

Hypothesis We hypothesized that long-term curve progression also occurs for curves $<50^\circ$ at skeletal maturity and that curve progression for curves $30-50^\circ$ is greater for thoracolumbar and lumbar (TL/L) curves compared with thoracic curves. **Study Design** Long-term follow-up study. **Introduction** Long term curve progression in idiopathic scoliosis has only been assessed in a few cohorts. Treatment in childhood is mainly guided by curve size and aims to prevent long term effects of larger deformities. It is generally accepted that curves $>50^\circ$ will progress throughout adulthood, but less well described what happens with mild to moderate curves after the end of observation or non-surgical treatment. **Methods** We identified 177 patients diagnosed with a pediatric spinal deformity and treated at our institution from 1972 through 1983. 104 of all eligible patients completed follow-up (69%), 91 of these were diagnosed with juvenile (n=5) or adolescent idiopathic scoliosis (n=65). We excluded patients with infantile, neuromuscular, syndromic and congenital scoliosis. Patient files from childhood were reviewed including detailed descriptions of main curve, type and magnitude from diagnosis to end of treatment/observation at skeletal maturity. Patients were examined with long standing full spine radiographs. **Results** Mean follow-up was 40.8(2.6) years and 86/91 patients (95%) were female. 18 patients underwent Harrington rod instrumentation in adolescence and additional 3 patients underwent surgery later in adulthood leaving 70 patients for analysis of curve progression, 43 (61%) of them had been treated with a Boston brace. For curves $<30^\circ$ at skeletal maturity (n=32), mean curve progression was 10° (SD 12, range -5 to 44); for curves $30-50^\circ$ (n=28) mean progression was 19° (SD 12, range -3 to 49); and for curves $>50^\circ$ (n=7) mean progression was 17° (SD 6, range 10-25). This corresponds to a curve progression of $0.3^\circ/\text{year}$, $0.5^\circ/\text{year}$ and $0.4^\circ/\text{year}$, respectively. For curves $30-50^\circ$ we found a greater curve progression for TL/L curves (mean 22°) than for thoracic curves (mean 17°), but this was not statistically significant [95%CI for mean diff: -17 to 2]. **Conclusions** We found substantial curve progression for curves $30-50^\circ$ at skeletal maturity comparable to curves $>50^\circ$ and curve progression tends to be larger for TL/L than for thoracic main curves.