

# Wheelchair Service Provision Guide

International Seating Symposium  
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## Objectives

- Participants will be able to:
  - Identify the steps of the wheelchair assessment and procurement process
  - Understand the multi-factorial elements of a wheelchair assessment
  - Identify the elements of a wheelchair assessment

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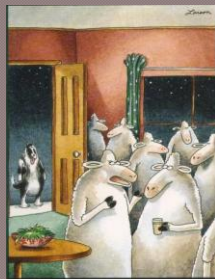
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## WC Service Provision Guide

- Who?
- What?
- Why?



"Henry! Our party's total chaos! No one knows when to eat, where to stand, what to.... Oh, thank God! Here comes a border collie!"

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## Rationale for Development of a WC Service Provision Guide

- To increase client safety & minimize risk of injury
  - 100,000 wheelchair related injuries each year that results in an ER visit
  - Decreased knowledge of maintenance
  - Impaired access for follow-up and repairs
    - Online, companies from outside area

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## Reasons for Development of a WC Service Provision Guide

- Decrease recommendation of inappropriate equipment to minimize client's risk for secondary complications such as
  - Increased Deformity
  - Pressure ulcer development



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## Reasons for Development of a WC Service Provision Guide

- Inability to reach functional potential
- Lack of allowance for progressive diagnosis or changing needs (TBI, MS, child transitioning into school system)



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## Rationale for Development of a WC Service Provision Guide

- Establish a framework for the process
- Reduce/Prevent product abandonment and wasteful spending
- Establish the value of professional practice and skilled professional services to achieve the “best outcomes”
- Promote a “best practice” approach for the provision of seating and wheeled mobility products and services



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## What is The WC Service Provision Guide?

- A framework for identifying the essential steps necessary for the provision of a wheelchair or scooter
- A uniform, best-practice tool developed for use by all stakeholders involved in the provision of a wheelchair
- A document designed to ensure all stakeholders understand what “good” wheelchair service delivery encompasses, regardless of the setting or funding

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## Who will benefit from the WC Service Provision Guide?

- Consumers
- Family members/Caregivers
- Social service personnel
- Health care professionals
- Engineers
- Durable medical equipment suppliers
- Funding sources
- Policy makers

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## Committee

- Consumer
- Researchers
- Clinicians
  - Private Practice
  - School-based
  - Adult Rehab
  - Pediatric
  - Manufacturer
  - Funding
  - Education
  - Group Homes
- DME Suppliers
- Rehabilitation Engineers
- Physicians



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## Methodology: Data Collection from 2008-2010

- Conference calls to obtain consensus on content
  - Review of draft with submission of edits by individual committee members
  - Edits consolidated into one draft and “draft” reviewed during conference call

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## What did we achieve?

- Consensus
- Content Validity



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## Foundation

- International Classification of Functioning, Disability, and Health (ICF)
  - Terminology was utilized throughout this guide due to it's increasing recognition, acceptance and use among health care professions
- Evidence Based Practice (EBP)

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## Foundation - ICF

### International Classification of Functioning

- Provides a framework for the development of measures for body structures, activity, participation, activity, environment and personal factors
- During the 2001 revision of the ICIDH to the ICF, disability rights advocates proposed a social model of disability that identified the **environment and its inherent barriers as the cause of the "disability"**.
  - Disability as the intersection between biological body and social and institutional structures (Hurst, 2003; Imrie, 2004; Ueda & Okawa, 2003)



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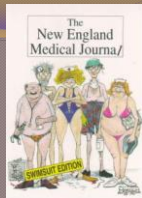
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## Literature Review

- Publications from 2000 forward
- Publications from original sources
- Wheelchair Assessment, Procurement, and Delivery (keywords)
- Critical review of well-recognized journals
  - Peer reviewed journals for a higher level of evidence
  - Wide variety of readers



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## Literature Review

- Experts in the AT community have long recognized the need to develop a standard of practice (Cohen, 2007; Geyer, et al., 2003; Finalyson & Hammell, 2003; Mills, Holm, & Schmeler, 2007; Scherer & Glueckauf, 2005; Sprigle, Cohen, & Davis, 2007).

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## Literature Review

- The wheelchair assessment and procurement process is multi-faceted and complex
  - Wheelchair technology
  - Evidence-based practice
  - Diagnosis and disability specific issues
  - User's personal preference (Mortenson & Miller, 2008)
  - Funding (Carey, DelSordo, Goldman, 2004)

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## Literature Review

- AT devices facilitate quality of life and psychosocial and functional health (Devitt, Chau, & Jutai, 2003) .
- Inappropriate devices, a lack of access to trained personnel, a poor assessment, current reimbursement policies and an untutored assistive technology preference can negatively affect one's health (Day & Jutai, 1996; Day, Jutai & Campbell, 2002; Scherer & Glueckauf, 2005).

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## Literature Review

- Evaluation strategies should reflect the individual's priorities and preferences, physical and functional needs, knowledge of product features that will meet those needs, physical and social environments, and related issues (Johann, & Shea, 2004; Scherer & Cushman, 2001).

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## Wheelchair Service Provision Process

- Referral
- Assessment
- Equipment Recommendation and Selection
- Funding and Procurement of Equipment
- Product Preparation
- Fitting, Training, and Delivery
- Follow-up Maintenance and Repair
- Outcome Measurement

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### 1. Referral

- Identification of Need
  - Established screening process
  - Basic demographic information and initial determination of the complexity of client needs
- "Referral" to a Qualified Professional
  - long-term (more than 6 months) or permanent basis should be referred to a therapist and supplier who collaborate
  - skilled qualified professionals with specific training and experience in seating and mobility.

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## 2. Assessment

- **Current Technology**
  - All of the mobility devices currently and previously used (Current equipment: manufacturer, age, condition safety and reliability of device)
  - Other assistive technology devices used by client
- **Environment**
  - Physical Environments of Use
  - Family, Social Support and Caregivers
  - Attitudes Towards Disability and Technology

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## 2. Assessment

- **Environment**
  - Physical Environments of Use
    - Entrance /exit various settings
    - Maneuverability within each setting and in various environments (i.e. home, college campus, community)
    - Ability to perform ADLs (toileting in public restrooms)
    - Transfers
    - Transportation: private and public

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## 2. Assessment

- **Activities and Participation**
  - **Activities of Daily Living**
    - Grooming, hygiene, toileting, sexual activity
  - **Instrumental Activities of Daily Living**
    - Safety procedures, telephone use, parenting, use of community mobility
  - **Functional Mobility**
    - Potential for ambulation, wheelchair propulsion
  - **Ability to perform Life Roles**
    - Coaching daughter's soccer team

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## 2. Assessment

### • Body Functions and Structures

- Neuromuscular and Orthopedic system
  - Strength, motor control and coordination, tone, sitting balance, range of motion, flexibility, current mobility skills, mat assessment/evaluation
- Skin Integrity
- Visual Processing & Cognitive Awareness
- Cardiovascular System
- Respiratory System
- Digestive & Urinary Systems
- Speech and Language
- Medical Status
  - Diagnosis, past medical and surgical history, future surgeries/medical intervention, medications, allergies, previous rehabilitative measures



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## 3. Equipment Recommendation & Selection

### • Equipment Trial/Simulation

- If equipment is readily available -> client should trial the specific product(s)
- Client's should be educated on the range of options
- This process should be an educational experience for client and caregiver to allow them to make informed decision



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## 3. Equipment Recommendation & Selection

### • Training with Equipment

- Depending upon complexity of needs
- Especially important for client not familiar with technology such as a new power wheelchair



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### 3. Equipment Recommendation & Selection

- Client Funding Education & Exploration
  - Client-specific resources, coverage criteria, benefit requirements and limitations
  - Additional funding resources
  - Client priorities
  - Components or features that can be added later



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### 3. Equipment Recommendation & Selection

- Documentation
  - Client specific
  - Objective measures that identify and quantify client's specific problems and goals
  - Problems with current equipment or lack of it
  - Goals of new wheelchair & seating system
  - Products tried and unsuccessful
  - Clarify why less expensive/standard options do not meet the client's needs
  - Rationale for various components



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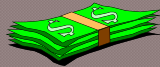
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### 4. Funding & Procurement of Equipment

- Pre-Determination
  - Submit for prescreen, pre-certification, pre-determination and/or prior authorization
  - Coverage determination
- Ordering and Receiving Equipment
  - Check manufacturer quotes
  - QA equipment



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## 5. Product Preparation

- Assemble and Set up Equipment to preliminary specifications
  - Measurement check
  - Seating system components
  - Function and operation of all mechanical and electronic components
  - Pre-program electronics
- Preliminary Fitting
  - Custom molded seating system



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## 6. Fitting, Training, & Delivery

- Fitting
  - Adjustment of the mechanical components of the wheelchair and seating system to optimize the client's function, comfort and safety
  - Extent of adjustment/fitting depends upon complexity of client's needs
  - Evaluation team

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## 6. Fitting, Training, & Delivery

### Training

- Training involves client education regarding safe use of the equipment in accordance with seating and mobility goals
- This includes positioning techniques, wheelchair and seating system parts management, care, and maintenance

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## 6. Fitting, Training, & Delivery

### Delivery

- Delivery includes the final check of the equipment, provision of necessary documentation (e.g. warranty, owner's manuals, contact information if there is a problem), and the official transfer of the wheelchair into the client's responsibility.

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## 7. Follow-Up, Maintenance & Repair

- Follow-Up
  - Ongoing process to monitor and re-assess to insure equipment is meeting client's needs and ability to function
  - Adjustments and further training may be required
    - High level wheelchair mobility skills
  - Schedule should be determined at delivery
- Maintenance & Repair
  - Necessary to keep equipment in safe, optimal working condition
  - Regular intervals

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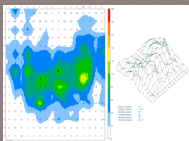
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## 8. Outcome Measurement

Efficacy of the Wheelchair Service Provision Process

Efficacy of Wheelchair Service Provision Product



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## Case Studies

- Illustrate application of above 8 components of Wheelchair Service Provision with different populations in different service delivery settings

- Adult male with spinal cord injury - wheelchair clinic in a rehabilitation hospital
- Young adult with cerebral palsy – rehabilitation department in a hospital
- Geriatric client with cerebral vascular accident - home care setting

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## Future Direction

- Submitted for publication in Assistive Technology Journal
- Clinical Practice Guidelines

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## Acknowledgement

- RESNA SIG 09 group
- Initial Workgroup
- Second Group of Reviewers
- RESNA Board of Directors, 2009-10, 2010-11

The whole is truly the sum of the parts.

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## Questions/Discussion



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Thank You 😊

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