Physiotherapy for Infertility

Dr. Fariba Ghaderi

Professor, Physiotherapy Department

Tabriz University of Medical Sciences

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Treating Female Infertility and Improving IVF Pregnancy Rates With a Manual Physical Therapy Technique[*]

Belinda F Wurn, PT, Lawrence J Wurn, LMT,* and Amanda S Roscow, MPT

Clear Passage Therapies, Gainesville, Florida

- Of the approximately 5 million infertile women in the United States, it is estimated that 2 million (40%) have medical or hormonal infertility; 1 million (20%) have idiopathic infertility; and 2 million (40%) have mechanical infertility.
- Pelvic adhesions are often cited among the primary causes of mechanical infertility.
- Certain proportion of idiopathic infertility may be due to microadhesions that have formed in the pelvis as the body healed from a previous inflammation or trauma. Micro adhesions are often too small to see, and thus difficult to diagnose.

- **Manual Physical Therapy Techniques:**
  - Manual therapy
  - Massage therapy
  - Visceral manipulation
- **Electrotherapy:**
  - Electro-accupuncture
  - Ultrasound
  - Diathermy
  - Interferential

Current management options for infertility, including hormone therapy, intrauterine insemination, and in vitro fertilization, tend to be expensive, are not necessarily covered by insurance, and carry different levels of short-term and ~~long-term health risks.~~

Many of the issues that contribute to infertility can be traced to scar tissue, fascial restriction, and lymphatic congestion in the pelvic region.

Manual therapy techniques exist to release fascial restrictions, to mobilize tight ligaments, and to drain congested lymphatics, all of which can be applied to the reproductive system.

Infertility-causing adhesions may form in the following locations:

- on uterine walls and ligaments, increasing the possibility of uterine spasm, implantation problems, and miscarriage and decreasing the ability to conceive;
- at and within the tissues of the cervix, creating stenosis, affecting the relaxed midline position, contributing to uterine spasms, and complicating sperm transfer to the uterus;
- on the surface of the ovaries, preventing exposure of the ovum and making transfer to the fallopian tube difficult;
- at the distal aspect of the fallopian tube, restricting the tentacle-like grasping of the egg by the fimbria, hence increasing its risk of being wasted in the abdominal cavity; and
- anywhere on the inside or outside of the fallopian tube, causing partial or total tubal occlusion, decreasing the probability of conception, and increasing the chance of an ectopic pregnancy.

- The Mojzisovà method includes a combination of soft tissue and osseous mobilization techniques, post-isometric relaxation, and a home exercise program over a 6-month treatment period. It is based on the premise that accidents (including falls) and sedentary lifestyles can cause blockages or constrictions in the lower spine that lead to pelvic spasms and other functional disturbances of the pelvic region. Thus, according to Mojzisovà, "there is a direct relationship between the condition of the lower back muscles and the way the reproductive organs function.

REVIEW ARTICLE

2015

Ten-year Retrospective Study on the Efficacy of a Manual Physical Therapy to Treat Female Infertility

Amanda D. Rice, PhD; Kimberley Patterson, PTA; Leslie B. Wakefield, DPT; Evette D. Reed, PT; Kelseanne P. Breder, BA; Belinda F. Wurn, PT; C. Richard King III, MD; Lawrence J. Wurn, LMT

- 1392 female patients , 2002 – 2011: occluded fallopian tubes, hormonal dysfunction, and endometriosis
- Whole-body, manual physical therapy for restoring mobility and motility to structures affecting reproductive function
- Outcomes: tubal patency and/or improved hormone levels or pregnancy
- Results: 60.85% rate of clearing occluded fallopian tubes with 56.64% rate of pregnancy, 42.81% pregnancy rate in patients with endometriosis, 49.18% for lowering elevated levels of FSH with a 39.34% pregnancy rate, 53.57% pregnancy rate of the women with PCOS, 56.16% for patients who underwent IVF.

Observational Study > Altern Ther Health Med. Mar-Apr 2015;21(2):16-22.

Massage therapy improves in vitro fertilization outcome in patients undergoing blastocyst transfer in a cryo-cycle

Massage therapy is increasingly used to relieve physical and mental discomfort and is suggested as a safe therapeutic modality, without any significant risks or any known side effects. Although a multitude of complementary therapies, such as acupuncture, are applied in reproductive medicine, no information is available with regard to the application of massage as an adjuvant therapy in assisted-reproduction techniques (ARTs)

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Review Article

Acupuncture for in vitro fertilization in women with poor ovarian response: a systematic review

Soobin Jang [a,1], Kyeong Han Kim [b,1], Ji Hee Jun [a], Sooseong You [a,*]

[a] Clinical Medicine Division, Korea Institute of Oriental Medicine, Daejeon, Republic of Korea
[b] Department of Preventive Medicine, College of Korean Medicine, Woosuk University, Jeonju, Republic of Korea

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E-mail: jzus@zju.edu.cn

Review:

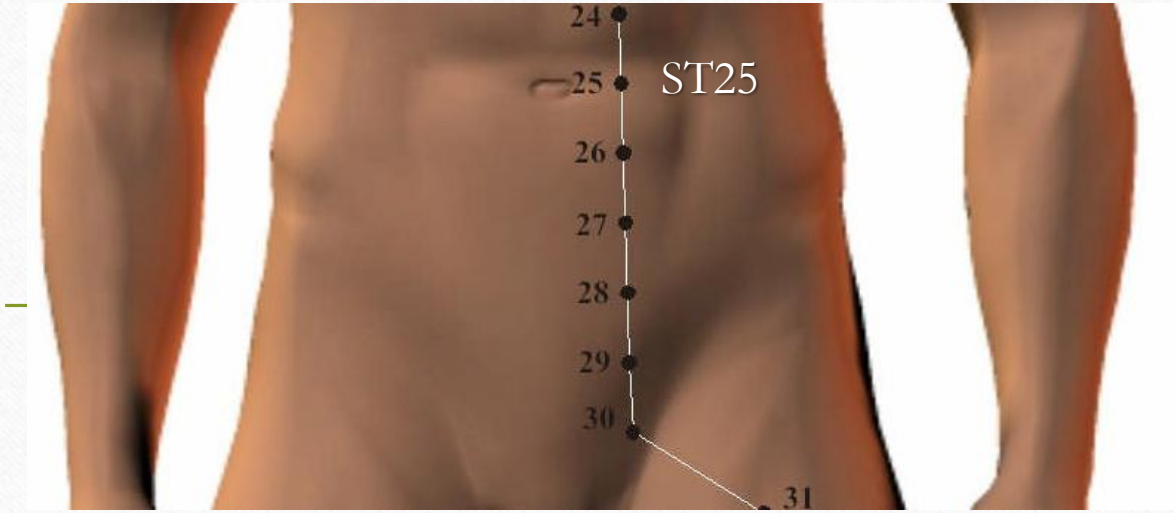
Use of electroacupuncture and transcutaneous electrical acupoint stimulation in reproductive medicine: a group consensus*

Fan QU[1], Rong LI[2], Wei SUN[3], Ge LIN[4], Rong ZHANG[5], Jing YANG[6], Li TIAN[7], Guo-gang XING[5], Hui JIANG[2], Fei GONG[4], Xiao-yan LIANG[8], Yan MENG[9], Jia-yin LIU[9], Li-ying ZHOU[10], Shu-yu WANG[10], Yan WU[1], Yi-jing HE[11], Jia-yu YE[1], Song-ping HAN[5,12], Ji-sheng HAN[†‡5]

Evidence Based Acupuncture Training

Acupuncture in Physiotherapy

Western Medical Acupuncture for Musculoskeletal Pain Conditions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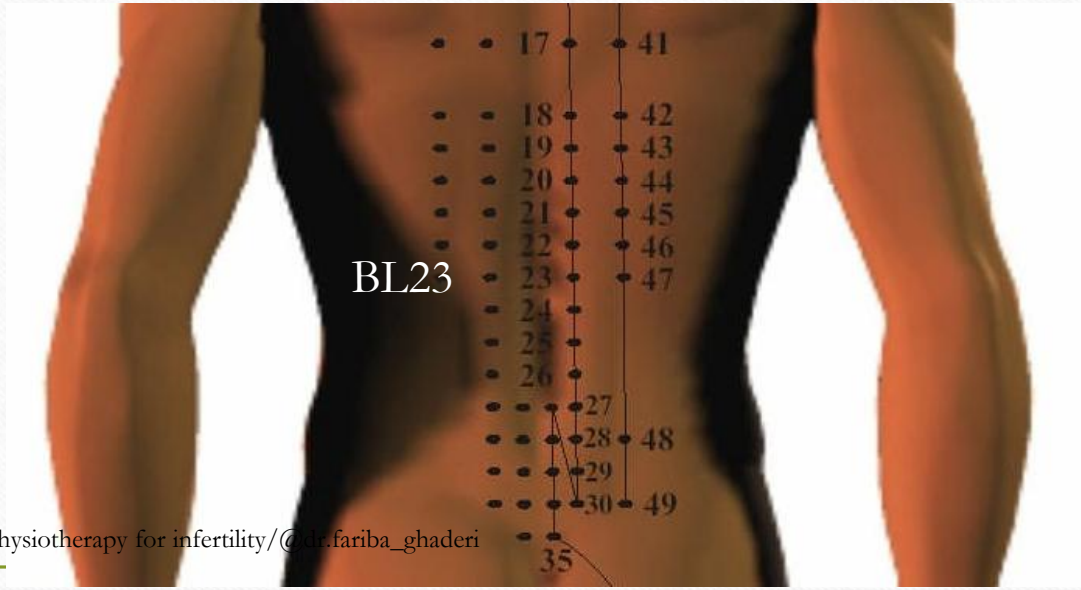
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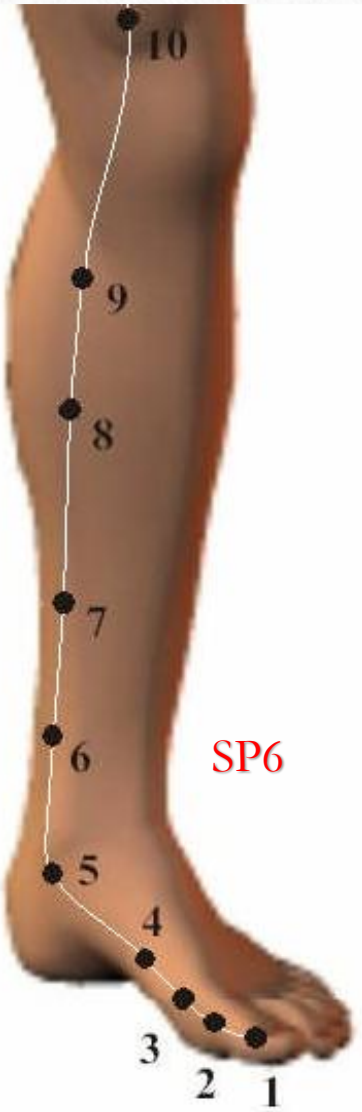
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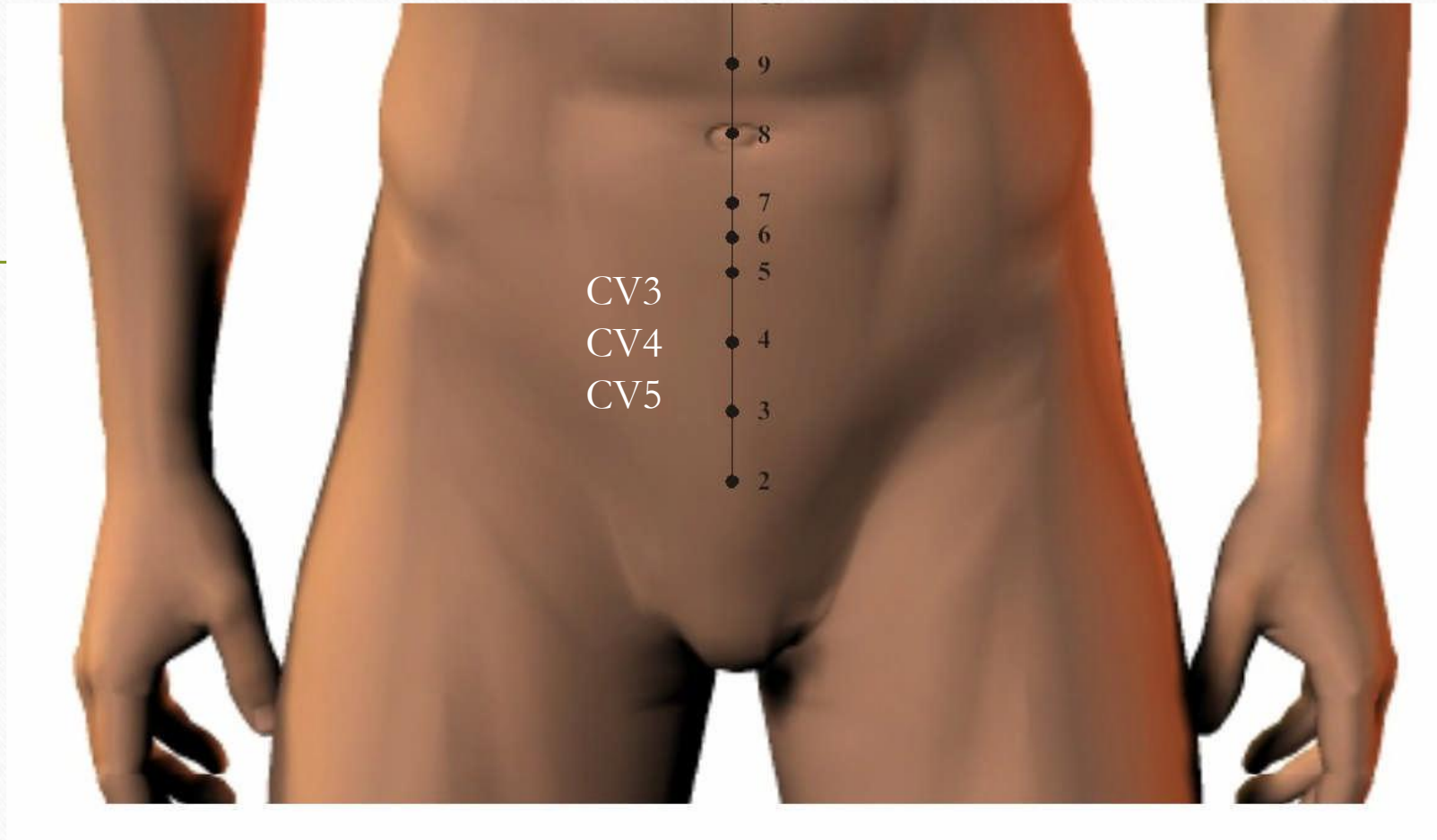
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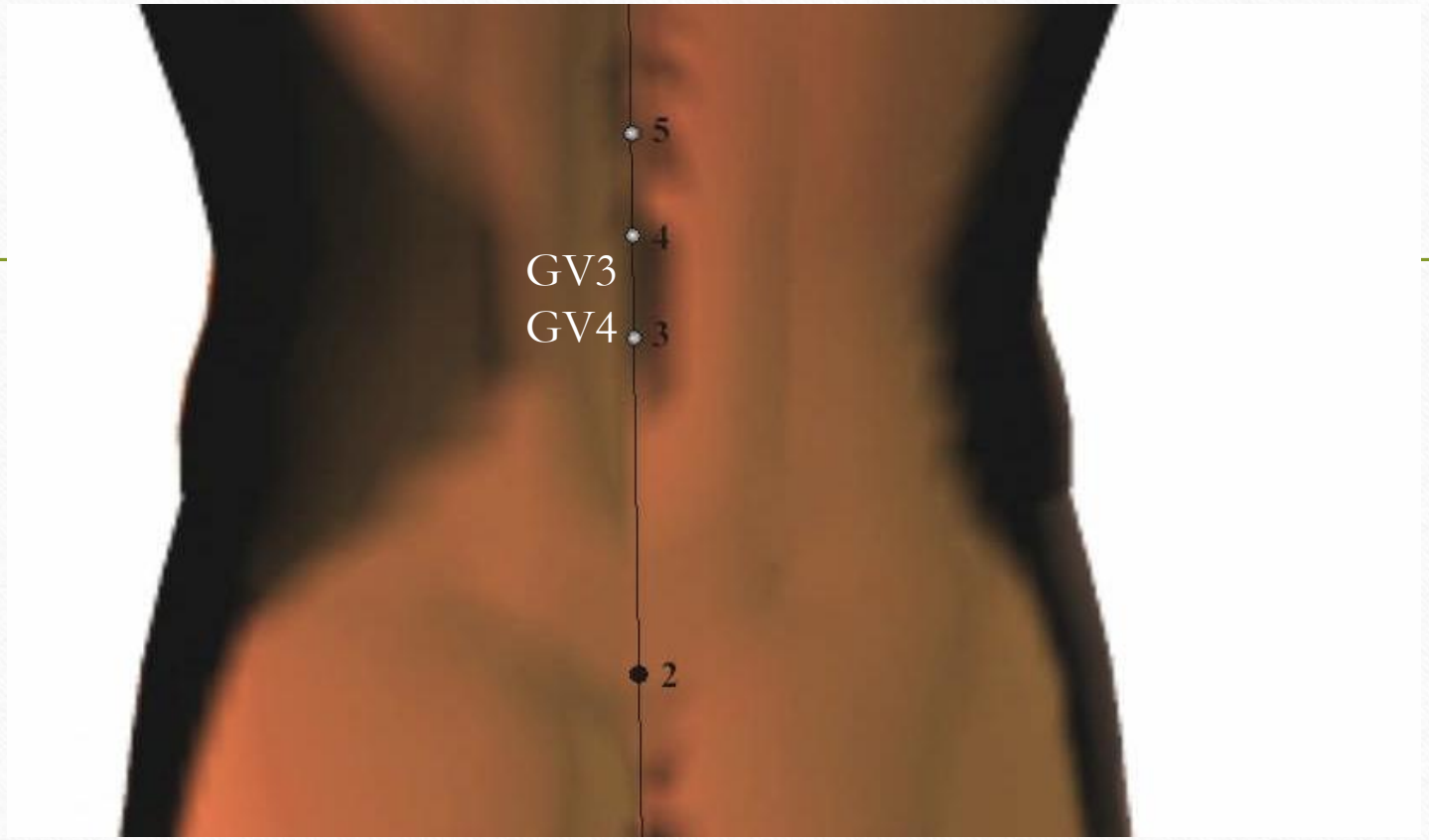
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- The pulsatile current can be characterized by at least three important parameters: frequency, pulse width, and intensity. Effective frequency ranges from 2 to 100 Hz for EA and TEAS.
- low-frequency (2 Hz) electrical stimulation promotes the production and release of encephalin in the central nervous system, while high frequency (100 Hz) electrical stimulation promotes the production and release of dynorphins in the spinal cord
- The pulse width, which should range from 0.2 to 0.6 ms, significantly affects the feelings generated by the EA stimulation. The intensity of the current ranges from 0.5 to 5.0 mA for EA, and 5 to 30 mA for TEAS (5–10 mA for upper limbs, 10–30 mA for lower limbs and trunk). For the duration of each treatment, a 30-min program is commonly used in most treatment regimen according to the clinical experience and the relevant scientific evidence.

- It should be noted that although the selection of acupoints is mainly determined by the meridian and collateral theory in traditional Chinese medicine (TCM), the outcome measures as well as the parameter design of EA and TEAS are based on modern biomedical research.
- **Ovarian hypo function:**

The deficiency of kidney, disharmony of Chong and Ren, disorder of Qi and blood are the basic pathological situation. Thus invigorating the kidney,promoting Qi and blood, and regulating Chong and Ren are the principles for selecting acupoints.

1. Acupoints for invigorating the spleen and stomach, tonifying Qi and activating blood: Guanyuan (CV 4), Tianshu (ST 5), and Zhongji (CV 3).
2. Acupoints for nourishing the heart and activating blood, soothing the liver and regulating Qi: Zigong (EX-CA1) and Sanyinjiao (SP 6).
3. Acupoints for warming or nourishing the kidney to strengthen kidney essence: Mingmen (GV 4), Shenshu (BL 23), and Yaoyangguan (GV 3).

- **Promoting embryo implantation**

Acupoint selection is according to the principle of invigorating the kidney and nourishing blood.

1. Acupoints for activating blood and smoothing the collaterals prior to embryo transfer (ET): Guilai (ST 29), Zigong (EX-CA1), Xuehai (SP 10), and Diji (SP 8).

2. Acupoints for invigorating the spleen and kidney, tonifying Qi and soothing mind after ET: Zhongwan (CV 12), Guanyuan (CV 4), Zusanli (ST 36), Taixi (KI 4), and Shenshu (BL 23)

- **Ovulation induction**

Based on the principle of “to treat deficiency with tonification, fullness with relief, and prolonged stagnation with elimination”, acupoint selection should be in accordance with the effect of invigorating the kidney, soothing the liver, invigorating blood, and regulating Chong and Ren: Tianshu (ST 25), Guanyuan (CV 4), Zhongji (CV 3), Zigong (EX-CA1), and Sanyinjiao (SP 6).

- **Mechanism mediating the effects of acupuncture, EA, and TEAS**

In terms of modern medicine, the therapeutic benefits of acupuncture on a variety of clinical diseases seem to be mainly attributed to the regulation of the neuroendocrine system and the blood flow to reproductive organs. For example, in the condition of low sex hormone like ovarian dysfunction or menopausal syndrome, acupuncture can activate aromatase, promote the generation of neuropeptide Y (NPY), and improve the local blood flow of the ovary, enhancing the utilization efficiency of estrogens, and the apparent improvement of the reproductive systems is manifested as inhibition of the elevations of follicle stimulating hormone (FSH) and luteinizing hormone(LH)

Acupuncture also plays a role in increasing the release of β-endorphin, endomorphins, enkephalins, serotonin, and other neurochemical substances to relieve pain and mental stress and reduce anxiety and/or depression of patients.

Therefore, acupuncture can improve the function of the reproductive system and induce a positive feedback effect on the hypothalamic-pituitary-gonad (HPG) axis due to the effect on central and peripheral neurobiological key points. The selection of the electrical stimulation time, location, and stimulation parameters (frequency and intensity) varies for different disease.


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