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## Detailed Written Order: E0745 Neuromuscular Stimulator and E0731 Form Fitting Conductive Garment

*Item Description: FDA 510k Approved powered muscular stimulator*

Patient Name: \_\_\_\_\_

Treatment Sessions / Day: 3 Minutes or Hours/Treatment Session: 20 minutes per sessions/1 hour per day

The physician certifies the following:

- A. The patient suffers from a condition that requires the use of the Kneehab XP Conductive Garment and NMES Controller to treat disuse atrophy of the quadriceps muscles: Reference ICD-9 Codes(s) \_\_\_\_\_, \_\_\_\_\_
- B. The patient is being treated for disuse atrophy using the Kneehab XP Conductive Garment and Controller following an injury or surgery where the nerve supply to the muscle is intact. Patient has disuse atrophy of the VMO and needs this device to help the patient at home to do therapy.
- C. The patient cannot manage without the Kneehab XP Conductive Garment and Controller because:  
There is a large area and so many sites to be stimulated that it is not feasible to use conventional electrodes  
The patient has a medical condition that precludes the application of conventional electrodes
- D. The non-neurological reason(s) for the patient's disuse atrophy is/are:  
Patient has atrophy of the quadriceps muscle and needs the Kneehab device to help in regaining  
function of that muscle

### Supporting Clinical Evidence

The Effectiveness of Supplementing a Standard Rehabilitation Program With Superimposed Neuromuscular Electrical Stimulation After Anterior Cruciate Ligament Reconstruction, Sven Feil,\*y MA, John Newell,z PhD, Conor Minogue,§ | M.Eng.Sc, and Hans H. Paessler,y MD: **Conclusion: Intensive garment-integrated stimulation combined with standard rehabilitation is effective at accelerating recovery after knee surgery.**

Effects of preoperative neuromuscular electrical stimulation on quadriceps strength and functional recovery in total knee arthroplasty. A pilot study. Raymond J Walls Gavin McHugh Donal J O'Gorman, Niall M Moyna and John M O'Byrne **Conclusion: In this pilot clinical study of NMES prehabilitation, we found NMES to be well tolerated by patients with advanced knee OA. When used for 8 weeks preoperatively, it appears to increase muscle strength and hasten functional recovery following TKA and also may reduce the extent of postoperative muscle atrophy.**

Journal of Orthopaedic Research 21 (2003) 775-779. Quadriceps strength and volitional activation before and after total knee arthroplasty for osteoarthritis. Jennifer E. Stevens a,b, Ryan L. Mizner a, Lynn Snyder-Mackler a "exercise regimens that emphasize strong muscle contraction and clinical tools that facilitate muscle activation like biofeedback and neuromuscular electrical stimulation may be necessary to reverse the quadriceps activation failure and weakness in the patients with knee OA that worsens after TKA. The failure of current rehabilitation regimens to directly address activation deficits within the first months after surgery may explain the persistent quadriceps weakness in patients after TKA.

Physician Signature \_\_\_\_\_

Date

UPIN

NPI#