Review Article

Pelvic Floor Muscle Training in Males: Practical Applications

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The pelvic floor muscles are vital to male genitourinary health. Pelvic floor muscle training may prove helpful in a variety of clinical circumstances: stress urinary incontinence that follows prostate surgery, overactive bladder, postvoid dribbling, erectile dysfunction, ejaculation issues including premature ejaculation, and pelvic pain due to levator muscle spasm. UROLOGY ■: ■—■, 2014. © 2014 Elsevier Inc.

The pelvic floor muscles (PFMs) have long been recognized as important structural and functional components of the pelvis. Pelvic floor muscle training (PFMT) is defined as "any program of repeated voluntary PFM contractions taught by a health-care professional."[1] PFMT in males is not a new concept, Hippocrates and Galen having described it in ancient Greece and Rome, where it was performed in the baths and gymnasiums; strengthening the PFMs was thought to promote general and sexual health, spirituality, and longevity.[2]

Arnold Kegel[3] popularized exercises of the PFM to improve sexual and urinary health after childbirth.[4,5] Kegel[6] employed the principle of functional restoration of a segregated group of muscles—well established in orthopedics, neuromuscular, and plastic surgery and physical medicine and rehabilitation—applying it to the PFM. Additionally, Kegel[6] recognized that surgery to correct vaginal, urethral, and rectal incompetence could be facilitated by preoperative and postoperative PFMT to improve the texture, tone, and function of the perineal muscles.

Men have similar PFMs as do women and an equivalent capacity for exercising them, with the potential for parallel benefits to urinary and sexual health. However, most men are unfamiliar with PFM exercises, and urologists do not envision their role as instructors of PFMT. The task of teaching PFMT is labor-intensive, and office visits do not allow sufficient time to adequately instruct patients with respect to PFM anatomy and function, the proper technique of PFMT, and the application of the exercises to the specific problem. Additionally, PFMT without biofeedback is not remunerative as only an office visit can be billed. Table 1 reviews PFMT coding.

Why has male PFMT been given short shrift and not achieved the status of first-line treatment, despite being a safe and simple approach? Experts in female pelvic health have widely adopted PFMT. Females are often introduced to Kegel exercises at their first gynecology visit and thereafter the exercises are reinforced at well visits, particularly during pregnancy and postpartum, whereas men do not see urologists for routine well care and seek consultation only after a problem arises, usually later in life.

Our medical culture does not commonly promote lifestyle improvement measures and exercise programs such as PFMT. Our medical ethos is pharmacology and surgery-centric, with aggressive prescription writing by physicians and a patient population that often expects a quick fix to their problems.

One of the greatest challenges limiting adoption is that there are no well-designed, comprehensive, easy-to-follow PFMT programs. Consequently, either PFMT does not get utilized or patients receive cursory verbal instructions and perhaps a pamphlet, usually ineffective means of teaching. Alternatively, patients may undergo office biofeedback or be referred to a physiotherapist; however, of those physiotherapists who specialize in the pelvic floor, the vast majority of patients treated are females.

The PFMs, as with all skeletal muscles, are subject to the force of adaptation.[5] The PFMs consist of muscle fibers, of which 70% are slow-twitch type 1 (fatigue-resistant fibers that maintain static tone) and 30% are fast-twitch type 2 (fatigue-prone fibers that are capable of active contraction); a decrease in the proportion of the fast-twitch fibers can occur with aging, inactivity, and nerve innervation damage.[7] Applied exercise can enhance PFM strength, tone, durability, and responsiveness,[6] since muscles increase in strength in direct proportion to the demands placed upon them.[6]

The deep PFM—the levator ani muscle—is comprised of the pubococcygeus, iliococcygeus, and puborectalis muscles. These muscles, in conjunction with the urethral and anal sphincters, play an important role in urinary and bowel continence. The superficial PFM—the bulbocavernosus

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Table 1. PFMT coding

Urologist Codes*		
CPT Code	Procedure	Note
51784	PFMT/biofeedback	Use first/last visit to gauge improvement
90901	Biofeedback any modality	6 sessions maximum (90901 or 90911)
90911	Biofeedback (EMG and/or manometry)	6 sessions maximum (90911 or 90901)
Physiotherapist Codes†		
CPT Code	Procedure	
97140	Manual therapy techniques	
97110	Therapeutic exercises	
97112	Neuromuscular reeducation	
97535	Self-care/home management training	
97530	Therapeutic activities	

CPT, Current Procedural Terminology; EMG, electromyography; PFMT, pelvic floor muscle training.

Pelvic physiotherapy reimbursement is highly variable, depending upon the insurance carrier; the biofeedback codes listed under urologist codes are physical therapy codes as well but are generally not used by physical therapists because payment is often denied.†

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† Niva Herzig, Core Dynamics Physical Therapy, Englewood, NJ (oral communication, February 2014).

(BC), ischiocavernosus (IC), and transverse perineal muscles—function in maintaining erectile rigidity and the expulsion of the contents of the urethra.[8] When contracted, the BC engorges the glans and corpus spongiosum, expels residual urine from the bulbar urethra, and ejaculates semen from the urethra at the time of climax.[8] The IC stabilizes the erect penis and inhibits venous return to help maintain penile rigidity and intracavernosal blood pressures that far exceed systemic systolic blood pressures.[9]

It is well understood by urologists that PFMT increases urethral closure pressure and can help stress urinary incontinence (SUI) as well as inhibit involuntary bladder contractions (IBC) and help overactive bladder (OAB); however, many are not well acquainted with other utilities of PFMT. PFMT can potentially benefit continence, erectile and ejaculation problems, and may be useful in the male urology patient with the following: SUI, OAB, postvoid dribbling (PVD), erectile dysfunction (ED), ejaculatory dysfunction including premature ejaculation (PE), and pelvic floor tension myalgia.

PFMT may be advantageous not only for those who have any of the aforementioned issues, but also as a means of helping to prevent these problems. For example, PFMT before undergoing prostatectomy may help avert the occurrence of SUI.[10-12] This holds true for every domain in which PFMT has utility.

In the pediatric population, PFMT is a beneficial adjunct to other treatments, paralleling its advantages in adults. It has efficacy when used in children with dysfunctional voiding[13] and lower urinary tract dysfunction[14] including urinary incontinence[14,15] and urinary tract infections. There has been a paradigm shift in the management of pediatric lower urinary tract dysfunction away from medications and surgery and toward biofeedback-based PFMT. Originally expensive and labor intensive, use of animated computer games has permitted resolution of dysfunctional voiding and coexisting conditions including reflux and constipation.[13]

MATERIALS AND METHODS

A MEDLINE (via PubMed) search for "male pelvic-floor exercises" garnered 218 articles, and nonrelevant articles were excluded. Additional searches were made for the specific clinical situations potentially benefited by PFMT. Manual searches of reference lists were undertaken. The intent was to focus on the indications and efficacy of PFMT in males and not on PFMT regimens. Table 2 details key messages and levels of evidence.

PFMT for SUI

SUI is provoked by activities including sneezing, coughing, bending, lifting, exercising, and positional change. It most commonly occurs following radical prostatectomy, although it can also occur after surgery done for benign prostate conditions.

The levator ani muscle helps support and reinforce the external sphincter mechanism. The internal sphincter mechanism, from a continence leverage standpoint, is ideally situated at the vesical neck, whereas the external sphincter mechanism is downstream from the internal sphincter and does not have the mechanical advantage of the internal mechanism.

When the internal sphincter mechanism is damaged, the vesical neck is often rendered in a partially scarred fixed-open position that no longer has the elasticity and suppleness to provide closure. Continence then becomes dependent upon the auxiliary external sphincter mechanism. However, the external mechanism is not designed for sustained contraction as is the internal mechanism, and although there is a baseline tonicity to this muscle, only a relatively brief intense contraction can be elicited upon demand.

The "guarding" reflex[16] is an increase in the magnitude of contraction of the external sphincter mechanism during urine storage, a means of maintaining continence as urine volume increases. The "cough" reflex[17] is a contraction of the external sphincter mechanism that occurs with coughing, a means of maintaining continence during a sudden increase in intra-abdominal pressure.

Since the external sphincter mechanism is a voluntary skeletal muscle that is contributed to by the levator ani, PFMT can increase its tone, strength, power, and endurance, resulting in

Table 2. PFMT key messages and levels of evidence

Issue	Established Facts	Possibly True	Future Research
SUI	• Can facilitate early continence* • Can improve SUI severity†	• May prevent SUI#	• Can preop PFMT prevent/ mitigate SUI?
OAB	• Helps inhibit IBC • Can improve OAB‡		• How effective vs meds?
PVD	• Can cure PVD§		
ED	• PFM more efficient in men without ED‖ • Better IC function in men without ED¶	• May help ED**	• How effective vs meds? • How helpful for non–veno-occlusive origin? • Can delay/prevent onset in healthy male?
PE	• BC has prominent role in ejaculation	• May help PE†† • Weak PFM may impair the ability to delay ejaculation‡‡	• How effective vs meds? • Can delay/prevent onset in healthy male?
Tension myalgia	• Relaxing phase of PFMT is as important as contracting phase	• May help ease pain of CP/CPPS§§	

BC, bulbocavernosus; CP/CPPS, chronic prostatitis or chronic pelvic pain syndrome; ED, erectile dysfunction; IBC, involuntary bladder contractions; IC, ischiocavernosus; Meds, medicines; OAB, overactive bladder; PE, premature ejaculation; PFM, pelvic floor muscles; preop, preoperative; PVD, postvoid dribbling; SUI, stress urinary incontinence; other abbreviations as in Table 1.

* Level I: Goode,[23] Tientforti[21]; Level II: Filocamo,[19] Van Kampen,[20] Ribiero.[22]

† Level II: Ribiero.[22]

‡ Evidence strength grade B (American Urological Association Guidelines).[27]

§ Level II: Dorey.[28]

‖ Level III: Colpi.[34]

¶ Level IV: Kawanashi.[9]

Level II: Porru,[10] Sueppel,[11] Parekh.[12]

** Level II: Dorey,[3] Prota[37]; Level III: Claes,[35] Van Kampen.[36]

†† Level II: Pastore[43]; Level IV: La Pera[41]; Level V: Piedeferro.[42]

‡‡ Level V: Dorey.[39]

§§ Level II: Duclos[44]; Level IV: Nadler.[45]

more robust guarding and cough reflexes and ability to generate a sustained and powerful contraction to offset SUI.

Numerous studies have shown the benefit of post-radical prostatectomy PFMT in facilitating an early return of urinary continence.[18-21] Ribiero et al[22] reported a hastening of the recovery of urinary continence and significant improvements in the severity of the incontinence and lower urinary tract symptoms and improved PFM strength.

In 2011, Goode et al[23] performed a multisite, prospective, randomized, controlled trial involving over 200 men with SUI persisting >1 year after prostatectomy. Patients were randomized to a behavioral therapy arm (PFMT and bladder control strategies), a behavioral therapy plus office biofeedback and daily home electrical stimulation arm, and a control group. Mean incontinence episodes decreased from 28 to 13 weekly after behavioral therapy, from 26 to 12 in the behavioral therapy plus arm, and from 25 to 21 in the control arm. The improvements were durable to 12 months in the active treatment groups. The study concluded that behavioral therapy with PFMT is an effective treatment for postprostatectomy SUI persisting even years after surgery. Although only 11 of 70 (16%) of men attained complete continence, those in the PFMT arms were able to reduce their incontinence frequency in half. The addition of biofeedback and electrical stimulation did not increase the effectiveness of the basic program.

A scientific poll of urologists who perform high volumes of robot-assisted laparoscopic prostatectomy (RALP) to determine how many refer patients for PFMT, what percentage of their patient population is referred, and the success and durability rate would be of great benefit. I conducted an informal survey of 5 high-volume RALP surgeons in the New York metropolitan area, all of whom use PFMT and/or biofeedback in their RALP patients, some in office, some via referral to physiotherapists, and some via both means. In this sampling, success and durability rates were indeterminate because of insufficient follow-up data.

Patients need to be attentive to the specific triggers that provoke the SUI. By contracting the PFMs immediately before the trigger exposure, the SUI can be mitigated. For example, if standing up provokes SUI, a brisk PFM contraction when transitioning from sitting to standing should help control the problem. This "knack" maneuver,[24] bracing the PFMs immediately before an activity that precipitates the problem, can be a highly effective means of managing SUI. When this maneuver is practiced diligently, it can ultimately become an automatic behavior.

PFMT for OAB

OAB is the presence of urgency, frequency, and nocturia with or without urgency incontinence, in the absence of a urinary tract infection or other pathology. Although often occurring without provocation, it can be triggered by positional changes, exposure to running water, approaching a bathroom, and when placing the key in the door.

During urinary storage, the detrusor muscle is relaxed and the sphincters (including the internal and external sphincter mechanisms) are engaged. During emptying, the detrusor muscle contracts and the sphincter muscles (including the contribution from the PFMs) relax synchronously. This "antagonistic" relationship between the detrusor and PFMs can be exploited by having patients recognize the IBC and respond by deploying their PFMs to inhibit the IBC. By actively squeezing the PFMs just before or during trigger activities, the urgency can be

mitigated and the urgency incontinence can often be preempted. Thus, PFM contractions play an important role in inhibiting urgency and urgency incontinence, and PFMT helps stimulate inhibitory reflexes between the PFM and the detrusor muscle.[25] The "quick flick"[26] is a technique in which the PFMs are rapidly pulsed 3-5 times at the time when urgency is perceived.

Increasing PFM tone, strength, and facility can be an effective remedy for combating urgency and urgency incontinence and one that works well with behavioral techniques and pharmacotherapy. The American Urological Association guidelines for overactive bladder[27] recommend that clinicians offer fluid management, bladder training, bladder control strategies, and PFMT as first-line therapy to all patients with OAB.

Patients should be taught to recognize the specific triggers that induce the urgency or incontinence: hand washing, key in the door, rising from sitting, running water, entering the shower, cold or rainy weather, and so forth. Before exposure to a trigger, or at the time of the perceived urgency, quick rhythmic flicks of the PFM can preempt the IBC before it occurs or diminish or abort it after it begins.

PFMT for Postvoid Dribbling

PVD occurs immediately or shortly after completing urination, when urine that remains pooled in the urethra drips out, aided by gravity and movement. This "after-dribble" is more annoying than serious, and although it more commonly occurs after age 40, it can happen to men of any age.[18]

Dorey et al[8,28] demonstrated the effectiveness of PFMT for PVD. They recognized an association between ED and PVD and concluded that these issues are parallel problems, one sexual and the other urinary—both manifestations of PFM weakness and amenable to improvement by PFMT.

PFM contractions are the body's natural mechanism to facilitate expelling the urethral contents. When contracted, the BC muscle—the body's urethral "stripper"—compresses the bulbar urethra, displacing the urine within distally. The 1909 Gray's Anatomy labeled the BC muscle the "ejaculator urine."[29] PFMT can foster a powerful BC muscle to help increase the capability to empty the urethra.

Patients should be instructed to vigorously contract the PFM several times after completing urination to empty the bulbar urethra. If necessary, this can be supplemented by manual compression of the urethra.

PFMT for ED

The penis is a marvel of engineering, uniquely capable of increasing its blood flow by a factor of 40-50 times over baseline, this vascular surge happening within seconds and accomplished by relaxation of the smooth muscle within the media of the cavernosal arteries and within the erectile sinusoids of the corpora.[30]

The Massachusetts Male Aging Study[31] demonstrated that ED is present in about 40% of men by the age of 40 years with an increase in prevalence by approximately 10% for each decade thereafter. Helgason et al[32] noted a decline in all aspects of sexuality in the aging male with the exception of libido. Although there are many potential causes of ED, the common denominator is insufficient blood flow to fill the corpora, or alternatively, sufficient arterial blood flow but poor venous trapping due to venous-occlusive disease, both issues often caused by a decline in the capacity for smooth muscle relaxation. This results in a spectrum of erectile difficulties including the following: increased refractory time, less rigid erections, adequate rigidity but premature loss of erections, and the inability to achieve an erection.

ED is most often multifactorial, with biological, psychosocial, and relational components, and the PFM status appears to be a meaningful contributing factor.[33] Colpi et al[34] studied PFM contractility in men with and without ED using electromyography, demonstrating that PFM voluntary activity is more efficient in men with normal erectile function as compared with a matched group of men with ED, supporting the concept that PFM efficiency is related to erectile capability. Kawanishi et al[9] determined that there are statistically significant differences in IC function between patients with intact erectile function and those with ED with respect to stroke length, duration of contraction, and maximal contractile force.

The BC and the IC muscles are of particular importance during the erectile process. These PFMs activate and engage during penile erections, and their contractions help prevent the exodus of blood from the penis, enhancing penile rigidity and allowing for intracorporeal pressure to far exceed systemic systolic pressure. The BC supports and maintains pressure within the turgid corpus spongiosum and glans. The IC supports, stabilizes, and compresses the corpora cavernosa, impeding the return of blood to maintain pressure and rigidity within the corpora cavernosa. Additionally, the IC supports the penile crura, the foundational support that when robust, allows a more "skyward" angling erection. The 1909 Gray's Anatomy labeled the IC muscle the "erector penis."[29] When teaching PFMT, Newman et al[7] find it helpful to advise men to "imagine moving the penis up and down without moving any other part of the body."

Numerous studies have documented the potential benefits of PFMT in the management of ED.[8,35-37] Dorey et al[8] demonstrated 22 of 55 cases (40%) of normalization of erectile function, 19 of 55 (35%) of improvement, and 14 of 55 (25%) of failure and concluded that PFMT should be considered a first-line approach for ED. PFMT seems to be most beneficial in the subset of men with venous-occlusive dysfunction.[35,36] The early application of PFMT after radical prostatectomy has been shown to have a beneficial impact on the recovery of erectile function in terms of duration and severity of ED.[37]

PFMT for Ejaculatory Dysfunction and PE

Changes in ejaculatory function are commonly experienced with aging. Ejaculation and orgasm often become less intense, with diminished ejaculatory force and seminal fluid volume.[32]

The BC is responsible for propelling semen after emission.[8] A weakened BC may result in semen dribbling with diminished force or trajectory. A strong BC can generate powerful contractions that can forcibly ejaculate semen at the time of climax. It stands to reason that the stronger the BC, the better the capacity for maximal engorgement of the corpus spongiosum, urethral pressurization, and ejaculation. The intensified ejaculation resulting from a robust BC may enhance the orgasm that accompanies the physical act of ejaculation. PFMT presumptively may optimize ejaculatory volume, force, and intensity of sexual climax.

PE is the most common male sexual disorder and is a very prevalent condition among urology patients.[38] Poor ejaculatory control and decreased intravaginal latency times can significantly distress the patient and his partner. It has been postulated that weak PFMs may impair the ability to delay ejaculation and

that a voluntary contraction of the PFMs may help control ejaculation.[39] There are numerous effective medical therapies including topical anesthetics and serotonin reuptake inhibitors; however, not all patients desire pharmacologic management.

The "squeeze technique," popularized by Masters and Johnson,[40] is one of the classic treatments for PE. At the time of impending ejaculation, the penis is withdrawn and the glans squeezed until the sensation subsides. The purported mechanism is the elimination of involuntary contractions of the BC. The problem is that this is a cumbersome solution that requires interruption of intercourse and a very cooperative partner.

The same endpoint may be achieved more subtly. The "squeeze technique" invokes the bulbocavernosus reflex, in which the BC and other PFMs contract as a direct result of compression of the glans. The inhibition of imminent ejaculation using the squeeze technique may be related to the contraction of the PFMs that occurs via the bulbocavernosus reflex. However, the precise mechanism controlling the ejaculatory reflex remains to be elucidated,[33] and it remains uncertain if ejaculatory inhibition occurs on the basis of contraction or relaxation of the BC and IC. Patients with PE can be instructed to slow the pace of intercourse, pause the pelvic thrusting, and perform a sustained PFM contraction until the ejaculatory urgency disappears. This is an internal "squeeze" without the external hand squeeze, yet may achieve the same goal, short-circuiting the PE. With sufficient practice and the achievement of PFM fitness via PFMT, this process may be facilitated and PE potentially improved.

La Pera et al[41] demonstrated the effectiveness of PFM rehabilitation in the management of PE, teaching patients to recognize and tone the muscles involved in controlling the ejaculatory reflex, resulting in 11 of 18 patients (61%) being cured. Piediferro et al[42] showed that physiotherapy was successful in the management of PE associated with pelvic floor dysfunction. Pastore et al[43] compared PFM rehabilitation with on-demand treatment with the selective serotonin reuptake inhibitor dapoxetine; 11 of 19 patients (57%) treated with rehabilitation were able to achieve ejaculatory control. Although dapoxetine resulted in significantly greater increases in intravaginal latency time as compared with those treated with PFMT, the authors concluded that PFMT is a promising therapeutic option for PE.

PFMT for Pelvic Floor Tension Myalgia

Tension myalgia of the levator ani can be a factor in chronic prostatitis or chronic pelvic pain syndrome (CP/CPPS). When the levator exists in a hypercontractile and hypertonic state, it can cause pelvic, urogenital, and rectal pain; tightness and spasticity; and adverse effects on sexual, urinary, and bowel function. This neuromuscular dysregulation of the pelvic floor and/or perineum can be triggered by stress and other circumstances.

In the management of tension myalgia, it is fundamental to foster relaxation of the spastic levator muscle. PFMT serves not only to increase the strength of the levator and other PFMs but also to instill awareness of and to develop proficiency in relaxing the involved muscles as one cycles through contraction and relaxation phases. The relaxing aspect is an equally important component of the PFMT program as is the contracting phase[7] and is the key to managing levator spasticity.

Although the optimal management of category III CP/CPPS is unknown, treatment strategies include alpha-blockers, anti-inflammatory agents, hormonal manipulation, phytotherapy, physiotherapy, and chronic pain therapy.[44] PFMT can be a useful component of this multimodal approach, with the caveat that patients need to exercise care-contracting muscles that are hypertonic, as pain can potentially be aggravated. Nadler[45] used PFMT in men with CP/CPPS, with 8 of 11 patients (72%) improving in either pain or Chronic Prostatitis Symptom Index scores, indicating a role for pelvic floor and neuromuscular re-education. The success of PFMT was predicated on the principle that maximal muscle contraction induces maximal muscle relaxation, a "meditative" state between muscle contractions.

CONCLUSION

PFMT can be useful in the management of numerous male urinary and sexual maladies and may help prevent age-related genitourinary functional declines. PFMT is the essence of "functional fitness," training muscles to help in practical life activities. Because of its simplicity, safety, and noninvasiveness, it should be employed as a first-line approach. Less invasive strategies should always be considered before more aggressive approaches that are more costly and have greater side effects. Should a patient fail to benefit from conservative management, the options of medical and surgical therapy remain available.

PFMT is by no means a magic bullet but serves as a beneficial component of the prevention and treatment strategy for a variety of pelvic issues. In terms of its efficacy, PFMT may not always be a "home run" but certainly is a "base hit." Pelvic floor fitness is critical to healthy pelvic functioning, and PFMT is an important "cog" that serves an adjunctive and supportive role in the management of many pelvic conditions that require multimodal approaches. Poor outcomes are commonly predicated on a patient being unable to identify the PFMs or properly perform the exercises.[7]

PFMT is a cost-effective option that will be of variable cost, depending on the instruction modality (in order of least to most expensive): verbal instructions or brochures or videos; several sessions of office EMG/biofeedback; ≥3 month-course of physiotherapy with a physical therapist.

For postprostatectomy SUI, PFMT is an economical alternative to pads, bulking agents, slings, and artificial sphincters, with the caveat that PFMT will not benefit everyone. For OAB, PFMT is inexpensive as compared with years of pads, anticholinergics, beta-agonists, and botulinum toxin injections. For PVD, PFMT is very cost-effective as a patient can be improved or cured in a single office visit. For ED, PFMT is less expensive than oral, urethral, and injectable medications and more invasive options. For PE, PFMT is a less costly alternative than selective serotonin reuptake inhibitor medications. Because of the extent of the disability and suffering of the CP/CPPS patient, if PFMT can provide relief, it can be considered cost-effective.

There is a need for randomized controlled trials to compare PFMT with a control population in terms of long-term efficacy. Additionally, it remains to be determined what the ideal PFMT regimen is with respect to

the variables of exercise position, contraction intensity, contraction time, rest time, number of repetitions, number of sets performed daily, number of training days per week, and duration of the regimen.

Despite evidence of efficacy, PFMT in males remains under-recognized and underutilized. The PFMs are crucial to male genitourinary health, and male PFMT should achieve the same recognition, utilization, status and traction as in females. Its advantages include its non-invasiveness, safety, and potential for empowering men. In current urologic practice, patients typically receive PFMT education by verbal instructions and perhaps a pamphlet, or alternatively, via in-office biofeedback or referral to a physiotherapist with PFM expertise. Demand for the management of pelvic floor disorders is increasing and there is major growth opportunity for office-based specialized urology services that use nonphysician providers including nurse practitioners and physician assistants to teach behavioral treatments including PFMT.[7] There also exists an unmet need for an effective means by which a comprehensive PFMT program could be made easily accessible and available to urology patients to be used in the home setting.

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