

KiTS Child-oriented product design for the FED scoliosis treatment

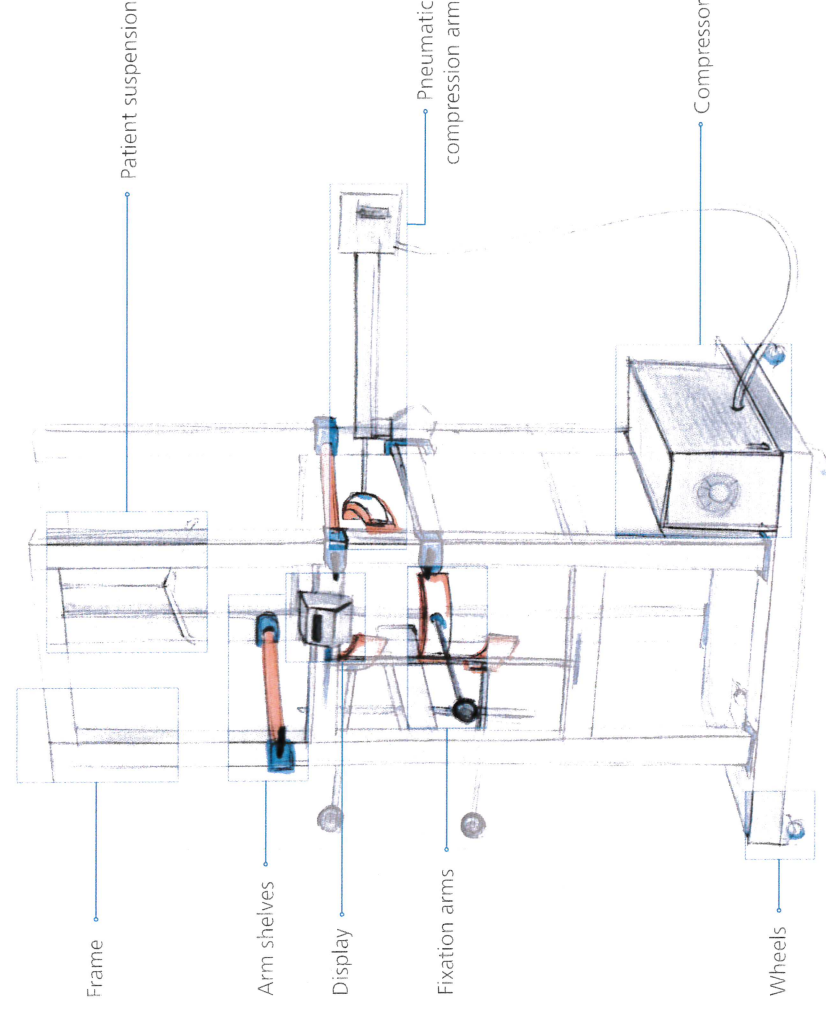
Since the 90s, the FED therapy (Fixation, Elongation, Derotation) for the treatment of scoliosis has firmly established itself in many countries such as Spain and Poland because of its good treatment results. However, the corresponding FED device shows optimization potential in terms of usability and user experience from the patients and therapists point of view.

Aim of the research project

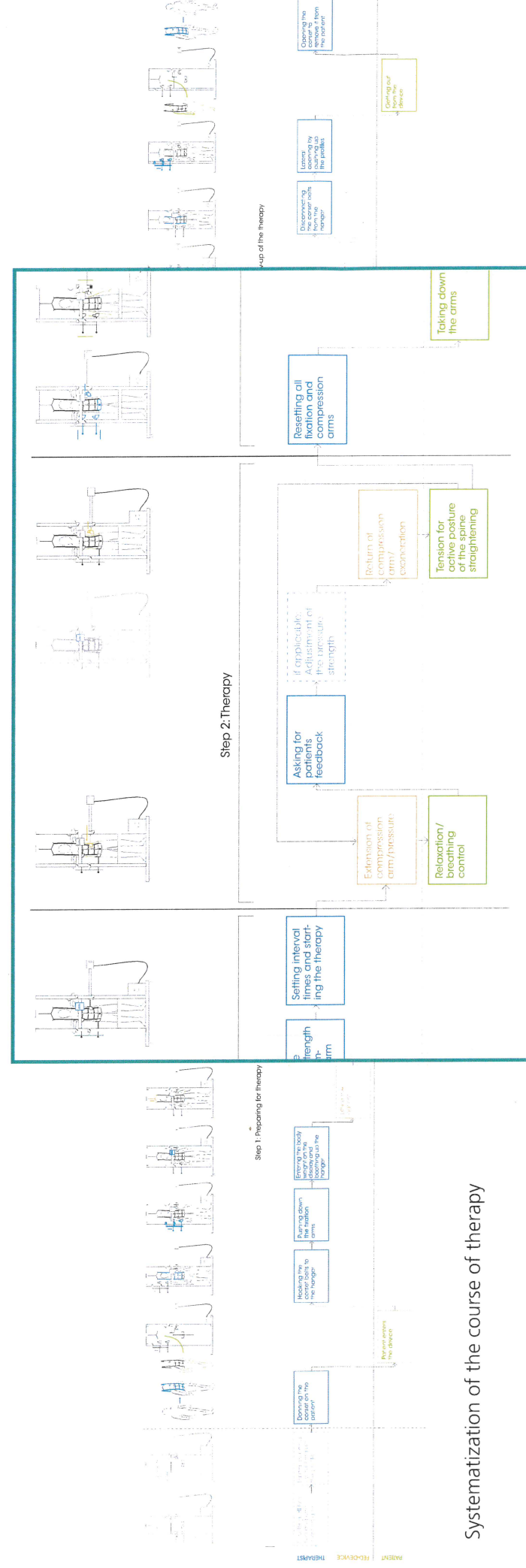
- Improvement of the FED therapy and the FED device
- through the development of an ergonomic and functional overall concept by focussing the needs of the treated children and adolescents
- through technical integration of sensors and actuators

Material and methods

- Patient and therapist surveys for identification of deficits in the current treatment
- Systematization and analysis of the course of therapy and the FED therapy device



The analyzed FED components



Systematization of the course of therapy

Results

- Patient-specific settings are extremely time consuming, unintuitive and only partially reproducible
- Settings depend significantly on experiences and estimates of the therapists
- no electronic data recording which complicates a patient-specific documentation
- Motivation of the patient for an active participation in the treatment is not given by the device
- Emergency procedure in case of complications is difficult
- no appealing patient-centered design

Prospect

Based on the defined weaknesses, a new child-oriented design concept will be generated. In addition to the technical development an intelligent ergonomic productdesign creates a significant added value for the practice of therapy and makes it more pleasant for patients at the same time.

Contact

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