



## Multidisciplinary management of pelvic floor disorders

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### A B S T R A C T

Pelvic floor disorders are being diagnosed in women with increasing frequency. Disorders of the different compartments of the pelvic floor (anterior, middle, and posterior) often occur simultaneously. A multidisciplinary approach is often needed to pursue the proper workup and reach the optimal treatment regimen. Pelvic floor centers are emerging as a model in which to treat these complex patients. Lastly, we will highlight case examples of how a pelvic floor center can be beneficial to the workup and management of these patients.

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### Introduction

The pelvic floor can be thought of as three distinct components. In its simplest form, the anterior compartment includes the urethra and bladder; the vaginal compartment includes the cervix, vagina, and uterus; and the posterior compartment, includes the anus and rectum.<sup>1</sup> The current practice for treating disorders of the pelvic floor is evolving from a segmented, single compartment model, into a multidisciplinary approach, appreciating the pelvic floor as a multi compartment dynamic system. The collaborative expertise of urologists, gynecologists, colorectal surgeons, gastroenterologists, and physical therapists is often required to treat these complex disorders.

Patients with pelvic floor disorders can present with a wide range of symptoms including anatomic and functional complaints. Anatomical derangements of each compartment of the pelvic floor may present in isolation, or in combination to abnormalities of the other compartments of the pelvic floor (Table). Functional derangement can include lower urinary tract symptoms, including disorders of storage or evacuation; defecatory dysfunction, including incontinence or outlet obstruction; or pain disorders, including dyspareunia. Simple screening tools can help identify patients with these disorders, who may not otherwise feel comfortable bring up these sensitive issues to a medical provider. One such screening tool is the Pelvic Floor Distress Inventory (PFDI), or PFDI-20 short form. The PFDI is made up of the Pelvic Organ Prolapse

Distress Inventory 6 (POPDI-6), Colorectal–Anal Distress Inventory (CRAD-8), and the Urinary Distress Inventory 6 (UDI-6).<sup>2–6</sup>

The prevalence of pelvic floor disorders, including urinary incontinence, fecal incontinence and pelvic organ prolapse, has been shown to affect nearly 25% of women based upon the National Health and Nutrition Examination Survey.<sup>7,8</sup> The most common pelvic floor disorder is urinary incontinence with a prevalence of 16%, followed by fecal incontinence at 9% and pelvic organ prolapse at 3%. However, a recent Cochrane review reported the prevalence of fecal incontinence to range from 2% to 17%<sup>9</sup> these results come from clinical studies with differing definitions, and may underestimate the true prevalence of this condition. A large survey of woman > 45-year old in the United States revealed that 15.6% of women of ages 45–54 years had at least one episode of accidental bowel leakage per year, while 23.1% of women over age 75 experience this problem at least once per year.<sup>10</sup> With the aging of the population, the prevalence of pelvic floor disorders will certainly increase over time. One recent estimate is that by the year 2050, 58.2 million women in the United States will have at least one pelvic floor disorder.<sup>11</sup> It is important to recognize these trends and to educate both patients and providers of all specialties of the prevalence of these disorders and their treatment options, as one study on fecal incontinence indicated that less than one-third of incontinent patients surveyed have ever discussed these symptoms with a doctor, and in those who did, about 50% chose to discuss these symptoms with only their primary care doctor.<sup>12</sup>

### Symptom overlap

It is important to recognize that pelvic floor disorders do not always occur in isolation and that a high degree of symptom

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**Table**  
Anatomic pelvic floor abnormalities.

Anterior compartment
Urethral prolapse
Cystocele
Middle compartment
Anterior or posterior vaginal prolapse
Enterocoele
Uterovaginal prolapse
Posterior compartment
Anal sphincter disruption
Rectal prolapse
Rectal intussusception
Rectocele
Sigmoidocele

overlap exists. A study of 113 consecutive patients treated in a multidisciplinary pelvic floor center noted two main patterns of clustering of symptoms: first, the association with rectoceles and obstructed defecation, and second, the presentation with mixed fecal and urinary incontinence.<sup>13</sup> Bano and Barrington<sup>14</sup> surveyed 200 women presenting for gynecological exams, they found a high prevalence of constipation, fecal incontinence and defecatory disorders in these women. Furthermore, Kahn and Stanton<sup>15</sup> showed that some symptoms such as constipation, incomplete bowel emptying, and fecal incontinence, do not always resolve following posterior colporrhaphy, and that symptoms may worsen or occur de novo. Again, these studies highlight the burden and overlap between pelvic floor disorders and the dynamic pelvic floor model.

## Evaluation

Evaluation of these disorders can be extensive and requires special equipment and expertise.<sup>16,17</sup> Detailed history and physical exams are imperative and should precede any special testing. Histories should include the duration, symptoms, and an objective quantification severity. A typical physical exam for female pelvic floor disorders may include evaluation of the urethra, vulva, vagina, and cervix, bimanual exam of uterus and adnexa, and rectal exam. When vaginal prolapse is noted, it is often defined using the pelvic organ prolapse quantification exam (POP-Q) as a way to standardize the exam findings.<sup>1</sup> Using these findings, a compartment and stage is assigned corresponding to the most significant prolapse. In addition to history and physical exam, cystoscopic evaluation, urodynamic bladder testing,<sup>18,19</sup> anoscopy, and/or endoanal ultrasound,<sup>20,21</sup> anorectal physiology testing,<sup>20,22–24</sup> or defecography<sup>25</sup> may also be indicated.

## The value of a pelvic floor center

A pelvic floor clinic or center (PFC) can facilitate the multi-specialty care of these complex patients.<sup>13</sup> The ideal pelvic floor center has the expertise of multiple types of specialists, including urology, urogynecology, colorectal surgery, and physical therapy. With these resources, patients with simple, isolated problems are easily managed, and more complex patients with mixed pelvic floor disorders are directed into the appropriate diagnostic workup and multidisciplinary management. Ideally, a pelvic floor center should have the resources to perform a detailed physical examination (lighting, scopes, specula, commode, etc.) and

diagnostic capabilities such as cystoscopy, urodynamics, ultrasound, manometry testing, and defecography. With these resources in place, patients may quickly go through the often lengthy diagnostic process, and be offered the appropriate course of management in an expeditious manner. Streamlining the process of diagnosis and multidisciplinary management has the potential to improve patient satisfaction, an increasingly important metric, as it will be tied to reimbursement in the future.<sup>26</sup> Kapoor et al.<sup>13</sup> reviewed 113 cases treated over 3 years in their pelvic floor center. They found that the PFC lead to a more pragmatic treatment approach, combined surgery was undertaken in one quarter of their patients, and these cases were associated with cost savings and single recuperation period with high patient satisfaction.

It is important to note that though pelvic floor centers are generally profitable entities, not all centers have the resources to build a freestanding pelvic floor center. In these instances, many hospitals have developed the model of a virtual pelvic floor center, in which physicians dedicated to treating these disorders collaborate to develop care pathways for the multidisciplinary diagnosis and management of pelvic floor disorders. Regardless of which model of pelvic floor center is used, a patient navigator can be an essential component to enhance the patient experience. A navigator can sort through the initial patient triage process to determine which diagnostic modalities to pursue, and which specialists a patient should be seen by. This is particularly important in the realm of overactive bladder and fecal incontinence, where many patients are treated in a stepwise approach with conservative measures prior to considering interventional treatments. In an audit of our own practice, we noted that > 50% of overactive bladder patients seen for an initial visit and prescribed a first line medication never returned for a subsequent visit. Additionally, of patients who were prescribed a medication for overactive bladder, only 2–3% ultimately went on to receive third line therapy (Botox injection, percutaneous tibial nerve stimulation, or sacral neuromodulation) due to lack of follow-up in our system. A patient navigator has the ability to follow patients throughout their entire care pathway and help assure that a higher proportion of patients receive the appropriate medical treatment for their pelvic floor disorder, resulting in a higher patient satisfaction.

To illustrate the types of patients who are often managed using a multidisciplinary approach, we will highlight the cases of two recent patients in our pelvic floor center.

## Case 1

A 70-year-old woman presented with symptoms of difficulty with evacuation of stool. She felt the sensation of pressure and an urge to have a bowel movement, but had an inability to pass stool unless she used manual pressure on the posterior vaginal wall. She also noted the presence of a visual bulge of the posterior vagina. Colonoscopy ruled out a colorectal malignancy. She denied any urinary symptoms. Physical examination revealed normal sphincter tone, but suggested a paradoxical contraction of the puborectalis muscle. A moderately large rectocele was present. Anorectal physiology testing revealed normal resting and squeeze pressures. The rectoanal inhibitory reflex was present. Though the patient could expel the balloon upon request, EMG testing did suggest nonrelaxation of the puborectalis muscle. Defecography revealed a 5-cm rectocele with poor emptying unless manual pressure was used (Fig.). There was also as suggestion of nonrelaxation of the puborectalis muscle. There was no evidence of enterocele, sigmoidocele, or vaginal vault prolapse.

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