# Muscle stimulation in advanced idiopathic pulmonary fibrosis: a randomised placebo-controlled feasibility study

### **Online supplement**

#### **MATERIALS AND METHODS**

#### Interventions





Figure 1: Image of the a) active and b) placebo NMES device

Abbreviations: NMES: Neuromuscular Electrical Stimulation

Note: The person depicted is not patient and these images were taken with the participant's knowledge.

Supplemental material

BMJ Open

*Home exercise programme:* 

Participants in both groups were provided with an individualised home exercise programme supplemented with a manual in which they were instructed to perform exercises at least three times per week. The programme included prescribed aerobic and resistance exercises specific to each participant. For aerobic exercise e.g. walking, participants were prescribed an exercise intensity of Borg CR10 Dyspnoea score 3 to 4<sup>1</sup> and distance was progressed to a maximum of 30 minutes. Upper and lower limb resistance exercise was prescribed and progressed in line with the American College of Sports Medicine guidelines.<sup>2</sup> Participants were provided with a simple diary to record home exercise performance. Over the six-week intervention period, the unblinded researcher telephoned participants weekly to review performance and progress home exercises. To progress the exercise programme, participants were asked to increase the intensity or duration of aerobic exercise or the intensity or volume of resistance training. The home exercise manual can be provided on application to the authors.

## **RESULTS**

Table S1. Missing data in clinical outcomes

Outcome	All	Intervention group	Control group
6MWT baseline	0	0	0
6MWT 6 weeks	5	2	3
6MWT 12 weeks	6	1	5
SPPB baseline	0	0	0
SPPB 6 weeks	5	3	2
SPPB 12 weeks	5	1	4
Four metre gait speed baseline	0	0	0
Four metre gait speed 6 weeks	5	3	2
Four metre gait speed 12 weeks	5	1	4
QMVC baseline	0	0	0
QMVC 6 weeks	5	2	3
QMVC 12 weeks	4	0	4
Rectus femoris CSA baseline	0	0	0
Rectus femoris CSA 6 weeks	5	2	3
Rectus femoris CSA 12 weeks	4	0	4
KBILD (domains and total) baseline	0	0	0
KBILD (domains and total) 6 weeks	4	2	2
KBILD (domains and total) 12 weeks	3	0	3
EQ5D5L (domains) 12 weeks	3	0	3
LCADL (domains and total) baseline	0	0	0
LCADL (domains and total) 6 weeks	4	2	2
LCADL (domains and total) 12 weeks	3	0	3
Physical activity data baseline	8	4	4
Physical activity data 6 weeks	11	5	6
Physical activity data 12 weeks	11	5	6

Data presented as number.

Abbreviations: 6MWT: Six Minute Walk Test; CI: Confidence Interval; EQ5D5L: EQ5D 5-Levels; KBILD: King's Brief Interstitial Lung Disease questionnaire; LCADL: London Chest Activities of Daily Living questionnaire; QMVC: Quadriceps Maximum Voluntary Contraction; SPPB: Short Physical Performance Battery.

#### **REFERENCES**

- 1. Borg G. Borg's perceived exertion and pain scales: Human kinetics 1998.
- Kraemer W, Adams K, Cafarelli E, et al. American College. of Sports Medicine. American College
  of Sports Medicine position stand. Progression models in resistance training for healthy
  adults. *Med Sci Sports Exerc* 2002;34(2):364-80.