Q/How can we effectively treat stress urinary incontinence without drugs or surgery?

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EVIDENCE-BASED ANSWER

A/ **Pelvic floor muscle training (PFMT) and intravaginal electrical stimulation** seem to be the best bets. PFMT increases urinary continence and improves symptoms of stress urinary incontinence (SUI) (strength of recommendation [SOR]: **A**, systematic review or randomized, controlled trials [RCTs]). PFMT also improves quality of life (QOL) (activity and psychological impact) (SOR: **B**, 1 RCT).

Intravaginal electrical stimulation increases urinary continence and improves SUI symptoms; percutaneous electrical stimulation also improves SUI symptoms and likely improves QOL measures (SOR: **A**, systematic review).

Magnetic stimulation doesn't increase continence, has mixed effects on SUI symptoms, and produces no clinically meaningful improvement in QOL (SOR: **B**, heterogeneous RCTs with conflicting results).

Vaginal cones don't increase continence or QOL (SOR: **B**, 2 RCTs with methodologic flaws).

Evidence summary

A systematic review by the Agency for Healthcare Research and Quality of adult female outpatients with SUI examined the effectiveness of PFMT, electrical stimulation, magnetic stimulation, and vaginal cones compared with no active treatment or sham treatment to produce continence (90% to 100% symptom reduction) or improve symptoms (at least 50% patient-reported symptom reduction).[1] The **TABLE** summarizes the results.[1] Investigators also assessed improvement in patient-reported QOL.

Pelvic floor muscle training improves continence, quality of life

A meta-analysis of 10 RCTs demonstrated that PFMT produced continence more often than placebo, and a meta-analysis of 6 RCTs found that PFMT improved SUI symptoms.[1] PFMT regimens ranged in duration from 8 weeks to 6 months, including unsupervised treatment (8 to 12 repetitions, 3 to 10 times a day) and supervised treatment (as long as an hour, as often as 3 times a week).[1]

Both unsupervised and supervised PFMT produced similar results. One RCT evaluating QOL measures found that PFMT improved activity and reduced psychological impact (number needed to treat [NNT]=1; 95% confidence interval [CI], 1-2).[1]

Intravaginal electrical stimulation improves continence and symptoms

A meta-analysis of 7 RCTs found that intravaginal electrical stimulation increased continence compared with sham treatment.[1] A meta-analysis of 8 RCTs found that intravaginal electrical stimulation also improved SUI symptoms.[1] All of the trials used electrical stimulation at frequencies between 4 and 50 Hz for 15 to 20 minutes, 1 to 3 times daily for 4 to 15 weeks.

Percutaneous electrical stimulation improves symptoms

A meta-analysis of 3 RCTs found that per-

TABLE

How nonsurgical, nonpharmacologic therapies for stress urinary incontinence compare with no active treatment[1]

Treatment	Outcome	Studies (N)	Patients (N)	ARR (95% CI)	NNT (95% CI)
Pelvic floor muscle training	Continence	10	959	0.3 (0.19-0.41)	3 (2-5)
	Symptom improvement	6	510	0.41 (0.17-0.65)	2 (2-6)
Intravaginal electrical stimulation	Continence	7	420	0.16 (0.06-0.26)	6 (4-16)
	Symptom improvement	8	582	0.16 (0.04-0.23)	6 (4-12)
Percutaneous electrical stimulation	Symptom improvement	3	405	0.31 (0.04-0.58)	3 (2-25)
Magnetic stimulation	Continence	3	171	0.09 (-0.01 to 0.18)	NS
	Symptom improvement	3	153	0.27 (0.11-0.42)	4 (2-9)
Vaginal cones	Continence	2	118	0.14 (-0.01 to 0.29)	NS

ARR, absolute risk reduction; CI, confidence interval; NNT, number needed to treat; NS, not significant.

Pelvic floor muscle training increases urinary continence and improves symptoms of stress urinary incontinence and quality of life.

cutaneous electrical stimulation improved SUI symptoms compared with no active treatment. Four RCTs found that electrical stimulation improved QOL, although a meta-analysis couldn't be performed because of clinical heterogeneity.[1]

Magnetic stimulation produces conflicting results

A meta-analysis of 3 RCTs found that magnetic stimulation at frequencies of 10 to 18.5 Hz given over 1 to 8 weeks didn't increase continence. A meta-analysis of an additional 3 RCTs concluded that magnetic stimulation improved continence, but the individual studies reported conflicting results and were heterogenous.[1]

Two RCTs evaluating QOL scores found conflicting results. One study found a mean difference of 3.9 points on the 100-point Incontinence Quality of Life Questionnaire (95% CI, 2.08-5.72; minimal clinically important difference rated 2-5 points).[1]

Vaginal cones are ineffective and not well-tolerated

Two RCTs found that vaginal cones didn't improve continence or QOL compared with no treatment. Investigators reported high discontinuation rates and adverse effects with the cones, which weighed 20 to 70 g and were worn for 20 minutes a day for as long as 24 weeks.[1]

Recommendations

The National Institute for Health and Care Excellence recommends PFMT comprising at least 8 contractions 3 times daily for at least 3 months as first-line therapy for women with SUI.[2] They don't recommend electrical stimulation or intravaginal devices for women who can actively contract their pelvic floor muscles.

The American College of Obstetricians and Gynecologists recommends PFMT as first-line therapy for women with SUI and states that PFMT is more effective than electrical stimulation or vaginal cones.[3] **JFP**

References

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