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Hyperbaric oxygen therapy combined with (LOKOMAT) robotic exoskeleton assisting neuroplasticity in brain and spinal cord injury

Malcolm R Hooper

OXYMED Australia, Australia

LOKOMAT Robotic Gait Assisted Walking is a sophisticated exoskeleton where the patient is fitted with a harness, suspended from the wheel chair and strapped into the exoskeleton. The LOKOMAT kinetic settings can be varied and specifically adjusted throughout the training session to match the individual requirements of the individual. Some patients have high level spasticity and others a complete loss of tone. Robotic assisted training can provide numerous accurate repetitions necessary to restore activity especially walking function with neurologic patients. Improving a patient to the point that he/she no longer needs a wheelchair to move would lead to reducing the economic burden associated wheel chair-associated complications including pressure ulcers, circulatory disorders, osteoporosis and attendant care. LOKOMAT provides excellent opportunity to 'best-fit' the patients specific capabilities and capacity to re-train function. Gait Training can lead to functional improvements in balance, lower limb motor recovery, walking speed, endurance, and other important gait characteristics such as symmetry, stride length and double stance time. LOKOMAT Gait Training can not only improve the gait in neurological patients but also positively affect cardiovascular performance and reductions in spasticity, bone loss and bladder/bowel complications. The combination effects of hyperbaric oxygen therapy and LOKOMAT Gait Training are explored.

Biography

Malcolm R Hooper is an International Executive Director serving both the International Hyperbaric Medical Foundation (IHMF) and the International Hyperbaric Medical Association (IHMA). He is a regular speaker at international symposiums on the topic of hyperbaric oxygen therapy applications in the modern era.

info@oxymed.com.au