

## Low-Intensity Extracorporeal Shock Wave Therapy for Erectile Dysfunction: a Systematic Review and Meta-Analysis.

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### Abstract

**OBJECTIVE:** To use systematic review and meta-analysis to assess the efficacy of low-energy extracorporeal shockwave therapy (LI-ESWT) for erectile dysfunction (ED) was undertaken with a meta-analysis to identify the efficacy of the treatment modality.

**METHODS:** A comprehensive search of the PubMed, Cochrane Register and Embase databases to March 2017 was performed for randomized controlled trials reporting on patients with ED treated with LI-ESWT. The International Index of Erectile Function (IIEF) and the Erection Hardness Score (EHS) were the most commonly used tools to evaluate the therapeutic efficacy of LI-ESWT.

**RESULTS:** There were 9 studies including 637 patients from 2005 to 2017. The meta-analysis revealed that LI-ESWT could significantly improve IIEF (mean difference [MD]: 2.54; 95% CI, 0.83-4.25;  $p = 0.004$ ) and EHS (risk difference [RD]: 0.16; 95% CI, 0.03-0.28;  $p = 0.01$ ). Therapeutic efficacy could last at least 3 mo (MD: 4.15; 95% CI, 1.40-6.90;  $p = 0.003$ ). Lower energy density ( $0.09\text{mj}/\text{mm}^2$ , MD: 4.14; 95% CI, 0.87-7.42;  $p = 0.01$ ) increased number of pulses (3000 pulses per treatment, MD: 5.11; 95% CI, 3.18-7.05,  $p < 0.0001$ ) and shorter total treatment courses (<6 weeks, MD: 3.73; 95% CI, 0.54-6.93;  $p = 0.02$ ) resulted in better therapeutic efficacy.

**CONCLUSIONS:** These studies suggest that LI-ESWT could significantly improve the IIEF and EHS of ED patients. The publication of robust evidence from additional RCTs and longer-term follow-up would provide more confidence regarding use of LI-ESWT for ED patients.

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**KEYWORDS:** Erectile Dysfunction; Meta-Analysis; Randomized Controlled Trial; Shock Waves

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