



Singing Through Change: Women's Voices in Midlife, Menopause, and Beyond

Nancy Bos and Joanne Bozeman

When we, Joanne Bozeman, Cate Frazier-Neely, and Nancy Bos, decided to research and write about voice changes during menopause, we thought we'd be writing a book¹ about the impact of estrogen depletion on the physical vocal instrument. What we quickly discovered was that the impact of hormone depletion on the instrument was just a part of the picture. There was so much more to consider!

I am Nancy Bos (NEB). My colleague, Joanne Bozeman (JHB), and I will share about the complexities of this change and how to help your students steer their way through the experience. We are honored to be presenting at ICVT, alongside these other researchers.

We'd like to note right from the beginning that many women who struggle with voice changes feel shame of suspecting a voice injury, or think they have poor technique, or simply blame themselves. It is also important to note that not all women struggle - some go through the transition with no noticeable changes to their singing voices, others have mild or moderate changes, and yet others have large changes.

JHB: For those who do experience voice difficulties related to the menopause transition, we hope that accurate knowledge - not hearsay - and a more open attitude will reduce the stigma and silence that still surrounds this issue.

About twenty years ago, I experienced vocal unpredictability and loss of ease in my singing. A leading laryngologist said that it was due to the lowering of estrogen in perimenopause. I had to decline professional solo jobs. But back then, I didn't have the words or the specific knowledge to explain to my conductor friends what was going on in my singing, nor could I anticipate when my voice might improve. It was awkward and sad. I absolutely was afraid that they would assume I had hurt my voice or that I had simply become a bad singer.

Regarding the academic setting: more recently, one of the interviewees in our book was concerned that her current singing did not adequately represent her for tenure review, and felt that she could not openly acknowledge perimenopausal changes to her voice. She was afraid that stigma would negatively affect the review process.

Furthermore, we wonder whether choral directors currently understand enough about menopausal vocal changes to allow affected singers to find the most comfortable part and tessitura, and that these singers should not be embarrassed or be shamed.

NEB: When it comes to the individual singers who are perimenopausal, they wonder what is in their future. They tell us that they are worried if they will be able to sing after menopause. At one talk we gave, after explaining the topic in great detail for 45 minutes to our academic audience, a singing teacher raised her hand to ask a question. She asked, “I’m 40. How much longer will I be able to sing?” She was very afraid that she had 10 years or fewer to sing and then she would have to stop.

This is the same reason I became involved in this project when I was perimenopausal - my fear that I wouldn’t be a singer after menopause. I was right around 50 years old when I noticed changes to my body that indicated I was getting very close to crossing that menopausal threshold. I was also preparing to sing an oratorio with a chamber orchestra.

- 60 days before the performance, my voice was the best it had ever been in my life. I was very happy with how easy and delightful it was to sing.
- 30 days before it wasn’t as easy any more.
- 15 days before I had serious trouble. My breath capacity was noticeably reduced and my volume was reduced. The director could not hear me over the chamber orchestra. Fortunately, my director was empathetic and understanding.
- Three days before the performance there was no improvement, so my director and I came up with a strategy.
- For the performances I used a mic about four feet in front of me. The people at the soundboard were able to adjust levels in real time to balance my now reduced voice with the orchestra. It worked very well, I felt no negative judgment, and thankfully no pity from anyone around me. It was ideal.
- A few weeks later I went on hormone therapy and my voice quickly returned to its best state, without any other changes on my part.

I had to do some homework before starting hormone therapy. I learned that for women with no contraindications, menopause hormone therapy, or HRT, may be an option. Voice care professionals, along with research, have suggested that estrogen supplementation may have a role in menopausal voice maintenance.^{2,3} HRT also addresses uncomfortable, quality of life symptoms, like sleep-disrupting hot flashes, and offers certain long term health benefits, particularly in bone health. Reports on the Women’s Health Initiative study in 2002 caused an enormous drop in the use of hormones for menopause complaints. But over the past 20 years, that study has been re-examined, resulting in a more nuanced and positive approach to menopause hormone therapy.⁴ There are excellent books and other resources that can help interested women consider options with their gynecology care-provider.

JHB: Returning to the theme of awareness, rather, lack of it: I was in another European country for a multi-disciplinary voice conference. One session was a voice medicine roundtable, made up of three male voice doctors, a male physical therapist, a female speech therapist, and a male singing teacher. The goal was to analyze challenging case studies. This multi-national panel was

shown a pre-recorded video interview of each patient and the video-laryngoscopy exam. Then they offered their insights for diagnosis and treatments.

One case I cannot forget was a healthy-looking, slender woman in her 50s, a lifelong, experienced singer and choral director. Her speaking voice was normal as were her vocal folds, but in her interview, which was punctuated with tears, she spoke of how different her voice felt, how she could not sing and demonstrate like she used to. Clearly, her quality of life and self-identity were profoundly affected by her voice struggles.

None of the panelists could offer a clear diagnosis. They seemed rather puzzled. Well, one of the doctors said, “She’s a woman, so it could be psychological.” Now, I don’t have a problem with the second part of his statement, but it does concern me that he linked the idea to her gender. The woman was in her 50s, which should have led the panel to suspect that at least some of her voice changes might be related to the menopause transition. But none of the experts brought it up. An opportunity was lost.

NEB: Before we talk any more about the complicated nature of menopausal voice changes, let's look at the direct impact of hormone changes on the vocal folds. Acknowledging that singing is whole-body, it is worth noting that there are likely to be hormone related changes directly to the throat. The following information is taken from the book, *Singing Through Change: Women’s Voices in Midlife, Menopause and Beyond*.

As a major player in the condition of the vocal folds, estrogen:

- causes suppleness of the vocal folds’ upper surface (the mucosal layer)
- supports the glands that produce the thin mucus that coats the surface of the vocal folds
- maintains tone and bulk of skeletal muscles, including the deepest layer of the vocal folds, which produce lower pitches, and the tiny muscles that produce higher pitches
- blocks the effects of androgens (testosterone), preventing lowering and thickening of the voice
- increases oxygenation to the folds by improving permeability of the blood vessels and capillaries.

Progesterone has positive and negative effects on singing because it:

- balances effects of estrogen throughout the body
- encourages the surface of the mucous membrane of the folds to slough off
- causes decreased and thickened secretions of the outer layer of the vocal folds, resulting in drier vocal folds
- decreases permeability of the fold capillaries, leading to swollen vocal folds
- may be involved in neuromuscular activity, supporting quick responsiveness of the laryngeal muscles.

Androgens, including testosterone, are naturally secreted in women's bodies. Androgens can:

- cause the vocal folds to thicken, which lowers pitch
- increase dryness of the vocal folds due to changes in the glands that secrete fluids near the vocal folds.

As we began to read the available information from previous researchers, it became clear that not enough research had been done for us to be able to draw solid conclusions. Therefore, we did our own qualitative research study of 56 female singers. The interviews involved an extensive qualitative questionnaire which gathered information from many aspects of the woman's personal lives and singing lives. We then entered the information into a large spreadsheet and looked for patterns.

Several themes emerged regarding problematic symptoms that made singing more challenging. Among them were dry throat, unpredictable voice quality, decreased range, decreased volume, and decreased stamina, and new, temporary pitch matching issues. Other issues that impacted singing were more holistic. Some of the many were changes to the quality of sleep, changes to physical comfort and health, mental challenges such as depression and rage, and most of all self-blame. The women simply didn't know that what they were experiencing was very common.

JHB: It was important that we used the best information from voice and medical research. We consulted and sought the observations and opinions of voice teachers, voice care doctors, and singing voice-qualified speech therapists. We read related voice research studies in voice and menopause journals, though the vast majority are based on speaking voice. A number of female academics' recent dissertations and articles were included in our research. These are approached from the singer's context and include both qualitative and quantitative data. We explored singing pedagogy-related sources. However, if we found the subject, it was scant, and located in the aging voice chapters. Current sources on the menopause transition, women's midlife, and the problematic history of women's healthcare and menopause further underscored our investigation. The overriding goal was to write the book that we needed when we encountered midlife voice changes.

NEB: Menopause voice issues have been historically part of the aging voice discussion, but as we can see from this quote from an esteemed medical professional about the timing of her own non-voice related menopausal changes, it is not appropriate to place this discussion in the same age group. Menopause and associated voice symptoms are typically a midlife issue.

“I was in my mid-40's when it started. By day I felt hot, bothered, and weighed down by crushing fatigue. Night after night I would wake up drenched in sweat. I was short tempered and irritable with my husband and three daughters. Poor concentration levels meant I was terrified I would make a mistake in my busy job as a general practitioner.”⁵

Dr. Louise Newson

Voice symptoms may start happening to many women 5 to 10 years before menopause. The average age of menopause is 51, therefore the average age woman may start noticing issues between ages 41-46. According to the US Dept of Health and Human Services, 5% of women naturally go through menopause 10 years earlier than that, and may start experiencing issues between the ages of 31 - 36. We are targeting singers in their 30s and 40s for education. Additionally, temporary or permanent menopause can be brought on at any time post-puberty from cancer treatments, hysterectomies, and other health issues.

JHB: Among several themes that emerged from our interviews, it is important to note that a surprising number of our interviewees had voice health issues that were either the primary problem, or complicated any hormone-related voice symptoms. Some of these women were unable to find access to effective medical voice care. Because of this, the book included voice health information, such as reflux and vocal fold hemorrhage. We included when to see a laryngologist, other voice care specialist or clinic, and how to find one.

NEB: One woman in our study is a great example of the complicated nature of multiple symptoms. “Tina” is a career singer, songwriter, educator, dancer, and producer with a degree in vocal performance. She experienced very early natural menopause at age 37.

Tina visited three laryngologists over several years, because she was having vocal trouble. Eventually she was diagnosed with acid reflux, a mild neurological weakness of one vocal fold, and cysts on both vocal folds. She had two surgeries and subsequent recovery periods, and was finally back to performing and recording again. Prolonged stress was also playing a role in Tina’s life. Along with the career impact from her troubled voice, she went through a divorce and became the sole financial provider for her two children.

We wonder, why did her menopause, at 37, occur so much earlier than average? Tina had been diagnosed with a thyroid condition; her thyroid hormone levels may have played a part. Thyroid disease can cause premature menopause.

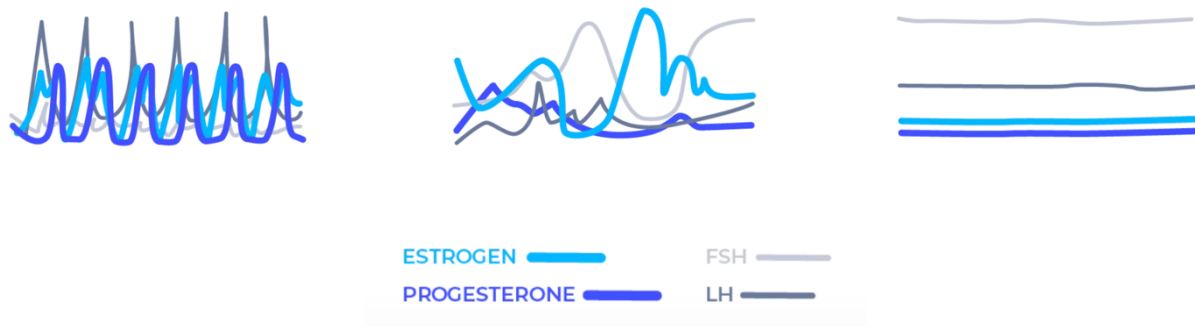
Since low thyroid levels can cause hoarseness and dryness as well, did this add to her voice issues? What caused the vocal fold cysts to form? The medical community and experienced voice specialists can’t be certain. It is highly possible that Tina's issues were not the result of poor technique. We should avoid the easy and judgmental trap of assuming that all voice problems are the result of "bad technique" or voice mis-use. They may be the result of a "perfect storm" of several subtle causes.

Now in her 50’s, Tina is a highly respected master voice teacher at a leading academic institution with a thriving performance career.

JHB: As we see in Tina’s story, a related and crucial theme is that the context of female midlife requires a holistic and integrated understanding of how voice and lived experience coalesce.

Other studies confirm that female midlife is often a profoundly complex time. For singers, career high points and achievements intertwine with the competing needs of children, aging parents, and possible relationship stresses. Now add to that – *menopause!* No surprise that women’s self-care and emotional wellness may lose priority. New health changes may occur in midlife, so attention to general healthcare and fitness will have positive impacts on singing.

Lastly, much-needed longitudinal research and observations will increase understanding of how the singing voice may respond, from perimenopause through the several years after the final menstrual period. Because a number of our interviewees were past menopause, they could describe the whole arc of experience with their voices: before, during, and beyond the transition. From what we have learned from them and others, menopause does not have to be the “twilight of the divas,” as it was once called by a highly regarded voice researcher.



Regularly Cycling Hormones Ex: Perimenopausal Hormone Levels Post-Final Period Hormone Levels

Source: <https://womenlivingbetter.org/hormonal-changes/>⁶

After the chaos of fluctuating hormones, illustrated in the middle graph above, there is a lower, though steadier hormone climate in the years after the final menstrual period. Many women have reported that voice symptoms eventually calm and their singing becomes more manageable.

Reported improvements include:

- Greater stability
- More consistent tone
- Improved intonation
- New timbral qualities
- Easier high range and agility

So, singers should prepare for this encouraging possibility by continuing to sing and train, ideally with an educated and creative teacher or singing voice-qualified speech therapist. We should keep in mind that the voice may be different when hormones have settled, perhaps slightly

“remodeled.” Therefore, singers may need to recalibrate their technique and reframe ideas about repertoire and keys. In some cases, though not all, the voice may actually “rebound”. Aspects of singing that were difficult may become easier again.

It’s often said that along with menopause comes a certain kind of confidence. That honest communication is more powerful than technical “perfection.” That pleasing others is not so important, resulting in a liberating freedom in performance. The following comments from our interviews reflect that singing after menopause can be a fertile time of vocal re-discovery.

- “I’ve gained richness in my middle voice.”
- “I’m more relaxed about performing. I’m not concerned about being perfect.”
- “My voice has a more interesting quality. There is more emotion in my singing.”

It could also be a time to explore other genres with cross training, even if not performed. It is possible that some classical singers may find that their earlier *Fach* doesn’t fit quite the same, however this is an opportunity to explore another voice category or other repertoire.

Another story will show how an elite singer, “Valerie,” traversed the years of her menopause transition. She was a world-class lyric mezzo soprano singing in Germany. At one performance, when she was in her 40's, she was off stage with other singers listening to a great mezzo on stage. Though the timbre was glorious, the performer was struggling with being a little flat. The others whispered, “It’s menopause.” Valerie said, “That should have been a red light going off in my head.”

She retired from the stage a few years later and observed, “Things could have been better with my voice and that played a role in my stepping away. There were some changes...I got into subtle technical problems without even knowing what was happening. I wish I had found a teacher to help me at that point. It would have been less stressful.”

As time went on, Valerie also developed slight flattening. Though happily, a while after menopause, her intonation became much better and she continued to maintain her maturing voice. The day after our interview, Valerie performed Bernstein’s opera, *Trouble in Tahiti*, at the age of 68.

To sum up what our research has taught us, we recommend:

For singers:

- Learn about the menopause transition and potential effects on the voice before you are in the middle of it.

- Pay close attention to your voice as you enter the late 30s and through the 40s. Keep a journal of your cycles, symptoms, and voice condition; this can be useful and enlightening.
- Balance optimism with awareness: don't talk yourself into difficulties, but note any changes.
- Find an informed and experienced teacher and keep practicing regularly.
- Finally, nurture an evolving voice mindset; allow your vocal self-concept to be in line with where the voice may lead.

For teachers, regardless of gender and age:

- Learn about the menopause transition and how it may affect female singers.
- Believe what your students tell you about how their voice feels.
- Be encouraging, creative and flexible; a singular technique or method will not work for every woman's situation.
- Be ready to refer to excellent voice care if warranted.
- Support affected singers so that they can sing comfortably and maintain vocal conditioning.

NEB: Thousands of women have benefited from knowing they are not alone. They have purchased The *Singing Through Change* book in print and the Kindle ebook on Amazon. The audiobook is also available on platforms worldwide. In addition, the [Singing Through Change](#) website, [Facebook](#) page, and [Instagram](#) page are packed with resources. Together, they have helped countless women know they are part of a community built to help them. And finally, at [celebratesinging.live](#) we host a library of resources from many experts.

Additionally, Joanne, Cate, and I have given at least 50 talks and interviews since we published the book 2 years ago, hoping to reach voice teachers all over the world. We are thrilled that ICVT has devoted so much time to this topic.

In closing, we'd like to share the words of one of our readers, "Both as a singer and a woman I've been incredibly frustrated that I wasn't better prepared for what might happen as I moved through my 40s....we need these conversations so much!!"

We encourage anyone who would like to know more to reach out to us. Contact information can be found on the Singing Through Change website and through the Singing Through Change Facebook group. We are passionate about understanding and supporting all women who sing through perimenopause and beyond. To do this, we need to continue to hear and learn the stories and experiences from female singers. To them we say, you are not alone!

Thank you again for being here with us.



Notes

¹ Nancy Bos, Joanne Bozeman and Cate Frazier-Neely. *Singing Through Change: Women's Voices in Midlife, Menopause, and Beyond*. (Suquamish, WA: StudioBos Media, 2020).

² Robert Sataloff, Kate A. Emerich, and Cheryl Hoover, "Endocrine Dysfunction," in *Vocal Health and Pedagogy*, 167-173 (San Diego: Singular Publishing Group, 1997): 167-173.

³ Kathy Kessler Price, "Still Singing After All These Years: A Perceptual Study of Post-menopausal Singing Voice Behaviors with Implications for Singers, Voice Teachers and Choral Conductors." *International Journal of Research in Choral Singing: Focus on Vocal Health* (2022), 224.

⁴ Women's Health Concern. "HRT: The History." Accessed September 20, 2022, <https://www.womens-health-concern.org/help-and-advice/factsheets/hrt-the-history/>

⁵ Louise Newson. *Preparing for the Perimenopause and Menopause*. (UK: Penguin Random House, 2021), 1.

⁶ Women Living Better "Hormonal Changes." Accessed September 20, 2022, <https://womenlivingbetter.org/hormonal-changes/>