SCIENTIFIC RESEARCH ABSTRACT

Scoliosis SOS Clinic

City of London

ScolioGold - The gold-standard non-surgical treatment for scoliosis and postural correction

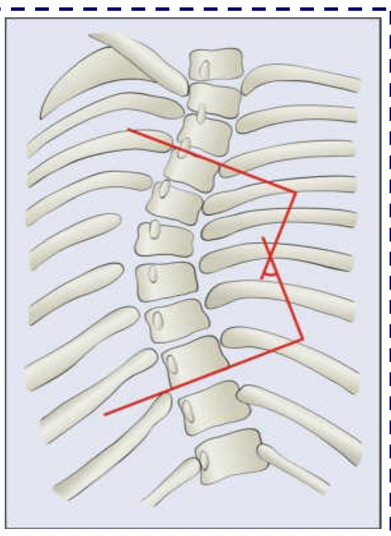
The Effect of a Four-Week Intensive Scoliosis-Specific Exercise Programme on Cobb Angle in Subjects with Idiopathic Scoliosis: An 11 Patient Case Series

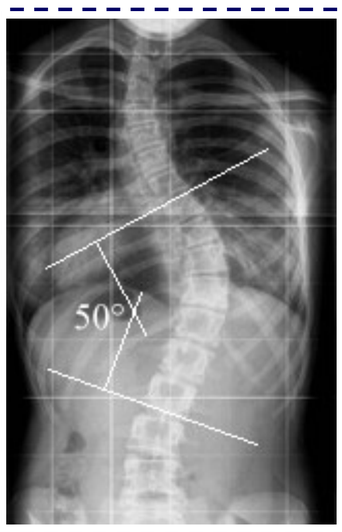
Erika Maude, Joseph Head, Kylie Hobson

Scoliosis SOS Clinic, London, England

Introduction - Cobb Angle; History & Importance

- Current management for scoliosis in the UK is dictated by a patient's Cobb angle.
- Cobb angle is a 2-dimensional measurement and has been the Gold standard assessment for scoliosis since 1948[1].
- Simple to calculate and understand, it is the angle between the most tilted vertebral bodies above and below the apex of the spinal curve.
- This case series aims to investigate whether a four-week intensive scoliosis-specific exercise programme results in a significant improvement in patients' Cobb angle measurements.





Method

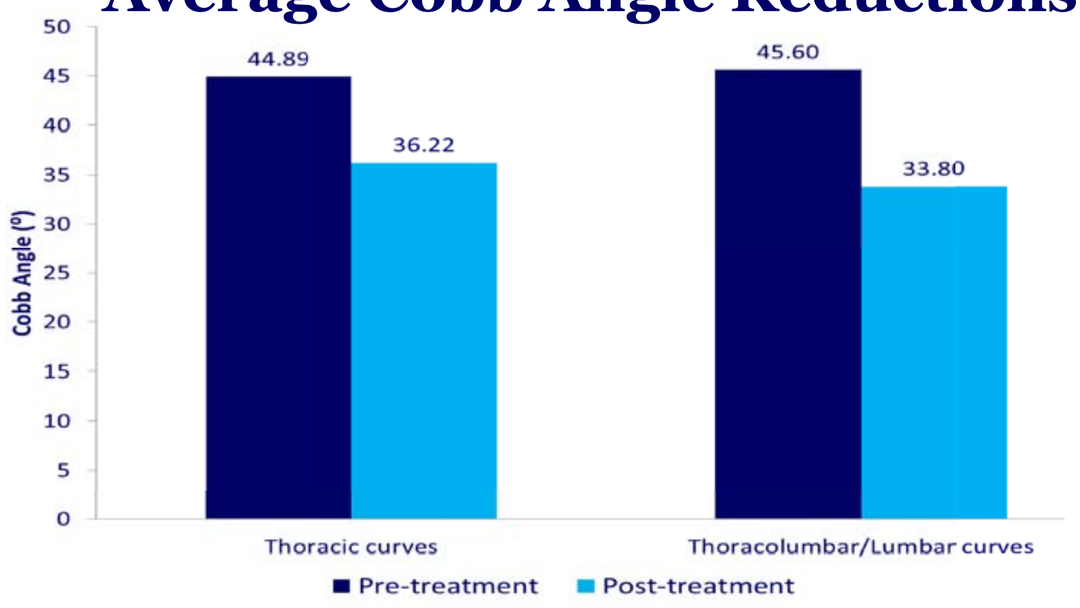
- 11 patients with Idiopathic Scoliosis were treated with a four-week intensive scoliosis-specific physiotherapy course (ScolioGold).
- Patients' X-rays were supplied retrospectively and follow-up X-rays gathered at routine appointments.
- Some patients had X-ray data for up to 3 years post-treatment.
- All X-rays were taken by an independent radiographer and measured by the same clinician.

Patient Number	11
Sex (F:M)	9:2
Mean age (years)	16.45
Age Range (years)	7 – 36

Results

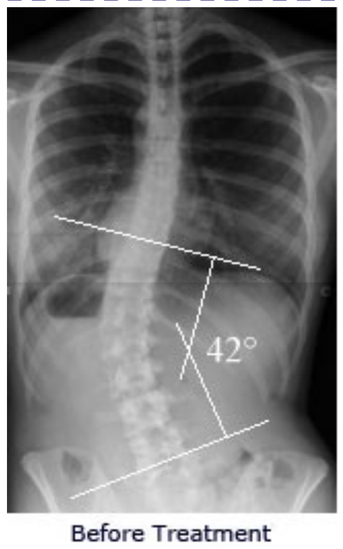
		Mean Cobb Angle (°)	Standard Deviation (°)	Range (°)
Thoracic curve	Pre-treatment	44.89	12.41	19-60
	Post-treatment	36.22	12.17	10-50
Thoracic curve change	Pre → Post Treatment	- 8.89	- 2.37	- 5 to - 12
Thoracic curve mean percentage change = - 21.96% (SD -11.23% Range -12.2 to -47.37%)				
Thoracolumbar/ Lumbar curve	Pre-treatment	45.60	5.55	41-55
	Post-treatment	33.80	9.42	21-44
Thoracolumbar/ Lumbar curve change	Pre → Post Treatment	- 11.80	- 5.85	- 4 to - 20
Thoracolumbar/Lumbar curve mean percentage change = - 26.64% (SD -15.11% Range -8.89 to -48.78%)				

Average Cobb Angle Reductions

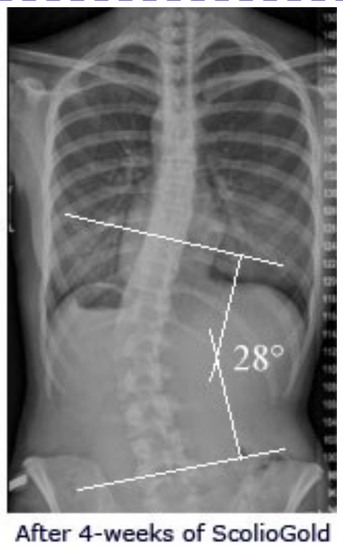


Conclusion

- Clinically significant Cobb angle change is 5° or more[1].
- Maximum reductions; 12° (thoracic) & 20° (lumbar) - across case series
- Scoliosis-specific physiotherapy can reduce Cobb angle
- Significant Cobb angle reductions in patients over 40° (surgery threshold)
- Reductions in a range of patients; juvenile, adolescent & adult scoliosis
- Results substantiate intensive exercise (e.g. ScolioGold) for treating scoliosis & also as an alternative to surgery.



Before Treatment



After 4-weeks of ScolioGold

References

[1] Goldberg CJ, Moore DP, Fogarty EE, Dowling FE. Scoliosis; a review. Pediatr Surg Int. 2008;24(2):129-144