

## The Medicalization of Life



Tieraona Low Dog, MD

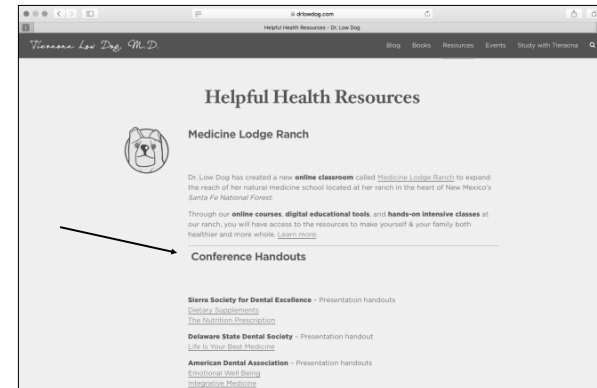
Author of *"Fortify Your Life"*  
*"Healthy At Home"* and  
*"Life Is Your Best Medicine"*

[www.DrLowDog.com](http://www.DrLowDog.com)

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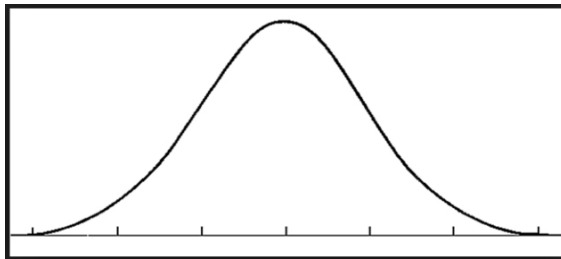
[www.DrLowDog.com/Resources](http://www.DrLowDog.com/Resources)



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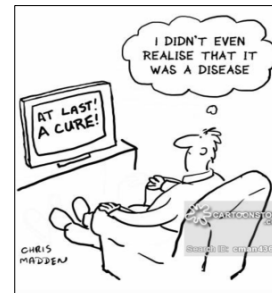
## Bell Curve



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## Medicalization: Definition



- Process by which **human conditions and problems** come to be **defined and treated as medical conditions**, and become the subject of **medical study, diagnosis, prevention, or treatment**.
- The idea of **birth, aging and dying as medical illnesses**, leaves individuals and societies **less able to deal with these "natural" processes**.

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"We can't find anything wrong with you, so we're going to treat you for Symptom Deficit Disorder."

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## Let's Take Birth As One Example




Disease?

Natural Process?

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## Delivery Method



YES, IT WAS A C-SECTION.  
HOW DO YOU KNOW?


ED BYRNES

- C-sections have risen exponentially in the U.S – it was 5% in 1970, it was 32% in 2015.
- A necessary medical procedure in some cases, but **elective C-sections** account for 10% of all scheduled procedures.
- Scheduling a **C-section birth for convenience** may be common but is **not without risk**.

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## C-Section Birth



- Children born by C-section are at **increased risk for respiratory allergies, cow's milk allergies, asthma, juvenile arthritis, inflammatory bowel disease and leukemia.**
- Colonization of GI tract of infants **born vaginally** similar to mother's vaginal microbiota; **C-section** infants GI tract colonized by **skin bacteria**.

Rucsoni F, et al. Mode of Delivery and Asthma at School Age in 9 European Birth Cohorts. *Am J Epidemiol* 2017 Mar 15;185(6):465-473  
Sevelsted A, et al. Cesarean section and chronic immune disorders. *Pediatrics* 2015 Jan;135(1):e92-8.

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## Midwife-Led Care

Women who receive midwife-led care are:

- Significantly more likely to have a spontaneous vaginal birth, initiate breastfeeding, feel in control
- 23% less likely to have fetal loss before 24 weeks' gestation
- 17% less likely to have regional analgesia
- 14% less likely to have instrumental birth
- 16% less likely to have an episiotomy

*"Women should be offered midwife-led models of care and women should be encouraged to ask for this option."*

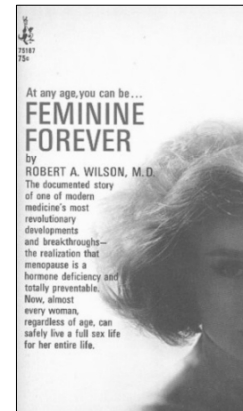


Sandall J, et al. *Cochrane Database Syst Rev*. 2013 Aug; 218:CD004667.

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## Menopause



- Menopause medicalized since 1930s as an “estrogen deficiency disease,” often with the recommendation of hormone therapy.
- Keeping women “feminine forever” was the claim, along with the promise of preventing heart disease, osteoporosis, and memory loss.
- Estrogen became one of the most frequently prescribed drugs in the U.S.

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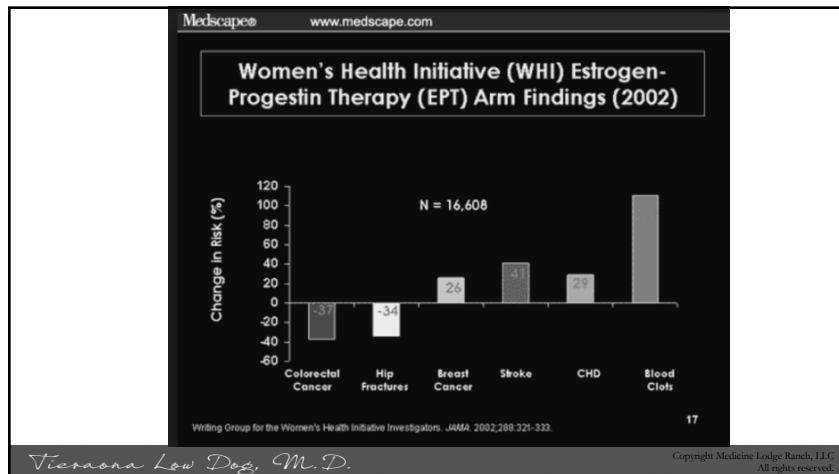
## Menopause: The Disease



- Menopause **no longer a natural transition**: it was a **disease to be managed**.
- Positioned as **gateway to disaster** - thinning of skin, sagging of breasts, brittling of bones, fogging of mind, onset of heart disease, the loss of sexuality.
- **Hormones were the answer**, until the Women's Health Initiative in 2001 was suddenly discontinued **due to increased incidence of blood clots and breast cancer** in women taking Premarin and Provera (estrogen and synthetic progestin).

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## Hormone Therapy

- Guiding principal: **use lowest dose of HT to relieve symptoms.**
- HT unsuitable for some women, e.g., **increased risk of cardiovascular disease, increased risk of thromboembolic disease (e.g., obesity or history of venous thrombosis) or increased risk of breast cancer.**
- When balancing benefits and risks of HT, **transdermal estrogen and natural progesterone (if have uterus) seem to be optimal form and delivery.**



deVilliers TJ, et al. Global Consensus Statement on menopausal hormone therapy. *Maturitas* 2013; 391-2  
 Marjoni Banks J, et al. Long-term hormone therapy for perimenopausal and postmenopausal women. *Cochrane Database Syst Rev* 2017; Jan 17;1:CD004143.

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## Bioidentical Hormones

- **Chemical structure** of hormone, **not source**, that determines if **bioidentical or not.**
- **Compounded bioidentical hormones** not FDA regulated and are exempt from labeling requirements including FDA contraindications and warnings.
- Many prescription **bioidentical hormones** approved by the FDA
  - Estrace (vaginal and oral)
  - Climara
  - Estraderm
  - Estragel
  - Estrasorb
  - Estring
  - Femring
  - Vagifem
  - Prometrium (natural progesterone)



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## Genitourinary Syndrome of Menopause

- GSM symptoms/signs associated with decrease in sex steroids involving changes to the labia majora/minora, clitoris, vestibule/introitus, vagina, urethra and bladder.
- **Dryness, burning, and irritation;** sexual symptoms of **lack of lubrication,** discomfort or pain, and impaired function; and **urinary symptoms of urgency, dysuria and recurrent urinary tract infections.**
- **Vaginal estrogen** can be used when systemic estrogen is contraindicated.
- **Vaginal lubricants/moisturizers** can be used alone or with vaginal estrogen.
  - **Yes Vaginal Moisturizers** are one of few with correct pH and osmolality.

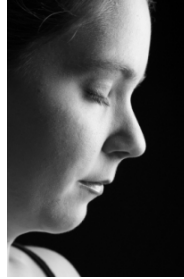
Neves-c-Castro M, et al. EMAS position statement: The ten point guide to the integral management of menopausal health. *Maturitas* 2015; 81(1): 88-92  
 Edwards D. et al. *Climacteric* 2016; 19(2):151-61

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## Hypnosis and Cognitive Behavioral Therapy

- Significant improvement in **hot flashes with cognitive behavioral therapy and hypnosis**.
- Single blinded study **187 menopausal women** with **minimum of 7 hot flashes/day** randomized to **5 weekly hypnosis sessions or structured control**.
- At 12 weeks: **mean reduction** in physiologically monitored hot flashes was **5.92 (56.86%)** for clinical hypnosis and **0.88 (9.94%) for controls** ( $P < 0.001$ ).
- Also significant **improvement in sleep quality** and treatment satisfaction as compared to controls.



Elkins GR, et al. *Menopause* 2013; 20(3):291-8

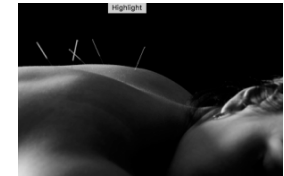
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## Acupuncture and Menopause

- Numerous studies found acupuncture beneficial for **relieving hot flashes and improving quality of life**,
- Systematic review and meta-analysis of **31 randomized controlled trials** found acupuncture **significantly reduced sleep disturbances** in women transitioning through menopause.
- Acupuncture should be **encouraged for women** interested in exploring this option.

Chiu HY, et al. *Obstet Gynecol* 2016; 127(3): 507-15

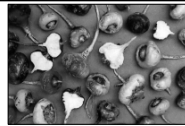


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## Botanicals Used in Menopause

- **Black cohosh** (some effect on hot flashes, anxiety, joint pain)
- **Soy isoflavones** (min 40%) reduce severity/frequency of hot flashes\*
- **Kava** found effective for menopause related anxiety.
- **St. John's wort** found effective for hot flashes, moodiness, etc.
- **Maca** for sexual dysfunction and low libido
- **Siberian rhubarb** for hot flashes and libido (all research done on one cohort by one research team).
- **Ginseng (*Panax ginseng*)** improved quality of life



Position Statement NAMS: *Menopause* 2015 Nov; 22(11):1155-72

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## Soy and Cancer

- **European Food Safety Authority** concluded **after a multi-year investigation** that in **postmenopausal women**, soy isoflavones **do not adversely affect the breast, thyroid or uterus**.
- **North American Menopause Society** concluded that soy isoflavones **do not increase risk of breast or endometrial cancer**.
- **American Cancer Society** and **American Institute for Cancer Research** confirm **soy foods** can be **safely** consumed by women with **breast cancer**.

Panel on Food Additives and Nutrient Sources added to Food Scientific opinion on the risk assessment for peri- and post-menopausal women taking food supplements containing isolated isoflavones. *EFSA J.* 2015;13:4246.

Messina M. *Nutrients* 2016; 8(12): 754

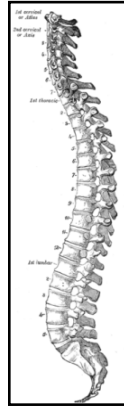
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## Osteoporosis

- Literally "**porous bones**," a skeletal disorder characterized by **low bone mass and structural deterioration of bone tissue**, with a consequent increase in susceptibility to **fragility fracture**.
- Multifactorial disease arising from **genetic, hormonal, metabolic, mechanical and immunological factors**.
- **75% hip, spine and distal forearm fractures occur in those 65 years or older**
- Roughly **30% of people over age 65 fall annually, with 10-15% of these falls resulting in fracture**.

[https://www.cdc.gov/nchs/data/hestat/osteoporosis/osteoporosis2005\\_2010.htm](https://www.cdc.gov/nchs/data/hestat/osteoporosis/osteoporosis2005_2010.htm)



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## DXA Scan

Table 1. World Health Organization Classification of T Score

Normal	BMD $\geq -1.0$
Low bone mass (osteopenia)	BMD $> -2.5$ and $< -1.0$
Osteoporosis	BMD $\leq -2.5$
Severe (established) osteoporosis	BMD $\leq -2.5$ with history of fragility fracture

T-scores are based on the NHANES reference values for women aged 20-29 years. The same absolute values are used in men.

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## Over Treatment?

- **New definition** of osteoporosis in 1994 based on **low bone mineral density, expanded indications for pharmacotherapy**.
- Under US guidelines **~75% of white women over 65 years are now candidates for drug treatment**.
- **Heightened fear** has led physicians to prescribe bisphosphonate drugs to **prevent women with osteopenia from developing osteoporosis**. Despite being at very low risk of experiencing a fracture, **many women have been prescribed drugs with serious side effects for years**.

Jarvinen T, et al. *BMJ* 2015;350:h2088

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<http://www.shef.ac.uk/FRAX/>

Country: US (Caucasian) Name / ID: [ ] About the risk factors ⓘ

Questionnaire:

1. Age (between 40-90 years) or Date of birth: Age: 61 y, 1947 M, 9 D, 22

2. Sex: ☒ Male ☐ Female

3. Weight (kg): 70.31

4. Height (cm): 167.64

5. Previous fracture: ☐ No ☐ Yes

6. Parent fractured hip: ☐ No ☐ Yes

7. Current smoking: ☐ No ☐ Yes

8. Glucocorticoids: ☐ No ☐ Yes

9. Rheumatoid arthritis: ☐ No ☐ Yes

10. Secondary osteoporosis: ☐ No ☐ Yes

11. Alcohol 3 or more units per day: ☐ No ☐ Yes

12. Femoral neck BMD (g/cm<sup>2</sup>): Select DXA: -1.8

Clear Calculate

BMI: 25.0  
The ten year probability of fracture (%)

without BMD

Major osteoporotic	10
Hip fracture	1.0

One of best predictive tools for evaluating fracture risk is FRAX

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### Bisphosphonates for Fracture Prevention in **Post-Menopausal Women With Prior Fractures or With Very Low Bone Density** (NNT = 100)

In Summary, for those who took the bisphosphonates:

#### Benefits in NNT

- 1 in 20 were helped (vertebral fracture prevented)
- 1 in 100 were helped (hip fracture prevented)

#### Harms in NNT

- A small number were harmed

#### Benefits in Percentage

- 94% saw no benefit after 3 years of treatment
- 5% avoided a vertebral fracture
- 1% avoided a hip fracture

#### Harms in Percentage

- A small percentage were harmed

[www.thennnt.com/nnt/bisphosphonates-for-fracture-prevention-in-post-menopausal-women-with-prior-fractures-or-very-low-bone-density/](http://www.thennnt.com/nnt/bisphosphonates-for-fracture-prevention-in-post-menopausal-women-with-prior-fractures-or-very-low-bone-density/)

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### Bisphosphonates for Fracture Prevention in **Post-Menopausal Women Without Prior Fractures**

In Summary, for those who took the bisphosphonates:

#### Benefits in NNT

- None were helped (fracture prevented after 3 years of medicine)

#### Harms in NNT

- A small number were harmed

#### Benefits in Percentage

- 100% saw no benefit after 3 years of treatment

#### Harms in Percentage

- A small percentage were harmed

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## Impact on Bone and Healing

- Bisphosphonates **suppress bone resorption** that occurs during normal healing process, delaying bone healing. **Osteonecrosis of jaw** is serious adverse event associated with use.
  - 1) Exposed bone in maxillofacial region present for 8 weeks or more, 2) current or previous bisphosphonate use, and 3) no history of radiation therapy to the jaws.
- Risk factors: **older than 65 years, periodontitis, prolonged use of bisphosphonates (for more than 2 years), smoking, wearing dentures, and diabetes.**
- Clinical records of **320 osteoporotic patients** who underwent tooth extraction while receiving oral bisphosphonates were reviewed. **All patients had a healing period of more than 6 months following the extractions.**

*J Am Dental Assoc.* 2011;142:1243-1251.

Ho-Gul Jeong, et al. *Imaging Sci Dent* 2017; Mar; 47(1): 45-5

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## Atypical Femur Fractures

- **Atypical femur fractures** are *rare* serious condition associated with bisphosphonate use. American Society for Bone and Mineral Research task force reported that **of 310 cases of atypical femur fractures under study, 94% of the patients had been taking bisphosphonates, most for > 5 years.**
- **FDA in 2010** warned about potential side effects to label of all bisphosphonate drugs and **recommended consecutive treatment stop after five years.**
- **Bisphosphonates must be discontinued but ongoing metabolic management in the form of calcium and/or vitamin D supplements is advisable.** Teriparatide (Forteo – parathyroid recombinant) or Denosumab (Prolia, Xgeva) alternatives.

Park-Wyllie, et al. *JAMA* 2011; 305(8):783-9

Koh A, et al. *Bone Joint J* 2017;99-B:295-302

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## Calcium and Vitamin D: Fracture

- Meta-analysis by **National Osteoporosis Foundation**: eight studies (n= 30,970 participants) found that ***all studies showed calcium plus vitamin D supplementation produced a statistically significant 15 % reduced risk of total fractures and 30% reduced risk of hip fractures.***



Weaver CM, et al. *Osteoporosis Int* 2016; 27: 367–376.

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## Vitamin D in Elders

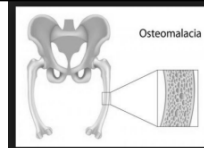
- Deficiency often **more severe** in **elders** due to environmental/biological factors.
- **Decreased synthesis of vitamin D** in skin makes it difficult to maintain adequate levels **even with sun exposure.**
- As aging advances, **intestinal resistance to 1,25(OH)2D** impairs the uptake of calcium and a **decline in renal function** reduces activation of vitamin D.



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## Osteomalacia



- In adults, vitamin D deficiency can cause osteomalacia, leading to **musculoskeletal pain in pelvis, shoulders, proximal muscles.**
- Pain increased by **mild pressure on the sternum or anterior tibial bone** are typical or suspected symptoms.
- **Vitamin D** has been shown to **positively affect muscle strength, muscle size and neuromuscular performance.**

Wintermeyer E, et al. Crucial Role of Vitamin D in the Musculoskeletal System. *Nutrients* 2016; Jun 1;8(6). pii: E319.

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## Fragility Fractures

- Fragility fractures associated with **decreased quality of life, increased disability, more frequent hospital admission and an increased risk of mortality.**
- Multimodal approach important for fall protection, **vitamin D supplementation alone, or in combination with calcium, shown to significantly reduce the risk of falling in elders.**



WHO. Nutrition for Older Persons.  
<http://www.who.int/nutrition/topics/ageing/en/index.html> Accessed January 3, 2018

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## Endocrine Society Clinical Practice Guidelines for Vitamin D

- 90 million Americans have vitamin D levels less than 20 ng/mL
- Serum 25(OH)D level used to evaluate high-risk folks
  - Insufficiency defined as 21-29 ng/mL
  - Deficiency defined as <20 ng/mL
- Maximum tolerable limits for vitamin D (*without supervision*):
  - 1,000 IU/day for infants to age 6 months
  - 1,500 IU/day for ages 6 months to 1 year
  - 2,500 IU/day ages 1 to 3 years
  - 3,000 IU/day for ages 4 to 8 years
  - 4,000 IU/day anyone older than 8 years

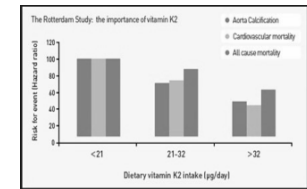
Holick MF; et al. Evaluation, treatment, and prevention of vitamin D deficiency: an Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab* 2011; 96(7):1911-30

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## Other Nutrients

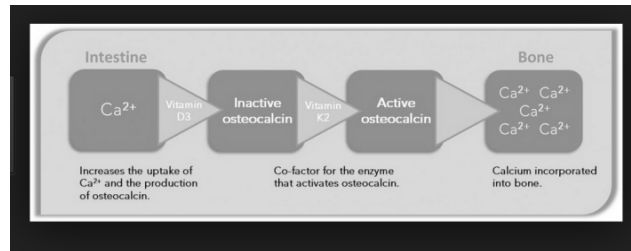
- Calcium, magnesium, vitamins D and K contribute independently and collectively to bone health.
- Beneficial role of vitamin K, particularly vitamin K2 as MK-7, in bone and cardiovascular health is reasonably well supported scientifically, with several preclinical, epidemiological, and clinical studies published over the last decade.



Karpinski M, et al. Roles of Vitamins D and K, Nutrition, and Lifestyle in Low-Energy Bone Fractures in Children and Young Adults. *J Am Coll Nutr* 2017 Jul;36(5):399-412.

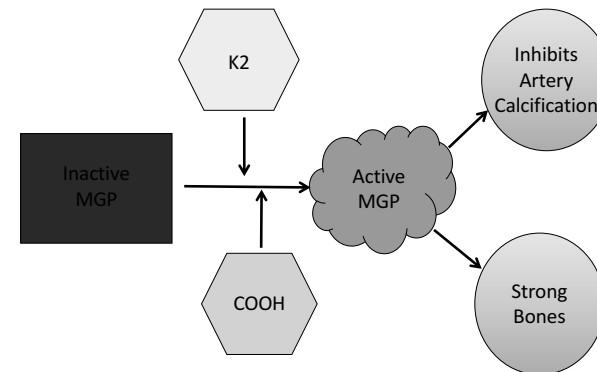
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## Exercise



- Physical activity/mechanical loading **builds peak bone mass in youth.**
- Exercise consistently shown to **prevent or reverse bone loss in the lumbar spine and femoral neck.**
- **Bone Estrogen Strength Training Study** 800 mg/d calcium citrate + structured exercise, increased muscle mass by 11-21% and BMD by ~2% in postmenopausal women.
- Review 37 studies found physical exercise has a positive impact on **muscle mass and function** in those aged 60 years and older.

Beaudart C, et al. Nutrition and physical activity in the prevention and treatment of sarcopenia: systematic review. *Osteoporosis Int* 2017 Jun;28(6):1817-1833.

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## Tai Chi



- Multiple studies show tai chi reduces the **risk of falls** in elders, post-stroke, and Parkinson's.
- Systematic review found effective for **relieving pain and improving physical function** in those with osteoarthritis.

Sun Z, et al. Effects of tai chi exercise on bone health in perimenopausal and postmenopausal women: a systematic review and meta-analysis. *Osteoporosis Int* 2016 Oct;27(10):2901-11

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## Strength and Balance Training Programs for Preventing Falls in the Elderly (NNT=11)

In summary, for at-risk elderly community dwellers who used balance and strength training:

### Benefits in NNT

- 1 in 11 at-risk elderly were helped (avoid suffering a fall over a one year period)

### Harms in NNT

- None were harmed

### Benefits in Percentage

- 91% saw no benefit
- 9% were helped by preventing a fall over a 1 year period

### Harms in Percentage

- 0% were harmed

<http://www.thennnt.com/nnt/strength-and-balance-programs-for-elderly-falls/>

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## Summary

- Maintenance of healthy bones and muscles requires a lifetime of being physically active, consuming adequate amounts of protein, calcium, vitamins D and K, magnesium, and a host of other micronutrients.
- Minimizing the risk of falls, particular as we age is a key strategy (e.g., lights in bathroom at night, removal of throw rugs, use of cane, etc.)
- Medications should be considered for those with a FRAX that indicates *high risk for fracture*.



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## CDC Guidance for Influenza 2017-18

- Caused by RNA viruses **resulting in fever/myalgia in infected people.**
- Seasonal influenza leads to **three to five million severe illness cases and around 250,000 to 500,000 deaths in the world yearly.**
- Flu viruses most common in US during **fall/winter months**, increasing in Oct/Nov, **peaking between December and February** and can last until May.
- CDC recommends **annual flu vaccine for everyone 6 months and older. Optimal timing is October** but recommend through end of January. ~2 weeks for antibodies to develop.

<https://www.cdc.gov/flu/about/season/flu-season-2017-2018.htm> Accessed January 2, 2018

Wei Te Lei, et al. *Nutrients* 2017 Nov; 9(11):1175

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## Flu Vaccine Effectiveness

- Frequent alterations in antigenic structures of respiratory viruses, pose difficulties in production of effective vaccines. Estimates range from 10% (early data from Australia) to 38% efficacy for 2017-18 flu vaccine.

2010-11	Treanor 2011	WI, MI, NY, TN	4757	60	53, 66
2011-12	Ohmit 2014	WI, MI, PA, TX, WA	4771	47	36, 56
2012-13	McLean 2014	WI, MI, PA, TX, WA	6452	49	43, 55
2013-14	Gagliardi 2016	WI, MI, PA, TX, WA	5999	52	44, 59
2014-15	Zimmerman 2016	WI, MI, PA, TX, WA	9311	19	10, 27
2015-16*	Jackson 2017	WI, MI, PA, TX, WA	6879	48*	41, 55*
2016-17**	ACIP presentation, Ferdinands [743 KB, 19 pages]	WI, MI, PA, TX, WA	7410	39**	32, 46

\*Estimate from Nov 2, 2015-April 15, 2016.

\*\*Unpublished final estimates

<https://www.cdc.gov/flu/professionals/vaccination/effectiveness-and-effect.htm>  
Accessed January 2, 2018

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## Probiotics and Prebiotics



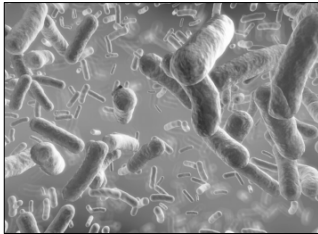
Hao Q, Dong BK, Wu T. Probiotics for preventing acute upper respiratory tract infections. *Cochrane Database Syst Rev*. 2015 Feb 3;(2):CD006895.

- Probiotics **modulate innate and adaptive immunity** in elders and **reduce duration of respiratory/flu infection in children and adults**
- Review of **12 studies** with 3720 participants including children, adults, and elders not at high risk for upper respiratory tract infection (URTI).
  - Moderate-quality evidence **shows fewer people develop URTI when taking probiotics**
  - Moderate quality evidence probiotics probably **reduces duration of a URTI by approximately 2 days.**

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## Vaccine Adjuvant



Lei WT, et al. Effect of Probiotics and Prebiotics on Immune Response to Influenza Vaccination in Adults: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Nutrients*. 2017 Oct 27;9(11).

- 20 studies found “supplementation of influenza vaccines with **probiotics or prebiotics before vaccination** increased the immunogenicity to specific influenza viral strains, including the H1N1, H3N2, and B strains.”
- **Longer duration of pre-supplementation, the greater the response.** The older the adult, the more protection offered.
- Strains most active were *L. casei*, *L. paracasei*, and *B. longum*.

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## Vitamin D and Respiratory Infection



Martineau AR, et al. Vitamin D supplementation to prevent acute respiratory tract infections: systematic review and meta-analysis of individual participant data. *BMJ* 2017; 356:e6583.

- Acute respiratory infection kills ~2.65 million people/year.
- 25 randomized controlled trials (n=10,933, aged 0-95 years).
- Vitamin D supplementation **reduced risk of acute respiratory infection among all participants and those who were vitamin D deficient experienced the most benefit (NNT=4)**

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## CDC Guidance, continued

- **Most people with the flu have mild illness and do not need medical care or antiviral drugs.** “If you get sick with flu symptoms, in most cases, you should stay home and avoid contact with other people except to get medical care.”
- Antiviral drugs can be used to treat flu illness in those at risk for serious flu complications (i.e., **children younger than 5, adults 65 and older, pregnant women, people with long-term medical conditions, residents of nursing homes/long-term care facilities**) and people who are hospitalized for flu.
- Three FDA approved antivirals: **oseltamivir (generic and Tamiflu®), zanamivir (Relenza®), and peramivir (Rapivab®).**

<https://www.cdc.gov/flu/about/season/flu-season-2017-2018.htm> Accessed January 2, 2018

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## Tamiflu Derived from Star Anise



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## Tamiflu

- In 2009, widespread concern about flu pandemic, caused billions to be spent stockpiling Tamiflu. Sales that year hit \$3 billion.
  - WHO recommends Tamiflu, but did not vet data.
  - EMA approved Tamiflu, but did not review the full Tamiflu dataset.
  - CDC and ECDC encourage the use and stockpiling of Tamiflu, but did not vet the Tamiflu data.
  - The majority of Roche's Phase III treatment trials remain unpublished over a decade after completion.
  - In 2009, scientists requested Roche to hand over data for evaluation.....

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Stocks of the antiviral drug Tamiflu at an undisclosed location in the United Kingdom.

Jefferson T, et al. *British Medical Journal* 2014; 348: g2545.

In October 2013, Cochrane reviewers received 107 full clinical study reports from Roche and GlaxoSmithKline.

- Reduction in time to **first alleviation of symptoms**: from 7 to 6.3 days compared to control group.
- **No evidence** oseltamivir **reduces hospitalizations or complications of flu: pneumonia, bronchitis, sinusitis, ear infections in adults or kids**
- In prophylaxis trials, **reduced flu-like symptoms in adults; did not prevent person-to-person spread.**
- **Increased risk of vomiting, headaches, psychiatric syndromes and a statistically significant increase in adverse kidney events.**

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## Concluding Thoughts in BMJ

- The stated intentions of governments to distribute Tamiflu to healthy people to prevent complications and interrupt transmission of influenza on the basis of a published evidence base that has been affected by reporting bias, ghost authorship, and poor methods is worrisome.
- *“We believe these findings provide reason to question the stockpiling of oseltamivir, its inclusion on the WHO list of essential drugs, and its use in clinical practice as an anti-influenza drug.”*

Jefferson T, et al. *British Medical Journal* 2014; 348: g2545.

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## 2016 Meta-Analysis Update

- Oseltamivir and zanamivir **cause small reductions in time to first alleviation of influenza symptoms in adults.**
- Oseltamivir **increases risk of nausea, vomiting, psychiatric events in adults and vomiting in children and has no protective effect on mortality among patients with H1N1 influenza.**
- **Prophylaxis with either drug may reduce symptomatic influenza in individuals and in households.**
- **The balance between benefits and harms should be considered when making decisions about use of antiviral for either prophylaxis or treatment of influenza.**

Henehan CJ, et al. *Health Technol Assess* 2016; 20(42):1-242.

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## Echinacea and Elderberry

- *Echinacea purpurea* has demonstrated strong activity against influenza virus strains.
- 473 patients with flu symptoms less than 48 hours randomized to 240 mg echinacea herb/root extract + elderberry fruit (Vogel Bioforce) or tamiflu.
- No difference between recovery rates, antibiotic use, intermediate doctor visits, use of over-the-counter medications for symptoms, “ability to return to normal daily activities,” or physician- and patient-reported efficacy of the treatments.



Raus K, et al. *Curr Ther Res*. 2015 Dec; 77: 66–72.

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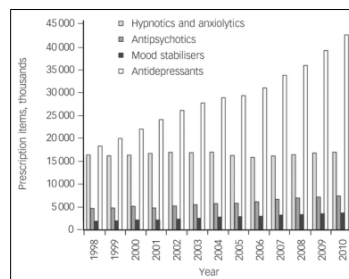
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Trends in prescriptions of major classes of psychiatric drugs 1998–2010.



Stephen Ilyas, and Joanna Moncrieff BJP  
2012;200:393-398

THE BRITISH JOURNAL  
OF PSYCHIATRY

Fournier, et al. *J-AM-A*. 2010;303(1):47-53

- **400% increase** in anti-depressant prescriptions since 1980s. Rates of anxiety/depression in adolescents and young adults **skyrocketing**.
- JAMA review: For **severe depression**, benefit of medications over placebo is **substantial**; however, magnitude of benefit may be **minimal or nonexistent**, on average, for those with **mild or moderate** symptoms.

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- 74 FDA-registered studies, 31% not published. Published literature, **94% of trials** were positive. FDA analysis showed **only 51%** were positive.
- JAMA review: The magnitude of benefit for antidepressant medication compared with placebo may be **minimal or nonexistent**, on average, in patients with **mild or moderate** symptoms.
  - For patients with very **severe depression**, the **benefit of medications over placebo is substantial**

Turner, et al. *NEJM* 2008 Jan 17;358(3):252-60

Fournier, et al. *J-AM-A*. 2010;303(1):47-53

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## Grief as Major Depression



- Last draft of DSM 5 considered diagnosis of **Major Depression** even if person is grieving immediately after the loss of a loved one.
- Many people now considered to be experiencing a variation of normal grief would have received a mental disorder diagnosis.
- How many grieving individuals would have received the diagnosis, especially once pharmaceutical companies started marketing and raising awareness?

<http://www.dsm5.org/Pages/Default.aspx>

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Oh what to do, what to doooo???

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## Many Factors at Play..... All Must be Addressed...



- Processed, **nutrient depleted** diet
- **Poor sleep** and inadequate rest
- Lack of **physical activity**
- Increased exposure to **environmental toxins**
- **Social isolation** and soul pain
- Strong focus on **image**, money, high achievement, having “stuff”
- Weaker personal and **community networks**



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## The World Today

- We strongly emphasize **biological explanation** for depression and anxiety, as evidenced by **extensive use of antidepressants and anxiolytics**.
- There remains **little** focus on **physiological, nutritional, societal, communal, familial and spiritual underpinnings**.
- “I take my Effexor and go to a **job I hate** and then home to a house full of **kids** that are **out of control** and a husband that **barely** talks to me. Is my depression better? **Yea, I guess.**”
- **Complex world**. We often have unrealistic expectations. **Isolation** is common, **financial** problems, **lack of purpose, meaning**, a sense of **despair, hopelessness** – the world has less color and texture.

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## Movement is Life.....

- **80 million** Americans 6 years and older are **entirely inactive**
- Relationship between physical activity and **cardiovascular, metabolic, neurological, immunological and bone health** well-established.
- Shown to **reduce the harmful effects of stressors** when performed at moderate intensities.
- Meta-analysis of **398 studies** consistently shows **exercise benefits mood, depression and anxiety.**

*Deslandes, et al. Neuropsychobiology 2009; 59(4):191-8*  
*Rebar AL, et al. Health Psychol Rev 2015; Mar 5:1-78*



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## Yoga

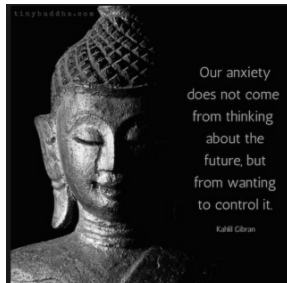
- The “**union of the divine**,” yoga practiced for thousands of years in India.
- Yoga incorporates **breathing exercises, different postures, stretches, and meditation** to help one gain **greater acceptance, compassion and centering.**
- Studies have found yoga to help **ease stress, anxiety, and pain, while improving mood.**



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## Self Soothing



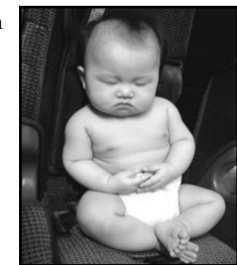
- A good way to deal with **anxiety and high stress** is to **occasionally sidestep the analytical part of your brain** by practicing **relaxation, meditation and/or using guided imagery.**

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## Meditation

- Meditation excellent for **reducing stress perception and pain intensity**, while **elevating mood.**
- Long-time meditators have greater activation of areas responsible for **sustaining attention, processing empathy, integrating emotion and cognition.**
- Review of **47 trials** found that meditation improves:
  - **Anxiety**
  - **Depression**
  - **Pain**



Goyal M, et al. *JAMA Intern Med* 2014; 174(3):357-68

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## Meditation Resources

- **Guided Mindfulness Meditation:** *A Complete Guided Mindfulness Meditation Program* from Jon Kabat-Zinn
- **Insight Timer** - ~4,000 guided meditations from more than 1,000 teachers (self-compassion, nature, stress, podcasts and more). More than 750 meditation music tracks. Free.
- **Headspace** – very good for beginners with 10 minute meditations. Free.
- **The Mindfulness App** – nice 5 day guided meditation program to get you started. Can be personalized and integrated into other health apps. Free.

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## Loneliness, Social Isolation & Your Health

- Poor social relationships associated with **29% increase in risk of heart disease** and **32% increased risk of stroke**.
- **148 studies** on the effects of social isolation on health found it is:
  - As bad as **smoking** 15 cigarettes a day
  - As dangerous as being an **alcoholic**
  - As harmful as **never exercising**
  - Twice as dangerous as being **obese**



- Valtorta NK, et al Loneliness and social isolation as risk factors for coronary heart disease and stroke: systematic review and meta-analysis of longitudinal observational studies. *Heart*. 2016 Jul 1;102(13):1009-16.
- Cacioppo JT, et al. *Ann N Y Acad Sci* 2011; 1231:17-22

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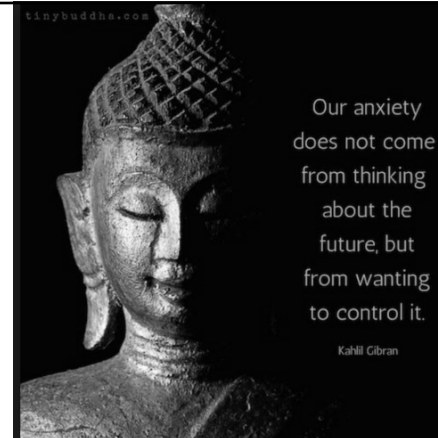
*Call it a clan, call it a network, call it a tribe, call it a family.  
Whatever you call it, whoever you are, you need one.*

*~ Jane Howard*



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Our anxiety  
does not come  
from thinking  
about the  
future, but  
from wanting  
to control it.

Kahlil Gibran

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1. **Move more.** Whether it's the 7 minute workout, cycling, yoga, or taking long walks - one of the surest ways to maintain heart, brain, bone and muscle health is daily exercise. It's not optional. ***Just do it.***
2. Eat food. Minimally processed, **low glycemic load**, diverse, and largely **plant based** diet. **Organic, local, and/or humanely raised** when possible,
3. **Meditate.** Meditation widens the gap between trigger and response, allowing you to feel a greater calm and awareness. It's a **game changer** for almost anyone.
4. **Stay connected.** Social isolation and loneliness is as dangerous as being an alcoholic or being obese. **Invest in your friends and family.**
5. **Take a multi.** Many lack when it comes to key micronutrients. A food based multi can be insurance against the gaps. **Age and gender** appropriate.
6. Be tech smart. Technology makes life easier and more complex. Use **blue light blocking glasses** at night, make one day each week **tech free** or tech "light", and **limit work email in the evening.**
7. **Nurture spirit.** The search for meaning and purpose is a fundamental part of being human. A **richly nourished inner life** is a source of strength during hard times. **Look inward. Honor mystery.**

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