

Pessary Use for the Obstetrician Gynecologist

Keisha A. Jones, MD; Diana Atashroo, MD; Oz Harmanli, MD

Pessaries remain an excellent alternative to surgical repair for pelvic organ prolapse and stress urinary incontinence. They present a valid choice for patients who have not completed childbearing, do not desire surgery, or are poor surgical candidates.

Long-term pessary use is a safe and effective option for patients allowing for immediate symptom relief. Training for clinicians regarding pessary use is lacking and must continue to improve. Although serious side effects are infrequent, insertion and removal of most pessary types continue to pose a challenge for many patients. Pessary design must continue to improve, making its use a more attractive option.

In the United States, women have an 11% lifetime risk of undergoing surgery for prolapse or incontinence by age 80, with a 30% risk of reoperation over a 4-year period.^{1,2} While pelvic floor disorders are rarely life-threatening, they significantly impact a woman's quality of life. Urinary, sexual, and

colorectal functions are often affected, and the emotional and social consequences can be significant.

The US Census Bureau projects that the number of women 65 and older will double within the next 20 years to more than 40 million by 2030.³ As the population ages, increasing the demand for treatment for pelvic floor dysfunction, a renewed interest in pessary use has emerged. Importantly, the demand for treatment services is projected to grow by 45% in the next 30 years.⁴

The use of pessaries dates back as early as the 5th century BC, where hot oils, stimulants, astringent soaked plugs, and pomegranates were used to treat prolapse.⁵ Although over the centuries there has been some advancement in pessaries, which are now generally composed of silicone, they have remained essentially unchanged from their original design.⁶ Similarly, there has been a paucity of prospective and comparative research on pessary use, despite its long history and popularity. In preparation for this report, we made our best effort to include evidence; however, we had to refer to the conventional practice where data were lacking.

INDICATIONS FOR PESSARY USE

The most common indication for pessary use is pelvic organ prolapse (POP). A survey of American Urogynecologic Society members indicated that 77% of respondents used pessaries as their first-line treatment for prolapse.⁷ Clinicians may offer pessaries as an option for all women with POP who desire nonsurgical management, as well as those who desire future pregnancy or are too frail for surgery.

FOCUSPOINT

A renewed interest in pessary use has emerged due to an aging population and an increase in demand for pelvic floor dysfunction treatment.

Keisha A. Jones, MD, is an Assistant Professor; **Diana Atashroo, MD**, is a fourth-year resident; and **Oz Harmanli, MD**, is an Associate Professor; all at Tufts University School of Medicine, Baystate Medical Center, Department of Obstetrics and Gynecology, Division of Urogynecology and Pelvic Reconstructive Surgery, Springfield, MA.

TABLE. Pessary Types

Support Pessaries	Stage I and II POP	Stage III and IV POP	Remove for intercourse	Treats incontinence	Advantages/Disadvantages
Ring	+++	++	–	–	Easy insertion and removal
Lever (Smith, Hodge, Risser)	++	–	–	+	Historically used for retroverted uterus
Gehrung	++	+	–	–	Can mold to custom shape
Incontinence ring	+++	+	–	++	Migrates in vagina
Mar-Land	++	–	–	++	
Space-Occupying					
Gellhorn	+	+	+	–	Difficult to remove
Donut	+	+	+	–	Difficult to remove
Cube	+	+	+	–	Associated with malodorous discharge, vaginal erosions

+++, Highly recommended; ++, recommended; +, least recommended; –, no or not applicable.
Abbreviation: POP, pelvic organ prolapse.

Pessaries are also an option for patients seeking nonsurgical management of stress incontinence. In women presenting with pelvic pain and back pain thought to be due to POP, pessaries offer an opportunity to simulate postsurgical conditions and aid in patient expectations for postsurgical symptom reduction.

Pessaries are generally made of an inert plastic or silicone; unlike latex, these materials may reduce odors and absorption of vaginal secretions.⁵ Pessaries are either supportive or space-occupying, with some designed to address urinary incontinence, all with their own advantages and disadvantages (Table).

Support pessaries include the ring, the lever pessaries (ie, Smith, Hodge, and Risser), the Gehrung, and the Shaatz. Space-occupying pessaries are generally used for more advanced prolapse and include the Gellhorn, donut, and the cube (Figure).

SUPPORT PESSARIES

Ring Pessary

Ring pessaries are available with and without a middle support panel for treatment of coexistent stress urinary incontinence. Ring pessaries are generally seen as first-line by many gynecologists, as they are considered easier to insert and remove by the patient. They are usually used for earlier stage (stages I and II) POP but can be successful for all stages. The ring is easy to insert; it is simply folded in half and a small amount of lubricant placed on the tip of the pessary to aid with insertion. Once in the vagina, the pessary will unfold and rest above the pubic symphysis. For removal, the pessary is gently pulled and folded in half. A string can be attached to the ring pessary to aid in insertion and removal.

Gehrung

If a patient has a cystocele or rectocele along with uterine prolapse, a Gehrung pes-

sary, which rests along the anterior vaginal wall like a bridge, may be helpful. It can be manually molded to fit each patient. It can be difficult to insert.⁸

Mar-Land

The Mar-Land pessary can be used for the early stage of prolapse and for the relief of coexistent stress incontinence. This pessary decreases urethral hypermobility by compressing the urethra against the upper posterior portion of the symphysis pubis and elevating the bladder neck.

Continence Pessaries

In addition to the Mar-Land, modifications of ring and dish pessaries with the addition of a knob have been used, helping patients with stress urinary incontinence. A recent randomized controlled trial found that at one year, continence pessaries and behavioral therapy were equally effective, but combination therapy was not superior to either treatment alone.⁹

SPACE-OCCUPYING PESSARIES

Gellhorn

The Gellhorn is the pessary of choice for more advanced-stage prolapse. This pessary has a concave portion attached to a stem. Gellhorn pessaries are available with a short or long stem; the shorter stem can be considered in a patient with a foreshortened vagina or enlarged genital hiatus. Removal and insertion of this pessary is more difficult, as it is quite rigid; however, a string may be attached to the knob to aid in removal. Most patients can be successfully managed with the 2.5-, 2.75-, or 3-inch size.

To insert the Gellhorn, the pessary is folded in half with the use of lubricant on the leading edge to ease insertion. Once the pessary is behind the pubic symphysis, it will expand and rest against the leading edge of prolapse, forming suction. To remove it, the knob is grasped, generally with the aid of a ring forceps; the concave end of pessary is rotated to release the suction, and the pessary is pulled downward, folded, and removed.

Donut

The donut pessary may be used to relieve the symptoms of a cystocele or rectocele, as well as uterine prolapse. This pessary is not

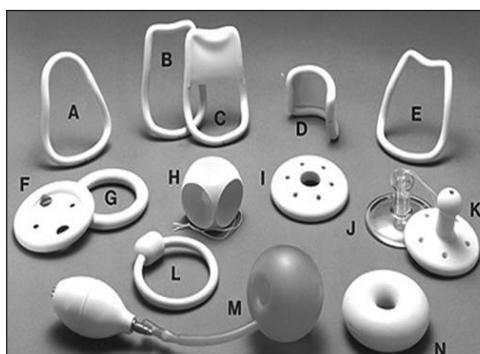


FIGURE. Commonly used pessaries.

A. Smith; **B.** Hodge; **C.** Hodge with support; **D.** Gehrung; **E.** Risser; **F.** Ring with diaphragm; **G.** Ring; **H.** Cube; **I.** Shaatz; **J.** Rigid Gellhorn; **K.** Flexible Gellhorn; **L.** Incontinence ring; **M.** Inflatoball; **N.** Donut.

Courtesy of Milex Products, Inc, Chicago, IL.

easily compressed. Although some physicians deflate the donut pessary with 30- to 50-cc syringe and needle to ease insertion and removal, we still find it difficult to do. In our practice, it is rarely used, as it is one of the hardest to insert and remove.

Cube

The cube pessary is an option for more advanced prolapse. The pessary has a string on one end for ease of removal. To insert the cube pessary, it must be decompressed; the cube forms suction with the leading edge of prolapse. Vaginal secretions can get trapped in the crevices of the pessary, leading to malodorous discharge, which makes this pessary a last resort for many clinicians.

This pessary should be removed on a nightly basis when possible. Vaginal erosions with this pessary are common if not removed regularly. The cube and other devices that can generate a fair amount of suction (eg, Gellhorn) need to be monitored closely, as suction is purported to devascularize the vaginal epithelium, leading to breakdown and erosion.

CHOOSING AND FITTING A PESSARY

When a patient presents for treatment for POP or urinary incontinence, a thorough evaluation, including a comprehensive history and symptoms assessment, is conducted. Once the decision to use a pessary is made, the clinician will choose the type of

FOCUSPOINT

A thorough evaluation, history, and symptom assessment are important when a patient presents for treatment.

FOCUS POINT

Success rates in patients with advanced POP indicate pessaries are an excellent option.

pessary based on severity of prolapse, sexual activity, and stress urinary incontinence.

Prior to fitting a pessary, the patient should empty her bladder. The clinician can initiate fitting by assessing the width of the mid-vagina and use this measurement to guide selection of pessary size. The patient should be fit with the largest size pessary that fits comfortably. The examiner should be able to comfortably fit a finger on either side of the pessary. The patient is examined in supine and standing position with and without Valsalva maneuver. The patient should then ambulate, sit on the toilet, and Valsalva, to further assess comfort and appropriate fit. It is reassuring if the patient can void with the pessary in place before leaving the office. If atrophy is present, estrogen should be prescribed, generally in cream, ring, or tablet form.

Once the correct pessary type and size is chosen and successfully fit, the patient may attempt to remove and reinsert the pessary on her own. This is usually possible with the ring pessary. Patients should be advised that urine leakage may increase with prolapse reduction. In our practice, follow-up in 2 to 4 weeks is routine to ensure appropriate pessary size. If a patient is removing and inserting the pessary herself, follow-up can be spaced every 6 months. With space-occupying pessaries, follow-up is generally every 3 months, but there are no standards for follow-up after pessary fitting.

Factors Affecting Successful Fitting

Several studies have evaluated the success of pessary fitting, with success rates ranging from 41% to 92%.¹⁰⁻¹⁵ Success rates of up to 62% have been associated with patients with prolapse stages III and IV, indicating pessaries are an excellent option even in a population with advanced POP.¹⁶ In one study, up to 53% of women continued pessary use 3 years after successful pessary fitting.¹¹ Most studies used a ring pessary for initial fitting, with transition to a space-occupying pessary if the ring pessary failed.^{10,11,14} An average of 2 to 3 fittings were needed for successful fitting.^{14,15,17,18}

Factors associated with unsuccessful pessary fitting include shortened vaginal length (<6 cm), wide vaginal introitus (≥ 4 fingerbreadths), previous pelvic surgery, hysterectomy, or coexistent stress urinary inconti-

nence.^{13-15,17-19} Other factors associated with unsuccessful pessary fitting were obesity and young age.^{11,13} Successful pessary fitting has been associated with a shorter perineal body at rest, a larger (more positive) point Aa, and current sexual activity.^{15,19}

PESSARY MAINTENANCE AND FOLLOW-UP

Some patients are able to insert and remove the pessary on their own; these patients can be instructed to remove the pessary weekly, or even nightly, for cleaning. Patients who are sexually active may prefer to remove the pessary for intercourse; however, this is not mandatory.

Follow-up visits for these patients may be every 6 months. There is, however, no consensus on the follow-up for patients using pessaries. This strategy can vary depending on the extent of prolapse, if the patient is managing the pessary independently, and health of vaginal epithelium. If the pessary cannot be removed regularly by the patient, visits at 2- to 3-month intervals have been widely adapted.

At each visit, the pessary is removed and cleaned. It is reinserted after an examination of the vagina for evidence of ulceration, bruising, or granulation tissue. The pessary is examined for discoloration, cracking, and deformation and replaced as needed.

COMPLICATIONS ASSOCIATED WITH A PESSARY

Modern pessaries are composed of inert substances that require minimal care: simply regular removal and inspection of vaginal epithelium.⁸ Side effects include vaginal discharge and odor. Serious complications from pessaries are rare; however, neglected pessaries may result in erosion, vaginal stricture, impaction, or vesicovaginal and rectovaginal fistula.²⁰⁻²³ Successful repair of these fistulas, with or without concomitant colpocleisis, have been reported.^{20,24} Serious complications can be thwarted with appropriate patient selection, proper fitting, local estrogen, and regular follow-up.

Although complications at the time of pessary fitting are rare, a case of enterocele rupture and vaginal evisceration during pessary fitting was referred to our practice. She was successfully managed with transvaginal closure and concomitant colpocleisis.²⁴

NOVEL IDEAS

In contrast to the pelvic reconstructive surgical arena, which is generating exciting innovative techniques every day, there have not been any major improvements in pessary design for decades. Ideally, a pessary should be inert, compact, and relatively inexpensive; its design should allow easy removal and insertion by the patient. The difficulty with self-removal and insertion may be limiting more widespread adaptation of the currently available pessaries. For the great majority of women with prolapse, pessary use results in commitment to lifelong office visits every 2 to 3 months. Regular pessary removal in the office may be painful and inconvenient for the patient.

Colpexin, a sphere-shaped intravaginal device for prolapse, was designed to simultaneously strengthen the pelvic floor. The device, developed in Europe and used for more than 10 years, offers easy self-insertion and removal, less vaginal epithelial irritation, and the ability to perform concomitant pelvic floor strengthening. In a prospective trial, 81% of subjects had improvement in at least one prolapsed vaginal compartment and a significant improvement in pelvic floor strength at 16 weeks. Possibly because the Colpexin sphere fell out during defecation in 72% of women, it has not been widely adapted by practitioners.²⁵

The Uresta, a bell-shaped pessary with a handle at its base, was introduced and marketed for urinary incontinence. At 2 weeks, 66% of women were satisfied with the pessary. At the 12-month study completion, 50% of subjects continued pessary use, with statistically significant differences in scores on Urinary Distress Inventory and Incontinence Impact questionnaire, pad weight, and number of leakage episodes.²⁶

CONCLUSION

Pessaries offer a good noninvasive option in POP management for women unfit for surgery, those who have not yet completed childbearing, or those who do not desire surgical repair. They improve prolapse symptoms significantly.²⁷ Most practitioners in women's health receive minimal to no formal training in pessary use, and there is little consensus on the indications, types, and care of pessaries. Continued advancement in pessary composition and structure will allow

improved satisfaction and utilization of pessaries.

Drs Jones and Atashroo report no actual or potential conflicts of interest in relation to this article. Dr Harmanli is designing a pessary for OZ Technology LLC.

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