BONE HEALTH CLINIC

Richard Kurz, MD

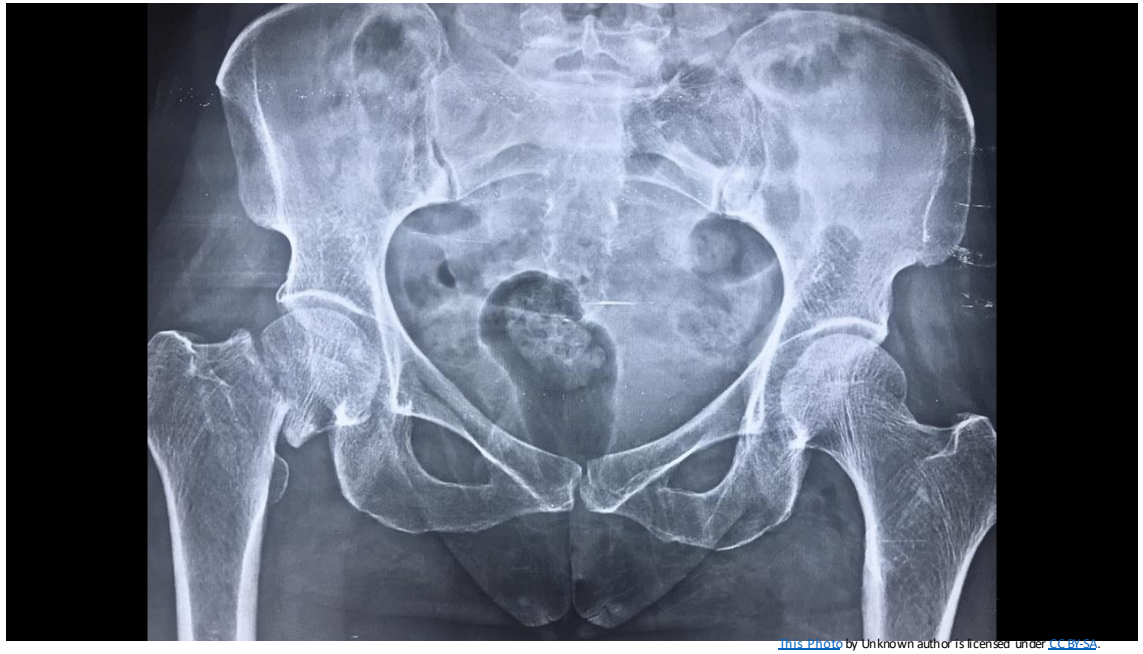
Sarah Atkins, PA-C

Learning Objectives

- Define the clinic
- Outline the clinic goals
- Review risk factors for osteoporosis
- Discuss treatments
- Provider role outside of the program

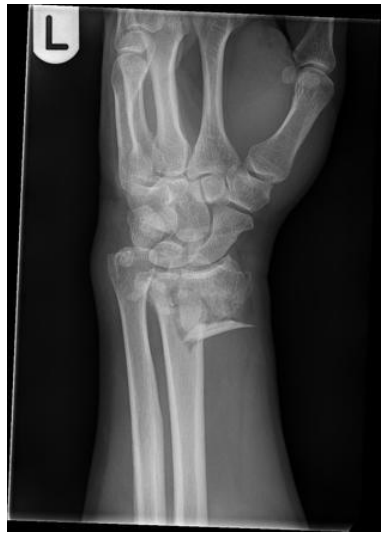
OSTEOPOROSIS

- There are 1.5 million osteoporotic fractures in the US annually
- 10 million people have osteoporosis
- 34 million people have low bone density



OSTEOPOROSIS

- 50% of hip fracture patients suffer a fracture PRIOR
  - wrist, shoulder, hip
- In retrospective analysis, less than 20% of non-traumatic fractures were treated for osteoporosis
  - After a fracture, 4 of 5 women over age 67 were **not** tested or treated for osteoporosis
- Osteoporosis fractures will likely cost us 25 Billion per year by 2025



OSTEOPOROSIS

- ¼ of hip fractures end up in nursing homes
- ½ never regain previous function

- 20% mortality at 1 year

OSTEOPOROSIS

- Risk Factors:
  - Diabetes (4x more likely to suffer a fracture)
  - Rheumatoid disease
  - Rheumatoid treatments
  - Chemotherapy
  - Alcoholism
  - Long-term smokers
  - Lactose intolerance
  - Celiacs
  - Family history of osteoporosis
  - Early menopause
  - Poor physical activity
  - Anorexia nervosa
  - Turner's or Klinefelter's syndromes
  - Cushing's disease
  - Thyrotoxicosis
  - Hyperparathyroidism
  - Gastric bypass/bariatric surgery

These are mostly secondary causes of OP. Age, prior fractures, steroid use, and menopause have highest risk

York, PA demographics

- County population
  - 459,696
- City population
  - 44,834
- Age of population
  - 18-64 years = 60%
  - 65 years and older = 18%
- Median Household income = $72,949

*US Census State and County Quick Facts (2021)

Our practice

- 2022:
  - 63,271 patients
  - Over 65: 21,476
    - Men: 8,780
    - Women: 12,694
  - Patients with fractures: 2,458
    - Distal radius 405
  - Patient with known diabetes: 2,014

POWDER MILL

- 1861 Hospital
  - Pre op / PACU
  - Operating Room
  - Imaging
  - Pharmacy
  - Laboratory
  - Inpatient Unit
  - Therapy
  - Dietary
  - Biomedical
  - EVS

POWDER MILL

- 1855 Clinic
  - Clinic
  - Orthopedic Urgent Care
  - Outpatient Therapy
  - Primary Care
  - Rheumatology
  - Pre-Surgery
  - MRI / CT
  - DME

WHY USE BHC

- Primary care providers are overbooked, overwhelmed
- Endocrinology has 6 month wait list
- Rheumatology is 6-7 month wait list

- Patients are not getting screened as recommended
  - Women at 65
  - Men at 70

SCREENING

- Questionnaire at check-in
- Assesses risk factors
- Referrals based on any risk factors, appropriate age for routine Dexa or anyone that wants to transition their care
- Scheduled at checkout

BONE HEALTH CLINIC (BHC)

- Weekly clinic with Sarah Atkins, PA-C and Dr Richard Kurz
- Schedule is 512
  - Designed to run so any trained provider can step in
  - Open 3 months in advance
  - 60 minutes for new patients
  - 30 minutes for follow ups

BHC NEW PATIENT

- PMH
  - Age of menopause
  - Risk factors (RA, chemo, daily PPI use, HTN, CKD, IBS, lactose intolerance)
  - Diet (yogurt, milk, cheese, leafy greens)
  - MV, vitamin D and calcium use
  - Smoking and drinking
  - Previous treatment
  - Falls
  - Other relevant medical problems (eg. heart disease, COPD, etc.)

BHC NEW PATIENT

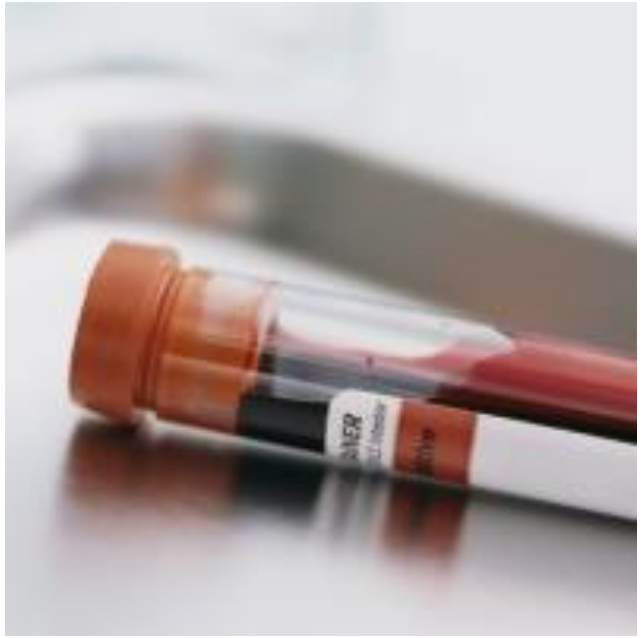
- Labs
  - Drawn same day
  - Most common: Vitamin D, CMP, PTH and TSH
  - 24 hour urine calcium if young, hx stones, no risk factors
  - Bone turnover markers, phosphorus, SPEP, others
- Dexa
  - Age 50 with any risk factors
  - Women at 65, Men at 70
- Treatment
  - Guided by labs, dexa and PMH
  - Numerous options

BHC NEW PATIENT

- Most are level 4 or 5
  - Follow ups are level 3
- Limited physical exam, beyond vitals
- Education based
  - Higher patient satisfaction scores
  - Shared decision making

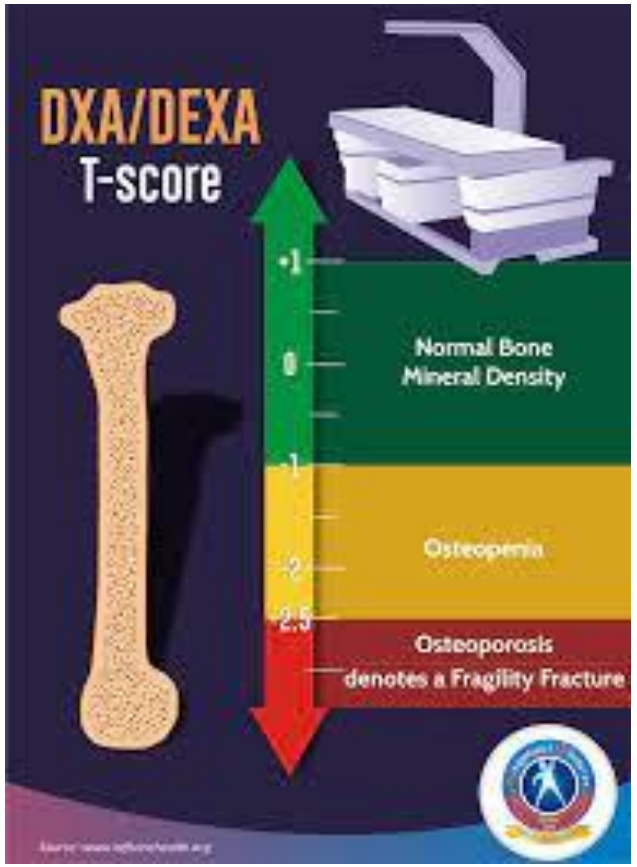
LABS

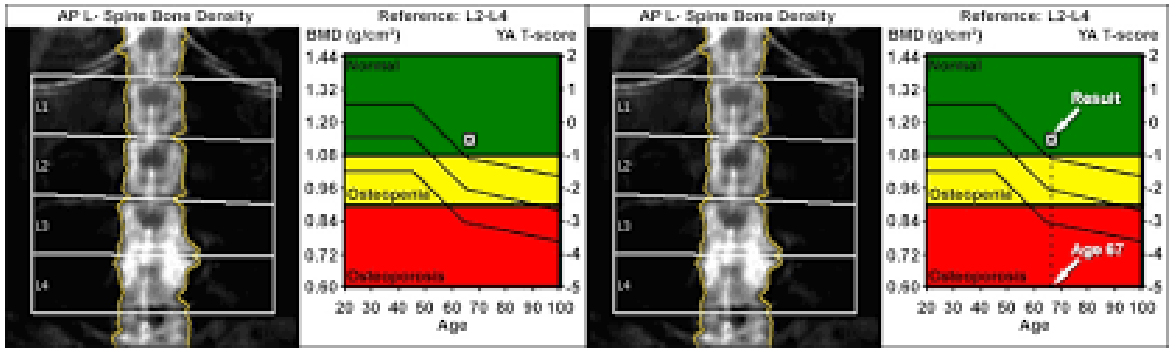
- CMP
  - Looking for renal function, calcium, phosphorus
  - Assess alkaline phosphatase
    - Can indicate rare genetic causes
- Vitamin D
  - Most people need supplements
  - Pertinent for bone formation
  - Over 30 for no risks
  - Over 40 for bone health
- PTH
  - Rule out parathyroid disease
- TSH
- Others as needed



DEXA

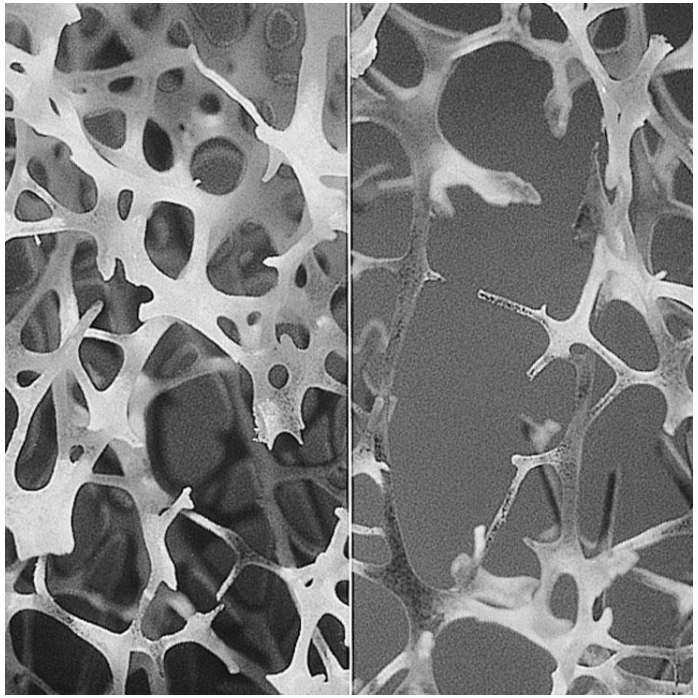
- Can get same day appointment
- Have increased utilization by 20-25%
- Not a perfect test
  - Cannot distinguish arthritis from dense bone
  - Can be affected by different machines
  - Tech needs to be accurate
  - FRAX risk score
- Diagnostic tool
  - Not sole tool
  - Not necessary to initiate treatment





TREATMENT

- In 3 years with Reclast
  - 6.8% increased bone density at L-spine
  - 3% increased bone density at femoral neck
  - 1.8% increased bone density for total hip



- 2% increase in bone density = 28% reduced fracture risk

KEY POINTS

- To establish clinic
  - Liaison to advocate and establish clinic
  - Start slow
  - Education
  - Identify resources
    - Labs, Dexa, infusion sites
- Educate staff about BHC
- Determine referral guides
  - Start small, expand incrementally

BONE HEALTH CLINIC

GETTING STARTED, CLINICIAN POINT OF VIEW

RICHARD KURZ, MD

BONE HEALTH CLINIC

- ADMINISTRATION
- INTERESTED PROVIDERS
- SUPPORT STAFF

BONE HEALTH CLINIC

- Evaluation/Treatment
- Monitoring
- Screen
- Prevention

PROVIDERS

- PCP
- RHEUMATOLOGY
- ENDOCRINOLOGY
- GERIATRICS
- OB/GYN

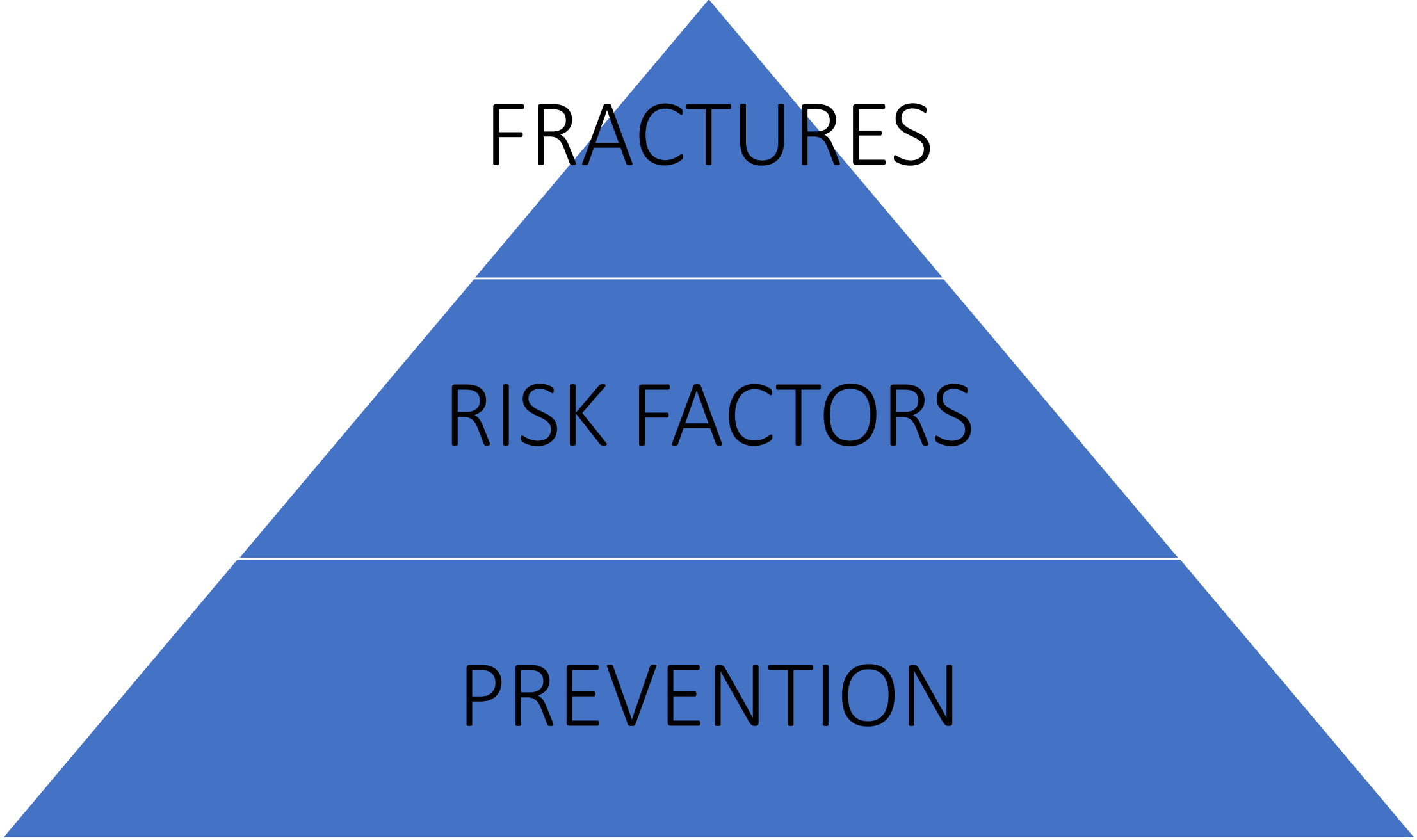
- ORTHOPEDICS

TRANSITION FROM PRIMARY CARE

- How hard could this be?
- One disease (NOT)
- One X-Ray (DXA)
- ~10 Medications
- Secondary care is different
- One hour for 1 problem

RELATION TO PRIMARY CARE

- Time Constraints
- Most comfortable with oral bisphosphonates; Maybe estrogen/raloxifene
- Injectable cost
- RISK
- Communication/Collaboration

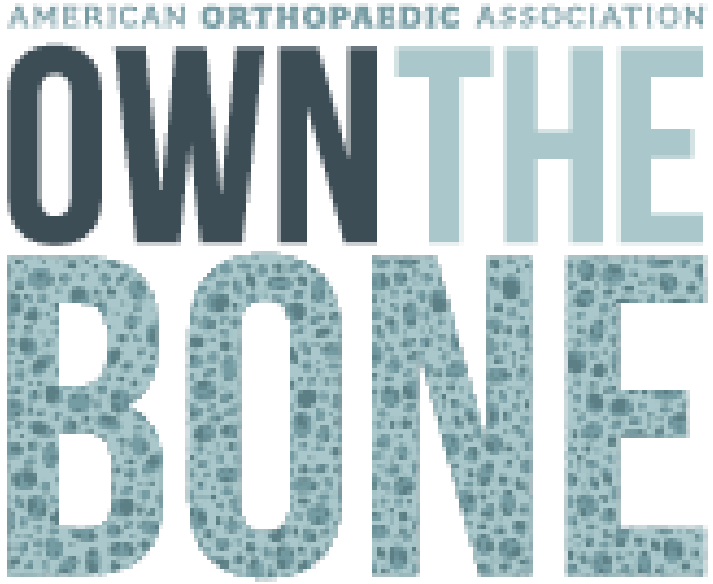

FRACTURES
RISK FACTORS
PREVENTION

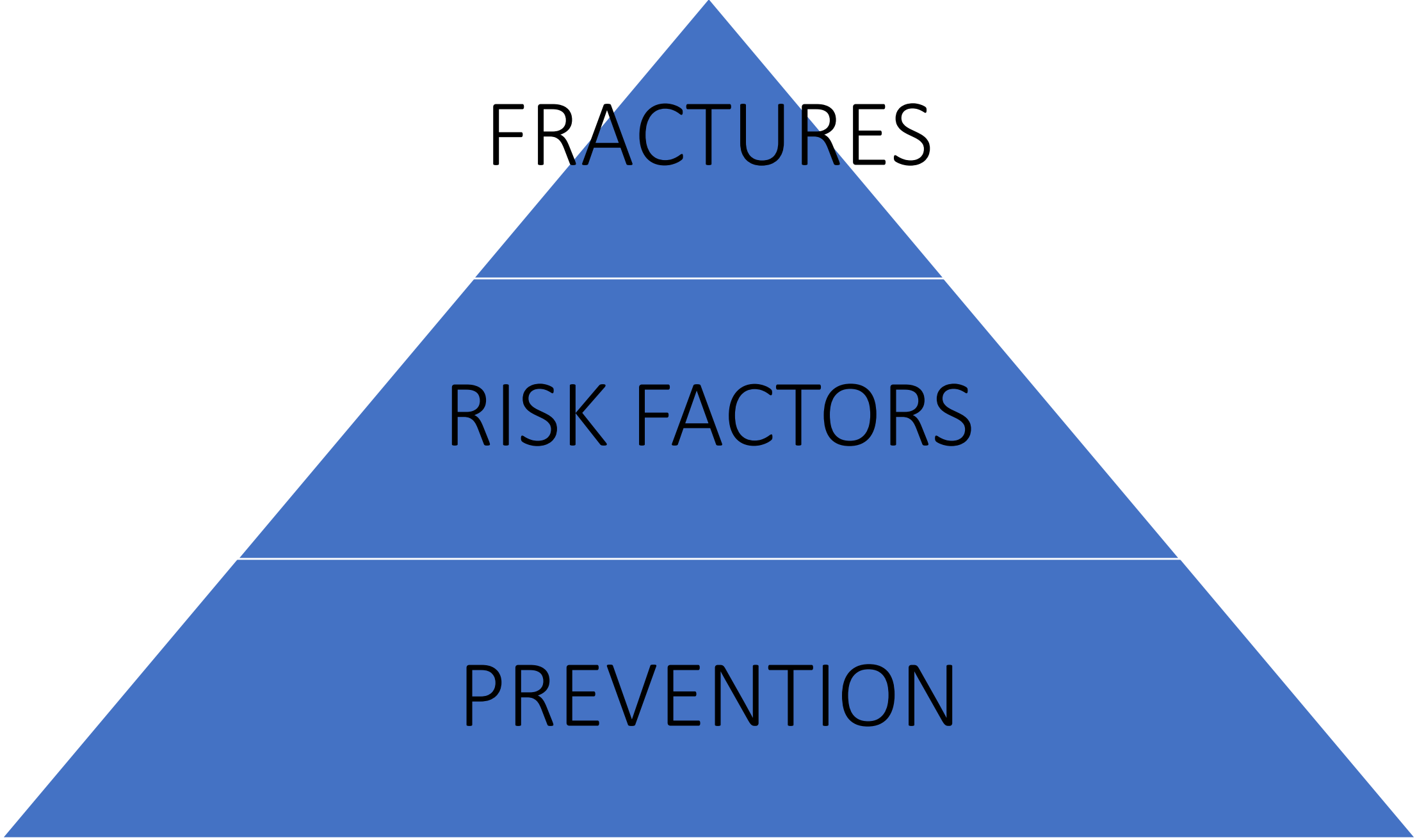
FRACTURE

- Internal Referrals (MAYBE?)
- Candidates for Evaluation
  - ANYONE OVER 50 WITH A FRACTURE IN ADULT YEARS
  - YOUNGER WITH MULTIPLE FRACTURES, OR RISK FACTORS FOR OSTEOPOROSIS
- FLS
- OWN THE BONE

OWN THE BONE

- AOA'S Fracture Liaison Service
- Business advice, Protocols, Library, Patient Handouts, Public Relations, Boot Camp (zoom)
- >300 Sites Participating
- $1000-$2000 Initiation, $2500-$5000/year




FRACTURES
RISK FACTORS
PREVENTION

RISK FACTORS/COEXISTING CONDITIONS

- Table 1 Conditions, diseases, and medications that cause or contribute to osteoporosis and/or fractures
- [27] Lifestyle factors Alcohol abuse Excessive thinness Excess vitamin A Frequent falling High salt intake Immobilization Ina dequate physical activity Low calcium intake Smoking (active or passive) Vitamin D insufficiency/deficiency Genetic diseases Cystic f ibrosis Ehlers-Danlos Gaucher's disease Hemochromatosis Hypophosphatasia Hypophosphatemia Marfan syndrome Menkes steely hair syndrome Osteogenesis imperfecta Parental history of hip fracture Porphyria Homocystinuria Hypogonadal states Anorexia nervosa Androgen insensitivity Female athlete triad Hyperprolactinemia Hypogonadism Panhypopituitarism Premature menopause (<40 years) Turner's & Klinefelter's syndromes Endocrine disorders Obesity Cushing's syndrome Diabetes mellitus (Types 1 & 2) Hyperparathyroidism Thyrotoxicosis Gastrointestinal disorders Celiac disease Bariatric surgery Gastric bypass Gastrointestinal surgery Inflammatory bowel disease including Crohn's disease and ulcerative colitis Malabsorption syndromes Pancreatic disease Primary biliary cirrhosis Hematologic disorders Hemophilia Leukemia and lymphomas Monoclonal gammopathies Multiple myeloma Sickle cell disease Systemic mastocytosis Thalassemia Rheumatologic and autoimmune diseases Ankylosing spondylitis Other rheumatic and autoimmune diseases Rheumatoid arthritis Systemic lupus Neurological and musculoskeletal risk factors Epilepsy Muscular dystrophy Multiple sclerosis Parkinson's disease Spinal cord injury Stroke Miscellaneous conditions and diseases HIV/AIDS Amyloidosis Chronic metabolic acidosis Chronic obstructive lung disease Congestive heart failure Depression Renal disease (CKD III– CKD V/ESRD) Hypercalciuria Idiopathic scoliosis Post-transplant bone disease Sarcoidosis Weight loss Hyponatremia Medications Aluminum-containing antacids Androgen deprivation therapy Anticoagulants (unfractionated heparin) Anticonvulsants (e.g. phenobarbital, phenytoin, valproate) Aromatase inhibitors Barbiturates Cancer chemotherapeutic drugs Cyclosporine A and tacrolimus Glucocorticoids (≥ 5.0 mg/day prednisone or equivalent for ≥ 3 months) GnRH (Gonadotropin releasing hormone) agonists and antagonists Depot medroxyprogesterone acetate (Depo-Provera) Methotrexate Parenteral nutrition Proton pump Inhibitors Selective serotonin reuptake inhibitors Tamoxifen (premenopausal use for breast cancer treatment) Thiazolidinediones (such as pioglitazone and rosiglitazone) Thyroid replaceme nt hormone (in excess)

PREVENTION

- Every patient in clinic
- Community Presentations
- Diet, Exercise, Smoking, Alcohol, Polypharmacy, Weight management, Fall risk, Vitamins, ETC.

EDUCATION OF INTERESTED PROVIDERS

STATEMENT PAPERS

- The Clinicians Guide to Prevention and Treatment of Osteoporosis, BHOF April 2022
- American Association of Clinical Endocrinology/ACE Clinical practice Guidelines for treatment of postmenopausal OP 2020 update

WEBSITES

- BoneHealthAndOsteoporosis.org (not Bronx House of Faith)
- International Society of Clinical Densometry (ISCD.ORG)

COURSE

- Quality Bone Densometry-Performance,Interpretation, and Clinical Application for Clinicians (ISCD)

ECHO

- Bone Health ECHO from University of New Mexico on Tues 2-3:30PM

START A BONE HEALTH CLINIC?

- Osteoporosis vastly underdiagnosed and undertreated
- Compare with myocardial infarction
- Very treatable
- Finances?


QUESTIONS