

## 18. Symptoms and Signs

### Reference

Kim HK, Lee ES. The effect of magnetic field stimulation of ear acupoints on physical vitality before and after exercise.\* *Hanbang-Jaehwal-Uihakgwa-Hakhoeji (Journal of Oriental Rehabilitation Medicine)* 1998; 8(1): 187–202 (in Korean).

### 1. Objectives

To evaluate the effect of magnetic field therapy on recovery from muscle fatigue.

### 2. Design

Double-blinded randomized controlled trial (DB-RCT).

### 3. Setting

One Oriental hospital (details not mentioned), Republic of Korea.

### 4. Participants

Student gymnasts (n=14).

### 5. Intervention

Arm 1: Magnetic therapy at the ear acupoints related to the heart, liver, Shenmen (HT7, 神門), and endocrine system (n=5).

Arm 2: Intradermal Acupuncture (n=4).

Arm 3: Moxa-pellet Treatment (n=5).

### 6. Main Outcome Measures

Physiological change in blood lactate concentration, heart rate, reaction time on light stimulation, oxygen intake, minute ventilation at maximal exercise level, and rate of recovery of lactate concentration and heart rate after maximal exercise.

### 7. Main Results

Blood lactic acid concentration was slightly and nonsignificantly lower in Arm 1 than in Arm 2 and Arm 3. Heart rate was significantly lower in Arm 1 than in Arm 2 and Arm 3. Reaction time on light stimulation was significantly reduced and rate of lactate concentration and heart rate were significantly improved in Arm 1 and Arm 2 compared to Arm 3. Minute ventilation was significantly decreased in Arm 1 compared to Arm 2 and Arm 3. However, there was no significant between-group difference in oxygen intake.

### 8. Conclusions

Magnetic therapy and intradermal acupuncture are more effective than moxa-pellet treatment. Compared with magnetic therapy, intradermal acupuncture was better at reducing oxygen intake and minute ventilation and worse at reducing heart rate and other physiological measures.

### 9. Safety assessment in the article

Not mentioned.

### 10. Abstractor's comments

This randomized, controlled, double-blinded study evaluated the effect of the magnetic therapy at ear acupoints on muscle fatigue in comparison to intradermal acupuncture and moxa-pellet treatment. Although the study design was objective, the number of subjects was limited to 14 patients. Therefore, additional study with a large number of patients is needed.

### 11. Abstractor and date

Nam HJ, 21 August 2010.