KINEDMD

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Hub Summary

This study is for proof of concept, designed to use artificial intelligence to identify kinematic biomarkers (fingerprints of movement) of DMD progression. This could speed up drug development for new therapies and repurposed drugs, in order to deliver treatments to children as fast as possible.

Once fingerprints of movement specific for DMD boys are identified, the results will be published and made available to the whole community. This pilot study also wishes to lay the foundation for future validation of these novel biomarkers. This is an opportunity to take part in innovative natural history research that could improve clinical trial design for future trials.

Duchenne Research Fund is the funding body for this study.

Study Number:

Description by Imperial College London

During this 12 month clinical trial children will wear a suit on selected days (during clinical assessments at GOSH) allowing it to measure how their body interacts with the world around them. Subjects will also wear fitness tracker bracelets throughout the trial which will collect data on everyday movements at home/school.

Children will be assessed at the National Institute for Health Research (NIHR) Clinical Research Facility at GOSH, overseen by Professor Thomas Voit and Dr Valeria Ricotti. The GOSH team will work with chief investigator Dr Aldo Faisal from the Departments of Computing and Bioengineering at Imperial College London.

The bodysuit and tracker sensors will feed data back in real time, allowing the team to use artificial intelligence to make sense of the data patterns. From there, doctors will be able to monitor disease progression with more precision. Should this study be successful, it will cut down on the amount of time taken to test new treatments, which will drive down the costs of future clinical trials.

To read more and watch a short video about this trial, please visit the GOSH website.

Trial Design

- At GOSH: wear a 17 sensor bodysuit for the day and whilst doing standard physiotherapy assessments.
- At home and school: 4 fitness tracker bracelets worn on ankles and wrists throughout the trial to collect everyday movements.
- Healthy male controls: Visit GOSH two times in the year to wear sensor bodysuit for the day. Wear 4 fitness tracker bracelets at home/school for 1 week at the start and end of the trial.

Can I take part?

For contact details and to find out more, please refer to dmdhub.org.

Duchenne UK

PDF created on 06/11/2026.

Trial Status
Trial complete

UK Locations
London - GOSH, Trial complete/terminated

Trial Sponsor
Imperial College London

Phase
Observational

Length Of Participation
12 months

Recruitment Target
16 DMD patients and 10 healthy controls

Ambulatory
Ambulant and non-ambulant

Therapeutic Category
Observational study

Age
6 to 17 years

Mutation Specific
Non-mutation specific therapies

Muscle Biopsy
No Muscle Biopsy Required

MRI
No

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