Assistive Technology for Sports & Recreation

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Objectives

Upon completion of the session, participants will . . .

1) Be able to list 5 AT professional skills or areas of knowledge that can be applied to sports & recreation.
2) Understand at least 6 AT options available.
3) Identify 3 possible funding sources for equipment.
4) List 3 resources for additional information.

Concept #1
Apply Fundamentals of AT Interventions to Sports & Recreation

- HAAT Model
  - Human
  - Activity
  - AT
  - Context

- Hierarchy of AT

Diagram from Assistive Technology Principles & Practice
Cook & Hussey, 2005, Chapter 2
Concept #2

Complete comprehensive interdisciplinary evaluation, assessment & treatment plan

EVALUATION
- Interview
- Medical background
- Physical assessment
- Social profile
- Functional evaluation
- Environmental profile
- Client goals

Clinician Evaluation

Got RANGE?
Functional Evaluation

Assessment & Treatment Plan

- Based on evaluation
- STG & LTGs identified
- Individualized treatment plan
- Outcome measures

Seattle to Portland Bike Ride – 200 miles in 2 days
Staff and Veterans – VA Puget Sound
Concept #3

Provide opportunity to explore potential sports & recreation activities

- Multiple and varied options available
  - Understand sport specific requirements
    - Diagnosis & prognosis
    - Functional capabilities
    - Interests & preferences (theirs, not yours)
    - Equipment requirements

Throwing Chairs
Handcycling
Boccia

Table Tennis
Visual Impairment

Photos from US Paralympics

Concept #3 continued

Provide opportunity to experience varied sports & recreation activities

- Avoid imposing limits . . .
  - Based on own preferences/interests
  - Based on own knowledge deficits
  - Based on client age, physique, intellect, etc.

Recreation & Sports

Never too old . . .

Nor too young
Sport Specific Equipment

Include athlete classification for team & competitive sports

- Varies for each sport
  - Tests based on sport specific demands
  - Class descriptions specific to each sport
- Clinical bench testing
- Functional evaluation during activity

Classification

- Comprehensive evaluation
- Observation
- “levels the playing field”
- Impacts technology recommendations

Observe During Performance
Concept #4

Provide AT clinical expertise for sports & recreation participation

Seating Interventions

- Comfort
- Postural Stability
- Performance
- Skin protection
- Musculoskeletal injury prevention
- Must be addressed specific to the technology

Do NOT try this at home . . .

Why Seating for Sports?

Sitting Surface

Trunk & Extremities
Handcyle Custom Seat

Standard foam cushion  Prototype

Seating for Sports

[Images of handcyle and seating options]
Technologies for Hand Function

Support for Hand Function

Concept #5
Provide comprehensive education & training

Associated Mobility Skills
- Transfers
- Sport specific techniques and skills
- Equipment management
- Training techniques / cross training
Handcycle Transfer

Equipment Management
Comprehensive Education
Medical/Physical/Physiological
- Skin protection
- Joint preservation
- Energy conservation
- Physiologic response
- Medications

Example: SCI Specific Issues
- Exercise response altered
- Autonomic response
  - HR, BP, temperature
- Skin protection
- Bone density
- Bladder/bowel management
- Body stabilization/supports
- Pain
- Medications