chestnut (*Aesculus hippocastanum*), oral and topical, 8 studies effective
- Cholesterol: Garlic (*Allium sativum*), 13 trials, lower levels. Soya (*Glycine soja*) 38 trials effective. Globe artichoke (*Cynara scolymus*) promising
- HT: 8 trials, Garlic, lowered BP

What is proven to work, continued

- Mint (*Mentha peperita*) - 8 studies improved IBS
- Ginger: (*Zingiber officinale*) - 6 studies in N and V, effective for pregnancy, sea-sickness, post-chemo.
- Ginkgo (*biloba*) - 9 studies slowed progress in dementia
- Kava (*Piper methysticum*) – 7 studies benefit, improved stress
- Valerian (*Valeriana officinalis*) – 19 trials, still not confirmed for anxiety
- St John's wort (*Hypericum perforatum*) - 23 trials benefit in depression
- Echinacea (*purpurea*) – 16 studies in common cold, no benefit
- Aloe vera – 10 trials, modest benefit in DM (sadly few other plants)
- Goats rue, (*Galega officinalis*) – surprisingly still unproven, despite its derivative, metformin, proving effective

What is proven to work, continued

- Autumn crocus (*Colchicum autumnale*) – Gout, safety concerns
 - Saw palmetto (*Serenoa repens*) – 18 studies effective for BPH
 - Evening primrose (*Oenothera biennis*) – 7 trials, PMT, still unproven
 - Feverfew (*Tanacetum parthenium*) – Migraine, 5 trials beneficial
 - Korean ginseng (*Panax ginseng*) – no trials of benefit!
 - Mistletoe (*viscum album*) – Iscador - 10 studies possible benefit in cancer
-
- Big money being made but few trials to prove evidence-based cure

Supplements and health

- Healthy diet is the priority
- Half US adults take supplements - vitamins, minerals, herbals
- No proven effect on chronic disease
- Fish oil –some cardiac benefit
- Calcium, vitamin D for osteoporosis
- Echinacea, glucosamine for arthritis - still not proven
- US Nat Institute of Health, annual spend \$2.4 billion, negative results
- Vit E – increased stroke,
- folic acid and B vits ? Increased Cancer

Arthritis - Pearl diving

- Wille Creek Pearls, Broom
- Researchers from the University of Western Australia Medical School establish Marine Biomedical, Australia's first biomedical company . These resources including nacre – commonly known as mother of pearl (EXCEPT IN BUNDABERG).
- Its patented debut technology PearlBone™ is a bone substitute material derived from nacre sourced from sustainably certified Western Australian *Pinctada maxima* (silver- lipped) pearl oysters. It could be used for joint reconstruction, trials are due.
- An alternative is intra-articular chicken combs (hyaluronic acid) cartilage

Medical staff health studies, supplements, big money to be made – for what?

- Nurses study, 1981 – 38% multivitamins, 4% Vit A, 23% vit C, 15% vit E
- US, student nurses, usage 2015 – 70% herbal or dietary supplements, med students 50%
- US dietary supplement market value \$150 billion in 2021
- Australia, student nurses – 81% vitamins, minerals, supplements, pharmacy students 20%. Compared with:
- Australian general public, 2019 - 33%, 2022 43%
- NZ general public, 2019 - 28%, 2022 32%

Annals Int Medicine, meta-analysis of 277 trials, over 900,000 participants

- Use of omega-3 LC-PUFA and folate supplementation could reduce risk for some cardiovascular outcomes in adults.
- Combined calcium plus vitamin D might increase risk for stroke or heart attack.
- Other nutritional supplements, such as vitamin B₆, vitamin A, multivitamins, antioxidants, and iron and dietary interventions, such as reduced fat intake, had no significant effect on mortality or cardiovascular disease outcomes (very low– to moderate-certainty evidence).

Supplements, recent developments, 2026

- “Energy drinks”. Red Bull, 114 mg caffeine, Liquid Death 100mg, cup of coffee around 100mg. US market \$24 billion annually 2023-24.
- Protein drinks, Australia \$600 annual. Doubling every month. Excess protein causes bad breath, gastro, weight gain, kidney damage.
- Vitamin B6, pyridoxine, deficiency skin, anaemia, nerve. Added to many drinks, cereals, weight loss supplements. Daily dose 1-2mg. 100 preps contain 50mg plus. Excess causes neuropathy. Litigation against Blackmores.

Magnesium I/V use for acute conditions

- Cardiac arrhythmia
- High BP
- Pre-eclampsia
- Intractable epilepsy
- Asthma

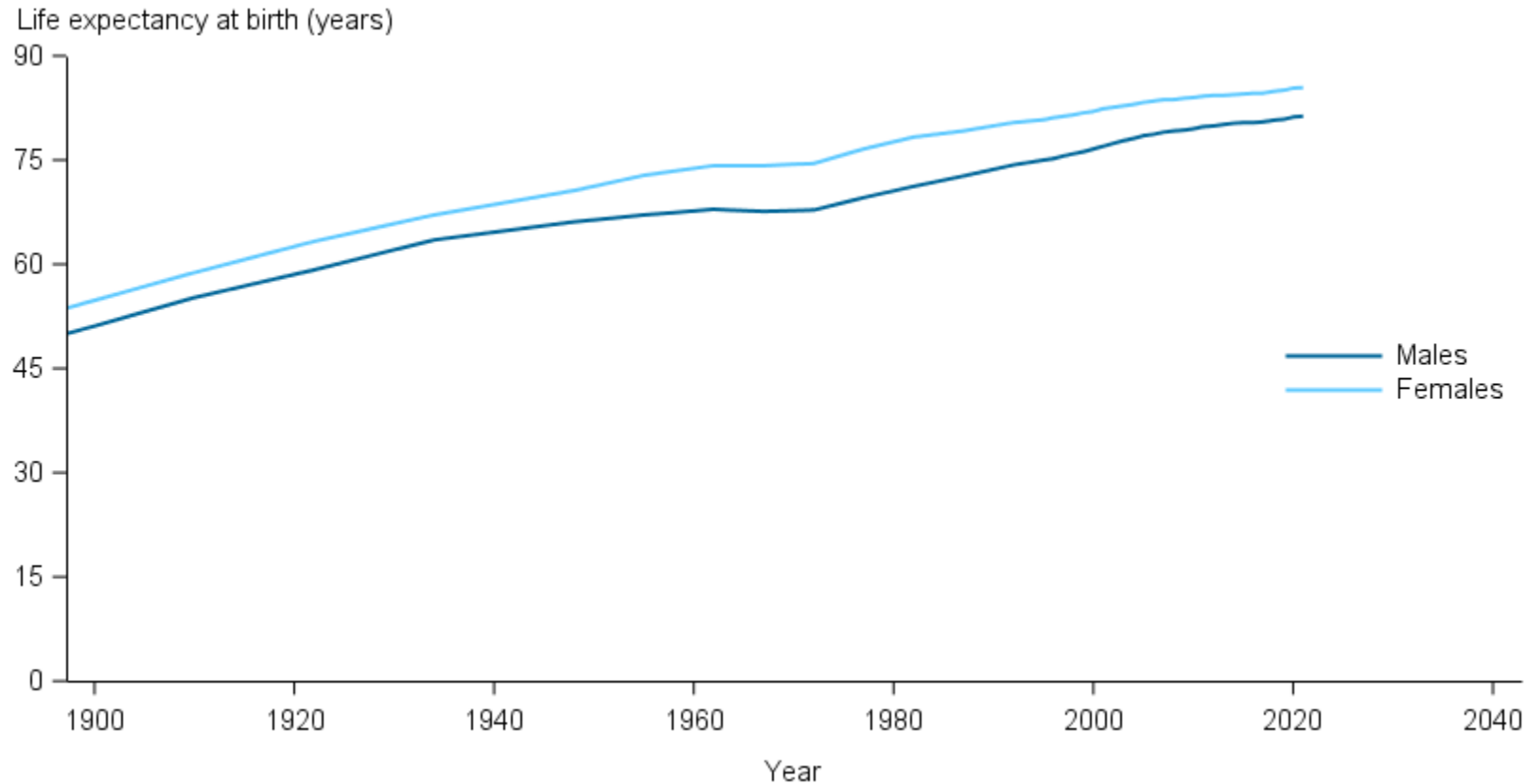
- Tablet 500mg strength

Very safe 5000mg daily for side effects, N and V etc

Peptides, the new wonder cure

- A protein-rich diet breaks down to peptides, and these were first isolated around 1900. The first medicinal peptide came with the discovery of insulin, by Banting and Best, in 1921.
- Peptides are the latest cure-alls, varying in size from as few as 2, to as many as 50 amino acids. They are found throughout the human body, regulating amongst other things, metabolism, immune function, and tissue repair; importantly, they act as biological messengers. Larger collections of amino acids form proteins, making solid structures, such as hair, skin and muscle.
- Advised for skin, body building, brain function etc - unproven

Australia Life expectancy- improved 30 years in 100yrs, Now third behind Japan, Monaco. UK and US are already in decline. Diet, immunisation, pills



Modern pandemics –it's good getting old

Obesity



Dementia



Obesity

Natural weight loss options – none proven

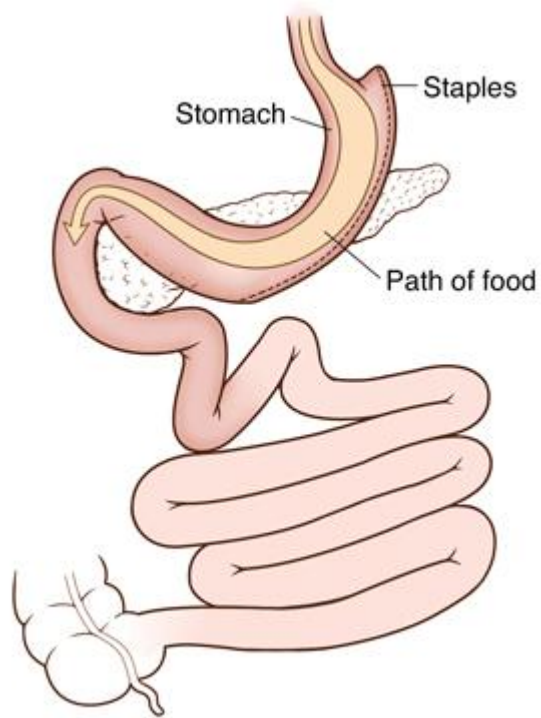
- Fenugreek. ...
- Cayenne Pepper. Cayenne pepper is a type of chili pepper, popularly used to bring a spicy dose of flavour to many dishes. ...
- Ginger. ...
- Oregano. ...
- Ginseng. ...
- Caralluma fimbriata. ...
- Turmeric. ...
- Black Pepper.
- Coffee

Weight loss, orthodox pills

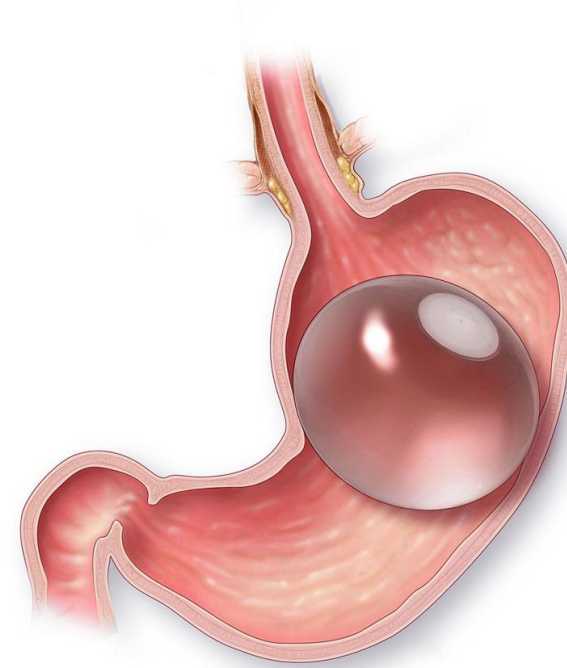
- Orlistat – reduces fat absorption
- Phentermine - stimulant
- Diabetic meds, insulin resistance:
- Liraglutide
- Semaglutide
- Other GLP1 antagonists limited availability on PBS
- Only long-term effective treatment is A SMALLER PLATE

Gastric surgery, obesity

Gastric stapling

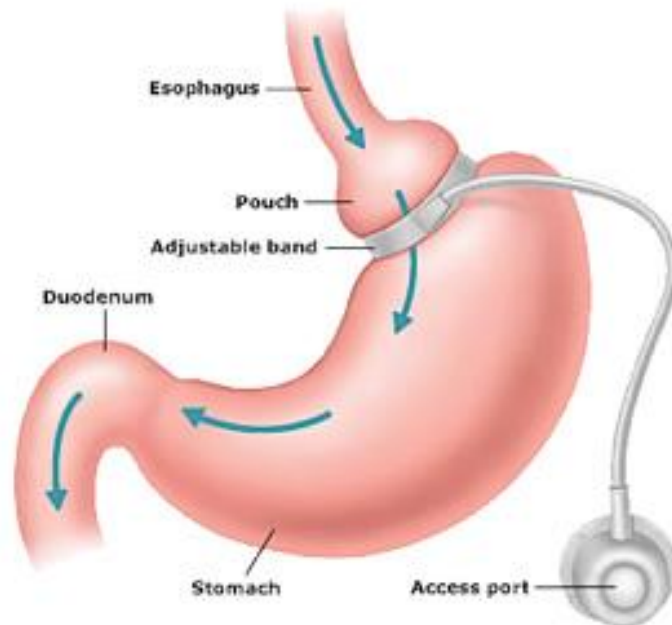


Gastric balloon

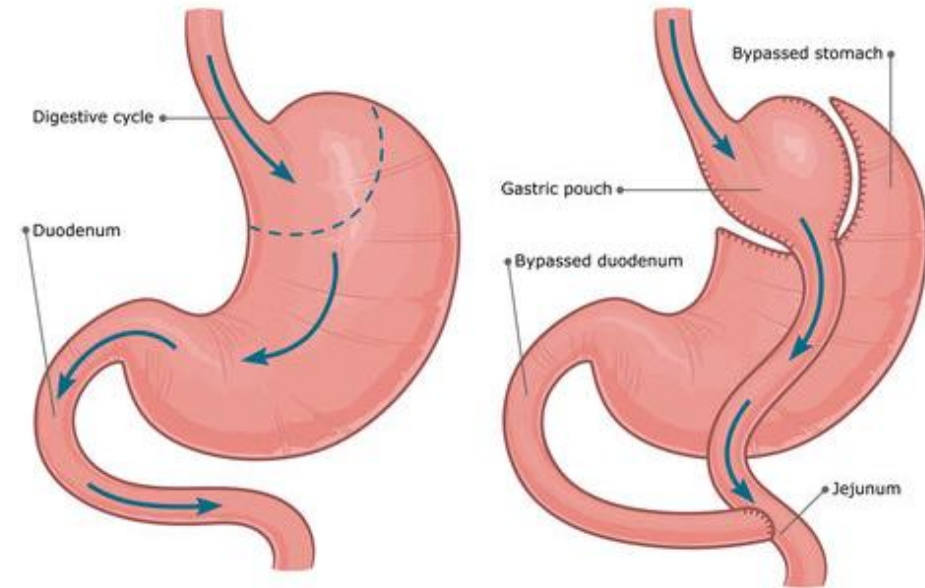


Obesity Pandemic – bariatric surgery

Banding



Gastric bypass



Diet versus surgery

- Conclusions Compared with non-surgical treatment of obesity, bariatric surgery leads to greater body weight loss and higher remission rates of type 2 diabetes and metabolic syndrome. However, results are limited to two years of follow-up and based on a small number of studies and individuals. BMJ 2013
- In this matched cohort study including 1216 patients who underwent sleeve gastrectomy and 2432 controls who underwent intensive lifestyle treatment, surgery was associated with greater weight loss after the intervention, lower incidence of diabetes, and a higher rate of pharmacological diabetes remission, but a higher risk for self-harm and substance use disorder. JAMA 2022

The gut microbiome (again) and obesity

- Even people who [lose weight](#) using a GLP-1 drug find it difficult to maintain their weight loss [once treatment stops](#).
- Studies in humans have shown that higher levels of *Akkermansia muciniphila* are linked with better metabolic health, including [improved blood sugar control](#), which reduces the risk of developing health problems such as type 2 diabetes. On the other hand, [lower levels of *Akkermansia muciniphila*](#) are observed in people with obesity and type 2 diabetes.
- By the end of the study, of 90 patients, using a pasturised bacteria, the group receiving *Akkermansia muciniphila* had regained significantly less weight than the placebo group. On average, those taking the supplement regained around 1.2kg, compared with 3.2kg in the placebo group.

Dementia – the other pandemic

- By 2060, in Australia:
- 15% of population will be over 75 (now 6%)
- Number over 85 will triple to 1 million
- Number over 100 will increase 6 fold to 40,000
- Dementia numbers will double to 800,000
- Due to aging (Alzheimers) and surviving better from killer diseases
- Other causes: vascular, trauma, Parkinson's, (mad cow)
- Forgetting things is not dementia, it's getting old!

Differences between normal aging and Alzheimer's disease

Normal aging

Making a bad decision once in a while

Missing a monthly payment

Forgetting which day it is and remembering it later

Sometimes forgetting which word to use

Losing things from time to time

Alzheimer's disease

Making poor judgments and decisions a lot of the time

Problems taking care of monthly bills

Losing track of the date or time of year

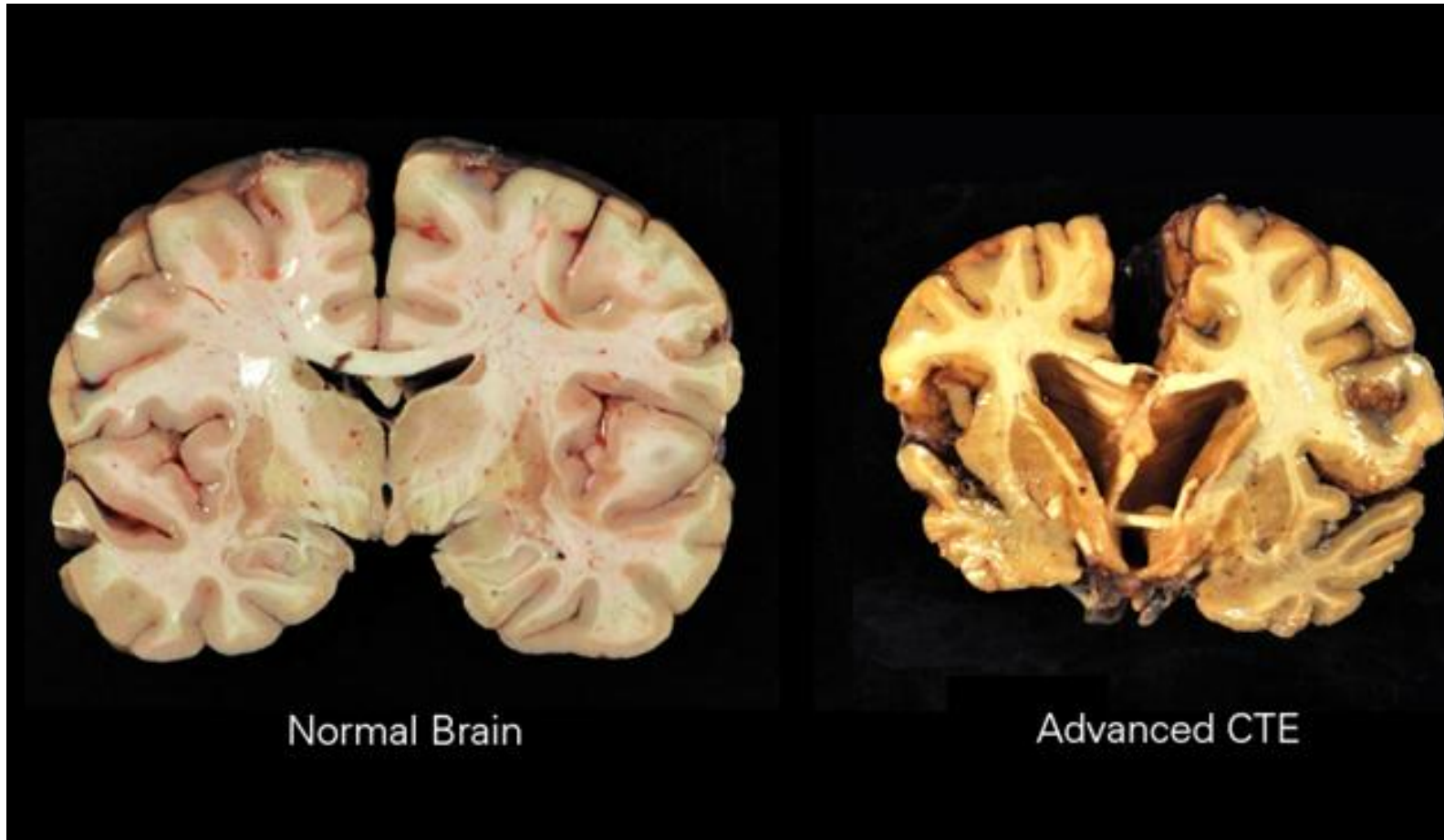
Trouble having a conversation

Misplacing things often and being unable to find them

Glucosamine – 40 US million take for arthritis

- Our analysis of patients with Alzheimer's disease was based on anonymized medical records from the University of Florida Health system. We included 24,000 patients with dementia and 41,000 with mild cognitive impairment, comparing people who took glucosamine with those who didn't.
- We found that glucosamine affected people in the earliest stage of memory loss, a condition called [mild cognitive impairment](#). People in this early stage of dementia who were taking glucosamine were 25% more likely to progress to full Alzheimer's.
- People with Alzheimer's disease who took the common supplement glucosamine were [25% more likely to die within five years](#) than those who didn't.
- All natural treatments may not be benign

Chronic Traumatic Encephalopathy (CTE)



Dementia prevention

- 1.Be physically active
- 2.Stop smoking
- 3.Eat a balanced diet, especially a Mediterranean-like diet
- 4.Drink alcohol in moderation – ? definition
- 5.Cognitive training- new hobby - (chess, languages, crossword puzzles)
- 6.Be socially active
- 7.Look after your weight
- 8.Manage any hypertension
- 9.Manage any diabetes
- 10.Manage any cholesterol
- 11.Manage Mental Health incl. depression

Dementia treatments – healthy diet

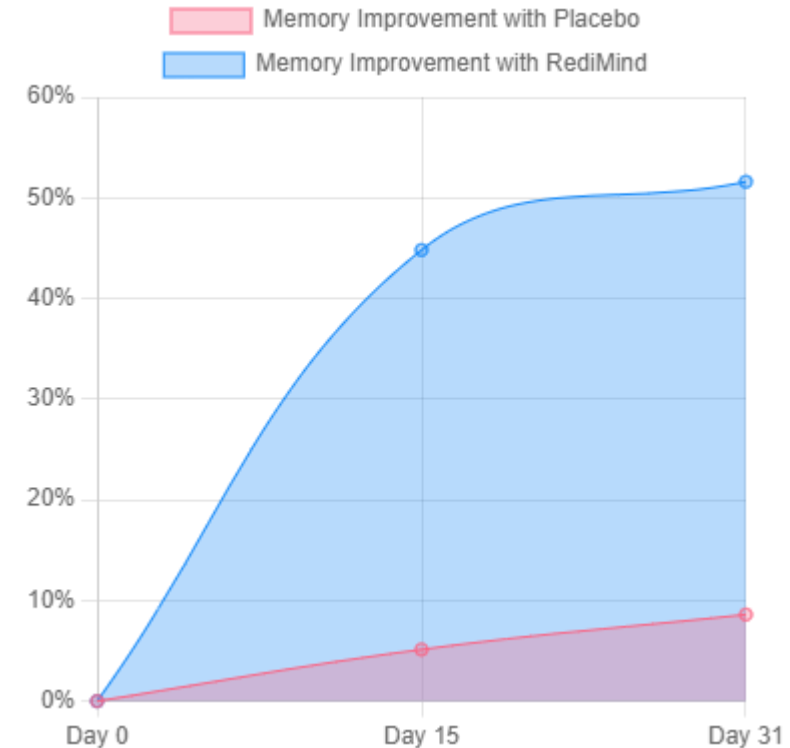
- Orthodox:
- Electrical, ultrasound, gamma frequency oscillation brain stimulation trials
- (Amyloid) Aducanumab and related, still not proven, Ch esterase inhibitors
- Alternative plant therapy:
- Sage (*Salvia officinalis*), Lemon balm (*Melissa officinalis*) - unproven
- Ginkgo (*biloba*) - some trial evidence
- Redimind (5 herbs) – ? some benefit
- Vitamins, supplements – no effect
- Meditation (mindfulness), Thompson institute, (part of USC).
- Learn new skills (languages, computer games)

Redimind-Ginkgo, Bacopa, Lions mane, Huperzia moss, plus alpha GPC (Ach precursor)

Participants age 18-65, 25 treated, 25 control. Note small numbers, young age, short term only

- At baseline, participants remembered an average of 9.8 grocery items from a list of 20.
- After just 2 weeks, memory performance increased by 45% to 14.2 items out of 20.
- By the end of 30 days, performance increased by 51% to 14.8 items out of 20. By comparison, the performance of the placebo group only increased by 8.6% over the entire trial.
- None of the participants reported any negative side effects.

Improvement



Meditation/ mindfulness

- The interventions fell into the following three categories: mindfulness, most commonly mindfulness-based stress reduction (six studies); Kirtan Kriya meditation (three studies); and mindfulness-based Alzheimer's stimulation (one study). Three of these studies were randomised controlled trials. All studies reported significant findings or trends towards significance in a broad range of measures, including a reduction of cognitive decline, reduction in perceived stress, increase in quality of life, as well as increases in functional connectivity, percent volume brain change and cerebral blood flow in areas of the cortex

Sage (Latin salvere – to be well). Improve memory, impart wisdom, ensure long life

Uses

- *Salvia officinalis* has been used since ancient times for [warding off evil](#), snakebites, increasing women's fertility, and more.
- [John Gerard](#)'s *Herball* (1597) states that sage "is singularly good for the head and brain, it quickeneth the senses and memory, strengtheneth the sinews, restoreth health to those that have the palsy, and taketh away shakey trembling of the members."
- It was also used for hair care, insect bites and wasp stings, nervous conditions, mental conditions, oral preparations for inflammation of the mouth, tongue and throat, and also to reduce fevers. [\[7\]](#)

Salvia officinalis

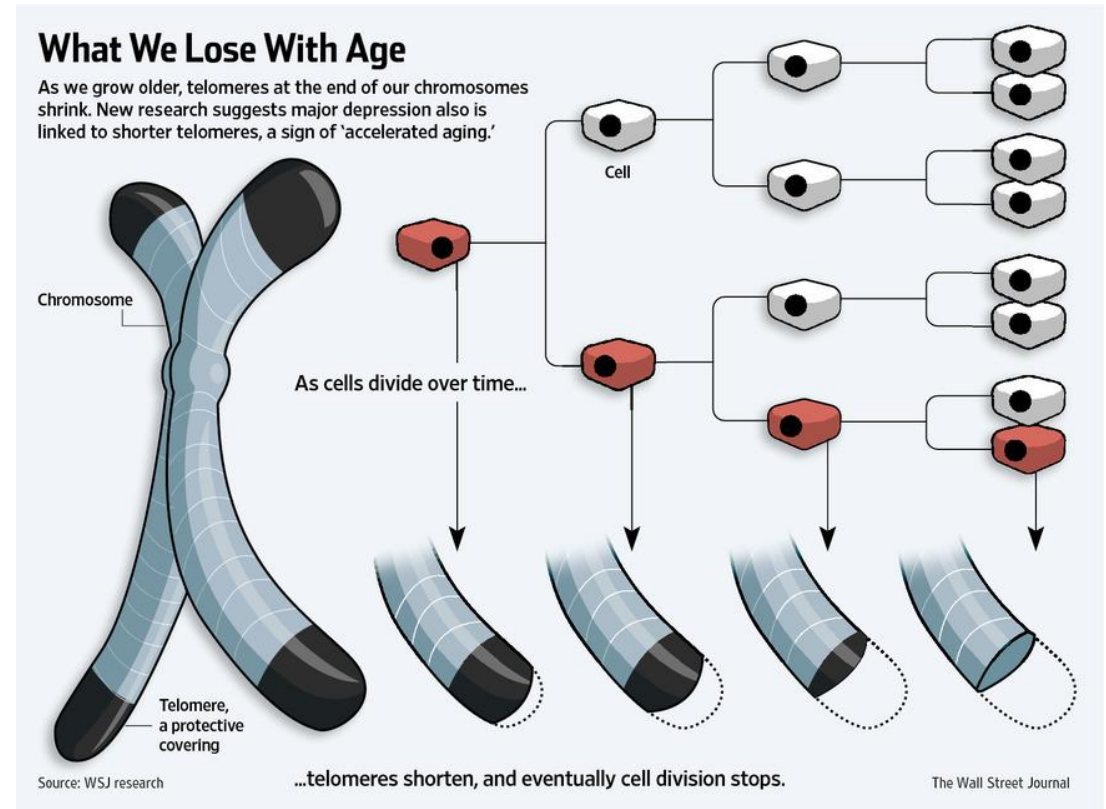


Dementia findings

- For the small handful of dietary supplements that have been well-researched, the results showed no brain health benefit in people with normal nutrient levels. It's unclear whether people with nutritional deficiencies can benefit their brains by taking a supplement, because the research is inconclusive. Therefore, beyond a few very specific nutrients taken to replace an identified deficiency, there is insufficient evidence to support the use of supplements to benefit the brain.
- Beyond the lack of evidence of effectiveness for brain health supplements, significant concerns exist about the truth of claims made in their marketing and about their potential lack of safety and purity.
- Because supplement manufacturers and distributors often make vague or exaggerated claims about brain health, and dietary supplements are sold without premarket governmental review of their safety and efficacy or the truthfulness of their claims, consumers should approach claims made on supplement packaging and in advertisement with skepticism.

Telomeres – ?the cause, ? the solution

- Telomere length shortens with age. Progressive shortening of telomeres leads to senescence, apoptosis, or oncogenic transformation of somatic cells, affecting the health and lifespan of an individual. Shorter telomeres have been associated with increased incidence of diseases and poor survival.
- Slow with legumes, nuts, seaweed, fruits, and 100% fruit juice, dairy products, and coffee.



Defying dementia, a musical conclusion,
courtesy of the COVID pandemic (me on L)



Plants curing cancer – another aging problem

- Madagascar periwinkle – vincristine, vinblastine
 - Pacific Yew Tree
 - African Bush willow Tree
 - Mandrake root
-
- Many more in research eg earthworm

Cancer caused by plant toxicity

- Tobacco (*Nicotiana tabacum*) – lung, plus various
- Comfrey (*Symphytum officinale*) – Europe - liver cancer
- Birthwort (*Aristolochia clematis*) – renal, GU
- *Aristolochia fangii* – mistaken for *Stephania tetandra* – renal cancers
- Betel (*Piper betel*) – Pacific -mouth cancer (?lime)
- Kudzu (*Pueraria montana*) – Asia, US, oestrogenic
- ?Plant oestrogens and effect on hormone related tumours, eg breast, prostate

Sun not quite set yet!!

