

TOWARD TRACE 2. EXPERT OPINIONS ABOUT ITEMS TO EVALUATE TRUNK AESTHETICS

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1 Introduction

TRACE (Trunk Aesthetic Clinical Evaluation) is a clinical tool developed to evaluate aesthetics in scoliosis patients by rating asymmetries of shoulders (0-3), scapulae (0-2), hemi-thorax (0-2) and waist (0-4). It showed to be simple and Rasch-consistent, but its reliability is low, probably because of its small number of items.

The aim of the present study was to develop an Experts Consensus in order to improve the evaluation of trunk aesthetics adding new items to the current TRACE scale.

2 Material and Methods

Design: two-round Delphi study.

Participants: all expert physicians and physiotherapists working in a tertiary referral outpatient institute specialized in scoliosis conservative treatment.

Rounds: collection of ideas about new items; evaluation of appropriateness, utility and assessability of each item on a 5 point Linkert scale.

Outcome measures: mean of answers to each evaluation (appropriateness, utility, assessability) with a cut-off of 4 points. The results have been checked according to professional category and working age.

3 Results

5 physicians and 16 physiotherapists (14 females, working age 7.5 ± 6.5 years), answered to the first round and 30 items were collected and grouped in 9 categories.

10 physicians and 26 physiotherapists (21 females, working age 5 ± 5.8 years) answered to the second round leading to 18 final items and 7 rearranged categories (shoulders, scapulae, prominences, waist, trunk balance, sagittal balance, skin).

Out of 90 total answers, only 2 were significantly different for professional category or working age.

4 Conclusion

A new list of 18 items is now available: some items increase the already existing categories, others create new ones.

5 Future developments

Feasibility assessment, first Rasch analysis validation and reduction of the items, in vivo application on 300 patients with different clinical features, final Rasch analysis validation to develop final TRACE2.

◆ **TRACE (Trunk Aesthetic Clinical Evaluation) is the only validated clinical everyday scale to evaluate cosmetic appearance objectively**

◆ **TRACE2 is under development to improve TRACE**

◆ **After Experts Consensus, a new list of 18 items is now available for a better evaluation of aesthetics**

◆ **Future developments: in vivo application and Rasch analysis validation**



Item 2: (from the left) moderate, important asymmetry.



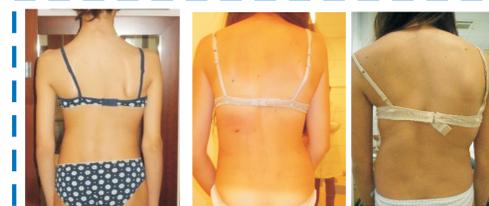
Item 4: (from the left) moderate, important asymmetry.



Item 9: (from the left) moderate, important asymmetry.



Item 10: (from the left) moderate, important asymmetry.



Item 14: (from the left) active, slightly slouched, slouched trunk.

Final items

Shoulders:

1. Asymmetric inclination (0-2)
2. Asymmetric ante-position (0-2)

Scapulae:

3. Asymmetric height of the inferior angle (0-2)
4. Asymmetric protrusion of the medial margin (0-2)

Prominences when standing:

5. Asymmetry due to proximal thoracic prominence (0-2)
6. Asymmetry due to thoracic prominence (0-3)
7. Asymmetry due to thoracolumbar prominence (0-2)
8. Asymmetry due to lumbar prominence (0-3)

Waist:

9. Proximal asymmetry (from armpit to waist apex) (0-2)
10. Distal asymmetry (below the waist apex) (0-2)

General trunk balance:

11. Overall decompensation (0-3)
12. Lateral decompensation (0-3)
13. Forward decompensation (0-3)
14. Trunk slouch (0-2)

Sagittal balance:

15. Hypokyphosis (0-3)
16. Hyperkyphosis (0-3)
17. Thoracolumbar kyphosis (0-2)

Others:

18. Stretch marks/hyperkeratosis (0-2)

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