



Main areas of physiotherapy management for people with CMT

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Main areas of physiotherapy management for people with CMT:

(1) Managing foot deformity

Pes cavus foot deformity is common in people with CMT and can be associated with pain and altered gait. If symptoms begin in childhood then prevention of evolution of deformity should start then, with stretching (active or night splinting- Rose et al 2010) and orthotic interventions. Foot orthoses have been shown to improve foot function and reduce pain in people with CMT (Burns et al, 2006)



In adults, the success of orthoses will be determined by whether the foot posture is manually correctable or not. A fixed deformity will need to be accommodated by custom made devices. Close collaboration with an orthotist or podiatrist is highly recommended. If conservative management is unsuccessful, surgical intervention may be required (Younger et al 2005).

(2) Supporting weak muscles

Distal lower motor neurone weakness will affect movement of the ankle and foot drop is commonly seen during walking. Very affected muscles will have undergone fatty atrophy so exercise training is unlikely to significantly increase strength. Ankle foot orthoses have been found to effectively support the ankle, reduce foot drop and possibly reduce proximal compensatory movements (Guillbastre et al 2011, Phillips et al, 2011, Ramdharry et al, 2012a; Ramdharry et al 2012b).





Caution needs to be taken to prevent skin rubbing in view of sensory impairment. Generally, because people present with lower motor neuron weakness, lighter devices made of softer materials may suffice. If there is marked pes cavus; ankle rotation or severe weakness of the plantar flexor muscles, more rigid devices may be required to counter rotational forces or support the tibia.

(3) Falls and balance training

People with CMT have a high prevalence of falling (Ramdharry et al 2011) and this can impact on general mobility and physical activity levels. Distal weakness and proprioceptive loss will impact on balance performance. There are some indications that an active, sensory/proprioceptive approach to balance training can improve functional balance. People need to train to their limits of stability to compensate and improve (Matjacić and Zupan, 2006).

(4) Hand function

Some people with CMT experience difficulties with fine motor tasks due to weakness of the intrinsic hand and thumb muscles plus distal sensory loss. Close liaison with occupational therapy is important and functional splints, such as thumb spicas, can be helpful to aid pinch grips (Videler et al 2011).



(5) Physical activity and general exercise

People with CMT walk less than healthy control subjects (Pollard et al, 2010) and are at risk of co-morbidities due to reduced activity. Supporting people to access leisure based exercise is an important part of the physiotherapist's role. People should be encouraged to undertake a mixture of cardiovascular and resistance training of the less affected muscles. Aerobic training has shown improved work capacity and reduced fatigue (El Mhandi et al 2008) and functional improvements have been observed with resistance training (Lindeman et al 1995; Chetlin et al 2004).

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You can contact Gita at g.ramdharry@sgul.kingston.ac.uk for further information.

Further Reading

Charcot-Marie-Tooth: A Practical Guide

An essential guide to understand CMT, how to manage and treat the condition, and gives a wealth of practical information, including a directory of sources of further information.

Available in a loose leaflet binder or on CD-ROM

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