

Eli's Rehab Report

CLINICAL REHAB ROUNDUP:

Consider Low-Frequency Electric Muscle Stimulation for Total Hip Arthroplasties

In this recurring feature, Eli's Rehab Report provides you with summaries of a cross section of recent clinical studies. Here's what's new this month.

Low-frequency electric muscle stimulation combined with physical therapy after total hip arthroplasty for hip osteoarthritis in elderly patients: a randomized controlled trial. Gremeaux V, Renault J, Pardon L, Deley G, Lepers R, Casillas JM. Arch Phys Med Rehabil. 2008 Dec;89(12):2265-73.

Researchers sought to assess the effects of low-frequency electric muscle stimulation associated with usual physical therapy on functional outcome after total hip arthroplasty (THA) for hip osteoarthritis (OA) in elderly subjects.

In a randomized controlled trial at a hospital rehabilitation department, researchers observed 29 subjects referred to the rehabilitation department after THA for hip OA. The intervention group received simultaneous low-frequency electric muscle stimulation of bilateral quadriceps and calf muscles (at highest tolerated intensity for one hour, five days a week, for five weeks) associated with conventional physical therapy including resistance training. The control group received conventional physical therapy alone for 25 sessions.

Main outcome measures were maximal isometric strength of knee extensors, the FIM™ instrument, a six-minute walk test, a 200m fast walk test, and length of stay (LOS).

Findings: Patients tolerated the low-frequency electric muscle stimulation well, and it resulted in a greater improvement in strength of knee extensors on the operated side, leading to a better balance of muscle strength between the operated and nonoperated limb. The low-frequency electric muscle stimulation group also showed a greater improvement in FIM scores, though improvements in the walk tests were similar for the two groups, as was LOS.

Researchers concluded that low-frequency electric muscle stimulation is a safe, well-tolerated therapy after THA for hip OA. It improves knee extensor strength, which is one of the factors leading to greater functional independence after THA, researchers noted.