

AEROBIC EXERCISE TO TREAT DEPRESSION FOLLOWING INCOMPLETE SCI

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SPECIFIC AIM

Quantify the effects of aerobic exercise on depressive symptomology, secondary health conditions and clinical outcomes in ambulatory individuals with chronic incomplete SCI.

HYPOTHESES

1. Six weeks of aerobic exercise training will *improve depressive symptomology*, evidenced by a significant reduction in scores on the Hamilton rating scale for depression (HAM-D).
2. Changes in depressive symptomology will be associated with *improved secondary health conditions* (i.e., pain severity, pain interference, and fatigue severity) and *reduced ambulatory impairment* (WISCI-II).

AEROBIC EXERCISE TRAINING INTERVENTION

6 weeks (18 sessions, 30 minutes per session) of voluntary, moderate-vigorous aerobic exercise training on the NuStep[®]



RECRUITMENT EFFORTS (ONGOING)

- Previous SCI research participants from MUSC and USC who were potentially eligible for participation in the pilot study were contacted.
- Recruitment flyers and announcements were/are posted around the MUSC and USC campus and in area rehabilitation facilities.

PARTICIPANTS NEEDED

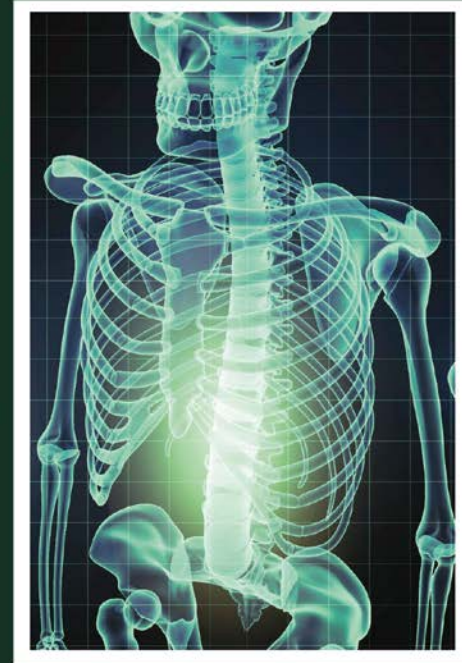
Spinal Cord Injury Exercise Research Study

**Have you had a
spinal cord injury, but
are still able to walk?**

***If so, then we need
your help.***

- 6 week exercise program
- walking & health-related testing

**Eligible participants will
receive compensation and
parking.**



For more information, contact Nicole
Center for Rehabilitation Research in Neurological Conditions
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843-792-9894
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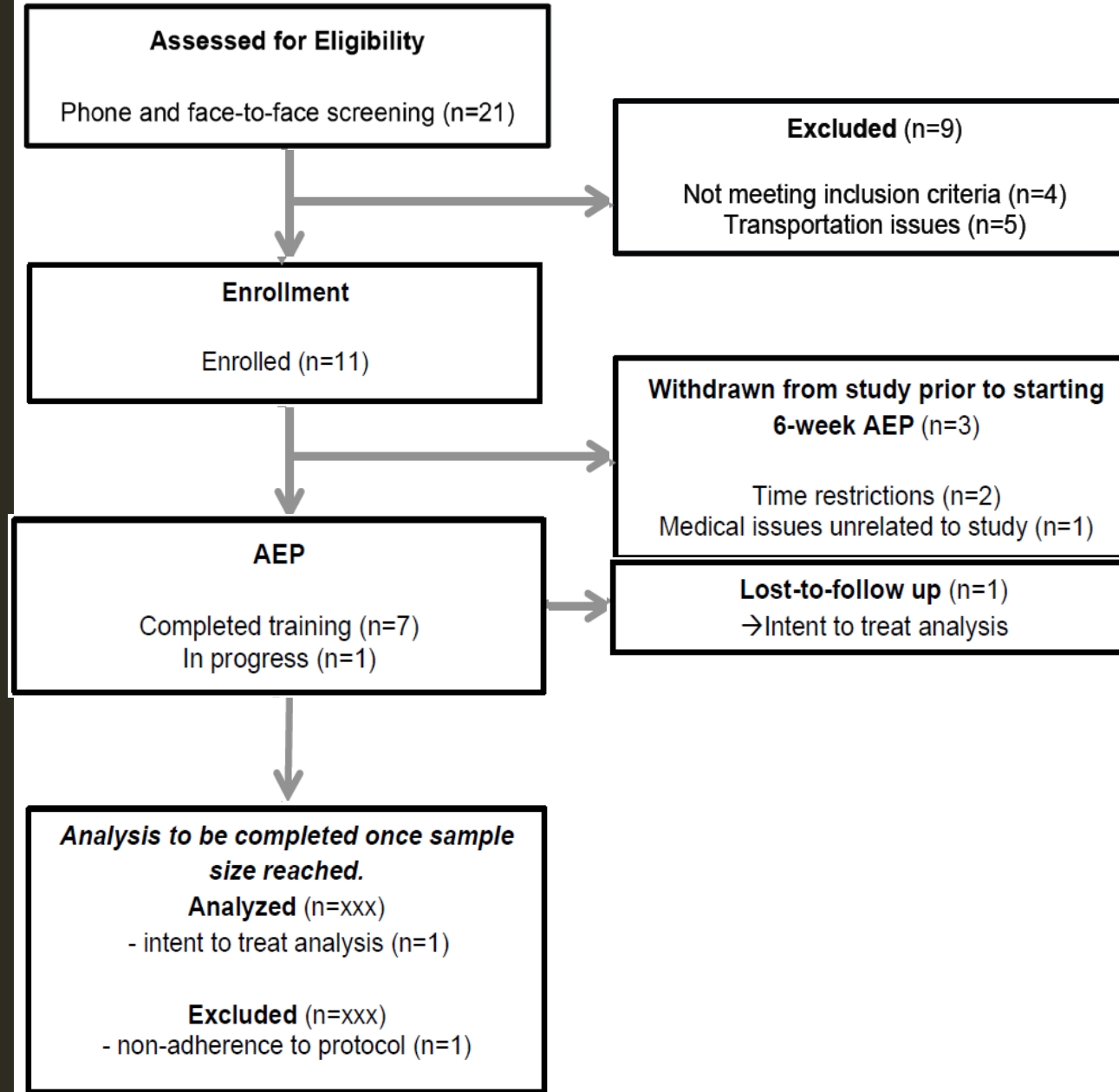


RECRUITMENT EFFORTS (ONGOING)

- Previous SCI research participants from MUSC and USC who were potentially eligible for participation in the pilot study were contacted.
- Recruitment flyers and announcements were/are posted around the MUSC and USC campus and in area rehabilitation facilities.
- The recruitment flyer was posted on the Longevity After Injury Facebook page and blog.
- The recruitment flyer and study information was distributed to the South Carolina SCI Association. The SCSCIA posted the research opportunity on their website and Facebook, and sent an email announcement.
- Study information was distributed at SCI support groups, SCI clinics, area rehabilitation facilities and hospitals.

Figure2. Flow of participants through the AEP study

Updated April 2014



PRELIMINARY RESULTS

This study is intended to provide feasibility, proof of concept and pilot data.

The preliminary data (n=5) are descriptive only.

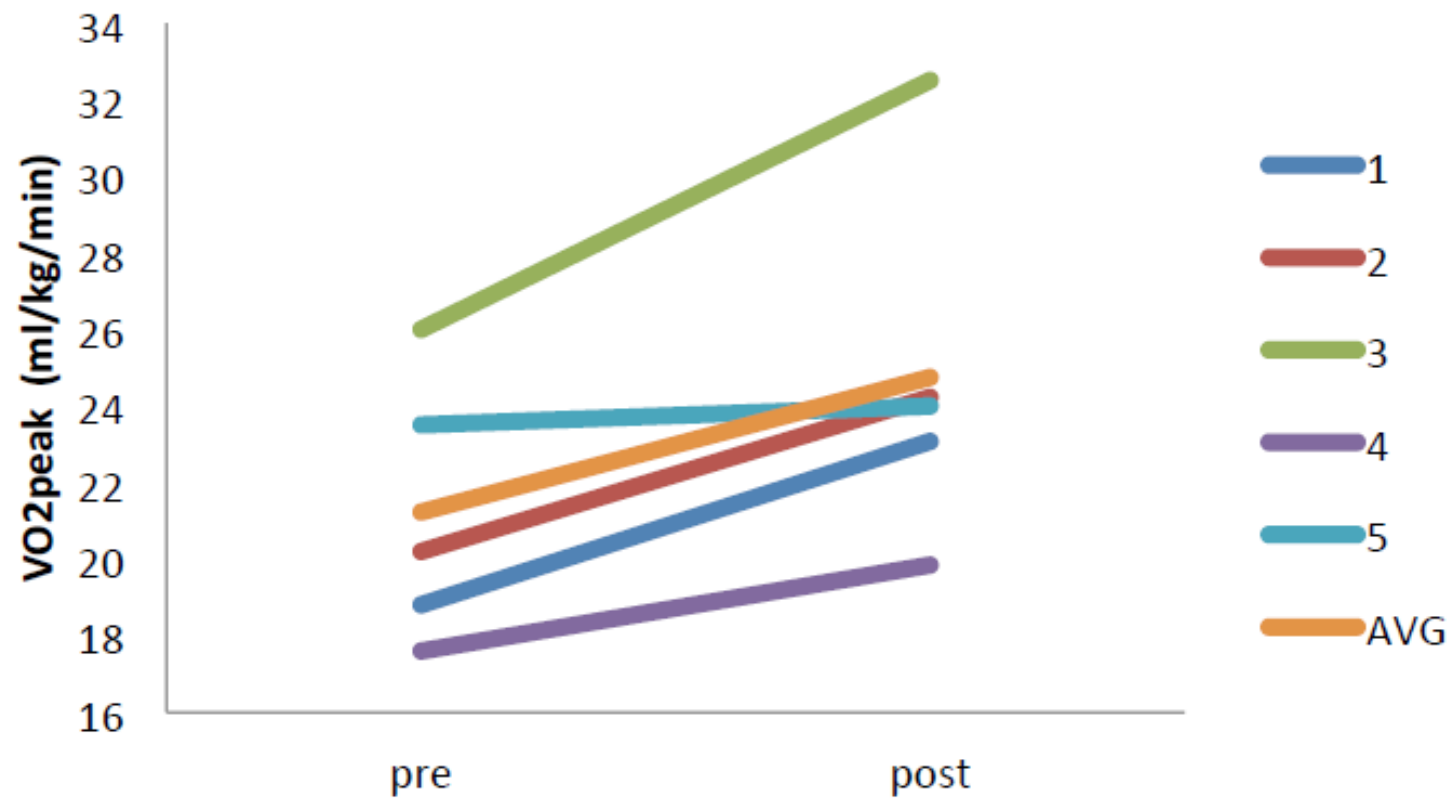
Following the 6 week aerobic exercise intervention:

- Improvements in VO₂peak and ambulation outcomes (self-selected overground walking speed, 6MWT, WISCI-II) were observed.
- Changes in depressive symptomatology, pain intensity and pain interference, fatigue, and QoL were also observed.

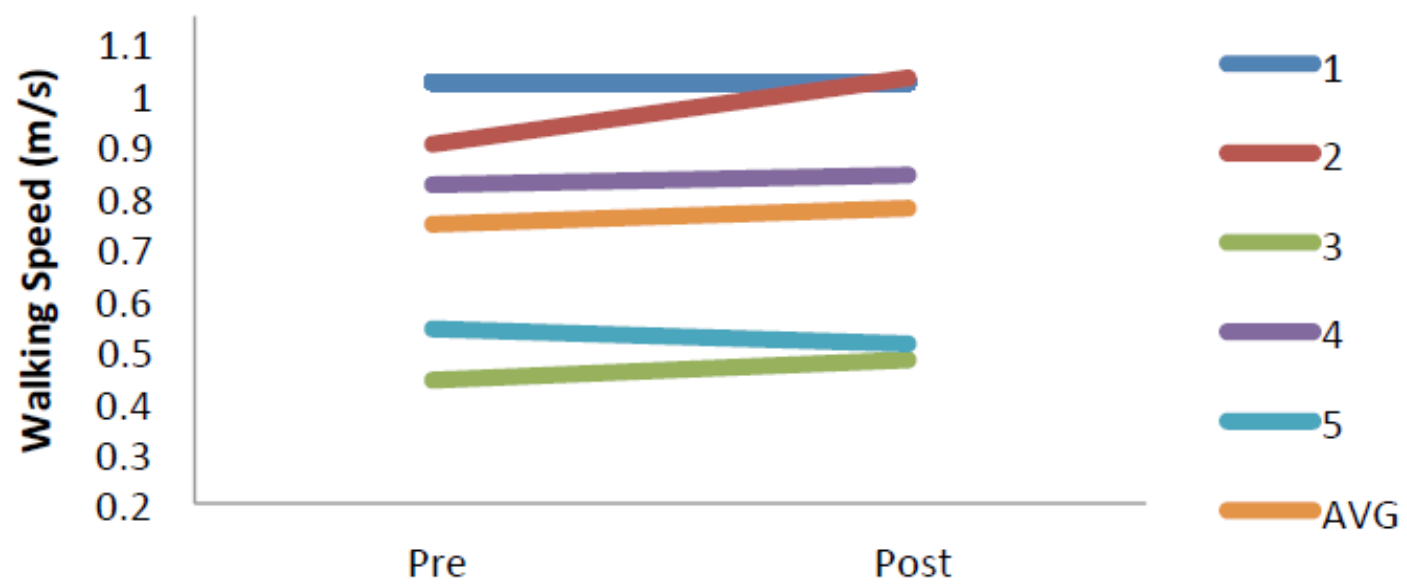
Table 2. Outcomes following AET (n=5)

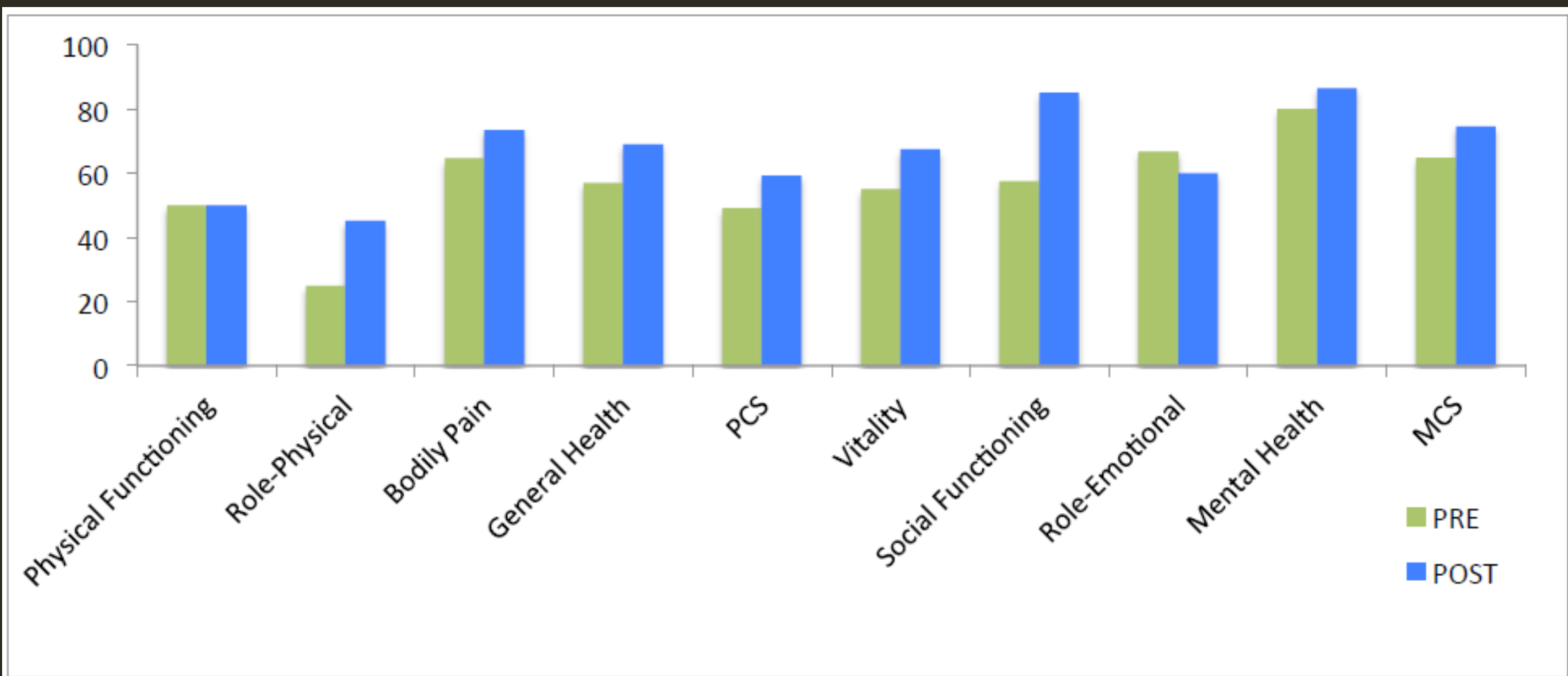
	PRE	POST
	Mean (SD)	
6MWT (m)	327.1 (56.8)	341.7 (62.8)
Daily Steps	5278.0 (811.9)	5940.4 (930.5)
WISCI-II (/20)	19 (2.3)	19 (2.2)
BBS (/56)	48.8 (2.3)	51.6 (4.8)
DGI (/24)	15.8 (2.4)	17.6 (3.2)
PHQ-9 (0-27)	5.4 (6.7)	2 (1)
BPI (0-10)		
Pain intensity	2.8 (3.0)	1.2 (2.2)
Pain interference	3.1 (3.5)	0.8 (1.8)
MFIS-5 (0-20)	9.8 (3.7)	6.8 (2.5)

Aerobic Capacity



Walking Speed





PRELIMINARY RESULTS

- Statistical analyses will be completed with a larger sample size, and conclusions will be made after further study.
- This study highlights potential difficulties in recruiting and retaining subjects with iSCI, especially those with significant secondary health outcomes (eg. pain, fatigue, and depressive symptoms).
- Data collection is ongoing.

DISSEMINATION

Poster presentations:

- SCAPTA; Charleston SC; March 2014
- ACTS; Washington DC; April 2014

QUESTIONS???