PD103 Pediatric Exoskeleton For The Treatment Of Spinal Cord Atrophy And Other Neuromuscular Diseases

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Introduction: Spinal cord atrophy (SMA) affects one in every 1,000 live births in Spain. Cerebral palsy (CP) is the most common cause of chronic motor disability in children, affecting two to three in every 1,000 live births. The Atlas 2030 exoskeleton is the first portable robotic pediatric exoskeleton aimed at facilitating walking in these children. It is used as a complement to other therapies.
Methods: We aimed to compare the efficacy and safety of the ATLAS 2030 exoskeleton with conventional physiotherapy in children aged between four and 12 years with SMA or CP. We conducted a literature search to identify clinical trials and systematic reviews in the PubMed, Embase, Web of Science, and Cochrane Library databases, finding 201 original articles published between 2017 and 2022. No controlled studies were found on the ATLAS 2030 or any other portable device, even after expanding the searches to any robot-assisted gait devices.
Results: Although systematic reviews evaluating the efficacy and safety of robotic orthoses in general were found, there were no specific controlled studies on the ATLAS 2030. The five studies found (two on CP and three on SMA) were of low quality and did not show conclusive results in terms of efficacy and safety. However, some of them suggested that this technology could provide significant improvements in acceptability, range of motion, and spasticity. With respect to safety there appeared to be no evidence of serious adverse effects from its use, reinforcing the developer's initial hypothesis that the technology is safe.
Conclusions: Although the available evidence is very limited, the ATLAS 2030 appears to show efficacy in some gait-related outcomes without serious adverse effects. To demonstrate safety and efficacy, randomized controlled trials are required that compare the ATLAS 2030 with conventional physiotherapy, with more participants and a longer duration, and are conducted by independent expert groups without conflicts of interest.

PD104 Percutaneous Ethanol Injection In Thyroid Nodular Pathology And Metastatic Cervical Adenopathies: A Systematic Review, Meta-Analysis, And Economic Evaluation

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Introduction: Percutaneous ethanol injection (PEI) is a valuable treatment for several health conditions. However, its beneficial and harmful effects in patients with thyroid nodular pathology and metastatic cervical adenopathies have not been assessed in a systematic review.
Methods: A systematic review of available scientific literature on the safety, effectiveness, and cost effectiveness of PEI in thyroid nodular pathology and metastatic cervical adenopathies was performed according to Cochrane Collaboration methods and reported in accordance with the PRISMA statement. A cost-minimization analysis was carried out using a decision tree model. Assuming equal effectiveness between two minimally invasive techniques (PEI and radiofrequency ablation [RFA]), the model compared the costs of the alternatives with a horizon of six months from the perspective of the Spanish National Health System.
Results: Three randomized controlled trials (n=157) evaluating PEI and RFA in patients diagnosed with benign thyroid nodules, 96 with predominantly cystic nodules and 61 with solid nodules, were identified. No evidence was found on other techniques or thyroid nodular pathology. No statistically significant differences were observed between PEI and RFA in proportion of volume reduction, symptom score, cosmetic score, therapeutic success, or major complications. No economic evaluations were identified. The cost-minimization analysis estimated the cost per patient of the PEI procedure to be EUR326, compared with EUR4,781 for RFA, with an incremental difference of −EUR4,455.
Conclusions: There are no differences between PEI and RFA in terms of safety and effectiveness, but the economic evaluation determined that the former option is cheaper.

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