

Perspective

The Kegel Renaissance

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Abstract

After decades of stagnancy following the transformative work of Arnold Kegel, there is resurgence in interest in the pelvic floor and in the benefits of pelvic floor training in both genders. There is increasing recognition of pelvic floor dysfunction as the underlying etiology for a variety of pelvic issues and an evolution in progress with respect to management modalities, including “smart” pelvic floor muscle training programs tailored to specific pelvic floor dysfunctions, the advent of a host of novel, high-technology resistance devices, and the increasing acceptance, use and legitimacy of pelvic floor physical therapy. Another key element is functional pelvic fitness—teaching patients how to apply their pelvic training to daily tasks and common everyday activities to improve their quality of life. There is a new found understanding that many pelvic pain issues (interstitial cystitis/chronic pelvic pain syndrome, prostatitis, irritable bowel syndrome, fibromyalgia, endometriosis, etc.) are manifestations of pelvic floor dysfunction. There is a burgeoning appreciation that pelvic floor muscle training in males is no less important than in females. If Arnold Kegel were alive today, he would take great pleasure and pride in the breath of life being infused into his seminal work following decades of dormancy. His legacy and the fertile ground and transformative changes nurtured by his pioneering efforts will result in the continued empowerment of patients, with improvement in their pelvic health and quality of life.

ABBREVIATIONS

PT: Physical Therapist; DIY: Do It Yourself

INTRODUCTION

The pelvic floor/perineal muscles have long been recognized as vital for pelvic organ support, healthy sexual function and for their contribution to urinary and bowel continence in both genders. Additionally, they contribute to core stability and postural support. The pelvic muscles anatomically and functionally link the female pelvic organs—the vagina, uterus, bladder and rectum—and also affect the independent function of each. Pelvic muscle dysfunction in females can contribute to pelvic organ prolapse, urinary and bowel incontinence, sexual issues and pelvic pain (tension myalgia). Pelvic floor dysfunction in males can play a role in post-prostatectomy stress urinary incontinence, post-void dribbling, erectile dysfunction, ejaculation issues and pelvic pain.

Pelvic floor muscle fitness is critical to healthy pelvic functioning and pelvic muscle training plays an important role in the management of many pelvic conditions. Pelvic muscle training has the potential of not only treating pelvic floor dysfunction, but also delaying and preventing its onset.

A brief history of pelvic floor muscle exercises

Pelvic floor exercises date back over 6000 years ago to Chinese Taoism. The Yogis of ancient India practiced pelvic

exercises, performing rhythmic contractions of the anal sphincter. Hippocrates and Galen described pelvic exercises in ancient Greece and Rome, respectively, where they were performed in the baths and gymnasiums and were thought to promote longevity as well as general health, sexual health and spiritual health.

However, for millennia thereafter, pelvic floor exercises fell into the “dark”. Fast-forward to the 1930s when Margaret Morris, a British physical therapist, described pelvic exercises as a means of preventing and treating urinary and bowel incontinence. In the 1940s, the seminal work of Dr. Arnold Kegel resulted in pelvic floor exercises achieving the stature and acclaim that they deserved. Kegel’s legacy is the actual name that many use to refer to pelvic exercises—“Kegels” or “Kegel exercises”. Kegel determined that a successful program must include muscle education, feedback, resistance, and progressive intensity. He stressed the need for pelvic floor muscle training as opposed to casual exercises, emphasizing the importance of a diligently performed routine performed with the aid of an intra-vaginal device known as a perineometer to provide both resistance and biofeedback.

Despite Kegel’s pelvic regimen proving effective for many post-partum female pelvic issues, what is currently referred to as Kegel exercises bears little resemblance to what he so brilliantly described in his classic series of medical articles sixty-five years ago [1-4]. His regimen incorporated a critical focus and intensity that are unfortunately not upheld in most of today’s programs.

In the post-Kegel era, we have experienced a regression to the Dark Ages with respect to pelvic training. Easy-to-follow pelvic exercise programs or well-designed means of enabling pelvic exercises to improve pelvic floor health have been sorely lacking in availability. Programs often involve vague verbal instructions and a pamphlet suggesting a several month regimen of ten or so pelvic contractions squeezing against no resistance, to be done several times daily during “down” times. These static programs typically do not offer more challenging exercises over time. Such Kegel “knockoffs” and watered-down, adulterated versions—even those publicized by esteemed medical institutions—lack in guidance, feedback and rigor, demand little time and effort and often ignore the benefit of resistance, thus accounting for their ineffectiveness. With women often unable to identify their pelvic muscles or properly perform the training, outcomes have been less than favorable and the frustration level and high abandonment rate with these regimens is hardly surprising. Pelvic floor muscle training has thus remained an often ignored, neglected, misunderstood, under-respected and under-exploited resource.

Obstacles to implementing the practice of pelvic floor muscle training

Impediments to enacting pelvic floor muscle training programs include the pelvic muscles themselves, physicians who might try to take on administering the training, and patients.

The first challenge is that it can be a difficult task to motivate patients to exercise muscles that are not externally visible. Moreover, because the pelvic muscles are hidden muscles that are most often used subconsciously, teaching conscious engagement of them in order to develop muscle memory is difficult.

Secondly, many physicians (often the first-line contact personnel with patients who could benefit from pelvic training) have received little or no education with respect to pelvic floor issues and those that have hardly have the time to adequately teach pelvic training. Furthermore, most medical doctors are not particularly interested in this task, which can be burdensome and not reimbursed by medical insurance.

Thirdly, patients—most of whom know nothing about these mysterious muscles—must be enlightened with respect to the specifics of pelvic anatomy and function, the proper techniques of conditioning the pelvic muscles and the practical application of the exercises to their specific issues. In our instant gratification world, many patients are not motivated or enthused about slow fixes and the investment of time and effort required of an exercise program—which lacks the sizzle and quick fix of pharmaceuticals or the operating room—so patient compliance and willingness to pursue the exercises are important and often times limiting factors. Furthermore, many women with pelvic issues are reluctant to seek help because of embarrassment about the personal nature of their problems, the misconception that pelvic troubles are always an expected consequence of pregnancy or aging, a lack of awareness that help is available and the fear that surgery will be the only treatment option.

Solutions

For years I managed these stumbling blocks with a verbal explanation of pelvic exercises and the use of written materials. I found this approach to be inadequate and ineffective, so I created a YouTube video [5] as a supplement. This was well received by my patients and many others, with hundreds of thousands of views to date, its popularity informing me of the vital need and unmet demand for an effective means by which pelvic training could be made easily accessible.

Many who are motivated to learn about their pelvic muscles and how to exercise them navigate the Internet as a go-to source of enlightenment. However, the Internet content is poorly regulated, unfiltered, and is often lacking in quality, substantiated information. Many websites devoted to pelvic training are promotional in nature and most of the online pelvic guidance is far too basic and incomplete.

There are a number of pelvic training applications (apps) available for download. Many are follow-along tutorials that provide a timer for doing pelvic exercises and audio and visual cues for contracting and relaxing the pelvic muscles. They all have a bare minimum of in-depth content, medical focus and meaningful instruction, serving mainly as timing prompters. None provide the foundational knowledge upon which pelvic training is based.

Physicians who want their patients to pursue pelvic training may consider referring them for pelvic floor physical therapy (PT). Physical therapists who specialize in pelvic floor issues deal with a wide range of pelvic floor dysfunctions ranging the gamut from pelvic muscle weakness to pelvic muscle hypertension. Pelvic floor PT sessions can be of great help for those who are incapable of mastering pelvic floor training on their own and it is clear that patients do better with supervised regimens than they do without. Pelvic PT is particularly useful for pelvic pain syndromes. The downside of PT is that it is time-consuming and expensive, with variable coverage depending upon the insurance carrier.

In France, the government subsidizes the cost of post-partum pelvic training (“La rééducation périnéale après accouchement”). It includes up to 20 sessions of pelvic PT intended to tone and “re-educate” the postnatal pelvic muscles. This program has been highly successful.

Many women are interested in pursuing pelvic training, not necessarily under the guidance of a health professional such as a physical therapist or physician, but as an “exercise” routine as opposed to a “medical” program. What about “Do It Yourself” (DIY) programs? The first problem with DIY is in finding the proper regimen and the second problem is seeing it through to reap meaningful results. The majority of those who try DIY Kegels cannot find a program that provides the foundational background and the means of isolating and exercising the pelvic muscles in a progressively more challenging fashion. It is the equivalent of giving someone a set of weights and expecting them to pursue

a weight-training program without the essential knowledge and principles of muscle anatomy and function, a specific exercise routine and the supervision to go along with the equipment—which would most certainly doom them to failure.

The Pelvic Revolution

In 2016, we are in the midst of a sea change with a pelvic floor “movement” gaining momentum and traction. There is increasing recognition of pelvic floor dysfunction as the underlying etiology for a variety of pelvic issues including pelvic organ prolapse, stress urinary incontinence, overactive bladder, sexual dysfunction and pelvic pain syndromes. There is an evolution in progress with respect to management modalities, including “smart” pelvic floor muscle training programs that are tailored to specific pelvic floor dysfunctions, the advent of a host of novel, high-technology resistance devices, and the increasing acceptance, use and legitimacy of pelvic floor PT, as has been the case in Europe for many years.

It is my belief that the next few years will bear witness to continued advances in pelvic floor muscle training and a pelvic “revolution” that will restore pelvic training to the classic sense established by Arnold Kegel—a “renaissance” to a new era of “pelvic enlightenment”. Books such as *The Kegel Fix: Recharging Female Pelvic, Sexual and Urinary Health* [6] introduce new age, next generation pelvic programs—progressive, home-based, tailored exercise programs consisting of strength, power and endurance training regimens that are intelligently designed and customized for each specific pelvic floor dysfunction. 2016 will see the availability of quality follow-along pelvic training programs, e.g., the Pelvic Rx [7]—a comprehensive, interactive, FDA-registered training regimen accessible via DVD or streaming. Furthermore, based upon Dr. Kegel’s perineometer resistance device, technological advances have resulted in the emergence of numerous pelvic floor training resistance devices, many of which are sophisticated means of providing resistance, biofeedback and tracking, often via Bluetooth connectivity to a smart phone. Although most devices provide the same basic functionality—insertion into the vagina, connection to a smart phone app, and biofeedback and tracking—each has its own unique features in a rapidly changing, competitive and evolving market.

Another major refinement is the concept of functional pelvic fitness—teaching patients how to put their pelvic knowledge and skills to real life use with practical and actionable means of applying pelvic muscle proficiency to daily tasks and common everyday activities, an area that has been sorely neglected in the past. This can be readily applied to patients with both stress and urgency urinary incontinence. For example, with the perception of acute urgency, doing five or so short burst contractions of the pelvic muscles can reflexively inhibit an involuntary bladder contraction and mitigate the urgency. By the same token, the “knack maneuver,” a few-second contraction of the pelvic muscles prior to engaging in a trigger activity that induces stress incontinence (e.g., standing up) can serve to prevent the incontinence. Functional pelvic fitness is equally applicable to both males and females, who can be taught to put their pelvic conditioning to practical use to improve their quality of life.

An additional element of the pelvic revolution is the

increasing awareness and acceptance by the urogynecological community of the concept that stress and other psychosocial factors can give rise to physical complaints such as pelvic floor tension myalgia. At one time, this diagnostic entity was not even a consideration; however, an understanding of this condition is slowly gaining recognition and traction and there is a burgeoning understanding that many pelvic pain issues (interstitial cystitis/chronic pelvic pain syndrome, prostatitis, irritable bowel syndrome, fibromyalgia, endometriosis, etc.) are, in actuality, manifestations of pelvic floor dysfunction.

The final piece of the pelvic revolution is the broadening appreciation that pelvic floor muscle training in males is no less important than in females, potentially beneficial in the management of post-prostatectomy stress urinary incontinence, overactive bladder, post-void ribbling, erectile dysfunction, premature ejaculation and pelvic pain due to levator muscle spasm [8-10].

Future Considerations

Demand for the management of pelvic floor disorders will increase over the next decade. There is major growth opportunity for specialized services that utilize non-physician providers including nurse practitioners and physician assistants to teach patients behavioral treatments including pelvic muscle training [11].

If Arnold Kegel were alive today, in all likelihood he would take great pleasure and pride in the breath of life being infused into his seminal work following decades of stagnancy. His legacy and the fertile ground and transformative changes nurtured by his pioneering efforts will result in the continue dempowerment of patients, with improvement in their pelvic health and quality of life.

CONFLICT OF INTEREST

The author declares that he has no relevant financial interests. The author has written books, entitled “Male Pelvic Fitness: Optimizing Sexual and Urinary Health” and “The Kegel Fix: Recharging Female Pelvic, Sexual and Urinary Health”. Additionally, the author is the co-creator of the “Pelvic Rx” pelvic floor muscle training follow-along instructional DVD for men and the “Pelvic Rx” pelvic floor muscle training follow-along instructional DVD for women is in the works.

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