

“The Standardization of Terminology of Female Pelvic Organ Prolapse and Pelvic Floor Dysfunction” (1996), Richard C. Bump, Anders Mattiasson, Kari Bø, Linda P. Brubaker, John O.L. DeLancey, Peter Klarskov, Bob L. Shull, Anthony R.B. Smith

In 1996, a team of researchers associated with the International Continence Society published “The Standardization of Terminology of Female Pelvic Organ Prolapse and Pelvic Floor Dysfunction” in *American Journal of Obstetrics & Gynecology*. Pelvic organ prolapse is characterized by the descent of the pelvic organs into the lower portion of the pelvis and is often caused by a weakening of the muscles and ligaments that normally hold the organs in place. The authors concluded that physicians and researchers needed to develop a system of standardized terms to use to describe the anatomical position of pelvic organ prolapse in women. They propose using terms that emphasize the location of the prolapse rather than just the involved organ. They also suggest that the system utilizes a series of examinations and imaging to uniformly describe and quantify pelvic organ prolapse. The article by Bump and colleagues was one of the first to call for a standardized system using specific terms to communicate findings about pelvic organ prolapse systematically across clinical and academic research settings.

Pelvic organ prolapse is a common condition in women resulting from a weakened or damaged pelvic floor. A woman’s pelvic floor provides support for the organs inside of her pelvis, including her uterus, bladder, and rectum. Prolapse is the descent of one or more of those pelvic organs, and in severe cases, the organs can eventually protrude from the woman’s body. Pelvic organ prolapse often occurs as a result of a loss of support in the pelvic floor, which is usually caused by stress or trauma, such as the woman giving birth vaginally. Physicians use diagnostic measures to measure the severity of the woman’s prolapse, typically characterizing the prolapse based on the affected organ, to determine the most effective treatment options.

The authors of the article include Richard C. Bump, Anders Mattiasson, Kari Bø, Linda P. Brubaker, John O.L. DeLancey, Peter Klarskov, Bob L. Shull, Anthony R.B. Smith. At the time of the article’s publication, the authors worked as gynecologists, meaning that they specialized in women’s reproductive health, at Duke University Medical Center in Durham, North Carolina. Several of the authors have published additional articles about pelvic floor dysfunction and pelvic organ prolapse. In 1993, the International Continence Society, American Urogynecologic Society, and Society for Gynecological Surgeons formed a subcommittee to standardize terminology surrounding pelvic organ prolapse, and to contribute to a system that could be used by physicians and scientists to diagnose pelvic organ prolapse severity. The authors of “The Standardization of Terminology of Female Pelvic Organ Prolapse and Pelvic Floor Dysfunction” comprised that subcommittee and reported their recommendations for a standard set of terms within their article.

Bump and colleagues divided “The Standardization of Terminology of Female Pelvic Organ Prolapse and Pelvic Floor Dysfunction” into five sections. In the untitled introductory section, the authors describe that the absence of standardized terms for pelvic organ prolapse has resulted in mismanaged diagnoses between physicians, and unclear communication across research institutions. In the next section, titled “Description of Pelvic Organ Prolapse,” Bump and colleagues assert that the use of different, sometimes inconsistent anatomical terms to describe the location and severity of the woman’s prolapse has limited the standard of care given to women with pelvic organ pro-

lapse. In the following section, “Ancillary Techniques for Describing Pelvic Organ Prolapse,” the authors identify and briefly describe other options that physicians can use to diagnose the prolapse, such as imaging or surgical procedures, and how those procedures could intersect with a universal and standardized system. Then, in “Pelvic Floor Muscle Testing,” they suggest that physicians and scientists measure and evaluate a woman’s pelvic floor muscle function with methodical, manual examinations. Finally, in “Description of Functional Symptoms,” Bump and colleagues explain the four categories of symptoms that were associated with pelvic organ prolapse as of 1996, including urinary, bowel, sexual, and physical symptoms localized within the pelvic region. Throughout, they emphasize the suggested terminology while pointing to techniques for standardizing the terms.

In the introduction, the authors assert that physicians did not have a standard set of terms to describe pelvic anatomy and pelvic organ prolapse. They state that the non-standardized terminology led to vague and unclear descriptions of anatomical locations and that the disjointed prolapse grading systems did not adequately enable other researchers to reproduce any findings. They explain that having standardized terms would make it easier for physicians and scientists to communicate and compare studies between institutions and medical practices. Bump and colleagues state that the goal of their article was to introduce researchers and physicians to the benefits of adopting a universal system of terms to improve care for women with pelvic organ prolapse. The authors clarify that after several drafts and revisions, all three professional societies adopted the final document of suggested terms in 1996.

In the next section, titled “Description of Pelvic Organ Prolapse,” the authors describe that physicians often administer a pelvic examination in order to diagnose a woman with pelvic organ prolapse. A pelvic exam refers to when a physician examines a woman’s external and internal reproductive organs, often involving an internal, manual exam to fully assess the extent of the prolapsed organs. The authors explain that a physician should observe the woman as she strains her pelvic floor while lying down and while standing, and that using both positions can confirm the full extent of the prolapse. Additionally, Bump and colleagues state that the woman should confirm she was able to reproduce the full extent of her symptoms during the exam. Variables that the authors claim to differ across diagnostic pelvic exams include descriptions of the type of examination table or chair on which the woman presents symptoms, the type of devices used to visualize her vagina, the fullness of her bladder at the time of the exam, and the method she uses to strain and induce the prolapse symptoms in the clinical setting.

Continued in that same section, Bump and colleagues then explain that their suggested system utilizes specific measurements to evaluate the severity of a woman’s pelvic organ prolapse. They note that the system is unique since it focuses on precisely describing the location of the prolapse using a fixed point of reference within the pelvis. A fixed point refers to an anatomical landmark on a woman’s body that a physician can precisely identify, meaning that it does not move and is consistent between women. They state that a woman’s vaginal opening is an example of a consistent, fixed point. The authors then describe six defined points they define in reference to the vaginal opening as the fixed point. Bump and colleagues mention that their system of six defined points is based on previous classifications defined by physicians Wayne Baden and Thomas Walker in a system called the Baden-Walker Halfway Scoring System. They recommend that physicians measure the positions of defined points in centimeters, in proximity either above or below the hymen. The authors state that physicians should use those measurements to determine the severity, or stage, of the woman’s prolapse.

Also, in “Description of Pelvic Organ Prolapse,” the authors describe the stages of pelvic organ prolapse. They state that some systems that use stages are arbitrary and may not describe all potential prolapse categories, meaning that similar severities are grouped into one classification rather than being counted individually. However, they state that using stages can help researchers compare and contrast affected populations, symptoms, and treatments. The authors explain that physicians should determine the stage while viewing a woman’s prolapse at its maximum extent. Bump and colleagues state that the system suggested by the committee describes five stages ranging from no prolapse, or stage zero, to a prolapse that visibly extends outside of the woman’s body, stage four. For example, if a woman had a uterine prolapse where some of the uterine tissue was visible at her vaginal opening, a physician would classify that as a stage four prolapse.

In the following section, “Ancillary Techniques for Describing Pelvic Organ Prolapse,” the authors describe procedures that physicians may use to classify a woman’s pelvic organ prolapse, including exam techniques, photography, and imaging. They state that the ancillary procedures serve as additional diagnostic support approaches to the basic pelvic exam, since they were not standard at the time, and may not be available at all facilities. The authors describe that supplementary exam techniques included rectal exams, additional measurements both internally and externally, and diagnostic inspection of any major defects in the woman’s overall pelvic anatomy. Bump and colleagues argue that supplementary exam techniques can help physicians further differentiate the location of the prolapse, measure the diameter of the prolapse, and measure vaginal volume, stating that those measurements are important if the physician is considering surgical treatment. The authors also note that taking photos of the progression of a woman’s prolapse over time can help physicians determine how quickly the prolapse progresses and potential treatment options. They also mention that photographs are useful for sharing unique findings in articles and presentations.

Bump and colleagues also describe several imaging technologies that physicians can use to visualize a woman’s overall pelvic anatomy and any present signs of pelvic organ prolapse. They note that imaging technologies enable physicians to better visualize the pelvic anatomy and defects of the pelvic floor than that seen or felt during a traditional pelvic exam. They specify that imaging may be especially useful to determine which organ is affected by pelvic organ prolapse. The authors state that ultrasounds enable physicians and scientists to visualize dynamic events, meaning that they can see the organs and prolapse continuously over time rather than in a single image. That can be helpful for physicians since it allows them to see past surface anatomy and to get a full picture of the woman’s pelvic anatomy. Ultrasounds use high-frequency sound waves to produce images of internal organs, which physicians can use to diagnose various conditions.

The authors then describe contrast radiography as another imaging technique. Contrast radiography uses X-rays and a special dye, or contrast medium, to depict different densities of tissues and organs within the body. The authors state that other imaging methods, namely computed tomography, or CT, and magnetic resonance imaging, or MRI, requires the woman to lie flat on her back while being scanned, meaning that physicians and scientists cannot visualize the prolapse while she strains or stands. Bump and colleagues argue that flaw limits the quality of information that the physician can learn from the imaging, making those methods less useful. However, imaging techniques are not the only method physicians use to evaluate women’s pelvic organ prolapse.

Then, in the next section titled, “Pelvic Floor Muscle Testing,” the authors explain that physicians and scientists should measure and evaluate women’s pelvic floor muscle function through, what they call, selective contraction and relaxation. By observing if the woman can selectively contract her pelvic floor, the physician can determine the integrity of her pelvic muscles. They describe that a physician may visually measure the integrity of the woman’s pelvic muscles using a visual assessment. The authors note that the physician should focus on the woman’s perineum, or area between the anus and external opening of the vagina. Bump and colleagues state that pelvic floor contraction causes the perineum to move inward, as opposed to straining, which causes it to move outward. They explain that another method a physician could use is palpation of a woman’s pelvic muscles, a process by which the physician inserts their fingers into the woman’s vagina to manually feel her abdomen or perineum and assess the muscle quality. The authors continue with their examples by claiming that electromyography, a procedure that uses electrodes to translate electrical signals causing muscles to contract into graphs or numeral values, can help physicians to record the individual or combined signals of the woman’s pelvic muscles. Using a probe, the physician can record the pressure in the woman’s vagina or anus by asking her to contract the corresponding muscles individually, thereby determining her pelvic floor control and strength.

In “Description of Functional Symptoms,” the authors explain that, as of 1996, there was a lack of information about the functional symptom groups that are associated with pelvic organ prolapse. The authors infer that those functional symptom groups, including urinary, bowel, sexual, and other local symptoms, resulted in varying symptoms that impacted the quality of life for women to differing degrees. Urinary symptoms related to pelvic organ prolapse include stress incontinence, increased urinary frequency, urgency, and weak urinary stream. Bowel symptoms associated with prolapse include incontinence of stool, urgency, discomfort during defecation, and protrusion of the rectum

during or after defecation. Incontinence is when a woman is unable to control the muscles involved in urination or defecation, resulting in an involuntary leakage of urine or feces. Bump and colleagues mention that more research is needed to understand the relationship between pelvic organ prolapse and sexual function, noting that variables of interest include the woman's frequency of sex, satisfaction with sex, and changes in her orgasmic response. The authors conclude that at the time of publication, there was a lack of definitive research connecting the presence of a bulge, or tissue outside of the woman's vagina, induced by a prolapse with specific symptoms.

The article by Bump and colleagues was the final draft of the proposal by the Subcommittee on Pelvic Organ Prolapse and Pelvic Floor Dysfunction of standardization terminology. During the committee's initial meeting, in 1993, the authors drafted an initial document, which they called the standardization document. In that document, they called for the design of a system that described the anatomical position of pelvic organ prolapse in women. In 1994 and 1995, they distributed a later draft to members of the International Continence Society, the American Urogynecologic Society, and the Society of Gynecologic Surgeons. The authors state that they distributed the document so that the members of those societies could review and test the system in practice. After the trial period of one year, they composed a final draft, integrating the revisions suggested by the societies' members. In October 1995, the International Continence Society adopted the general parameters and suggestions found in the authors' system. The American Urogynecologic Society followed in January 1996, and the Society of Gynecologic Surgeons in March 1996.

"The Standardization of Terminology of Female Pelvic Organ Prolapse and Pelvic Floor Dysfunction" by Bump and colleagues, was one of the first documents to call for a system of standardized terminology among physicians to describe pelvic organ prolapse in women. They indicated their system would increase the reproducibility and reliability of research pertaining to pelvic organ prolapse. A more unanimous system of terminology and observations enable physicians to make more consistent diagnoses and, therefore, improve the comparisons of results and strategies between institutions and medical practices around the world.

Sources

1. Baden, Wayne F., and Thomas Walker. "Grading Support Loss: the Halfway System." *Surgical Repair of Vaginal Defects* (1992): 13-23.
2. Bø, Kari, Ranveig Raastad, and Hanne Borg Finckenhagen. "Does the Size of the Vaginal Probe Affect Measurement of Pelvic Floor Muscle Strength?" *Acta Obstetrica et Gynecologica Scandinavica* 84 (2005): 129-33. <https://obgyn.onlinelibrary.wiley.com/doi/full/10.1111/j.0001-6349.2005.00676.x> (Accessed March 30, 2020).
3. Bump, Richard C., Anders Mattiasson, Kari Bø, Linda P. Brubaker, John O.L. DeLancey, Peter Klarskov, Bob L. Shull, and Anthony R.B. Smith. "The Standardization of Terminology of Female Pelvic Organ Prolapse and Pelvic Floor Dysfunction." *American Journal of Obstetrics & Gynecology* 175 (1996): 10-7. <http://blog.utp.edu.co/maternoinfantil/files/2012/04/POPQ-ORIGINAL.pdf> (Accessed March 30, 2020).
4. Cleveland Clinic. "Ultrasonography Test in Obstetrics and Gynecology (Pelvic or Pregnancy Ultrasound)." Cleveland Clinic. <https://my.clevelandclinic.org/health/diagnostics/4996-ultrasonography-test-in-obstetrics-and-gynecology-pelvic-or-pregnancy-ultrasound> (Accessed March 30, 2020).
5. Dietz, Hans Peter. "Ultrasound in the Assessment of Pelvic Organ Prolapse." *Best Practice & Research Clinical Obstetrics & Gynecology* 54 (2019): 12-30.
6. Dietz, Hans Peter, and Orawan Lekskulchai. "Ultrasound Assessment of Pelvic Organ Prolapse: The Relationship Between Prolapse Severity and Symptoms." *Ultrasound in Obstetrics and Gynecology: The Official Journal of the International Society of Ultrasound in Obstetrics and Gynecology* 29 (2007): 688-91. <https://obgyn.onlinelibrary.wiley.com/doi/full/10.1002/uog.4024> (Accessed March 30, 2020).
7. Healthwise Staff. "Pelvic Organ Prolapse." Michigan Medicine, University of Michigan. <https://www.uofmhealth.org/health-library/tv1000> (Accessed March 30, 2020).
8. Mayo Clinic Staff. "Electromyography (EMG)." Mayo Clinic. Mayo Foundation for Medical

Education and Research. <https://www.mayoclinic.org/tests-procedures/emg/about/pac-20393913> (Accessed March 30, 2020).

9. UT Southwestern Medical Center. "Contrast Radiography." UT Southwestern Medical Center. <https://utswmed.org/conditions-treatments/contrast-radiography/> (Accessed March 30, 2020).