Nordic Walking as Return to Work rehabilitation

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Introduction:

The technique of Nordic Walking can be used as a simple, effective rehabilitation and management tool for clients suffering from a variety of health conditions, and provides additional benefits over and above regular walking. Nordic Walking is performed using specially designed poles which enhances ordinary walking and is thought to reduce stress on the muscles and joints.

The poles assist with balance and confidence, distribute loads over a greater surface area, resulting in the upper body muscles being used as well as the legs. The technique used helps to propel the walker along which increases speed, and the person works harder although the support of the poles often makes it actually feel easier.

Nordic Walking UK, one of the national training bodies, describes Nordic Walking as a “specific fitness technique, not to be confused with trekking, hill walking or trail running as the poles are not planted in front of the walker/runner but in a specific way that increases the use of the upper body. It can be done by anybody, anywhere and does not require expensive equipment or clothing”.

Health benefits of Nordic walking:

Nordic Walking claims a number of additional health benefits over normal walking such as increased oxygen uptake and calorie expenditure (Morse et al 2001, Church et al 2002), improved posture and gait, improved functional capacity in older people (Parkatti et al 2002) and ability to enhance mood (Stoughton 1992). It may also be helpful in terms of supporting weight loss, and promoting back and heart health (INWA 2011).

A recent systematic review of the Health benefits of Nordic walking (Tschentscher et al 2013) concluded that it “...exerts beneficial effects on heart rate, blood pressure, exercise capacity, maximal oxygen consumption and quality of life in patients with various diseases...”
and thus can be recommended to a wide range of people as primary and secondary prevention”.

From a rehabilitation perspective, learning the correct Nordic walking technique can enable an individual to work towards more natural and fluid co-ordination and walking patterns, and allows for steady progression through different environmental terrains which helps to build up balance, confidence and stamina.

In addition, there can be many social benefits associated with being part of a Nordic Walking group including distraction from thinking about how to walk correctly or from discomfort, restoring some normality to life, discovering that others may well have experienced similar health issues, and being able to participate in an activity with friends and family together.

Learning to Nordic walk

Is it important to learn to Nordic walk correctly with a qualified instructor for several reasons? Although it is possible to get started with a pair of poles, in order to gain most benefit instruction in the correct technique will show the beginner how to correctly place the poles for propulsion, and how to adjust the technique for progression of intensity and use on different surfaces and terrains such as going up and down hill. A beginner will also be taught about safe use of poles, basic exercise principles and encouraged to aim for gradual improvements in technique and fitness.

Teaching methods vary but often take place one to one or in small class environments. Usually a short course of instruction is recommended before joining an established group to ensure the new Nordic walker can adequately participate with more established walkers without feeling they may get left behind. Instructors may offer a number of different classes based around different abilities, fitness goals, or purely social walks and group numbers are controlled accordingly. Nordic walking in a regular class can help motivate attendance, encourage monitoring of health and enable progression of fitness. (Please see the end of the article for information on finding a suitably qualified Nordic Walking Instructor for clients with health conditions).

Nordic walking has great versatility for use with people with a variety of abilities and health conditions and can be progressed in a number of ways depending on the needs of the clients. Some specific ways of increasing intensity are:

- Improving and progressing technique to include more arm movement and propulsion
- Increasing speed
- Changing terrain from easier surfaces to more difficult or challenging surfaces and environments
- Increasing time and distance covered
- Adding interval training for cardio respiratory fitness
- Adding exercises / tasks within walking circuits

Figure 2: Gaining confidence in outdoor environments

Figure 3 & 4: Technique drills increase facilitate learning and communication

Learning to Nordic walk can also create confidence for undertaking more independent activity and create opportunities to practice self pacing of exercise. Walking with friends and family often becomes pleasurable because it is easier to keep up, and long term activity behaviour can be influenced by making exercise more accessible and flexible by being able to vary the intensity, location and effort of a walk depending on the individual’s day to day circumstances.
Rehabilitation for Return to Work

It can be seen from the existing research base that including Nordic walking as part of rehabilitation within a return to work programme may have significant benefits for the client in terms of managing their condition, increasing physical activity and associated general health improvement, self esteem, mood and community participation. As part of a structured rehabilitation process, it could enable the client to take control of the organisation and intensity of their physical activity in the context of their condition management, and serve to support the achievement of specific functional goals.

A number of factors make it a compelling tool which can add interest, variety and challenge to a programme:

Safety – Knobloch & Vogt (2006) undertook a study of Nordic walking safety in people without any existing medical disorders, in terms of injury per hours walked. They found a reported injury rate of 0.926 injuries per 1000 hrs of Nordic walking which is much lower than other physical activities (e.g. 14 injuries per 1000 hrs for squash or basketball). With correct instruction and supervision, Nordic walking classes and independent Nordic walking can be a very safe form of exercise.

Using functional measures for evaluation – a number of studies have used recognised functional measurement tools or tests to evaluate progress and impact on health conditions. Quality of life was measured using the SF 36 questionnaire in patients with chronic obstructive pulmonary disease (COPD) (60 mins 3 x week for 12 weeks) (Breyer et al 2010) and chronic neck pain (2 x per week, for 12 weeks) (Henkal et al 2008) and was found to show an improvement. The Hospital Anxiety & Depression scale also showed an improvement in the COPD group. The Fibromyalgia Impact questionnaire showed a decrease in the perceived level of activity limitation in a randomised controlled trial comparing Nordic walking to normal walking (20 mins, 2 x week for 15 weeks) in Fibromyalgia patients, although individual reporting of pain was unchanged (Mannerkorpi et al 2010).

The 6 minute walk test has been used in Nordic Walking research in a number of populations including the elderly (Parkatti et al 2002), chronic obstructive pulmonary disease where daily activity and the distance covered in the test increased (Breyer et al 2010) and fibromyalgia where the functional capacity showed a significant improvement (Mannerkorpi et al 2010).

The systematic review carried out by Tschentscher et al (2013) also confirms claims that Nordic walking, when compared to brisk walking, increases VO2 max by 11-23%, peak heart rate by 4-18%, calorie expenditure by 18-22%, and generates up to 6.3 – 7.7 MET (Metabolic Endurance test) compared to 3.3 – 5.0 MET in normal walking, leading to superior cardio respiratory fitness in the long term – stating “Nordic walking is a suitable form of exercise for most of the apparently healthy male and female subjects aged 40-60 yrs who would benefit from training at proper aerobic exercise intensity between 4 -8 METs, an intensity range that is too high to obtain from regular walking, but too low to achieve while running”.

Addressing job demands - Nordic walking can be used as part of work conditioning for jobs where walking is an important physical demand, and can provide support and confidence as well as fitness training. It may be used in the initial stages and once balance and confidence is improved the client can move away from using poles to normal walking, or loaded walking (carrying, pushing, pulling).
Any activity where the individual must walk and use their upper limbs requires considerable trunk control and stability and separation of the arms movements from the trunk, and Nordic walking can be used to help train these components of movement. Where the individual must return to outdoors walking which encompasses greater challenges in terms of surfaces, obstacles and weather that might affect visibility, additional clothing, Nordic walking training can be especially useful. Many job roles include significant walking demands - nursing, emergency and rescue service, street cleaners, bin men, postman, builders, and countryside rangers to name a few.

![Figure 5: Functional demands of walking at work can vary depending on the nature of the job.](image)

**Nordic Walking as part of physical therapy** – Nordic walking can be a part of, and an addition to normal physiotherapy and rehabilitation. It can be provided alongside more traditional approaches without any negative effect, and can reinforce aspects of therapy. When used by a Physiotherapist who is also a Nordic walking instructor it can form part of treatment of movement problems, restoring co-ordination, gait re-education, postural improvement, increasing general physical activity (which can help with pain control), confidence building, and used as part of goal orientated programmes. It can easily be combined with other activities as part of functional restoration, work conditioning and work hardening. Because of the outdoors nature it requires the individual to integrate multiple systems such as balance, sensory inputs, visual system, proprioception, strength, cognition, spatial awareness and regard for other outdoor users and risks.

As part of rehabilitation it can also be used within the cognitive behavioural model and support tackling psychosocial issues such as fear avoidance behaviour, attitudes towards and participation in physical activity, and can help build self efficacy about self management of the health condition.

The multiple options for progression allows use of Nordic Walking as part of a graded exposure approach by increasing intensity – via speed, technique, distance, terrain, intervals, exercises, circuits. It gives a wide variety of possible ways for the individual to be challenged whilst remaining safe, and, steadily increasing physical demand and load. At the advanced end of the scale, technique can push cardio respiratory fitness, endurance can be built by increasing time and distance, and loading can be increased by adding advanced endurance training such as carrying increasingly heavy back packs, or pulling sleds.
Summary:
Nordic walking has much to offer the beginner and experienced walker in terms of rehabilitation and support as part of a wider return to work programme. In the hands of an experienced health professional it can complement and expand the possibilities and opportunities for the improvement of the client’s physical and mental health, recovery of functional walking and for long term behaviour change towards increasing physical activity.

About Heather Watson MCSP
Heather is a Chartered Physiotherapist who specialises in Return to Work Rehabilitation, and has spoken at many national professional conferences on the subject. In 2011 Heather also qualified as a Nordic Walking Instructor and enjoys combining her knowledge and expertise of Physiotherapy and Nordic walking together to help clients reach their functional goals and get more physically active.

Finding a Nordic Walking Instructor:
Nordic Walking technique instruction should only be conducted under the guidance of a fully qualified Nordic Walking Instructor: For more information about Nordic walking and to find a qualified instructor please visit www.nordicwalking.co.uk.

Nordic Walking UK (NWUK) are the main instructor training provider in the UK, and all their instructors either hold an existing medical qualification, are REPS qualified Personal trainers / fitness instructors and / or have undertaken the CYQ Level 2 Certificate in fitness walking alongside their Nordic Walking Instructor qualification.

If you are looking to refer a client who has specific significant health issues who would not be suitable for generic classes it is recommended that you seek an instructor who is also a Qualified and registered Physiotherapist or Nurse. For those who do not require supervision by a health professional consider using an NWUK Instructor who has completed the additional Exercise Referral training programme - Level 3 Diploma in Exercise Referral. For more information visit http://www.nordicwalking.co.uk/blog/2013/01/walking-based-exercise-referral-diploma/

References


NWUK website http://nordicwalking.co.uk/