How can we objectively measure the effects of scoliosis specific exercises for the treatment of mild Adolescent Idiopathic Scoliosis? results of a preliminary consensus

Bettany-Saltikov Josette,

de Mauroy Jean Claude, Farrugia Mark.

Numerous Methods…

- Ling: *muscle*
- Klapp: *quadruped*
- Von Niederhoffer:
- Schroth:
- Mezieres:
- Sohier:
- Dobomed:
- SEAS:

SOSORT Physiotherapy Consensus 2005

The responses to the questionnaires show that, in principle, specialists in scoliosis agree that several features can be regarded as standard in the rehabilitation of scoliosis patients. These features include

autocorrection in 3D

training in ADL

stabilizing the corrected posture

patient education

Need of a Prospective Study to control the consensus

Title VIII Meetings and other Activities

Article 22

To fulfill the aims and objectives of the Society the next activities are proposed:

22.1 Annual Meeting. The Annual Meeting of the society shall combine Scientific, Consensus and Education sessions.

22.2 A database to collect important information about the results of conservative management (bracing and **exercises**) of Scoliosis and other Spinal Deformities shall be created.

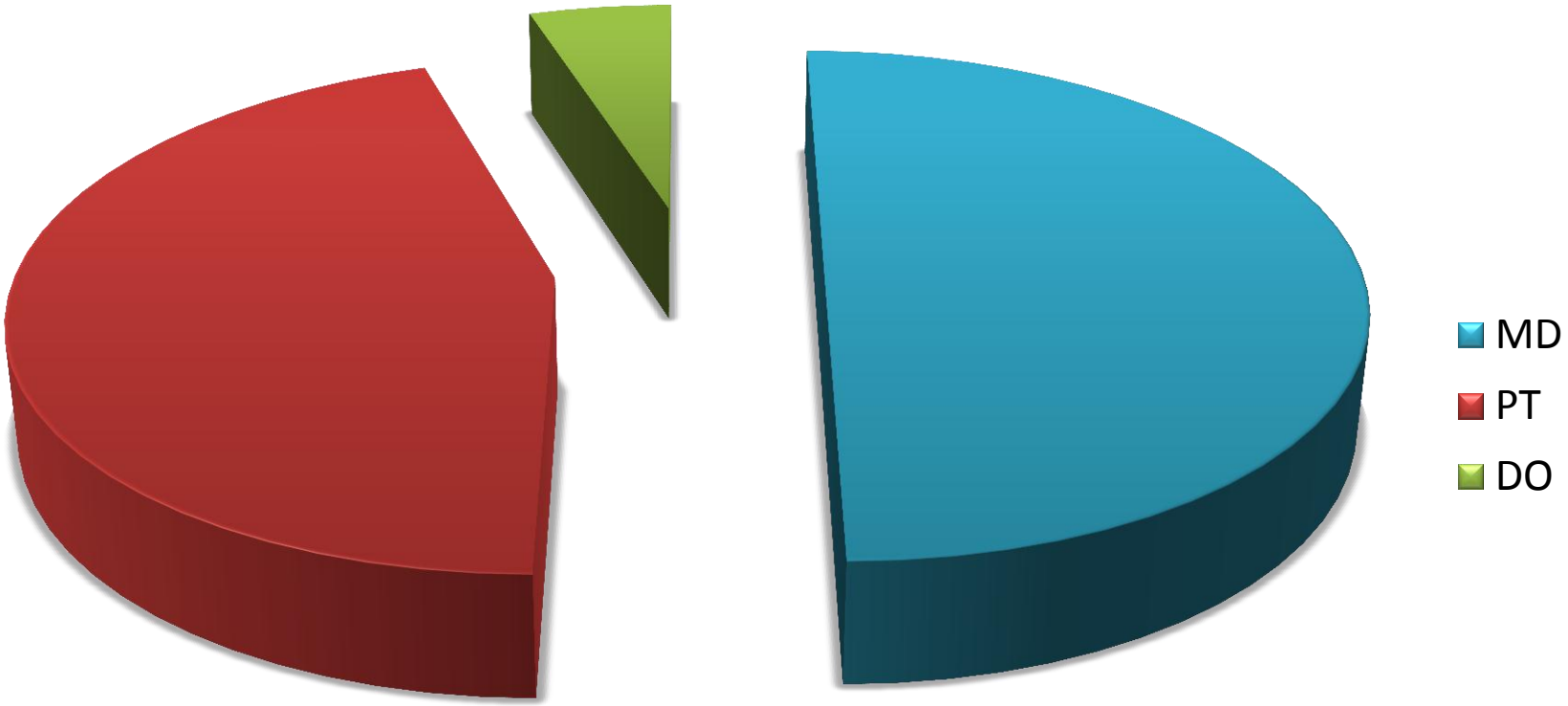
Preliminary Consensus to build this database

- *Aim.* To conduct a preliminary consensus regarding inclusion criteria for the treatment of scoliosis using standardized methods of evaluation and gather evidence of the effectiveness for a multicentre national prospective study to resolve questions of the effectiveness of scoliosis specific exercises.

Material & Methodology

- The Delphi method is a systematic, interactive forecasting method which relies on a panel of experts. The experts answer questionnaires in two or more rounds.
- E-form sent to SOSORT members
- 25 items

Respondents n=20



Strong Consensus (over 90%)

- Physiotherapy can limit scoliosis progression (95%)
- It is useful to carry on the prospective study (100%)
- Inclusion criteria:
  - Female idiopathic scoliosis (90%)
  - Age 11-13 (95%)
  - Cobb angle 15°-25° (mean 13,9° – 26,4°)
- Rotational hip asymmetry (90%)

Study of material for clinical assessment (useful=95%)

SOSORT mobile

Material for Physiotherapy Prospective Study

"If we want it to be evidence based it would be best if the actual difference in mm or angles between points was measured. Also I think it would be good if there could be a consensus (formal or informal) to discuss what other physios, doctors etc.. think it would be best to include. There is also the question that ideally the instrumentation used should be the same and used in the same way. Then we can put up the database..."

JBS

The webmaster and Josette Bettany-Saltikov declare that they have no competing interests.

Display # 20

#	Web Link	Hits
1	**iPhone Free Scoliometer** An accelerometer based 'scoliometer'. Scoliogauge brings this important screening tool to the iPhone. Angle of trunk rotation (ATR) is a key measurement in screening for and planning treatment of scoliosis. No need to rummage in the clinic drawers for a scoliometer or inclinometer. Anyone with an iPhone or iPod touch can now perform an Adams forward bending test and quantify the result. Simply place your thumbs between the patient and either end of the device to accomodate prominent spinous processes.	73
2	**Scoliometer Bunnel classical** An inclinometer (Scoliometer) measures distortions of the torso. The patient is asked to bend over, with arms dangling and palms pressed together, until a curve can be observed in the thoracic area (the upper back). The Scoliometer is placed on the back and used to measure the apex (the highest point) of the curve. The patient is then asked to continue bending until the curve in the lower back can be seen; the apex of this curve is then measured.	86
3	**Oxford Cobbometer** Whether it is the Cobb angle, femoral neck angle, valgus or varus in the knee, the X-Angle™ - Oxford Cobbometer from Original Orthopaedics Ltd enables surgeons and radiologists to measure any angle accurately and quickly.	

Strong Consensus against (<10%) or very critical comments

- Respiratory function assessment
  - *Such minor scoliosis does not affect the respiratory function. Development during growth will exceed the treatment effect, if any…*
- Muscle strength assessment
  - *Idiopathic scoliosis is not related to muscle weakness nor the strengthening exercises seem beneficial…*

Good Consensus (75%-89%)

- Risser scale 0-1 (84%) better than Tanner stage (68 & 52%)
- Bunnel ATR (85%) - Rib hump (53%)
- SRS 22 (78%) better than BSSQ (11%) & BrQ (11%)

Weak Consensus (51-74%)

- Frontal balance
- Sagittal balance

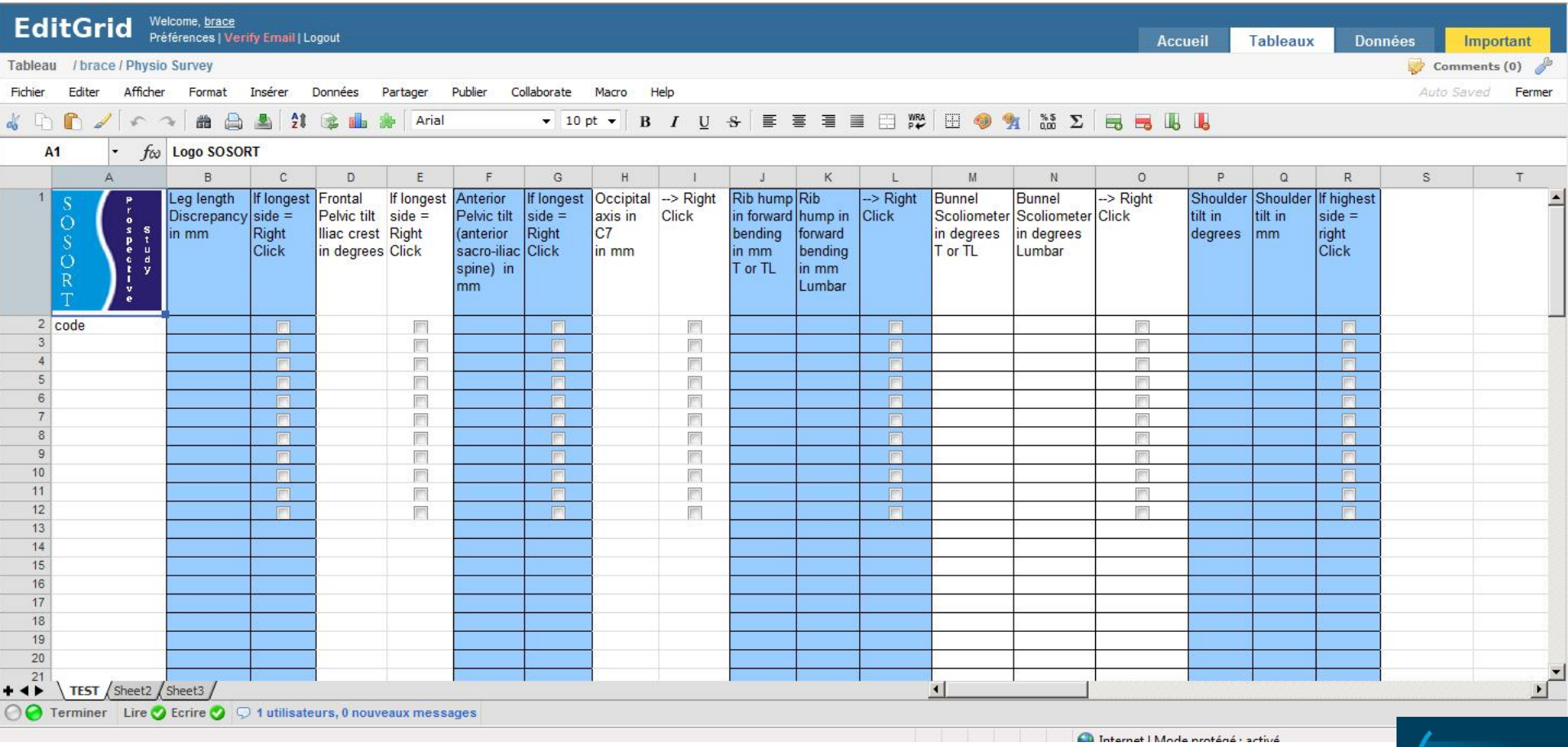
} in mm

- Pelvic tilt
- Shoulder tilt

} in degrees

- Waist asymetry (majority TRACE)

We can now build the database



Conclusion

This pilot consensus study clearly demonstrates the importance of conducting a multicentre prospective study. Implement article 22.2 of the SOSORT statute proposed 4 years ago, states

"A database to collect important information about the results of exercises for the treatment of Scoliosis and other Spinal Deformities shall be created".

This database would significantly help elucidate the numerous questions cited above regarding the effectiveness of scoliosis specific exercises for the treatment of patients with mild scoliosis.