

Oral presentation

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The development of a spinal algorithmic for evaluation of scoliosis

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Objective

The conservative management of scoliosis and related spinal deformities must be precise. A prompt evaluation of various somatic-radiological parameters and an accurate record of the spinal data are required during treatment.

Our purpose is to present a spinal algorithmic to facilitate documentation of treatments for various spinal diseases during growth.

Study design

Seven types of parameters are considered:

- 1) growth (height, seated height, weight, lower extremity length inequality etc.)
- 2) clinical frontal plane (rib hump height, Bunnel, pelvic balance etc.)
- 3) radiological frontal plane (Cobb-Perdriolle degrees, Risser, etc.)
- 4) clinical sagittal plane (sagittal distances from the plumb line, pelvic balance, etc.)
- 5) radiological sagittal plane (angle of kyphosis, lordosis, sacrum, etc.)
- 6) muscular-neuromotor integration (pectoral, psoas muscles retraction etc.)
- 7) unstable equilibrium (Romberg, knee-vestibular test, Fukuda-Unterberger, etc.)

Results

This spinal algorithmic allowed us to obtain early and accurate identification of progressive deformities. In addition,

we were able to facilitate the treatment of spinal diseases for all of the patients.

Conclusion

During growth, we believe that the various types of spinal deformities require prompt, careful and appropriate treatment recommendations.

This spinal algorithmic is proposed to aid in the immediate evaluation of a deformity. The goals are to define the categories of scoliosis, kyphosis, spondylolisthesis and to quantize the magnitude of the spinal deformities.

This criteria easily recognizes all of the patient categories, identifies progressive deformities, and describes indications for their treatment.

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