Osteoporosis in the Black Community

PRACTICAL TIPS AND ACTION

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Introductions

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  - National Caucus and Center on Black Aging
- **Angie Boddie, Director of Health Programs**
  - National Caucus and Center on Black Aging
- **Claire Gill, CEO**
  - National Osteoporosis Foundation
Objectives

- Increase the awareness of osteoporosis in the Black community
- Gain insight into the risk factors associated with osteoporosis
- Identify the importance of proper nutrition
- Discuss the importance of physical activity and identify types of physical activity
- Discuss the role of proper body mechanics and posture
- Learn the role of balance in fall prevention
- Make a plan of action to move forward if you or a loved one has been diagnosed or is at risk for osteoporosis
What Is Osteoporosis

- Osteoporosis ≠ Osteoarthritis

- Is a characterized by low bone mineral density (BMD) and structural deterioration

- Leads to bone fragility and an increased susceptibility to fractures
Impact of Osteoporosis

- Fractures result in:
  - Serious injury/illness
  - Disability
  - Reduction in quality of life
  - Death

- The most common types of osteoporotic fractures are:
  - Spine
  - Hip
  - Wrist

- Fractures increase with age
THAT’S OSTEOPOROSIS

Augustine, aged 97, relies on the care of her daughter Linda. Decades of bone and joint problems took her independence.
How is Osteoporosis Diagnosed?

- Dual Energy X-ray Absorptiometry (DXA)
- Most common for older adults
  - Warranted at younger ages if you have certain risk factors
- Provides T-score
  - Comparative amount of bone to that of a young reference population
- T-Score:
  - Normal: ≤-1.0
  - Low BMD: >-1.0 - <-2.5
  - Osteoporosis: ≥-2.5
Osteoporosis in the Black Community

- Blacks have lower prevalence of osteoporosis
- 2.5% higher BMD than East Asians
- 4.5% higher BMD than European

Prevalence of Osteoporosis

- White: 17.0
- Black: 8.2
- Hispanic: 20.5
- Asian: 40.0


Disparities in Osteoporosis Screening

- Black men and women often go undiagnosed
- The Black community is less likely to be screened
  - 8-20% less likely depending on age
How is Osteoporosis Diagnosed?

- Osteoporosis can also be diagnosed if you have sustained a fracture:
  - Hip
  - Spine

![Bone Scan](image1.jpg)

**Prevalence of Hip Fractures 2013-2014**

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>93.0</td>
<td>3.8</td>
<td>4.2</td>
</tr>
</tbody>
</table>
Racial Disparities in Fracture Outcomes

Racial Difference in Hip Fracture Incidence

Racial Difference in One-Year Mortality Following Hip Fracture

J Bone Miner Res. 2012 Nov;27(11):2325-32
Racial Disparities in Fracture Outcomes

- Study of three post fracture outcomes using 2010-2015 national Medicare data
  - Death
  - Long-term nursing home stay
  - Medicaid dependency

<table>
<thead>
<tr>
<th></th>
<th>Hip</th>
<th>Spine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>24%</td>
<td>7%</td>
</tr>
<tr>
<td>Long-term Nursing Home Stay</td>
<td>19%</td>
<td>-</td>
</tr>
<tr>
<td>Medicaid Dependency</td>
<td>245%</td>
<td>240%</td>
</tr>
</tbody>
</table>

Reasons for Disparities in Fracture Outcomes

1. Screening
2. **Treatment:** 5-20% lower in the Black community
3. **Greater time to surgical repair:** 44% to 200% higher odds of surgical repair >2 days
4. **Improper rehabilitation:** 30% higher odds of not receiving PT
5. **Risk factors in the Black community**
6. **Patient knowledge and awareness**
## Risk Factors for Osteoporosis

### Fixed risk factors
- Age
- Female Gender
- Family History
- Previous Fracture
- Race and Ethnicity
- Menopause
- Long term steroid use
- Rheumatoid Arthritis
- Hypogonadism in men
- Secondary risk factors

### Modifiable risk factors
- Alcohol
- Smoking
- Low body mass index (BMI)
- High BMI
- Poor Nutrition
- Vitamin D Deficiency
- Eating disorders
- Estrogen Deficiency
- Insufficient exercise
5. Risk Factors for Osteoporosis

- **High BMI**
  - Studies are now showing that high BMI not protective against fracture
  - Increase the risk for ankle and wrist fractures

- **Poor nutrition**
  - Quality of food in Black neighborhoods

- **Vitamin D deficiency**

- **Secondary Risk Factors**
  - Diabetes
  - Stroke
  - Sickle cell disease
  - Breast Cancer
  - Lupus

References:
- Osteoporos Int. 2016 Nov;27(11):3149-3154
6. Patient Knowledge and Awareness

- Evaluated knowledge, attitudes, and beliefs about osteoporosis in Black and White women with osteoporosis

<table>
<thead>
<tr>
<th></th>
<th>White Mean (SD)</th>
<th>Black Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>23.3 (4.8)</td>
<td>27.2 (6.3)</td>
</tr>
<tr>
<td>Powerful Others*</td>
<td>18.5 (4.6)</td>
<td>23.8 (6.0)</td>
</tr>
<tr>
<td>Chance</td>
<td>15.8 (3.2)</td>
<td>17.3 (7.0)</td>
</tr>
</tbody>
</table>

p-value = 0.044
6. Patient Knowledge and Awareness

Focus Group Data

- **Osteoporosis knowledge** - Lower in Black women
- **Types of physical activity** - Black: walking vs. White: other strength-based
- **Coping with multi-morbidity** - Osteoporosis is lower priority in Black women
- **Physician trust** – Needed in Black women for bone health activity activation
- **Religion** – Spiritual guidance with respect to health in Black women
- **Patient activation** - Higher in White women around bone health activities
Bone Health in the Black Community

- Healthy bones are essential!
- Knowing risk factors for and management of osteoporosis can reduce fractures and their subsequent outcomes
Practical Tips and Actions

WHAT ARE YOUR NEXT STEPS?
Proper Nutrition

- Black Americans may be at an increased risk for osteoporosis due to lack of calcium and vitamin D.
- Bone is a living tissue and nutrients serve as an important part in maintaining good bone health.
- Inadequate nutrition leads to significant loss of bone and place individuals at an increased risk of fracture.
Calcium

- Many Black American women may be at an increased risk for osteoporosis because they consume less calcium than the Recommended Dietary Allowance (RDA)
- Calcium is necessary for normal bone development and is absorbed best by consuming calcium-rich foods
## How to Increase Calcium?

<table>
<thead>
<tr>
<th>Dietary Sources</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy</td>
<td>Cheese, Yogurt, Milk</td>
</tr>
<tr>
<td>Fish</td>
<td>Sardines or Canned Salmon</td>
</tr>
<tr>
<td>Beans</td>
<td>Lima Beans, Kidney Beans</td>
</tr>
<tr>
<td>Nuts</td>
<td>Almonds</td>
</tr>
<tr>
<td>Certain Dark Leafy Greens</td>
<td>Collard Greens, Spinach, Kale</td>
</tr>
<tr>
<td>Fortified Food</td>
<td>Bread, Cereal, Soy Products</td>
</tr>
</tbody>
</table>

Consume 3 servings of dairy or other calcium rich foods a day.
How to Increase Calcium?

<table>
<thead>
<tr>
<th>Calcium: Recommended Dietary Allowance (RDA) for adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>19-50 years</td>
</tr>
<tr>
<td>51-70 years</td>
</tr>
<tr>
<td>71 and older</td>
</tr>
<tr>
<td>Women</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>19-50 years</td>
</tr>
<tr>
<td>51 and older</td>
</tr>
</tbody>
</table>

Choose calcium supplements that contain vitamin D

https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/calcium-supplements/art-20047097
Vitamin D

- Vitamin D is essential for proper function of nerves, muscles and the immune system.
- Older adults and Black Americans are at an increased risk of developing vitamin D insufficiency.
How to Increase Vitamin D?

- Sunshine (avoid extended exposure to sunlight without sunscreen)
- Vitamin D supplements
  - Vitamin D Intake should not exceed 100 mcg (4000 IU) in a day
  - Recommended daily amount for adults 19-70 years is 15 mcg (600 IU)
  - Recommended daily amount for adults 71 years and older is 20 mcg (800 IU)
- Dietary sources

<table>
<thead>
<tr>
<th>Dietary sources</th>
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</thead>
<tbody>
<tr>
<td>Fatty fish (salmon, trout, tuna)</td>
</tr>
<tr>
<td>Beef liver</td>
</tr>
<tr>
<td>Egg yolks</td>
</tr>
</tbody>
</table>
Exercise for Osteoporosis

- **Benefits of regular exercise:**
  - Increase your muscle strength
  - Improve your balance
  - Decrease your risk of bone fracture
  - Maintain or improve your posture
  - Relieve or decrease pain

- Please remember if you have osteoporosis, are at high risk for a fall or fracture, or have a medical condition, affecting your ability to exercise, check with your health care provider/team before beginning an exercise program.
Weight Bearing Exercises

- Weight-Bearing exercises
  - Walking
  - Jogging
  - Dancing
Strengthening Exercises

Squats

Toe Raises

Strengthening Exercises
Strengthening Exercise

- Strengthening/Resistance Training
  - Lifting weights
  - Using exercise bands

Bicep Curls

Wall push ups
Posture

- Postural changes may be associated with osteoporosis
- Poor posture can cause pressure and affect different areas of your spine

-postural exercises help you stand straight, reduce pain and discomfort associated with osteoporosis, and prevent spine fractures

Good Body Mechanics

- Avoid exercises and daily activities which cause you to round the spine
  - leaning over to make your bed
  - getting groceries out of the trunk of the car
  - bending over to pick up an object from the floor

- Key points for posture:
  - Keep your back, stomach, and leg muscles strong and flexible
  - Do not slouch
  - Ask for help when lifting heavy objects
  - Maintain a regular exercise routine
Postural don’ts
Postural do’s
Tips for Daily Living

**Lifting Items**
- Know your own strength and only lift what you can handle
- Always lift and carry close to the body
- Bend your knees and let your legs do all the work
- Don’t twist your back, turn with your feet

**Safe Sitting**
- Avoid low soft chairs that have poor back support
- Use an upright firm chair that does not allow your lower back to slouch
- Get up and straighten your back out at least every thirty minutes
Tips for Daily Living

**Standing**
- Avoid bending forward
- Have your working surface at a comfortable height

**Getting In/Out of Bed**
- Using a firm mattress will give your back more support.
  - Sit at the side of the bed
  - Lower yourself onto your elbow
  - Lower further onto your shoulder bending your knees at the same time
  - Draw your knees up until your legs are on the bed
  - Roll body and knees together to face the ceiling
  - The reverse sequence should be used when getting out of bed.
Balance Matters

- Are you at risks for falling?
- Common risk factors
  - Visual loss
  - Fear of falling
  - Poor balance
  - Muscle weakness
  - Unstable blood pressure
  - Poor sensation
  - Certain medications
Balance Matters

- Good balance will decrease your risk of falling
- Fall Prevention exercises will improve balance and reduce your risk of falling
  - Work with a physical or occupational therapist for a detailed assessment of your needs
  - Take a free balance assessment to assess your falls risk
    - NCOA Falls Free Checkup (Online Tool)
    - Welldom, LLC (Free virtual falls risk assessment)
      Visit: [www.livewelldom.com](http://www.livewelldom.com)
Make a Plan of Action

01
Start a conversation with your doctor if you have a family history of osteoporosis or other risk factors that may put you at increased risk for the disease

02
Ask your doctor if a test to measure bone density is needed

03
Have a conversation with your doctor or pharmacist about dietary supplements and medicines you take to identify your risk

04
Live a healthy lifestyle including eliminating the risk factors you can change
References:


References


Thank you!

- Please enter your questions in the Chat or Q&A feature

- For more information, please visit:
  - www.nof.org
  - https://ncba-aging.org/