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#### Recommended Citation

Gagliardi, Ariana; Paretti, Lauren; Stephani, Kayla; and Oliverio, Stephanie, "Effectiveness of physical therapy interventions in the treatment of urinary incontinence in older women: a systematic review" (2020). *Student Research Poster Presentations 2020*. 68.  
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# Effectiveness of physical therapy interventions in the treatment of urinary incontinence in older women: a systematic review

Ariana Gagliardi BS, SPT; Stephanie Oliverio BS, SPT; Lauren Paretti BS, SPT; Kayla Stephani BA, SPT; Dr. Kristen Karnish PT, MPH, D.Ed

## INTRODUCTION

Urinary incontinence (UI) is a prevalent condition among older adults. While age and gender are risk factors, UI is not a natural part of female aging. Many women may not recognize that what they are experiencing is a medical condition or they may be embarrassed to discuss this issue with their healthcare provider. By not seeking proper care, these individuals may be hindering their independence, opportunities to receive effective treatment, and their overall quality of life (QoL). Research shows a wide variety of physical therapy (PT) treatment options are available for UI.

Terms	Definitions
Urge urinary incontinence (UUI) <sup>1</sup>	Involuntary leakage of urine from the bladder when a sudden strong need to urinate is felt.
Stress urinary incontinence (SUI) <sup>2</sup>	The result of weak pelvic floor muscles and/or a deficient urethral sphincter. This weakness can cause the bladder to leak during exercise, coughing, sneezing, laughing, or any body movement that puts pressure on the bladder.
Mixed urinary incontinence <sup>3</sup>	Complaints of both stress and urgency urinary incontinence, i.e. involuntary loss of urine associated with urgency and with effort or physical exertion including sporting activities or on sneezing or coughing.

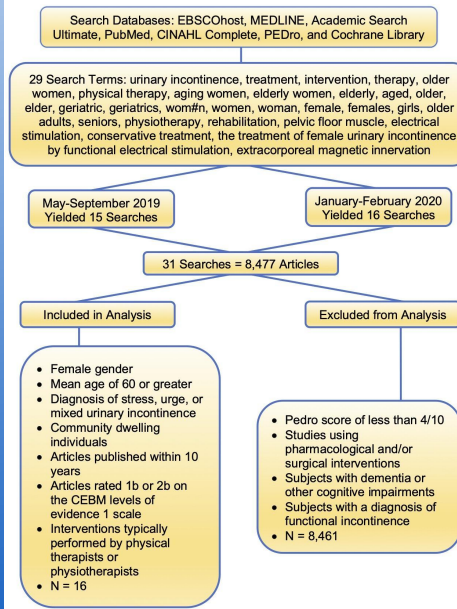


How to combat urinary incontinence in women naturally. Buzz One. <https://www.buzzone.org/2017/11/10/how-to-combat-urinary-incontinence-in.html>. Accessed February 25, 2020.

## PURPOSE

The purpose of this systematic review was to examine the effectiveness of various conservative PT interventions in treating stress, urge, and mixed UI in older women.

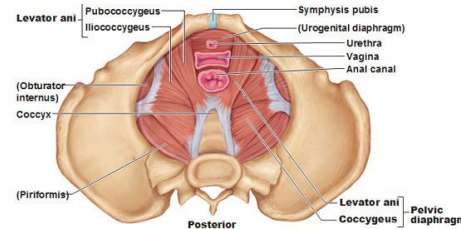
## METHODS



## CONCLUSION

Studies examining PT interventions for the management of UI indicate that pelvic floor muscle training, electrical stimulation, behavioral therapy, extracorporeal magnetic innervation, and physical activities were effective in reducing UI symptoms as compared to control groups in older women diagnosed with SUI, UUI or mixed UI. Specifically:

- PFMT in combination with strengthening exercises and functional mobility training is more effective than PFMT alone.
- Behavioral therapy is more effective when performed with PFMT.
- More research is required before recommending extracorporeal magnetic innervation as a first line treatment for UI in older women.



## RESULTS

Physical Therapy Interventions	Treatments	Results
Pelvic Floor Muscle Training (PFMT) <sup>4-8</sup>	PFMT performed by contraction of pelvic floor and confirmation via palpation	Significant SUI improvements in UI conditions/severity, self esteem, QoL, irisin concentration and downregulation of myostatin
PFMT with Exercise <sup>9-12</sup>	PFMT in various combinations with ambulation, exercises, weight training, and education	Significant SUI, UUI and mixed UI improvements in symptom severity, gait, transfers, QoL, health state, depression and functional fitness
PFMT with Behavioral Therapy <sup>13</sup>	PFMT (Kegel) with the aide of vaginal palpation, bladder training, PFM anatomy education	Significant SUI, UUI and mixed UI improvements in QoL, urinary symptoms, reduction in UI episodes and subjective perception of improvement
Behavioral Therapy <sup>14</sup>	Bladder rehabilitation training program of urge suppression and scheduled voiding	Significant UUI and mixed UI improvement in frequency of incontinence episodes per week
Electrical Stimulation (e-stim) <sup>15, 16</sup>	Surface e-stim (SES), intravaginal e-stim (IVES), transcutaneous e-stim (TES) of the tibial nerve with PFMT and bladder training	Significant SUI (SES and IVES) and UUI (TES of the tibial nerve) improvements in UI episodes, urine leakage, QoL, PFM strength and PFM contraction (IVES only)
Extracorporeal Magnetic Innervation (ExMi) <sup>17, 18</sup>	ExMi therapy with use of NeoControl chair	Significant SUI improvements in severity of UI, depression, self efficacy, QoL and myostatin concentration
Multidimensional Treatment <sup>19</sup>	Behavioral, education, PFMT and rehabilitation, manual PT, and neuromuscular e-stim	Significant SUI, UUI, and mixed UI improvements in symptom severity and QoL with individualized treatment demonstrating the most significant improvements

## CLINICAL IMPLICATIONS

PT interventions have been shown to be effective in the management of UI and should be the first line of treatment as opposed to non-conservative methods. Physical therapists can and should apply this knowledge in their practice when treating UI in older women. Physicians should consider referring to PT prior to prescription of medication or referral to surgery.

## REFERENCES

References available upon request.