



## Women's Health

Tieraona Low Dog, MD

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

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## Self Reflection

- How would you feel you are doing when it comes to:
  - Managing your stress
  - Nourishing your relationships
  - Creating space for relaxation
  - Getting regular physical activity
  - Going for preventive/early detection visits
  - Eating healthy food regularly
  - Positive self-talk
  - Feeling good about your body



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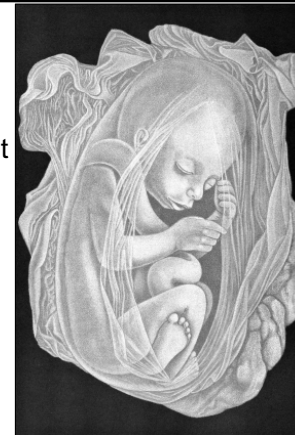


- Women's health is a state of well-being in which a woman feels creative, strong and wise.
- Her innate healing power is vital and intact.
- She feels valued and heard.
- She is free to choose and decide; she honors her own rhythms and journey.

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## The First Environment



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### Royal College of Obstetrics and Gynecologists 2013

1. Use **fresh food** rather than processed food
2. Reduce use of foods/beverages in **cans/plastic containers**, including for food storage
3. Minimize use of **personal care products** such as moisturizers, cosmetics, shower gels and fragrances
4. **Minimize purchase of newly produced** household furniture, fabrics, non-stick frying pans and cars whilst pregnant/nursing
5. Avoid the use of **garden/household/pet pesticides or fungicides** (such as fly sprays or strips, rose sprays, flea powders)
6. Avoid **paint fumes**
7. Only take **OTC analgesics or painkillers** when necessary
8. Do not assume safety of products based on the absence of 'harmful' chemicals in their ingredients list, or the tag 'natural' (herbal or otherwise)

<http://www.rcog.org.uk/files/rcog-2013/5.6.13ChemicalExposures.pdf>

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### Nutrient Deficiencies Pregnancy

- High frequencies of **vitamin E (52 %), magnesium (38 %), iron (57 %) and vitamin D (77 %) deficiency** and **suboptimal intakes of choline (95 %) and vitamin K (99 %)** in pregnant women attending Boston urban clinics.
- You need to have folic acid on board MONTHS before conception. Consider taking a prenatal with *methylfolate*.
- Make sure you are taking 600-1000 IU vitamin D3 and getting adequate calcium and magnesium.

Brunst KJ, et al. *Public Health Nutr* 2014; 17(9):1960-70.



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- Iron deficiency most common nutrient deficiency in world, affecting ~2 billion people.

- Iron deficiency anemia accounts for 20% of all global maternal deaths. **If mother is anemic, increases risk baby born prematurely with lower birth weight and poor neurocognitive development.**

- Low iron levels *are most common cause of anemia* in adolescent girls and is very detrimental to *mood and cognition*, as well as *physical well-being*.

### Iron



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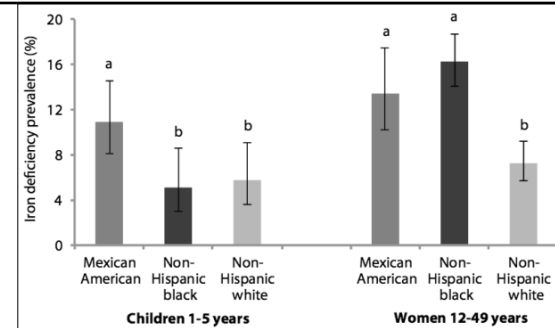


Figure H.3.a. Age-adjusted prevalence estimates of low body iron stores (<0 mg/kg) in U.S. children and women by race/ethnicity, National Health and Nutrition Examination Survey, 2003-2006.

Error bars represent 95% of confidence intervals. Bars are not sharing a common letter differ within children and women ( $p < 0.05$ ). Age adjustment was done using direct standardization.

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Recommended dietary allowances for iron for infants, children, and adult women

Age	Infants and children	Women	Pregnant	Breastfeeding
7 to 12 months	11 mg	n/a	n/a	n/a
1 to 3 years	7 mg	n/a	n/a	n/a
4 to 8 years	10 mg	n/a	n/a	n/a
9 to 13 years	8 mg	n/a	n/a	n/a
14 to 18 years	n/a	15 mg	27 mg	10mg
19 to 50 years	n/a	18 mg	27 mg	9 mg
51+ years	n/a	8 mg	n/a	n/a

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## To Get 18mg of Iron in Food

- 4 cups of raisins
- 3-5 cups instant oatmeal
- 3 cups Special K cereal\*\*
- 3 cups cooked lentils
- 2.2 cups canned white beans
- 10 ounce beef liver
- 45 ounce chicken breasts
- 15 cups broccoli OR
- 3 cups cooked spinach



Non heme iron absorption is 2- to 3-fold higher with co-ingestion of 25 to 75 mg of vitamin C

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Journal of the American College of Nutrition



Product Used was Mega Food Blood Builder

ISSN: 0731-5724 (Print) 1541-1087 (Online) journal homepage: <http://www.tandfonline.com/loi/uacn20>

### A Food-Derived Dietary Supplement Containing a Low Dose of Iron Improved Markers of Iron Status Among Nonanemic Iron-Deficient Women

Christopher R. D'Adamo, James S. Novick, Termeh M. Feinberg, Valerie J. Dawson & Larry E. Miller

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To link to this article: <https://doi.org/10.1080/07315724.2018.1427158>

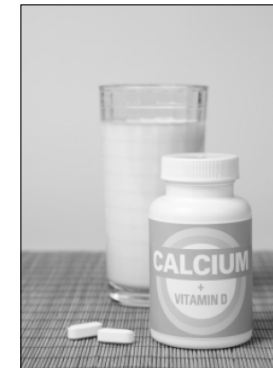
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## Calcium in Pregnancy

- Cochrane review: calcium supplementation *roughly halves risk of pre-eclampsia* and reduces risk of *preterm birth and gestational HTN* by roughly 35% compared to placebo.
- 1.0 – 1.5 grams/d calcium for those with low intake (taken in divided doses)

Hofmeyr GJ, et al. *Cochrane Database Syst Rev*. 2010 Aug 4;(8):CD001059.

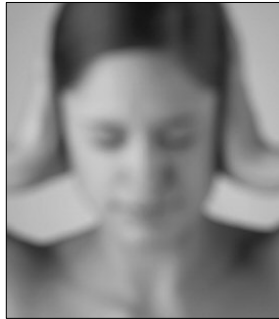
Hofmeyr GJ, et al. *BJOG*. 2014 Mar 13. doi: 10.1111/1471-0528.



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## Calcium and PMS



Multiple clinical studies show **500-600 mg of calcium 1-2 times per day** is effective for reducing many PMS symptoms.

*Shohrier F, et al. Effect of calcium on premenstrual syndrome: A double-blind randomized clinical trial. Obstet Gynecol Sci. 2017 Jan;60(1):100-105.*

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Research

**Maternal choline supplementation during the third trimester of pregnancy improves infant information processing speed: a randomized, double-blind, controlled feeding study**

Marie A. Caudill, Barbara J. Strupp, Laura Muscalu, Julie E. H. Nevins, and Richard L. Canfield

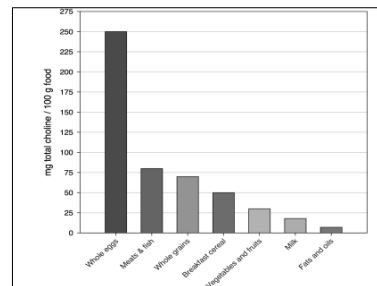
Published Online: 29 Mar 2018 | <https://doi.org/10.1096/fj.201700692RR>

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## Choline

- Choline critical during **fetal development**, influencing mood regulation, cognitive development, stress regulation and lifelong memory function.
- 8-10% of adults or pregnant women meet adequate intake. Those eating eggs had highest levels.
- Look for prenatal with **200-300 mg**.

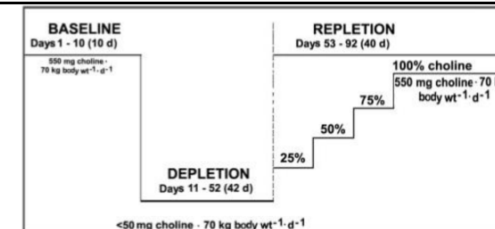
Blusztajn JK, et al. Neuroprotective actions of dietary choline. *Nutrients* 2017; Jul 28;9(8). pii: E815.



Choline in Foods: <http://nalda.nal.usda.gov/download/47335/PDF>

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- 57 healthy adults fed choline-deficient diets under controlled conditions.
- Results: 77% of men, 80% of postmenopausal women, and 44% of premenopausal women developed fatty liver, liver damage, and/or muscle damage.
- Dysfunction corrected when choline was reintroduced into diet.

Fischer LM, et al. *Am J Clin Nutr*. 2007;85(5):1275-1285.

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## Iodine in Pregnancy

- Many reproductive aged women in US have marginal iodine status; **salt in processed foods is not iodized.**
- Deficiency associated with **pregnancy loss and prematurity, and neurocognitive defects in baby.**
- Iodine deficiency now accepted as the most common cause of **preventable brain damage** in the world.
- Mild to moderate iodine deficiency associated with higher incidence of **ADHD** and **lower IQ** in the baby.
- American Thyroid Association recommends pregnant/lactating women supplement: **150 mcg/d potassium iodide.**



Council on Environmental Health, et al. *Pediatrics* 2014; 133(6):1163-6  
Perrine CG, et al. NHANES data: Some subgroups of reproductive age women in the United States may be at risk for iodine deficiency. *J Nutr* 2010; 140:1489-1494, 2010. PMID: 20554905

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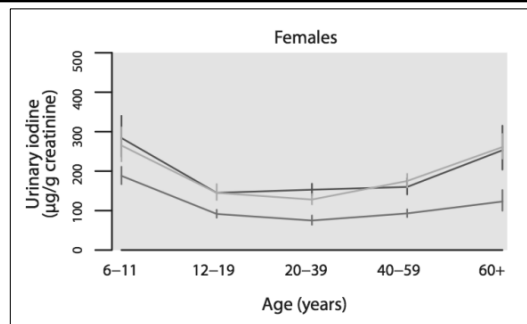
## Iodine Intake Pregnancy and Breastfeeding

- Data from National Health and Nutrition Examination Survey 2011-2014 found that the **use of iodine containing dietary supplements among pregnant and lactating women remains low** in contrast with current recommendations.
  - Among **pregnant** women, 72.2% used any dietary supplement; however, **only 17.8% used a dietary supplement with iodine.**
  - Among **lactating** women, 75.0% used a dietary supplement; however, **only 19.0% used a dietary supplement with iodine.**

Gupta PM, et al. Use of Iodine-Containing Dietary Supplements Remains Low among Women of Reproductive Age in the United States: NHANES 2011-2014. *Nutrients* 2018 Mar 29;10(4). pii: E422

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— Mexican Americans  
- - Non-Hispanic Blacks  
... Non-Hispanic Whites  
- . - Whites

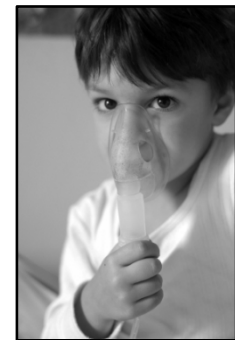
CDC 2<sup>nd</sup> National Report on Biochemical Indicators of Diet And Nutrition. The WHO recommends that the median UI in pregnancy be 150-249 mcg/L.

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## Omega 3 and Asthma

- Critical for **neurological and early visual development**, particularly in 3<sup>rd</sup> trimester and first three years of life.
- Reduced intake of omega-3 fatty acids may be contributing factor to increasing prevalence of wheezing disorders/asthma.
- **Supplementation with omega-3 fatty acids in third trimester of pregnancy reduced the absolute risk of persistent wheeze or asthma and infections of the lower respiratory tract in offspring by approximately 33%.**



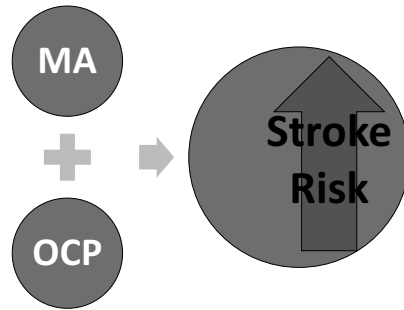
Bisgaard H, et al. *N Engl J Med* 2016; 375(26):2530-9

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## Migraine, OCPs, and Stroke



IHS: low-dose estrogen in women with simple visual aura

ACOG: progestin only, intrauterine or barrier contraception

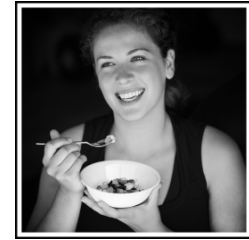
WHO: absolute contraindication in all women with aura

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## Vitamin B6 (Pyroxidal-5-Phosphate)

- Involved in production of **serotonin, dopamine, melatonin, hemoglobin, protein metabolism, energy production**, and more.
- Deficiency: **depression; impaired cognition, attention, memory, and sleep.** Increased risk **heart disease, stroke and colorectal cancer.**
- OTC analgesics and **OCPs lower B6 levels.**
- 30 MILLION Americans** are deficient in B6. **Seldom ever tested.** Research shows **~6 mg/d** to maintain normal serum level.

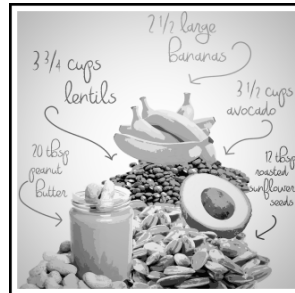


Larson SC, et al. *JAMA* 2010; 303(11):1077-83  
Morris MS, et al. *Am J Clin Nutr* 2008; 87(5):1446-54  
Ulvik A, et al. *Am J Clin Nutr* 2014; 100(1):250-5

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## To Get JUST 1.5 mg B6 in Food

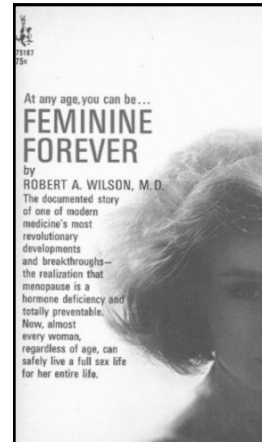
- 2.5 bananas
- 12 Tbsp. roasted sunflower seeds
- 8 ounces chicken breast
- 8 ounces sockeye salmon
- 3.5 cups raw diced avocado
- 3 cups sweet potatoes
- 15 cups of milk **OR**
- 20 Tbsp. peanut butter



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## Menopause

- Menopause medicalized since 1930s as a **“deficiency disease,”** recommendation of hormone **replacement therapy.**
- Keeping women **“feminine forever”** was the claim, along with 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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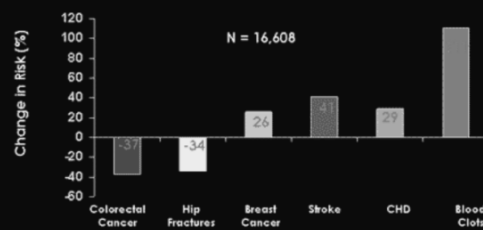
## Menopause: The Disease



- Even when no longer considered a disease, positioned as gateway to disaster - **thinning of skin, sagging of breasts, brittling of bones, loss of sexuality, fogging of mind, heart disease.**
- Hormones were answer until WHI in 2001 abruptly stopped due to **increased incidence of breast cancer and blood clots** in women taking Premarin and Provera.

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### Women's Health Initiative (WHI) Estrogen-Progestin Therapy (EPT) Arm Findings (2002)



Writing Group for the Women's Health Initiative Investigators. JAMA. 2002;288:321-333.

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## Menopause Symptoms

- Classic symptoms:
  - Change in menstrual cycle pattern and decline in fertility
  - Hot flashes and night sweats
  - Vulvovaginal symptoms, lower libido, painful intercourse
  - Sleep disturbances
- Other symptoms *sometimes* associated with menopause:
  - Cognitive (memory, concentration)
  - Urinary frequency, incontinence
  - Psychological symptoms (depression, anxiety, moodiness)
  - Dry eye, joint/muscle pain, fatigue, weight gain, dental changes

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## Current Recommendations for Menopause



- For women with **moderate to severe vasomotor symptoms**, depending on individual risk, and patient's willingness to accept risk, use the **lowest dose of estrogen (with progesterone, if uterus intact)** effective for the shortest amount of time possible.

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## Hormone Route and Type

- **Transdermal estrogen** has least effect on lipids as it avoids first pass effect on the liver, **permitting lower doses to be used with equal efficacy.**
- **Estrogen alone does not increase risk of breast cancer.**
- **Natural progesterone** is associated with **less risk of breast cancer and blood clots** compared to synthetic progestogens.
- If symptoms are primarily **urinary and/or vaginal**, vaginal estrogen can be used with **minimal systemic absorption.**

Bhupathiraju SN, et al. *Endocr Pract* 2014; 20:1201-13

L-Hermite M. *Climacteric*. 2013 Aug;16 Suppl 1:44-53.

Hale GE, et al. *Trends Cardiovasc Med* 2015; 25(6):540-9

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## Current “Best” Recommendations

- Transdermal estrogen: less impact on lipids, less impact on clotting
  - Estrogen alone NOT associated with increased risk of breast cancer.
- Natural progesterone associated with lower risk of breast cancer and clots, when compared to synthetic progestogens. Take at bedtime.
- Genitourinary symptoms controlled locally with little systemic absorption.

Bhupathiraju SN, et al. *Endocr Pract* 2014; 20:1201-13; L-Hermite M. *Climacteric*. 2013 Aug;16 Suppl 1:44-53.

Hale GE, et al. *Trends Cardiovasc Med* 2015; 25(6):540-9

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## Bioidentical Hormones

- **Compounded bioidentical hormones** not FDA regulated
- Many **FDA approved prescriptions contain bioidentical hormones**
  - Estrace (vaginal and oral)
  - Climara
  - Estraderm
  - Estragel
  - Estrasorb
  - Estring
  - Femring
  - Vagifem
  - Prometrium



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## Salivary Testing



- NAMS – **does not recommend saliva testing** to determine hormone levels
- Endocrine Society – “**salivary hormone tests are inaccurate** and should not be considered reliable measures of hormones in the body.”
- ACOG - **No biologically meaningful relationship** between salivary sex steroidal hormone concentrations and free serum hormone levels. Salivary hormone levels vary with diet, time of day, and other variables
- Just no real reason to have salivary estrogen/progesterone done

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## Genitourinary Syndrome of Menopause

- Dryness, burning, irritation; lack of lubrication, discomfort or pain, with intercourse; and urinary symptoms of urgency, dysuria and recurrent urinary tract infections.
- **Vaginal estrogen** can be continued as long as needed to relieve symptoms and considered when systemic estrogen is contraindicated.
- **Vaginal lubricants and moisturizers** can be used alone or in conjunction with vaginal estrogen. Osmolality of personal lubricant **not to exceed 380 mOsm/kg** and pH should be 3.8-4.5

Neves-e-Castro M, et al. EMAS position statement. *Maturitas* 2015; 81(1): 88-92

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Commonly used personal lubricants available world-wide. Certified organic ingredients are in bold.

Name	Ingredients	pH	Osmolality (mOsm/kg)
<b>Moisturizers</b>			
Canesintina Intimate Moisturiser	aqua, glycerin, glyceryl polymethacrylate, capryloyl glycolic acid, sorbitol, acrylates/C10-30 alkyl acrylate crosspolymer, 5.63	846 <sup>b</sup>	
Gynomunal Vaginal Moisturizing Gel	sodium hyaluronate, sodium benzoate, sodium hydroxide, galacturonic acid, butylene glycol/Canella japonica leaf/flower extract, tetrasodium EDTA, p-aminic acid, levulinic acid	8	>2000 <sup>b</sup>
Hyalofemme Vaginal Hydrating Gel	hyaluronic acid (hyaluronic acid derivative), propylene glycol, carbomer, methyl p-hydroxybenzoate, propyl p-hydroxybenzoate, sodium hydroxide, purified water	4.88	1729 <sup>b</sup>
Regelle Long-Lasting Vaginal Moisturizer	purified water, polyacrylamide, glycerol, mineral oil, hydrogenated palm oil glycerides, carbopol 974F, sorbic acid	2.88	2012 <sup>b</sup>
Replens MD Long-Lasting Vaginal Moisturizer	purified water Ph. Eur. 78.64% w/w, glycerin, mineral oil, polyacrylamide, carbomer homopolymer type B, 2.95	2011 <sup>b</sup>	
Silk Natural Intimate Moisturizer	water, extracts of kiwifruit plant and citrus seed, xanthan gum, vegetable glycerin, citric acid, potassium sorbate, 4.47	877 <sup>b</sup>	
Yes Vaginal Moisturiser <sup>†</sup>	aqua, <b><i>Aloe barbadensis</i> leaf juice, guar gum, locust bean gum, flax seed extract</b> , xanthan gum, sodium chloride, 4.15	250	
<b>Lubricants</b>			
Aureglide Gel	purified water, glycerin, hydroxyethylcellulose, chlorhexidine gluconate, methylparaben, glucose delta lactone, 4.38	6100 <sup>b,c</sup>	
Aureglide Ultra Gentle Sensitive Skin Lubricant	purified water, xylitol, hydroxyethylcellulose, <b><i>Aloe barbadensis</i> leaf juice</b> , pectin, Chamomilla recutita (Matricaria) flower extract, phenoxyethanol	4.56	945 <sup>b</sup>
Balance Activ Menopause Vaginal Moisturizing Lubricant	phosphate-buffered saline, sodium hyaluronate (hyaluronic acid), phenoxyethanol, methylparaben	5.64	309

Table From: Edwards D. et al. *i2016; 19(2):151-61*

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Sass Intimate Dryness Gel	aqua, glycerin, butylene glycol, ammonium acryloyldimethyl taurate, VP copolymer, panthenol, xylitol/gluconide, 4.99	>2000 <sup>b</sup>
Simply Slick Personal Lubricating Lotion	anhydroxytol, PEG-40 hydrogenated castor oil, allantoin, sodium benzoate, xylitol, <b><i>Aloe barbadensis</i> leaf juice</b> , potassium sorbate, parum, disodium EDTA	6.68
System Jo Personal Lubricant	castor oil, purified water, jojoba oil, vegetable glycerin, pectin, <b><i>Stevia</i></b> , optiflo H370VF	>2000 <sup>b</sup>
Yes But Anal Lubricant	water (aqua), <b>locust bean gum, <i>Aloe barbadensis</i> leaf juice, Euterpe oleracea (Acai) pulp powder</b> , xanthan gum, 5.86	61
Yes Baby Sperm-Friendly Lubricant	<b>citrus extract</b> , aqua, <b><i>Aloe barbadensis</i> leaf juice, guar gum, locust bean gum</b> , xanthan gum, honeysuckle flower extract, sodium chloride, citric acid, sodium hydroxide	7.78
Yes Baby Vaginal-Friendly Lubricant	aqua, <b><i>Aloe barbadensis</i> leaf juice, guar gum, locust bean gum</b> , xanthan gum, honeysuckle flower extract, sodium chloride, citric acid, sodium hydroxide	7.65
Yes Water-Based Intimate Lubricant	aqua, <b><i>Aloe barbadensis</i> leaf juice, flax seed extract, guar gum, locust bean gum</b> , xanthan gum, sodium chloride, potassium sorbate, citric acid, phenoxyethanol	4.22

<sup>a</sup> Values are outside the normal vaginal pH range of 3.8-4.533;

<sup>b</sup> values represent hypo-osmolar (<32 mOsm/kg) or hyperosmolar preparations that exceed the ideal osmolality threshold of 380 mOsm/kg recommended by the World Health Organization for a personal lubricant (most of which also exceed the real-world recommended threshold of 1200 mOsm/kg[3]), and which therefore have the potential to cause irritation and/or damage to vaginal or rectal mucosa;

<sup>c</sup> osmolality value taken from Weist 2012[6];

<sup>d</sup> matches rectal pH (~7.0) and osmolality;

<sup>e</sup> matches semen pH and osmolality;

Table From: Edwards D. et al. *Climacteric* 2016; 19(2):151-61

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## Soy and Hot Flashes



- Meta-analysis: **soy isoflavones** (median, 54 mg) significantly reduced **frequency of hot flashes by 20.6% and severity by 26.2%** ( $P = 0.001$ ) compared with placebo.
- **Isoflavone supplements providing > 18.8 mg of genistein twice as potent** as lower doses.

Taku K, et al. *Menopause*. 2012 Jul;19(7):776-90. , Thomas AJ, et al. *Maturitas* 2014; 78(4):263-76. Position Statement NAMS: *Menopause* 2015 Nov; 22(11):1155-72

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Jarrow Formulas

### Iso Rich Soy 32SVNGS (892 Grams Powder) Supplement Facts

SUPPLEMENT FACTS

Serving Per Container: 31

Protein	25 Gm	N/A*
Calcium	29 Mg	4%
Iron	4 Mg	25%
Isoflavones	54 Mg	N/A*
GENISTEIN/GENISTIN	28 Mg	N/A*
DAIDZEIN/DAIDZIN	23 Mg	N/A*
GLYCITIN/GLYCITIN	5 Mg	N/A*
Saponins	200 Mg	N/A*

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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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## RESEARCH\* AND TRADITIONAL USE

- **Soy isoflavones\*** reduce severity and frequency of hot flashes
- **Black cohosh\*** never traditionally used for menopause, best studies negative
- **Kava\*** is effective for anxiety.
- **St John's wort\*** for hot flashes, moodiness, etc.\*\*
- **Maca\*** for sexual dysfunction and low libido
- **Siberian rhubarb\*** for hot flashes
- **Ginseng\*** for quality of life

\*\*Note:: watch for drug interactions

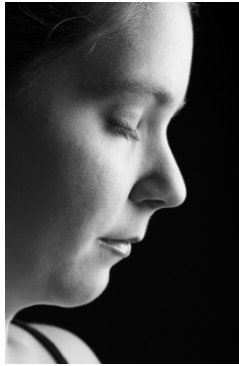


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## Hypnosis

- 187 menopausal women with **minimum of 7 hot flashes/d** randomized to 5 weekly hypnosis sessions or structured control.
- **At 12 weeks:** mean reduction in physiologically monitored **hot flashes 5.92 (57%)** for clinical hypnosis and 0.88 (10%) for controls.
- Significant improvement in **sleep quality and treatment satisfaction** compared to controls.

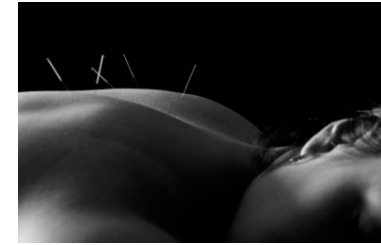


Elkins GR, et al. Menopause 2013; 20(3):291-8

*Victoria Low Dog, M.D.*

## Acupuncture

- Numerous studies found **acupuncture beneficial for relieving hot flashes and improving quality of life.**
- Review and meta-analysis of 31 RCTs found **acupuncture significantly reduces sleep disturbances during menopause.**



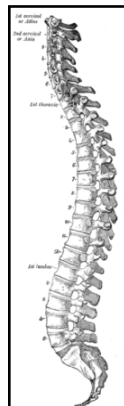
Chiu HY, et al. Obstet Gynecol 2016; 127(3): 507-15

*Victoria Low Dog, M.D.*

## Osteoporosis

- Literally "**porous bones**," characterized by **low bone mass and structural deterioration of bone tissue**, with an 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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## 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

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

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## Vitamin D: Bones and Balance

- Low vitamin D increases risk of **falls and gait instability**. Exercise, calcium and vitamin D supplementation all decrease falling in elders.
- Meta-analysis National Osteoporosis Foundation: **calcium plus vitamin D supplementation produced a significant 15 % reduced risk total fractures and 30% reduced risk hip fracture.**



Tricco AC, et al. Comparisons of Interventions for Preventing Falls in Older Adults: A Systematic Review and Meta-analysis. *JAMA* 2017; Nov 7;318(17):1687-1699.

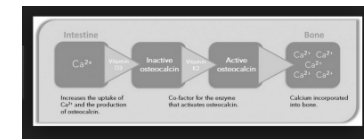
Weaver CM. Calcium plus vitamin D supplementation and risk of fractures: an updated meta-analysis from the National Osteoporosis Foundation. *Osteoporosis Int* 2016 Jan;27(1):367-76

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## Other Nutrients

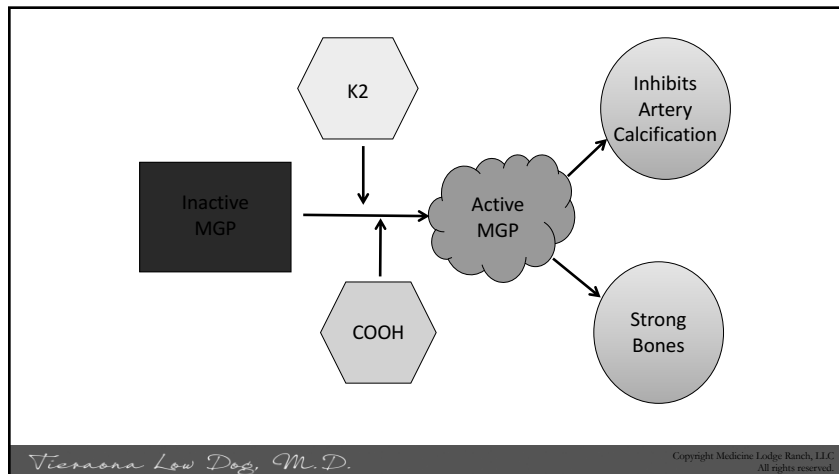
- **Calcium, magnesium, vitamins D and K** contribute independently and collectively to bone health.
- Beneficial role of vitamin K, particularly **vitamin K2 as MK-7**, in **bone and cardiovascular health** reasonably well supported **scientifically**, with several preclinical, epidemiological, and 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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## 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. *Osteoporos 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

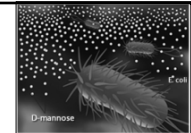
- 0% were harmed

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

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## D-mannose for Recurrent UTI



- After antibiotic treatment for acute cystitis, **308 women with history of recurrent UTI randomized to one of three groups:**
  - 2 g/d mannose powder in 200 ml water
  - 50 mg/d nitrofurantoin
  - No prophylaxis
- ~15% recurrent in D-mannose, 20% in nitrofurantoin and 61% no treatment group.

Kranjec B, et al. *World J Urol* 2014; 32(1):79-84

*Vianna Low Dog, M.D.*

the Vitamin Shoppe

**Cranberry With D-Mannose (60 Veggie Caps) Supplement Facts**

## SUPPLEMENT FACTS

Serving Size: 2 VEGGIE CAPS

Serving Per Container: 30

	Amount Per Serving	% Daily Value
Vitamin C - (As Ascorbic Acid)	60 Mg	100%
D-Mannose	1,000 Mg	N/A*
CRANBERRY (CRANBERRY CONCENTRATE)	400 Mg	N/A*

## Now Foods

**D-Mannose (3 Ounces Powder) Supplement Facts**

## SUPPLEMENT FACTS

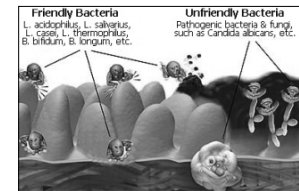
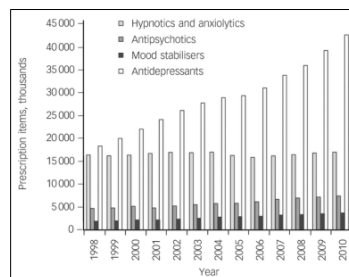
Serving Size: 1 LEVEL TEASPOON (2 G)

Serving Per Container: 60

	Amount Per Serving	% Daily Value
CALORIES	10	N/A*
TOTAL CARBOHYDRATE	2 Gm	1%
SUGARS	2 Gm	N/A*
D-MANNULOSE	2,000 Mg	N/A*

*Viviana Low Dog, M.D.***Make Friends with Your Microbes!**

- Go to [usprobiotics.com](http://usprobiotics.com) to determine what products have been studied.
- Gastrointestinal
  - Reduce symptoms of irritable bowel syndrome
  - Reduce incidence of antibiotic associated diarrhea
- Genito-urinary
  - Reduce the risk of recurrent bladder infections
  - Help reduce recurrent yeast infections
- Pregnancy
  - Reduce allergies and eczema in high risk children, especially if born by Cesarean section, if taken last 2 months of pregnancy.

Grin PM, et al. *Can J Urol* 2013 Feb;20(1):6607-14; Ford AC, et al. *Am J Gastroenterol* 2014; 109(10):1547-1561*Viviana Low Dog, M.D.*Copyright Medicine Lodge Ranch, LLC  
All rights reserved.**Trends in prescriptions of major classes of psychiatric drugs 1998–2010.**Stephen Ilyas, and Joanna Moncrieff BJP  
2012;200:393-398THE BRITISH JOURNAL  
OF PSYCHIATRYFournier, et al. *JAMA*. 2010;303(1):47-53*Viviana Low Dog, M.D.*

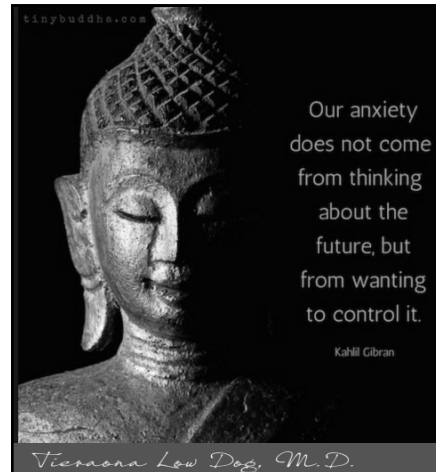
- **400% increase** in anti-depressant prescriptions since 1980s. Rates of anxiety/depression in adolescents and young adults **skyrocketing**.
- JAMA review: For **severe depression**, benefit of medications over placebo is **substantial**; however, magnitude of benefit may be **minimal or nonexistent**,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

**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.

*Viviana Low Dog, M.D.*

Are you  
breathing  
just a little  
and calling  
it a life?



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

Kahlil Gibran

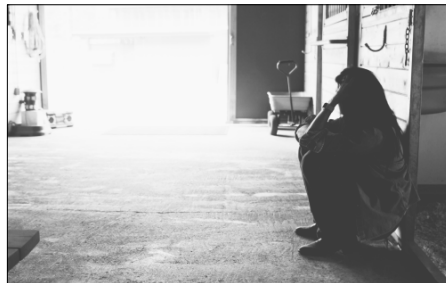
### Self Soothing

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.**

*Vicronna Low Dog, M.D.*

"But until a person can say deeply and honestly, *"I am what I am today because of the choices I made yesterday,"* that person cannot say, *"I choose otherwise."*

Stephen Covey



*Vicronna Low Dog, M.D.*

*The privilege of a lifetime is being who you are.*

Joseph Campbell



*Vicronna Low Dog, M.D.*





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 women lack when it comes to 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.**

*Tiara Low Dog, M.D.*

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