



## Case Study

# Novel Approach in Pelvic Floor Training to Enhance Mind-Body Connection and Improve Sexual Response

Debra Wickman, MD,MS,FACOG, CSC,NCMP

### Introduction

Weak pelvic floor muscles are associated with prolapsed pelvic organs, urinary and bowel incontinence, back and pelvic pain, and common sexual issues (e.g., painful intercourse, lack of sensation, etc.). Additionally, sexual dysfunction associated with pelvic disorders includes poor body image or low self-confidence, as these physical changes erode a woman's connection to other aspects of her psyche, thus decreasing her sexual interest, or libido.

The medical diagnostic approach to sexual health is best combined with a biopsychosocial, or holistic philosophy, including psychological wellness and relationship satisfaction. Optimal sexual health is experienced by a woman through psychosomatic connection to her body (mind-body connection), personal fulfillment, and synchronicity with an intimate partner.

Research shows that educating women about their own normal, varied genital anatomy using video resources improves body awareness. Furthermore, the use of biofeedback coupled with a pelvic muscle training device provides a successful strategy to guide women on their proficiency with pelvic strengthening exercises. This association of mental and/or physical wellbeing to support sexual function creates a more positive genital self-image, which enhances the woman's sexual response and wellbeing.

This case presents one woman's consistent use of the Vibrance Pelvic Floor Training device coupled with focused sensation and mindfulness exercises – intentionally improving physical muscle strength as well as attitude and proclivity for an enhanced understanding of one's own genitals and sexual response.

### Patient Profile & History

Michele is a 45-year-old, married woman with one child. Since her normal vaginal delivery 25 years ago, she reported concerns about mild urine leakage and vaginal laxity. After learning she carries the BRCA gene mutation, Michele underwent risk-reducing bilateral mastectomies, which incidentally affected her self-esteem. She has been advised to prepare for removal of her ovaries. She requested treatment to recover her vaginal laxity - "get in the best possible shape" prior to surgical menopause - and improve her sexual health and overall sexual satisfaction.

### Examinations and Findings

#### Physical examination

Michele's initial consultation included a general history and gynecologic physical examination. Her vitals were normal with a BMI of 24.0. She has had regular menstrual cycles, has not taken hormone medicine, and reported no history of pelvic/genital surgery or past physical or sexual trauma.

A vaginal examination found no abnormal structures, and her pelvic floor muscle tone was measured 40 at rest and 62 at peak contraction using the Peritron (cm H<sub>2</sub>O) pelvic floor meter.

#### Female sexual function

Michele's female sexual health was assessed using the Female Sexual Function Index (FSFI), a 19-item questionnaire focused on sexual functioning and developed as a brief, multidimensional self-reporting instrument.<sup>1,2</sup> There are six domains assessed: desire, arousal, lubrication, orgasm, satisfaction, and pain. The patient is advised to consider each of the questions in the context of the last four weeks.

The six domain scores are summed according to the published instructions to obtain the overall score. Scores of equal to or below 26.55 are classified as indicating female sexual dysfunction. Michele's baseline indicated areas of concern in four of the six domains: Desire, Arousal, Orgasm, and Satisfaction, for a total score of 24.4.

#### Female genital self-image

Female genital self-image is found to be positively related to a woman's sexual function.<sup>3,4,5,12</sup> The Female Genital Self Image Scale (FGSIS) is a reliable, validated measurement to quantify a woman's self-perception of the female genital region.<sup>3</sup> Michele was administered the FGSIS to rate, on a Likert scale from 1-4 (1 = Strongly Disagree; 2 = Disagree; 3 = Agree; 4 = Strongly Agree), her genital self-perception. The total score may vary from 7 to 28 points; higher scores indicate a more positive genital self-image. Michele's total score was 17 indicating a below average genital self-image.



In summary, Michele had average pelvic floor muscle strength and stamina, reported mild SUI, low libido, decreased genital sensation and genital self-image, and showed a decline in the following sexual function domains: desire, arousal, orgasm, and satisfaction.

## Clinical Treatment/Intervention

### Integrative Pelvic Exam Protocol (IPEP)<sup>™</sup>

The Integrative Pelvic Exam Protocol (IPEP) is a journey that incorporates colposcopic images of the vagina and vulva during a pelvic exam, transmitted in real-time to a portable digital device held by the woman, with the 4-D Wheel of Sexual Experience – thoughts, emotions, relational dynamics and physical sensations. The central figure of the journey is the woman's genitals – being given a voice for this often-neglected aspect of a woman's body, and her related story – told from that perspective. This process was co-developed by Drs. Debra Wickman (MD) and Gina Ogden (PhD) to educate and engage a woman in connecting cognitive awareness with anatomic form and physiologic function. The IPEP process creates a mind-body connection and becomes a form of cognitive-behavioral therapy, as a dynamic intervention designed to resolve an issue in the physical sense by also dealing with its related origins and consequences in the emotional, intellectual, and spiritual contexts.

### Initial consultation

Michele's initial consultation consisted of IPEP coupled with pelvic floor muscle training using Bioinfinity's Vibrance<sup>™</sup>. Michele observed her IPEP exam on an iPad and was encouraged to connect with the structures seen on the iPad, as she perceived the examiner's touch. The patient-physician conversation was organized to evoke her physical, emotional, intellectual, and spiritual responses as she interacted with each part of her body. The exam was performed in a sex-positive manner, with all questions about form and physiological function discussed in real time relevant to positive sexual/body image and response.

Michele was then educated, following the manufacturer's instruction, on using the Vibrance device to properly perform pelvic floor muscle training. Studies show that up to 30% of women exercise the wrong muscle group due to poor muscle identification and isolation.<sup>3</sup> Providing cues or feedback (e.g., audio, visual, vibration) as the woman contracts the correct muscle, facilitates the ability to isolate the correct muscle and sense contraction. She then

learns to control the pelvic floor muscle by responding to visual or auditory signals.

With the iPad, and under the physician's guidance, Michele inserted the tampon-shaped device while lying supine and worked to contract and release her pelvic muscles. When she isolated the right muscles correctly, the Vibrance probe sensed her body-force and transmitted gentle vibrations to the vagina and pelvic floor muscles. Michele exercised her muscles following the preprogrammed audible prompts (5 seconds hold and 5 seconds rest) for 25 repetitions to engage and rest both the fast twitch and slow twitch muscles.

Michele's consultation included how to build muscle strength, tone, and endurance using physical resistance. Progressive-resistant exercises are the most effective physical therapy to correct muscle disuse and atrophy and restore normal function.<sup>9</sup> Vibrance comes with three sleeves in three degrees of resistance, or stiffness, for different training intensities. Michele started with the base unit (no sheath) to help her adjust to isolating and activating the correct muscles.

Michele was asked to perform pelvic floor muscle exercises using Vibrance twice per day and other tasks, such as mental imagery and brief journaling, to accompany each session.

Using the Teach Back method, or the "show-me" method, Michele communicated confirmation of what had been explained to her including changing the Vibrance sheaths. No education materials beyond the Vibrance Pelvic Trainer manufacturer instructions were provided for the unsupervised sessions. Screen shots of specific anatomy were offered for reference.

### Vibrance<sup>™</sup> Pelvic Floor Trainer

The Vibrance<sup>™</sup> Pelvic Floor Trainer from Bioinfinity USA is an FDA-cleared intravaginal medical device, available without a prescription, for strengthening pelvic floor muscles to improve pelvic health and quality of life. This clinically proven, easy-to-use pelvic training device enables women to properly perform Kegel exercises at home for improved muscle strength, tone, and bulk. Vibrance was selected for this case study because it offers features that parallel an effective exercise regime – proper muscle isolation and feedback, preprogrammed repetition, and increased resistance.



### Ongoing, at-home (unsupervised) sessions

Michele performed ongoing, unsupervised sessions twice daily for eight weeks with the Vibrance Pelvic Trainer as demonstrated, progressing to the stiffer sheaths when appropriate. Additionally, while using Vibrance, Michele used mental imagery detailing the most fulfilling sexual encounter she has had with her partner, visualizing her vaginal opening becoming tighter and more responsive, and linking this with a chosen mental image – such as pulling a drawstring or gripping a penis. She also practiced fully feeling the entire device’s circumference, paying close attention to where the vibration was felt (e.g., where it radiates to, what anatomy it is felt in), and visualize each structure feeling the sensation.

After each exercise session, Michele confidentially journaled her experience by responding to the following questions (framed for mind-body awareness):

1. *What do I want my sexual response to be like today?*
2. *Is it different than yesterday? If so, how?*
3. *How can I take even more responsibility for my desire/arousal/satisfaction? List ways I can be in control of my own pleasure today by engaging all my senses.*

There were no physician visits, phone calls, or contact during the eight weeks of the unsupervised sessions.

### Final consultation

At her final consultation (Week 8), Michele’s pelvic floor muscle tone was re-measured with the Peritron device and both FSFI and FGSIS questionnaires were completed.

Michele was encouraged to continue her exercises with visualization two or three times per week (more if feeling loss of laxity or pelvic muscle strength) and to practice during intercourse.

## Results

At the end of eight weeks, Michele improved her peak pelvic floor muscle tone by 81% **as evaluated by** the Peritron pelvic floor meter (Table 1). She reported a one-week learning curve to successfully activate the Vibrance probe without a sheath and thereafter was able to focus her concentration and the contraction, resulting in progressing to the third and firmest sheath by Week 8. Additionally, Michele’s mild SUI had resolved.

Table 1: PFM Tone

PFM	Before	After	
Rest	40	46	
Peak Contraction	62	112	81%*

\*Percent increase

Michele’s FSFI scores showed significant improvements in most domains, with the greatest improvement seen in satisfaction, increasing 250% (Table 2). Total sexual function improved 36% after eight weeks.

Table 2: FSFI Results

Domains of Women Sexual Function	Before	After	Change
Desire	3.6	4.8	33%
Arousal	3.6	5.1	42%
Lubrication	6	6	0%
Orgasm	3.6	5.6	56%
Satisfaction	1.6	5.6	250%
Pain	6	6	0%
Total	24.4	33.1	36%

Michele’s FGSIS scores showed an average improvement of 59% over all categories and a 50% increase in 5 of the 7 areas questioned. (Table 3) .

Table 3: FGSIS Results

	Before	After	
1. Not embarrassed about genitals	2	3	
2. Comfortable letting HCP examine genitals	4	4	
3. Think genitals work the way they are supposed to	2	4	
4. Think genitals smell fine	3	4	
5. Comfortable with partner looking at genitals	2	4	
6. Satisfied with appearance of genitals	2	4	
7. Feel positive about genitals	2	4	
Total	17	27	59%*

\*Percent increase

Michele reported feeling an inner strength develop as she gained control of her pelvic muscles. Using Vibrance with its vibrations and audible sounds combined with the “connection process,” she could tangibly associate with her pelvic floor muscles and her sexual response. As her sensation increased and connection with her sexual response, Michele felt more confident, more conscious in her sexuality, greater satisfaction, with increased sexual assertiveness in her relationship with partner.

## Conclusion

Application of sexual medicine protocols and consistent pelvic floor exercises using a trainer with biofeedback and progressive resistance features accelerates a woman’s ability to strength her pelvic muscles and sexual response resulting in improved urinary function, genital self-image, sexual function (e.g., arousal, sensation), and overall sexual satisfaction.



## Reference

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<sup>1</sup> Seal, B., and Meston, C. The impact of body awareness on women's sexual health: a comprehensive review. *Sex Med Rev.* (in press – available online)

<https://doi.org/10.1016/j.sxmr.2018.03.003> April 2018

<sup>2</sup> Arora, N., and Brotto, L. How does paying attention improve sexual functioning in women? A review of mechanisms. *Sex Med Rev*, 5(3): 266-274. July 2017

<sup>3</sup> Kegel, A. Progressive resistance exercise in the functional restoration of the perineal muscles. *Am J Obstet Gynecol*, 56:238-49, 1948