

# Bridging the Gap Between Consumer and Products in Rehabilitation Medicine

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# 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.
- Independence is increased through functional activities that are meaningful to the individual.
- Occupational Therapists treat the whole person!

# What is assistive technology?

"...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

# ADLs

- Self Care
  - Dressing



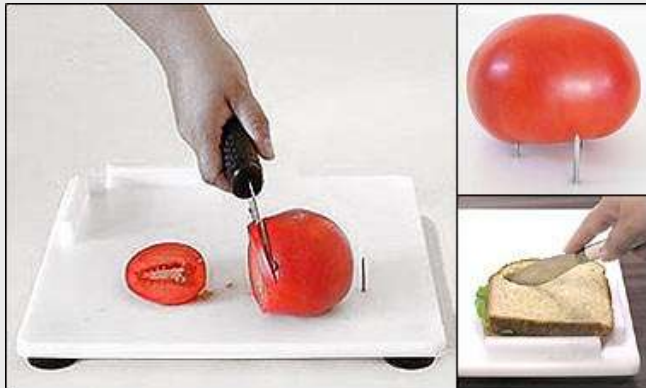
# ADLs

- Self Care
  - Mobility



# ADLs

- Self Care
  - Eating and Meal Prep



# ADLs

- Self Care
  - Hygiene



# ADLs

- Communication





# ADLs

- Leisure
  - Hobbies, sports, travel, etc.

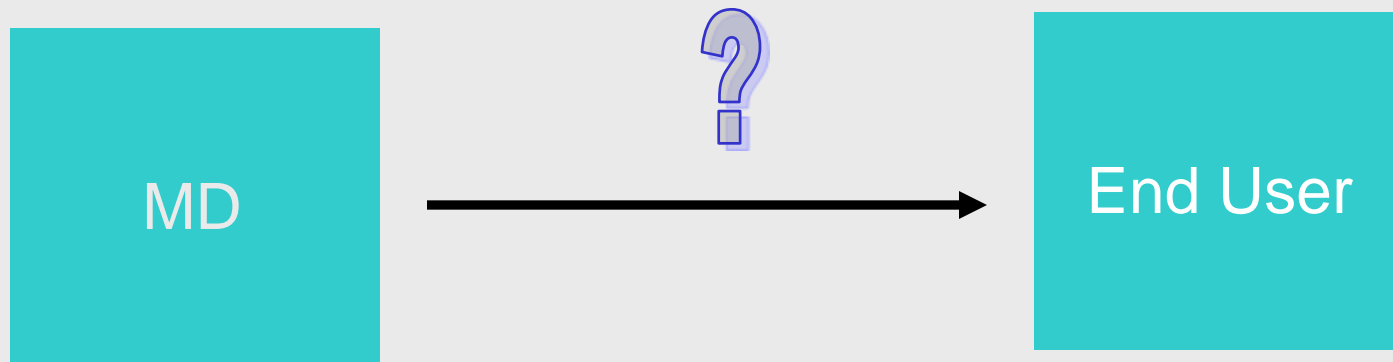


# ADLs

- Vocation and Education



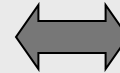
# Prescribing Rehabilitation Equipment



# The Transdisciplinary Team

## Physiatrist

Computer Engineer  
Family / Tutor / Caregiver  
Rehabilitation Counselor  
Assistive Technology Specialist  
Service Coordinator  
Fabrication / Adaptation Tech  
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

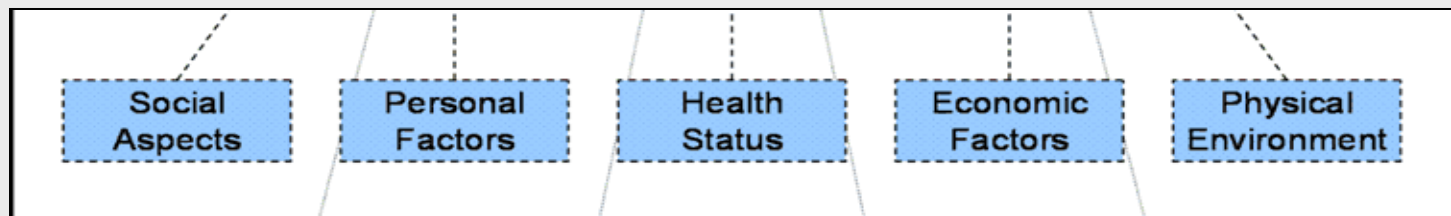


**Patient**

# 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

Support

Motivation

Perception of Self

Age

Gender

Education

Diagnosis

Chronic

Changing

Acute

Cost

Rural City

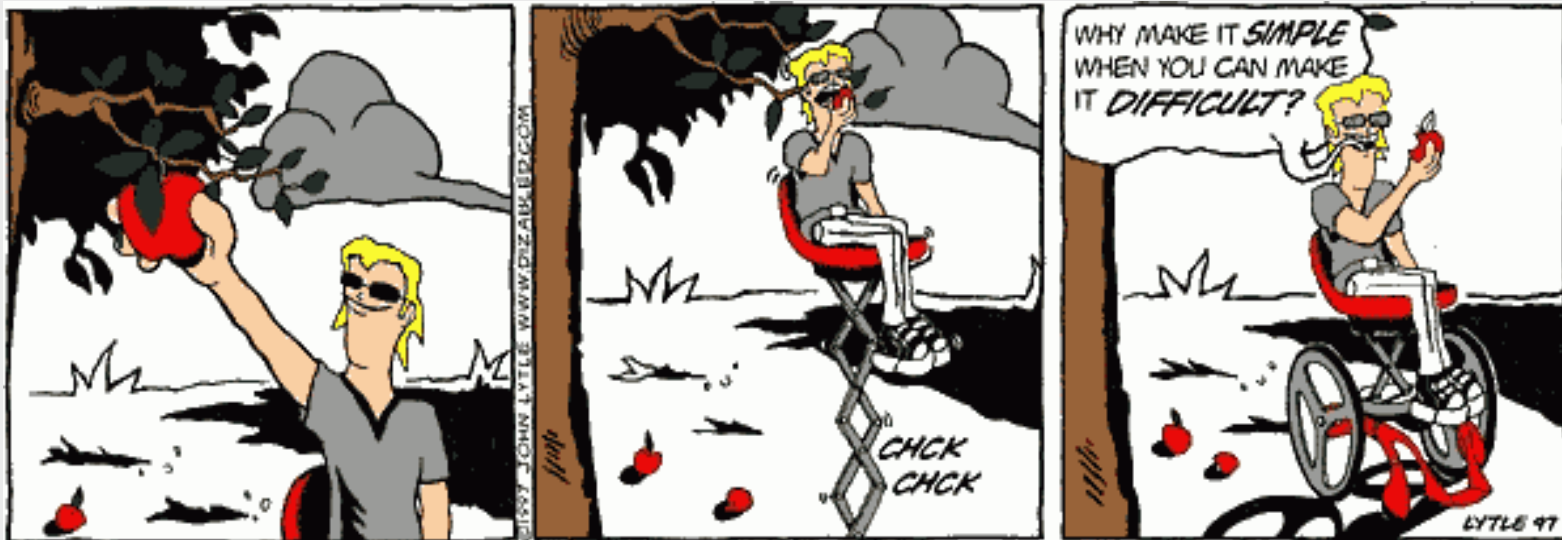
Rent/Own

Stairs

# Who pays?

- User
- Insurance
  - Private
    - managed care
    - fee-for-services
  - Medicare
  - Medicaid
- VA
- Grants / Loans

# Levels of Assistive Technology





# Different Levels of Assistive Technology Require Different Amount of Training

## Low Technology Adaptation

- Easy to use and does not require electrical power. May require a short training period.

## Elementary Technology Devices

- Includes most battery-operated devices. User requires a moderate training period. Usually off-the-shelf or inexpensive.

## High Technology Devices

- Includes complex and programmable equipment. User requires specific training in order for the user to take full advantage of their capabilities. Expensive

# Instruction in the Use of the Assistive Device

- Repetition is key
- Types of instruction:
  - ❖ demonstration
  - ❖ practicing actual skills in hospital environment
  - ❖ written
  - ❖ video
  - ❖ in-home training

# Reinforcement

Transition of skills to community / home environment

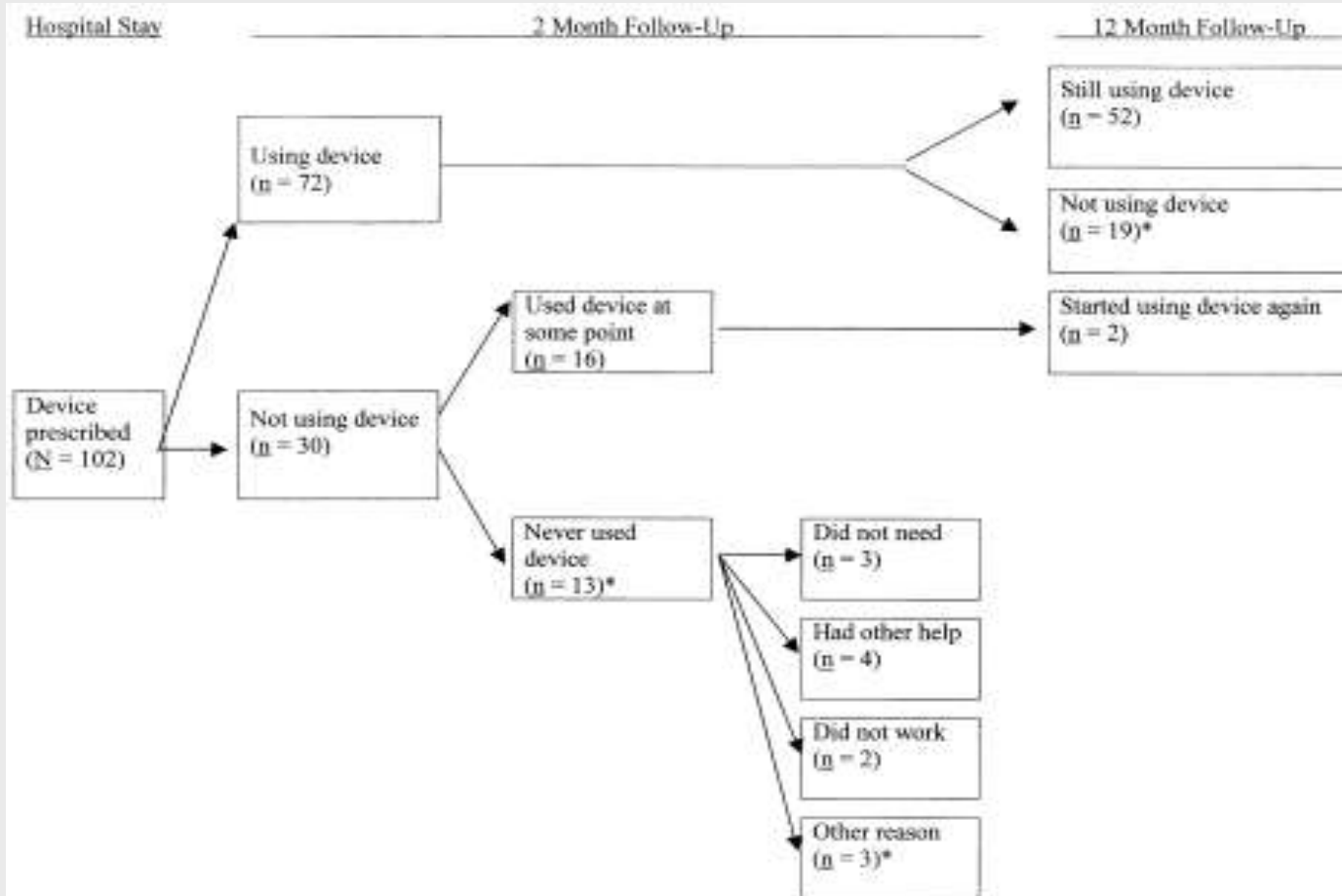
Follow-up

Support groups

Refresher training may be necessary

# Assistive Technology

## One Size Doesn't Fit All



# Example of a High Tech Device: Saeboflex



\$1690

# Access to Equipment and Rehabilitation Services

(Bingham and Beatty, 2003)

>50% needed assistive equipment in last 12 months  
30% were unable to get needed equipment

40% needed rehabilitation services in last 3 months  
>50% did not receive those services

# How this all relates to product development

- Involve all stakeholders
  - ❖ End users
  - ❖ Rehab team / therapist
  - ❖ Family members
- What already exists
  - ❖ Modification vs designing from the ground up
- Price!

# 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



# Website Links

- Abledata  
<http://www.abledata.com/>
- North Coast Medical  
<http://www.ncmedical.com/>
- Sunrise Medical  
<http://www.sunrisemedical.com/>
- Alimed  
<http://www.alimed.com/>