

## **In vitro fertilization and acupuncture: clinical efficacy and mechanistic basis.**

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**OBJECTIVE:** To provide an overview of the use of acupuncture as an adjunct therapy for in vitro fertilization (IVF), including an evidence-based evaluation of its efficacy and safety and an examination of possible mechanisms of action. **DESIGN:** Literature review using PubMed, the Science Citation Index, The Cochrane Library (Database of Systematic Reviews and Central Register of Controlled Trials), the New England School of Acupuncture library databases, and a cross-referencing of published data, personal libraries, and Chinese medicine textbooks. **RESULTS:** Limited but supportive evidence from clinical trials and case series suggests that acupuncture may improve the success rate of IVF and the quality of life of patients undergoing IVF and that it is a safe adjunct therapy. However, this conclusion should be interpreted with caution because most studies reviewed had design limitations, and the acupuncture interventions employed often were not consistent with traditional Chinese medical principles. The reviewed literature suggests 4 possible mechanisms by which acupuncture could improve the outcome of IVF: modulating neuroendocrinological factors; increasing blood flow to the uterus and ovaries; modulating cytokines; and reducing stress, anxiety, and depression. **CONCLUSIONS:** More high-quality randomized, controlled trials incorporating placebo acupuncture controls, authentic acupuncture interventions, and a range of outcome measures representative of both clinical outcomes and putative mechanistic processes are required to better assess the efficacy of acupuncture as an adjunct for IVF.

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