Webinar Series

United Spinal Association

Webinar title: Getting in Shape
Nutrition, Exercise & Technology for Wheelchair Users

Presenter/presenters:

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University of Miami & Miami Project to Cure Paralysis

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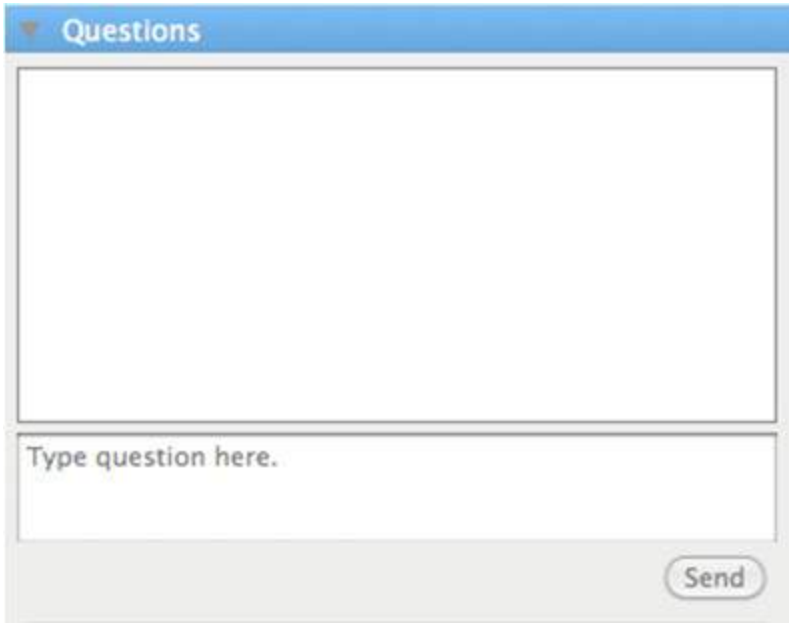
Want to Ask a Question?



THE MIAMI PROJECT TO CURE PARALYSIS

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www.themiamiproject.org

The Miami Project is dedicated to finding more effective treatments and, ultimately, a cure for paralysis resulting from spinal cord injury.

NEUROTECH NETWORK

www.NeurotechNetwork.org

Helping people regain life thru neurotechnology

Focusing on education of and advocacy to access neurotechnology devices, therapies and treatments for people living with impairments, their care-givers and medical professionals.

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Disclaimer

The information presented in this webinar is not meant to replace the advice from a medical professional. You should consult a health care professional familiar with your specific case, concerns and condition.

Neurotech Network and its representatives do not endorse, rate, sell, distribute, prescribe, administer or recommend any products, procedures or services. We highly suggest for you to take information to a trained medical professional familiar with your case to discuss options that are best for you.

Webinar Agenda

- Results from a study about barriers to exercise for wheelchair users
- Customized Home-Based Exercise
- Nutrition Tips and Resources
- Exercise & Technology: Apps, Adaptations & Access
- Resources to get your started

Polling Question: What is your priority for 2016, nutrition or exercise?

Most Prevalent Barriers to Exercise

(1) Lack of energy,

(2) Lack of motivation,

(3) Lack of time,

(4) Not knowing where to exercise, and

(5) The cost of the program

Cowan, 2013. *Spinal Cord. 5*1:27-32.

Most Impactful Barriers to Exercise

(1) Exercise will make your condition worse,

(2) Too lazy to exercise,

(3) Exercise is too difficult,

(4) Do not know how to exercise, and

(5) Lack of interest

Cowan, 2013. *Spinal Cord. 5*1:27-32.

Important Points

- While more than half reported their physician had advised them to exercise, less than a quarter had received specific instructions from their doctor regarding the kind of exercise to engage in or how often.
- Not having exercise equipment at home reduced the odds of being an exerciser by 68%.
- Lack of transportation did not decrease the odds of being an exerciser, but not knowing of an accessible fitness center did.

Cowan, 2013. *Spinal Cord.* 51:27-32.

Polling Question

- *Do you think your disability has contributed to difficulty losing weight in the past?*

Home-Based Exercise

Biceps curls

Overhead press

Horizontal row

Lat pull-down

Triceps dips

Vertical butterfly

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Shoulders

- STOMPS
  - Strengthening and Optimal Movements for Painful Shoulders
  - http://www.themiamiproject.org/wp-content/uploads/2015/07/STOMPS-2011-exercise-instruction-sheet.pdf

Mulroy et al, 2011, Physical Therapy

Aerobics

Kaiser

http://info.kaiserpermanente.org/facilities/Vallejo/media_overview.html?config=richmedia/skin/cfg_resistance.xml

NCHPAD

http://www.nchpad.org/237/1545/Exercise~Program~for~Individuals~with~Spinal~Cord~Injuries~~Paraplegia~-~Video~~~Quick~Series~Booklet

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Yoga

http://www.mindbodysolutions.org/yoga/adapative-yoga/

http://www.getfitwhereyousit.com/
about_chair_yoga_fitness_exercise.html

Nutrition Tips & Resources

Eat Well, Live Well,

with Spinal Cord Injury

A practical guide to help individuals with spinal cord injuries address secondary health complications in SCI through nutrition.

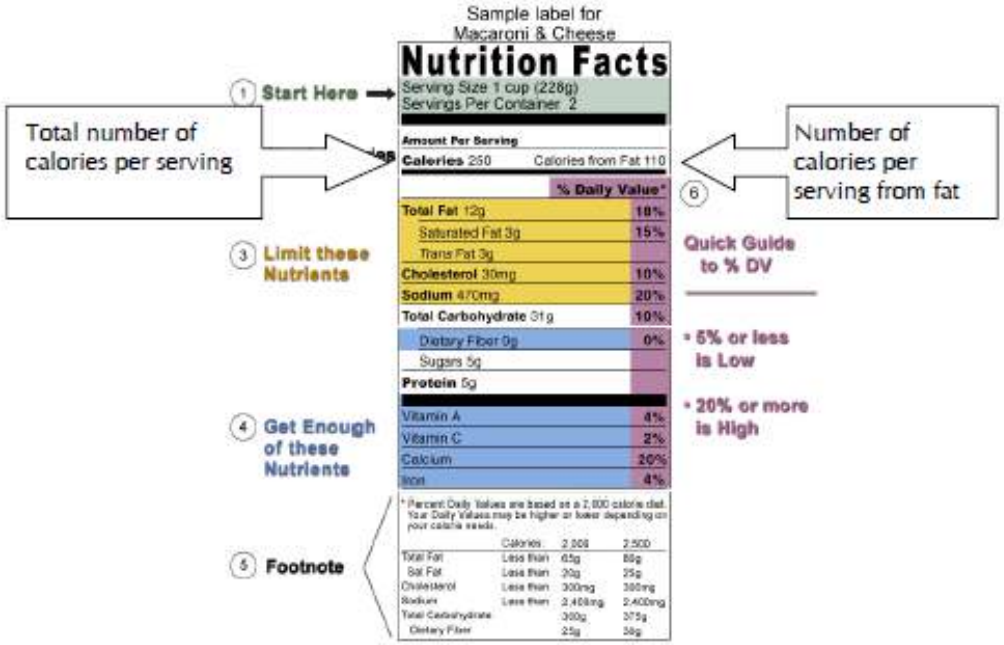
http://www.eatwelllivewellwithsci.com/

This video serves as an introduction to educational information on nutrition after a spinal cord injury. This resource is provided as a courtesy of Shepherd Center and Craig Hospital.

https://craighospital.org/resources/educational-video-nutrition-after-a-spinal-cord-injury

Label

Your dietary goal is to limit the calories that come from *all* fats to less than 30% of your entire diet. However, because food labels rarely tell you what the fat percentage is, you'll have to figure it out for yourself. To do this you need only two bits of information found on the nutrition label:



FDA (2009). How to Understand and Use the Nutrition Facts Label. Downloaded January 19, 2011 from http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm20026097.htm

$$\%\ \text{of fat in food} = \frac{\text{The number of calories per serving from fat}}{\text{The } \textit{total} \text{ number of calories per serving}}$$

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Publication # 728

Fats

- Good fats – monounsaturated and polyunsaturated fats
  - Ex. canola oil, olive oil, peanut oil, avocados, nuts
- Bad fats – saturated fats
  - Ex. Butter, cheese, red meat, egg yolks
- "Everything in moderation"
  - Start with small changes
  - Don't get overwhelmed

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Exercise & Technology

- Smartphone Apps
- Adapted Monitoring systems
- Technology for Fitness
- How to Access?

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Smartphone Apps & FDA

- FDA issued guidance on Mobile Medical Apps
- Why?
- Why should I care?
- Link to Keeping Up with Progress in Mobile Medical Apps

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Helpful Smartphone Apps: Exercise

- Breathe – Autonomic Pilot: iPhone
  - http://www.theautonomicpilot.com
- Instant Heart Rate: iPhone, iPad, Android
  - http://www.instandheartrate.com
- iStretch app: iPhone
  - http://www.officestretchapp.com
- Myotomes: iPhone
  - codev.uk/products/myotomes
- PhysioTherapy Exercises: iPhone, Android, Windows
  - http://www.physiotherapyexercises.com
- PositScience: iPhone, Android
  - http://www.brainhq.com

Source: Florida Spinal Cord Injury Resource Center & Reeve Foundation

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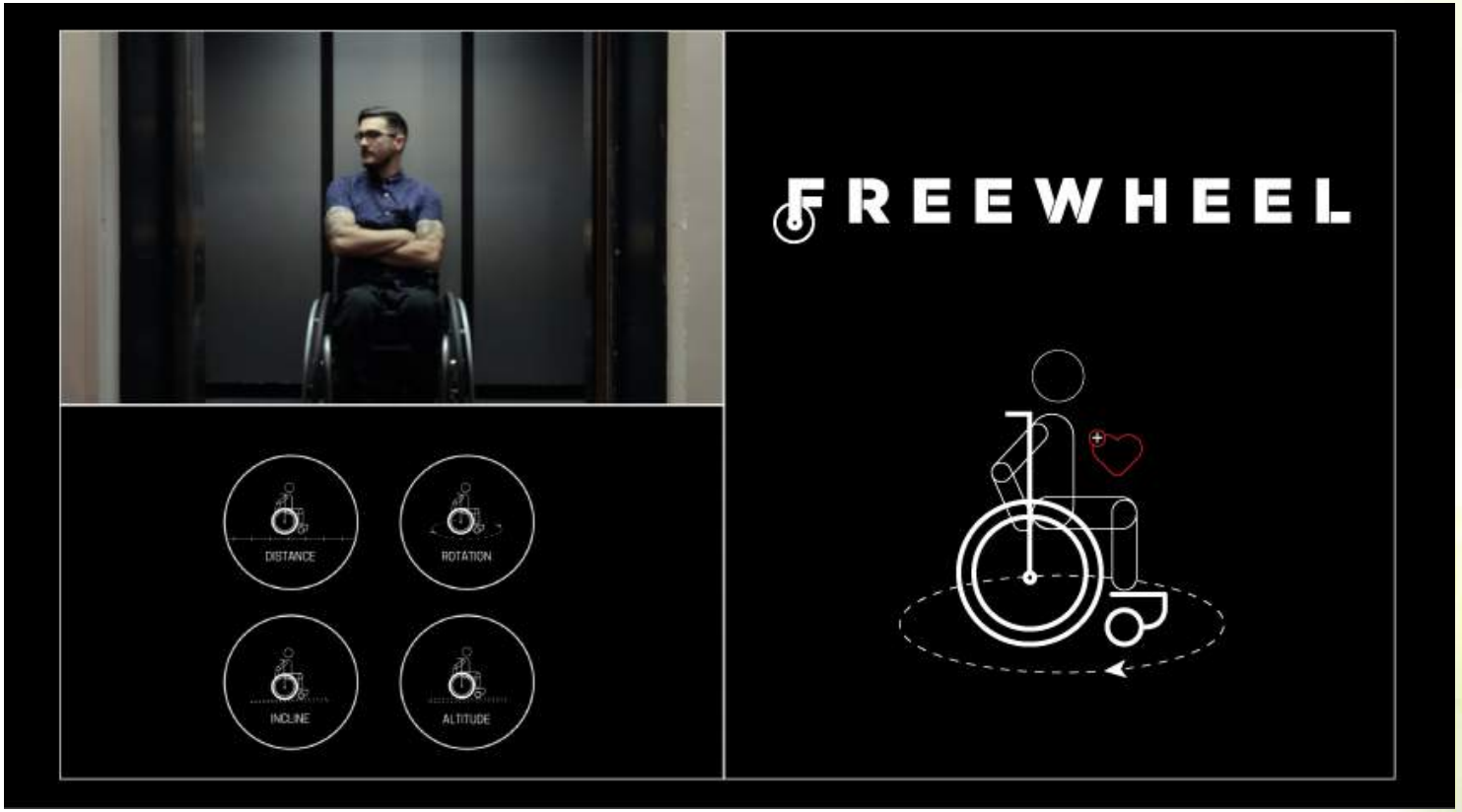
Helpful Smartphone Apps: Nutrition

- Epicurious Recipes & Shopping List: iPhone, iPad, Android, Windows Phone
  - http://www.epicurious.com/services/mobile
- GoMeals: iPhone, iPad, Android
  - http://www.gomeals.com/
- WaterLogged: iPhone
  - shadelsoftware.com/waterlogged/
- Fooducate: Android, iPhone
  - http://www.fooducate.com
- The Snack App: iPhone
  - www.everydayhealth.com

Source: Florida Spinal Cord Injury Resource Center & Reeve Foundation

Wearable Monitors



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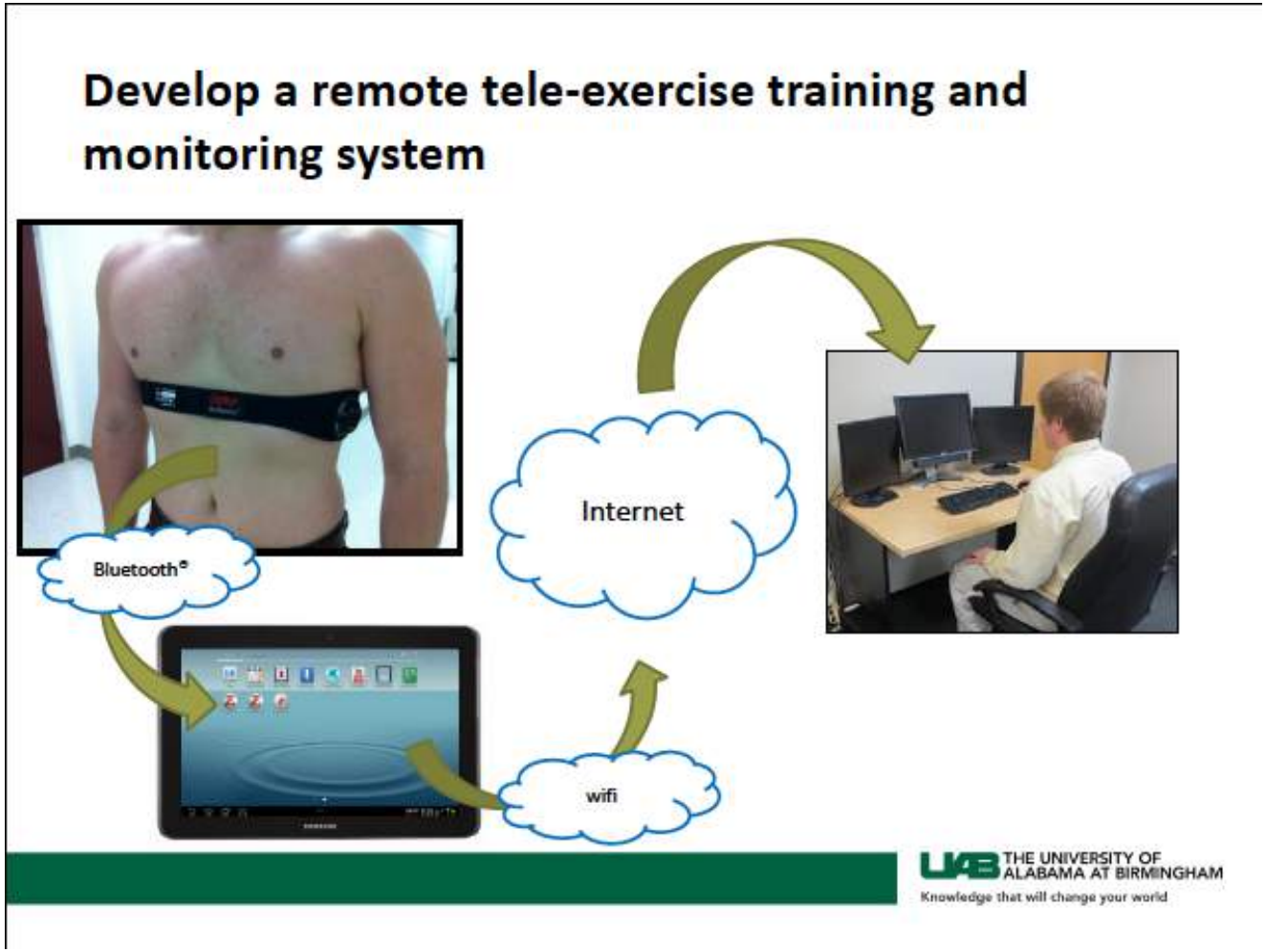
Monitors - Research

TExT-ME: Telehealth Exercise Training for Monitoring and Evaluation of Home-Base Exercise



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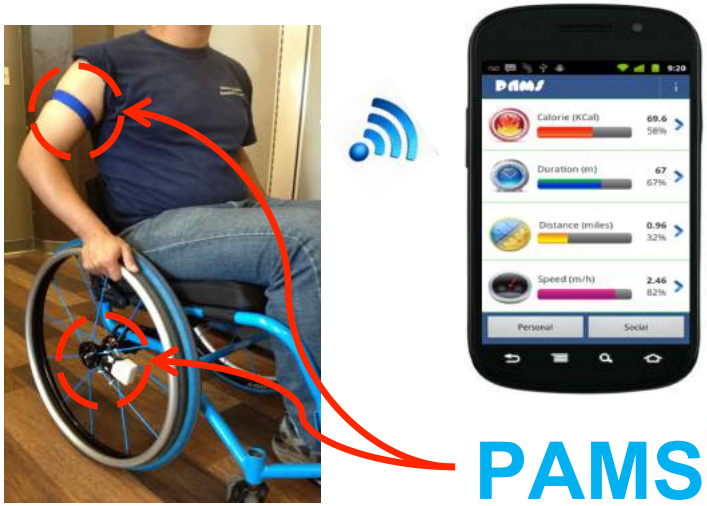
Monitors - Research

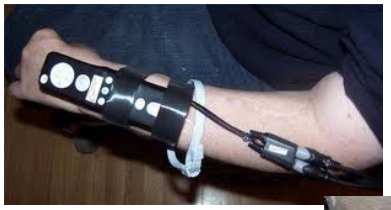
G-WRM



PAMS

Video Games/Virtual Reality

- Physical Activity Games
  - Tennis
  - Boxing
  - Dance
- Activity Adapted Controllers



- http://www.broadenedhorizons.com
- http://www.eDimensional.com
- http://www.gimpgear.us

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Movement systems

- Bionik Laboratories bioniklabs.com
- Cyberdyne cyberdyne.jp
- Ekso Bionics eksobionics.com
- Indego indego.com
- REX Bionics rexbionics.com
- ReWalk rewalk.com

- CyberGlove cyberglovesystems.com
- Hocoma hocoma.com
- Motorika motorika.com
- Myomo myomo.com

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NeuroMuscular Electrical Stimulation

- Neurotech Group

neurotechgroup.com

- DJO Global

djoglobal.com

- RS Medical

rsmedical.com/

- Compex Wirless Muscle Stimulator

shopcompex.com

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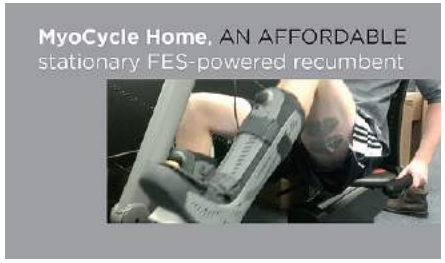
Functional Electrical Stimulation

Restorative Therapies
www.restorative-therapies.com

Axibionics/Wearable Therapies
www.wearabletherapy.com

RECK Motomed & Hasomed
www.ri-llc.com

Therapeutic Alliances
www.musclepower.com



Myolyn
myolyn.com

FES Rowing
fesrowing.com

Vibration Systems

Galileo by STIM Design
http://stimdesigns.com

VibePlate
http://www.vibeplate.com

Juvent Health Platform
http://www.juvent.com/health/

Power Plate
https://powerplate.com

The WAVE
http://www.vibraprofitness.com

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How to Access the Technology?

1) Clinical Programs

2) Stand Alone Programs & After Care

3) Public Access & Private Gym Programs

Clinical Programs

•Beyond Therapy - Atlanta, GA: http://www.beyond-therapy.org/

•Brooks Rehab Neuro-Recovery Center - Jacksonville, FL: http://www.brookshealth.org/programsservice/neuro-recovery/

•Neurorecovery Network – Several Locations: http://www.christopherreeve.org

•PEAK Center – Englewood, CO: http://www.craighospital.org/

•Precision Rehabilitation – Long Beach, CA: http://precisionrehabilitation.com/

•SHARE Program – Minneapolis, MN: http://www.couragecenter.org/

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Stand Alone Programs

- Beyond the Chair – San Antonio, TX: http://www.beyondthechair.org
- Buckeye Wellness Center – Valley View, OH: http://www.buckeyewellnesscenter.com
- C.O.R.E.-Northridge, CA: http://corecenters.info/
- CORE FLORIDA – Longwood, FL: http://www.coreflorida.com
- Journey Forward – Canton, MA: http://www.journey-forward.org/
- Mobility Fitness Institute – Tucson, AZ: www.mobilityfitnessinstitute.com
- NeuroFit360- Pembroke Pines, FL: http://neurofit360.com/
- NeuroXcel – North Palm Beach, FL: http://www.neuroxcel.com/
- NextSteps Chicago-Willow Springs, IL: http://www.nextstepschicago.org
- Next Step Fitness – Lawndale, CA: http://www.nextstepfitness.org
- Pressing On- San Antonio, TX: http://www.pressingontx.org
- Project Walk – Several Locations: http://www.projectwalk.org/
- Push to Walk- Riverdale, NJ: http://www.pushtowalknj.org
- Pushing Boundaries- Redmond, WA: http://pushing-boundaries.org
- Race to Walk- Mooresville, NC: http://racetowalk.org
- REACT – Dallas, TX: http://www.neuroreaction.org
- Samaritans Walk – Ashland, VA: http://www.samaritanswalk.com
- SCI-FIT - Sacramento, CA: http://www.sci-fit.org/
- SCI Recovery Project- Denver, CO: http://www.scirecoveryproject.org/
- SCI Total Fitness – online: http://www.scitotalfitness.com
- STAR Rehab – Grand Blanc, MI: http://www.starrehab.com
- The Recovery Project - Two Locations in MI: http://www.therecoveryproject.net/
- TheraFit Gym, New Lutherville, MD: http://www.therafitgym.com
- Walk The Line – Southfield, MI: http://walkthelinetoscirecovery.com/

Community Programs

1) Spinal Cord Central: http://www.spinalcord.org/resource-center/
2) National Center on Health Physical Activity & Disability: http://www.ncpad.org/
3) Wellness Center/YMCA
4) Therapeutic Recreation
5) Parks & Recreation

Exercise Videos

- NCHPAD Exercise Videos:
  Fitness 1-2-3™ DVD Series: Low/Limited Mobility Muscular Training
  NCHPAD Exercise Video List:
  - ***- Disability Specific***
  - ***- Older Adults & Seniors***
  - ***- Seated Exercise***
  - ***- Water Exercise***
  - ***- Yoga & Tai Chi***

  Healthy Tomorrow YouTube Channel

  Wheelchair Fitness Solution YouTube Channel

Resources

- National Center on Health, Physical Activity and Disability: http://ncpad.org/
- Miami Project: Staying Healthy: http://http://www.themiamiproject.org/paralysis-support/staying-healthy/
- Exercise for Older Adults with a Disability: www.agerrtc.org, University of Washington
- NARIC MulitMedia Collection of How to: http://www.naric.com/?q=en/multimedia-collection-view
- Neurotech Network, Fact Sheet Exercise Weak or Paralyzed Muscles: http://www.neurotechnetwork.org/factsheets/factsheet_exercise.html
- Neurotech Network, Fact Sheet Exoskeletons & Robotics: http://www.neurotechnetwork.org/factsheets/factsheet_motion.html

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Resources

- Reference Previous Webinars
  - Rehab is Over. Now What?: http://www.spinalcord.org/video-rehab-is-over-now-what/
  - Paralysis and Exercise: http://www.spinalcord.org/video-cutting-edge-fitness-for-wheelchair-users/
  - What is the Vibe? Vibration Therapy

  http://spinalcord.org/video-vibration-therapy-benefits-for-people-with-scid/

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Next Webinar: Incontinence is not an Option March 16, 2016