

Strong at Every Age:

The Science of Thriving Beyond Midlife

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Aging is Changing – Rewriting the story

- Why do we fear getting older?
- Aging is inevitable? **YES**
 - **LOSS OF FUNCTION IS NOT!**
- Is poor health inevitable? **NO**
- Aging versus disease
 - Lifespan vs health span
- What does the science tell us? **LET'S EXPLORE**

Today's Big Idea

- Understand what changes with age and the menopause transition – and what remains adaptable
- Understand current evidence-based recommendations for disease prevention
- See why muscle, bone, cardiovascular, metabolic, and brain health are interconnected
- Translate evidence into strategy – strength, activity, balance, sleep, nutrition, connection and prevention care
- Move beyond 'anti aging' toward preserving function, independence, confidence and quality of life

Women are living longer....

- Life expectancy
 - 1/3 longer than our male counterparts
- Years lived after menopause
- Healthy lifespan matters more than lifespan
 - *Longevity is increasing – but our goal is to increase health span not just lifespan*
 - *Years in good physical, cognitive, emotional and functional health*



Why do we age differently?

- Menopause
- Longer lifespan
- Different immune responses
- Higher osteoporosis risk
- Higher cognitive risk
- Higher CV risk post menopause

Compared to men the same age, **women** aged 65+ are:

4.2x more likely to have diagnosed osteoporosis

1.9x more likely to have diagnosed rheumatoid arthritis

1.6x more likely to use health services for mood and anxiety disorders

1.5x more likely to have diagnosed dementia

1.5x more likely to have diagnosed asthma

1.4x more likely to have diagnosed osteoarthritis

EXAMPLES OF CONDITIONS THAT:



Affect women **UNIQUELY**

MENOPAUSE

Most women reach menopause between ages 45 and 55, resulting in hormonal changes that can increase the risk for osteoporosis and heart disease. 3 out of 4 women experience menopausal symptoms that interfere with their daily lives.

CERVICAL CANCER

A cancer of the female reproductive system that originates in the lower uterus. The average age of diagnosis is 50 and more than 20% of cervical cancers are found in women over 65.

ENDOMETRIOSIS

A chronic estrogen dependent illness that impacts approximately 10% girls and women of reproductive age.



DISPROPORTIONATELY affect women

MIGRAINE HEADACHES

Women are almost 3 times more likely to experience a migraine due to its link to hormones. Frequency, duration, and disability of attacks tend to be higher in women.

DEMENTIA

Of the people living with dementia, 2 out of 3 are women.

BREAST CANCER

Cancer that affects 1 in 8 women. Both incidence and death rates are over 100 times higher for women compared to men.



May affect women **DIFFERENTLY** from men

HEART ATTACKS

Women may present with different symptoms of a heart attack than men, such as experiencing a silent heart attack. Heart disease is the leading cause of death in women.

STROKE

Women experience strokes more frequently at older ages than men. After the stroke, women may have poorer functional outcomes and lower quality of life than men.

ALZHEIMER'S DISEASE (AD)

Women are diagnosed with AD at later stages because they tend to score better on AD tests and can go unrecognized until advanced stages.

Women at the Forefront of Aging in Canada Report;
Rochon et al. (2025). Women and aging. *Journal of the American Geriatrics Society*

What changes after 50?

Hormones

Muscle

Bone

Brain

Heart

Metabolism

Sleep

The Menopause Connection

- Underserved health gap
- Missed workdays, lower productivity, loss income
- 3.5\$ billion a year lost wages
- Menopausal hormone therapy remains the most effective but also underutilized form of therapy
- Mixed messaging and stigma
- Lack of education and support
- Health care provider options
- Underfunded and under researched

The Menopause Connection

- Estrogen
- Hot flashes - vasomotor
- Mood and cognition
- Sleep
- Joint pain
- Body composition

PREMENOPAUSE

normal reproductive
cycle of hormones

PERIMENOPAUSE

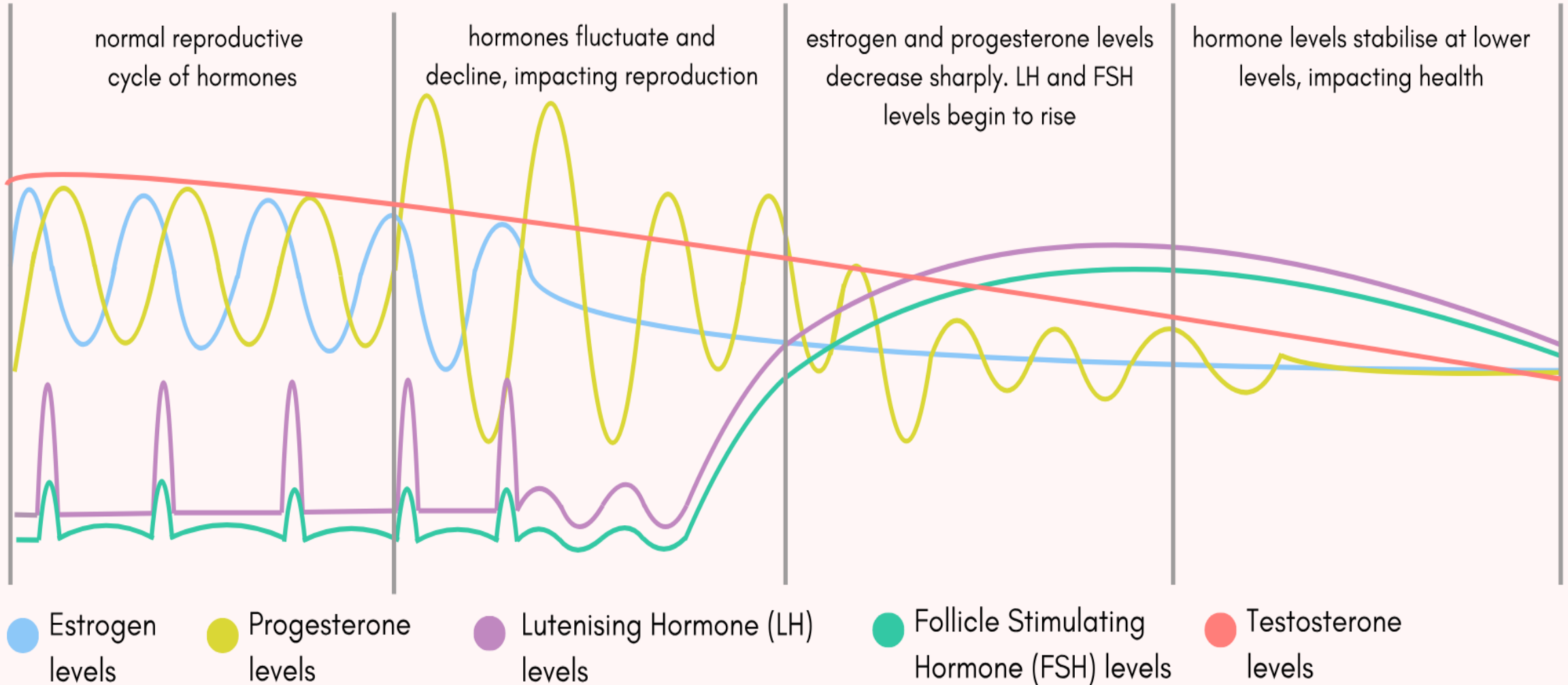
hormones fluctuate and
decline, impacting reproduction

MENOPAUSE

estrogen and progesterone levels
decrease sharply. LH and FSH
levels begin to rise

POSTMENOPAUSE

hormone levels stabilise at lower
levels, impacting health



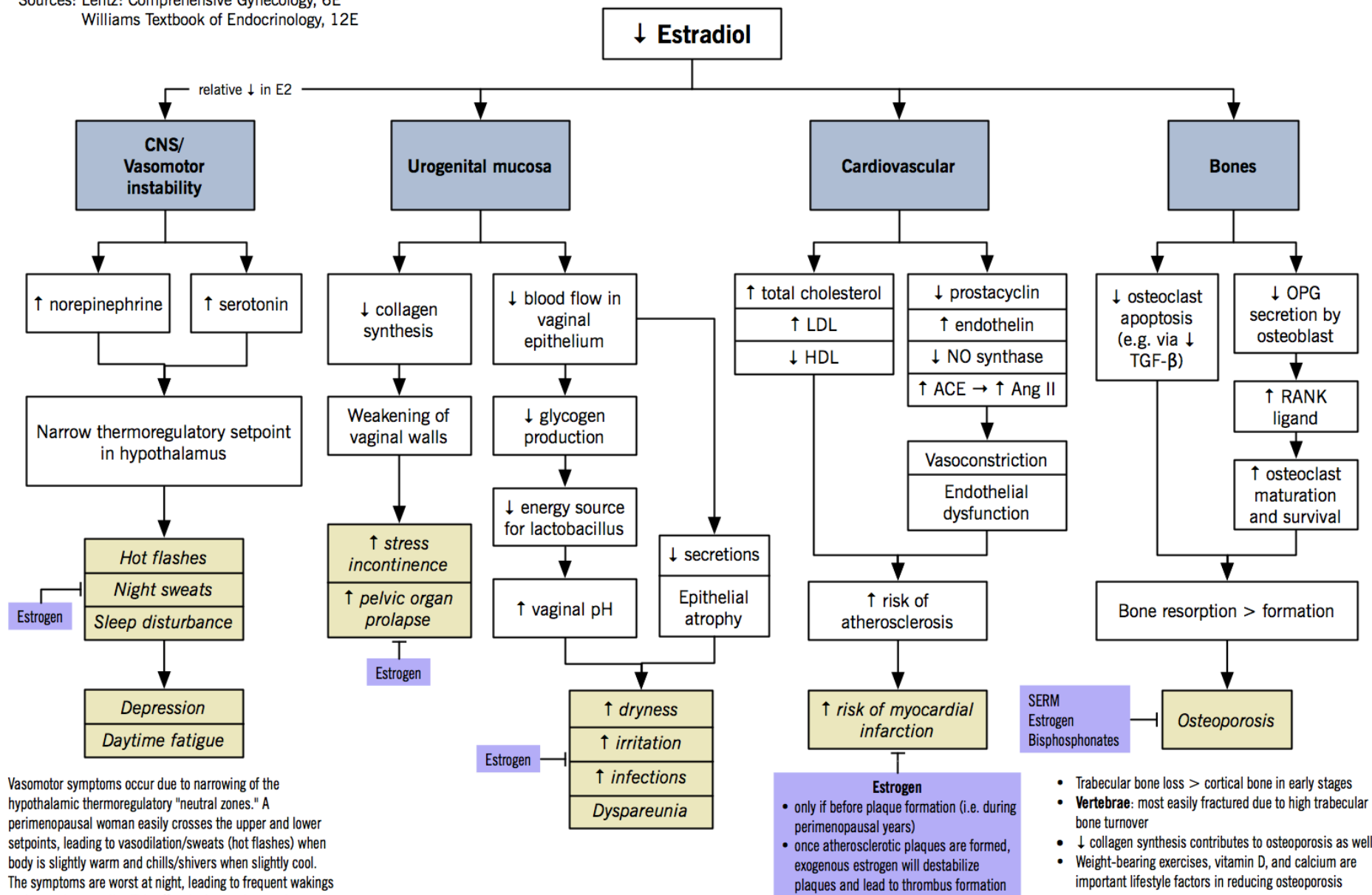
The Menopause Connection

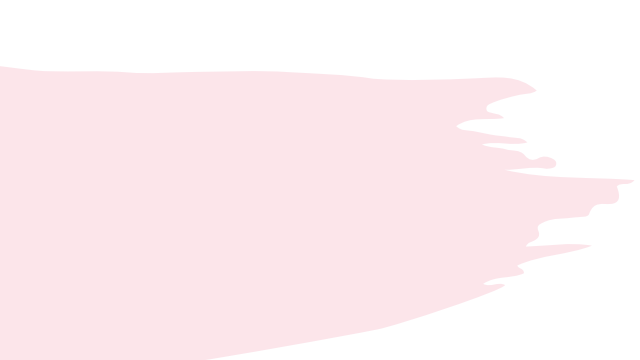
- **Endocrine** – thermoregulatory changes due to lack/change in hormones, energy reserve changes, fluctuation or shift in adipose distribution, night sweats, weight gain
- **Neurological** – cognitive fog, cognitive changes, increased anxiety and mental health, difficulty sleeping, memory loss
- **Reproductive** – sexual dysfunction, libido changes, vaginal dryness
- **Musculoskeletal** – bone density, osteoporosis, loss of muscle mass and atrophy, joint pain
- **Digestive** – gut dysbiosis
- **Cardiorespiratory** – increased cardiovascular risk, heart palpitations, vasomotor/temperature control
- **Immune** and **Excretory** – increased inflammatory response, increased UTI's, incontinence, frequent urination
- **Skin/Derm** – hair loss, female pattern balding, loss of collagen,

Pathophysiology of menopause organ changes

Eric Wong

Sources: Lentz: Comprehensive Gynecology, 6E
Williams Textbook of Endocrinology, 12E





Fact or Myth

- I'm too old to build muscle
- Women in their 80s and 90s can significantly increase strength with resistance training

Muscle: your longevity superpower

- Sarcopenia
 - 3-8% per decade after the age of 30
 - Accelerates after menopause
- outcomes
 - Falls
 - Frailty
 - Diabetes
 - Disability
 - Loss of independence
- Strength matters for everyday tasks



Muscle: Your longevity superpower

- muscle predicts independence
- Strength versus appearance
- it's never too late to build muscle
- Resistance training remains effective in older adults for increasing muscle size and fiber area, and progressive resistance training can also improve strength and bone mineral density.
- Resistance training and progressive overload
 - 2-3x/week
 - Tools: weights, bodyweight, resistance bands, medicine balls
 - Modify, adapt – low vs. high impact

Muscle: Your longevity superpower

- Controlled glucose levels – improvements
- Bone density
- Muscle/strength
- Reduced inflammation – inflamm'aging'
- Changes in body composition
- Quality of life

THINK: LIFT CARRY PUSH PULL SQUAT HINGE CLIMB

Muscle: Training after 50+

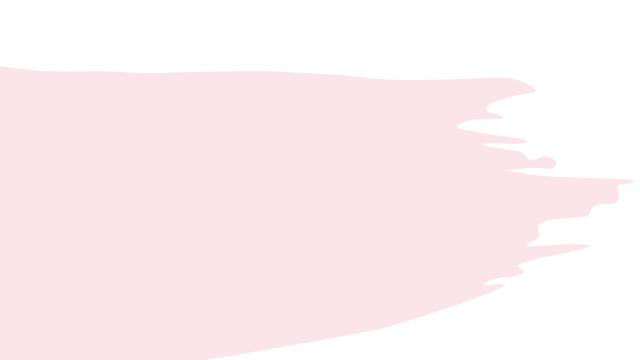
BUILD STRENGTH

- 2+sessions to start – 2-4x per week progressive
- Train all major muscle groups
- Load
- Progressive resistance, repetitions/sets, range of motion

MAKE IT FUNCTIONAL

- Squat/sit-to-stand
- Hinge/deadlift
- Push + pull
- Carry
- Step up/stair work
- Power/faster – safe when appropriate

THINK: LIFT CARRY PUSH PULL SQUAT HINGE CLIMB



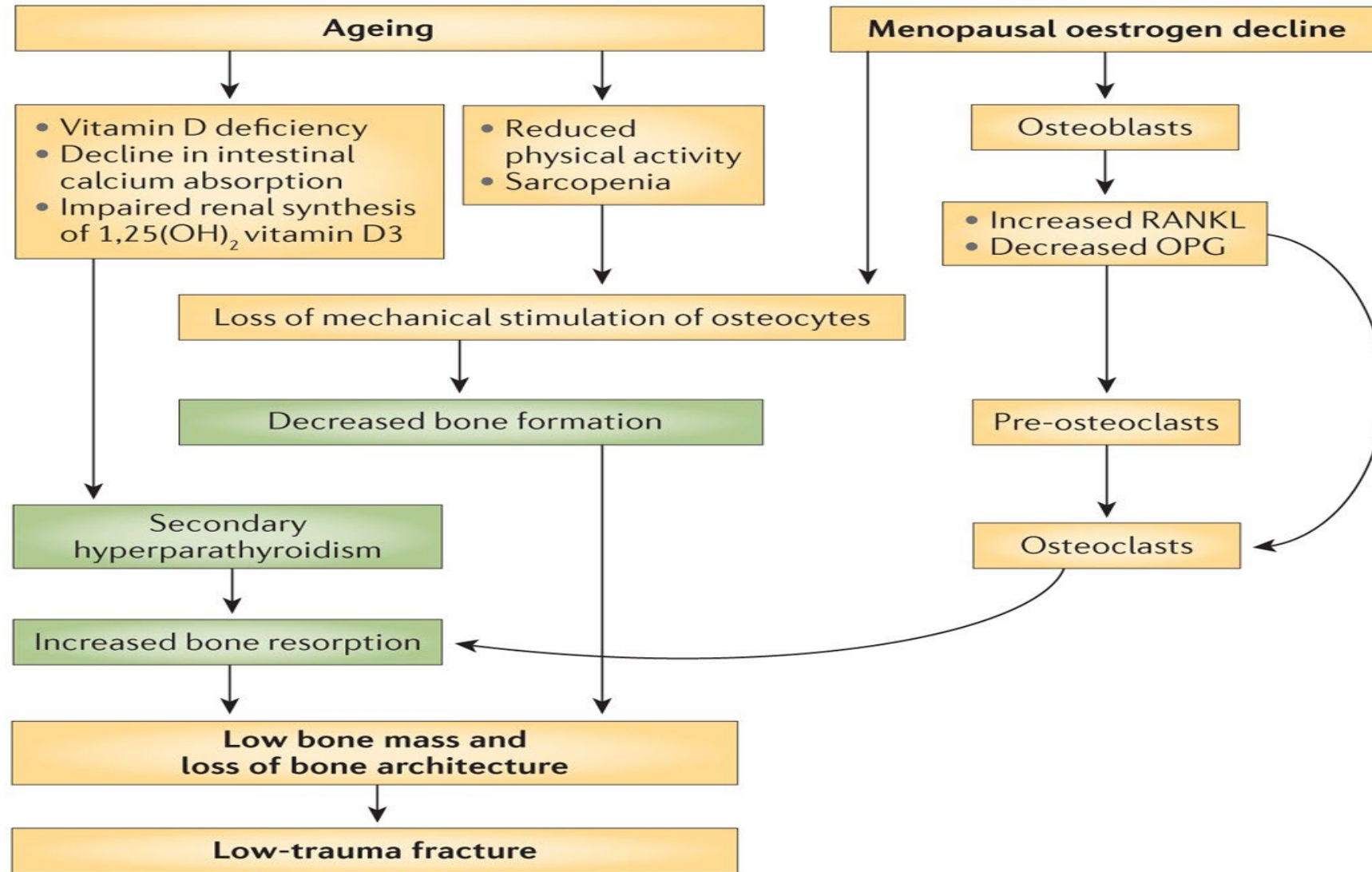
Fact or Myth

- Osteoporosis is inevitable
- Lifestyle plus medication can dramatically reduce fracture risk

Bone Health

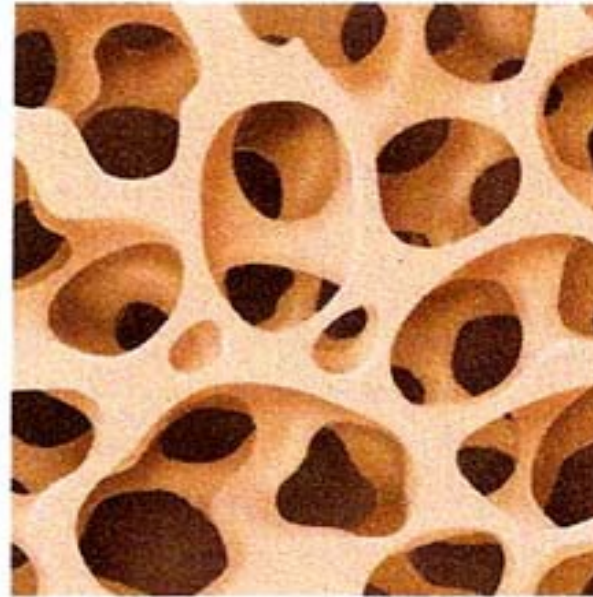
- Osteoporosis
 - 80% of cases are women
 - Risk factors – menopause, smoking, alcohol, steroids, low body weight, family history
- Falls
- Fracture prevention
- Weight-bearing exercise
- Nutrition
- For Canadian women 50+, *Osteoporosis Canada's* guideline recommends progressive resistance training plus balance/functional training at least twice weekly as part of fracture prevention.



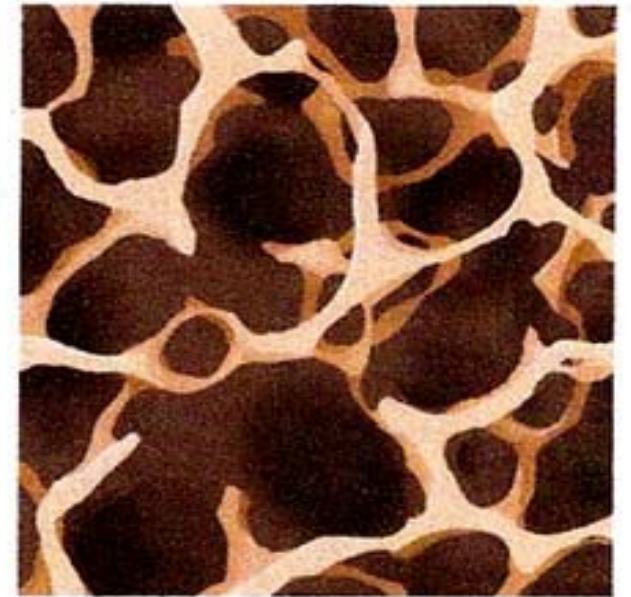


Bone Health - Prevention

- Exercise
 - Resistance 2-3x/week
 - Balance 2-3x/week
 - Weight bearing as able
- Nutrition
 - Calcium (1000-1200mg daily)
 - Vitamin D
- Other
 - Smoking cessation
 - Limit alcohol
 - screening



Healthy bone



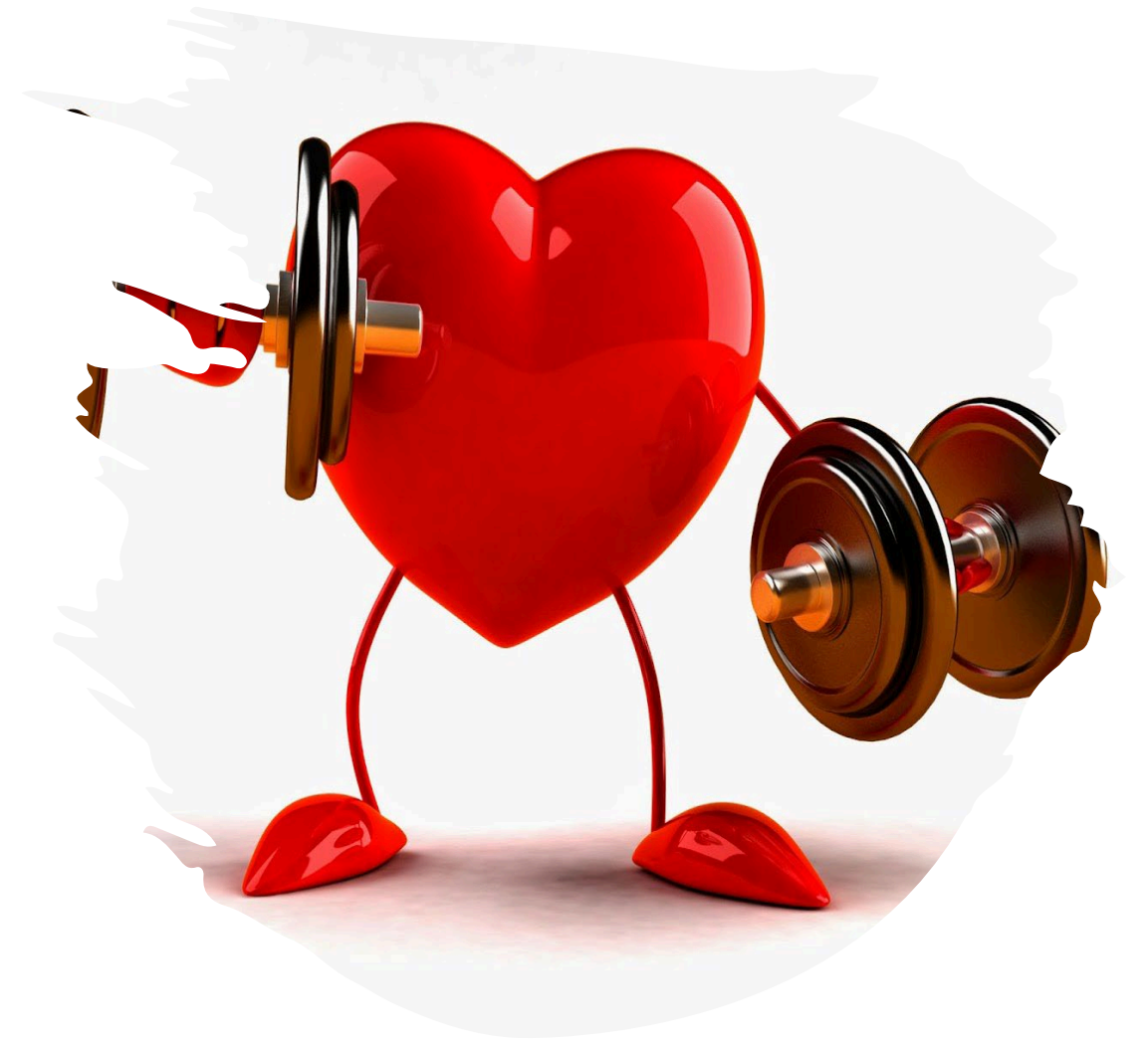
Osteoporotic bone

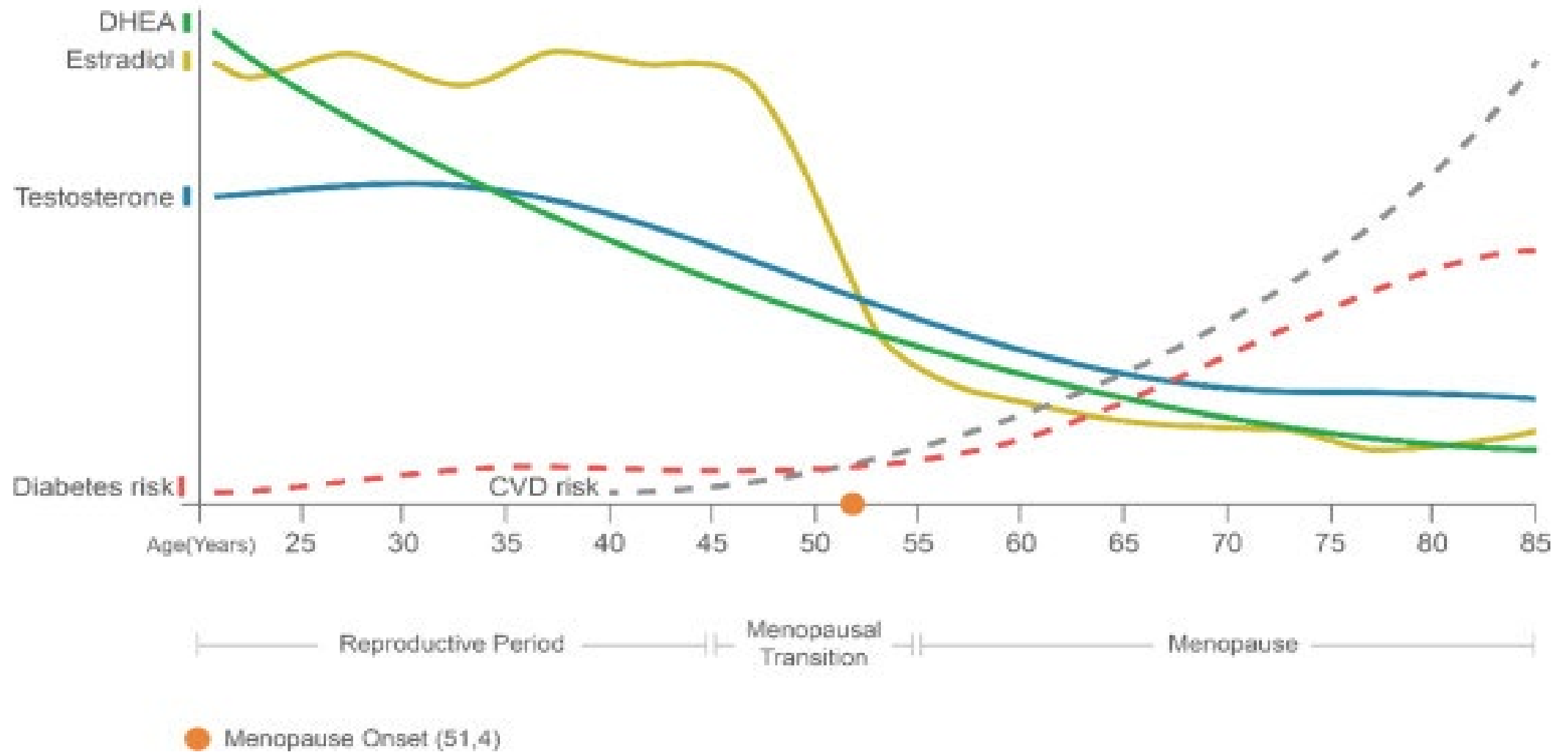
This Photo by Unknown Author is licensed under [CC BY-NC-ND](#)

LOAD THE SKELETON – BUILD MUSCLE – TRAIN BALANCE – REDUCE FALL RISK

Heart Health

- Heart disease takes more women than all cancers
- Risk factors
 - Blood pressure
 - Glucose/A1C
 - Cholesterol
 - Smoking
 - Physical inactivity
 - Sleep
 - Obesity/waist circumference





Menopause and Cardiometabolic diseases;
Menopause Transition and Cardiovascular Disease

Heart Health

- Symptom awareness and management
 - Understand differences in presentation
 - Atypical chest discomfort
 - Pain in surrounding areas
 - Digestive issues
 - Respiratory symptoms
 - Advocate for care and screening
- Movement is medicine
 - Exercise and resistance training supports blood pressure, cardiorespiratory fitness, metabolic health, and vascular function

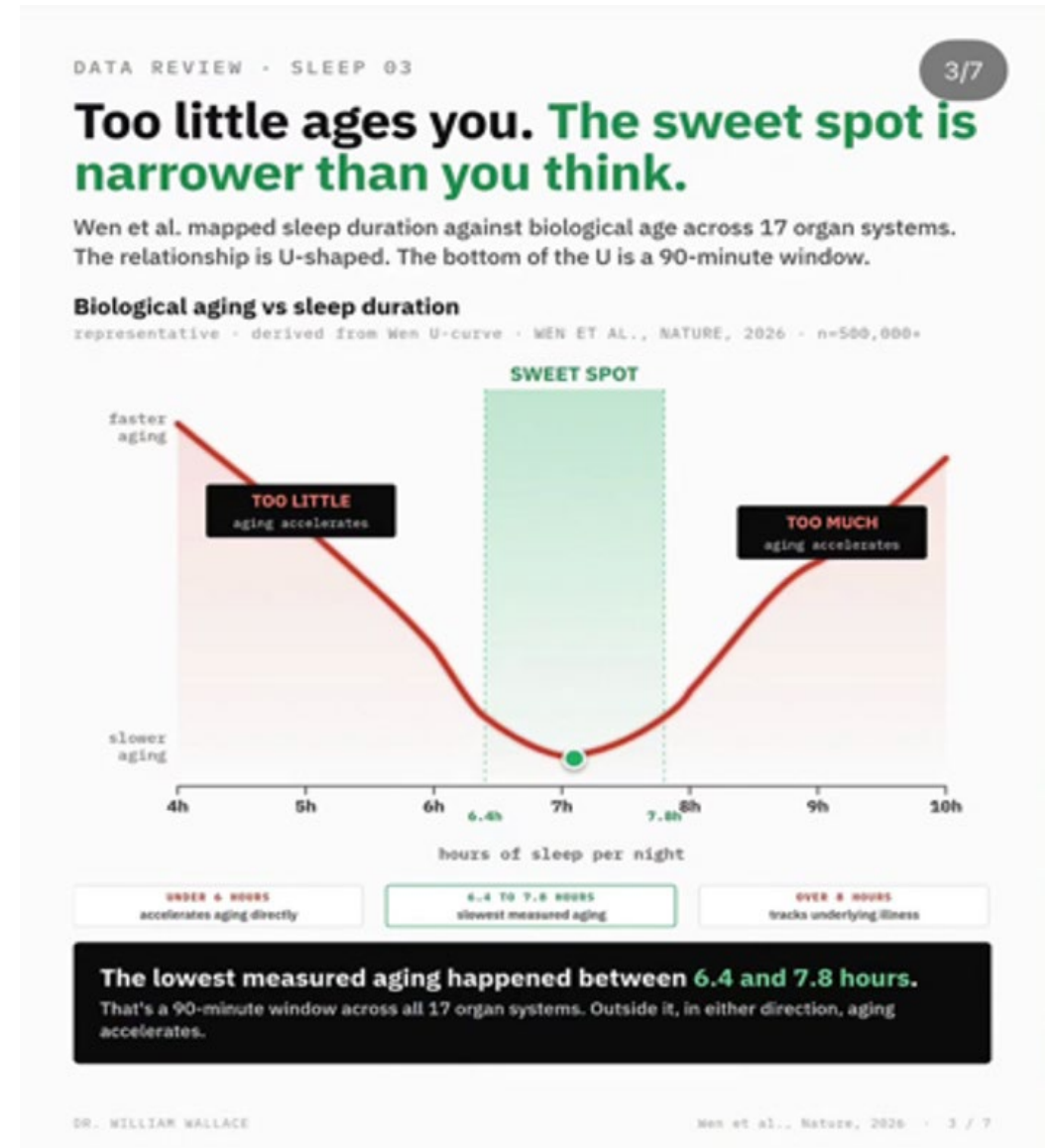
Nutrition that supports aging

- Protein
 - 1.0-1.2g/kg/day (higher if frail, recovering, highly active)
- Balanced – carbs, proteins and healthy fats
- Fiber
- Calcium
- Vitamin D
- Hydration
- Specialized – ex. DASH diet



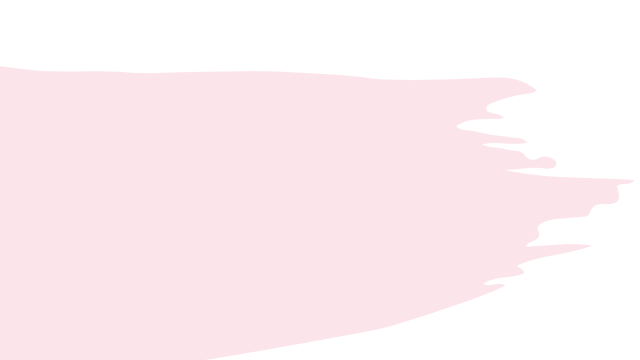
Why sleep changes with aging

- Activity, light exposure, stress, sleep hygiene
- Sleep supports cognition, mood, metabolic health, and recovery
- Persistent symptoms warrant assessment
- More is not always better
 - Quality, regularity



Sleep: a core pillar of healthy aging

- Sleep gets lighter with age
- Changing hormones
 - Vasomotor symptoms
 - 2025 systemic review – dissatisfaction with quality of sleep
 - SWAN 2024 insomnia + chronically short sleep – increased CVD risk
- Sleep supports memory, glucose regulation, heart health and recovery



Fact or Myth

- Memory loss is just normal aging
- Progressive cognitive decline should always be evaluated

Brain Health

- Volume changes
- White matter
- Blood flow
- Communication



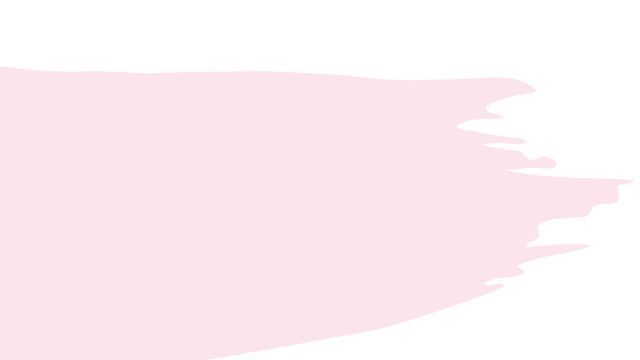
Brain Health: cognition is connected to the body

PROTECT BRAIN HEALTH

- Regular activity supports executive function and cognition
- Resistance training stimulates, supports mobility and metabolic health
- Control vascular function
- Engagement; connection; skills

WHAT THE EVIDENCE DOES NOT SAY

- Exercise is not a guarantee against dementia
- Hormone therapy should not be prescribed solely for dementia
- Brain fog is common but does not mean inevitable dementia



Fact or Myth

- I'm old/it's too late to improve my health
- Research shows meaningful benefits from increasing physical activity, improving nutrition and managing cardiovascular risk factors

Management of Chronic Conditions

- Behavior change and self management
- Think beyond exercise alone
 - Modifiable health domains
 - Screening and clinical care
 - Breast cancer and cervical cancer
 - Colorectal
 - Bone/fracture risk assessment
 - Vaccinations and infection prevention
 - Medication review
 - Self management

Movement is medicine



Aerobic activity, Strength, Balance, Flexibility



Regular physical activity is associated with lower all-cause and cardiovascular mortality – inactive 20-30x increased risk



In adults and older adults, reduced risk of all-cause mortality, risk of cardiovascular disease mortality, incident hypertension, incident site-specific cancers, incident type-2 diabetes, and falls and improved mental health, cognitive health, sleep and measures of body fat

Recommendations ages:18-64

A healthy 24 hours includes:

PHYSICAL ACTIVITY

Performing a variety of types and intensities of physical activity, which includes:



- **Moderate to vigorous aerobic physical activities** such that there is an accumulation of at least 150 minutes per week
- **Muscle strengthening activities** using major muscle groups at least twice a week



- Several hours of **light physical activities**, including standing

SLEEP



Getting 7 to 9 hours of good-quality sleep on a regular basis, with consistent bed and wake-up times

SEDENTARY BEHAVIOUR



Limiting sedentary time to 8 hours or less, which includes:

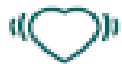
- No more than 3 hours of recreational screen time
- Breaking up long periods of sitting as often as possible



Recommendations ages:65+

PHYSICAL ACTIVITY

Performing a variety of types and intensities of physical activity, which includes:



- **Moderate to vigorous aerobic physical activities** such that there is an accumulation of at least 150 minutes per week
- Muscle strengthening activities using major muscle groups at least twice a week
- Physical activities that challenge balance



- Several hours of **light physical activities**, including standing

SLEEP



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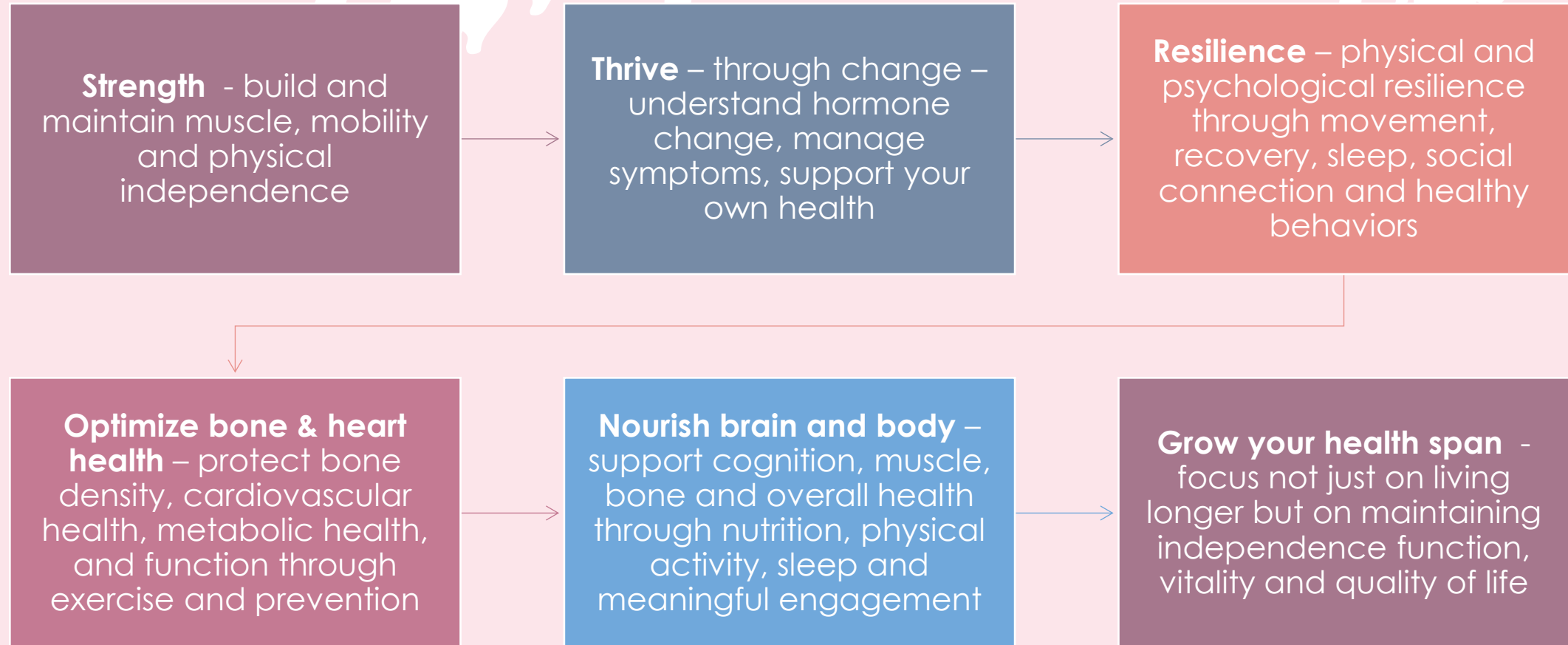
Social Connection and Engagement

- Improvements in physical health – reducing risk of chronic disease
- Linked with lower rates of depression, anxiety and cognitive decline
- Helps preserve memory and attention
- Essential for healthy aging

[National Council on Aging](#); [Active Aging Canada](#)



STRONG at every age



*STRONG isn't about stopping aging—
it's about building the strength,
health, and resilience to **thrive at
every age***

*Aging well is not about staying young
– it is about staying **capable***

STRONG CAPABLE CONNECTED CURIOUS AT EVERY AGE