

The efficacy of the Schroth method for treatment of adolescent idiopathic scoliosis in the United States

Maureen McKenna, PT, PhD; Jill Hicks, SPT

Purpose:

The purpose of this research was to examine the effectiveness of the Schroth method for treating adolescent idiopathic scoliosis (AIS) in the U.S.

The Schroth method:

- Is a proactive curve-specific conservative approach
- Originated in Germany in 1921
- Includes patient education, individualized exercises and specific breathing techniques according to the unique spinal curvature pattern of the patient.

Subjects:

- 10 patients at Scoliosis 3DC, an outpatient clinic in Woburn, Massachusetts
- Aged 10-17
- Female N = 8
- Male N= 2
- Inclusion criteria
 - Diagnosis of AIS
 - Had not undergone spinal surgery
 - Radiologically documented Cobb angle: at least 15°.
- Treated from 2010-2011

Methods:

- IRB approval from Wheeling Jesuit University
- Interventions:
 - Schroth exercises
 - Rotational angular breathing (RAB)
 - Physio-logic exercises
 - ADLs in corrected positions
 - Scoliosis specific spinal mobilizations
 - Bracing if needed
- Outcome measures:
 - Cobb angle(s)
 - Scoliometry angle(s)
 - Vital capacity (VC)
 - Chest expansion

Analysis:

- Initial and final measurements were compared
- Paired t-tests
- p value of < 0.05.

Results: Table 1: T-test results (*significance assumed p< 0.05)

	Mean	N	P-value
Cobb 1		9	*0.001
Cobb 2		5	0.056
Scoliometer upper thoracic		6	*0.009
Scoliometer thoracic		10	*0.001
Scoliometer lumbar		10	0.127
Chest expansion		10	*0.0001
Spirometer		10	*0.002

Conclusions:

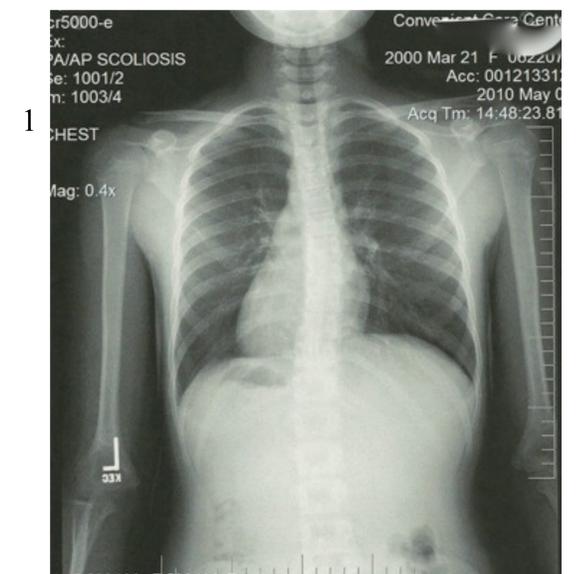
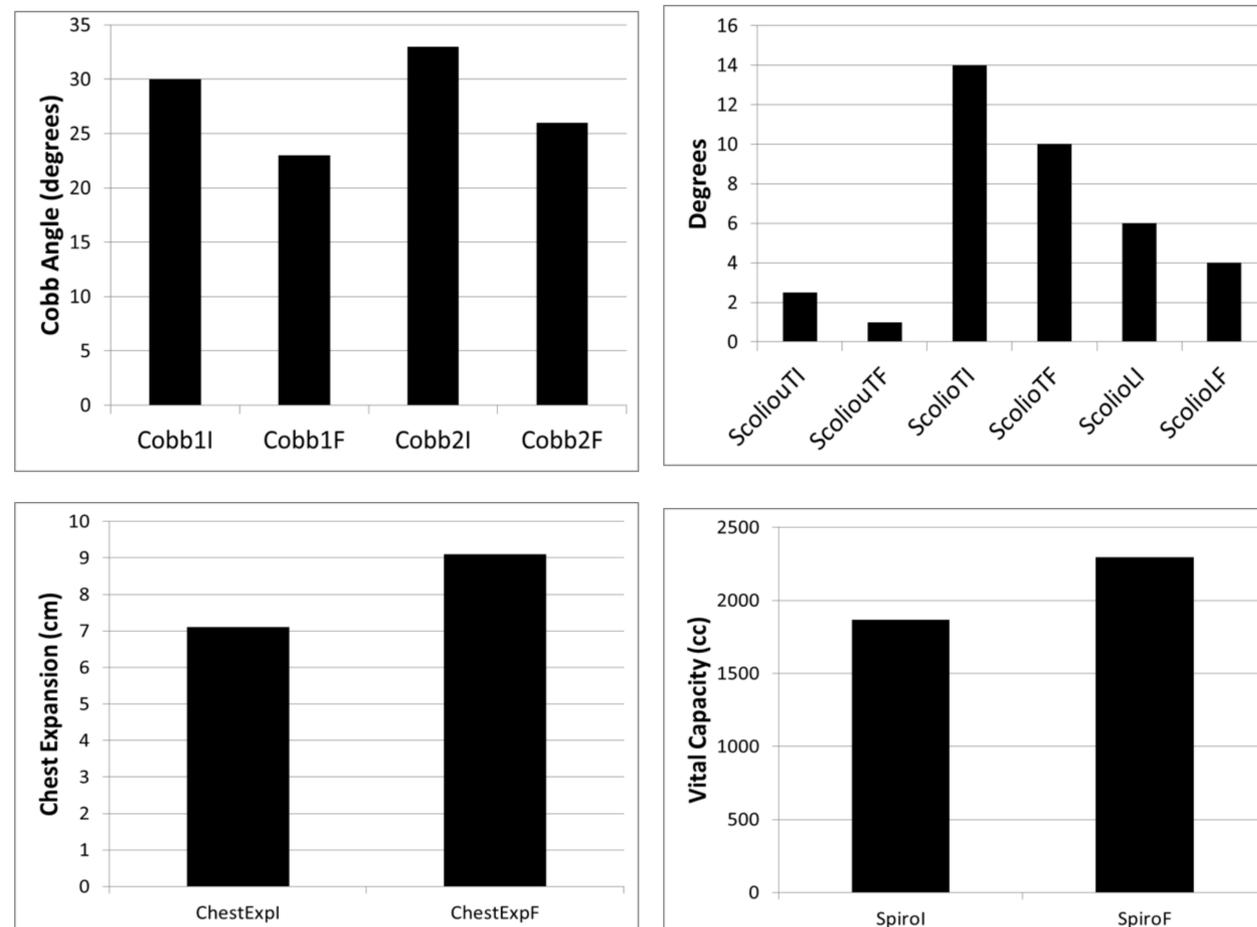
•There was a significant decrease in the Cobb angle, significant decreases in the scoliometer angles, and significant increases in vital capacity and chest expansion after treatment.

•The mean second Cobb angle and mean scoliometer lumbar angle decreased, but not significantly.

Clinical Implications:

The Schroth method is an effective treatment for scoliosis. The combination of patient education, curve specific exercises, rotational breathing, a life-long commitment to spinal corrections during ADLs, and scoliosis specific spinal mobilizations can significantly reduce the need for scoliosis surgery.

Figures: Mean Cobb angle, scoliometer angle, chest expansion, vital capacity before (I) and after (F) Schroth treatment.



Radiographs of a patient with AIS (1) before (2) after treatment

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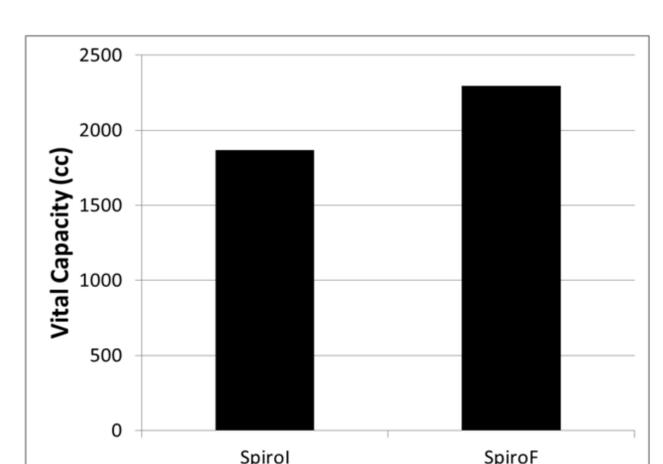
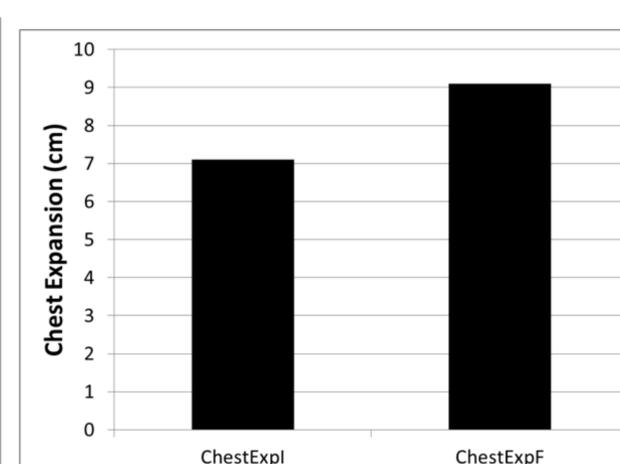
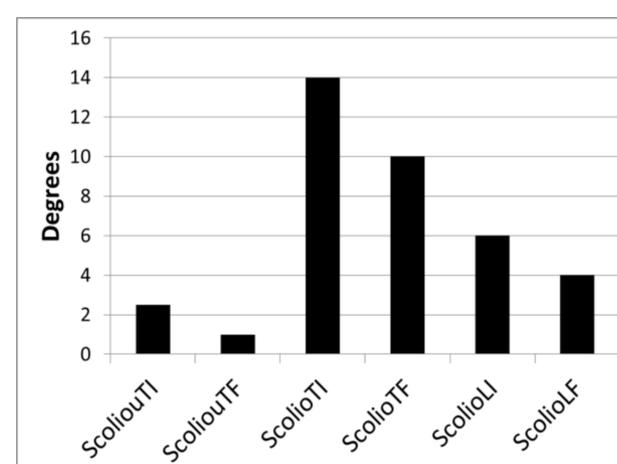
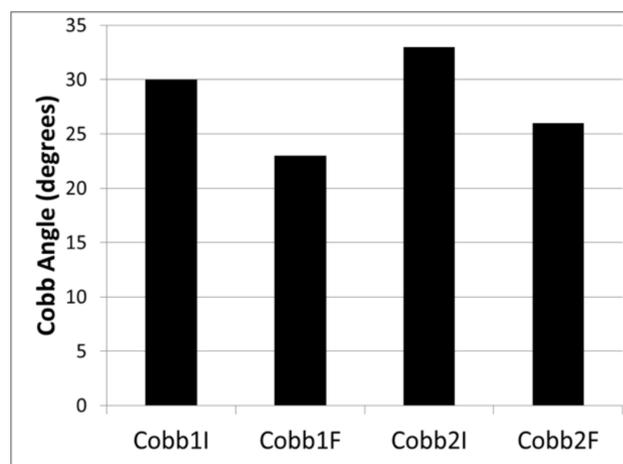
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