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RECREATION TECHNOLOGIES: PREPARING FOR THE ATP EXAM

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Learning Objectives

After this course:

1. Participants will be able to list 2 strategies to adapt games for recreation use by people with motor limitations.
2. Participants will be able to list 2 strategies to adapt sporting activities for people with motor limitations.
3. Participants will be able to list 2 considerations for outdoor accessibility for people using wheeled mobility.

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What we will be covering:

- **Recreation**
 - Goals
 - Games
 - Video Games
 - Sports
 - Outdoor activities
 - Amusement parks
- **Exercise**
 - Accessible exercise equipment
 - Virtual reality

M. Lange 9.2016

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The ATP Certification

- The Assistive Technology Professional (ATP) certification is offered through the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)
- This demonstrates a basic level of competence in the practice area of Assistive Technology
 - Over 4000 people hold the ATP certification
- This series of courses will include information to prepare the candidate for this examination



The ATP Certification

- The candidate must fulfill specific pre-requisites before taking the examination
- For Occupational Therapy Practitioners with a Bachelor's or Master's degree, 1000 hours of work experience is required over 6 years.
- For further information:
 - <http://www.resna.org/get-certified/exam-eligibility-requirements>



Goals

- Recreation is a part of our lives and occupation
- Recreation may be done as an individual or as a group
- Important for socialization
- Recreation can be defined rather broadly, but can include a number of tasks
- Recreation technologies often focus on adaptive sports



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Team Assessment

- Who addresses these issues?
 - Therapeutic recreation
 - Occupational therapist
 - Adaptive sports programs
 - Whoever is creative, motivated and can problem-solve!

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Assessment

- A client may require adaptations to accommodate motor, cognitive, and/or sensory limitations
- Adaptations will vary depending on which of these areas need to be addressed and to what level

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Play

- Children
- Toys
 - Easy to play with or modified
- Puzzles with large pieces or handles



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Play

- Switch toys
- Switch Latch and Timers
- Power Link 4
 - AbleNet



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Play

- Computer based play
 - Software
- Tablet based play
 - Apps



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Resources

- Able Play offers evaluations and guidelines for toys for children with disabilities
 - www.ableplay.org
- Lekotek provides instructions for adapting toys and guidelines for activities
 - www.lekotek.org
- Let's Play provides information on playing with switches and Universal Design
 - www.letsplay.buffalo.edu

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Arts and Crafts

- Build up utensil handles
 - Paint brush
- Accessible workspace
- Lazy Susan for supplies
- Tabletop easel
- Non-skid surfaces
- Simplify projects



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Arts and Crafts

- Switch operated devices
 - Paint spinners
 - Pottery wheels
- Lighting



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Music

- Play
 - Build up handles, easy to access
 - Tablet Apps
- Listen
- Go to a concert



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Games

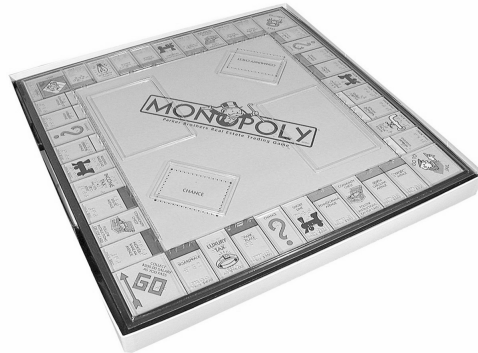
- Larger cards, game pieces, and dice to ease visual requirements
- Braille cards
- Card holders
- Switch adapted card shuffler



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Games

- Games for clients who are blind
 - i.e. Braille Monopoly



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Games

- Dice in cup to ease rolling and throwing
- All-Turn-It switch activated selector (AbleNet), adapted spinners
- Magnetic tape to keep pieces in place
- Simplify directions



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Video Games

- A younger generation plays video games more so than cards and board games
- Online gaming can level the playing field for many people with disabilities, as the player may be able to play at the same level as peers. Peers may not even be aware that this player has any limitations.
- Some clients will not require any adaptations
 - i.e. muscle weakness



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Video Games

- Some clients will require adaptations
- Various companies adapt controllers



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Sports

- Adaptive sports
- Full range of sports
- Watching a sporting event, going to a game

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Sports

General ideas:

- Adjustable height basketball hoops
- Boundaries – add colored tape or chalk lines to make easier to see
- Try balls of different weights, size, firmness
- Swimming – floatation devices



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Sports

- Specialized manual wheelchairs for specific sports:
 - Basketball
 - Tennis



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Sports

- Power wheelchair modifications for sports
 - soccer



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Resources:

- Check out specific resources for adaptive sports
 - National Sports Center for the Disabled
 - <http://nscd.org/>
 - Disabled Sports USA
 - www.disabledsportsusa.org

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Sports

- Alternative seating base for certain sports
 - Kayaking
 - Skiing
 - Horseback riding



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Sports

Specialized equipment for play:

- Bowling ramps, bumpers, ball pushers
- Balls that beep or light up
- Adapted fishing poles
- Adapted hunting equipment
- Pool lift



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Outdoor Activities

- Accessible trails
- Accessible outdoor parks
- National Parks

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Accessible Trails

- More and more communities are providing accessible trails
- Many multi-use trails are accessible



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Accessible Outdoor Parks

- Accessible pathways
- Accessible surfaces
- Accessible playground equipment



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Amusement Parks

- Accessible park
- Accessible rides



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Amusement Parks

- Fully accessible amusement park
 - Morgan's Wonderland, San Antonio, TX
- Fully accessible water park pending
 - Morgan's Inspiration Island



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Amusement Parks

- **Sensory issues**

- Vision
- Hearing
- Sensory overload!



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National Parks

- Accessibility is improving
- Varies by park
 - Check out that park's website
- <https://www.nps.gov/aboutus/accessibility.htm>
- 5 year strategic plan to improve accessibility from 2015-2020.
- Lodging



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Exercise

- Exercise technologies are often lumped together with recreational activities
- Different goals
- Many people with motor limitations have difficulty exercising
- Mobility is not a form of exercise!



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Exercise

- **Definition**
 - Activity requiring physical effort, carried out especially to sustain or improve health and fitness
 - Exercise is fatiguing, as you are intentionally increasing cardiovascular effort

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Exercise Technologies

- **Adaptive exercise equipment**

- This will vary tremendously, depending on the client's abilities
- Standard exercise equipment may be used
- Adaptive equipment is available



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Exercise Technologies

- Virtual Reality
- New developments for people with disabilities



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Funding

- Who pays for this stuff?
- Most recreation technology is self-funded
- Fundraising can be helpful, as well

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Conclusion

- Recreation is an important part of our lives
- People with motor, cognitive, and sensory impairments also need recreation
- Range of simple adaptations to complex equipment available!

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3. Lancioni, G. E., Singh, N. N., O'Reilly, M. F., Sigafoos, J., Ricciuti, R. A., Trignani, R., ... & Sasanelli, G. (2015). Extending technology-aided leisure and communication programs to persons with spinal cord injury and post-coma multiple disabilities. *Disability and Rehabilitation: Assistive Technology*, 10(1), 32-37.
4. Laferrier, J. Z., Teodorski, E., & Cooper, R. A. (2015). Investigation of the Impact of Sports, Exercise, and Recreation Participation on Psychosocial Outcomes in a Population of Veterans with Disabilities: A Cross-sectional Study. *American journal of physical medicine & rehabilitation/Association of Academic Physiatrists*, 94(12), 1026-1034.
5. Dixon, J. (2013). Watercraft innovations for individuals with disabilities in recreation and tourism. *Palaestra*, 27(2), 40-44.

Resources

- RERC on Interactive Exercise Technologies and Exercise Physiology for Persons with Disabilities
 - www.rectech.org
- Assistive Technology for Recreation and Leisure
 - www.wati.org/content/supports/free/pdf/Ch10-RecLeisure.pdf
- National Center on Accessibility
 - www.ncaonline.org

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Thank you!

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