Paruresis or Shy Bladder Syndrome: An Unknown Urologic Malady?

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For decades, primary care doctors, interns, urologists, physician assistants, nurse practitioners, bachelors of science nurses, registered nurses, licensed vocational nurses, physical therapists, and social workers have reported being asked by patients, “This is a bit embarrassing, but I am unable to urinate in the presence of other people. Is there something wrong with me?” In the vast majority of cases, the patient is told (a) not to worry, that it happens to a lot of people, and/or (b) tests will need to be run to rule out any urinary obstruction. Occasionally, patients are told to drink a lot of fluid, the theory being that eventually he (or she) will fill the bladder, and thus, have to urinate. In some instances, patients are simply ignored, and the subject is changed.

In many cases, the health care provider is unaware that the patient is suffering from the common social anxiety disorder known as paruresis or shy bladder syndrome. The best estimate is that 7% of the general population, or approximately 17 million people in the U.S., suffer from paruresis. While much has been written about urologic topics, such as incontinence and the neurogenic bladder, urologic literature does not contain any articles that specifically refer to paruresis. Little is known about the underlying causes of paruresis, but research indicates that the condition may have a physiological basis in addition to the more obvious psychological factors. Paruresis is a complex medical condition of unknown origin. The lack of awareness among the medical, nursing, and therapeutic communities contributes to the significant unmet needs of patients suffering from paruresis and its related symptoms. Only with education and research, in addition to clarification and agreement of the terminology for this phenomenon, can progress be made in understanding and effectively treating paruresis.

To date, shy bladder syndrome, or “paruresis,” chiefly has been seen as a psychological problem; consequently, little attention has been focused on this debilitating condition. The best estimate is that 7% of the general population, or approximately 17 million people in the United States, suffer from paruresis. While much has been written about urologic topics, such as incontinence and the neurogenic bladder, urologic literature does not contain any articles that specifically refer to paruresis. Little is known about the underlying causes of paruresis, but research indicates that the condition may have a physiological basis in addition to the more obvious psychological factors. Paruresis is a complex medical condition of unknown origin. The lack of awareness among the medical, nursing, and therapeutic communities contributes to the significant unmet needs of patients suffering from paruresis and its related symptoms. Only with education and research, in addition to clarification and agreement of the terminology for this phenomenon, can progress be made in understanding and effectively treating paruresis.

Key Words: Paruresis, shy bladder, bashful bladder, psychogenic urinary retention, voiding dysfunction, functional voiding disorder, dysfunctional voiding syndrome, learned voiding dysfunction, dysfunctional bladder, internal sphincter dyssynergia, bladder sphincter incoordination, nonneurogenic neurogenic bladder, anxious bladder, bladder spasm, micturition difficulty.

Objectives
1. Define paruresis.
2. Discuss the phenomenon of how both physiologic and psychologic stressors on the bladder control system may cause paruresis.
3. Explain therapies being used to treat paruresis.

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Note: Objectives and CNE Evaluation Form appear on page 94.
the 1997 National Comorbidity Study, 6.6% of the population have difficulty urinating when away from home (Kessler, Stein, & Berglund, 1998). This figure may seriously underestimate the problem if paruresis is considered a continuum disorder, with degrees of severity ranging from mild (an occasional problem urinating at the ballgame) to severe (being housebound by the problem).

While the occasional sufferer may find it to be a minor annoyance, the person who suffers from severe paruresis must deal with the adverse implications of the social phobia each and every day. Part of the phobia is the feeling of embarrassment; therefore, it is critical that when a patient mentions the problem to a health care provider or worker, the patient’s needs and fears are addressed. For a patient to overcome the fear and embarrassment, and risk bringing it to the doctor’s attention, paruresis is almost always already having adverse affects, and thus, must be taken seriously.

The urology literature has been silent on this topic. While much has been written about topics such as incontinence and the neuropathic bladder, these authors could not find one article using the terms paruresis or shy bladder syndrome in the urology literature. The lack of consistent terminology hinders the quest for information, further complicating the ability to manage paruresis.

Table 1 includes a summary of the 36 terms that were identified in the urology, pediatric, and gynecology literature that appeared to be synonymous with paruresis or shy bladder syndrome. The most popular term in the literature for this phenomenon, especially internationally, is “psychogenic urinary retention” followed by the term “non-neuropathic neurogenic bladder.” However, psychogenic urinary retention is an inaccurate term, and the term non-neuropathic neurogenic bladder is simply too cumbersome and difficult to use. The authors of this article propose that the preferred term for this disorder be paruresis, which is consistent with other disorders of this nature (such as enuresis and encopresis, and a term coined for shy bowel syndrome, parcopresis). Health care providers or workers are encouraged to begin to consistently use the term paruresis for medical purposes.

The designation “paruresis” first appeared in a psychological journal in 1954 (Williams & Degenhardt, 1954) and is found in several medical dictionaries. According to one online medical dictionary, paruresis is “inhibited urination, especially in the presence of strangers” (The Centre for Cancer Education, University of Newcastle upon Tyne, 2007). The origin of the term is “para” plus the Greek word “ouresis,” which means urination, accurately describing a shy bladder. The term is also consistent with the related syndromes as mentioned above.

Defining Paruresis

For the purpose of this article, paruresis is defined as:

After an initial unpleasant experience, the individual anticipates difficulty urinating whenever entering a lavatory. Furtive attempts to control the process fail, and associated anxiety with performance reduces the individual’s chances of voiding while in a public facility. The paruretic must then adjust to the disorder by voiding as much as possible when at home, restricting the intake of fluids, locating vacant public rest rooms, running the tap, and refusing extended social invitations (Zgourides, 1987, pp. 1171-1172).

In addition, patients with paruresis (“paruretics”) frequently describe a sensation of a “freezing” or “locking up” of the bladder. To date, our best understanding of this phenomenon is that there is a tightening of the sphincter and/or bladder neck due to a sympathetic nervous system response. The “adrenaline” rush that produces the involuntary nervous system response probably has peripheral and central nervous system involvement, though the exact mechanism is unclear. In the absence of research and information, it is uncertain whether the offending muscle in males is the internal sphincter (smooth muscle tissue) or the external sphincter (striated muscle), levator ani (especially the pubococcygeus) muscle area, or some combination of the above. To further complicate matters, it is possible that there is an inhibition of the detrusor command through a reflex pathway as well. Finally, the pontine micturition center (Barrington’s nucleus) may be involved, as its inhibition results in relaxation of the detrusor and prevents the relaxation of the internal sphincter.

Given the evolving understanding of the condition, it behooves health care providers to not only become more aware and educated about paruresis but also begin playing an active role in understanding the pathophysiology of the condition. It is important that all health care providers begin screening for paruresis so there is a better understanding of the incidence and effect of the disorder. One
Table 1. Terms Found in the Urology, Pediatric, and Gynecology Literature that May Be Synonymous With Paruresis (Shy Bladder Syndrome)

<table>
<thead>
<tr>
<th>Term</th>
<th>Authors/References</th>
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<tr>
<td>Abnormal voiding habits or voiding pattern abnormalities</td>
<td>Cook, Firlit, Stephens, &amp; King, 1977; Firlit, Smey, &amp; King, 1978; Smey, Firlit, &amp; King, 1978</td>
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<tr>
<td>Acute urinary retention of psychogenic cause</td>
<td>Caffaratti, Perez Rodriguez, Garat, &amp; Farre, 1993</td>
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<td>Anxious bladder</td>
<td>Barnes, Harrison, &amp; Murray, 1985; George &amp; Slade, 1979</td>
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<td>Bashful bladder</td>
<td>Rosario, Chapple, Tophill, &amp; Woo, 2000</td>
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<tr>
<td>Bladder spasm</td>
<td>Thompson &amp; Lauvetz, 1976</td>
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<tr>
<td>Bladder sphincter incoordination</td>
<td>Jenkins, Noe, Vaughn, &amp; Roberts, 1987</td>
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<td>Chronic retention of urine</td>
<td>Beer, 1915</td>
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<td>Chronic urinary retention</td>
<td>Fowler, Betts, Christmas, Swash, &amp; Fowler, 1992</td>
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<td>Disturbances of bladder function associated with emotional states</td>
<td>Straub, Ripley, &amp; Wolf, 1948</td>
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<tr>
<td>Dysfunctional bladder</td>
<td>Hellstrom, Hjalmas, &amp; Jodal, 1987</td>
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<td>Dysfunctional voiding or internal sphincter dyssynergia</td>
<td>Combs, Glassberg, Gerdes, &amp; Horowitz, 1998; Ellsworth, Merguerian, &amp; Copenning, 1995; Koff, 1992; Smey, King, &amp; Firlit, 1980; van Gool, Hjalmas, Tamminen-Mobius, &amp; Ólbing, 1992</td>
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<tr>
<td>Dysfunctional voiding syndrome</td>
<td>Yang &amp; Mayo, 1997</td>
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<td>External sphincter dyssynergia</td>
<td>Yang &amp; Mayo, 1997</td>
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<tr>
<td>Fowler’s syndrome</td>
<td>Swinn, Kitchen, Goodwin, &amp; Fowler, 2000</td>
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<tr>
<td>Functional voiding disorder</td>
<td>Siroky, Goldstein, &amp; Krane, 1981</td>
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<td>Hinman syndrome</td>
<td>Phillips &amp; Uehling, 1993</td>
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<td>Hinman-Allen syndrome</td>
<td>Yang &amp; Mayo, 1997</td>
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<tr>
<td>Hysterical acute urinary retention</td>
<td>Godec &amp; Cass, 1981</td>
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<td>Impaired bladder emptying</td>
<td>Yoshimura &amp; Chancellor, 2004</td>
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<td>Learned voiding dysfunction</td>
<td>Blaivas, 1998</td>
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<td>Micturition difficulty</td>
<td>Kawabe &amp; Nijima, 1987</td>
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<td>Nonneurogenic neurogenic bladder</td>
<td>Allen, 1977; Hinman, 1974; McGuire &amp; Savastano, 1984</td>
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<td>Occult neurological bladder</td>
<td>Martin, Datta, &amp; Schweitz, 1971</td>
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<tr>
<td>Primary bladder neck obstruction</td>
<td>Kraus, Smith, &amp; Boone, 2000</td>
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<td>Psychogenic urinary retention (PUR)</td>
<td>Bassi et al., 1988; Bosio, Mazzucchelli, &amp; Sandri, 1996; Espejo, Cozar, &amp; Tallada, 1997; Fukui et al., 1999; Khan, 1971; Kitami, Masuda, Chiba, &amp; Kumagai, 1989; Korzets, Garb, Lewis, &amp; Bernheim, 1985; Larson, Swenson, Utz, &amp; Steinhilber, 1963; Montague &amp; Jones, 1979; Stams, Martin, &amp; Tan, 1982; Wheeler &amp; Renshaw, 1995</td>
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<tr>
<td>Psychogenic voiding dysfunction</td>
<td>Christmas, Noble, Watson, &amp; Turner-Warwick, 1991</td>
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<tr>
<td>Psychogenic voiding patterns or psychogenic bladder function</td>
<td>Païmtag &amp; Riedasch, 1980</td>
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<tr>
<td>Spastic striated external sphincter</td>
<td>Tanagho, Miller, Lyon, &amp; Fisher, 1971</td>
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<tr>
<td>Subclinical neurogenic bladder</td>
<td>Dorfman, Bailey, &amp; Smith, 1969</td>
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<tr>
<td>Unstable bladder of psychosomatic origin</td>
<td>Frewen, 1978</td>
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<tr>
<td>Urologic neurosis</td>
<td>Ritch, 1946</td>
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<tr>
<td>Voiding dysfunction without neurologic or obstructive disease</td>
<td>Hinman &amp; Baumann, 1973</td>
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urologist estimated that one-third of his patients could not give urine samples in the office when requested. Many patients had to go home and bring their urine specimens back at a later date. This could indicate there is a significant problem that is not being reported or is being ignored.

It should also be noted that after surgery, many patients cannot be sent home from the outpatient recovery area until they are able to urinate. This is a huge problem for individuals with paruresis that is often compounded by the anesthetics used during the surgical procedure, as well as by the side effects of postoperative pain medications that may be prescribed. These authors have case reports of patients who have developed paruresis after post-op experiences.

Health care providers have a unique opportunity to assume a vital role in defining, screening, diagnosing, and treating paruresis. By seeing it only as a psychological condition, most urologists have, until now, made a Rylean category mistake (Ryle, 1949). However, by seeing it more as a duality, as both a psychological and a physical condition, much progress can be made in helping those afflicted by this disorder.

**Paruresis and the Bladder Control System**

How the bladder control system interacts and how it may be adversely affected is unknown. It is now classically considered that bladder contraction during micturition is parasympathetically mediated by means of a long loop via the medulla through the Barrington micturition center in the pons, itself under influence of cortical, sub-cortical, and cerebellar centers. In close connection are the somatic control pathways to the pelvic floor. Voiding can occur only when the pelvic floor is sufficiently relaxed, which has been found to occur in normally coordinated micturition.

Little is actually known about the underlying mechanisms of the paruresis. Some researchers report that it is normal for men to have a later onset and shorter duration of micturition when initiated in the presence of a stranger (Middlemest, Knowles, & Matter, 1976). It is clear that there are different causes from functional ones (dyssynergia or pseudodyssynergia) to slight mechanical obstruction (bladder neck hypertrophy) that can result in mild voiding difficulties (Kaplan et al., 1997). In patients with psychological characteristics, such as anxiety or depression, paruresis and related symptoms can arise as the extreme end of the spectrum of the normal delay in presence of a stranger (George & Slade, 1979).

Classic urologic tests, such as uroflowmetry and cystometrography, are made difficult in patients with paruresis because of their inherent lack of privacy. Such examinations and urodynamic investigation should be performed in an ambulatory manner whenever possible for better results (Rosario, Chapple, Tophill, & Woo, 2000).

Diffuse orthosympathetic stimulation that occurs in cases of high anxiety may result in detrusor inhibition at vesical and ganglionic levels, at least through beta adrenoreceptors and probably through an increase in external sphincter tone via alpha adrenoreceptors (Chai & Steers, 1996; Montella & Wordell, 1998). It is important to note that contraction of the external urethral sphincter has a reflex inhibitory effect on detrusor contraction (Shafik, 1999). Thus, it may be that paruresis and paruresis-like symptoms are caused by a combination of orthosympathetic effects, but research and clinical investigation are needed to further explore this possibility.

**Drug Treatment**

While there are anecdotal reports that a variety of drugs have been used to treat paruresis, no controlled clinical trials exist to confirm the effectiveness (or lack thereof) of any drug therapies. It should be emphasized that drug treatment will probably be a compromise between storage and voiding function, and in paruresis, the drug’s duration of action will either need to be very short or very long. Regardless, one must pay special attention to the side effects associated with drug treatments because there are innumerable cases where medications have been less tolerable than the problem for which they were prescribed.

Several drug treatments have been investigated. One drug treatment consists of detrusor contracility stimulation via direct effect (bethanechol) and/or potentiation of the detrusor stimulating pathways (cisapride, metoclopramide) (Candura et al., 1996; Mitchell & Venable, 1985). A second treatment option under investigation is the use of adrenergic blocking agents (alpha and beta blockers). A third treatment option could include the use of local application of myorelaxant agents, such as botulinum toxin. Another option is to include the use of oral benzodiazepines, which may be beneficial since they are known to reduce anxiety symptoms.

Frontline medications prescribed for the condition (in particular, alpha blockers) have not worked (Zgourides, 1991). Other medications commonly prescribed by psychiatrists have had mixed results (Bohn & Sternbach, 1997). There is no medication known to these authors that relieves the primary symptoms of paruresis, although there is some evidence that injections of botulinum toxin into the pelvic floor might be beneficial (Smith, Nishiguchi, O’Leary, Yoshimura, & Chancellor, 2005). However, there are so few reported cases and no randomly controlled studies that any definitive conclusions are not possible.
Treatments

Treatments currently available to patients suffering from paruresis are limited and are not well known in the medical and therapeutic communities (Soifer, Zgourides, Himle, & Pickering, 2001). While cognitive behavioral therapy seems to be quite effective in managing symptoms of paruresis (Soifer, Himle, & Walsh, 2008), it does not appear to be a cure. Many patients continue working on improving their condition by joining one of the many support groups around the world sponsored by the International Paruresis Association (www.shybladder.org). For patients not aided by cognitive behavioral therapy, biofeedback treatments to relax the pelvic floor musculature or self-catheterization may be an option.

Unfortunately, the typical urologic approaches to treating paruresis have also not proven to cure the problem. Basic urological examinations reveal nothing. From a purely medical point of view, surgical options for people with paruresis exist, but they are a last resort because of possible complications. There have been several anecdotal reports on the International Paruresis Association’s Web site (www.paruresis.org) of patients who have tried transurethral microwave thermaltherapy (TUMT) or mini transurethral resection of the prostate (TURP) for paruresis. The results have been mixed, and the cases treated make it difficult to draw any conclusions. However, some patients have been helped, at least temporarily, by these procedures. There is one patient who anecdotally reported that when his prostate was removed for cancer, his paruresis disappeared.

Another area of treatment exploration is sacral neuromodulation. Two neurosurgeons are pursuing this line of research, including women diagnosed with psychogenic urinary retention. While Fowler’s syndrome may not be paruresis, research by Fowler and colleagues indicates that urinary retention in women is not caused by any physical obstruction, and many women have abnormal electromyographic (EMG) readings (Fowler & Kirby, 1985, 1986; Fowler et al., 1988; Goodwin, Swinn, & Fowler, 1998). If there is difficulty for at least some of these women to relax the involuntary muscle of the internal sphincter, which in turn causes urinary retention (Fowler & Kirby, 1985), it would seem that at the very least, Fowler is investigating a syndrome that mimics paruresis.

A compelling argument can be made that there may be some neurophysiologic basis for paruresis and that this disorder is not simply a social phobia or social anxiety disorder (Hammelstein & Soifer, 2006). There is recent evidence that the disorder is best described as a chronic pelvic floor dysfunction. These patients would exhibit symptoms of pelvic floor spasm, almost like an exaggerated form of Hinman’s syndrome. However, this type of dysfunction may be documented with pelvic floor myography. At the Center for Pelvic Floor Disorders of Chesapeake Urology in Baltimore, Maryland, 7 patients who presented with a long, well-known history of paruresis were examined. Pelvic floor EMGs were performed on these patients, and 2 were found to have EMG amplitude elevations consistent with pelvic floor spasm. This increased pelvic muscle tone was not suppressible in public. One patient went on to sacral nerve root testing. The patient’s anxiety level during the test phase increased making clinical results difficult to interpret. This is an area for future clinical research.

Conclusions

To date, information on paruresis has been inconsistent and largely unavailable. It has been viewed chiefly as a psychological problem; consequently, serious attention has not been paid to this potentially debilitating condition. Since health care providers are initial points of contact for someone suffering from this urologic disorder, it is imperative that the medical/nursing community is educated about paruresis. In addition, schools of nursing and medicine need to include information about paruresis in their curricula.

Nursing Implications

Health care providers have an important role to play in both understanding and managing this disorder, though not those that traditionally come to mind. First, they must be informed about both the condition itself and the literature on the subject (Soifer, Zgourides et al., 2001). Second, they need to take the condition seriously. Often, nurses assess and/or refer patients with this condition. Nurses may be the first to see patients. Since paruresis can be a debilitating condition, it requires emergency room management for relief of extreme cases of urinary retention. If it is not an emergency situation, patients with paruresis must be presented with the options of behavioral therapy, biofeedback, and self-catheterization.

Finally, for the management of symptoms, health care providers should be prepared to make the appropriate referral to a mental health professional only after ruling out possible medical causes. A differential diagnosis might include questioning the person about his or her ability to urinate at home freely and to determine whether the patient’s difficulty relates to urinating in public. If the patient acknowledges this is the situation, then standard urological examinations and testing are usually unnecessary. However, there are cases of urethral strictures, benign prostatic hyperplasia, and multiple sclerosis that have created paruresis-like symptoms seen in the authors’ practice.
for this phenomenon will provide significant assistance for the identification and systematic study of paruresis and potential treatments, including pharmacologic agents that might be used for its management as well as other treatment interventions. These interventions include self-catheterization, psychological therapy (cognitive behavioral therapy), and physical therapy (targeted biofeedback) that can be utilized to aid the paruretic patient. Nurses play a very important role in facilitating these treatments.

In the future, it is essential that research be conducted to identify the pathologic, physiologic, and sympathetic mechanisms that may contribute to paruresis. Only then will paruresis be recognized as a serious urologic condition that adversely affects the lives of those living with it.

References


