PRESENTATION

- Post-menopausal women
- Pre-menopausal on tamoxifen or GnRH
- Women on aromatase inhibitors

Baseline BMD, 25-OH vitamin D

TREATMENT

25-OH Vitamin D greater than or equal to 30 ng/mL and BMD normal (T-score greater than or equal to -1.0)

- Repeat tests in 2 years
- Reinforce universal recommendations

BMD abnormal (T-score less than -1.0 to -2.4)

- Reinforce universal recommendations
- Repeat DXA every 1-2 years
- Consider medical therapy or referral to bone health specialist based on risk factors (assess by FRAX)

BMD abnormal (T-score less than or equal to -2.5)

- Start bisphosphonates:
  - Alendronate 70 mg po weekly, or
  - Risedronate 35 mg po weekly or 150 mg po monthly, or
  - Ibandronate 150 mg po monthly or 3 mg IV every 3 months, or
  - Zoledronic acid 5 mg IV once a year (use institutional order set) or
- Start denosumab at 60 mg subcutaneously every 6 months (use institutional order set) or
- Refer to bone health specialist
- Reinforce universal recommendations
  - If bone loss risks have changed significantly or major therapeutic intervention has been undertaken, obtain a 12 month follow up DXA

25-OH Vitamin D abnormal (less than 30 ng/mL)

- Ergocalciferol 50,000 IU once a week for 8 weeks, then continue once a month, or
- Over the counter vitamin D3 1,000-2,000 IU daily
- Recheck vitamin D, calcium, and albumin on next visit
- Reinforce universal recommendations

GnRH = Gonadotropin-releasing hormone  BMD = Bone Mineral Density  DXA = Dual-energy X-ray Absorptiometry  IU = International Units

1  25-hydroxyvitamin D, also known as 25-hydroxycholecalciferol, calcidiol or abbreviated as 25-OH Vitamin D, the main vitamin D metabolite circulating in plasma.

2 Universal recommendations:
- Elemental calcium 1,000 – 1,200 mg/day from all sources
- Vitamin D 800 – 1,000 IU/day
- Avoid tobacco
- Limit alcohol
- Weight-bearing/muscle strengthening exercises
- Limit caffeine

3 Abnormal BMD: Osteopenia, T-score between -1.0 and -2.4; Osteoporosis, T-score less than or equal to -2.5

4 FRAX WHO Fracture Risk Assessment Tool at www.shef.ac.uk/frax

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Breast Cancer Survivorship: Bone Health

This cancer survivorship algorithm has been specifically developed for MD Anderson using a multidisciplinary approach and taking into consideration circumstances particular to MD Anderson, including the following: MD Anderson’s specific patient population; MD Anderson’s services and structure; and MD Anderson’s clinical information. This algorithm is provided as informational purposes only and is not intended to replace the independent medical or professional judgment of physicians or other health care providers. Moreover, this algorithm should not be used to treat pregnant women.
SUGGESTED READINGS


Coleman, R., Wright, J., Houston, S., Agrawal, R., Purohit, O., Hayward, L., . . . BISMARK Investigators. (2012). Randomized trial of marker-directed versus standard schedule zoledronic acid for bone metastases from breast cancer. Journal of Clinical Oncology, 30(15)


DEVELOPMENT CREDITS

This survivorship algorithm is based on majority expert opinion of the Breast Survivorship work group at the University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following core development team:

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