SRS Initiative in Non-Operative Treatment of Scoliosis

M. Timothy Hresko MD
Harvard Medical School
Boston Children’s Hospital
Chair, SRS Non Operative Committee
SRS Mission Statement

• “The purpose of the Scoliosis Research Society (SRS) is to foster the optimal care of all patients with spinal deformities”
SRS History

• 1966
• Membership – 35
• Education
  – Annual meeting
  – Regional courses
• Research
  – Research forum
  – Grants
1966 Initial Meeting

- Terms
- Methods to study
- Similar to SOSORT consensus efforts
Membership - 1,119

- Active 598
- Candidate 261
- Associate 70
- Emeritus 233
- Honorary 12

52 Countries
SRS Annual Meeting

• Early 1970s
  – Walter Blount – keynote speaker Milwaukee Brace

• Late 1970s
  – School screening programs

• 1980s Electrospinal stimulation

• 1990s Segmental Instrumentation

• 2000s Pedicle Screw
SRS Annual Meeting

- 80-85% presentation were surgical
- 15-20% non surgical topics
Effectiveness of Treatment with a Brace in Girls Who Have Adolescent Idiopathic Scoliosis

A Prospective, Controlled Study Based on Data from the Brace Study of the Scoliosis Research Society

By Alf L. Nachemson, M.D., Ph.D.; Lars-Erik Peterson, Ph.D.; Göteborg, Sweden, and Members of the Brace Study Group of the Scoliosis Research Society

Investigation performed at the Departments of Orthopaedics and Statistics, Göteborg University, Göteborg
SRS Lyon 2013

- Dr Stuart Weinstein
- BrAIST result
Bracing for Idiopathic Scoliosis Trial
Bracing for AIS Trial

- NIH funded - completed 2013
- Prospective, multi-center study
- Brace treatment vs Observation
- AIS 20-40 degree
- Skeletally immature
- RCT - patient preference
- Compliance monitor
- Primary outcome
  - Progression to surgery level
ith patient preference, Bracing vs. observation for moderate AIS Failure if curve progression > 50° or surgery.
<table>
<thead>
<tr>
<th>Analysis</th>
<th>Observation No./total(%)</th>
<th>Bracing No./total(%)</th>
<th>Odds ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>46/96 (48)</td>
<td>105/146 (72)</td>
<td>1.93 (1.08–3.46)</td>
</tr>
<tr>
<td>Intent to Treat</td>
<td>27/65 (42)</td>
<td>38/51 (75)</td>
<td>4.11 (1.85–9.16)</td>
</tr>
</tbody>
</table>
Summary of BrAIST

• 56% reduction of treat failure
• Number needed to treat = 3
• Compliance is important
• 40% of observation had not failed at skeletal maturity
Implication of BrAIST

- Early detection is important
- Compliance is important
- Improve indication for bracing
- Cost saving with bracing vs surgery
- Reconsider screening examinations
Early detection is Important

Dolan and Weinstein– SOSORT May 2014
BrAIST data
PUBERTAL DIAGRAM

Peak Growth

ASCENDING SIDE

ELBOW CLOSURE

RISSE I

DESCENDING SIDE

RISSE V

11 GIRLS 13
13 BOYS 15
Compliance Monitors
Implication of BrAIST

• Improve indication for bracing
• Questions:
  – Is reduction of surgical rate the only valid outcome?
  – What is appropriate timing of the brace to relative to maturity?
  – What is the role of other modalities?
Implication of BrAIST

• Cost saving
• NNT 3
  – Brace Effective with good compliance
• Brace cost vs surgery : NNT 8
  ( un unpublished data BCH)
SRS Non Operative Initiative

- Scoliosis Screening Task Force
- BrAIST Task Force
- Web page
- SOSORT
Screening for adolescent idiopathic scoliosis: an information statement by the scoliosis research society international task force

Hubert Labelle¹, Stephens B Richards² ³, Marinus De Kleuver⁴, Theodoros B Grivas⁵, Keith D K Luk⁶, Hee Kit Wong⁷, John Thometz⁸, Marie Beauséjour⁹, Isabelle Turgeon⁷ and Daniel Y T Fong⁶
BrAIST Task Force

- Public outreach- NY Times, NPR
- Medical
  - Top down
    - AAP, NASN, APTA, AMA, AAOP, ACA, ect.
  - Bottom up
    - PCP, MLP, school nurses
- Governmental
  - USPHTF
  - States declaration
United State Preventative Health task Force (USPHTF)

• 2004- grade D
  – Lack of benefit of early diagnosis
  – Potentially harmful
• Affordable Care Act- supports Grade A, B
• SRS – requests to re-evaluate
  – SRS,POSNA,AAP?
SRS Non Operative Initiative

• Early detection- US
  – Medical Home principle
  – School screening

• Global
  – SOSORT
  – SRS global committee
Upcoming Meetings

20th IMAST Meeting
July 16-19, 2014
Valencia, Spain

49th Annual Meeting
September 10-13, 2014
Anchorage, Alaska
Thank You