REHAB

EUFAPA

Physical Activity Guidelines for Persons with Disabilities

Spinal Cord Injuries (SCI)



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Latvian Academy of Sport Education.
President, EUFAPA

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Which Answer is Correct ?

- ❑ This man checks the watch while walking to meet his friend.
- ❑ This man looks in the map on his phone.
- ✓ This man does individualized daily physical activity program.
- ❑ This man tries to remember the items on his shopping list.

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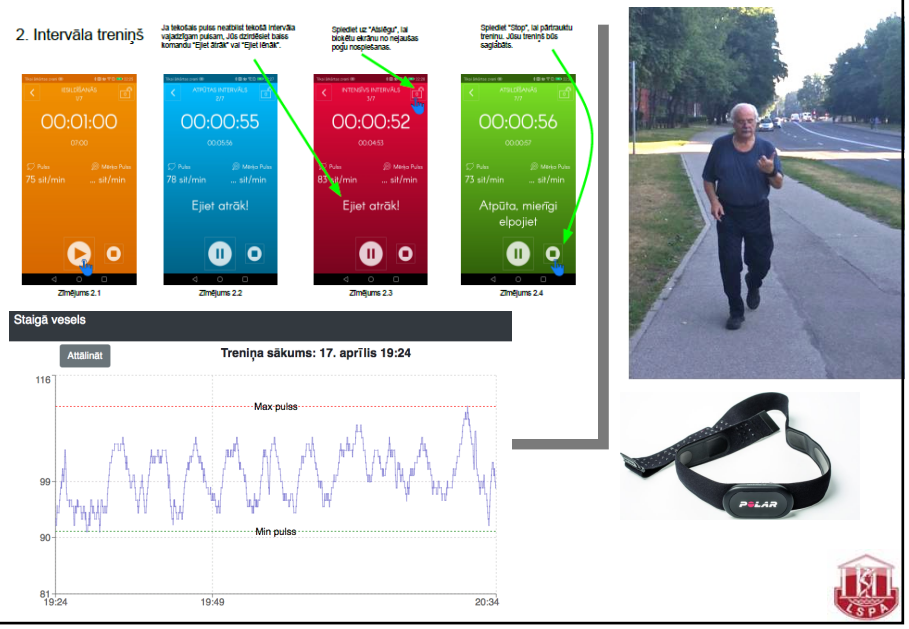
Individually Adapted Interval Walking Training for Persons with T2D



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- 27.2% of people with disabilities rate their health as excellent or very good

HOWEVER

- 40.3% of people with disabilities rate their health as fair or poor compared to 9% of people without disabilities
- Elderly people with disabilities have to simultaneously manage their primary disability, associated secondary conditions (e.g. obesity) and health related (e.g. more illness) aspects of aging while finding it more and more difficult to engage in physical activity.

CDC, 2012

Barriers often interact with other barriers

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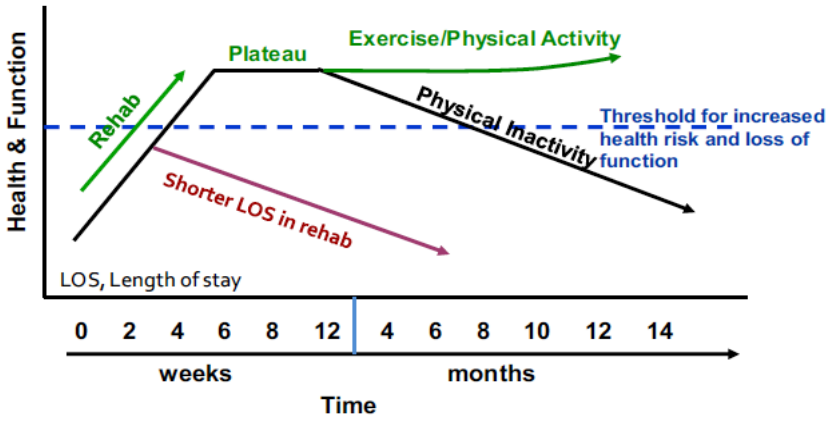
Primary rehabilitation and physical activity after rehabilitation (Rimmer, 2012)



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Health Literacy

- *Quality Healthcare Communication Survey* interviewed 895 physicians and 811 patients
- 85% understood their personalized medicine treatment when it was explained to them,
- 23% physicians felt that their patients were fully informed.

(Picture credits. © Floris Oudshoorn – ComicHouse / EHFG)

«Did you understood what the doctor said?» only the **15%** said **"YES"**

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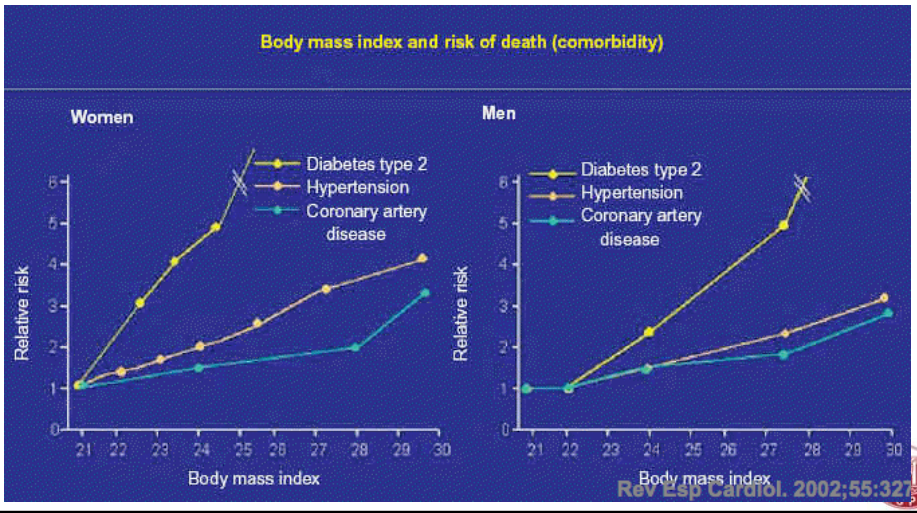
- **Obesity in people with disability**
  - 62% were obese and 22% were extremely obese, with minority women at the greatest risk (n = 306)

Rimmer & Wang (2005)



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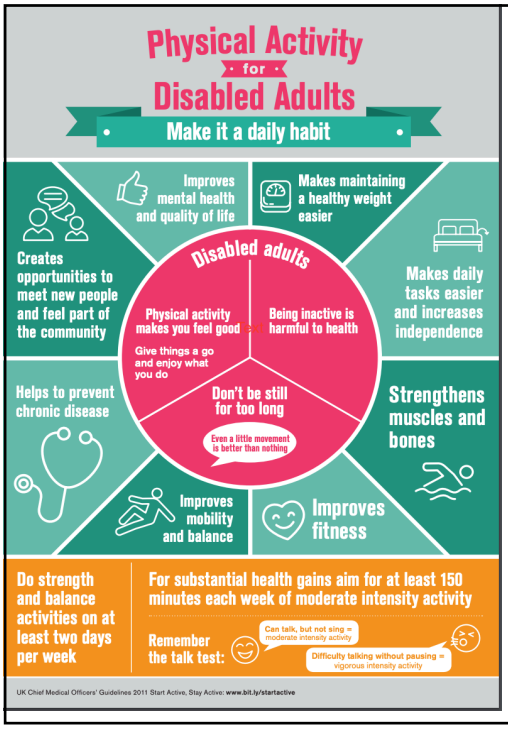

Start active, stay active: infographics on physical activity

https://www.gov.uk/government/publications/start-active-stay-active-infographics-on-physical-activity

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Secondary health problems

- More focus since 1986
- Seconday health problems
  - Obesity
  - Type 2 diabetes
  - Cardiovascular problems
  - Contractures..

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Physical Therapy
Journal of the American Physical Therapy Association

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A Conceptual Model for Identifying, Preventing, and Managing Secondary Conditions in People With Disabilities

James H. Rimmer, Ming-De Chen and Kelly Hsieh

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This Article

Published online before print 14 October 2011
doi: 10.2522/ptj.20100410
Physical Therapy December 2011 vol. 91 no. 12 1728-1739

Methodology

Open Access

GRAIDs: a framework for closing the gap in the availability of health promotion programs and interventions for people with disabilities

James H Rimmer[1*], Kerri A Vanderbom[1], Linda G Bandini[2,3], Charles E Drum[4], Karen Luken[5], Yolanda Suarez-Balcazar[6] and Ian D Graham[7]

Am J Phys Med Rehabil. 2010 Mar;89(3):249-63. doi: 10.1097/PHM.0b013e3181c9fa9d.

Exercise intervention research on persons with disabilities: what we know and where we need to go.

Rimmer JH[1], Chen MD, McCubbin JA, Drum C, Peterson J.

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REHAB

Hippocrates (460–377 BC), widely recognized as the father of modern medicine, is credited with remarking that *"if we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health."*

European Alliance for Personalised Medicine

(Picture credits. © Floris Oudshoorn – ComicHouse / EHFG)

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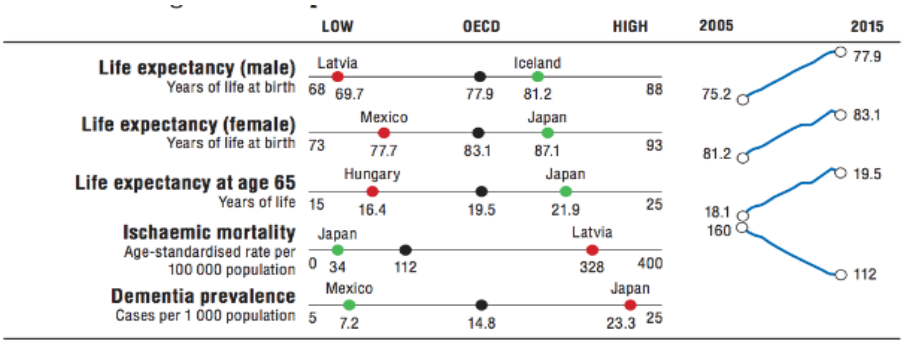
Physical Activity and Health

- Limited/ none physical activity – signicant risk factor in development of non – communicable disease (NCD)
  - 3,5% diffferent disease
  - about 10% death in Europe.



Life Expectancy and Health

Image: OECD

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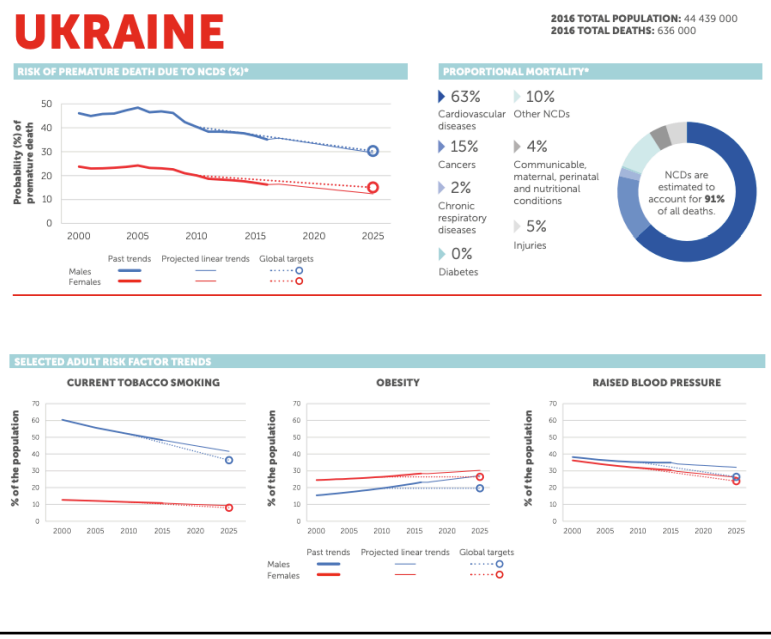

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- In Sweden, all licensed healthcare professionals may prescribe physical activity (Socialstyrelsen, 2017).
- Knowledge about the patient´s health status and the use of physical activity for prevention or treatment of diseases according to the Physical activity in the prevention and treatment of disease (FYSS) is required (Yrkesföreningar för fysisk aktivitet. 2016).
- During 2016, there were 16,000 prescriptions for physical activity (PAP) in Region Västra Götaland (VGR), corresponding to 1.2 % of all adult patients.
-

Figure 1 The Swedish physical activity on prescription model is based on five cornerstones.

A patient-centred counselling, using evidence based physical activity in the particular case, results in an individualized written prescription, which should be followed-up. To promote increase and maintenance of physical activity level a community-based network with healthcare and activity organisers is important. Adopted with permission from Kallings 2008 (6).

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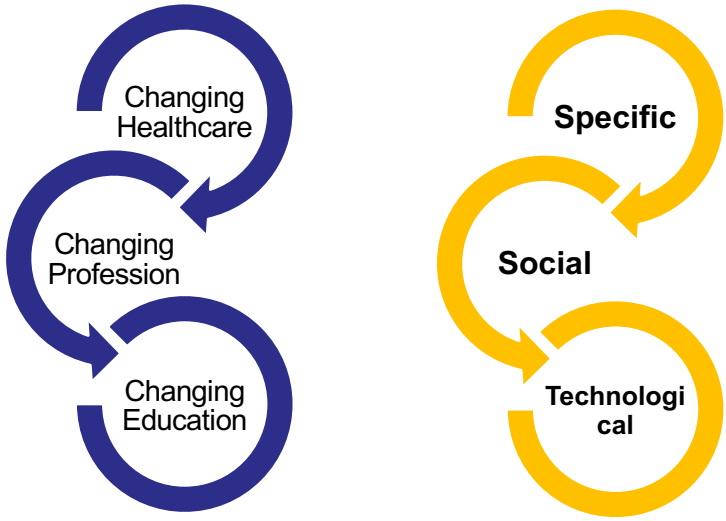
Challenges of the Current Health Care System



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Specific

Healthcare
- Ageing population
- Complexity
- Comorbidity
- Lifestyle Factors
- Appetite for CAMs
- Demand vs supply

Education
- Democratized knowledge
- Anytime, anywhere learning
- Learning though life
- Just- in–time study
- Learner – led
- Micro credentialing

Profession
- Bypassing gatekeepers
- Over-specializations
- Diversification
- Routinization
- Automatization

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Social

- Redistribution of funding from public to personal
- Greater diversity and skepticism toward traditional authority
- Challenge to traditional institutions (free press, democracy, free markets, social justice etc.)
- Rise of new power (Google, Apple, Facebook, Amazon etc)
- Globalization
- Internet and personal digital

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Technological

- Machine learning (Predictive, algorithms, diagnostics)
- Social media
- Robotics
- Intelligent agents
- Expert systems
- Computer vision
- 3D printers (e.g., prosthetics)
- Telehealth
- Digital monitoring

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Evidence Based Practice – Not Enough!

Additional forces :

- Cultural
- Political
- Economical
- Social

Have to use arts, humanities, social science and philosophy!

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The Raise of Personal Responsibility

Health
Copyright © 2002
SAGE Publications (London, Thousand Oaks and New Delhi)
[1363-4593 (200204) 6:2]
Vol 6(2): 107–137; 022053

Disturbing notions of chronic illness and individual responsibility: towards a genealogy of morals[1]

Rose Galvin
Woolgoolga, NSW, Australia

ABSTRACT This article seeks to demonstrate that chronic illness is increasingly being viewed as culpability in the face of known risks, an instance of moral failure that requires the intervention of a range of political technologies. I argue that, in many western nations, it is becoming less acceptable to enter and remain in a physically incapacitated state: it clashes too uncomfortably with the image of the 'good citizen' as someone who actively participates in social and economic life, makes rational choices and is independent, self-reliant and responsible. By engaging in a genealogical analysis of chronic illness and individual responsibility, exploring how they are placed within the framework of contemporary 'risk-society', employing the insights derived from recent governmentality studies and developing a case study based on the current Australian experience with health promotion and welfare reform, I investigate the ways in which the concepts of health and illness are currently being deployed as tools of 'government'.

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REHAB

Health Changes

- **Healthcare issues:**
  - Increasing number of people with chronic disease
  - Impending labor shortages in the health care sector
  - Changes in organization of health care
  - Changing role of the client and healthcare professional
  - Changes in governmental policy and legislation
  - Older people want to stay at home longer
  - Active aging

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REHAB

SMART Goals in Rehabilitation

- Specific
- Measurable
- Achievable
- Real
- Timely

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Physical Activity Guidelines

- Examine the Grading of Recommendations Assessment, Development and Evaluation (GRADE) evidence profiles or other assessments of the quality of the evidence used to inform the recommendations and provide input;
- PICO: population, intervention, comparator and outcome

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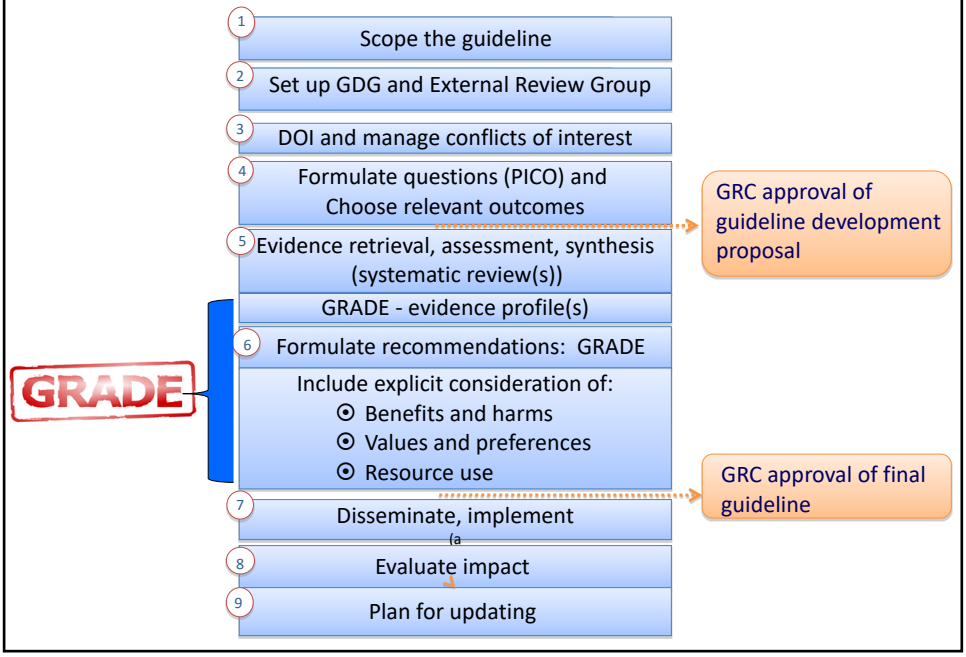
WHO Guidelines



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WHO Guidelines…

- Must meet the highest quality standards for evidence-based guidelines
- Must be based on high-quality systematic reviews of all relevant evidence
- Use GRADE, which provides an explicit approach to:
  - Assessing the quality of the evidence across studies and outcomes
  - Translating evidence to recommendations
- Incorporate multiple processes to minimize bias and optimize usability
- Must incorporate transparency in all judgments and decision making processes

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Physical Activity Guidelines for Persons with Spinal Cord Injury

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Physical Activity Guidelines for Persons with Spinal Cord Injury

- **Physical activity (PA) guidelines** are systematically developed, evidence-based statements that provide age- and ability-specific information on the course of action required to maintain or enhance performance, fitness, or health.

- **Clinical practice guidelines should be formulated by taking into consideration:**
  - the benefits, risks, values, and preferences of the people who will use the guideline.
    - ***potential risks of SCI-specific adverse events (e.g., upper-body over-use injuries, skin breakdown, autonomic dysreflexia, over-heating were not considered in relation to performing the 150 min/week guideline).***

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- Exercise prescriptions are the “dose” of exercise given to participants, consisting of ***exercise type, frequency, intensity, and duration, and are the key informational elements of exercise guidelines.***

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- People living with disability can achieve health benefits from activity levels well below the 150 min/week threshold

2011 project in Canada:

For important fitness benefits ***in at least 20 min of moderate to vigorous intensity aerobic activity two times per week, and strength training exercises two times per week"***

adults with a spinal cord injury should engage ***It does not specifically address cardiometabolic health, which encompasses measures of body composition (e.g., fat mass, lean body mass) and risk factors for cardiovascular disease (e.g., blood lipids and cardiac vascular structure/function)***

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REHAB

Research article

Body mass index changes over 3 years and effect of obesity on community mobility for persons with chronic spinal cord injury

Patricia E. Hatchett[1], Sara J. Mulroy[1], Valerie J. Eberly[1], Lisa Lighthall Haubert[1], Philip S. Requejo[2]

[1]Rancho Los Amigos National Rehabilitation Center, Pathokinesiology Laboratory, Downey, CA, USA, [2]Rancho Los Amigos National Rehabilitation Center, Rehabilitation Engineering, Downey, CA, USA

Objective: To identify the prevalence of obesity in persons with chronic spinal cord injury (SCI), determine change in body mass index (BMI) over time, and identify impact of obesity on community mobility.
Design: Prospective three year longitudinal study.
Setting: Outpatient clinic of rehabilitation center.
Participants: Convenience sample of 222 persons with paraplegia between 2–20 years post SCI.
Outcome Measures: BMI at baseline and three years; community mobility (daily wheelchair propulsion distance and velocity, average number of daily transfers and depression raises).
Results: Participants were 34.1 (27.3, 40.3) years of age and median duration of SCI was 8.7 (3.2, 15.1) years. The SCI adjusted BMI classification identified 44% of participants as obese. BMI increased over time with 13% moving into a higher weight category. Median change in BMI was 0.46 (−0.92, 1.50) kg/m^2 ($z = -2.684$, $P = 0.007$), and increased at a rate of 0.15 kg/m^2/yr. Average BMI was negatively correlated with daily wheelchair propulsion distance ($r = -0.179$, $P = 0.009$), however there was no significant relationship with velocity, number of daily transfers or depression raises.
Conclusion: The majority of participants with chronic SCI were overweight (23%) or obese (44%) and BMI increased by 0.46 kg/m^2 over three years. Those with higher BMIs pushed their wheelchairs shorter distances, but other mobility measures were not impacted by body weight. Continued mobility activities with increasing body weight can increase risk for shoulder injury. Identifying persons who are obese allows for directed and timely health and mobility intervention.

Keywords: Community mobility, Obesity, Spinal cord injury

Table 1 Adult body mass index weight categories as defined by the World Health Organization and a scale adjusted for persons with spinal cord injury

WHO BMI Classification		SCI Adjusted BMI Classification	
Underweight	BMI < 18.5 kg/m^2	NA	NA
Normal (healthy weight)	18.5 ≤ BMI < 24.9 kg/m^2	Recommended BMI	BMI < 21.9 kg/m^2
Overweight	25 ≤ BMI < 29.9 kg/m^2	Overweight	22 ≤ BMI < 24.9 kg/m^2
Obese	BMI ≥ 30 kg/m^2	Obese	BMI ≥ 25 kg/m^2

Abbreviations and Definitions: WHO = World Health Organization, BMI = Body mass index (kg/m^2), NA = not applicable because this category does not exist in the SCI Adjusted BMI Classification.

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Hatchett et al. Body mass index changes over 3 years and effect of obesity on community mobility for persons with chronic spinal cord injury

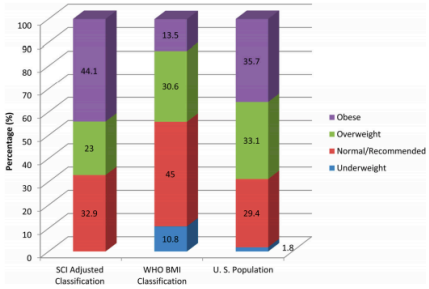

Figure 1. Prevalence of research study subjects' BMI weight category according to the SCI Adjusted Classification and WHO classification, and the U.S. population's BMI (per WHO classification).

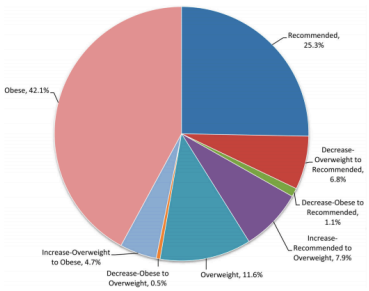

Figure 2. Change in BMI weight category over time using the SCI Adjusted BMI Classification. 42.1% of persons remained obese, and 4.7% shifted into the obese category over three years.

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REHAB

- Cardiometabolic diseases are among the leading causes of death in adults with SCI, guidelines that address cardiometabolic health would be extremely valuable
-
- Evidence was considered separately for acute (≤12 months post-injury) and chronic SCI. First, evidence was synthesized and appraised (using **Grading of Recommendations, Assessment, Development, and Evaluation**
- **[GRADE])**

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211 STUDIES MET THE INCLUSION CRITERIA (from January 1, 1980, and January 1, 2016)

- Low to moderate confidence in the evidence showing that 2–3 sessions/week of upper body aerobic exercise at a moderate to vigorous intensity for 20– 40 minutes, plus upper body strength exercise (3 sets of 10 repetitions at 50%–80% 1- repetition maximum for all large muscle groups), can improve cardiorespiratory fitness, power output, and muscle strength.
-
- Low to moderate confidence in the evidence showing that 3–5 sessions per week of upper body aerobic exercise at a moderate to vigorous intensity for 20–44 minutes can improve cardiorespiratory fitness, muscle strength, body composition, and cardiovascular risk
-

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REHAB

Spinal Cord
https://doi.org/10.1038/s41393-017-0017-3

ISCOS

ARTICLE

Evidence-based scientific exercise guidelines for adults with spinal cord injury: an update and a new guideline

Kathleen A. Martin Ginis[1,2] · Jan W. van der Scheer[3] · Amy E. Latimer-Cheung[4] · Andy Barrow[5] · Chris Bourne[6] · Peter Carruthers[7] · Marco Bernardi[8] · David S. Ditor[9] · Sonja Gaudet[10] · Sonja de Groot[11] · Keith C. Hayes[12] · Audrey L. Hicks[13] · Christof A. Leicht[3] · Jan Lexell[14] · Steven Macaluso[15] · Patricia J. Manns[16] · Christopher B. McBride[10] · Vanessa K. Noonan[17] · Pierre Pomerleau[18] · James H. Rimmer[19] · Robert B. Shaw[1] · Brett Smith[20] · Karen M. Smith[3] · John D. Steeves[2] · Dot Tussler[21] · Christopher R. West[1] · Dalton L. Wolfe[22] · Victoria L. Goosey-Tolfrey[2]

Received: 6 May 2017 / Revised: 14 September 2017 / Accepted: 20 September 2017

Abstract

Objectives To describe the process and outcomes of using a new evidence base to develop scientific guidelines that specify the type and minimum dose of exercise necessary to improve fitness and cardiometabolic health in adults with spinal cord injury (SCI).

Setting International.

Methods Using Appraisal of Guidelines, Research and Evaluation (AGREE) II reporting criteria, steps included (a) determining the guidelines' scope; (b) conducting a systematic review of relevant literature; (c) holding three consensus panel meetings (European, Canadian and International) to formulate the guidelines; (d) obtaining stakeholder feedback; and (e) process evaluation by an AGREE II consultant. Stakeholders were actively involved in steps (c) and (d).

Results For cardiorespiratory fitness and muscle strength benefits, adults with a SCI should engage in at least 20 min of moderate to vigorous intensity aerobic exercise 2 times per week AND 3 sets of strength exercises for each major functioning muscle group, at a moderate to vigorous intensity, 2 times per week (strong recommendation). For cardiometabolic health benefits, adults with a SCI are suggested to engage in at least 30 min of moderate to vigorous intensity aerobic exercise 3 times per week (conditional recommendation).

Conclusions Through a systematic, rigorous, and participatory process involving international scientists and stakeholders, a new exercise guideline was formulated for cardiometabolic health benefits. A previously published SCI guideline was endorsed for achieving fitness benefits. These guidelines represent an important step toward international harmonization of exercise guidelines for adults with SCI, and a foundation for developing exercise policies and programs for people with SCI around the world.

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Table 1 Grading of Recommendations Assessment, Development, and Evaluation (GRADE) assessments[24,25] and conclusion statements for the evidence regarding the effects of exercise on each of the reviewed outcomes of adults with acute spinal cord injury (SCI)

Outcome[a]	GRADE assessment[b]	GRADE confidence rating	Conclusion statement[c]
Cardiorespiratory fitness	Very serious risk of bias (no level 1 or 2 studies), imprecision (n = 290 and no studies providing a power calculation), and indirectness (older adults >65 years not represented in the averaged age range)	Very low	Very low confidence in the evidence showing that exercise can improve cardiorespiratory fitness of adults with acute SCI
Power output	Very serious risk of bias (no level 1 or 2 studies), inconsistency (only 5 out of 9 level 3 or 4 studies showed improvements, while level 1 or 2 studies were absent), and indirectness (older adults >65 years not represented in the averaged age range)	Very low	Very low confidence in the evidence showing that exercise can improve power output of adults with acute SCI
Muscle strength	Serious risk of bias (only 1 level 1 and no level 2 studies), inconsistency (improvements shown in only 2 out of 6 level 3 or 4 studies, while the level 1 study provided inconclusive results), and indirectness (adults with thoracic or lumbar lesions not represented)	Very low	Very low confidence in the evidence showing that exercise can improve muscle strength of adults with acute SCI
Body composition	Inconsistency (improvements shown in only 1 out of the 2 level 2 studies and only 1 out of the 2 level 4 studies), imprecision (n = 67 and no studies providing a power calculation), and indirectness (older adults >65 years not represented in the averaged age range)	Very low	Very low confidence in the evidence showing that exercise can improve body composition of adults with acute SCI
Cardiovascular risk	Very serious risk of bias (no level 1 or 2 studies), inconsistency (only 2 out of the 3 level 4 studies showed improvements, while level 1 or 2 studies were absent), imprecision (n = 34 and no studies providing a power calculation), and indirectness (older adults >65 years not represented in the averaged age range)	Very low	Very low confidence in the evidence showing that exercise can improve cardiovascular risk of adults with acute SCI
Bone health	Serious risk of bias (only 1 level 1 and no level 2 studies), inconsistency (improvements shown in only 2 out of the 3 level 3 studies, while the level 1 study showed no improvements), imprecision (n = 74 and no studies providing a power calculation), and indirectness (older adults >65 years not represented in the averaged age range)	Very low	Very low confidence in the evidence showing that exercise can improve bone health of adults with acute SCI

[a] Outcome measures in each outcome are defined in table e-3.
[b] Only shown are reasons for decreasing the confidence rating in the evidence. See table e-8 for GRADE criteria and table e-6 for the evidence summary.
[c] See table e-14 for full narrative descriptions of rationale for the conclusion statements.

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Table 2 Grading of Recommendations Assessment, Development, and Evaluation (GRADE) assessments[24,25] and conclusion statements for the evidence regarding the effects of exercise on each of the reviewed outcomes of adults with chronic spinal cord injury (SCI)

Outcome[a]	GRADE assessment[b]	GRADE confidence rating	Conclusion statement[c]
Cardiorespiratory fitness	Indirectness (older adults >65 years not represented in the averaged age range)	Moderate	Moderate confidence in the evidence showing that exercise can improve cardiovascular fitness of any adult with chronic SCI
		High	High confidence in the evidence showing that exercise can improve cardiorespiratory fitness of young and middle-aged adults with chronic SCI
Power output	Indirectness (older adults >65 years not represented in the averaged age range)	Moderate	Moderate confidence in the evidence showing that exercise can improve power output of any adult with chronic SCI
		High	High confidence in the evidence showing that exercise can improve power output of young and middle-aged adults with chronic SCI
Muscle strength	Indirectness (older adults >65 years not represented in the averaged age range)	Moderate	Moderate confidence in the evidence showing that exercise can improve muscle strength of any adult with chronic SCI
		High	High confidence in the evidence showing that exercise can improve muscle strength of young and middle-aged adults with chronic SCI
Body composition	Indirectness (older adults >65 years not represented in the averaged age range)	Moderate	Moderate confidence in the evidence showing that exercise can improve body composition of any adult with chronic SCI
		High	High confidence in the evidence showing that exercise can improve body composition of young and middle-aged adults with chronic SCI
Cardiovascular risk	Indirectness (older adults >65 years not represented in the averaged age range)	Moderate	Moderate confidence in the evidence showing that exercise can improve cardiovascular risk of any adult with chronic SCI
		High	High confidence in the evidence showing that exercise can improve cardiovascular risk of young and middle-aged adults with chronic SCI
Bone health	Very serious risk of bias (no level 1 or 2 studies), inconsistency (only 8 out of 22 level 3 or 4 studies showed improvements; level 1 or 2 studies were absent), imprecision (n = 334 and no studies providing a power calculation), and indirectness (studies did not include participants with AIS D, while older adults >65 years were not represented in the averaged age range)	Very low	Very low confidence in the evidence showing that exercise can improve bone health of adults with chronic SCI

Abbreviation: AIS = American Spinal Injury Association Impairment Scale.
[a] Outcome measures representing each outcome are defined in table e-3.
[b] Only shown are reasons for decreasing the confidence rating in the body of evidence. See table e-8 for the GRADE criteria and table e-7 for the evidence summary.

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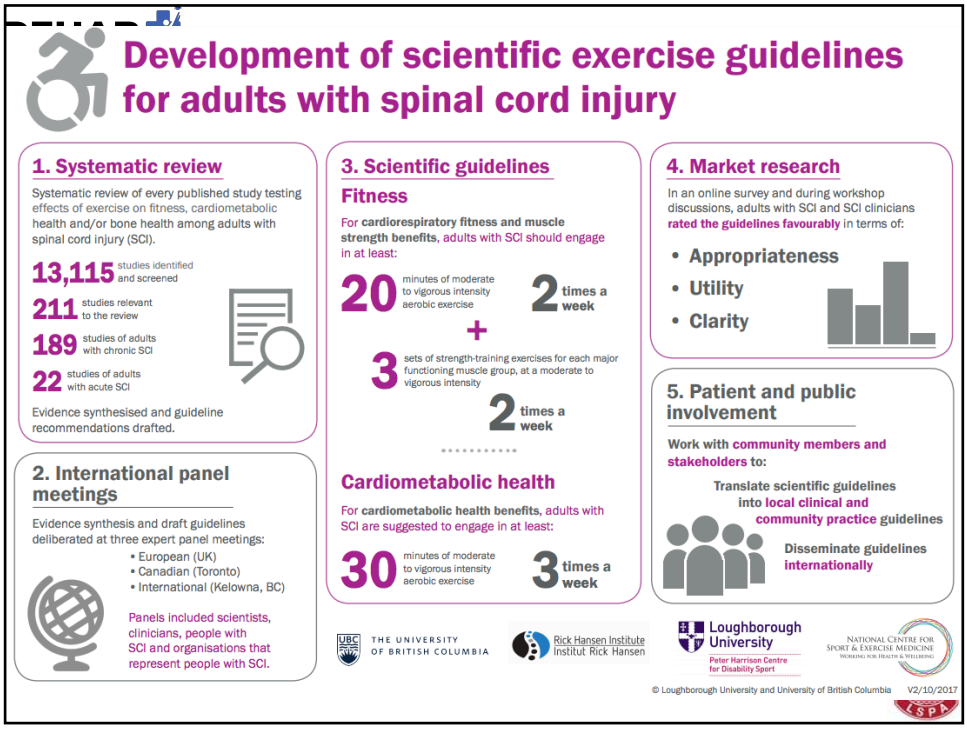
Development of scientific exercise guidelines for adults with spinal cord injury
1. Systematic review
Systematic review of every published study testing effects of exercise on fitness, cardiometabolic health and/or bone health among adults with spinal cord injury (SCI).
13,115 studies identified and screened
211 studies relevant to the review
189 studies of adults with chronic SCI
22 studies of adults with acute SCI
Evidence synthesised and guideline recommendations drafted.
2. International panel meetings
Evidence synthesis and draft guidelines deliberated at three expert panel meetings:
• European (UK)
• Canadian (Toronto)
• International (Kelowna, BC)
Panels included scientists, clinicians, people with SCI and organisations that represent people with SCI.
3. Scientific guidelines
Fitness
For cardiorespiratory fitness and muscle strength benefits, adults with SCI should engage in at least:
20 minutes of moderate to vigorous intensity aerobic exercise 2 times a week
+
3 sets of strength-training exercises for each major functioning muscle group, at a moderate to vigorous intensity 2 times a week
Cardiometabolic health
For cardiometabolic health benefits, adults with SCI are suggested to engage in at least:
30 minutes of moderate to vigorous intensity aerobic exercise 3 times a week
4. Market research
In an online survey and during workshop discussions, adults with SCI and SCI clinicians rated the guidelines favourably in terms of:
• Appropriateness
• Utility
• Clarity
5. Patient and public involvement
Work with community members and stakeholders to:
Translate scientific guidelines into local clinical and community practice guidelines
Disseminate guidelines internationally
THE UNIVERSITY OF BRITISH COLUMBIA
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Scientific exercise guidelines for adults with spinal cord injury
About the guidelines
These exercise guidelines provide minimum thresholds for achieving the following benefits:
• improved cardiorespiratory fitness and muscle strength
• improved cardiometabolic health
The guidelines should be achieved above and beyond the incidental physical activity one might accumulate in the course of daily living. Adults are encouraged to participate routinely in exercise modalities and contexts that are sustainable, enjoyable, safe and reasonably achievable.
These guidelines are appropriate for adults (aged 18-64) with chronic spinal cord injury (at least one year post-onset, neurological level of injury C5 and below, from traumatic or non-traumatic causes, including tetraplegia and paraplegia, irrespective of sex, race, ethnicity or socio-economic status.
Before starting an exercise programme, adults with SCI should consult with a health professional who is knowledgeable in the types and amounts of exercise appropriate for people with SCI. Individuals with a cervical or high thoracic injury should be aware of the signs and symptoms of autonomic dysreflexia during exercise.
For adults who are not already exercising, it is appropriate to start with smaller amounts of exercise and gradually increase duration, frequency, and intensity, as a progression toward meeting the guidelines. Doing exercise below the recommended levels may or may not bring small changes in fitness or cardiometabolic health.
The risks associated with these guidelines are minimal when managed in consultation with a health care professional who is knowledgeable in spinal cord injury.
The guidelines may be appropriate for individuals with a SCI less than 12 months post-onset, aged 65 years or older, or living with comorbid conditions. There is currently insufficient scientific evidence to draw firm conclusions about the risks and benefits of the guidelines for these individuals. These individuals should consult a health care provider prior to beginning an exercise programme.
Exceeding these exercise guidelines would be expected to yield additional cardiorespiratory fitness and muscle strength and cardiometabolic health benefits. However, there are insufficient data to comment on the risks associated with a person with SCI exceeding these guidelines.
The guidelines
Fitness
For cardiorespiratory fitness and muscle strength benefits, adults with SCI should engage in at least:
20 minutes of moderate to vigorous intensity aerobic exercise 2 times a week
+
3 sets of strength-training exercises for each major functioning muscle group, at a moderate to vigorous intensity 2 times a week
Cardiometabolic health
For cardiometabolic health benefits, adults with SCI are suggested to engage in at least:
30 minutes of moderate to vigorous intensity aerobic exercise 3 times a week
THE UNIVERSITY OF BRITISH COLUMBIA
Rick Hansen Institute Institut Rick Hansen
Loughborough University
Peter Harrison Centre for Disability Sport
NATIONAL CENTRE FOR SPORT & EXERCISE MEDICINE
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V2/10/2017

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- https://www.youtube.com/watch?time_continue=27&v=Jd5xaBVaLv0
- https://www.youtube.com/watch?v=w6P3hQSUr-Y
- https://www.youtube.com/watch?time_continue=26&v=Ze2VxioS4ok

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J Rehabil Med 2008; 40: 461–467

ORIGINAL REPORT

BARRIERS TO AND FACILITATORS OF EVERYDAY PHYSICAL ACTIVITY IN PERSONS WITH A SPINAL CORD INJURY AFTER DISCHARGE FROM THE REHABILITATION CENTRE

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Current situation **(9 months after discharge)**		
Prevalence[2] (%)	Impact[3] (VAS score)	Importance (prevalence × impact)
1. Problems with accessibility stores and buildings	1. Problems with societal attitudes	1. Problems with accessibility of stores and buildings
2. Emotional distress	2. Physical health problems	2. Physical health problems
3. Dissatisfaction with the body	3. Dissatisfaction with life situation	3. Mental health problems

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Barriers and facilitators: time impact after injury/accident cont.

Shortly after discharge[1] **(less than 3 months after discharge)**

Prevalence[2] (%)	Impact[3] (VAS score)	Importance (prevalence × impact)
1. Problems with self-care	1. Mental health problems	1. Emotional distress
2. Physical health problems	2. Emotional distress	2. Problems with self-care
3. Emotional distress	3. Problems with movement possibilities in house/problems with attitudes of family and friends	3. Mental health problems

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Table V. *Prevalence of facilitators for participation in physical activity*

Item	Current situation Prevalence[2] % (*n*)	Shortly after discharge[1] Prevalence[2] % (*n*)
Rehabilitation centre		
- Stimulation in the rehabilitation centre to be physically active	81 (26)	n.a.
- Good preparation in the rehabilitation centre with respect to daily physical activities	84 (27)	n.a.
- Good preparation in the rehabilitation centre with respect to social activities	72 (23)	n.a.
Daily and social activities		
- Positive and stimulating attitude of their employer and colleagues	6 (2)	31 (10)
- Support from family, friends and society	28 (9)	66 (21)
- Easily accessible stores and buildings in the neighbourhood	25 (8)	n.a.
- Easily accessible supply of sports in own society	22 (7)	n.a.
- Very good bicycle paths in neighbourhood for hand-biking	9 (3)	n.a.
Help and information		
- Information about supply of sports from rehabilitation centre	0 (0)	22 (7)
- Stimulation after discharge from the rehabilitation centre to be physically active	0 (0)	9 (3)
- Stimulation by family or friends to be physically active	0 (0)	9 (3)

[1]Shortly after discharge = less than 3 months after discharge.
[2]Number of subjects, expressed as percentage of the sample and as the number that mentioned the facilitator.
n.a.: not available.

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Questions!

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