Spinal Cord Injuries & Exercise

Background

- Acadia University – Bachelor of Kinesiology
- CSEP-CEP upon graduation

- Calgary:
  Sci Alberta
  University of Calgary
  FES Committee
  FES international Guidelines

SPINAL CORD INJURY PHYSICAL ACTIVITY GUIDELINES

Spinal Cord Injury Alberta

-Starter vs Advanced - What does it mean?

-What’s the difference between Aerobic and Strength training?

-What is Moderate to Vigorous activity?

-When?

-Why?

-Precautions

AEROBIC ACTIVITY

20 MINUTES 2x A WEEK

of moderate to vigorous intensity

AND

STRENGTH-TRAINING ACTIVITY

3 SETS 10 REPS 2x A WEEK

for each major muscle group

AEROBIC ACTIVITY

30 MINUTES 3x A WEEK

of moderate to vigorous intensity

AND

STRENGTH-TRAINING ACTIVITY

3 SETS 10 REPS 2x A WEEK

for each major muscle group

START MEET EXCEED

GLOSSARY

- **The starting level** is the minimum level of activity needed to achieve fitness benefits.
- **The advanced level** will give you additional fitness and health benefits, such as lowering your risk of
- **Strength-training activities** are activ increase muscle strength, such as exercis resistance bands, or lifting weights.
- **Moderate intensity activities** require you to

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PHYSICAL ACTIVITY GUIDELINES
for Adults with Spinal Cord Injury

Physical activity guidelines for adults with spinal cord injury (SCI) have been developed by an international group of SCI scientists, people living with SCI, clinicians, and representatives from SCI organizations. These physical activity guidelines are based on the best scientific evidence available.

The guidelines have two levels: a starting level and an advanced level. Which level you choose depends on your goals, abilities and current fitness level. If you're just starting a physical activity program, consider working up to the starting level and ideally work up to the advanced level. If you're already physically active, you might want to begin with the advanced level.

STARTING LEVEL

AEROBIC ACTIVITY

20 MINUTES 2x A WEEK

of moderate to vigorous intensity

AND

STRENGTH-TRAINING ACTIVITY

3 SETS 10 REPS 2x A WEEK

for each major muscle group

ADVANCED LEVEL

AEROBIC ACTIVITY

30 MINUTES 3x A WEEK

of moderate to vigorous intensity

AND

STRENGTH-TRAINING ACTIVITY

3 SETS 10 REPS 2x A WEEK

for each major muscle group

START MEET EXCEED

GLOSSARY

- **The starting level** is the minimum level of activity needed to achieve fitness benefits.
- **The advanced level** will give you additional fitness and health benefits, such as lowering your risk of developing Type 2 diabetes and heart disease.
- **Aerobic activities** are physical activities that are done continuously and that increase your heart rate and breathing rate, such as wheeling, swimming, hand cycling or dancing.
- **Strength-training activities** are activities that increase muscle strength, such as exercises using resistance bands, or lifting weights.
- **Moderate intensity activities** require you to work somewhat hard, but you should feel like you can keep going for a long time. You should be able to talk during these activities, but not sing your favourite song.
- **Vigorous intensity activities** require you to work really hard, and you can only continue them for a short time before getting tired.

For more information please visit www.sciguidelines.com

SCI ACTION CANADA cdpp THE UNIVERSITY OF BRITISH COLUMBIA Rick Hansen Institute Institut Rick Hansen Canada

05.29.19

-Starter vs Advanced – What does it mean?

-What's the difference between Aerobic and Strength training?

-What is Moderate to Vigorous activity?

-**When?**

-Why?

-Precautions

-Nutrition

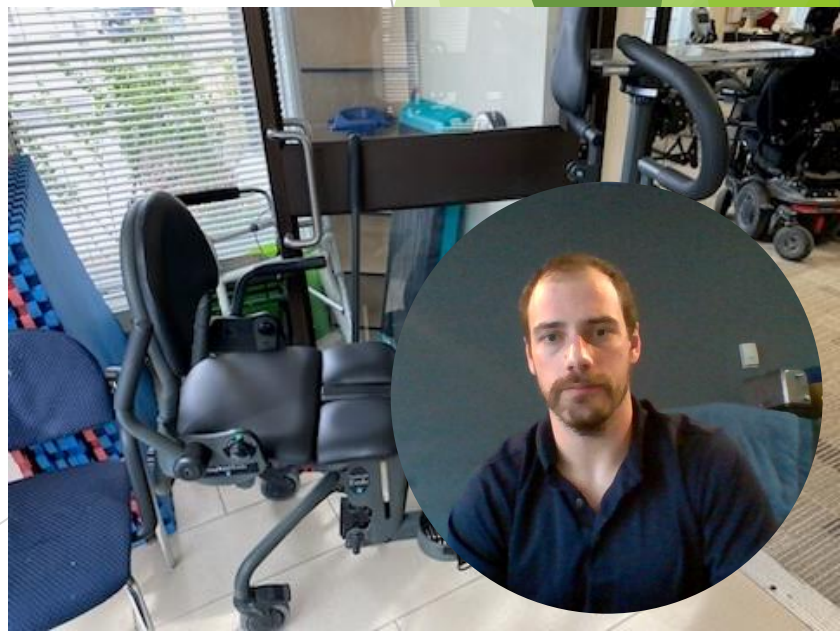
-Hydration

-Sleep

-Overuse Injuries

-Other therapies..

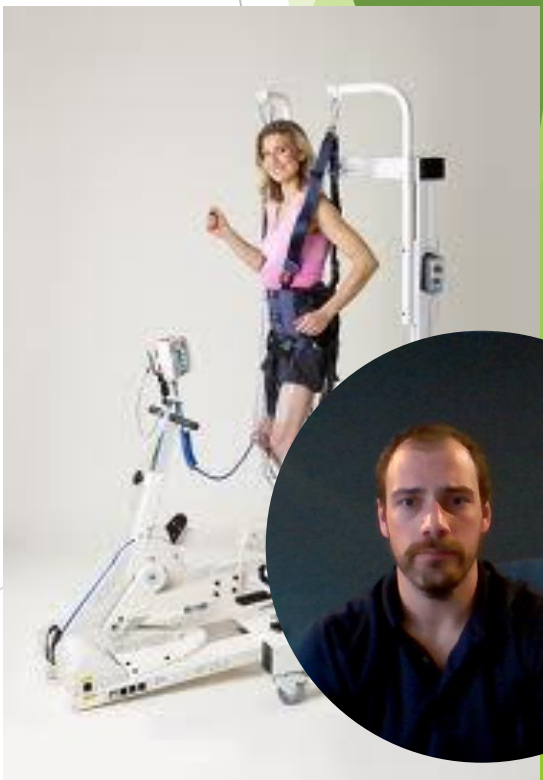
Adapted Equipment



Functional Electrical Stimulation Therapy

- What is it? How does it work?
- Functional electrical stimulation (FES) is a technique by which electrical currents are applied to nerves supplying paralyzed or weakened muscle through electrodes placed on the surface of the skin (transcutaneous).
- This current delivers the necessary stimulation to elicit a muscle contraction with the purpose of providing functionally useful movements.

Types of FES therapy



Contraindications

- Absolute

pacemaker
unhealed fractures
Pregnant
UE specific:
Rotator cuff year
Subluxation without correction through therapy

Vs.

- Relative

denervated muscles
Too much spasticity
Severe osteoporosis
Pressure sores/wounds
Implanted plates, stimulators, screws, etc.
Dysesthetic pain syndrome
Heterotopic ossification

Benefits

- Improved arm / leg function
- Improved gait
- Decreased spasticity
- Maintenance of musculature, bone density, & ROM
- Improved quality of life
- Increased local blood circulation

- Prevents secondary conditions
  - Pressure sores, UTI's, carpal tunnel, deconditioning
  - Same as able bodied

…Questions?