Medicalization: Definition

- Medicalization is a 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.
- This includes the pathologization of normality and the removal of the divide between preventive and clinical medicine.

Three Key Aspects of Medicalization

- **Clinical**: serious side effects of treatment worse than original condition
- **Social**: public is made reliant on medical profession to cope with life
- **Structural**: the idea of birth, aging and dying as medical illnesses, leaves individuals and societies less able to deal with these "natural" processes.

Ivan Illich, *Limits to Medicine: Medical Nemesis* 1975
Let’s Take Birth As One Example

Disease?  Natural Process?

Delivery Method

- 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.

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.

Sources:
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.”


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.

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).
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.

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
  - Estradorn
  - Estragel
  - Estrasorb
  - Estrining
  - Femring
  - Vagifem
  - Premoretum (natural progesterone)

Genitourinary Syndrome of Menopause

- GSM symptoms/signs associated with decrease in sex steroids involving changes to the labia majora/minora, clitoris, vestibule/venostrous, 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.

**Moisturizers and Lubricants**

- WHO recommends osmolality of a personal lubricant **not to exceed 380 mOsm/kg**, in order to **minimize risk of epithelial damage**. Higher osmolality associated with mucosal irritation and cell damage.
- **Normal vaginal pH is 3.8-4.5** and rectal pH is ~7.0.
- **Look for products with low osmolality** and for vaginal products, an **acidic pH**. (Yes water based lubricant or vaginal moisturizer)


**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.
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.


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


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 postmenopausal women taking food supplements containing isolated isoflavones. EFSA J 2015;13:4246.
Messina M. Nutrients 2016; 8(12): 754

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.

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

One of best predictive tools for evaluating fracture risk is FRAX.

Guidance in the US

Consider FDA-approved medical therapies based on the following:

- A hip or vertebral (clinical or morphometric) fracture
- T-score ≤ −2.5 at the femoral neck or spine after appropriate evaluation to exclude secondary causes
- T-score between −1.0 and −2.5 at the femoral neck or spine and 10-year probability of hip fracture ≥3% or 10-year probability of a major osteoporosis-related fracture ≥20% based on WHO FRAX

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.

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:
- 11 were helped (fracture prevented)
- 11 were helped (hip fracture prevented)

Harms in NNT:
- A small number were harmed

Benefits in Percentage:
- 96% were benefited after 7 years of treatment
- 10% avoided a vertebral fracture
- 1% avoided a hip fracture

Harms in Percentage:
- A small percentage were harmed

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.


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 medicated)

Harms in NNT:
- A small number were harmed

Benefits in Percentage:
- 10% saw no benefit after 3 years of treatment

Harms in Percentage:
- A small percentage were harmed

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.

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.


Calcium Supplements

- Calcium citrate or chelate best for > 50 years or taking drugs to suppress stomach acid. No need to take with food.
- Do not take calcium at the same time as other medications (thyroid, bisphosphonates, phenytoin, tetracycline).
- ONLY supplement the difference between the calcium in diet and what you need.

Vitamin D

- Fat soluble vitamin (technically not a vitamin as it can be made from cholesterol in the skin upon exposure to UV light)
- Primary forms:
  - Vitamin D₂ (ergocalciferol) presents in plants
  - Vitamin D₃ (cholecalciferol) present in the liver, skin of animals
  - Vitamin D₃ → 25(OH)D (calcidiol) in the liver → 1,25(OH)₂D (calcitriol) in the kidneys

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.
**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.


**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.


**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


**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.

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.


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.

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 (avoided suffering a fall over a one-year period)

**Benefits in Percentage**
- 32% were helped by preventing a fall over a one-year period

**Harms in NNT**
- None were harmed

**Harms In Percentage**
- 0% were harmed


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.

**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.
• 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

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

Oh what to do, what to dooo???
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

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.

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.

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.
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.

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

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 mediation program to get you started. Can be personalized and integrated into other health apps. Free.

Guided Imagery: Imagine Yourself……..

- An immersive, deeply relaxing intervention that uses calming words, soothing music and positive images to structure a healing experience.
- Like meditation, it focuses attention and calms the mind, working on those parts of the brain where the emotional self dwells.
- Imagery has been shown to reduce stress, anxiety, and depression; help with sleep; lower blood pressure, and help with posttraumatic stress.
- I have found guided imagery a fabulous tool for myself, kids and patients. Very helpful for those with ADHD, anxiety, depression, pain, insomnia.
Belleruth Naparstek

• Love, love, love her. Something for everyone.
• She has Guided Imagery Meditations for:
  • Anxiety and Panic
  • Anger and Forgiveness
  • Depression
  • Healing Trauma
  • Ease Grief
  • Relieving Stress
  • Undergoing Surgery
  • Chemotherapy and Radiation

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

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

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

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.**

The privilege of a lifetime is being who you are.

Joseph Campbell
Be patient with yourself. Self-growth is tender; it’s holy ground. There’s no greater investment.

Stephen Covey