Compliant Seating for Children with Severe Extensor Spasms

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A good description of this project can be found on the Action Medical Research website. AMR are funding the project for three years from August 2008 to November 2011 (it has now finished, though work is continuing). A new seat is being designed in collaboration with Great Ormond Street Hospital that children with such spasms will be able to use comfortably. The objective at the end of the project is a design for a generalised seat that can be productionised and made available to many children with these problems.

Update December 2011: The AMR project has now formally finished with the completion of the final long term evaluation. The work has been very successful with outcomes including improved functioning and engagement. The design of the prototype seats has also been advanced. Parents, OTs and teachers have commented positively on its design. At this time further research funding is actively being sought, along with industrial partners to turn the seat into a product that children can use.

Update June 2010: Since the previous update, a further simple seat prototype has been designed, built and evaluated. It tested a new approach within this project where the spasms the children experience were accommodated with extensive compliance of the chair, while aiming for maximum function. A third instrumented prototype that builds on the second is nearing completion of its design and will be manufactured for testing over the summer.

Update May 2009: A new prototype has been designed and built. In April it was evaluated by one child in a school setting over several days. The video and force/motion measurement results are currently being analysed. The initial evaluation underlined that involving parents and trusted carers, and establishing a relationship of trust between the child and the project team is key to successful evaluation.

This project is based on previous work at BIME where seats have been designed for individual children. Some of this work has been published:


