

# BONE HEALTH

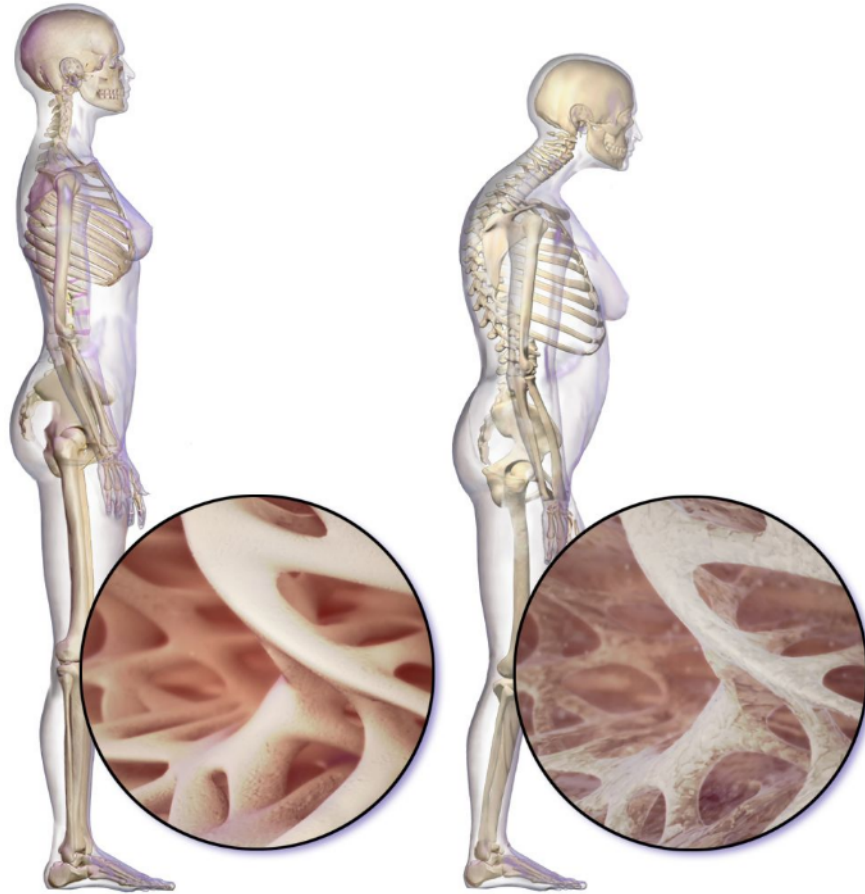
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## Effects of Osteoporosis



Normal Spongy Bone

Spongy Bone in Osteoporosis

# Menopause

- Defined as cessation of menses for at least one year
- Average age in U.S. is 51
- Vasomotor symptoms
- Vaginal dryness

# Menopause

## Symptoms of Menopause

### *Systemic*

- Weight gain
- Heavy night sweats

### Headache

### Palpitations

### *Breasts*

- Enlargement
- Pain

### *Skin*

- Hot flashes
- Dryness
- Itching
- Thinning
- Tingling

### *Joints*

- Soreness
- Stiffness

### Back pain

### *Urinary*

- Incontinence
- Urgency

### *Psychological*

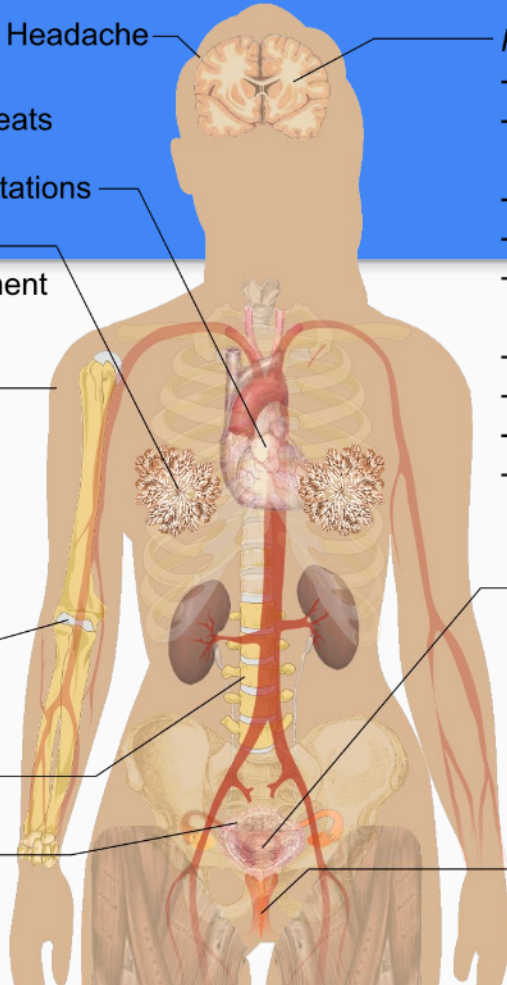
- Dizziness
- Interrupted sleeping patterns
- Anxiety
- Poor memory
- Inability to concentrate
- Depressive mood
- Irritability
- Mood swings
- Less interest in sexual activity

### *Transitional menstruations*

- Shorter or longer cycles
- Bleeding between periods

### *Vaginal*

- Dryness
- Painful intercourse



# Osteoporosis

- Porous bone
- Skeletal disorder characterized by low bone mineral density
- Makes people susceptible to fracture (hip and vertebrate most common)
- Silent disease
- Women > men affected (8.2 million vs 2 million, aged >50)
- White/Hispanic race more susceptible
- Low estrogen at menopause greatly contributes to this

# Evaluation

- History and physical exam, must review medical risk factors/medication use
- Checking height, because height loss related to vertebral fracture

# Symptoms

- Loss of height--getting shorter by and inch or more
- Change in posture
- Bone fracture
- Lower back pain

# Risk factors

- Medication use such as steroids
- Lifestyle -- the more inactive or sedentary, the greater the risk
- Smoking
- Alcohol use (two or more drinks per day)



# Testing

## Dexa--Dual energy X-ray absorptiometry

- Measures bone mineral density
  - Hip and lumbar spine most accurate
  - Measure T score--compares bone mass to that of young adult of same gender
  - Measure Z score--compares bone mass to that of people their same age/gender/body type (if -2, maybe other things causing low bone mass)
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- WHO criteria for diagnosis
  - Osteoporosis: T score less than or equal to -2.5 sd
  - Low bone mass: T score between -1.0 and -2.5 sd
  - Normal bone mass: T score -1 or greater

# Prevention

- Routine aerobic and weight-bearing exercise
- Free weights, jogging, stepping, jumping rope
- Consuming RDA of Calcium and Vitamin D
- RDA calcium 1000 mg/day age 19-50 and 1200 mg > 50
- RDA Vitamin D 600 iu to age 70 and 800 iu after this
- Above is obtained from diet, no recommendation for supplementation
- Supplementation can lead to kidney stones
- Prevention of falls
- Smoking cessation, limit alcohol, less salt in the diet

# Prevention looked at further

## Falls

- Install grab bars
- Pick up grandchildren's toys
- Improve lighting
- Wearing shoes that have a good grip

# Dietary changes--foods to limit

- Foods high in salt
- Alcohol
- Beans (have chemicals that prevent calcium absorption)
- Excess Vit A
- Decrease caffeine intake

# Screening

- Routine starts at age 65
- DEXA recommended
- Hip (femoral neck) and lumbar spine most accurate
- Interval between screenings is generally 2 years
- Preferable to do at same place that patient did before

# Treatment

- HRT or hormone replacement therapy
- Bisphosphonates - antiresorptive drugs
- Biologics - injection every 6 months
- Anabolic agents - bone building

# FRAX

- Fracture Risk assessment tool
- Computer based algorithm to estimate 10 yr risk of hip fracture and 10 year probability of major osteoporotic fracture in adults >40 y/o
- Helps assess need for BMD testing in people < 65 y/o
- Helps determine whether to start treatment in people with low bone mass
- A FRAX score >5% for a hip fracture, consider treatment with lifestyle changes

# Treatment of menopausal symptoms

- Hormone replacement therapy
- Progestin
- Testosterone
- Herbal medications



# Take home messages

- Eat a healthy diet, lots of green, leafy vegetables, well-balanced meal
- Exercise regularly
- Decrease use of unnecessary medication
- Decrease alcohol/smoking cessation
- AVOID FALLS, very important, seems so basic
- Keep davening for a long and healthy life to 120!

# Thank you

Question & Answer

# Conclusion

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