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The Menopause Society™
Leading the Conversation

Vaginal Estrogen and Risk of Hip Fracture Complications, Including Perioperative UTIs

New study suggests women with a history of recurrent UTIs are more likely to report perioperative vaginal estrogen use and have a perioperative UTI

CLEVELAND, Ohio (October 20, 2026)—Postmenopausal women are at greater risk for multiple health issues, such as hip fractures and urinary tract infections (UTIs), due to estrogen loss. Vaginal estrogen is used to prevent recurrent UTIs, but a new study suggests its use may be associated with perioperative hip fracture complications, like UTIs. Results of the study will be presented at the 2026 Annual Meeting of The Menopause Society in San Diego October 20-24, 2026.

Low estrogen levels after menopause cause the tissues of the vagina and urethra to become thin, dry, and fragile (vaginal atrophy). Thinning tissues and reduced elasticity make it easier for harmful bacteria to enter the urethra and travel to the bladder, leading to an increase in UTIs. Vaginal estrogen is a proven and effective treatment option to help prevent recurrent UTIs in postmenopausal and perimenopausal women by rebuilding and thickening the epithelial lining of the vagina and urethra and helping to restore a healthy vaginal microbiome. However, its role in the perioperative setting has not been investigated.

A new study involving 375 postmenopausal women experiencing a hip fracture was designed to analyze vaginal estrogen utilization and its association with perioperative hip fracture complications, including perioperative UTIs. Of the study population, 8.8% (n=33) reported perioperative use of vaginal estrogen. A large majority–32 of the 33–had been using vaginal estrogen for at least six weeks prior to surgery. Nearly 26% of the total (n=94) experienced at least one perioperative UTI and 28 experienced a preoperative UTI.

History of recurrent UTIs was present in nearly 15% (n=56) of the study sample and was more common among vaginal estrogen users than non-users (36.36% vs. 12.90%). In unadjusted analysis, vaginal estrogen use was associated with an increased risk of perioperative UTI. In models adjusted for age and history of recurrent UTI, vaginal estrogen use and a history of recurrent UTI were associated with higher odds of perioperative UTI. However, vaginal estrogen use was not significantly associated with other perioperative hip fracture complications, including emergency department visits, hospital readmission, or mortality within a year after surgery.

Based on these results, the researchers concluded that overall utilization of vaginal estrogen is low in postmenopausal women experiencing hip fractures. In addition, women with a history of recurrent UTIs were more likely to report perioperative vaginal estrogen use and have a perioperative UTI. The researchers found that vaginal estrogen use was associated with greater risk for perioperative UTI, although vaginal estrogen use was most often prescribed to a population of women with recurrent UTIs who are also at increased risk for perioperative UTIs.

The researchers suggested additional investigation to further evaluate the role of vaginal estrogen in perioperative UTI prevention due to the significant morbidity and mortality associated with hip fractures and perioperative UTIs.

“We were surprised to see that preoperative vaginal estrogen use did not reduce risk of perioperative UTIs in hip fracture patients. We were not surprised that utilization was low and mostly in women with history of recurrent UTIs. Because we know that vaginal estrogen can prevent UTIs, we suspect the failure to do so in the elderly hip fracture population could be related to noncompliance and that it is currently used primarily in the at-risk UTI patients. We need to study different delivery methods; cream, tablets, local estradiol vaginal rings that only have to be changed every three months,” says Dr. Jocelyn Wittstein, lead author from Duke Health in Durham, North Carolina.

Details of the study will be discussed as part of the presentation entitled “Vaginal Estrogen Use and Perioperative Urinary Tract Infection Rates in Fragility Fracture Patients.”

“Recurrent urinary tract infections are common among postmenopausal women and can have serious consequences in older adults, particularly after a hip fracture,” says Dr. Stephanie Faubion, medical director for The Menopause Society. “Although this study identified an association between vaginal estrogen use and perioperative UTIs, it is important to recognize that vaginal estrogen was most often used by women who already had a history of recurrent infections. The findings highlight both the complexity of caring for this high-risk population and the need for additional research to better understand whether vaginal estrogen may have a role in reducing perioperative UTI risk.”

For more information about menopause and healthy aging, visit www.menopause.org.

The Menopause Society is dedicated to empowering healthcare professionals and providing them with the tools and resources to improve the health of women during the menopause transition and beyond. As the leading authority on menopause since 1989, the nonprofit, multidisciplinary organization serves as the independent, evidence-based resource for healthcare professionals, researchers, the media, and the public and leads the conversation about improving women’s health and healthcare experiences. To learn more, visit menopause.org.