



Culinary Medicine for Women's Health

Anne Kennard, DO, FACOG, FACLM diplABOIM

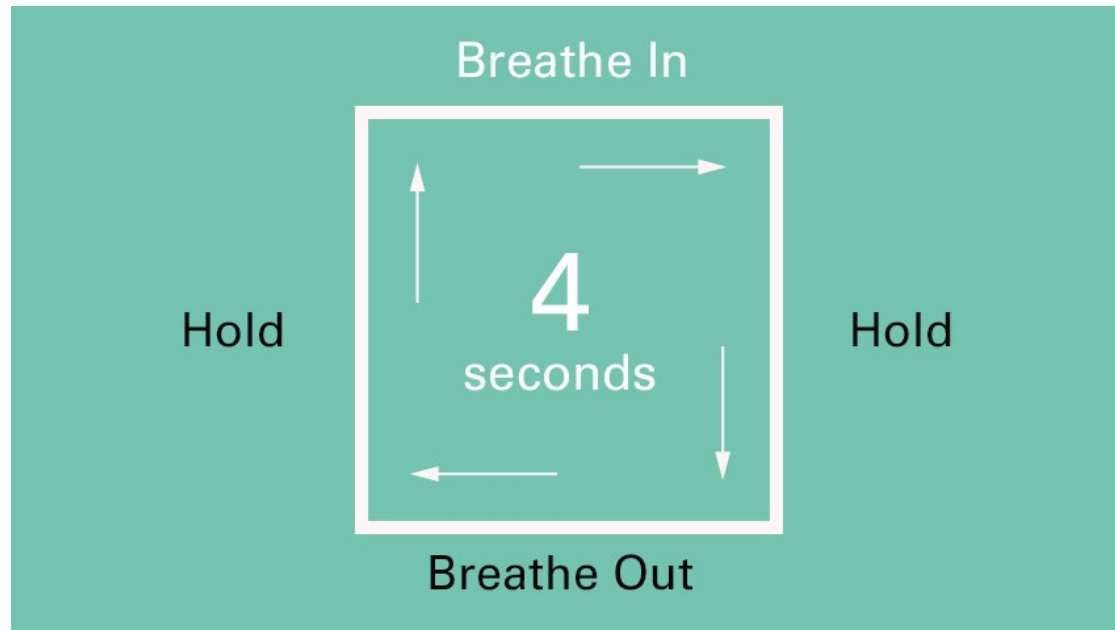
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Disclosures

- Advisory Board, Trelli Health
- Claims and advocacy, Nutrafol
- Faculty, Academic of Pediatric Integrative Medicine



Objectives

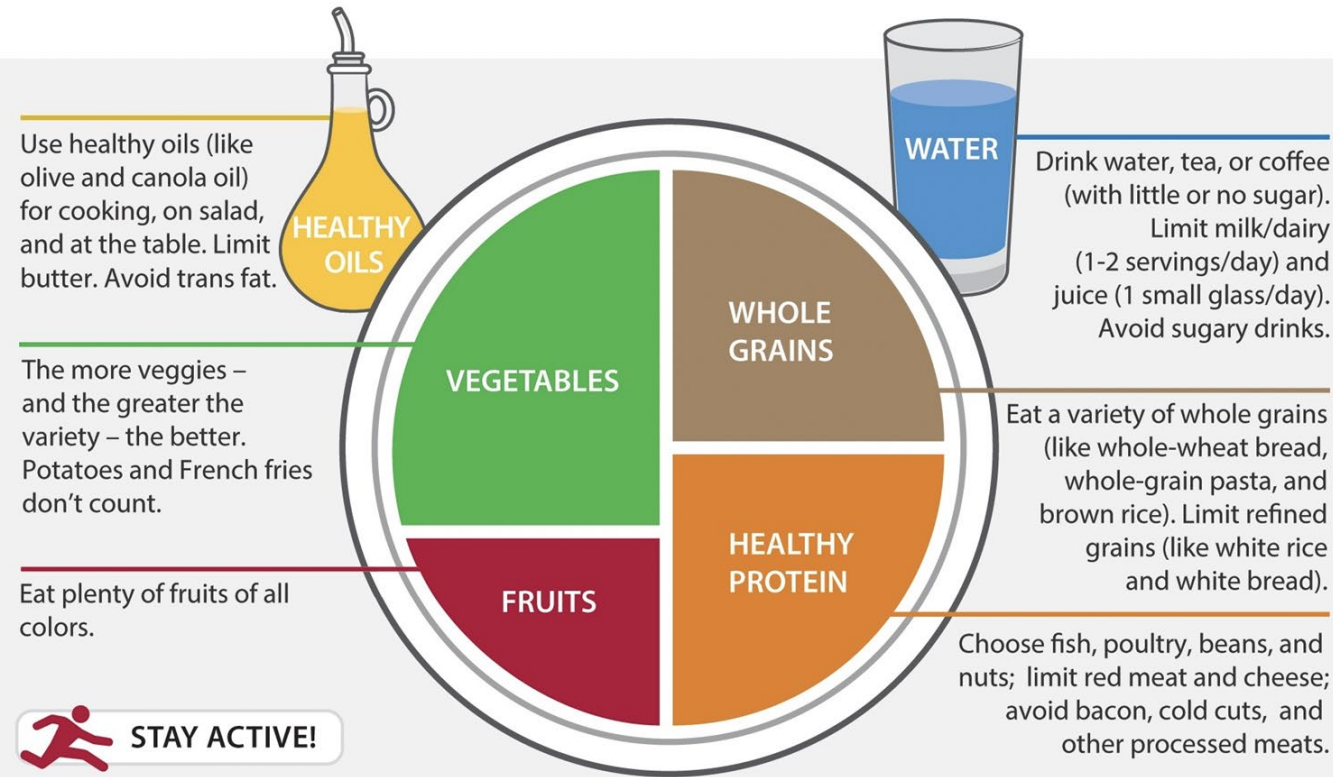
- Discuss nutrition recommendations for pregnancy and postpartum
- Identify dietary interventions in the treatment of PCOS, menopausal symptoms, leiomyoma, and endometriosis
- Discuss the microbiome in regards to women's health considerations
- Gain awareness of nutritional considerations for osteoporosis, cardiovascular disease, and cancer

Standard American Diet

- 63% of calories come from refined and processed foods
- 25% from animal foods
- 12% from plant based foods



HEALTHY EATING PLATE



STAY ACTIVE!

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DIETARY SPECTRUM



THE AMERICAN COLLEGE OF LIFESTYLE MEDICINE DIETARY POSITION STATEMENT

ACLM recommends an eating plan based predominantly on a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts and seeds.

WHAT AMERICA EATS



Increased risk for Obesity, T2Diabetes, Heart Disease, and some Cancers

Poor nutrition is the leading cause of death globally.

Increase whole plant foods, fruits, vegetables, whole grains, beans, legumes, nuts, seeds, water

Decrease sweets and snacks, fast food, fried foods, refined grains, refined sugar, meat, dairy, eggs, poultry, high sodium foods

WHOLE FOOD PLANT-BASED EATING PLAN



Decreased risk for Obesity, T2Diabetes, Heart Disease, and some Cancers

Chronic disease treatment and potential reversal



TIPS FOR IMPROVED NUTRITION AND HEALTH

- Any movement toward WFPB eating is positive
- More movement toward a WFPB eating plan increases impact
- Tailored and sustainable approaches are recommended

What We Eat in America (WWEIA) Food Category analyses for the 2015 Dietary Guidelines Advisory Committee. Estimates based on day 1 dietary recalls from WWEIA, NHANES 2009 2010.

Tuso PJ, Ismail MH, Ha BP, Bartolotto C. Nutritional update for physicians: plant-based diets. Perm J. 2013;17(2):61-66.

Food Planet Health. Eatforum.org. Published 2020. Accessed June 4, 2020

Culinary Medicine

- **Appeal**
- Making healthy things taste amazing
- Approachable and affordable
- The medicine of plants
 - Polyphenols, vitamins, minerals, fiber, micronutrients
 - Ellagic acid, EGCG, theobromine, resveratrol, curcumin, indole-3-carbinols...



Hawaiian-style Chocolate Bark

- 8 oz dark chocolate (at least 70%)
- 2 oz chopped mac nuts
- 1 oz toasted coconut flakes
- 1 oz dried mango
- 2 tsp avocado oil
- Sea salt, to taste

Melt the dark chocolate in the microwave or double boiler, stirring frequently. Add the oil. Spread approx. ¼" thick on a parchment paper. Add the nuts and fruit on top. Sprinkle with sea salt.



Premenopausal GYN Concerns

PCOS: Low Glycemic Index Diet

- Decreased endometrial cancer risk (Atiomo et al, 2009)
- Improved menstrual regularity (95% vs 63%; $p=0.03$)
(Marsh, et al; 2010)
- Improved insulin sensitivity even in the absence of weight loss and decreased body fat percentage (Ebbeling, et al 2007)
- Improved HDL and Triglycerides (Ebbeling, et al 2007)

Practical Tips on Counseling for low GI diet

- Add healthy fat and/or protein to every meal/snack
- Minimally processed food
 - “whole grain”
 - “Apple vs applesauce”
- Lots of non-starchy veggies, low GI fruits (berries etc)

Air Fryer Salmon with Citrus-Avo Salad

2 salmon filets, approximately 6 oz each

1 T olive oil

1 clove garlic, minced or crushed

½ tsp smoked paprika

Salt and pepper to taste

Squeeze of lemon

Air Fry on 425 degrees for 7-9 minutes.
Check the fish with a fork to see if it's done
(it should easily flake). Return for 1-2
minutes more if needed.



2 citrus fruits (My favorites are tangelos, blood oranges, cara cara oranges, and pink grapefruit)

1 avocado sliced

1 T olive oil

1 T light vinegar (champagne, apple cider)

Salt and pepper

2 T shelled pistachios

½ c microgreens

Peel the fruits and slice into circles. Remove any seeds. Top with avocado and drizzle with olive oil. Add salt and pepper to taste, and top with pistachio and microgreens.

Culinary Considerations for PCOS

- Vinegars
 - Glycemic Load
 - AGEs
- Cinnamon
 - GLUT-4 transport
 - Synergistic response with insulin
 - 3 g: 29% reduction in postprandial sugars



Nutrition and Endometriosis

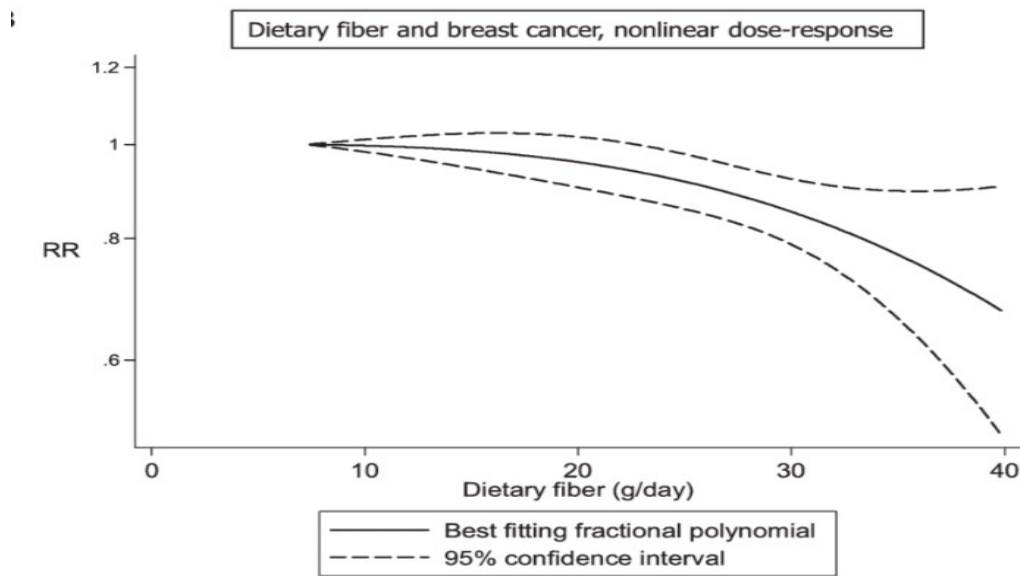
- Whole food plant predominate diet
- Omega-3 fatty acids
 - 2 g DHA/EPA daily; 2-3 servings fish per week
- Magnesium to decrease menstrual pain
 - 400-800 mg (Cochrane review) (Proctor, 2001)
- Curcumin
 - Reduce load and inflammatory response (TNF, IL-6, IL-8, VEGF, PG, CA125); lesions and pain reduced (Leong, 2014; Signorile; 2018)
 - 1-2 g/day

Microbiome and women's health

- The “Gut-Uterus” connection and the microbiome
 - Intestinal dysbiosis affects estrogen metabolism
 - Via B-glucuronidase; prevents normal excretion of estrogen
 - Implications in fibroids, endometriosis, estrogen mediated cancers
 - Gut permeability, short chain fatty acids -> metabolic, immune impacts
- Whole Food plant-based dietary patterns: increased estrogen excretion, lower serum estradiol
 - Lignans, probiotic foods, wide variety of fibers/plant based foods

Estrogen-mediated cancers and the Microbiome: An Overlap?

- Non linear assoc of fiber and breast cancer



Flax Powerballs

Ingredients

- 1 C rolled oats
- ½ C ground flax
- 1 C natural nut butter
- ½ C raw honey
- ½ C add-ins (choc chips, dried fruit, nuts)

*add powdered supplements

Combine all ingredients and roll into 1" balls
Refrigerate



HPV/cervical dysplasia

Available evidence:

- Green tea
 - Green tea extract (EGCG) ointment (Polyphenon E ointment 15%)
 - Genital/perianal warts
- Ellagic acid
 - Pomegranate
 - Improves clearance of HR-HPV by 3-fold
 - Reduces risk of progression of LSIL to HSIL
- Indole-3-carbinols
- Reishi and Turkey tail mushrooms (AHCC)
 - HPV clearance

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coffee with green
tea, you can lose
up to 87% of
what little joy
you still have
left in your life.**

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Roasted Brussels Sprouts

- 1 pound Brussels sprouts, halved
- 3 tablespoons extra virgin olive oil
- $\frac{1}{2}$ teaspoon salt
- 2 tablespoons balsamic vinegar
- 1 teaspoon honey

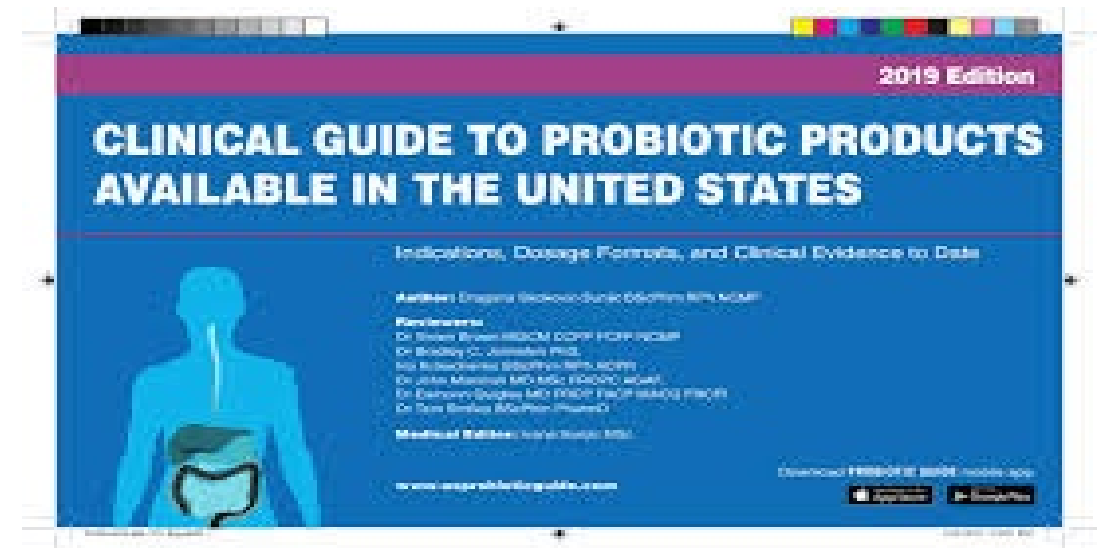
Roast in a 400 degree oven for about 18-20 minutes, until browned and the outer edges are crispy



Pregnancy/Postpartum

Probiotics

- Lactobacillus rhamnosus and reuteri
 - Correlations with reduction in childhood atopic disease if taken during pregnancy ~36 weeks
 - Urogenital flora; recurrent UTI
- [US Probiotic Guide](#)



Micronutrients

- Iron

- Ferrous glycinate, fumarate, bisglycinate
- Vitamin C
- Foods: heme iron, dark leafy greens, molasses
- 27 mg elemental iron (=325 mg sulfate form)
- Prevalence of iron deficiency greater than previously thought
 - 40% of adolescents low iron (JAMA 2023)



Choline and Pregnancy

- Choline
 - A new frontier; AMA, AAP mandates
 - New recommendation: 550 mg (2020)
 - New data: 900 mg
 - Enduring cognitive and neurodevelopmental benefits



Omega 3s and Pregnancy

- Current: 200 mg DHA Daily Value (Colletta 2010)
 - Fetal brain and eye development
 - 400-500 mg (Japan, Europe)
 - Neurodevelopmental impact (Cochrane Review; Jasani et al 2017; Ramakrishnan, 2016)
 - Decreased maternal and fetal cortisol stress response (Jiang, 2012)
- ALA sources (flax nuts)
 - 6.9% of total Omega 3 converted to DHA in pregnancy
- Algae sources (hexane)
- I recommend 600 mg EPA as well
 - PPD considerations



Nutrition and Preeclampsia Prevention

- Calcium
 - WHO: Calcium 1000 mg/day; 1.5g-2g if low dietary intake
 - 15k women; RR: 0.22-0.65 (Hofmeyr, 2014); (Omotayo, 2017); (Egeland, 2017)
- Dark chocolate 😊
 - High in flavonoids (theobromine) (Triche, 2008; Hollenberg, 2006; Saftlas, 2010)
- Vitamin D3
 - Modulator of immune tolerance
 - Replete to at least >30- >50
 - Cochrane Review RR 0.52 (De-Regil, 2016)

Perimenopause/Menopause

Diets for Menopause

Plant-based

- Significantly reduce the frequency/severity of hot flashes
- Improve QOL including sexual health, body composition, reduced cardiovascular and metabolic risk

Low (ish) carb (<40% of calories from carbohydrates)

- 120g/day
- improvements in metabolic and cardiovascular risk
- improve glycemic control and body composition
- may increase LDL/total cholesterol

High protein

- New RDA 1.2 g/kg (range 1-1.5 g/kg in studies, up to 2 g/kg)
- Prevention of age related muscle and bone mass/fracture risk
- Positive association with bone mineral density at femoral neck and hip

High Protein Frittata

- 8 large eggs
- 1 cup **cottage cheese** (2% or 4% gives best texture)
- ½ cup shredded cheese (Gruyère, sharp cheddar, or Monterey Jack)
- ¼ tsp salt
- ¼ tsp black pepper
- Optional add-ins (choose 1–2):
 - ½ cup sautéed spinach or kale
 - ¼ cup roasted red peppers or sautéed mushrooms
 - 1–2 Tbsp chopped chives or green onions

Saute veggies. Blend cottage cheese and eggs, pour over veggies. Add cheese on top. Cook on stove until it starts to bubble, then put in oven at 400 degrees for about 12-15 minutes.



Soy/Phytoestrogens

- Isoflavones (daidzein and genistein) do not adversely affect the breast, thyroid, or uterus of postmenopausal women (Messina, 2016; Ramdath, 2017; Zaheer, 2015)
- Reduced risk of cardiovascular disease
- Modest reduction in vasomotor symptoms
 - estrogen-agonist and estrogen-antagonist actions, with selective affinity for estrogen receptor- β
- Decreased inflammatory markers
- *whole soy foods (tempeh, tofu, edamame)

10 minute Tofu Poke Bowls

Edamame

Tofu (air fried or pan)

Rice/farro/barley etc (bone broth?)

Fermented veggies

Grated veggies (radish, carrot, cucumber etc)

Avocado

Tahini + lemon juice + oil dressing

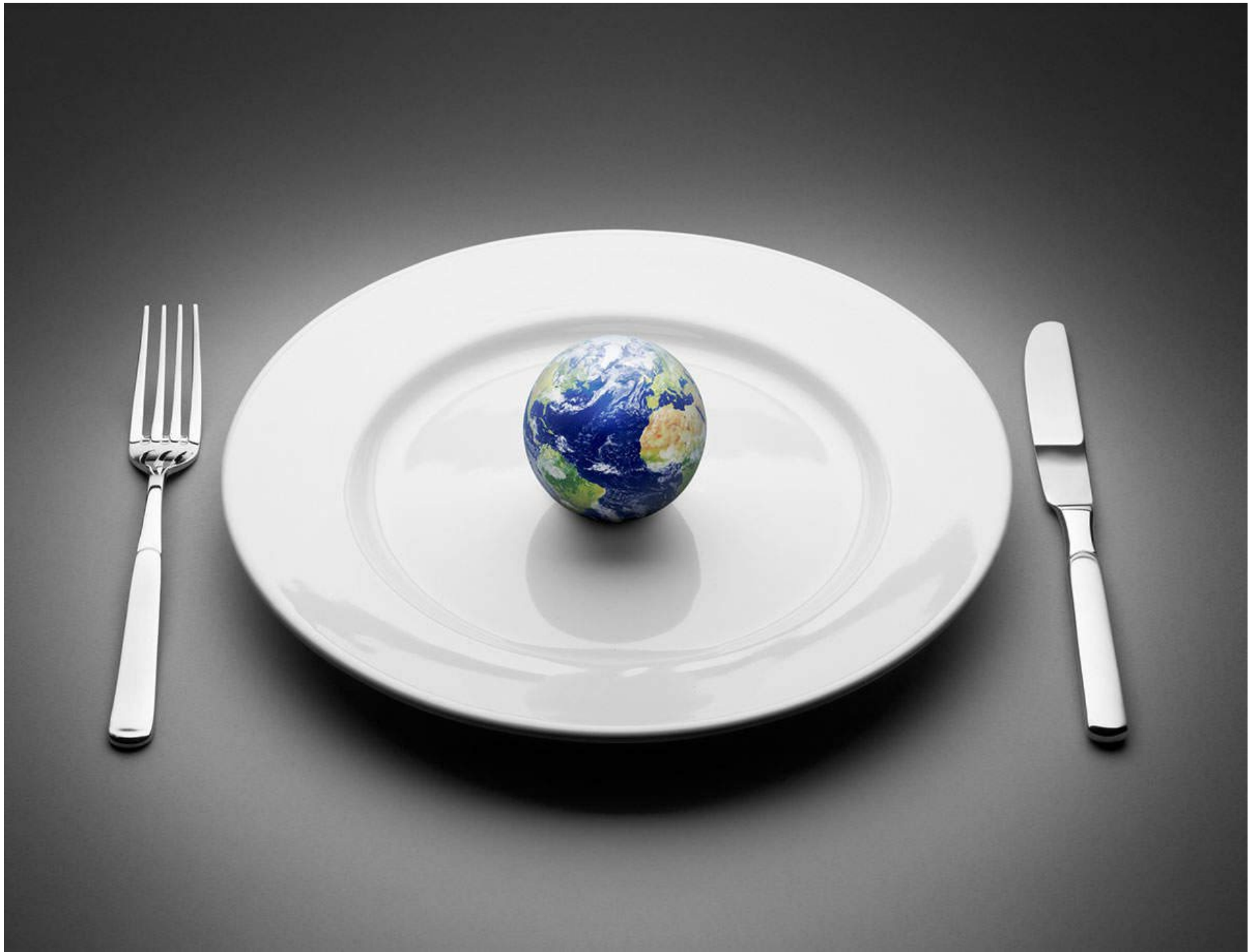


Osteoporosis and Calcium: The Data

- RDA: 1200 mg for women over 50
- Meta-analysis 33 trials: no reduction in fx risk with calcium supplementation (Zhao, 2017)
- Meta-analysis (National Osteoporosis Foundation) 8 trials: Combo Ca/Vit D supp decr fx (RR 0.85)
- Dairy: Controversial
 - Milk assoc with higher fracture in women in some studies and lower in others
 - Epigenetic differences
 - For every glass of milk, adjusted hazard ratio of all cause mortality was 1.15 (BMJ, 2014)

Table 2 Supplements for Bone Health.

Nutrient	Recommended Dosage (if specified)	Evidence for bone mineral density Improvement	Evidence for Fracture Risk Reduction
Calcium	1000-1200 mg/day (diet + supplements); prefer dietary sources; supplement if intake inadequate)	Modest benefit, especially in those with low intake; preserves bone mineral density in older adults	Small reduction in hip fracture risk, mainly in older or institutionalized women; not effective for nonvertebral/vertebral fractures
Vitamin D	600-800 IU/day (may adjust to maintain 25(OH)D 20-30 ng/mL); up to 4000 IU/daily	Modest benefit, especially in those with deficiency; preserves bone mineral density in older adults	Small reduction in hip fracture risk when combined with calcium in older or institutionalized women; not effective for nonvertebral/vertebral fractures
Vitamin K2	No standard recommended; studies use 45-180 mcg/day (MK-8) or 45 mg/day (MK-4)	Meta-analyses show modest improvement in lumbar spine bone mineral density; effect size small and clinical significance uncertain	Inconsistent evidence; some meta-analyses suggest possible reduction in vertebral fractures, but not supported by US guidelines

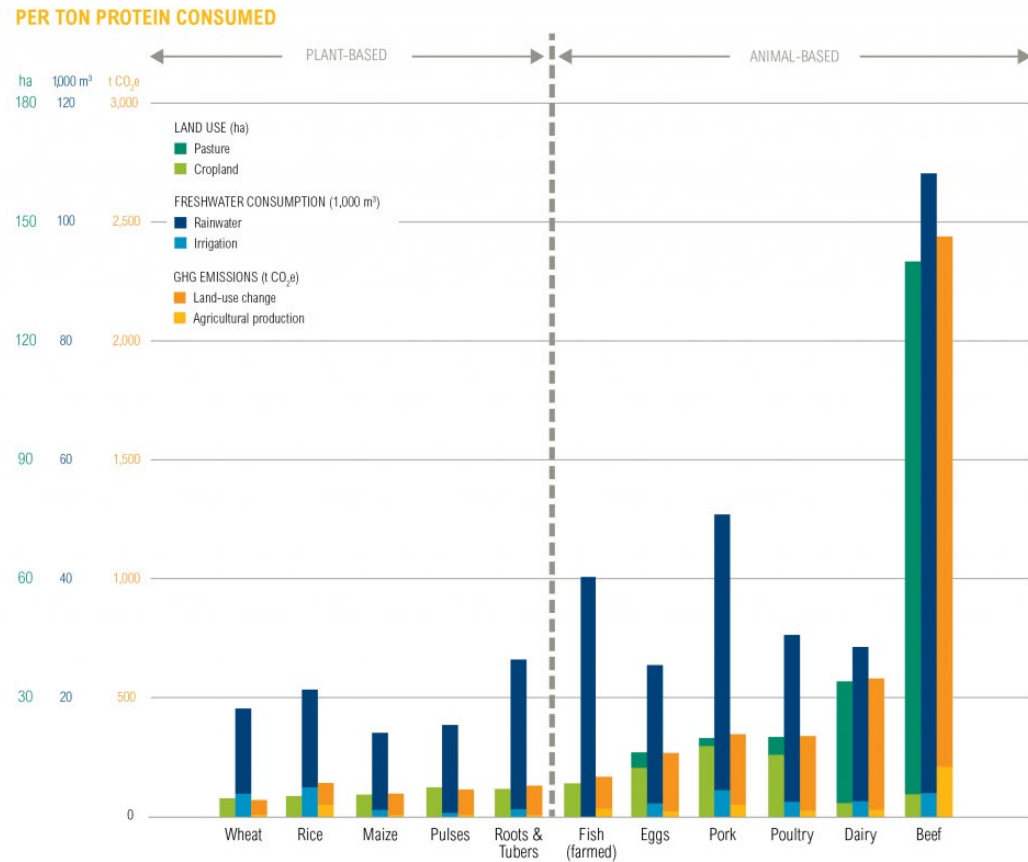


Food as Medicine for the Planet

- In 2019, the EAT–*Lancet* Commission developed the world’s first scientific targets for healthy and sustainable food systems, including a “planetary health diet”
 - an alignment of health and environmental outcomes
 - high in fruits, vegetables, legumes, whole grains, nuts, fish, and unsaturated vegetable oils, and low in animal products, refined grains, and added sugars
 - lower risk of all-cause mortality
 - 10.9 to 11.6 million early deaths could be averted each year—a 19% to 23.6% reduction from current adult mortality rates (EAT Lancet 2019)
- global population slated to reach 10 billion by 2050

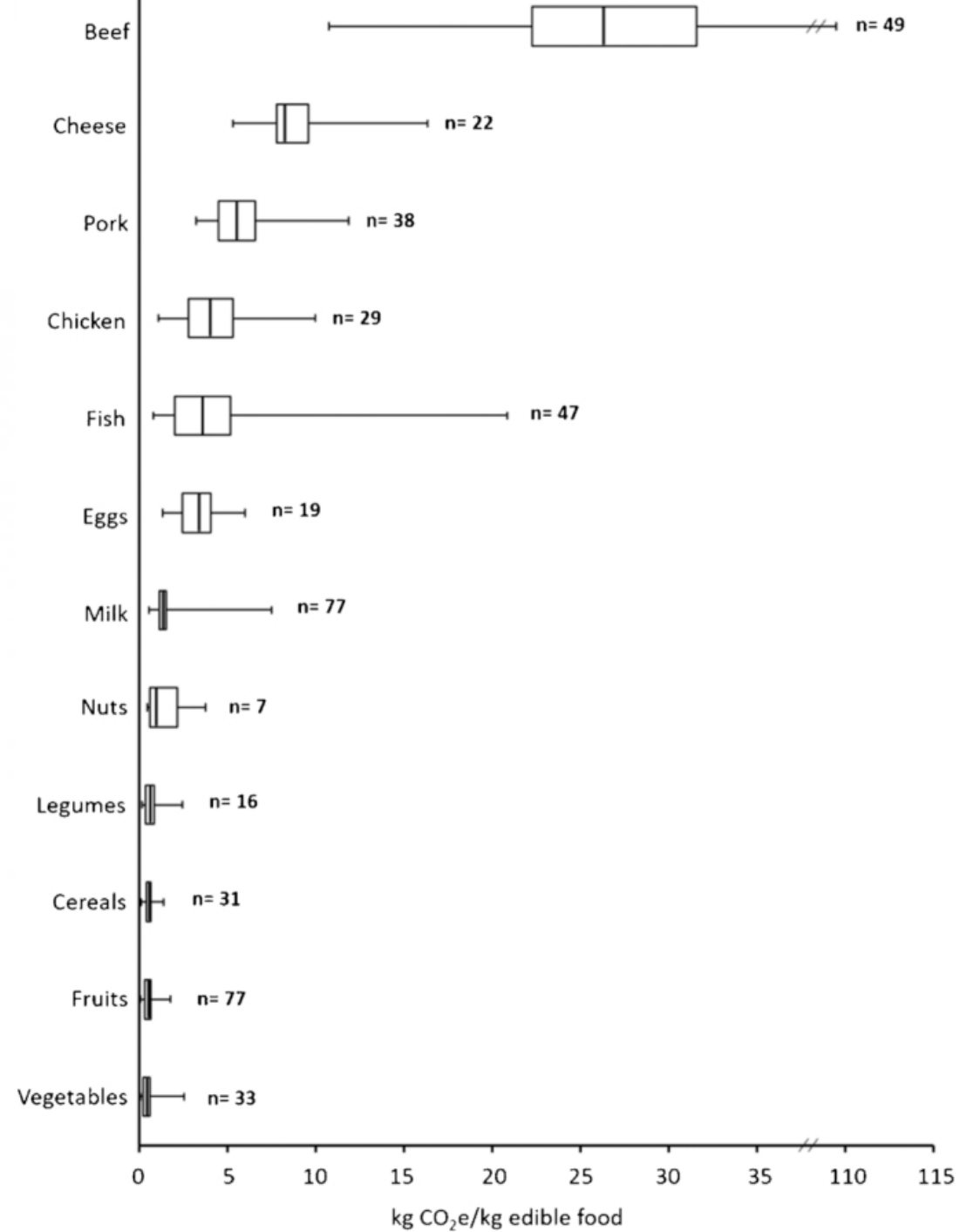
Food production resource utilization

Animal-Based Foods Are More Resource-Intensive than Plant-Based Foods

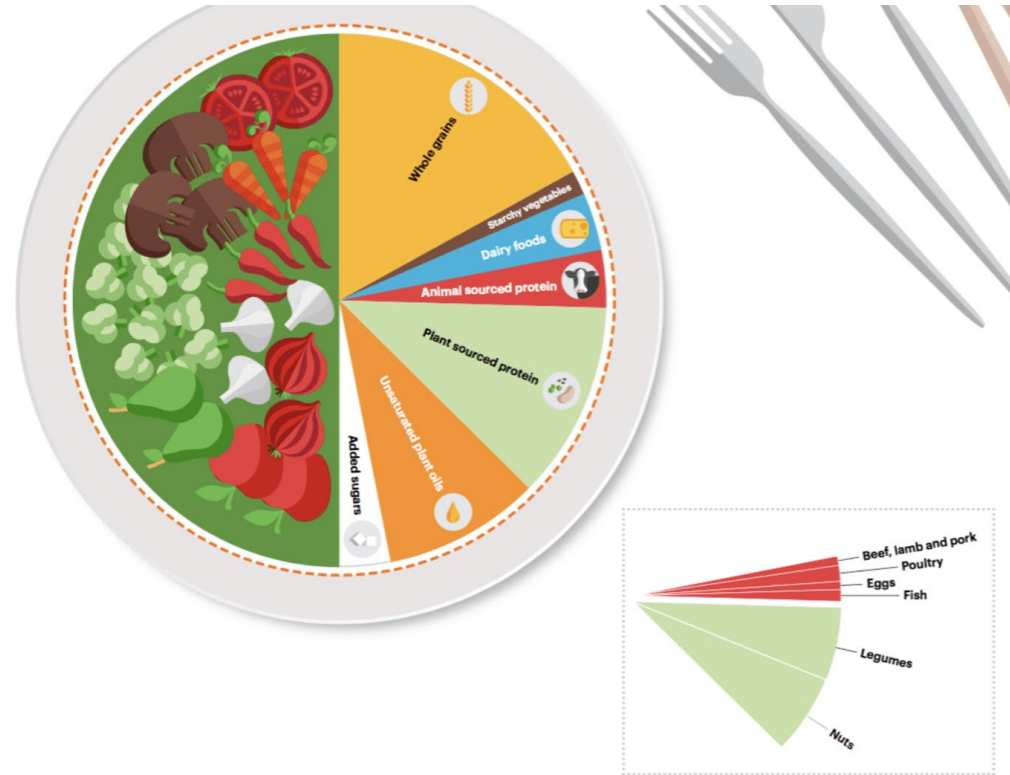


wri.org/shiftingdiets

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Planetary Health Plate



A planetary health plate. (Source: EAT, Summary Report of the EAT-Lancet Commission [5])

Foodprint Calculator:
<https://harvard-foodprint-calculator.github.io>

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