



Webinar Series

United Spinal Association

Preventing Falls in Adults with Disabilities and Chronic Health Conditions: What Works





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- United Spinal Association
- American Association on Health & Disability

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Goals and Objectives

- At the end of this webinar, attendees will be able to:
 1. Describe factors that put people at risk for falling.
 2. Explain proven steps, based on research studies (evidence), that people can take to prevent their own falls, falls of family members, or the falls of those for whom they provide care.
 3. Facilitate and empower their own self-management and the self-management of others in incorporating fall prevention techniques into their daily lives.
 4. Explain to others specific successful fall prevention techniques that apply to people with disabilities and chronic conditions to prevent falls.

Evidence

- Anecdotal Reporting – Expert opinion
- Case Studies and Case Reports
- Case Controlled studies
- Cohort studies retrospective
- Cohort studies prospective
- Randomized clinical trials
- Systematic review

Public Health Implications

- Falls among older adults & particularly older women with chronic conditions are a public health problem
 - cause fractures and traumatic brain injury, decreases quality of life, increases mortality and morbidity, early death, and creates unnecessary pain, trauma, and costs to individuals and society as a whole.
- Most are preventable.

Centers for Disease Control and Prevention. Falls Among Older Adults: An Overview:
<http://www.cdc.gov/HomeandRecreationalSafety/Falls/adultfalls.html>

- One in three adults 65+ fall every year.
- 2/3 of them will fall again within 6 mos
- 95% of hip fractures are caused by falls.
- 1 in 5 ppl w/ hip fractures die within a yr.
- Men are more likely to die from falls.
- Fractures 2X as high in women than men
- Falls-leading cause of death among 65+
 - Most common cause hospital admissions
 - Interfere with independent living
 - More likely to end up in LTC if you fall

- >70% of ER visits among persons 65+ in 2010 were related to falls.
- Injuries with the highest costs for patients treated in the ER and then admitted to the hospital:
 1. Falls (\$9.2 billion),
 2. Motor vehicle accidents (\$5.1 billion), and
 3. Poisoning (\$1.8 billion).*
- \$30 billion - 2010 direct medical costs for falls; expected to be close to \$55 billion by 2020

*AHRQ, Healthcare Cost and Utilization Project Statistical Brief #156: ***Causes of Injuries Treated in the Emergency Department, 2010.*** <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb156.jsp>

Falls and Spinal Cord Injury

- According to the National Spinal Cord Injury Statistical Center:
 - Vehicle accidents are the #1 cause of SCI accounting for 2,644 injuries or 39.08% of all SCI injuries
 - Falls are the #2 cause of SCI accounting for 1,999 injuries or 29.54% of all SCI injuries

Who is at risk for falls?

- Women
- People who live alone
- People who fallen before
- People with disabilities, gait & balance problems, & ambulatory or walking device and w/c users
- People with cognitive impairments, neurological impairments, dementia, intellectual disabilities, depression, who have had a stroke, Parkinson's disease, dizziness and vertigo, urinary incontinence, and other chronic conditions
- People who take multiple medications (anti-diabetes)

Falls and People with Disabilities

- Systematic review to measure the influence of pre-existing disability on the risk of sustaining an injury, including falls.
 - People with disabilities experience a higher risk to sustain an injury in comparison to people without disabilities.
 - High need for “large epidemiological studies of injury among persons with disability, to better address these unique risk profiles in order to prevent additional disability or secondary conditions.”

These Meds Cause Blurry Vision

- **Anti-arrhythmia drugs.** May cause blurred vision, yellow vision or blue-green halos to appear around objects
- **Antimalarial drugs.** Treats lupus & rheumatoid arthritis & can cause blurred vision. Long-term use may cause irreversible retinal damage.
Aralen and Plaquenil
- **Erectile dysfunction drugs.** Can cause temp problems like blurred vision, light sensitivity or blue-tinged.
- **Phenothiazines.** Treat schizophrenia, nausea, & pain can cause blurred vision, changes in color vision & difficulty seeing at night.
 - Compazine, thorazine, mellaril.
- **Tamoxifen.** Breast cancer leads to blurred vision, cataracts and changes to the retina and cornea (but rare)

(Johns Hopkins Alerts, 2013)

Older Adults?



PWD & Chronic Conditions?



People With Disabilities vs. People Without Disabilities

- Using data from the 2004-2005 National Health Interview Survey, Brophy and colleagues, compared medically treated injuries among people with and without disabilities. They found:
 - Falls were the leading mechanism of injury regardless of disability status
 - Falls were more common in severely or moderately disabled adults (68% and 47% respectively, compared with 28% among those without disabilities).
 - For the severely disabled, 57% of injury episodes occurred at home, compared with only 32% for the moderately disabled and 23% for adults with no disabilities.

People w/ Intellectual Disabilities

- Study of the prevalence of falls & risk factors for falls in 1,515 adults (≥ 18 years) with ID using baseline data from the Longitudinal Health and Intellectual Disability Study.
- Nearly 25% of adults were reported to have had one or more falls in the past 12 months.
 - (Hsieh, Rimmer, & Heller, 2012)

People w/ Intellectual Disabilities

- Prevalence of falls ↑ w/ advancing age.
- The following risk factors were found:
 - being female,
 - having arthritis,
 - having a seizure disorder,
 - taking more than 4 medications,
 - using walking aids, and
 - having difficulty lifting/carrying greater than 10 lb. (Hsieh, Rimmer, & Heller, 2012)

People w/ Intellectual Disabilities

- Australian Study: 34% of the 114 participants (39) reported a fall in the previous 12 months.
- # similar for formal care & community dwellers
- Falls among people w/ ID occur at younger ages & are a significant cause of injury & hospitalization
- (Cox, Clemson, Stancliffe, et. al., 2010)

People w/ Intellectual Disabilities

- Scottish Study: Prospective cohort study of 511 community-dwellers over 12 mo
- Found a higher rate of injuries & falls
- Incident fall injury was predicted by urinary incontinence
- Down syndrome reduced risk.
 - Other factors common to the gen. pop. not relevant (increasing age, taking multiple meds, fear of falling, etc)

(Finlayson, Morrison, Jackson, Mantry, & Cooper, 2010)

People w/ Intellectual Disabilities

- Systematic review (7 articles met criteria)
- Up to 57% of ppl w/ ID experienced a fall.
 - Falling caused 50-62% of recorded injuries.
- Risk Factors may include age, impaired mobility, epilepsy & behavioral problems.
 - Paucity of evidence for intervention strategies
 - Lack of evidence for falls management
 - Reduce injuries by addressing environmental
 - Exercise for gait, balance & strength,
 - Medical management

Hearing Loss

- 2017 adults 40 to 69 yrs underwent a hearing test & falls history in the National Health and Nutritional Examination Survey (NHANES)
- People with a 25-decibel hearing loss, (mild) were nearly 3x more likely to have fallen.
 - Every additional 10-decibels of hearing loss \uparrow the chances of falling by 1.4 fold.
 - Even when researchers accounted for other factors linked with falling, including age, sex, race, cardiovascular disease and vestibular function.

Wheelchair Users & Falls

- 1994 study of non-institutionalized users of manually propelled wheelchairs in Nova Scotia
- Mailed 2055 surveys. 511 people responded.
 - 57.4% reported completely tipping over or falling from their wheelchairs at least once
 - 66.0% reported having partially tipped.

- Of the tips,
 - 46.3% were forward in direction,
 - 29.5% backward and 24.2% sideways.
 - Many of the accidents occurred outdoors or on ramps
- 292 injuries were reported by 272 (47.1%) respondents.
 - Most (84.3%) were minor (e.g., abrasions, contusions, lacerations and sprains).
 - Of the 15.8% of injuries that were serious, the most common were fractures (10.6%) and concussions (2.7%).

- Factors associated with an ↑ risk of accidents & injuries:
 - younger age
 - male gender
 - paraplegia or spina bifida as the reason for wheelchair use
 - having had a wheelchair prescribed
 - some wheelchair features (lightweight, camber, adjustable rear-axle positions, a knapsack)
 - daily use of a wheelchair, propelling the chair with both hands
 - use of the wheelchair for recreation
 - use of a sideways transfer (without a transfer board) and doing repairs themselves or having them done by the dealer

- Factors associated with an < risk of accidents & injuries:
 - multiple sclerosis, stroke or arthritis as the reason for wheelchair use,
 - attendant propulsion and
 - the use of a one-person assist for transfers.
- Bottom Line:
 - Tips and falls are very common
 - Serious injuries are not unusual
 - There is a pattern of risk factors

- 1995 Kirby & Ackroyd-Stolarz analyzed 18 yrs of FDA data based of reported adverse wheelchair event (N=615)
 - Scooters incidents: 52.8%
 - Powered wheelchairs: 24.6% and
 - Manual wheelchairs 22.6%, respectively.
 - Fractures most common injury from falls
 - Contributing factors, (some in combination) engineering (60.5%), environmental (25.4%), occupant (9.6%), & system (4.6%).
 - Forward tips: most common in incidents w/ manual or powered wheelchairs
 - Sideways tips most common in scooters.

(Kirby & Ackroyd-Stolarz, 1995)

Few Home Modifications

Many Injurious Falls

- Analysis of the 1994–1995 National Health Interview Survey Disability Supplement & a follow-up in 6-18 mo
 - 525 community-dwelling w/c users
 - 37.9% fell at least once in the past 12 mos
 - 17.7% fall-related injury (46.7% of fallers)
 - presence of *any indoor home modification* was asso w/ a *lower* prevalence of injury from falls
 - Factors associated with *increased* odds of a fall-related injury included 1- the use of other mobility aids; 2- reliance on multiple helpers and 3-getting outside on a daily basis

Aging with a SCI

- 759 people with SCI responded to questions about subsequent injuries in the past 12 months.
- Part of a longitudinal study from 1973
 - Average age 54.3 and 27 years post injury
 - 19.2% reported 1 or more injuries in the past 12 months and 10.4% reported a fall that resulted in an injury.
 - An equal mode of locomotion of walking and wheeling produced higher odds of falling than wheelchair use only

Aging with a SCI

- Prescription drug use resulted in higher odds of falling (especially in the 3 oldest age groups)
- Non-white race was also significantly associate with falls in the 12 months (especially in the youngest and oldest age groups)
- Among participants who had at least 1 or more injuries in the last year,
 - 22.8% had were hospitalized at least once for an injury in the last 12 month and
 - 47.6% were limited in their normal daily activities for a week or more due to injury.

Aging with a SCI

- No significant difference in injury or falls or the number of them by age group.
- There were differences by age group in
 - days limited in normal activities,
 - time out of bed, and
 - ability to get out of the house.
- Participants in the middle age groups were the most likely to be limited in their activities.
- In the younger group those who reported binge drinking in the last 30 days were more likely to report an injury
- Need research on preventing injuries and falls

Incomplete SCI and Falls

- Survey of people with incomplete SCI
 - 75% of study participants sustained at least one fall over the previous year.
 - Even though most injuries were minor, 18% of fallers sustained a fracture and
 - 45% reported reduced ability to get out into the community and engage in productive activity.
 - Factors perceived to contribute to falls most often were
 - Decreased trunk strength
 - Decreased strength lower extremities,
 - Loss of balance, and
 - Environmental hazards

SCI and Falls

- Prospectively looked at people with SCI who experienced falls and those who did not, 6 month after discharge from rehab
 - Looked at functional ability as measured by certain tests (Timed Get up and Go test, etc.)
 - Falls were positively correlated with increased long-term gains (6 months) in functional ambulatory motor skills rather than reflective of worsening skills.
 - 33% of study participants said falls caused by environmental hazards and 33% caused by loss of balance
 - People with SCI who had greater functional improvement experienced a higher risk of falls
 - Therefore, # of falls should not be the sole measure of ambulatory function or balance in SCI

Medical Complications & Falls In People With SCI After Completion Of Rehab

- 100 subjects compared people with SCI who rely on a wheelchair for mobility and people who are ambulatory (50/50) (after rehab completion)
 - 38% of wheelchair users (WCUs) fell compared with 54% of people who are ambulatory (PWA) w/SCI
 - In WCUs, falls mostly occurred while performing an activity in a wheelchair within and around the house
 - In PWA, falls occurred while they were walking inside the house due to loss of balance and a hazardous environment
- Increased level of mobility exposes subjects with SCI to increased fall opportunities.

Veterans w/ Spinal Cord Injuries

- Wheelchair-related falls in community dwellers. Prospective cohort studied 1 yr
 - Of 659 subjects who completed the study,
 - 204 participants (31%) reported 553 fall events
 - 95 subjects (14%) were injured as a result of wheelchair falls.
 - 6 significant risk factors identified
 - pain in previous 2 months*,
 - alcohol abuse,
 - greater motor function*,
 - history of previous fall*,
 - fewer SCI years, and
 - shorter length of wheelchair
- *=factors that predict injurious falls (+ inaccess home entrance)

- Data analyzed from the National Electronic Injury Surveillance System (NEISS)
 - In 2003, > 100,000 w/c related injuries were treated in ERs in the US, 2X # reported in 1991.
 - Tips and falls accounted for 65–80% of injuries across all age groups of wheelchair users.
 - Most children's injuries occurred outside of homes and institutions/hospitals in environments with stairs, ramps, and curbs (57.3%).
 - Adult injuries were more likely to occur in homes, hospitals, and institutions (45–90%).
 - Leading cause of injuries for all were tips and falls.

- Potential risk factors in 4 categories:
 - Engineering factors
 - manual v powered wheelchair, wheelchair occupant restraint systems, anti-tips, and wheel locks,
 - Characteristics of wheelchair users
 - age, sex, and type of disability
 - Physical environment
 - uneven terrain, bathroom & home mod, and
 - Social environment
 - User's activities, inappropriate prescription by healthcare professionals, & inadequate maintenance of w/c .
- Interventions to modify any factor may reduce the risk of tips & falls, & therefore reduce the risk of wheelchair related injuries

Chronic Conditions vs. Meds

- 4286 women aged 60-79 from British women's heart and health study.
 - The prevalence of falling ↑ w/ increasing # of simultaneously occurring chronic conditions.
 - Associated with an increased odds of falling:
 - Circulatory disease, chronic obstructive pulmonary disease, depression, & arthritis.
 - Chronic diseases may ↑ risk of falls through direct effects of condition & indirect effects, i.e. reduced physical activity

MS & Falls

- Surveys of 1089 people from MS registry
 - 52.2% reported a fall in the past 6 mos.
 - Factors associated with ↑ risk of fall incl
 - being male,
 - fear of falling,
 - variable or deteriorating MS status in the past yr,
 - never or occasional use of a wheelchair,
 - problems with balance or mobility,
 - poor concentration or forgetfulness, and
 - incontinence of bladder.

(Finlayson, Peterson, & Cho, 2006)

MS & Falls

- British study Observational study 52.7% reported \geq two falls
 - Continence issues, previous falls history & use of prescribed medications were each associated with increased risk of being a "faller" (>2 falls)
(Gunn, Creanor, & Haas, et. al, 2013)
- VA Study showed injurious falls in female vets w/ MS was 3X higher than in female veterans without MS
 - Not so with male vets

MS & Falls

- Systematic review & Meta-analysis:
 - Eighteen different risk factors were assessed within the 8 included studies.
 - Meta-analysis demonstrated an ↑ in fall risk associated with impairments of
 - balance and cognition,
 - progressive MS, and
 - use of a mobility aid.
 - Conclusion: Need more research

(Gunn, Newell, Bernhard, et. al 2013)

MS & Falls

- Another meta-analysis looked at whether there are demographic, clinical, and instrumental variables useful to detect fall status of people with MS. Found that compared with non-fallers, fallers had:
 - Longer disease duration
 - Progressive course of disease
 - Assistive devices for walking
 - Greater overall disability level
 - Slower walking speed and
 - Worse performances in static and dynamic balance tests

Neuromuscular Disorders

- People with and without neuromuscular disorder were followed over time.
- People with neuromuscular disorders fell more - 27% versus 5% of the controls.
- Falls caused injuries, fear of falling and reduced activities.

Parkinson's

- People w/ Parkinson's disease fall.
 - Many factors associated with falls in the general population are associated with Parkinson's.
 - Fallers were more likely to be depressed and anxious than non-fallers.
 - More likely to have greater disease severity
 - Conclusion: disease-specific factors contribute to the increased risk
 - (Ashburn, Stack, Pickering, & Ward, 2001)
- Another study found these factors predictive of falls:
 - Previous fall, loss of arm swing, each year of disease & dementia

Strokes and Falls

- Descriptive study looked at all falls retrospectively over a 21 month period
 - There were 241 falls in 122 patients
 - Most falls occurred around the bed (196 (81%) falls).
Toileting-related falls occurred in 54 patients (22.4%)
- Found that not all falls are the same and created a taxonomy of 7 different types of falls

Strokes and Falls

- Identified 7 types of falls from strokes:
 1. 'I'm giving it a go' associated with better functioning at the time of fall & better outcomes
 2. "It's the meds"
 3. "I'm new here" lack of orientation to new environment
 4. "I'm sick" illness contributes to fall

Strokes and Falls

5. “I shouldn’t have” doing something beyond their capability. Intent ≠ mobility status
 6. “It wasn’t me” caused by circumstances outside the person’s control
 7. “I’m very dependent” result of the person’s high physical dependency and reliance on others for basic tasks
- Each type requires a different approach to intervention and prevention

Dementia & Falls

- Population experiences double the risk for falls (Taylor, et. al., 2012)
 - No evidence fall prevention programs work in older *community-dwelling* cognitively impaired people.
 - Mixed results reported in fall prevention studies that included older adults with cognitive impairments in both *hospital* and *nursing home* studies (Cameron, et. al., 2010)
 - A recent systematic *review failed to provide conclusive evidence that exercise programs, including a balance component, can significantly improve balance in older people with cognitive impairment.* (Suttanon, et. al., 2010)
 - Benefits of some other some interventions, such as vitamin D or bisphosphonates, may be inferred from studies from similar populations. (Taylor, et. al., 2012)

Evidence of Fall Prevention

- RCT of people with MS showed
 - lowered fall risk scores for the exercise group compare to the non-exercise group following intervention (Sosnoff, et. al, 2015)
- RCT pilot of people with Huntington's disease
 - Compared home-based exercise group participants to those in a non-exercise group.
 - 2 participants of 13 in the exercise group lowered their risk of falls as measured by the Berg Balance Scale, which has been shown to be predictive for falls in people with Huntington's disease (Khalil, et. al., 2013)
- RCT pilot of people with SCI
 - Compared effects of sitting Tai Chi on muscle strength, balance control, and quality of life
 - Dynamic sitting balance and handgrip strength, improved but not QOL.
 - Major contributor to falls is lack of balance during transfers.

Preventing falls in community dwelling elders

- Interventions that reduced falls (They work?)
 - Group and home-based exercise programs, usually containing some balance & strength training exercises
 - Tai Chi
 - Multifactorial interventions assess an individual's risk of falling, and then carry out treatment or arrange referrals to reduce the identified risks.
(reduces the # of falls among community dwellers)

Home safety etc

- Interventions to improve home safety appear to be effective, especially in people at higher risk of falling and when carried out by occupational therapists.
- An anti-slip shoe device worn in icy conditions can also reduce falls
- Taking vitamin D supplements does not appear to reduce falls in most community-dwelling older people, but may do so in those who have lower vitamin D levels in the blood before treatment.

Medication & Falls

- Some medications increase the risk of falling.
- Three trials in this review failed to reduce the number of falls by reviewing and adjusting medications.
- A fourth trial involving family physicians and their patients in medication review was effective in reducing falls.
- Gradual withdrawal of a particular type of drug for improving sleep, reducing anxiety, and treating depression (psychotropic medication) has been shown to reduce falls.

Medical Interventions

Vision & Heart

- Cataract surgery reduces falls in women having the operation on the first affected eye.
- Insertion of a pacemaker can reduce falls in people with frequent falls associated with carotid sinus hypersensitivity, a condition which causes sudden changes in heart rate and blood pressure.

Foot Pain & Education

- In people with disabling foot pain, the addition of footwear assessment, customized insoles, and foot and ankle exercises to regular podiatry reduced the number of falls but not the number of people falling.
- The evidence relating to the provision of educational materials alone for preventing falls is inconclusive.

Evidence-based programs

- A Matter of Balance:
 - Managing Concerns About Falls: program designed to reduce fear of falling & increase activity levels among older adults.
 - Must be age 60 or older, ambulatory and able to problem solve
- Otago – Developed in New Zealand
 - People who have
 - fallen in the past year or
 - have muscle weakness or balance problems
 - live in the community and can walk with or without a walking aid

Evidence-based programs

- *Stepping On* is for older adults who:
 - Live in their home or independent apartment
 - Can walk without the help of another person
 - Do not use a walker, scooter or wheelchair most of the time indoors
 - Are cognitively intact
 - Understand the language being used by the *Stepping On* Leader

What can you do to prevent falls?

- Get moving
- Bring your medications to the pharmacy
- Tell your primary care provider if you have fallen
- Ask for a referral for occupational therapy for home modifications
- Get vision checked and glasses

If you are a wheelchair user

- You are an expert in how you transfer. Make sure everyone knows that.
- Lock the chair for transfers
- Turn off power chairs scooters when not in use.
- Don't remove parts (anti-tip)
- Don't add things that throw the weight off
- Lower the risks.

Exercise Program for PWD & CC

- National Center on Health, Physical Activity, and Disability
<http://www.ncpad.org/#sthash.t27PzFyl.dpuf>
- Personalized Exercise programs
- How do you Exercise in a Wheelchair?
 - David Lyons
 - <http://www.everydayhealth.com/columns/ms-fitness-challenge/wheelchair-workout/>

[oakgrovebarb](#) just earned a My Program badge.

[dcmerkle](#) from Towson, MD just earned a My Program badge.

What others have said about the 14-Week program:

"I am a 62-year-old, T-5 paraplegic, female. This was just the exercise program I was looking for. I love the cardio workouts most of all! I am now moving and feeling so much better than before I started this program."

"I thought the program was very good, especially for those who are intimidated by starting a program. It allows you to work at your own pace and you can see your progress as you gradually increase in strength and endurance. I had given up on exercising because of fibromyalgia pain but have found that movement actually helps me to feel better and it challenges me at the level I am currently at."

"I have lived with MS for almost 30 years and the program provided me with the encouragement and incentive to get more active in accordance with my abilities."

Welcome!

» Thank you for your interest in the NCPAD 14-Week Program. Please log in or register to view your personalized exercise and nutrition program.



[View Transcript](#)

If you have already registered for the program please log in. If you are a new user, please watch the video above, read the description of the program in the column to your right, and explore the site to learn more about the content of the NCPAD 14-Week Program. Then, register for the program to receive weekly exercise and nutrition resources and tips from the National Center on Physical Activity and Disability that will help keep you motivated to stay on track for your health and fitness goals. By registering, you will also gain exclusive access to exercise and nutrition experts who can provide you with personalized guidance along the way. Join us on a 14-week journey to a healthier you!

Welcome

Welcome to NCPAD's 14-Week Program to a Healthier You!

What is the program?

- Description: A **free, personalized, web-based physical activity and nutrition program**
- Target Audience: People with mobility limitations, chronic health conditions and physical disabilities
- Goal: To help you get moving and making healthy nutrition choices
- Duration: 14 weeks

How does it work?

- You register for the program and tell us a little about yourself.
- We take the information you gave us and, to the best of our abilities, provide you with personalized resources and exercises that meet your individual needs over the course of 14 weeks.
- Because there is new material each week that builds on the previous weeks, the program

Champion's Rx

Home » Champion's Rx

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I Think I Can

What is Champion's Rx?

[Open](#)

AMRAP in 20 minutes.



- | | | |
|---|---|---|
| • 10 Push- Ups | • 10 Push-Ups On Mat | • 10 Push-Ups On Mat |
| • 10 Air Squat | • 10 Walk Out Straight Arm Planks | • 10 Walk Out Straight Arm Planks |
| • 10 Bent Over Rows | • 10 Rowing | • 10 Rowing (Machine Or Cable Column) |
| • 10 Medicine Ball Squat And Toss | • 10 Medicine Ball Overhead Wall | |

Key to Classes



Class A is for individuals that can use all four limbs, individuals with ambulatory CP, and individuals with limb loss.



Class B is for individuals that have use of their upper body, including some core. This may include individuals with paraplegia, some individuals with CP, individuals with spina bifida, and individuals with double above the knee limb loss.



Class C is for individuals with limited use of their upper body, including very limited core, with a possible impairment in their grip. This may include individuals with quadriplegia and those with highly involved CP.

Weekly Archive

Monday

How To: Exercises from Your Wheelchair

🕒 January 4, 2016 👤 Brian Havens 📝 Lifestyle 💬 6 Comments



Wheelchair Exercises

Links to 8 online workout videos including one from NCHPAD
<http://101mobility.com/blog/wheelchair-exercises/>

How do you Exercise in a Wheelchair?

By David Lyons

Published Sep 6, 2013

<http://www.everydayhealth.com/columns/ms-fitness-challenge/wheelchair-workout/>

YOUR REACTION?

I LIKE IT

SO SO

INSPIRING

INTRIGUING

IMPORTANT



I must say it is challenging to train with MS, but it is even more of an effort when you are in a wheelchair with MS. I am here to tell those of you in wheelchairs... you can do it!

There are many upper body workouts that can be done from a wheelchair with weights and [exercise bands](#). I'm going to outline just one of these using bands that will allow you to be involved in a fitness regimen and help keep you in shape. **This is a beginner**

routine and more exercises can be added once you are comfortable.

[Exercise Bands](#) can be purchased with different levels of resistance and typically come in a package that allows you to increase the resistance as your strength increases. Each movement will be performed for 3-4 sets. For muscle building, keep the repetitions from 8-10 and for toning from 12-15. Exhale on exertion and inhale at release. Always sit tall in your chair, and keep your abdominals tight.



CHEST PRESS

Loop the band around the back of the wheelchair and grasp the handles of the band in each hand at chest level. Grasp the band handles back far enough so that you are able to feel the resistance. Next, press the bands forward until the arms are straight out in front of you. Do not lock the arms. You want to keep the tension throughout the movement and not relax in a locked position. Slowly return to the starting position.

CHEST PULL



For Ways Adults Can Reduce Falls, Click Here

For Ways Professionals Can Reduce Falls, Click Here



Take Action:

Be Safe at Home

Enjoy the Outdoors

Don't Be Swept Off Your Feet

Move Your Body

Know Your Medications

Eye Can See Clearly Now



[STEADI \(Stopping Elderly Accidents, Deaths & Injuries\) Tool Kit is available.](#)

Let's keep Minnesotans right side up.

This website provides information for both adults and professionals to help reduce falls. Here you will find easy, inexpensive ideas that help reduce and prevent falls.



Falls are the leading cause of injury for children and for adults 35-years and older. Falls and fall-related injuries among adults over age 65 are on the rise. Currently, Minnesota ranks fifth among states in

Future Research & Promotion

- PCORI & NIH partnership
 - PCORI provided \$30 mill for research
 - Awaiting outcomes
- National Council on Aging
 - Falls Prevention Awareness Day September
- Almost every study says we need more research on PWD and falls to prevent secondary conditions.



Webinar Series

United Spinal Association

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Evidence based Programs:

- A matter of balance: http://www.mainehealth.org/mh_body.cfm?id=432 Boston University
- *Otago Exercise Program Manual* http://www.med.unc.edu/aging/cgec/exercise-program/FINALOEPMManual_v16_090911.pdf
- Stepping-on <https://wihealthyaging.org/stepping-on> Wisconsin Institute on Healthy Aging
- Information for Wheelchair Users: <http://members.cruzio.com/~yogi/whchair.htm>