Bridging the Gap between Consumer and Products in Rehabilitation Medicine

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REACH
Occupational Therapist

- Assisting people who are unable to function independently or are not functioning as independently as possible in the areas of daily living, work, play, and leisure (ADLs).

- Independence is increased through functional activities that are meaningful to the individual.

- Occupational Therapists treat the whole person!
The Transdisciplinary Team

Physiatrist

Computer Engineer
Family / Tutor / Caregiver
Rehabilitation Counselor
Assistive Technology Specialist
Service Coordinator
Fabrication / Adaptation Technology
Training Coordinator
Audiologists
Nurse Practitioners

Social Workers
Occupational Therapist
Speech-Language Pathologist
Prosthetists
Medical Consultants
Teachers / Special Educators
AT Equipment Vendors
Hearing Device Specialists
Physical Therapists

Patient
What is assistive technology (AT) role in the rehabilitation process?

"Assistive Technology are products, devices, or equipment - whether acquired commercially, modified, or customized - that are used to maintain, increase, or improve the functional capabilities of individuals with disabilities..."

Assistive Technology Act of 1998
AT for ADLs

- Self Care
  - Dressing
AT for ADLs

- Self Care
  - Mobility
AT for ADLs

- Self Care
  - Eating and Meal Preparation
AT for ADLs

- Self Care
  - Hygiene
AT for ADLs

• Communication
AT for ADLs

- Leisure
  - Hobbies, sports, travel, etc.
AT for ADLs

• Vocation and Education
Steps Needed to Issue an Assistive Device

- Prescription from a MD
- Equipment suitability
- Site and method of instruction
- Time to introduce device during hospitalization
- Reinforcement of its use
- Written justification to insurance company
Who Pays?

- User
- Insurance
- Private
- Managed care
- Fee-for-services
- Medicare
- Medicaid
- VA
- Grants / Loans
Training in the Key to Using AT Successfully

- Repetition is key

- Types of instruction:
  - demonstration
  - practicing actual skills in hospital environment
  - written
  - video
  - in-home training
Different Levels of Assistive Technology Require Different Amount of Training

**Low Technology Adaptation**
- May require a short training period or no training

**Elementary Technology Devices**
- Includes most battery-operated devices. User requires a moderate training period.

**High Technology Devices**
- Includes complex and programmable equipment. User requires specific training in order for the user to take full advantage of their capabilities.
Reinforcement of Training

- Transition of skills to community / home environment
- Follow-up
- Support groups
- Refresher training may be necessary
Steps Needed to Issue an Assistive Device

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- Equipment suitability
- Site and method of instruction
- Time to introduce device during hospitalization
- Reinforcement of its use
- Written justification to insurance company
Assistive Technology
One Size Doesn’t Fit All
Steps Needed to Issue an Assistive Device

- Prescription from a MD
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- Site and method of instruction
- Time to introduce device during hospitalization
- Reinforcement of its use
- Written justification to insurance company
Example of a High Tech Device: Saeboflex

$1690
How this all relates to product development

- Involve all stakeholders early-on and throughout the design process:
  - End users
  - Rehabilitation team / therapist
  - Family members
How this all relates to product development

- Modification vs designing from the ground up
  - What already exists
  - What works for what people and why
How this all relates to product development

- Take an iterative, multi-criteria approach that considers:
  - Functionality / Performance
  - Acceptability
  - Ease and intuitiveness of use
  - Accessibility
  - Robust Design
  - Safety
Don’t Over-Engineer

Other Resources

Website Links

AbleData

Alimed

North Coast Medical

Sunrise Medical