Reviewer's report

**Title:** Rigid braces can replace casts in the first correction of adolescent idiopathic scoliosis. A controlled prospective cohort study on the Sforzesco brace versus Risser cast

**Version:** 1 **Date:** 27 September 2008

**Reviewer:** Theodoros B. Grivas

**Reviewer's report:**

Major Compulsory Revisions

1) The clinical importance of this paper would be verified if the authors could mention the Medical Centers where Risser Cast correction is applied today. Otherwise this paper has only theoretical value and comprise a historical analysis that is not useful for publication serving the nowadays clinical praxis and, because every one would question the aim of this study. No center in the world is performing such a treatment today. Also, the majority of the references on the initial correction with Risser cast go back to 30 years, a fact that makes the study out of day. The authors must explain the reason of undertaking this study.

2) Please change “important curves” with “severe curves”

3) In the SRS site:

http://www.srs.org/professionals/education/juvenile/casting.php

it is noted on the casting

Children over age 2 require cast changes every 3-4 months. Older children demonstrating "recurrence" can be re-casted for four months to re-correct the deformity before continuing with brace management.

Few centers in North America use casting as a treatment method to correct a curve. The casts must be applied under general anesthesia. However a modified version of the treatment involving cast changes every three months in children with a severe curve may improve the deformity sufficiently to return to brace management and further delay the need for surgery.

This SRS site is referred in very young children and not adolescents, age range that is dealt with in the submitted study.

SRS web site is not describing something similar under the title AIS that the authors are referring to.

4) Aesthetic index? Could the authors describe exactly what aesthetic index is?

5) Risser cast is not used in Risser 4 scoliotics (how many children were riser 3 or 4 in this study?)

6) Drawbacks of their choice - give details of the drawbacks
7) “Expert consensus considers casts the gold standard treatment for the corrective phase of AIS,[9] and even today the Risser cast is the one most often used.[13-16]”
This is inaccuracy

8) SEAS exercises versus the usual physiotherapy.[21, 40]
Please describe the usual and the SEAS exercises.

9) In conclusion this study is partially a treatise on medical history. The paper is not publishable as it stands. However the documentation and presentation of the outcomes of the conservative treatment of AIS patients using the specific brace which is in use in the centre of the authors would be valuable information for the practitioners treating conservatively scoliosis patents. The suggestion is to remove from the study the group of patients treated with Risser cast and consequently analyse only the patients treated with the Sforzesco brace. The tile also ought to be changed. After such an adjustment in the study the paper could be resubmitted to Scoliosis journal for consideration.

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
'I declare that I have no competing interests'