Paced Respiration for Hot Flashes?

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Women need options that can be used in lieu of or in addition to currently available pharmacotherapy for hot flashes. Paced respiration represents a behavioral alternative to treatment with hormones or other medications.

Although The North American Menopause Society recommends paced respiration (slow deep breathing) as a first-line treatment for hot flashes, there have been few efforts to evaluate this treatment strategy. In fact, evidence is weak for a variety of widely recommended vasomotor symptom therapies.[1] Behavioral therapies can be important alternatives for individuals who are not medically able to take hormone therapies (eg, breast cancer survivors), are at risk for drug-drug interactions, or who simply prefer not to take medications.

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Paced respiration is slow, deliberate deep breathing that is sustained for a specified period of time.

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The Evidence for Paced Respiration

Many relaxation-based interventions targeting hot flashes have included paced respiration or other breathing training programs as one of several treatment components. These interventions have been tested in healthy peri- and postmenopausal women and in samples of breast cancer survivors. In general, results have been favorable. In 7 uncontrolled studies, hot flashes were reduced with hypnosis that incorporated deep relaxation and suggestions of coolness,[2] mindfulness-based stress reduction,[3] relaxation-based cognitive-behavioral interventions,[4-6] or relaxation associated with yoga.[7,8] Similarly, in 12 of 13 controlled studies, hot flashes were reduced with progressive muscle relaxation,[9] slow deep breathing,[10,11] slow deep breathing with cognitive-behavioral therapy,[12] relaxation with breath awareness,[13] a combination of progressive muscle relaxation, release-only relaxation, cue-controlled relaxation, differential relaxation, rapid relaxation,[14-17] relaxation combined with education and medications,[18] hypnosis with deep relaxation,[19] or mindfulness-based stress reduction.[20] Although these studies are promising, the interventions are complex and time-consuming and do not indicate which single component (if any) might be effective on its own.

Freedman and colleagues[9] were the

only investigators to tease apart paced respiration as the active ingredient of relaxation-based interventions. They started by comparing progressive muscle relaxation plus paced respiration (n = 7) to attention control (n = 7) among healthy midlife women. This treatment reduced diary-recorded hot flashes after 6 weeks with continued effects at 6 months. Women were also able to delay the onset of objectively recorded hot flashes if they were using progressive muscle relaxation plus paced respiration. In a follow-up study, they separated the 2 components in the intervention to compare: (1) paced respiration alone (n = 11) and (2) progressive muscle relaxation without breathing instruction (n = 11) to (3) attention control (n = 11).[10] Only paced respiration resulted in a significant reduction in objective hot flashes after 8 weeks.[10] A third study of 24 women randomized to paced respiration or attention control validated these findings.[11] These results suggest that paced respiration alone can reduce hot flashes in healthy midlife women. This is an important point since paced respiration is one single and simple component of the more complex behavioral therapies described above.

Lost in Translation?

What do we mean by paced respiration? Paced respiration is slow, deliberate deep breathing that is sustained for a specified period of time. Freedman's protocol included training (8 hours of biweekly, laboratory-based, one-on-one instruction), practice (15 minutes twice per day at home), and application (slow deep breathing at the time of each hot flash).[10,11] The target rate was 6 to 8 breaths per minute. This protocol requires an average minimum of 30 minutes of paced respiration each day for practice alone (15 minutes twice a day). Additional time is required to apply the breathing with each hot flash. The more frequent a woman's hot flashes, the more time each day would be required.

Perhaps because slow deep breathing seems risk-free and accessible, menopause practitioners have altered this tested protocol to a more generalized set of instructions. One technique recommended to manage hot flashes is to breathe deeply: inhale deeply and then exhale, trying to make your exhalation as long as your inhalation. Repeat several times as needed. These recommendations are for application alone and do not mirror the tested protocol in terms of training time or method, time of required daily practice, or target breath rate.

Are we ready to implement evidence for paced respiration? Translation into practice assumes we have data on safety and efficacy. Are there contraindications for paced respiration? Is it safely

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Evidence to date suggests that paced respiration at 6 to 8 breaths per minute when practiced 15 minutes twice per day and applied at the onset of hot flashes can be helpful.

done by women with respiratory conditions, such as asthma, chronic obstructive pulmonary disease, or emphysema? Are there any side effects that would prevent women from doing paced respiration? Although we have one carefully tested protocol, what other delivery methods can be used for training? For example, does training require one-on-one, in-person contact? Can women learn this on their own with printed or electronic instructions or is a trainer required? If a trainer is required, are there any minimum competencies for that person? There are also questions about the active component of the protocol: is it the twice-daily practice, the application at the time of the hot flash, or both that is required? Does paced respiration have physiological effects that might prevent hot flashes or is this simply a method to manage severity or duration of a hot flash at the time it occurs? Is it equally effective for women with more severe versus milder hot flashes? Is there a cumulative effect when paced respiration is combined with pharmacologic or nonpharmacologic treatments?

What to Tell Women Now?

Women clearly need options that can be used in lieu of or in addition to currently available treatments for hot flashes. We agree that paced respiration shows promise for women who are committed to taking time each day to practice and apply this breathing at the onset of hot flashes. However, current recommendations for paced respiration should mirror the previously tested protocol and be made thoughtfully in the context of other health concerns. For example, slow deep breathing may exacerbate some preexisting respiratory conditions, and it was not originally tested among women taking estrogen ablative therapies that are known to increase hot flashes (eg, breast cancer survivors). Evidence to date suggests that paced respiration at 6 to 8 breaths per minute when practiced 15 minutes twice per day and applied at the onset of hot flashes can be helpful for healthy peri- and postmenopausal women in decreasing both the number and severity of this bothersome menopausal symptom. Women who are unwilling or unable to practice twice daily or apply it at the onset of hot flashes are not likely to find this therapy feasible or acceptable and may benefit from discussion about other alternatives.

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For a **PATIENT HANDOUT** on relaxation techniques for hot flashes, see page 47.