

Osteoporosis issue needs addition of extension exercise findings

To the Editor:

Thanks to the JAOA for the concise January 2000 supplement on osteoporosis. One small addition that would be especially relevant to osteopathic practice is specific inclusion of upper back extension exercises in the management of osteoporosis.

Loss of height, the most clinically available indicator of osteoporotic vertebral wedging and compression fractures, is preceded by loss of compliance in connective tissues of the spine and rib cage. In women with osteoporosis, thoracic kyphosis is associated with loss of rib cage mobility, and decreases in vital capacity, inspiratory capacity, and total lung capacity.^{1,2}

Itoi and Sinaki³ studied the effect of back extensor strengthening exercises on posture in a group of 60 healthy, nonsmoking, estrogen-deficient women with an average age of 59 years. None of these women was receiving calcium, vitamin D, or estrogen supplementation, and none had had recent back pain or injury. The group of women was divided into a control group and an exercise group that practiced a weighted, prone back extensor exercise 10 times a day for 5 days a week. After 2 years, the measured thoracic kyphosis in spinal x-rays was compared with the kyphosis in the x-rays taken at the onset of the study. Among the subjects with substantial thoracic kyphosis at the onset of the study, those with significant increase in back extensor strength had a significant decrease in thoracic kyphosis of $-2.8^\circ + 4.2^\circ$, $P + 0.041$.

Ten years before, Sinaki and Mikkelsen⁴ studied 59 women with postmenopausal osteoporosis and back pain over a 2-year period. They divided the women into 4 groups, with 25 subjects receiving instruction in back extension exercises (E), 19 receiving extension and flexion exercises (E + F), 9

receiving flexion exercises (F) only, and 6 controls who received no instruction (N). They evaluated spinal x-rays for compression fractures and increased wedging before and after the study. The incidence of additional fractures was 89% in the F group, 67% in the N group, 53% in the E + F group, and 16% in the E group. They did not control for calcium, vitamin D, or estrogen intake. The authors concluded that pure flexion exercises resulted in more compression fractures and that extension or isometric exercises were more appropriate for women with significant postmenopausal osteoporosis.

In the context of a coherent approach to the management of osteoporosis, we can expect that timely introduction of upper back extension exercises will improve kyphosis and respiratory efficiency as well as reduce incidence of compression fractures. Again, thanks for a wonderful issue.

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Response

To the Editor:

Dr Juhl calls specific attention to the role of exercise in the prevention and management of osteoporosis, and, in particular, heightens our awareness of the need to more

clearly define targeted exercise interventions that may be best utilized to manage osteoporosis.

The type and degree of exercise needed to prevent osteoporosis is still uncertain; however, weight-bearing exercises have been shown to have a positive effect on bone mineral density in many human studies.¹ Even childhood exercise may have a marked influence on adult bone mineral density and may therefore prevent the development of osteoporosis in later years.² Marathon runners achieve a higher bone mineral density than those who do not participate in this sport. Tennis players have a greater bone mineral density in the arm that holds the racket as compared with the other arm. Our understanding of the effect of weightlessness on bone density has enhanced our knowledge of the relationship between exercise and osteoporosis prevention.¹ Thus, weight-bearing exercises are clearly preferable to non-weight-bearing exercises such as swimming.

For those with established osteoporosis, the prevention of falls is critical. Although many interventions may be used to prevent falls, exercise programs have been demonstrated to reduce the rate of hip fractures and vertebral fractures in those with osteoporosis.³ The studies cited in Dr Juhl's letter represent additional information important for a better understanding of the relationship of specific exercise programs and osteoporosis management. Both studies shed important information on the role of back extension exercises in the prevention of thoracic kyphosis and the avoidance of compression factors in those with established osteoporosis. These data have led to a commonly held strategy that forward flexion exercises should be avoided in individuals with established osteoporosis.⁴

While there is significant data to support the invaluable role that exercise can play in the prevention and management of osteoporosis, Dr Juhl's letter reminds us of the need for more research to aid in the elucidation of the most beneficial type and

duration of exercise appropriate for the prevention and management of osteoporosis.

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Avoid threat of malpractice suits

To the Editor:

Here are tried and proven techniques to avoid the threat of a malpractice suit.

DOs

- Project a sincere, caring, and pleasant attitude. Try to establish eye contact, and give undivided attention to all of your patients.
- At the end of the interview and exam, ask if there are any further questions.
- Relate to patients as people and not just "osteopathic lesions."
- Encourage patients to ask questions, and be willing to explain the answers to them.
- Respect your patient's time. If you are late, be prepared to offer a reasonable explanation.
- Be courteous to your patient's relatives, and be willing to answer questions about the patient's condition without compromising confidentiality.
- Return telephone calls promptly.
- Insist on telephone courtesy by your entire staff.
- Resolve complaints and misunderstandings about care, billing procedures, etc, before resentment builds.

- Make it easy for patients to obtain follow-up care, or make suggestions as to where they may receive further care.

DON'Ts

- Don't comply with inconsistent medical practices among your colleagues.
- Don't display disrespectful, inconsiderate, or overbearing attitudes toward patients.
- Don't allow patients to view office workers in operation.
- Don't allow sloppy or confusing patient billing methods.
- Don't allow offices to appear unclean or not well-maintained.
- Don't ignore the dissatisfaction of the patient's family members.
- Don't reprimand staff members in front of patients.

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In praise of Dr Wales' letter

To the Editor:

I am writing to applaud the letter by Anne L. Wales, DO, "Physician recalls unforgettable evening in her early career" (*JAOA* 2000;100:84).

It is incredible that Dr Wales could devise such an intensive and effective treatment for a patient with pneumonia in the pre-computed tomography, preantibiotic, pre-arterial blood gas, and pre-nebulizer treatment era! Wales' treatment was based on her understanding of anatomy; the physiologic features of the circulatory, lung, and autonomic nervous systems; and the pathologic features of pneumonia. The good doctor must be very intelligent and well taught, and, by my count, she must have been in practice 73 years!

I have given a copy of her letter to the allopathic and osteopathic medical students to whom I teach pediatrics, and to my son who is a medical student, for inspiration.

Verna Jean Turkish, DO

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Manikin

For days I was strapped in my case
For weeks I was cramped in the dark
For months I was hinged at my hips
Then yes, I heard the latch
And soon I was out in the light.

They flopped me on the floor
They pulled my legs out straight
They screwed my arms in place
I love my warm up suit
I hope they keep it clean.

He shook me at my shoulder
He pulled my head on back
He opened my mouth to feel my breath
And called for help, "Are you all right?"
I've heard it a thousand times.

She felt the sides of my neck
She marked the spot on my sternum
She pumped and pumped on my heart
"And one and two and three and four
and five"
Then twice he blew out my chest
"And one and two and three and four
and five."

I'm back in my vinyl den
I watch but it's all too black
I hear with my feet to my ears
I hope to come out again
And one and two and three and four
and five
I hope out there, you're still alive. ♦

—John R. Scranton, DO
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