

Oral presentation

## Developing a new brace with pressure measurements

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### Introduction

Pressure measurements are being used to understand the working mechanism of the brace, because the forces exerted by a brace cause correction of the scoliotic curve. The aim of the study was to understand the mechanism and effectiveness of adjustments in a newly developed brace by using pressure measurements.

### Materials and methods

Adjustments of a new developed were performed on a silicon doll and on one person. The effectiveness of the adjustments was checked by pressure measurements.

### Results

Eight adjustments were performed on the thoracic pelotte of a newly developed brace. One of the adjustments gave the maximum pressure of 41.3 kPa at the apex of the thoracic curve. The total pressure of the thoracic pelotte was 253.6 kPa. We assume that this adjustment would improve the acceptance and comfort of the brace, and therefore could improve the compliance.

### Conclusion

We conclude that brace adjustments on a new brace should be performed with the help of pressure measurements.