## How does menopausal hormone therapy affect urinary symptoms? A Systematic Review

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## Abstract

Background: Urogenital changes associated with menopause are now classified as genitourinary syndrome of menopause (GSM) which includes symptoms of urgency, frequency, dysuria, and recurrent urinary tract infections (UTIs) for which the recommended, treatment is estrogen. However, the association between menopause and urinary symptoms and the efficacy of hormone therapy (HT) for these symptoms is uncertain. Objectives: Our objectives were (1) to define the relationship between menopause and urinary symptoms including dysuria, urgency, frequency, recurrent UTIs, and urge and stress incontinence, and 2) to systematically review the effects of HT for urinary symptoms in peri and post-menopausal women. Search strategy: PubMed, Scopus, and the Cochrane Central Register of Controlled Trials (CENTRAL) were searched until April 2022 Selection criteria: RCTs of peri or postmenopausal women with urinary symptoms including dysuria, frequent UTI, urgency, frequency, and incontinence, in English were included. Data collection and analysis: Two authors reviewed each paper with discrepancies resolved through whole group consensus. Data extracted included: publication date, country, setting, subject number, follow-up, duration, age, race/ethnicity, study design, inclusion criteria, and main findings. Main results: There is insufficient evidence to confirm that menopause is associated with urinary symptoms. The effect of HT on urinary symptoms depends on type. Systemic HT may cause urinary incontinence or worsen existing urinary symptoms. Vaginal estrogen improves dysuria, frequency, urge and stress incontinence, and recurrent UTI in postmenopausal women. Conclusions: Menopause has not been shown to cause urinary symptoms. Vaginal estrogen improves urinary symptoms and decreases the risk of recurrent UTI in postmenopausal women.

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Records identified via Records identified via Records identified via Search repeated PubMed database search SCOPUS database search April 2022 yielded 1 Cochrane database search October 2022 October 2022 additional RCT October 2022 (n=1067) (n=3514) (n=684) Records for abstract screening after removal of multiple records (n=2323) Records excluded based on title and abstract (n=2184) Records unable to locate (n=20) Records for full text screening (n=119) Records excluded after full text review: Not RCT (n=38) Menopause and urinary symptoms not outcome measures (n=46) Cancer patients only (n=1) Not in English language (abstract was in English) (n=1) Studies included Randomized Clinical Trials (RCTs): n= 30

Figure 1: Flowchart of study selection process

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