

# EXERCISE FOR PEOPLE WITH NEUROMUSCULAR CONDITIONS

## What do we know?

A question people with neuromuscular conditions (NMCs) often ask their Physiotherapist is how exercise can be used to improve their strength and everyday function. It isn't an easy question to answer, however I hope to shed some light on the current evidence regarding exercise for people with NMCs and provide some broad recommendations about the best way to approach exercise.

To date, opinions have been divided as to whether exercise is safe and effective for people with NMCs. On one "side" are those who believe exercise should be avoided, especially for those with NMCs that affect the integrity of the muscle fibre such as muscular dystrophy. On the flip "side" are those who believe exercise can be safe and effective as long as it is modified appropriately and carried out under expertise and with caution. With two opposing schools of thought it is easy to see how wading through the current literature can be very confusing. Quality research shows that inactivity results in deconditioning, loss of muscle bulk, reduced stamina, increased levels of tiredness, muscle and joint pain, weight

gain and decreased bone mineral density. As many people with NMCs already experience many of these issues, it is easy to see how inactivity can be very debilitating.

### So what do we know about the safety and effectiveness of exercise for people with NMCs?

Two systematic reviews of literature regarding exercise for people with NMCs agreed that exercise can be safe when carried out under supervision, but there is inadequate evidence to evaluate the effect of exercise on functional ability. However, some of the reported benefits of exercise for people with NMCs include the following:

- May help make the most of unaffected muscles
- May help improve heart/lung function
- May prevent or help to reverse deconditioning
- May reduce pain
- May help maintain joint range of motion
- Might help to prolong ability to perform functional activities in some neuromuscular conditions

## Until the results of quality research are available, it is suggested people with NMCs adhere to the following guidelines when exercising:

- People with NMCs require carefully tailored exercise programs. Exercise should always be carefully scripted and supervised by a health professional with a sound knowledge of NMCs and an understanding of the precautions that should be taken when exercising
- It is suggested people with NMCs avoid over stretching muscles that are very weak or joints that are already very mobile. This could place the muscles at a mechanical disadvantage and negatively affect strength and function
- Until more evidence is available regarding the safety of exercise people with NMCs should avoid exercising very weak muscle groups
- High resistance training (lifting very heavy weights) and eccentric muscle contractions (contractions in which the muscles generate force through by lengthening) should be avoided. Eccentric muscle contractions place the most stress on muscle and could potentially accelerate muscle pathology
- When starting exercise or returning to exercise after a long lay off start slow and build up gradually. Exercise should only be progressed under the guidance of a health professional that can monitor you for any adverse events such as increased weakness
- Young children should avoid lifting heavy weights as this exerts excess pressure on growth plates
- Before exercising, seek clearance from a medical doctor who knows you well. They will need to ensure that you are physically able to cope with exercise. They may also suggest a consultation with your neurologist, cardiologist or respiratory specialist
- Extra care should be taken for people with conditions affecting the integrity of the muscle fibre such as muscular dystrophy. Frequent monitoring to ensure exercise-induced weakness does not occur is vital
- The type of exercise you choose to do will depend on your level of strength and function. It is always best to choose a form of exercise you can see yourself enjoying. Many people with NMCs find it enjoyable to engage in low impact forms of exercise such as swimming, aqua aerobics, cycling, pilates, yoga or use indoor cardio equipment such as recline bikes or elliptical trainers. The majority of these activities can be modified to suit patients of varying levels of function. There are many motivators such as fitness apps or monitors that can help motivate you to exercise
- Including an element of functional training in combination with aerobic and resistance exercise can be very beneficial, particularly if you are hoping to improve your level of function as a result of exercise

SAVE THE DATE

NEUROMUSCULAR SEMINAR AND RESEARCH UPDATE

Saturday 10 October, 2015

11am - 3.00pm  
Figtree Convention Centre  
5 Figtree Drive  
SYDNEY OLYMPIC PARK

The MDNSW 55TH ANNUAL GENERAL MEETING follows at 3pm for those who would like to stay

Includes three guest speakers straight off the back of the World Muscle Congress

**Dr Kristy Rose**  
School of Physiotherapy at The University of Sydney.  
EXERCISE CONSIDERATIONS WHEN YOU HAVE A NEUROMUSCULAR CONDITION

**Clinical A/Professor Dr Kristi Jones**  
MDNSW Medical Director, Paediatrician and Clinical Geneticist with an interest in genetic neuromuscular conditions who heads the clinical neuromuscular service at Children's Hospital at Westmead

**Dr Robert Bryson-Richardson**  
Senior Lecturer, School of Biological Sciences at Monash University  
ADVANCING NEUROMUSCULAR RESEARCH USING ZEBRAFISH

RSVP

Thursday 1st October, 2015 to Maralyn on 02 9809 2111 or email [maralyn.mccann@mdnsw.org.au](mailto:maralyn.mccann@mdnsw.org.au)

\$10 per person or \$20 per family (includes lunch)



*Dr Kristy Rose is a Physiotherapist who has spent over 12 years working in clinical and research roles in the Neurogenetics Clinic at The Children's Hospital at Westmead. In 2010 she was awarded a PhD for her thesis investigating outcome measures and interventions for the foot and ankle in paediatric neuromuscular disorders. Today Kristy is based in the School of Physiotherapy at Sydney University where she works as a Lecturer and Postdoctoral Researcher. She maintains her ties with the Neurogenetics clinic at the Children's Hospital at Westmead through her Honorary position in The Institute for Neuroscience and Muscle Research. Kristy also works as an independent consultant for Pharmaceutical companies for clinical trials in Duchenne muscular dystrophy, spinal muscular atrophy and multiple sclerosis. In this role she provides advice regarding outcome measures for these clinical trials as well as training of Physiotherapists and quality assurance around Physiotherapist led outcome measures.*