Scoliosis SOS Clinic

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

Exploring the Impact of Physiotherapy Scoliosis-Specific Exercise (PSSE) based therapy on Scoliosis using SRS-30 and Health Economic Measures

Jason Black[1], David Glynn[2], Erika Maude[1], Abbie Turland[1]

[1] *Scoliosis SOS Clinic, London, England*   [2] *Independent Statistician, York, England*

Introduction

- **A key objective of research in scoliosis should be to demonstrate value.**

- Health economic measures assess the value of treatment to health systems and are increasingly used to inform funding decisions.

- To measure value across disease area, generic quality of life measures such as the EQ5D are used.

- The dimensions of this measure are **mobility, self-care, usual activities, pain and anxiety/depression**. These 5 dimensions have 5 levels ranging from no problems to extreme problems.

- These dimensions are weighted to reflect trade-offs in quality and quantity of life using values from the UK public and are used to calculate quality adjusted life years (QALYs).

- As the SRS Questionnaires are used in a number of scoliosis studies, understanding how these are related to the EQ5D and how scoliosis therapies such as ScolioGold affect economic measures is an important aspect of demonstrating value to health systems.

Method

- Participants presenting at the Scoliosis SOS Clinic filled out both SRS-30 and EQ5D5L questionnaires before and after treatment with the ScolioGold method. Preliminary analysis of the effect of the treatment and the association between the measures was carried out using statistical methods.

- The **ScolioGold Method** consists of 4 weeks of Intensive Scoliosis-Specific Exercise Therapy. It is a unique combination of various different treatment modalities; including Schroth, Rigo-schroth, FITS, SEAS and PNF Methods.

Results

- 161 consecutive patients were registered on the database as of 27/11/2015.

- 97% provided pre-treatment data and 68% had completed therapy and thus provided both pre and post treatment data.

- The only baseline variable statistically related to EQ5D or SRS-30 was age with higher age associated with lower scores ($p < 0.01$ for both). The spinal fusion classification was weakly associated with SRS score ($p = 0.09$).

	Pre-Treatment	Post Treatment	Significance
EQ5D	0.76 (range 0.22-1)	0.85 (increase 0.09)	P<0.01
SRS-30	3.57 (range 1.86-4.90)	3.81 (increase 0.24)	P<0.01

Relationship between EQ5D and SRS-30

EQ5D can then be predicted from SRS-30 data through use of the below formula:

$$EQ5D = -0.029 + (Function \times 0.073) + (Pain \times 0.067) + (Mental\ Health \times 0.063)$$

Intercept   **Coefficients**

Conclusion

The ScolioGold method is associated with significant improvements in both SRS-30 and EQ5D. The relationships estimated here can be used to map between SRS-30 and EQ5D allowing researchers to predict EQ5D scores from SRS-30 data. Subject recruitment continues and data at 6 months and 12 months is being collected for further analysis to investigate longer term effects.