

## Immediate Effects of a Shuai Shou Gong on Shoulder Range of Motion and Occiput-wall

### Distance: A Pilot Study in Young Adults

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#### Abstract

**Background and Purpose:** People who work in the office for long hours tend to have poor posture and decreased range of motion throughout the body. These could lead to chronic neck and shoulder pain if they are not corrected. Shuai Shou Gong, a version of Arm Swing Exercise, has been practiced by elderly Chinese people for maintain physical well-being, for long time. Its beneficial effects on posture and range of motion have not been verified.

**Objective:** The purpose of this study was to examine the immediate effects of Shuai Shou Gong on shoulder range of motion (ROM) and occiput-wall distance (OWD) in young adults.

**Participants:** Fifteen healthy and office workers (6 males, 9 females), aged 20-40 years, participated in the study.

**Methods:** A before-after study design was used. The shoulder ROM and OWD of the participants were measured before and after a 10-minute session of supervised Shuai Shou Gong exercise. A paired-sample T test was used to estimate the mean changes of the two measures.

**Result:** Shoulder ROM was increased in all directions when participants finished 10-minute Shuai Shou Gong exercise. Shoulder flexion before exercise values were left position (LP)  $173.86^{\circ} \pm 4.67^{\circ}$ , right position (RP)  $173.40^{\circ} \pm 10.83^{\circ}$ ,  $186.33^{\circ} \pm 6.44^{\circ}$ ; values in the after exercise were LP  $186.33^{\circ} \pm 6.44^{\circ}$ , RP  $182.40^{\circ} \pm 7.02^{\circ}$ . ( $P < 0.05$ ). Shoulder abduction before exercise values were LP  $184.33^{\circ} \pm 13.97^{\circ}$ , RP  $181.70^{\circ} \pm 12.63^{\circ}$ ; values in the after exercise were LP  $191.13^{\circ} \pm 16.75^{\circ}$ , RP  $195.93^{\circ} \pm 14.93^{\circ}$  ( $P < 0.05$ ). Shoulder Medial (Internal) Rotation before exercise values were LP  $80.06^{\circ} \pm 8.49^{\circ}$ , RP  $80.00^{\circ} \pm 7.66^{\circ}$ ; values in the after exercise were LP  $96.73^{\circ} \pm 13.29^{\circ}$ ; RP  $92.46^{\circ} \pm 12.19^{\circ}$  ( $P < 0.05$ ). Shoulder Lateral (External) Rotation before exercise values were LP  $82.33^{\circ} \pm 8.47^{\circ}$ , RP  $86.06^{\circ} \pm 11.77^{\circ}$ ; values in the after exercise were LP  $95.20^{\circ} \pm 10.11^{\circ}$ , RP  $96.86^{\circ} \pm 8.91^{\circ}$  ( $P < 0.05$ ). Shoulder extension before exercise values were LP  $38.40^{\circ} \pm 15.22^{\circ}$ , RP  $35.80^{\circ} \pm 15.22^{\circ}$ ; values in the after exercise were LP  $57.86^{\circ} \pm 19.85^{\circ}$ , RP  $53.40^{\circ} \pm 18.78^{\circ}$  ( $P < 0.05$ ). OWD was decreased after the exercise ( $P < 0.05$ ). OWD before exercise values were  $4.92 \pm 1.40$ cm, values after exercise were  $3.63 \pm 1.23$ cm.

**Discussion and Conclusion:** Shuai Shou Gong may provide immediate improvements on shoulder ROM and posture as indicated by a decreased OWD. A further research using a randomized controlled trial is needed.

**Keywords:** Shuai Shou Gong exercise, Shoulder range of motion, Occiput-wall distance