

Bridging the Gap between Consumer and Products in Rehabilitation Medicine

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REACH



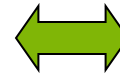
Occupational Therapist

- 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

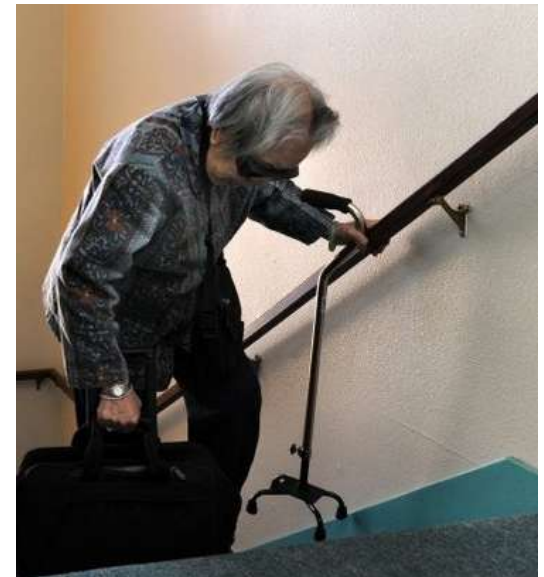
AT for ADLs

- Self Care
 - Dressing



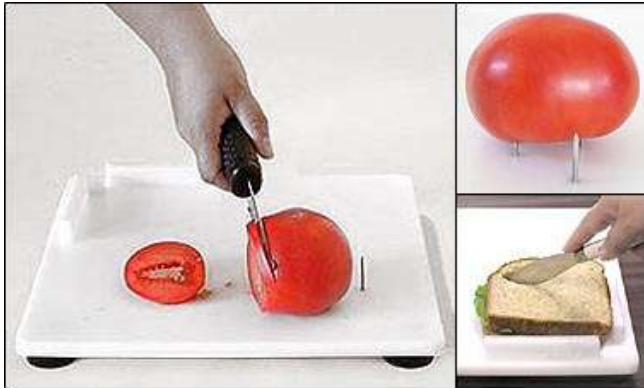
AT for ADLs

- 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.

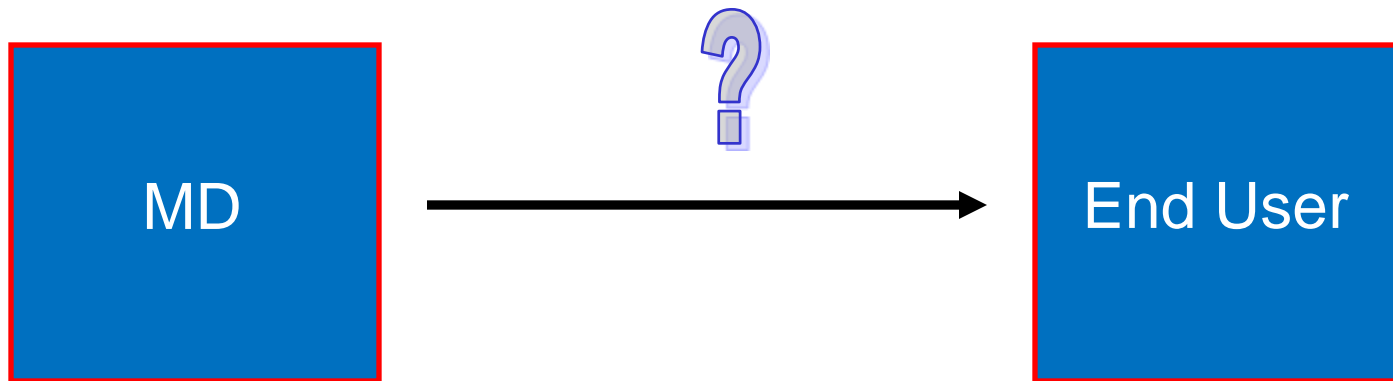


AT for ADLs

- Vocation and Education



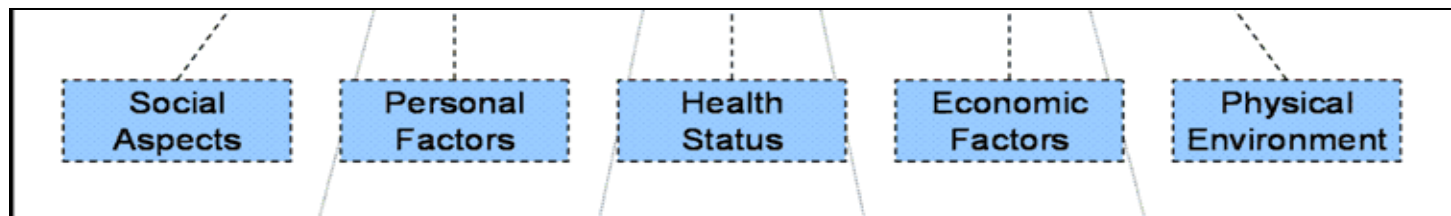
Prescribing Rehabilitation Equipment



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

Equipment Suitability



Culture	Age	Chronic	Cost	Rural City
Support	Gender	Changing		Rent / Own
Motivation	Education	Acute		Stairs
Perception of Self	Diagnosis			

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

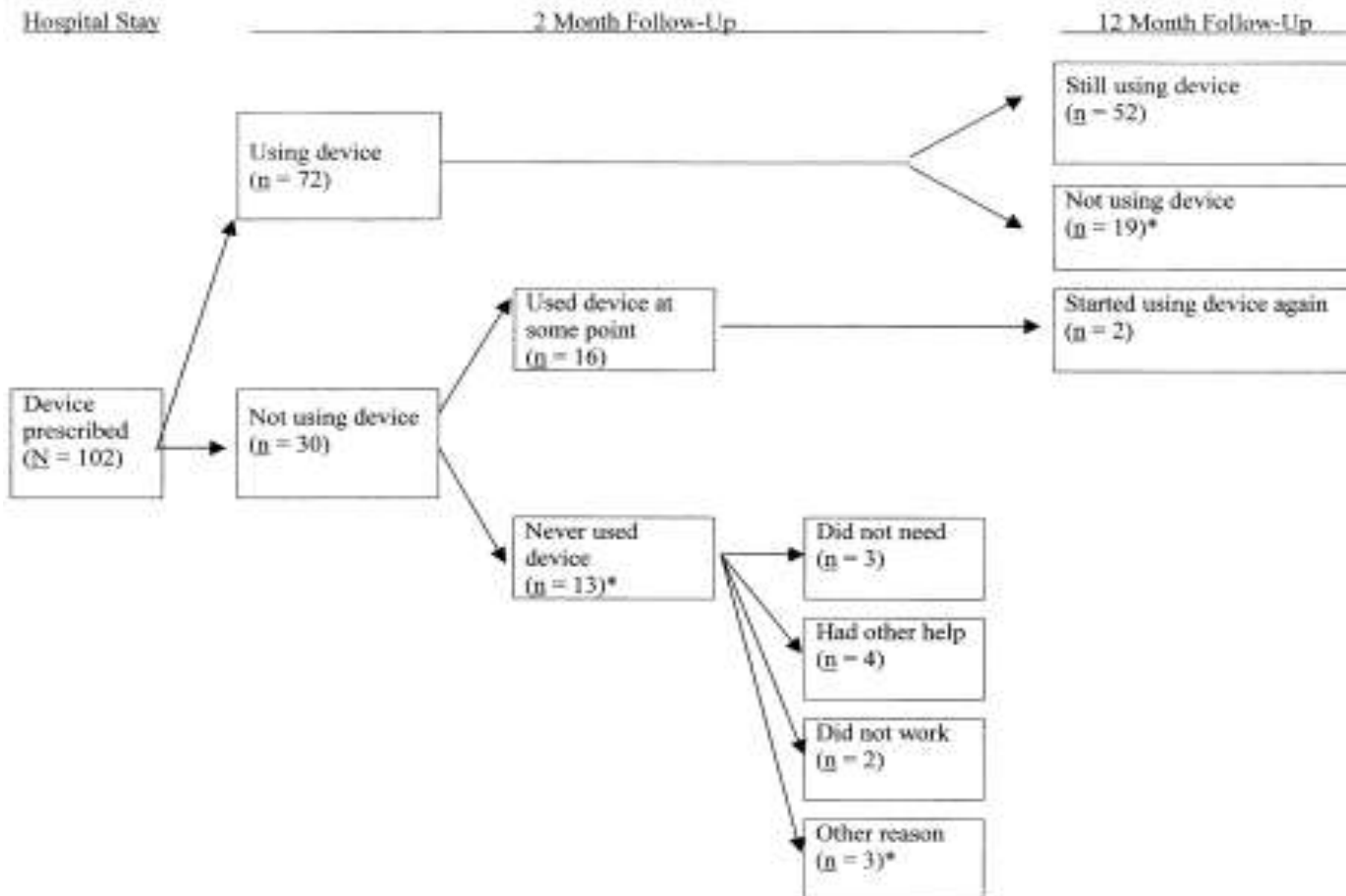
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Assistive Technology

One Size Doesn't Fit All



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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

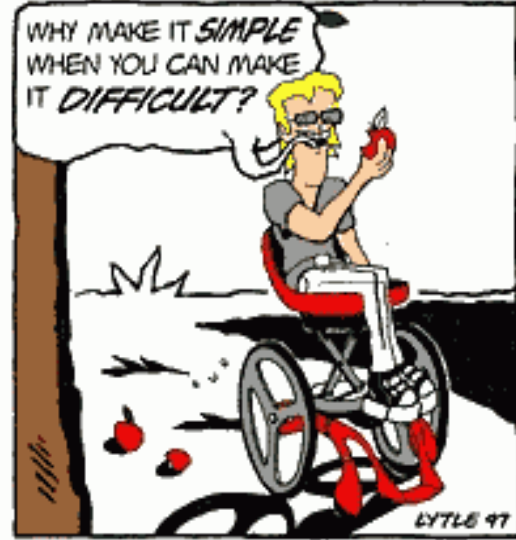
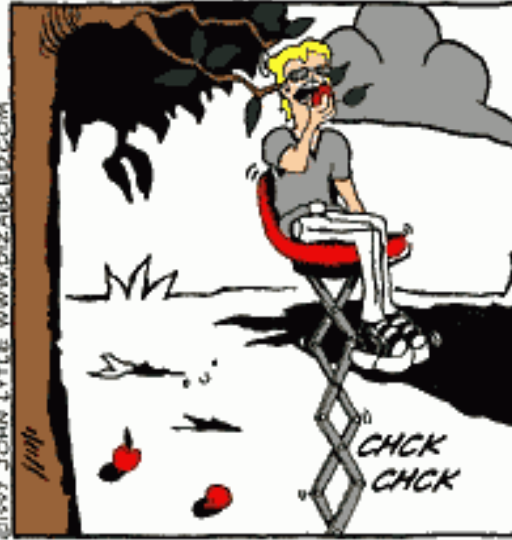
How this all relates to product development

- 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

- Shah and Robinson (2007) Benefits of and barriers to involving users in medical technology development and evaluation. [Int J Technol Assess Health Care.](#) 2007 Winter;23(1):131-7.
- Trish Wielandt et al., Factors that predict the post-discharge use of recommended assistive technology. Disability and Rehabilitation: Assistive Technology, January-June 2006; 1(1-2): 29 – 40.

Other Resources

- [The Design and Evaluation of Assistive Technology Products and Devices Part 1: Design.](#)
Marion A. Hersh. International Encyclopedia of Rehabilitation.

Website Links

[AbleData](#)

[Alimed](#)

[North Coast Medical](#)

[Sunrise Medical](#)