Supplementary Table 2: Characteristics of diagnostic studies

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| **Study** | **Patients** | | **Aim** | **Setting; Duration** | **Parameters** |
|  | **No** | **Characteristics** |  | | |
| Drerup and Hierholzer(17) | 113 (478 measures per test) | Cobb angle < 52° | Validation of surface measurements as a substitute for radiographs | Institute of experimental biomechanics of the Munster University, Germany; N/A | Surface/vertebral rotation  Cobb angle  Lateral deviation  Apex height |
| Hackenberget al. (18) | 31  (1 measure pre-op/post-op and after 25.2 M) | Thoracic, thoracolumbar and lumbar scoliosis  Mean Cobb angle 57.2° (36-92°)  Mean age 17.5 Y (12-31 Y) | Rasterstereography for analysis of surgical correction (modified) VDS | Clinic and polyclinic for general orthopaedics of the Munster University, Germany; N/A | Surface/vertebral rotation  Cobb angle (primary and secondary curves, sagittal vibration)  Lateral deviation  Kyphosis and lordosis angle |
| Knott et al.(19) | 193a  (3 times scanning by surface topography) | Juvenile or adolescent idiopathic scoliosis  Cobb angle ≥ 10° and < 50°  Mean age 13.25 Y (8-18 Y)  Female n=148 | Reliability of surface topography | U.S. and Germany, centers n=6;  2012-2014 | Cobb angle (thoracic/lumbar scoliotic curve)  Pelvic obliquity  Coronal vertebral axis  Thoracic kyphosis, lumbar lordosis  Sagittal vertebral axis |
| Liljenqvist et al. (20) | 95b  (1 measure per patient and test) | Mean Cobb angle 28.4° (5-52°)  Mean age 17.5 Y (7-30 Y)  Female n=81 | Determination of accuracy of the method compared to conventional radiographs | Clinic and polyclinic for general orthopaedics of the Munster University, Germany; N/A | Surface/vertebral rotation  Cobb angle (primary and secondary curves)  Overhang  Pelvic obliquity  Kyphosis and lordosis angle |
| a Coronal plane group (scoliosis > 10 degrees): n=170, sagittal plane group (kyphosis > 45 degrees): n=29, in both groups: n=6  b Mixed population of patients with idiopathic scoliosis or scoliotic postural abnormalities; additional patients with thoracic hyperkyphosis and Scheuermann’s disease: n=18  M: months, op: operatively, VDS: ventral derotation spondylodesis, Y: years | | | | | |