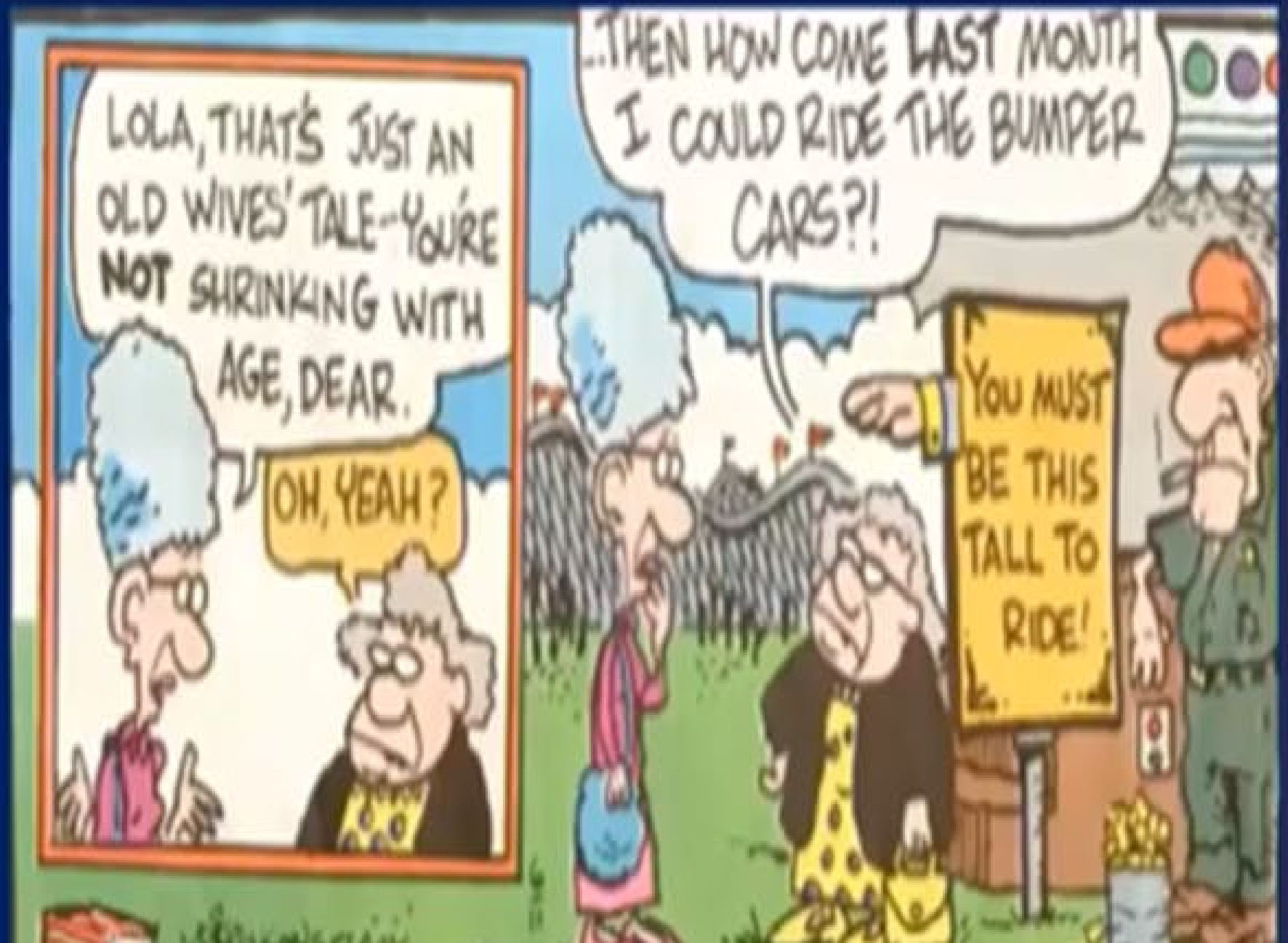
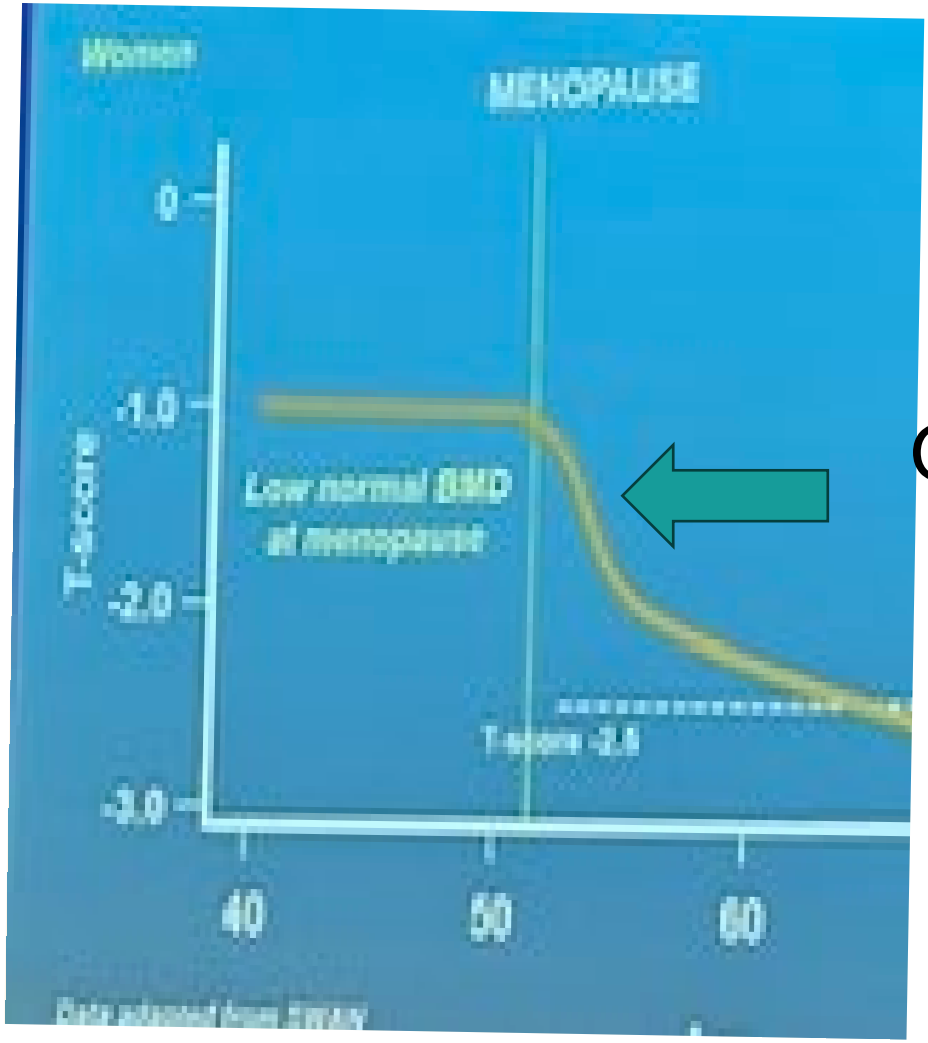
BONE HEALTH and SEXUAL HEALTH

Dowager Hump

The Shrinking Disease


LOLA, THAT'S JUST AN OLD WIVES' TALE--YOU'RE NOT SHRINKING WITH AGE, DEAR.
OH, YEAH?
...THEN HOW COME LAST MONTH I COULD RIDE THE BUMPER CARS?!
YOU MUST BE THIS TALL TO RIDE!

Hormone Replacement Therapy- Good or Bad?



Osteoporosis is potentially preventable

Yes: Within 10 years of perimenopause

- Protects bones from osteoporosis
- Relieves hot flashes
- Potentially reduces coronary heart disease and risk of dementia (26% lower risk of dementia)

Caveats

- Combination estrogen and **progesterone** marginally increases breast cancer risk

  -avoid if high risk for breast cancer
- Avoid if history of blood clots
- Prefer transdermal delivery-patches (less risk of blood clots as bypasses liver where clotting proteins are made)

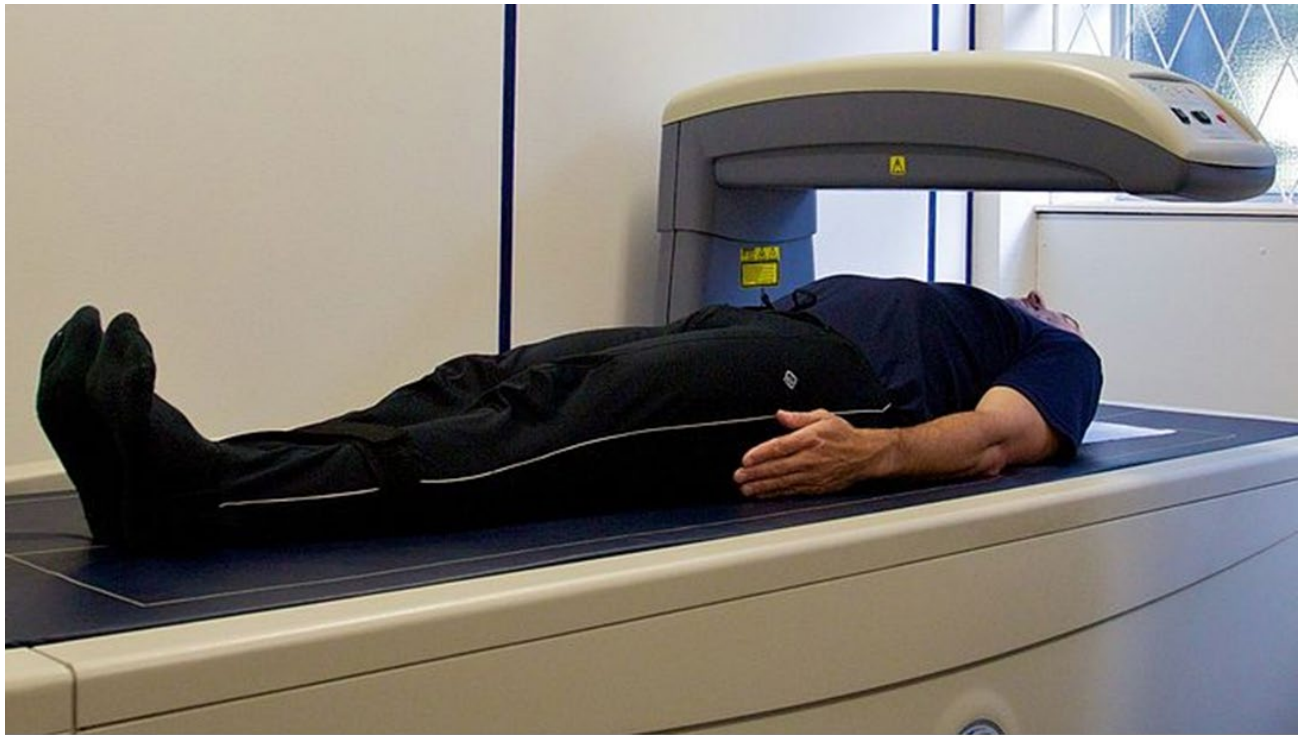
No, do not start HRT after age 65

- More cognitive loss (48% higher risk of dementia)
- Higher risk of cardiovascular events
- Consider topical vaginal estrogen if needed

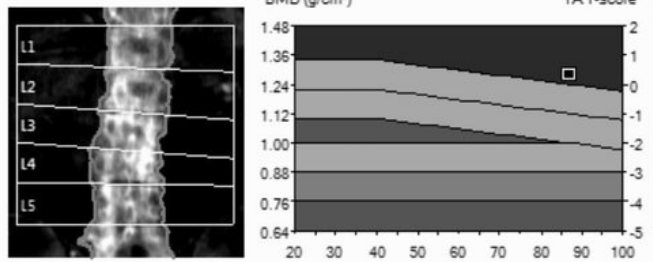
How to stratify risk of fracture?

- DEXA
- FRAX (accounts for age and other risk factors)
- Vertebral fracture assessment
- Fall risk
- Muscle strength

Dual Energy X-ray Absorptiometry



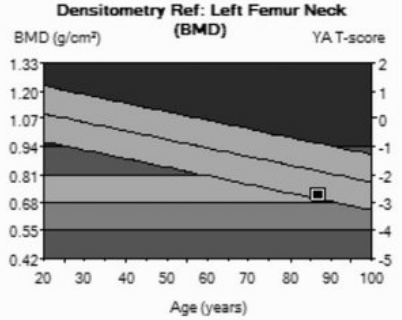
Patient:	[redacted]	**Facility ID:**	
Birth Date:	[redacted] 87.1 years	**Referring Physician:**	[redacted]
Height / Weight:	173.0 cm 72.5 kg	**Measured:**	
Sex / Ethnic:	Male White	**Analyzed:**	



Region	BMD (g/cm²)	Young-Adult T-score	Age-Matched Z-score
L1	0.976	-1.5	-0.5
L2	1.092	-1.2	-0.2
L3	1.385	1.2	2.2
L4	1.382	1.2	2.2
L1-L2	1.034	-1.4	-0.4
L1-L3	1.140	-0.6	0.4
L1-L4	1.196	-0.2	0.8
L2-L3	1.228	-0.1	0.9
L2-L4	1.276	0.3	1.3
L3-L4	1.384	1.2	2.2

Matched for Age, Weight (males 25-100 kg), Ethnic
Australia (Combined Geelong/Lunar) (ages 20-40) AP Spine Reference Population (v112)
Statistically 68% of repeat scans fall within 1SD (± 0.010 g/cm² for AP Spine L2-L4)

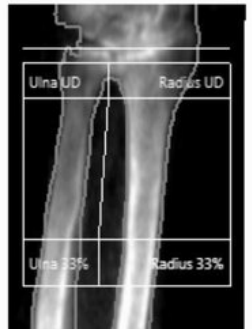
Image not for diagnosis

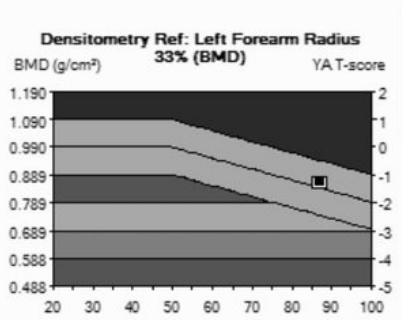


Region	BMD (g/cm²)	Young-Adult T-score	Age-Matched Z-score
Neck	0.717	-2.7	-0.8
Total	0.816	-2.1	-0.7

Matched for Age, Weight (males 25-100 kg), Ethnic
Australia (Combined Geelong/Lunar) (ages 20-40) Femur Reference Population (v112)
Statistically 68% of repeat scans fall within 1SD (± 0.014 g/cm² for Left Femur Neck)

Image not for diagnosis



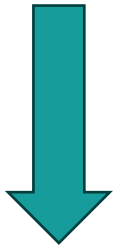


Region	BMD (g/cm²)	Young-Adult T-score	Age-Matched Z-score
Radius UD	0.436	-1.7	-0.2
Radius 33%	0.863	-1.3	0.2

T score compares bone density to a 30 yo bone density

T-Score	% of Bone Loss
0.0	0
-1.0	10%
-2.0	20%
-2.5	25%
-3.0	30%
-4.0	40%

Osteopenia: < -1 - -2.5



Osteoporosis < -2.5

FRAX® WHO Fracture Risk Assessment Tool

Home | Calculation Tool | Paper Charts | FAQ | References | English

Calculation Tool

Please answer the questions below to calculate the ten year probability of fracture with BMD.

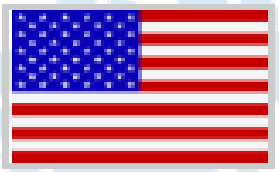
Country: US (Caucasian) Name/ID: About the risk factors

Questionnaire:

1. Age (between 40 and 90 years) or Date of Birth
   Age: Date of Birth: Y: M: D:
2. Sex ○ Male ○ Female
3. Weight (kg)
4. Height (cm)
5. Previous Fracture ◉ No ○ Yes
6. Parent Fractured Hip ◉ No ○ Yes
7. Current Smoking ◉ No ○ Yes
8. Glucocorticoids ◉ No ○ Yes
9. Rheumatoid arthritis
10. Secondary osteoporosis ◉ No ○ Yes
11. Alcohol 3 or more units/day ◉ No ○ Yes
12. Femoral neck BMD (g/cm²)

Select BMD

Clear Calculate



Weight Conversion

Pounds → kg

Convert

Height Conversion

Inches → cm

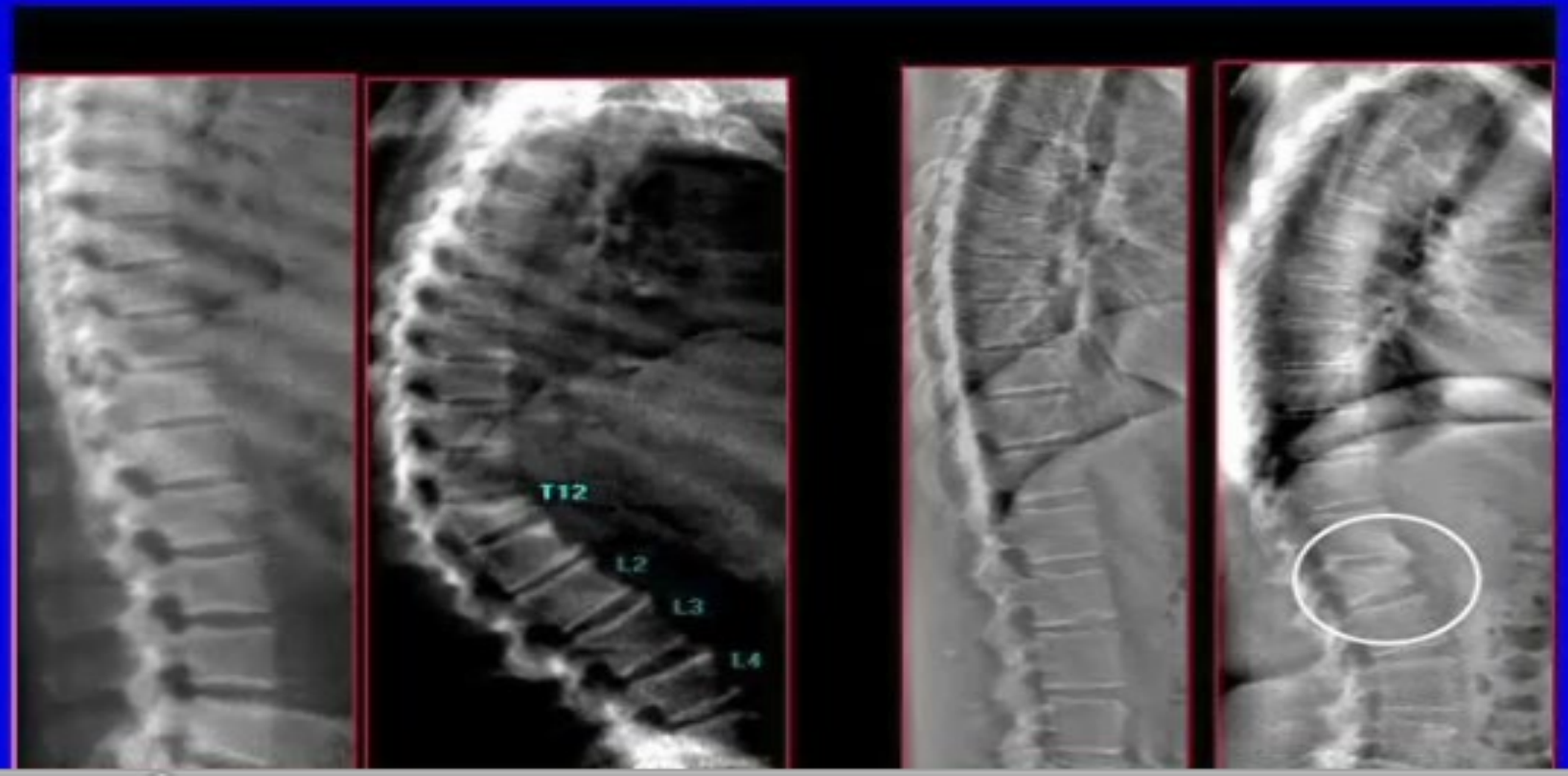
Convert

04258753

Rx: > 20 % risk for major fracture
> 3 % risk hip fracture

Vertebral fracture assessment with DEXA or X-ray

- Lateral Vertebral Imaging shows moderate vertebral compression fracture T12



Vertebral compression fracture confers 4 fold risk of future vertebral fracture

(30 % women > age 70;
2/3 asymptomatic)

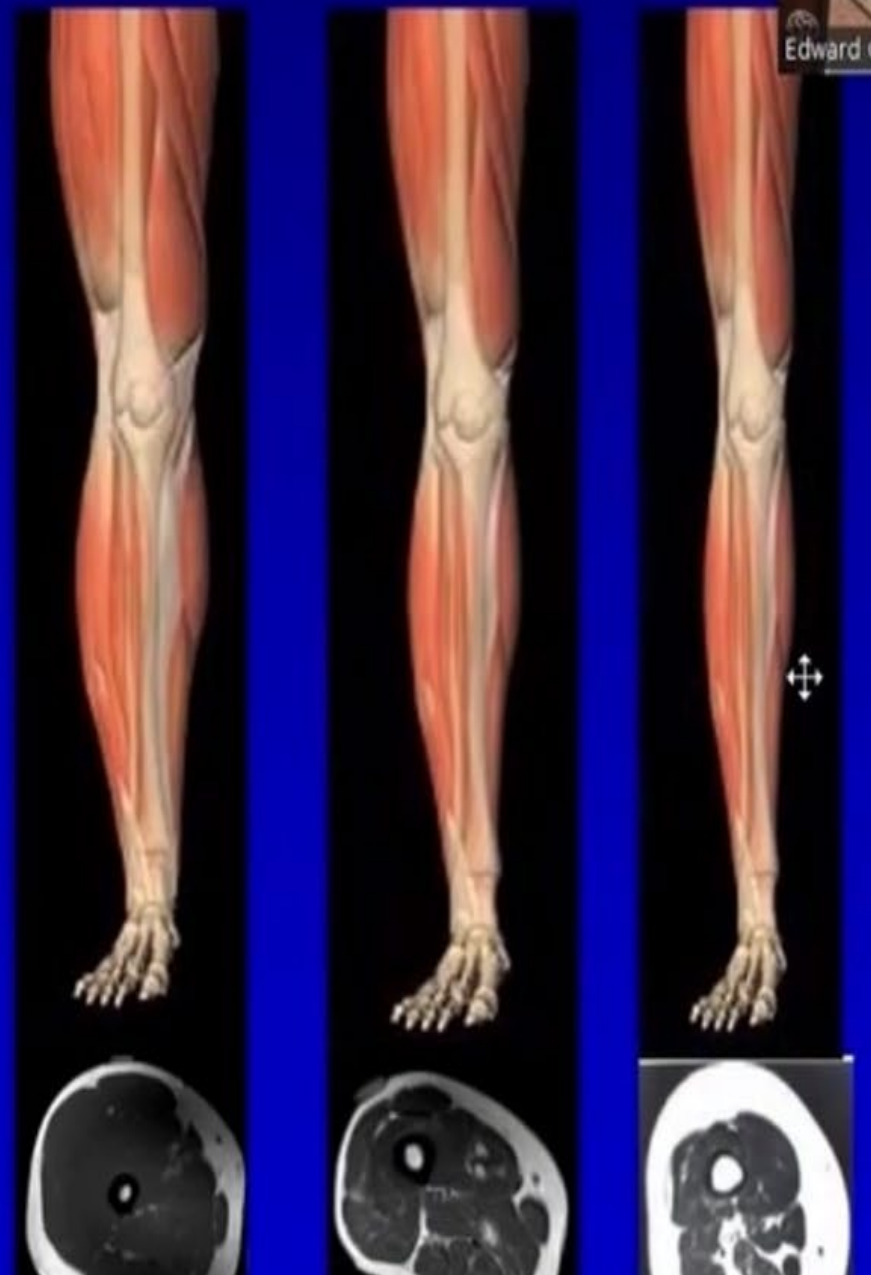
Assess Fall Risk

SARCOPENIA is a syndrome characterised by progressive and generalised loss of skeletal muscle mass and strength with a risk of adverse outcomes such as physical disability, poor quality of life and death.

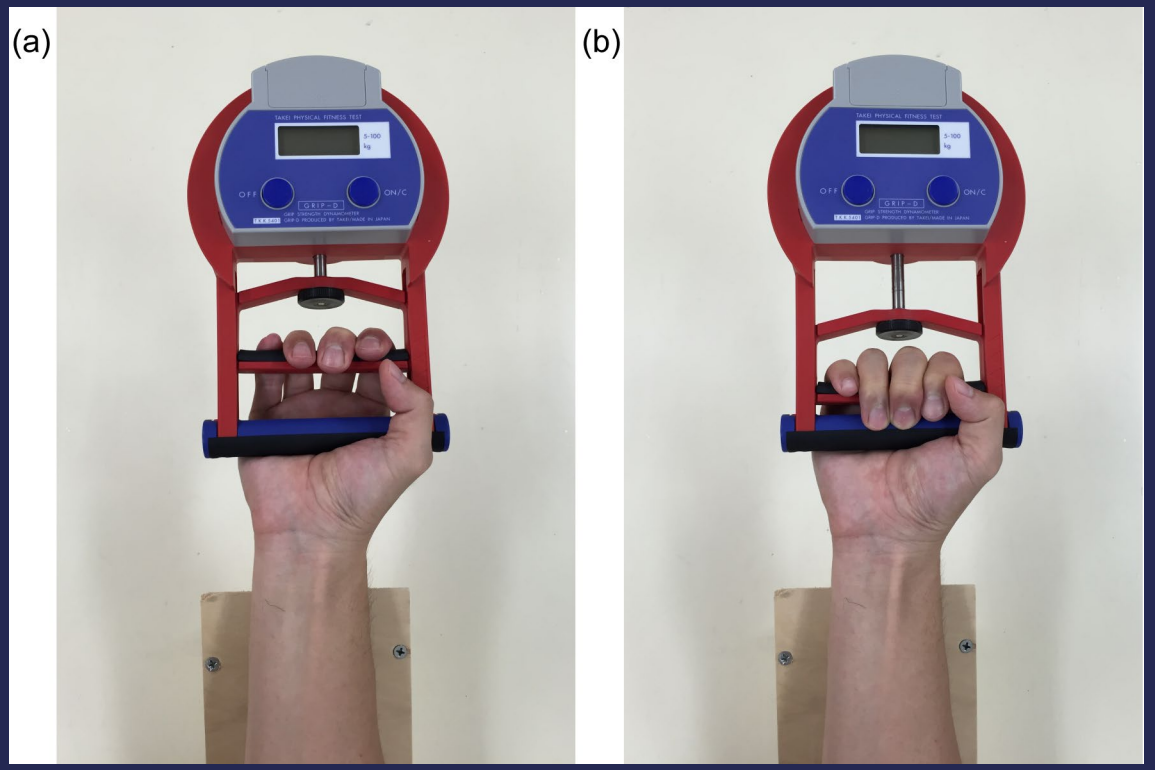
1.5-2 xs higher risk of fractures

Diagnostic criterion:
low muscle mass and
muscle function strength or speed.

The European Working Group on Sarcopenia in Older People (EWGSOP)



Hand grip dynamometer



Male: Age > 65: 28.2-44.0 kg
> 70: 21.3-35.1 kg

Female: Age > 65: 15.4-27.2 kg
> 70: 14.7-24.5 kg

What meds may cause or contribute to bone loss?

- Steroids
- Aromatase inhibitors for treatment of breast cancer
- Androgen deprivation therapies in men for treatment of prostate cancer
- Thyroid when dose is excessive (Suppressed TSH)
- HIV drugs
- Alcohol
- Nicotine

What drugs treat moderate osteoporosis vs severe osteoporosis?

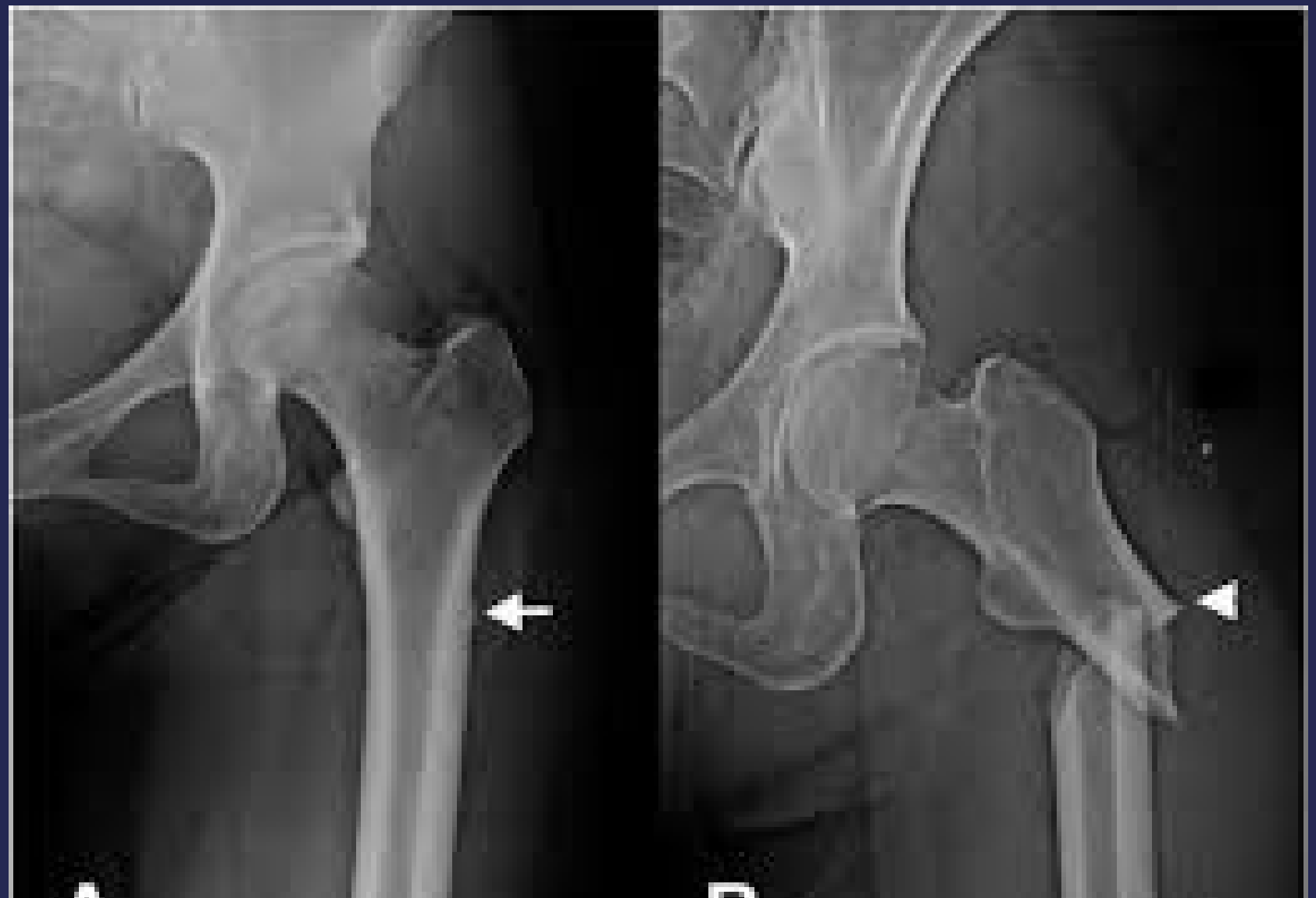
Anabolics stimulate bone formation (Osteoblasts)

Antiresorptives block bone loss (osteoclasts)

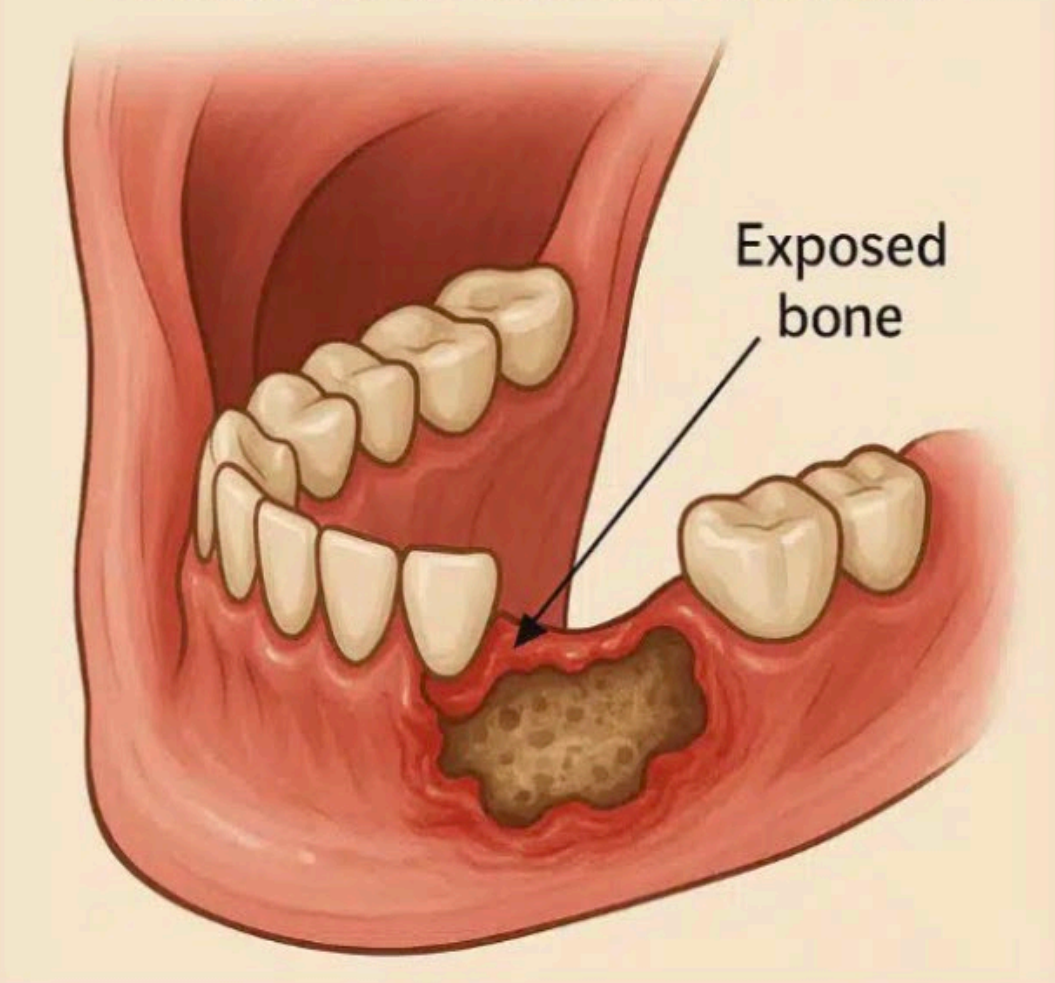
Treatment

- Low-Intermediate fracture risk: Antiresorptives:
- Bisphosphonates (Alendronate,Risedronate, Zometa)
- Denosumab (Prolia) (Antibody to RANKL)
- Estrogen or Raloxifene (SERM)

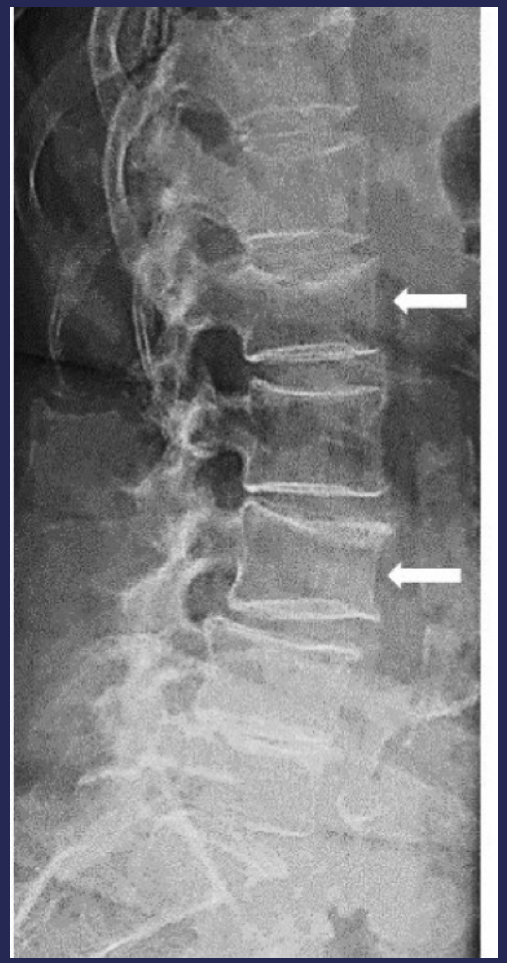
Why a drug holiday with bisphosphonates?



Osteonecrosis of the Jaw



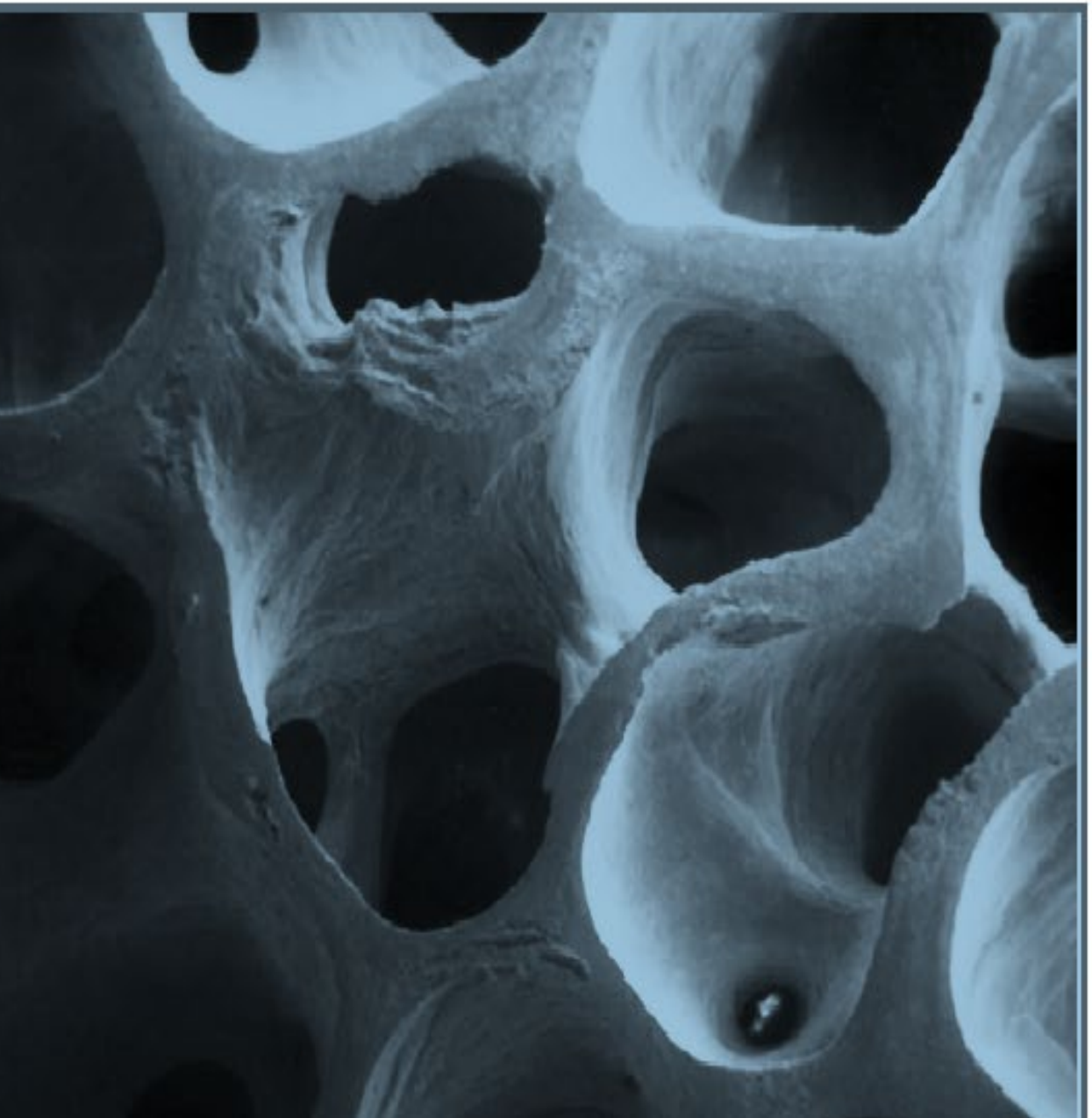
Why not a drug holiday when on Prolia?



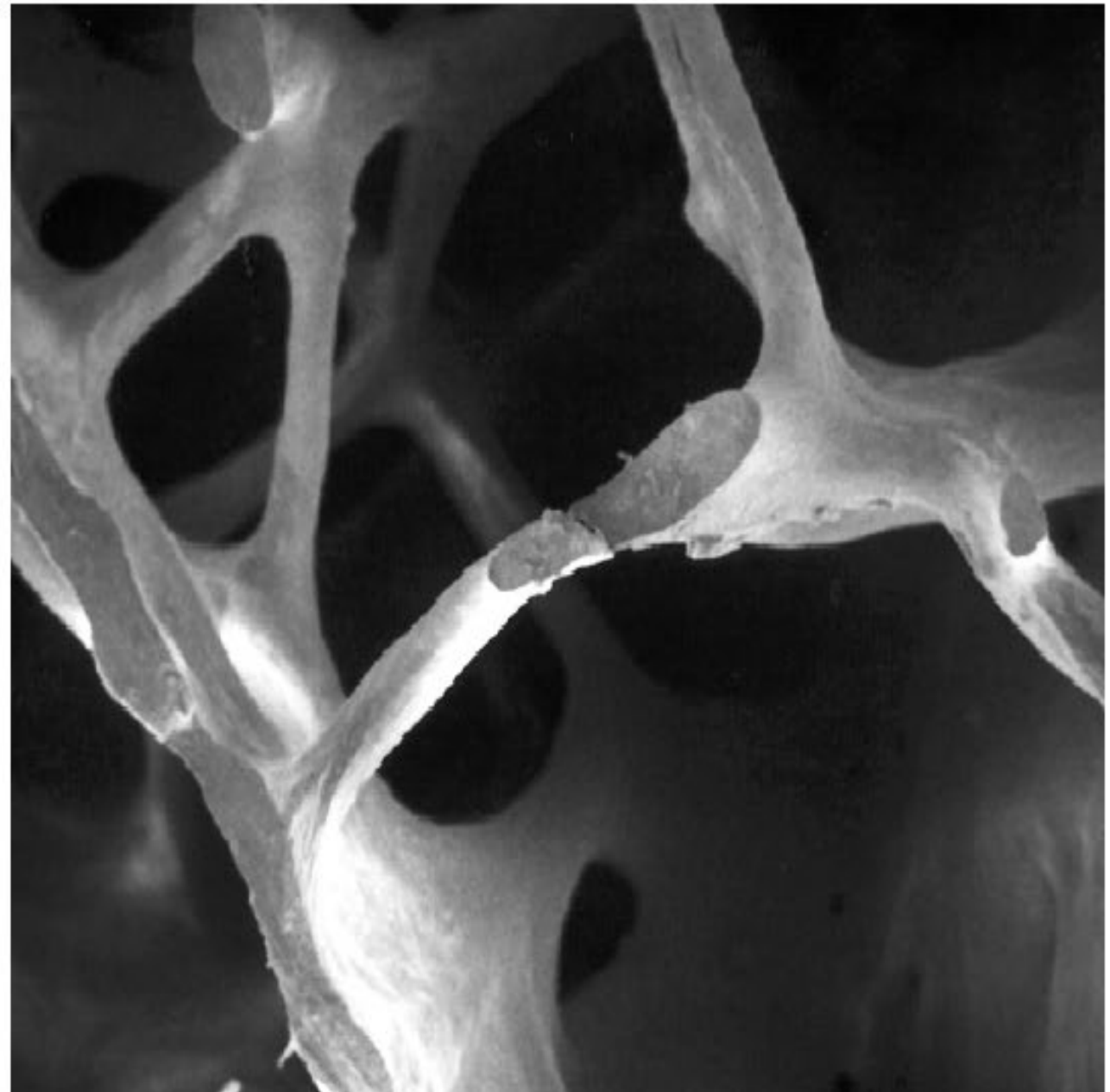
Very High Fracture Risk

- T score of < 3.0
- T score < -2.5 plus a fragility fracture
- Severe or multiple fragility fractures

Normal bone



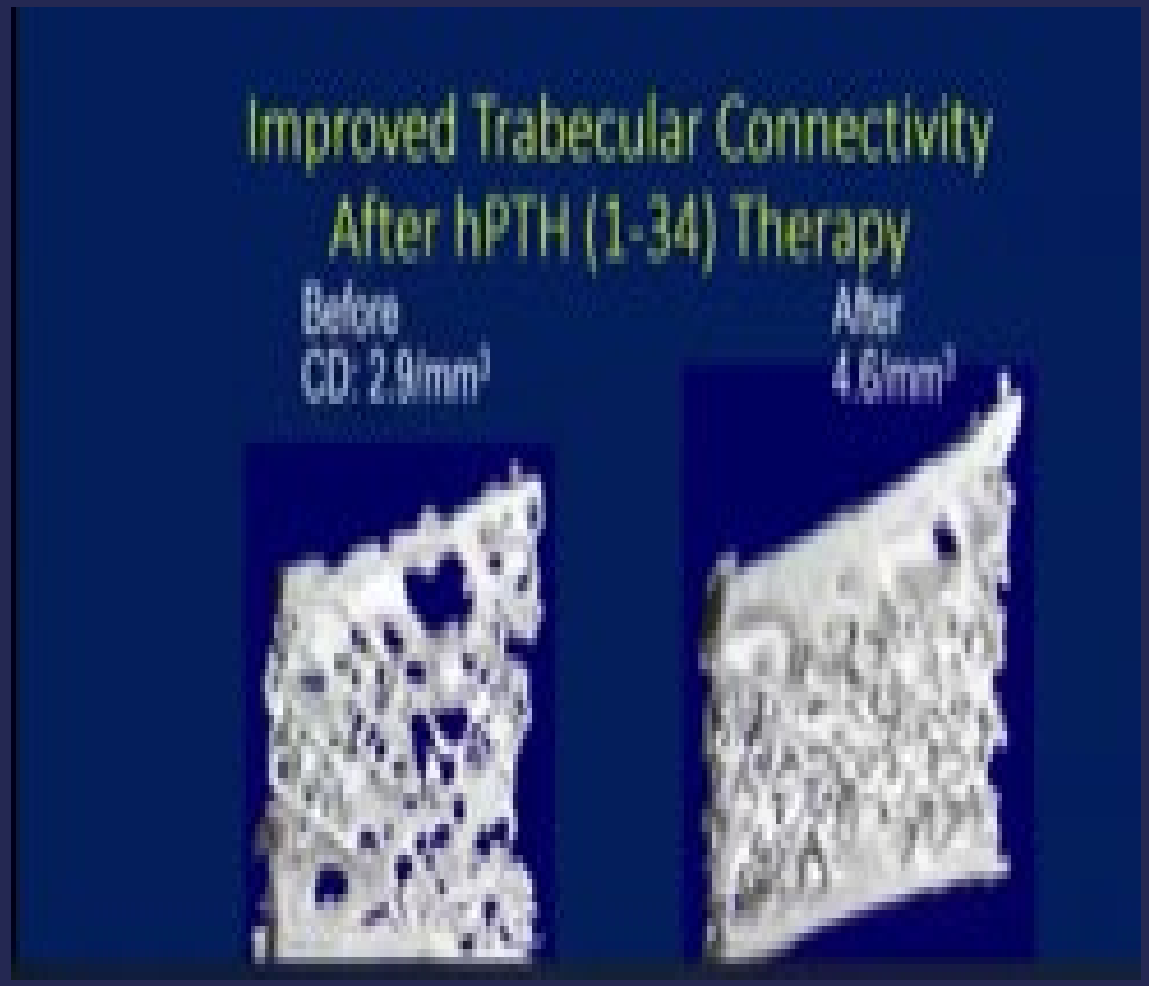
Osteoporotic bone



Very High Fracture Risk: Anabolics

- Evenity (Romosozumab) q monthly x 12 months-(inhibits sclerostin) blocks bone resorption and stimulates new bone formation
- Tymlos(PTHrP) daily injection x 18 months
- Forteo (PTH) daily injection x 24 months

PTH –Parathyroid hormone


Improved Trabecular Connectivity
After hPTH (1-34) Therapy
Before
CD: 2.9/mm³
After
4.6/mm³

Evenity-Romosozumab

- T –score MB: 2021 2023 (Rx for 12 months prior)
- Spine -4.7 -3.8
- Total Hip -2.9 -2.5

- T-score GH (vertebral compression)
- 2020 2022 (Rx for 12 months prior)
- Spine -1.8 + .6
- Total Hip -1.9 - 1.6
- Femoral neck -2.7 -2.3

What about Vitamin D ?

- Level < 12 ng/ml –risk of Osteomalacia (Rickets)
- Recommend D repletion if bone loss, to achieve 25D >30 ng/ml
- 800 IU recommended daily after age 75

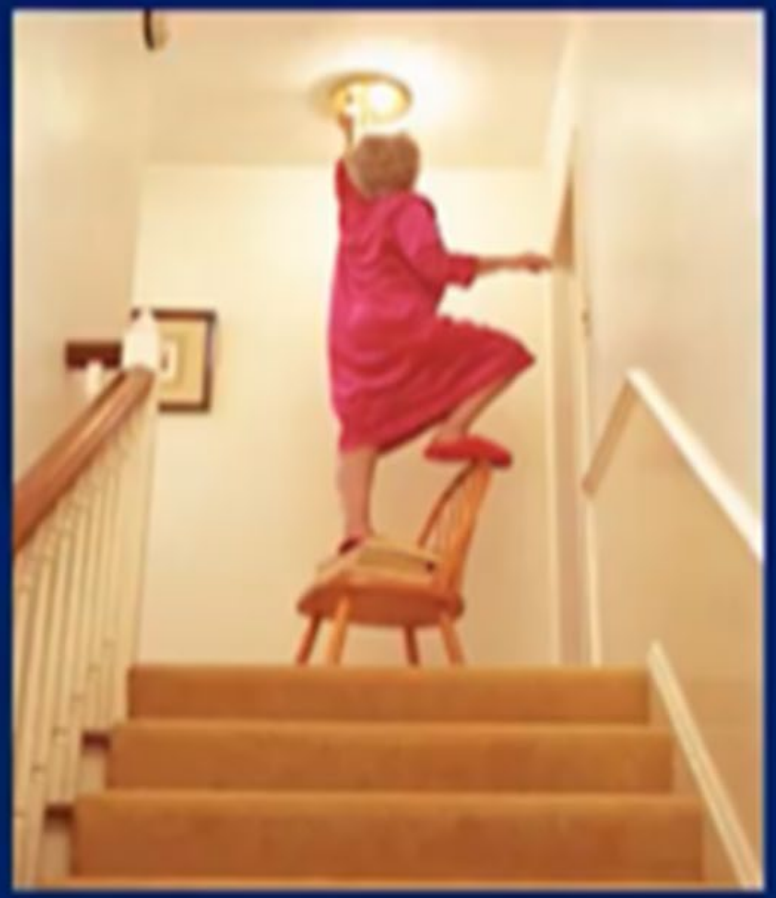
Exercise

- Slows bone loss
- Lowers fracture risk
- Reduces fall risk (20-30%)

- Resistance exercise 2-3 x /week
- Weight bearing exercise-walk most days
- Balance exercises

Fall prevention

Advise Against Risky Behavior for Falls



MY 77th BIRTHDAY CARD:

I SEE PEOPLE MY AGE CLIMBING EVEREST.

I'M JUST HAPPY TO GET MY LEG THROUGH

MY UNDERWEAR WITHOUT LOSING MY BALANCE

Preventing Falls

- Balance exercises
- Physical Therapy

Preventing falls

- Fall proof our home- motion activated night light, shower bars, no skid coverings & safe steps

Hold on to railing

What is the biggest determinant of sexual activity as we age?

- Men :

Physical health

- Women:

Quality of the relationship

"Is there any chance of getting my testicles back?"

Sometimes life has a way of neutering us

NN 74 YO RETIRED SURGEON c/o BREAST SWELLING

- 30s MUMPS ORCHITIS (TESTES INFECTED)- UNABLE TO FATHER KIDS
- ETOH : 6 COCKTAILS A DAY
- “DON’T MIND BEING AN OLD MAN, BUT DAMN IF I WANT TO TURN INTO AN OLD WOMAN”

FINDINGS

- 3-4 cm of GYNECOMASTIA (MALE BREAST TISSUE)
- SMALL TESTES
- LABS: LOW TESTOSTERONE

REST OF THE STORY

- RX.: DEPOTESTOSTERONE 100-200mg./mos.
- GYNECOMASTIA MELTED AWAY
- INCREASED POTENCY AND PEP
- WIFE LATER ACCOMPANIED PATIENT TO OFFICE: “ IT’S LIKE A MIRACLE”

Does T contribute to a higher risk of prostate cancer?

No, it does not contribute to risk or progression of prostate cancer (Traverse Trial)

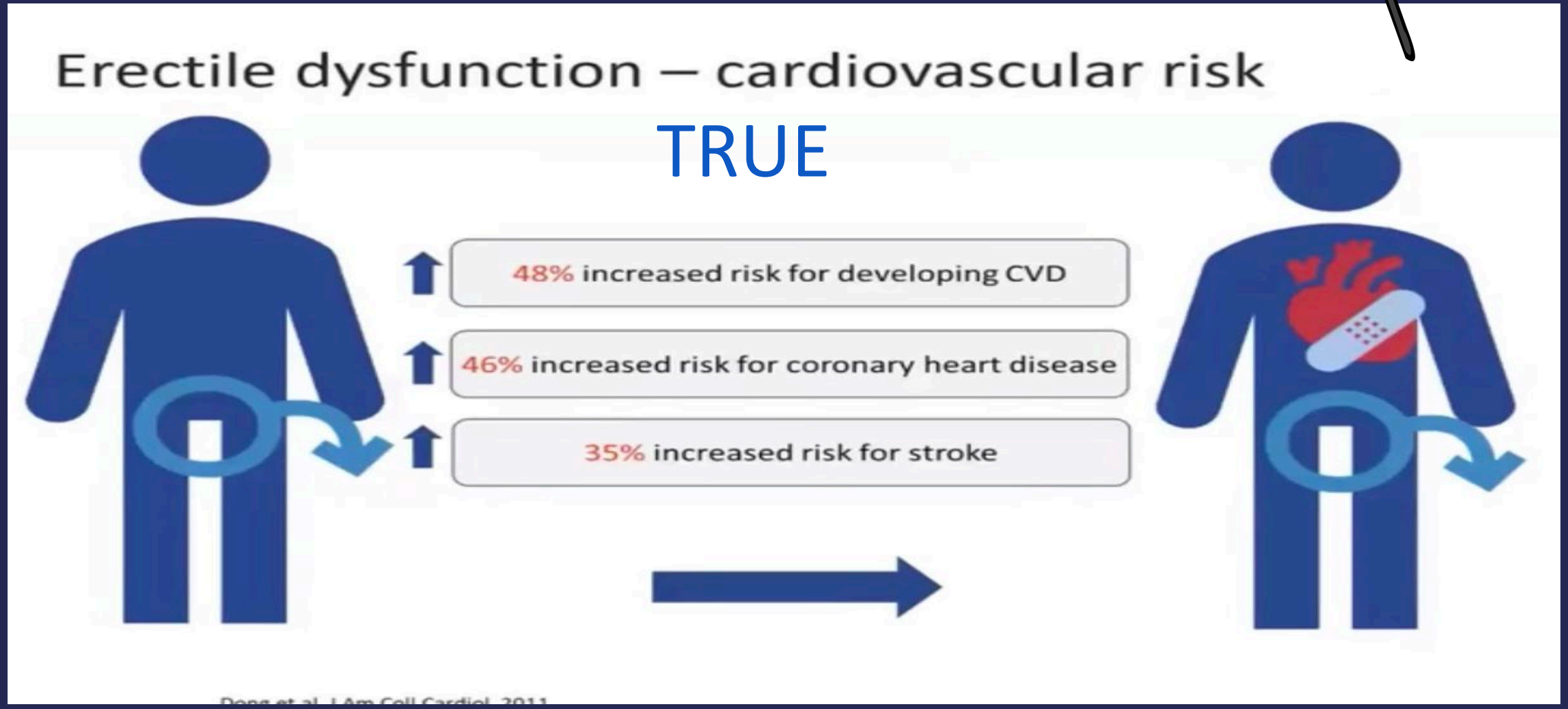
- Unmasks prostate cancer-  PSA (50% men 70-80 have histological prostate cancer)

ONLY TREAT IF CLEARLY HYPOGONADAL AND TREAT TO PHYSIOLOGICAL LEVELS

TESTOSTERONE IMPROVES ERECTILE FUNCTION TRUE OR FALSE?

- False
- Improves libido but not erectile function

True or False: ED is a red flag for CVD?

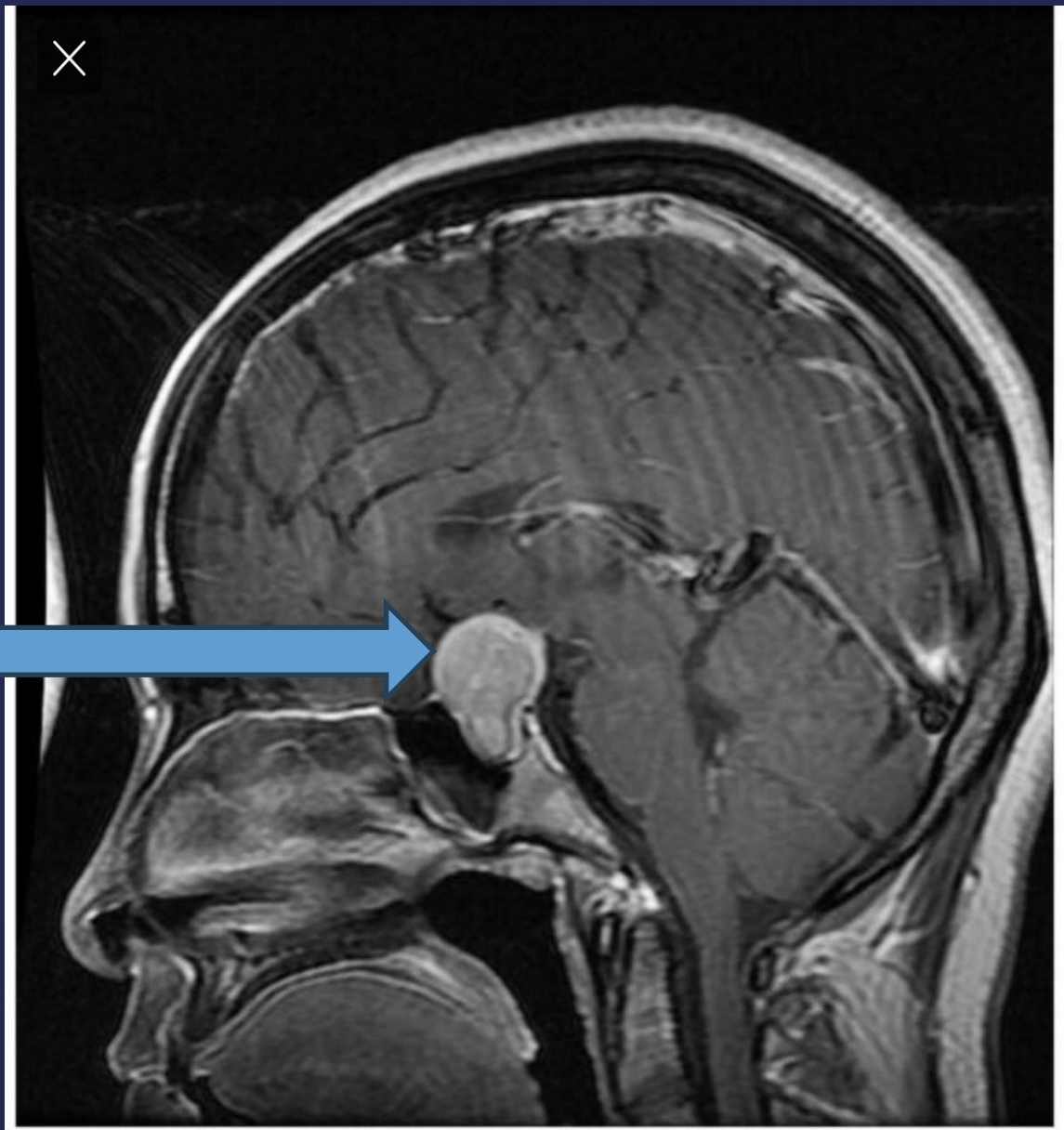


64 YO RETIRED INTERNIST

- ERECTILE DYSFUNCTION
- RECENTLY REMARRIED (“I FIND HER VERY EXCITING”) BUT UNABLE TO CONSUMMATE MARRIAGE
- TRIAL TESTOSTERONE AND PSYCHOTHERAPY FAILED

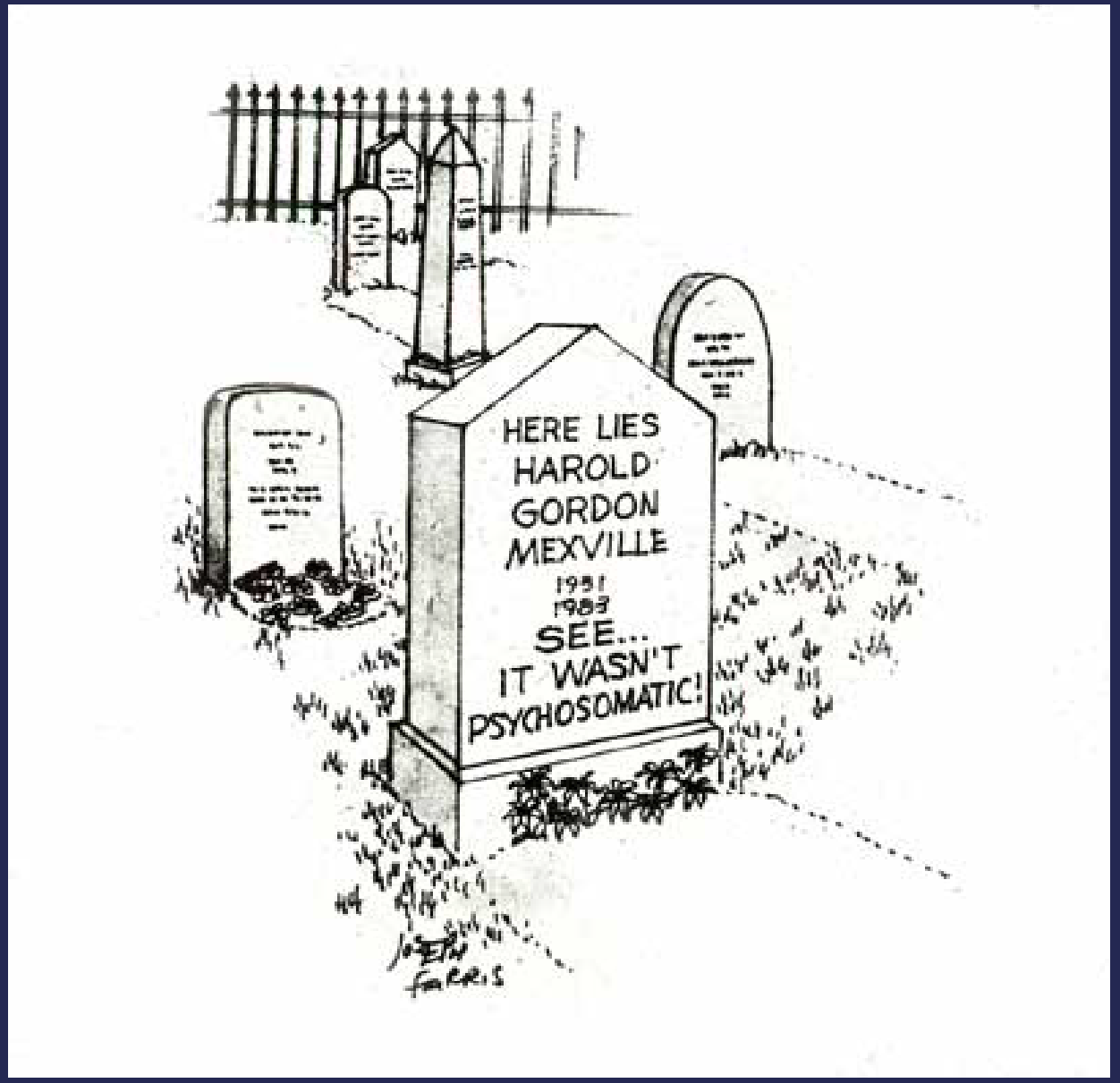
THE REST OF THE STORY

- LAB : PROLACTIN 332 (NL < 20)
- CT : PITUITARY MACROADENOMA



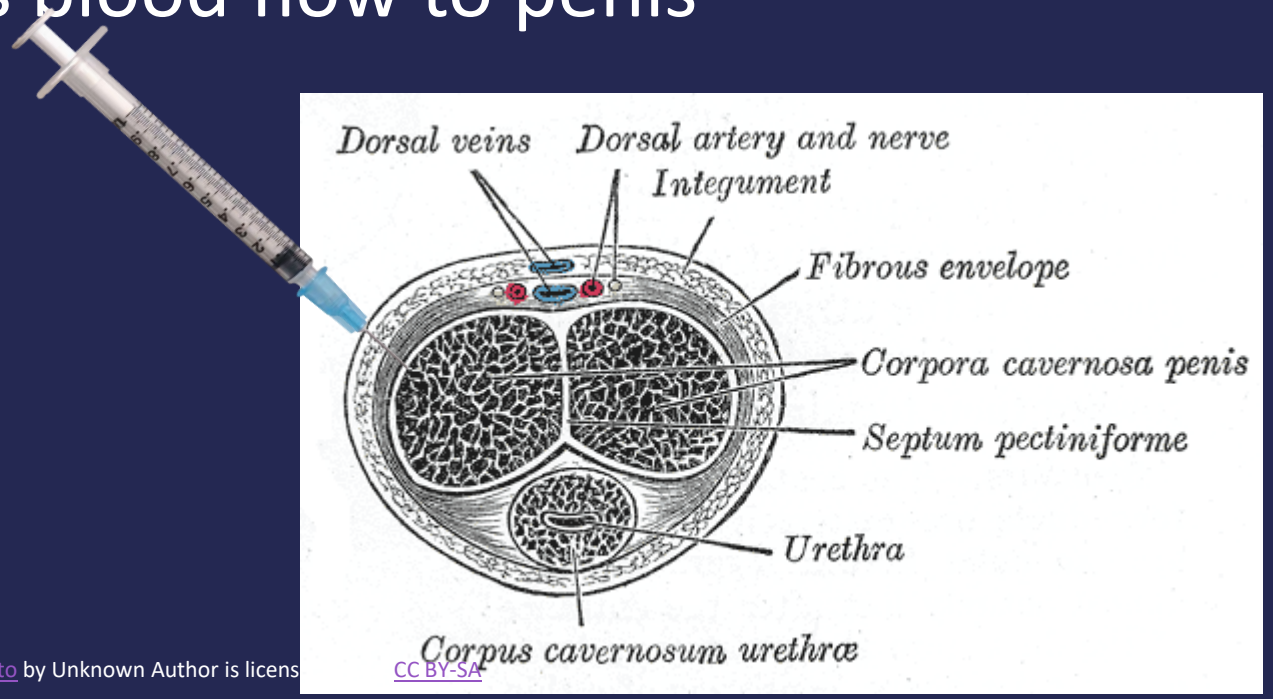
- RX.: BROMOCRIPTINE 2.5mg.bid
- 2 wks. later his young wife accompanied patient to office visit:

  “HE HAS BECOME A STUD”
- PROLACTIN : 3.9


HERE LIES
HAROLD
GORDON
MEXVILLE
1951
1983
SEE...
IT WASN'T
PSYCHOSOMATIC!

Drugs for Impotency

- PDE-5 inhibitors- Viagra, Cialis,Stendra- release nitric oxide and vasodilates
- Trimix (papaverine,phentolamine,PGE) injections – vasodilates and directly increases blood flow to penis



Enhancing Female Sexual Satisfaction

- Vaginal lubricants
- Topical vaginal estrogen
- Topical Testosterone : 1/10 of a testosterone gel (Testim)

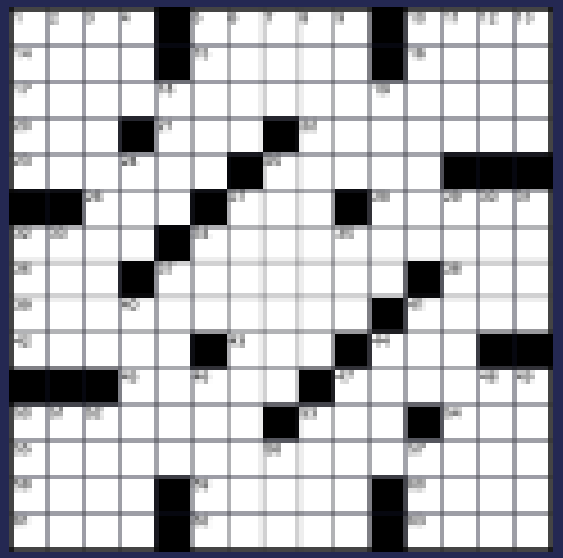
- Intravaginal DHEA

Enhancing Female Sexual Satisfaction

- Bupropion (Welbutrin) 300-600 mg effective for some women
- Slidenafil (Viagra) for women on SSRI
- Vibrators - EROS-FDA APPROVED

Snuggling, hugging and cuddling along with listening, respecting, and loving- is the key to contentment, with or without sex

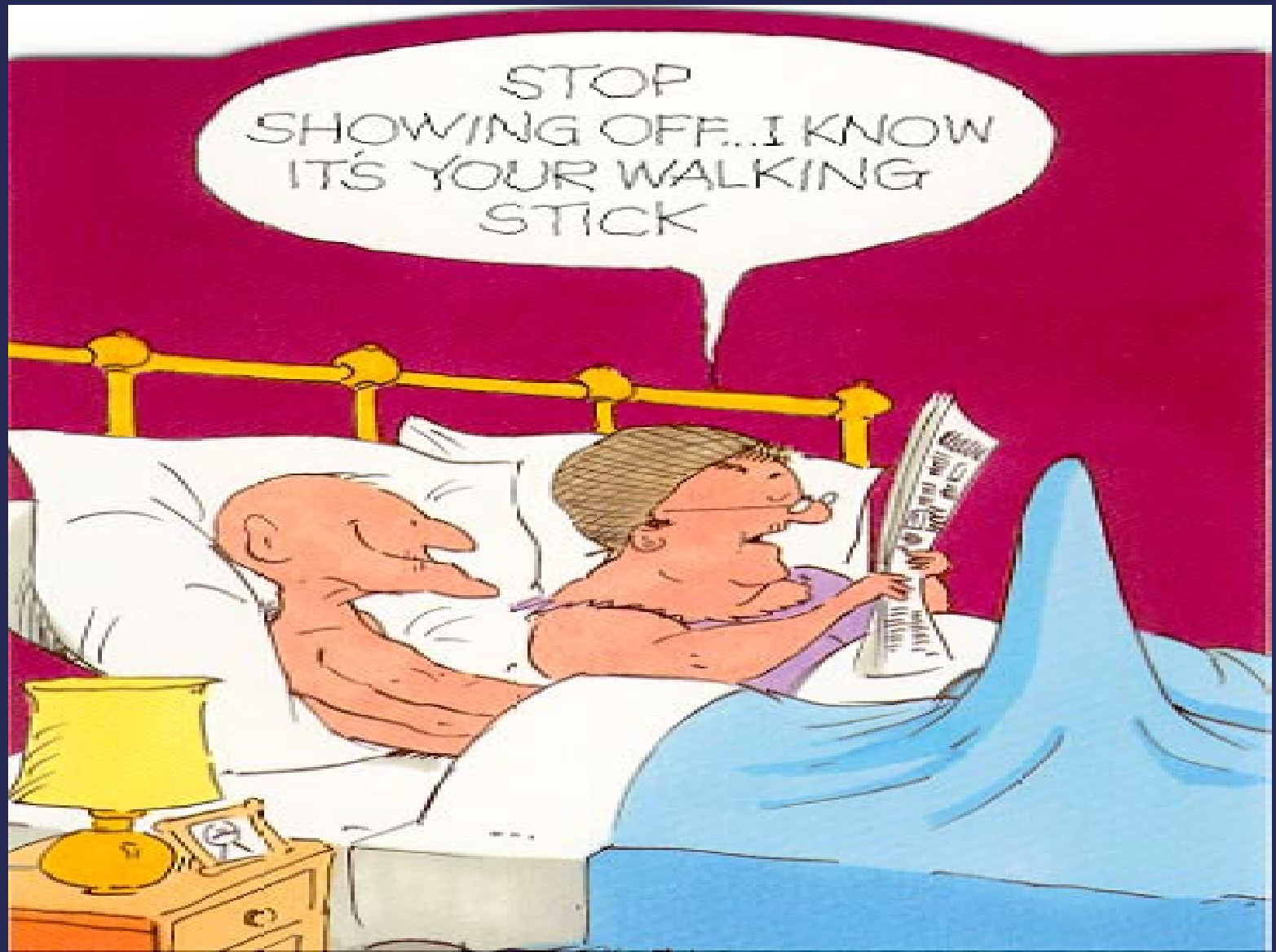
As is playing and having fun together:

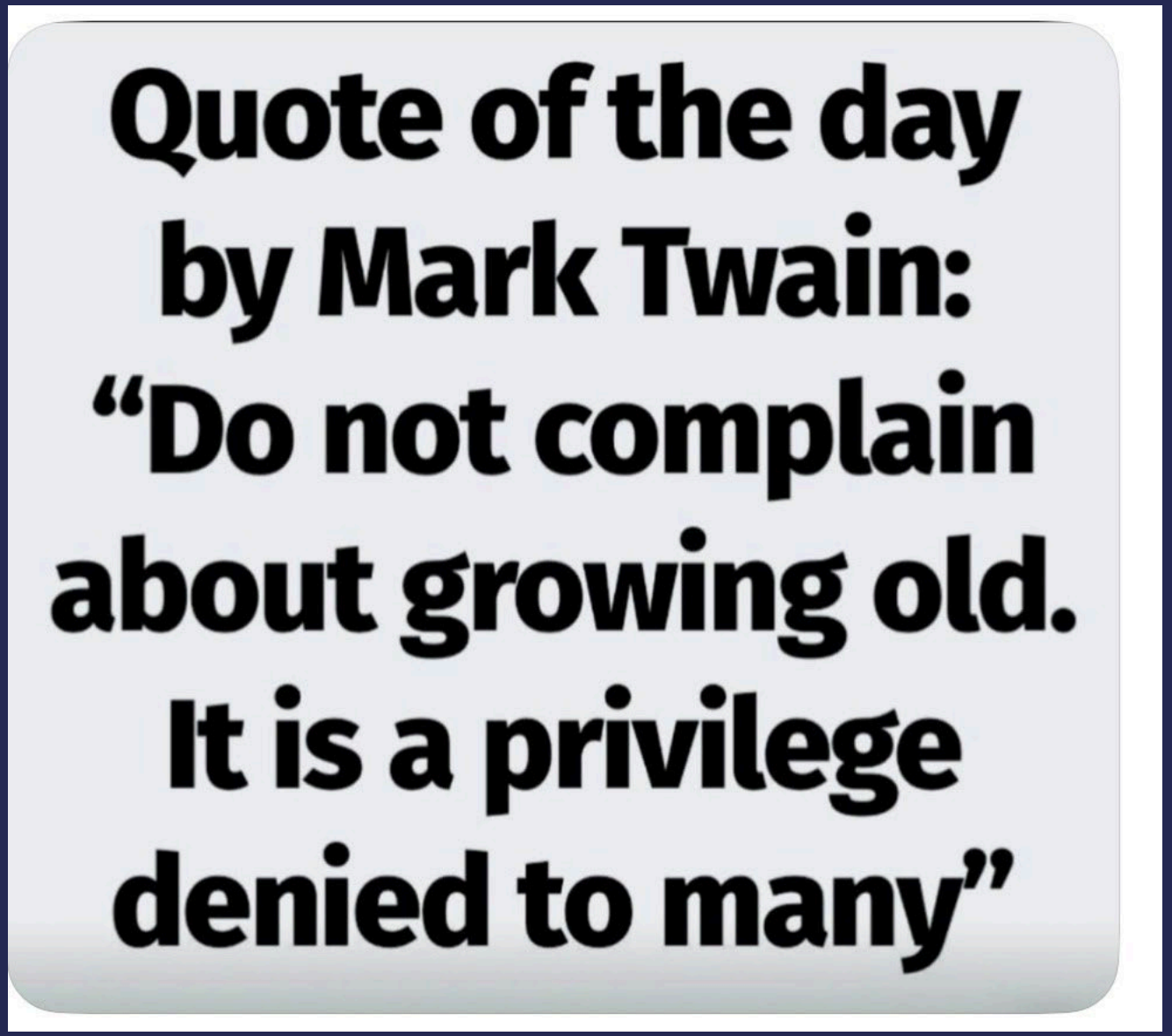


Spelling Bee

A	R	I	S	E
R	O	U	T	E
R	U	L	E	S
R	E	B	U	S

As is humor




Quote of the day
by Mark Twain:
“Do not complain
about growing old.
It is a privilege
denied to many”