# THE CONFORMITY OF RADIOLOGICAL SHOULDER BALANCE PARAMETERS IN ADOLESCENT IDIOPATHIC SCOLIOSIS (AIS) PATIENTS AFTER CORRECTIVE SURGERY

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**Introduction**
There are several radiological parameters used to assess shoulder balance after corrective surgery for AIS. However, there were no reports on their measurement conformity when measurements were done repeatedly during the follow up period.

**Objective**
To investigate the conformity of radiological shoulder balance parameters in AIS patients.

**Methods**
50 AIS patients who had corrective surgery were recruited. Radiological parameters on the anterior posterior standing radiographs were measured. The parameters were radiological shoulder height, clavicle angle, coracoid height difference, clavicle rib intersection distance, cervical axis angle and T1 tilt angle. These parameters were measured four times on the same patient at different occasions during postoperative follow up at 3, 6, 12 and 24 months.

**Results**
There were 38 female patients and 12 male patients with the mean age of 16.3±7.0. The mean Cobb angle was 61.3±23.7°. We found that radiological shoulder height and clavicle angle had poor conformity with significant interclass correlation (ICC) values of less than 0.40 ($p<0.05$). The coracoid height difference, clavicle rib intersection distance and cervical axis angle had fair conformity with ICC between 0.40-0.59 ($p < 0.05$). T1 tilt angle had excellent conformity with ICC of 0.78 ($p < 0.05$).

**Conclusions**
Radiological shoulder height and clavicle angle were poor parameters to assess the shoulder balance postoperatively. T1 tilt angle was the best parameter to measure the postoperative shoulder balance and had excellent conformity on 3, 6, 12 and 24 months follow up.