The Standardization of Terminology for Researchers in Female Pelvic Floor Disorders

A. M. Weber1, P. Abrams2, L. Brubaker3, G. Cundiff4, G. Davis5, R. R. Dmochowski6, J. Fischer7, T. Hull8, I. Nygaard9 and A. C. Weidner10

1Center for Population Research, National Institute of Child Health and Human Development, Bethesda, MD; 2Bristol Urological Institute, Southmead Hospital, Bristol, UK; 3Rush Medical College, Chicago, IL; 4Johns Hopkins University, Baltimore, MD; 5Madigan Army Medical Center, Tacoma, WA; 6Uniformed Services University of the Health Sciences, Bethesda, MD; 7Wright Patterson Air Force Base 74th Medical Group, OH; 8Cleveland Clinic Foundation, Cleveland, OH; 9University of Iowa, Iowa City, IA; 10Duke University, Durham, NC, USA

Abstract: The lack of standardized terminology in pelvic floor disorders (pelvic organ prolapse, urinary incontinence, and fecal incontinence) is a major obstacle to performing and interpreting research. The National Institutes of Health convened the Terminology Workshop for Researchers in Female Pelvic Floor Disorders to: (1) agree on standard terms for defining conditions and outcomes; (2) make recommendations for minimum data collection for research; and (3) identify high priority issues for future research. Pelvic organ prolapse was defined by physical examination staging using the International Continence Society system. Stress urinary incontinence was defined by symptoms and testing; ‘cure’ was defined as no stress incontinence symptoms, negative testing, and no new problems due to intervention. Overactive bladder was defined as urinary frequency and urgency, with and without urge incontinence. Detrusor instability was defined by cystometry. For all urinary symptoms, defining ‘improvement’ after intervention was identified as a high priority. For fecal incontinence, more research is needed before recommendations can be made. A standard terminology for research on pelvic floor disorders is presented and areas of high priority for future research are identified.

Keywords: Clinical research; Fecal incontinence; Pelvic organ prolapse; Standardization of terminology; Urinary incontinence

Introduction

Female pelvic floor disorders are a wide variety of clinical conditions, including urinary incontinence, fecal incontinence, pelvic organ prolapse, sensory and emptying abnormalities of the lower urinary tract, and defecatory dysfunction. The most prevalent syndromes (urinary incontinence, fecal incontinence and pelvic organ prolapse) afflict women three to seven times more often than men. The highest gender disparity is seen between the ages of 45 and 69 years [1]. The earlier age of onset in women magnifies the impact of pelvic floor dysfunction on years of healthy life for women, who are not only more likely to suffer from these problems but who will spend more of the productive years of their lives doing so. This is of particular relevance to all clinicians who care for women. United States Census projections estimate that the number of women aged 45–69 years will increase from 27% of the total female population in 2000 to 31% in 2020, and the number of women aged 65 years and older in the year 2000 will more than double by the year 2050 [2]. An analysis of surgical procedure codes estimates that over 500,000 procedures are performed in the United States annually.
for prolapse and urinary incontinence [3]. These numbers are certain to increase in accordance with the predicted demographic changes.

Unfortunately, most of the literature describing the results of these procedures does not meet contemporary scientific standards for outcomes analyses. The 1996 Update of the Agency for Health Care Policy and Research (AHCPR) Urinary Incontinence Clinical Practice Guidelines concluded that the surgical literature is deficient in standards ‘for describing the patient population, the type of incontinence, the methods for accurate diagnosis, the techniques of the surgical procedure, or the outcome in different domains’ [4]. The AHCPR conclusions are substantiated by a comprehensive review by Black and Downs that documented the poor quality of published literature on surgical treatment of urinary incontinence and led the authors to conclude that ‘recommendations as to the best clinical practice cannot be based on scientific evidence’ [5]. Major methodological flaws identified by Black and Downs included variability in or a complete lack of case definition for stress incontinence; failure to control for confounding by random assignment, or to account for unknown confounders by reporting their distribution; lack of standardization of surgical technique; variability in duration of follow-up; low or indeterminate external validity (generalizability); inadequate power to detect clinically important differences; lack of comprehensive assessment of postoperative complications; and marked variability in outcome assessment. Outcome assessment was especially criticized for lack of blinded evaluation of non-validated and non-standardized outcome measures, and for failure to obtain patients’ views through the use of valid and reliable clinimetric methods and questionnaires. Although these assertions applied specifically to urinary incontinence, a similar assessment can be made of literature on other pelvic floor disorders, such as pelvic organ prolapse [6]. Most of these research flaws could be addressed initially by the institution of minimum standards for describing the patient population, the type of incontinence, the methods for accurate diagnosis, the techniques of the surgical procedure, or the outcome in different domains [10,11]: (1) the subject’s observations (symptoms)

Minimum Data Set for All Pelvic Floor Disorders

To ensure an adequate description of population characteristics and allow comparison between studies, it is important that a certain standard minimum amount of data be collected when studying and reporting on subjects with similar conditions. In general, scientific evaluation of outcomes after intervention requires comparison of the same assessments performed before and after therapy. No simple measure can completely express the outcome of therapeutic interventions. Both subjective and objective measures should be included, incorporating improvements and deteriorations in function as well as complications of the intervention. The following applies to studies involving women with all types of pelvic floor disorders; recommendations related to specific conditions will be described in subsequent sections. It should be emphasized that these recommendations represent the minimum or most basic data collection; additional data should be obtained specific to each study’s primary and secondary research objectives. In addition, different study designs have different requirements for data collection; for example, epidemiological studies based only on questionnaires would not include data based on physical examination.

Table 1 lists recommendations for minimum data collection related to characteristics of the study population. As regards the tracking of subjects in follow-up, we support reporting by the same standards as in the CONSORT document for randomized clinical trials [9].

In general, minimum data for all pelvic floor disorders should be recorded and reported from at least five domains [10,11]: (1) subject’s observations (symptoms)
Pelvic Organ Prolapse

For the purposes of this discussion, pelvic organ prolapse includes anterior vaginal prolapse (previously known as cystocele), apical or uterine prolapse, posterior vaginal prolapse (previously known as rectocele, enterocele, and perineal descent; it does not include rectal prolapse).

There is as yet no large epidemiological study evaluating the natural history of women with asymptomatic prolapse, or the type and frequency of symptoms in women with symptomatic prolapse. Even the association of specific symptoms with physical examination findings of prolapse has not been well studied. Ideally, the clinical definitions of prolapse would include the presence and severity of symptoms, and the distinction between cure and failure after intervention would include the resolution or persistence of such symptoms. However, symptoms could not be included in these definitions until further research provides data on the association between prolapse and symptoms, both before and after intervention, in a large cohort of women.

The definitions of prolapse presented here are based on findings at physical examination. Any current distinction between ‘normal’ physical examination findings and ‘abnormal’ findings that constitute prolapse is arbitrary, as data correlating symptoms to physical findings are lacking. Many women after vaginal delivery have some degree of ‘prolapse’ (i.e. physical examination...
tion changes consistent with less than perfect vaginal support). Although this might be considered ‘normal’ for parous women, we recommend that until data are available on which to base such a distinction, only the complete absence of prolapse should be considered ‘normal’. Further research is necessary to determine the importance of asymptomatic prolapse and its relationship to the subsequent development of symptomatic prolapse. In addition, we recognize that many women who may be categorized as ‘anatomic failures’ are, in fact, satisfied with their postsurgical results; we anticipate that evidence provided by further research will allow subsequent refinement of these definitions to take into account the relief of symptoms and patient satisfaction, as well as anatomic outcomes.

The definitions of prolapse were not based on specific test results, primarily because of lack of evidence. We recommend that further research be performed to investigate the usefulness of various tests (for example, imaging by X-ray contrast or ultrasound) in determining definitions and outcomes of prolapse.

Stages of prolapse are determined using the standardized system of the International Continence Society [12]. In this system measurements are made at different vaginal sites, providing quantification of prolapse affecting different vaginal segments (anterior and posterior vagina, vaginal apex or cervix) as well as an overall stage of prolapse. Measurements are made in centimeters relative to the hymen as the reference point; negative numbers represent positions above the hymen, and positive numbers represent points beyond or past the hymen.

In general, prolapse is defined as descent of stage I or greater. An optimal anatomic outcome (cure) after intervention is defined as stage 0, or no prolapse. A satisfactory anatomic outcome (improvement) after intervention is defined as stage I. An unsatisfactory anatomic outcome (recurrence, failed treatment) after intervention is defined as stage II or greater, or no change or worsening from the pre-treatment stage. Specific definitions for individual conditions of prolapse are listed in Table 2.

Enterocoele is defined as a cul de sac abnormality containing peritoneum and intra-abdominal contents, and involving the apical, anterior or posterior compartments of the vagina. Enterocoele may be a separate entity from apical prolapse. Cure of enterocoele should be defined in terms of correction in the anatomic compartment (e.g. vaginal apex or posterior vagina). Further research is needed to investigate different types of enterocoele.

Bladder neck position should be described as a continuum (not as a dichotomy of ‘normal’ versus ‘abnormal’) using one of a variety of methods, such as the cotton swab test, ultrasound or other methods. Similarly, perineal descent should be described as a continuum (not as a dichotomy) using one of a variety of methods, such as defecography, ultrasound, perineometry or magnetic resonance imaging (MRI). Bladder neck position and perineal position can be measured at rest, during strain or during voiding.

### Table 2. Definitions of apical or uterine prolapse, anterior vaginal prolapse and posterior vaginal prolapse

| Type of Prolapse | Definition | Optimal anatomic outcome (cure) | Satisfactory anatomic outcome (improvement) | Unsatisfactory anatomic outcome (persistance or recurrence, failed treatment) |
|------------------|------------|-------------------------------|-------------------------------------------|-------------------------------------------------------------------|
| Apical or uterine prolapse | Descent of the vaginal apex (posthysterectomy) or cervix to within 1 cm of the hymen or lower; stage I or worse by ICS* staging, with point C more than 2 cm lower than TVL (quantification value for point C at least \[-(TVL - 3)\] cm or lower) | No prolapse of the vaginal apex or cervix is demonstrated; stage 0 by ICS staging, with point C between \[-TVL\] and \[-(TVL - 2)\] cm (quantification value for point C \(\leq [TVL - 2]\) cm) | No prolapse of the vaginal apex or cervix to within 1 cm proximal to the hymen or lower, or no change, or worsening from pre-treatment stage; stage II or worse by ICS staging, with point C \(-1\) cm or lower, or no change or worsening from pre-treatment position |
| Anterior vaginal prolapse | Descent of the anterior vagina to within 1 cm of the hymen or lower; stage I or worse by ICS staging, with point Aa or Ba at \(-2\) cm or lower | No prolapse of the anterior vagina is demonstrated; stage 0 by ICS staging, with points Aa and Ba at \(-3\) cm | Descent of the anterior vagina to within 1 cm proximal to the hymen or lower, or no change or worsening from pre-treatment stage; stage II or worse by ICS staging, with point Aa or Ba at \(-2\) cm |
| Posterior vaginal prolapse | Descent of the posterior vagina to within 1 cm of the hymen or lower; stage I or worse by ICS staging, with point Ap or Bp at \(-2\) cm or lower | No prolapse of the posterior vagina is demonstrated; stage 0 by ICS staging, with points Ap and Bp at \(-3\) cm | Descent of the posterior vagina to within 1 cm proximal to the hymen or lower, or no change or worsening from pre-treatment stage; stage II or worse by ICS staging, with points Ap or Bp at \(-1\) cm or lower, or no change or worsening from pre-treatment position |

*ICS, International Continence Society; **TVL, total vaginal length. Point Aa represents a point on the anterior vagina 3 cm proximal to the external urethral meatus; by definition, its value is \(-3\) cm in the absence of prolapse and has a maximum of \(+3\) cm. Point Ba represents the most distal extent of prolapse affecting the anterior vagina; by definition, its value is \(-3\) cm in the absence of prolapse and has a maximum positive value of the total vaginal length. Point C represents the most distal edge of the cervix or vaginal cuff (posthysterectomy). Point Ap represents a point on the posterior vagina 3 cm proximal to the hymen; by definition, its value is \(-3\) cm in the absence of prolapse and has a maximum positive value of the total vaginal length.
with the Valsalva maneuver (bearing down or straining), or with pelvic muscle contraction. Further research is needed to standardize the methods currently used to measure bladder neck position and perineal position, and to draw clinically meaningful distinctions between normal and abnormal positions.

In addition to the recommendations for minimum data collection for all subjects with pelvic floor disorders, we recommend that the physical examination for research subjects in studies of pelvic organ prolapse include: (1) the use of the standardized quantification system for staging of prolapse [12]; (2) rectovaginal and anal sphincter examination; (3) assessment of the presence or absence of pelvic muscle contraction; and (4) a screening pelvic neurologic examination (which could include one of a variety of methods, such as bulbocavernous reflex, anal wink response, anal sphincter tone or anal sphincter contraction). As mentioned above, further research is required to determine the usefulness and validity of assessment of pelvic muscle function on physical examination; and to determine the role of testing in defining conditions and response to intervention for pelvic organ prolapse.

**Urinary Incontinence and Other Urinary Symptoms**

Urinary incontinence may occur as a solitary symptom, as in stress urinary incontinence, or as part of a symptom complex, e.g. when urge urinary incontinence is accompanied by urgency and frequency. The International Continence Society [16] has developed standard definitions and introduced the concept of incontinence as a symptom (e.g. for stress incontinence the patient says she loses urine on coughing), a sign (the patient is seen to leak when coughing during physical examination), and a condition (genuine stress incontinence, when the patient fulfills the definition during urodynamic studies). Therefore, in International Continence Society terms the condition represents a definitive diagnosis and requires the use of urodynamic studies, with measurement of both intravesical and intra-abdominal pressure.

In this section, existing International Continence Society definitions are used except where stated. In general, urinary incontinence of all types is defined as involuntary loss of urine that is both objectively demonstrable and a social or hygienic problem for the patient. The following two sections describe stress and urge urinary incontinence as separate entities; however, the conditions commonly coexist (mixed incontinence). Further research is needed to better define the overlap in conditions, to determine whether it is feasible to distinguish between types of symptoms by questionnaire or voiding diary and, if so, how this can best be quantified.

**Stress Urinary Incontinence**

The symptom of stress urinary incontinence indicates the patient’s or caregiver’s statement of involuntary loss of urine during physical exertion. The sign of stress urinary incontinence is the objective demonstration of loss of urine synchronous with physical exertion. The condition of genuine (urodynamic) stress incontinence is the involuntary loss of urine occurring as a result of a rise in intra-abdominal pressure, in the absence of a detrusor contraction (modified from the International Continence Society definition).

Subcategories of stress incontinence are in common clinical and research use, including types based on urethral mobility (hypermobility versus fixed urethral position) and urethral function (commonly measured as urethral pressure or leak-point pressure, and described by the term ‘intrinsic sphincter deficiency (ISD)’ when abnormal). However, at present there are insufficient data on which to base the valid definition of such subcategories. Further research is needed to define characteristics of normal and abnormal urethral position and function, and to determine how these characteristics relate to the pathophysiology and optimal clinical management of stress incontinence.

Outcome after treatment should be defined in terms of stress urinary incontinence, but also in terms of associated symptoms and unwanted (side) effects resulting from an intervention, after a return to baseline activities and medications. Cure of stress urinary incontinence is defined as: (1) resolution of the stress incontinence symptoms; (2) resolution of the sign (negative full bladder cough stress test, performed under the same conditions as before treatment); and (3) no new symptoms or side effects. New symptoms or side effects should be specifically described and could include new urinary symptoms such as urinary urgency, frequency, urge incontinence, with or without urodynamic changes of detrusor overactivity (detrusor instability); change in sexual function; development or worsening of pelvic organ prolapse; adverse effect on bowel function; onset of urinary tract infections; surgical complications, such as foreign-body reaction to grafts, the development of fistula or diverticula; osteitis or osteomyelitis; neuropathy; and others. In studies using urodynamics after intervention the absence of genuine stress incontinence should be documented.

Failure of treatment of stress urinary incontinence is defined as persistent stress symptoms with the number of incontinent episodes unchanged, or worse, by voiding diary, plus a positive full bladder cough stress test (performed under the same conditions as before treatment), or genuine stress incontinence confirmed by urodynamic studies, with or without new symptoms or side effects.

Between the two extremes of cure and failure we recognize the value of a category for subjects who are improved. Improvement includes persistent stress symptoms but with the number of incontinent episodes decreased by voiding diary, plus a positive full bladder
cough stress test (performed under the same conditions as pre-treatment) or genuine stress incontinence confirmed by urodynamic studies, with or without new symptoms or side effects. However, further research is required before clinically meaningful categories of improvement can be defined. It would be particularly valuable to define levels of improvement considered important to the patient, and to determine how to best measure such a change. For example, if a change in the number of incontinent episodes is an important measure of improvement, is this better quantified as an absolute number of leak episodes after treatment, or as a percentage change from baseline? In addition, when more than one characteristic is used to define an outcome (i.e. symptoms and signs), the characteristics will not be concordant in some situations. Possible categories to describe these situations include patient-observed treatment effect, with absence of stress symptoms and no side effects, but a positive full bladder cough stress test; and provider-observed treatment effect, with persistence of stress symptoms, no side effects and a negative full bladder cough stress test.

**Urge Urinary Incontinence**

Urge urinary incontinence usually occurs with other lower urinary tract symptoms. Therefore, each symptom is defined as follows. **Frequency** is the statement that the patient voids eight or more times in 24 hours. **Nocturia** is the statement that the patient wakes from sleep in order to pass urine. **Urgency** is the statement that the patient feels a strong need to pass urine for fear of leakage. **Urge urinary incontinence** is the report that the patient has involuntary loss of urine associated with a feeling of urgency (modified from the International Continence Society definition). **Nocturnal enuresis** denotes loss of urine during sleep. The term ‘overactive bladder’ has been coined to describe symptoms suggestive of detrusor overactivity (detrusor instability), and is defined as urgency and/or urge incontinence, usually occurring with urinary frequency, in the absence of local pathological or metabolic factors (such as urinary tract infection or polyuria with diabetes).

For outcomes related to symptoms, cure is defined as the patient’s statement that the symptom(s) is no longer present. In the case of frequency, there are seven or fewer micturitions per 24 hours. Failed treatment is defined as the patient’s statement that the symptom(s) is no better or worse, with objective data from a urinary diary. As discussed above, the category of improvement cannot be specifically defined at present and requires further research to define outcomes of value to patients. Improvement could include the patient’s statement that the symptom(s) is less frequent or less troublesome with evidence from a urinary diary.

Detrusor overactivity (detrusor instability and hyperreflexia) is a urodynamic diagnosis characterized by involuntary phasic detrusor contractions during the filling phase of cystometry, which may be spontaneous or provoked, and which the patient cannot completely suppress. The detrusor contractions may be provoked by rapid filling, alterations of posture, coughing, walking, jumping, or other provocative maneuvers. Outcomes for detrusor overactivity should be defined separately for symptoms, as described above, and for urodynamic findings. Cure of detrusor overactivity is defined as the absence of involuntary phasic detrusor contractions on filling cystometry. Failure is defined as unimproved or worsened detrusor overactivity on urodynamics. Again, the definition of improvement cannot be specified but, if used, the method of treatment should be precisely defined.

**Minimum Dataset for Urinary Incontinence and Other Urinary Symptoms**

In addition to the recommendations for minimum data collection for all subjects with pelvic floor disorders, we recommend that studies of urinary incontinence and other urinary symptoms include: (1) a urinary diary for at least 3 days per episode of data collection, recording and reporting (as a minimum) pad use, urinary incontinence episodes and urinary frequency; (2) physical examination to include (a) screening for pelvic organ prolapse (in some studies, such as surgical studies of stress urinary incontinence, the standardized quantification system for staging of prolapse [12] should be used; (b) rectal examination; (c) assessment of the presence or absence of pelvic muscle contraction; and (d) a screening pelvic neurologic examination (which could include one of a variety of methods, such as bulbocavernous reflex, anal wink response, anal sphincter tone or anal sphincter contraction); (3) postvoid residual urine volume measurement; (4) testing to evaluate for urinary tract infection; and (5) urodynamic studies to include (a) a full bladder cough stress test to elicit the sign of stress urinary incontinence; and (b) filling cystometry. For surgical studies of stress urinary incontinence, if measures of urethral mobility and function are used the methodology should be specified precisely. Further research is needed to clarify the role of pad tests in quantifying symptom severity and response to treatment; if pad tests are used, the methodology should be described in detail.

**Posterior Pelvic Floor Dysfunction (including Fecal Incontinence)**

Women with other pelvic floor disorders frequently have coexistent problems with the posterior pelvic floor, which may include fecal incontinence, fecal urgency, constipation, chronic pain (such as levator syndrome or proctalgia fugax), solitary rectal ulcer syndrome and rectal prolapse. These are among the most understudied of all pelvic floor disorders. Because of lack of evidence, our recommendations are much less specific for this group of disorders than for pelvic organ prolapse and
urinary incontinence. There are some accepted definitions for symptoms and conditions of posterior pelvic floor dysfunction, but further research is needed to assess whether they are applicable to the group of women with pelvic floor disorders. Therefore, the following definitions are very broad; we anticipate that future research findings will guide the development of more specific definitions.

Fecal Incontinence

For the purposes of this discussion, fecal incontinence includes incontinence of either feces or gas. Although there is an assumption in the literature that incontinence of formed stool represents a more severe form of fecal incontinence than incontinence of liquid stool (and similarly, that incontinence of liquid stool represents a more severe form of fecal incontinence than incontinence of gas) [17], there are minimal data to support this. We have preserved the distinction between different types of loss (based solely on the patient’s description) in our definitions, but further research is required to confirm or refute this. Our definitions of fecal incontinence are based on symptoms. There are many systems that quantify symptoms related to fecal incontinence [18]; however, an internationally agreed scoring and evaluation system does not yet exist. This lack of consensus makes it difficult to compare findings across studies. We identified this need for a standardized system of evaluation and quantification of symptoms (which may include questionnaires, diaries and quality of life assessment) as a high priority for further research in this field. In contrast to urinary incontinence, the objective demonstration of fecal incontinence has not been a component of definitions to date. In addition, as with pelvic organ prolapse, specific test results were not included as part of the definitions (although certain tests may be useful in determining the etiology of different subcategories of fecal incontinence).

A definition for fecal incontinence commonly used in the colorectal literature is ‘the inability to defer defecation until a socially acceptable time’. This definition was felt to be deficient for defining fecal incontinence in women with pelvic floor disorders in several respects. First, it does not differentiate between true loss of stool and functional disorders that may compromise the ability to defer defecation but not represent true incontinence, such as diarrhea or fecal urgency. Second, it does not require a negative impact on the patient’s lifestyle, which was felt to be an important component of our definition. As with urinary incontinence, the number of episodes of fecal incontinence was felt to be an important indicator of severity but not a component of the definition itself. We recommend that researchers report the number of incontinent episodes by time frame of interest and the character of loss (solid stool, liquid stool, gas). Definitions for fecal incontinence are listed in Table 3.

| Table 3. Definitions of fecal incontinence |
|-------------------------------------------|
| **Incontinence of formed stool**           |
| **Definition**                             |
| Recurring episodes of involuntary loss of formed stool that is a social or hygienic problem. The time frame of interest and the character of loss should be specified. |
| **Cure**                                  |
| Patient statement of no involuntary loss of formed stool within the stated time frame. |
| **Improvement**                           |
| Favorable change based on outcome measures to be developed, including quality of life, frequency of symptoms, consistency of loss, socio-economic factors, etc. |
| **Persistence/recurrence (failed treatment)** |
| No improvement or worsening of symptoms.   |
| **Incontinence of liquid stool**           |
| **Definition**                             |
| Recurring episodes of involuntary loss of liquid stool that is a social or hygienic problem. The time frame of interest and the character of loss should be specified. |
| **Cure**                                  |
| Patient statement of no involuntary loss of liquid stool within the stated time frame. |
| **Improvement**                           |
| Favorable change based on outcome measures to be developed, including quality of life, frequency of symptoms, consistency of loss, socio-economic factors, etc. |
| **Persistence/recurrence (failed treatment)** |
| No improvement or worsening of symptoms.   |
| **Incontinence of gas**                   |
| **Definition**                             |
| Recurring episodes of involuntary loss of gas that is a social or hygienic problem. The time frame of interest and the character of loss should be specified. |
| **Cure**                                  |
| Patient statement of no involuntary loss of gas within the stated time frame. |
| **Improvement**                           |
| Favorable change based on outcome measures to be developed, including quality of life, frequency of symptoms, consistency of loss, socio-economic factors, etc. |
| **Persistence/recurrence (failed treatment)** |
| No improvement or worsening of symptoms.   |

In defining the impact of interventions on fecal incontinence, cure was defined as complete resolution of the symptom. Failed treatment (persistence or recurrence) was defined as no improvement or a worsening of symptoms. As with the other pelvic floor disorders, improvement could not be specifically defined but could include some favorable change in symptoms that may be based on quality of life measures, frequency of symptoms and consistency of loss. Further research is needed to develop clinically meaningful levels of improvement after intervention.

Constipation

Constipation is a symptom with many different definitions, based on stool frequency, consistency, the need for straining, incomplete emptying, other characteristics, or some combination [19–21]. Without a standard accepted definition of constipation and without evidence that these definitions are applicable to the
population of women with pelvic floor disorders, we recommend that further research be performed before developing such a definition.

Fecal Urgency

Fecal urgency is a symptom rather than a condition. The Rome diagnostic criteria for functional bowel disorders considers fecal urgency to be a supportive symptom for the diagnosis of irritable bowel syndrome, defined as ‘having to rush to have a bowel movement’ [21]. In parallel to wording related to urinary urgency, we suggest the definition of fecal urgency be ‘the patient’s statement of overwhelming desire to defecate accompanied by fear of leakage of bowel contents’. However, further research is required to test this or other definitions before recommendations can be made.

Minimum Dataset

In addition to the recommendations for minimum data collection for all subjects with pelvic floor disorders, we recommend that studies of posterior pelvic floor dysfunction include physical examination with (1) screening for pelvic organ prolapse (in some studies, such as surgical studies of fecal incontinence, the standardized quantification system for staging of prolapse [12] should be used); (2) rectal examination; (3) assessment of the presence or absence of pelvic muscle contraction; and (4) a screening pelvic neurologic examination (which could include one of a variety of methods, such as bulbocavernosus reflex, anal wink response, anal sphincter tone or anal sphincter contraction). At present there are insufficient data to make recommendations for minimum testing. Particularly for surgical studies of fecal incontinence, researchers are encouraged to consider imaging of the anal sphincters (e.g. with anal endosonography) and some type of neurophysiologic testing (such as electromyography or other tests). Further research is needed to define the role of testing in the evaluation and management of posterior pelvic floor dysfunction.

Acknowledgements. We would like to thank all the individuals who attended the Terminology Workshop for Researchers in Female Pelvic Floor Disorders: Paul Abrams (Bristol Urological Institute, Southmead Hospital, Bristol, UK); Deidre Bland (Department of Obstetrics and Gynecology, Wake Forest University, Winston-Salem, NC); Linda Brubaker (Department of Obstetrics and Gynecology, Rush Medical College, Chicago, IL); Richard Bump (Department of Obstetrics and Gynecology, Duke University, Durham, NC); Amanda L. Clark (Department of Obstetrics and Gynecology, Oregon Health Sciences University, Portland, OR); Ray Costabile (Department of Urology, Madigan Army Medical Center, Tacoma, WA); Geoff Cundiff (Department of Gynecology and Obstetrics, Johns Hopkins University, Baltimore, MD); Gary Davis (Department of Obstetrics and Gynecology, Madigan Army Medical Center, Tacoma, WA); Roger R. Dmochowski (Medical Director, North Texas Center for Urinary Control; Clinical Assistant Professor, Department of Surgery, Uniformed Services University of the Health Sciences, Bethesda, MD); Dee Fenner (Department of Obstetrics and Gynecology, University of Washington, Seattle, WA); John Fischer (Department of Obstetrics and Gynecology, Wright Patterson Air Force Base, OH); Elizabeth Ann Gormley (Department of Surgery, Dartmouth College, Hanover, NH); Tracy Hull (Department of Colorectal Surgery, Cleveland Clinic Foundation, Cleveland, OH); Carl Klutke (Department of Urology, Washington University at St Louis, St Louis, MO); Gary Lemack (Department of Urology, University of Texas Southwestern Medical Center, Dallas, TX); Deborah J. Lightner (Department of Urology, Mayo Clinic, Rochester, MN); Kirk Ludwig (Department of Colorectal Surgery, Duke University, Durham, NC); Anders Mattiasson (Urological Clinic, University Hospital, Lund, Sweden); Evan Myers (Department of Obstetrics and Gynecology, Duke University, Durham, NC); Joseph M. Montella (Department of Obstetrics and Gynecology, Thomas Jefferson University, Philadelphia, PA); Diane Newman (DKN & Associates, Philadelphia, PA); Victor Nitti (Urology Associates, New York University, New York, NY); Peggy Norton (Department of Obstetrics and Gynecology, University of Utah, Salt Lake City, UT); Ingrid Nygaard (Department of Obstetrics and Gynecology, University of Iowa, Iowa City, IA); Ron Place (Department of Colorectal Surgery, Madigan Army Medical Center, Tacoma, WA); Eric Rovner (Department of Urology, University of Pennsylvania, Philadelphia, PA); Henry Ruiz (Department of Urology, Madigan Army Medical Center, Tacoma, WA); Bernard Schuessler (Frauenklinik, Kantonsspital, Luzern, Switzerland); Bob Shull (Department of Obstetrics and Gynecology, Scott White Hospital and Clinic, Temple, TX); Robert Summitt (Department of Obstetrics and Gynecology, University of Tennessee, Memphis, TN); Philip van Kerrebroeck, (Department of Urology, University Hospital, Maastricht, The Netherlands); Eboe Versi (Pharmacia & Upjohn, Peapack, NJ); Alisson C. Weinder (Department of Obstetrics and Gynecology, Duke University, Durham, NC); Jean Wyman (School of Nursing, University of Minnesota, Minneapolis, MN).

In addition, we appreciate the sponsorship of the National Institute of Child Health and Human Development (NICHD), the Office of Research on Women’s Health (ORWH), the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), and the American Urogynecologic Society (AUGS). This manuscript represents proceedings from the NIH Terminology Workshop for Researchers in Female Pelvic Floor Disorders, held on December 13–14, 1999.

References

1. Thomas TM, Plymat KR, Blannin J, Meade TW. Prevalence of urinary incontinence. Br Med J 1980;280:1243–1245
2. Population Profile of the United States, Economic and Statistics Administration: Bureau of the Census, US Department of Commerce; 1997
3. Norton PA. Pelvic floor disorders: the role of fascia and ligaments. Clin Obstet Gynecol 1993;36:926–938
4. Fantl JA, Newman DK, Colling J et al. Urinary incontinence in adults: acute and chronic management. Clinical Practice Guideline, No. 2, 1996 Update. Rockville, MD: US Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research. AHCPR Publication No. 96-0682. March 1996
5. Black N, Downs S. The effectiveness of surgery for stress incontinence in women: a systematic review. Br J Urol 1996;78:497–510
6. Sze EH, Karram MM. Transvaginal repair of vault prolapse: a review. Obstet Gynecol 1997;89:466–475
7. Bump RC, Norton PA. Epidemiology and natural history of pelvic floor dysfunction. Obstet Gynecol Clin North Am 1998;25:723–746
8. National Institutes of Health Consensus Development Conference. Urinary incontinence in adults. J Am Geriatr Soc 1990;38:265–276
9. Begg C, Cho M, Eastwood S et al. Improving the quality of reporting of randomized controlled trials: The CONSORT statement. JAMA 1996;276:637–639
10. Lose G, Fantl A, Arne V et al. Outcome measures for research in
adult women with symptoms of lower urinary dysfunction. Neurourol Urodyn 1998;17:255-262

11. Mattiasson A, Djurhuus J, Fonda D, Lose G, Nordling J, Stoher M. Standardization of outcome studies in patients with lower urinary tract dysfunction. Neurourol Urodyn 1998;17:249–253

12. Bump RC, Mattiasson A, Bo K et al. The standardization of terminology of female pelvic organ prolapse and pelvic floor dysfunction. Am J Obstet Gynecol 1996;175:10–17

13. Grimby A, Milson L, Molander U, Wiklund I, Ekeland P. The influence of urinary incontinence on quality of life of elderly women. Age Ageing 1993;22:82–89

14. Wagner TH, Patrick DL, Buesching DP. Quality of life of persons with urinary incontinence. Development of a new measure. Urology 1996;47:67–73

15. Naughton MJ, Wyman JF. Quality of life of geriatric patients with lower urinary tract dysfunctions. Am J Med Sci 1997;314:219–224

16. Abrams P, Blaivas JG, Stanton SL, Andersen JT. The standardization of terminology of lower urinary tract function recommended by the International Continence Society. Int Urogynecol J 1990;1:45–58

17. Rockwood TH, Church JM, Fleshman JW et al. Patient and surgeon ranking of the severity of symptoms associated with fecal incontinence: the fecal incontinence severity index. Dis Colon Rectum 1999;42:1525–1532

18. Vaizey CJ, Carapeti E, Cahill JA, Kamm MA. Prospective comparison of faecal incontinence grading systems. Gut 1999;44:77–80

19. Mellgren A. Diagnosis and treatment of constipation. Eur J Surg 1995;161:623–634

20. Kumar D, Bartolo DCC, Devroede G et al. Symposium on constipation. Int J Colorect Dis 1992;7:47–67

21. Thompson WG, Longstreth GF, Drossman DA, Heaton KW, Irvine EJ, Moller-Lissner SA. Functional bowel disorders and functional abdominal pain. Gut 1999;45(Suppl II):II43–II47

EDITORIAL COMMENT: This is a compilation of opinions regarding the need for standardization of terminology for pelvic floor dysfunction. Some of their definitions may or may not be appropriate, however, we are now in the process of defining what represents prolapse versus normal, and what represents a cure after intervention versus persistence. Hopefully this document will serve as a starting point to allow for further discussions and revisions of these definitions as we study this complex problem.