

# Hydrotherapy in DMD



## Hydrotherapy for health in boys and adolescents with Duchenne muscular dystrophy

### Hub Summary

Exercise is very important for young people to help keep them healthy. It could be as important for children and young people who have a muscle disease, like Duchenne muscular dystrophy (DMD). Hydrotherapy is a form of exercise that involves doing exercises with a physiotherapist in a heated swimming pool.

We are running a study to try to better understand the impact that hydrotherapy might have on young people with DMD, and whether or not it offers any benefits to their physical and mental wellbeing. We will use the findings from the study to develop simple guides to advise on activities and exercise while in the water.

### Study Number:

### Description by Lancashire Teaching Hospitals NHS Trust

Despite evidence that low intensity exercise may benefit, or at least not negatively impact, physical function and daily pain in DMD, there is at present a lack of evidence to suggest that those with DMD should undertake hydrotherapy, despite favourable anecdote (MDUK, 2015) and case reports.

We are investigating whether there is evidence that will allow care providers to advocate the use of hydrotherapy within the management of DMD, as an inclusive activity, that can be adopted by those with DMD who are either ambulatory, or non-ambulatory.

Through 12-weeks of hydrotherapy, we want to investigate whether there are benefits to lung function, muscle function, body composition, bodily pain and ultimately quality of life. These measures represent meaningful outcomes in the progression of DMD, and have direct patient impact for those affected by DMD.

Our participant group will be inclusive, adopting young males aged over 6 years, who are not receiving daytime ventilation. Using this approach we hope to include as many participants as possible, using exercise diaries and heart rate during hydrotherapy as a covariable, to quantify low, medium and high intensity activity, based around the ability for the participants to actively or passively engage in the hydrotherapy.

On completion of the hydrotherapy, we will conduct interviews with some of the participants and their parents. The aim of these interviews is to understand participant and parent barriers to hydrotherapy, and uncover whether hydrotherapy improves the lives of the participants beyond simple clinical measures and questionnaires.

### Secondary Outcome Measures

1. Overall experience of hydrotherapy

### Primary Outcome Measures

1. Body composition (height, weight, lean body mass)
2. Physical function (range of motion, strength, lung function)
3. Quality of life (including bodily fatigue and pain)

### Can I take part?

### Inclusion Criteria

- ✓ Established diagnosis of Duchenne Muscular Dystrophy (either by genetics or muscle biopsy)
- ✓ Between 6 and 25 years of age

## Trial Status Recruiting

**UK Locations**  
Manchester, Fully recruited,  
Oswestry, Recruiting,  
Preston, Fully recruited

**Trial Sponsor**  
Lancashire Teaching  
Hospitals NHS Trust

**Recruitment Target**  
44

**Ambulatory**  
Ambulant and non-ambulant

**Therapeutic Category**  
Physical therapy

**Muscle Biopsy**  
No Muscle Biopsy Required

**MRI**  
No

**Length Of Participation**  
26 weeks (includes a  
12week control period and  
12 weeks with a weekly  
hydrotherapy session)

**Age**  
6-25

[dmdhub.org](http://dmdhub.org)



✓ On stable dose of steroids or not on steroids

#### Exclusion Criteria

- ✗ Younger than 6 years, older than 25 years
- ✗ Recent change in steroid dose, less than 3 months prior
- ✗ Undertaking formal hydrotherapy supervised by physiotherapist on a regular basis (weekly or more frequent)

For contact details and to find out more, please refer to [dmdhub.org](http://dmdhub.org).



**Duchenne  
UK**

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