

Oral presentation

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## Measurement of the hip joint range of motion in adolescent girls with idiopathic scoliosis

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### Background

Body asymmetries exist involving the pelvis and the lower limbs in patients with idiopathic scoliosis. They are suspected by some authors to have the causative role on the development of scoliosis.

### Methods

Hip joint range of motion was studied in 158 adolescent girls, aged  $14.2 \pm 2.0$  years, presenting idiopathic scoliosis of  $43.0^\circ \pm 14.5^\circ$  of Cobb angle and in 57 controls, sex and age matched. For the hip range of rotation the inclinometer was used in order to control the pelvis level.

### Results

Compared to the controls, the patients with scoliosis revealed less frequent symmetry of the hip joint range of rotation ( $p = 0.0047$ ), a significantly higher difference between the left and the right hip range of internal rotation ( $p = 0.0013$ ), and a significantly greater static rotational offset of the pelvis, calculated from the mid-points of rotation, ( $p = 0.0092$ ). No limitation of the hip joint range of motion was detected, but a transposition of the sector of motion, usually towards the internal rotation in one hip and the external rotation in the opposite hip. No relation between the asymmetry of the hip joint range of motion and the curve type, the Cobb angle, the angle of trunk rotation or the curve progression was demonstrated.

### Conclusion

Asymmetrical range of motion of the hip joint was detected; however, most of asymmetries were expressed equally in the scoliotics and in the controls. The detected

hip asymmetries were not related to the parameters describing the scoliotic deformity.

### References

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