Dealing with Menopause: 4 Case Studies

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Presented at UBC's 8th Annual Update in Office Gynecology and Women's Health, 2003

All four women are 54 years old and began menopause at 51. What would you do in each case?

Ms. Young's HRT concerns

- Vasomotor symptoms have increased
- Placed on continuous hormone replacement therapy (HRT) shortly after menopause
- No other significant personal or family history
- Worries about the recent HRT controversy

1. Would you prescribe HRT in light of the Women's Health Initiative (WHI)?

Yes. HRT remains the best choice for symptom relief for post-menopausal women. The WHI is the largest randomized control trial on continuous combined HRT (see box). There are, however, still lots of unanswered questions. At present, HRT remains one of the best therapies for the management of vasomotor symptoms, vaginal dryness, and for the prevention and treatment of osteoporosis in symptomatic post-menopausal women. HRT should be used at the lowest dose and, if possible, for the shortest duration.

The WHI addressed long-term health risks and benefits in older and more obese women who were followed for 5 years. Younger women may have different risk-benefit circumstances especially if short-term therapy is proposed.

Results from WHI: Absolute risks attributable to HRT

Events	Benefits	Risks	Neutral	N/S
Vasomotor symptoms				Yes
Urogenital dryness				Yes
Endometrial cancer			Yes	
Coronary heart disease		+7		
Stroke		+8		
Pulmonary embolism		+8		
Invasive breast cancer		+8		
Colorectal cancer	+5			
Hip fracture	+6			
Total event rate		+19		
Overall mortality			Yes	

WHI: Women's Health Initiative
HRT: Hormone replacement therapy
N/S: Not studied

2. If Ms. Young wishes to stop HRT, how would you advise her?

There are no scientific studies on how to stop HRT. Most of us will do a tapered approach for symptomatic women.

3. Are there other alternatives?

Selective serotonin reuptake inhibitors, serotonin and norepinephrine reuptake inhibitors, clonidine, progestins, and some herbal medicines have been used. None of them have undergone large clinical trials, and the relief of symptoms is not as effective as HRT. Venlafaxine, 37.5 mg daily, seems to be most effective in some women.

Mrs. Robinson's flushes

- Mild flushes, managing with no deterioration of quality of life
- No other significant personal or family history

How would you advise her?

Here are the universal guidelines to optimize bone health (see box):

- Calcium carbonate/citrate: 1,000-1,500 mg elemental calcium daily in total, from diet and supplements
- Vitamin D: 400-800 IU daily (usually from supplements)
- Regular weight-bearing or walking-type exercise
- Fall prevention: safety at home, vision testing, balance testing
- Adequate maintainance of body weight
- Avoidance of smoking
- Keeping alcohol intake to a minimum

Recommended daily intake of calcium and vitamin D (from diet and supplements)

Calcium

Prepubertal children (4-8 years)	800 mg/day
Adolescents (9-18)	1,300 mg/day
Women (19-50)	1,000 mg/day
Women > 50	1,500 mg/day
Pregnant or lactating women (≥ 18)	1,000 mg/day
Men (19-50)	1,000 mg/day
Men > 50	1,500 mg/day

Vitamin D

Women (19-50)	400 IU/day
Women > 50	800 IU/day
Pregnant or lactating women (≥ 18)	400 IU/day
Men (19-50)	400 IU/day
Men > 50	800 IU/day

Taken from the 2002 Clinical Practice Guidelines from the Osteoporosis Society of Canada.

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Mrs. Barrister's menopause

- Mild flushes, managing with no deterioration of quality of life
- Smokes 1-2 cigarette packs/day
- Minimal dairy products
- Weight: 120 lbs, height: 5'6"
- Family history of osteoporotic fractures

1. Is she at risk of osteoporosis?

Yes (see box).

2. Would you consider doing a bone mineral density (BMD) test?

Yes. The 2002 Osteoporosis Society of Canada (OSC) Clinical Practice Guidelines advocate targeted case findings for BMD testing with the following two indications:

1. Presence of 1 major, or 2 minor risk factors
2. Age ≥ 65

The guidelines also suggest:

1. Central hip and spine measurements for diagnosis and followup (1 or 2 years after initiating therapy)
2. X-ray of spine with careful evaluation for vertebral compression deformities for height loss of 2 cm in 1 year, or historical height loss of 4 cm

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Risks for osteoporosis

Major risk factors

- Age > 65 years
- Vertebral compression fracture
- Fragility fracture after 40
- Family history of osteoporotic fracture (especially maternal hip fracture)
- Systemic glucocorticoid therapy of > 3 months duration
- Malabsorption syndrome
- Primary hyperparathyroidism
- Propensity to fall
- Osteopenia apparent on X-ray film
- Hypogonadism
- Early menopause (before 45)

Minor risk factors

- Rheumatoid arthritis
- History of clinical hyperthyroidism
- Chronic anticonvulsant therapy
- Low dietary calcium intake
- Smoker
- Excessive alcohol intake
- Excessive caffeine intake (> 4 cups)
- Weight < 57 kg
- Weight loss > 10% of weight at 25
- Chronic heparin therapy

Taken from the 2002 Clinical Practice Guidelines from the Osteoporosis Society of Canada.

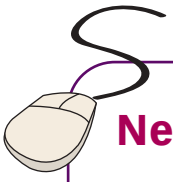
Mrs. Barrister's menopause

3. If her BMD results are: Spine L1-L4 T-Score: -1.3; Total Hip T-Score: -1.1, how would you manage her?

I would consider conservative management with nutrition counselling, supplemental calcium, vitamin D (if necessary), exercise, and lifestyle modifications. She is at low risk of fracture, and the goal is to preserve her bone mass with conservative management. One could demonstrate the success of these measures by repeating BMD testing after 2 years.

4. If her BMD results show: Spine T-Score: –2.0, Hip T-Score: –1.5, how would you manage her?

Because of her risk factors and low bone mass, I would consider adding an anti-resorptive therapy, in addition to giving her diet and lifestyle advice. Currently indicated anti-resorptive therapies include hormone replacement therapy (HRT), selective estrogen receptor modulators, bisphosphonates, and nasal calcitonin. Not all experts will agree with anti-resorptive therapy at this stage. Her low bone mass could be the result of low peak bone mass rather than post-menopausal bone loss.



Net Reading

The SOGC Statement on the WHI Report on Estrogen and Progestin Use in Post-menopausal Women
www.sogc.org

Take-home message

Here are the consensus statements from the Osteoporosis Society of Canada:

- Bisphophonates are a first-line treatment for post-menopausal osteoporosis, especially patients with vertebral fractures: alendronate (Grade A); risedronate (Grade A), etidronate (Grade B).
- Nasal calcitonin is a second-line treatment for post-menopausal osteoporosis (Grade B).
- HRT is a second-line treatment for post-menopausal osteoporosis (Grade B).
- Raloxifene is a first line treatment for post-menopausal osteoporosis (Grade A).

The best therapy is the one that takes into account the total benefits for a patient. In considering a patient's need for pharmacotherapy and the choice between the therapeutic options, an individualized approach is necessary.

Mrs. Richards' bones

- Mild flushes, managing with no deterioration of quality of life
- Smokes 1/2 cigarette pack/day
- Minimal dairy products
- Weight: 120 lbs, height: 5'4"
- Historical height loss of 2"
- Family history of osteoporotic fractures
- Spine bone mineral density (BMD) T-Score: -1.5, Hip BMD T-Score: -1.7

1. You order a spine X-ray, which shows a moderate compression fracture at T7 (20% decrease in anterior vertebral height). How would you manage her now?

In addition to conservative therapy, I would treat her with anti-resorptive therapy (see box).

Anyone with a traumatic (fragility) fracture is considered osteoporotic unless proven otherwise. You should consider treatment regardless of BMD result. The spine BMD T-Score may be falsely elevated if compression fractures are present in the lumbar spine. Women with a new vertebral compression fracture, managed with just calcium and vitamin D, have a 19% chance of having a further vertebral fracture within the next 12 months.

2. Which anti-resorptive therapy would you choose?

Selective estrogen receptor modulators and newer bisphosphonates have Grade A evidence. Hormone replacement therapy (HRT), nasal calcitonin, and etidronate have Grade B evidence. Raloxifene and HRT offer multisystem effects, while alendronate, risedronate, etidronate, and nasal calcitonin are bone-specific drugs. CME

Approach to the prevention and treatment of post-menopausal osteoporosis

1. Prevention and treatment with HRT in symptomatic women.
2. Prevention and treatment with selective estrogen receptor modulators (raloxifene) in younger asymptomatic women when vertebral fracture risk is higher, and when multisystem effects are desired.
3. Prevention and treatment with newer bisphosphonates (alendronate and risedronate) in older post-menopausal women when hip fracture risk is higher.
4. Treatment with etidronate when cost is an issue.
5. Treatment with nasal calcitonin when patients cannot tolerate oral therapy or side-effects, and when pain is an issue.