Learning Outcomes

- Identify the impairments that cause a person to need mobility technology
- Identify the steps in assessing clients for mobility technology
- Identify the major characteristics and features of different mobility technologies
Mobility

• Goals of mobility
• Assessment
• Mobility Options
• Related factors

Mobility Goals

• Independence in moving throughout the environment and completing functional tasks
• Safety
• Efficiency
Mobility Assessment

- Determine the optimal category of mobility options
- More than one mobility option may be needed

Mobility Assessment

- Motor skills
- Vision and visual perceptual skills
- Cognition
  - Mobility concepts
  - Judgment
Mobility Options

- Assisted Ambulation
- Dependent Mobility Bases
- Manual Wheelchairs
- Power Assist Wheels
- Power Operated Vehicles
- Power Wheelchairs

Assisted Ambulation

- Canes
- Crutches
- Walkers
- Gait Trainers
Dependent Mobility Systems

• Not designed for self-propulsion
• Aka Strollers
• Transport chairs

Dependent Mobility Bases

Clinical indications:
• For the very small child
• Caregiver preference
• Ease of transport (folding and lightweight)
• As a back-up to a manual wheelchair
Manual Wheelchairs

- Pediatric
- Lightweight
- Ultralightweights
- Sports Chairs
- Tilt
- Recline

Pediatric Manual Wheelchairs

- Accommodates smaller dimensions
- Growth varies frame to frame
- Low seat to floor height
Self-Propulsion Considerations

• Weight
• Rear wheel placement
• Camber
• Front caster
  • Size
  • Loading
• Optimize efficiency
• Stability vs. maneuverability and turning radius

Alternative Propulsion Patterns

• One hand
• One hand, one foot
• Both feet
Tilt, Recline and Standing

- Improves efficiency
- Increases weight and cost
- May preserve shoulder function

Power Assist Wheels
Power Operated Vehicles

- POVs: aka Scooters
- Features vs. power wheelchairs
  - Consumer Preference
  - Transport
  - Maneuverability
  - Stability
  - Distance, power and speed
  - Motoric requirements

Power Wheelchairs: Clinical Indicators

To provide independent mobility if other forms of mobility technology cannot be used at all or efficiently
Power Wheelchairs

• Drive wheel configuration
• Power actuators
• Access methods
• Programming
• Built-in features
• Interfacing

Drive Wheel Configuration

• Front
• Mid
• Rear
Power Actuators

- Tilt
- Recline
- Seat Elevator
- Elevating Legrests
- Standing
- Other

Access Methods

- Proportional
- Digital
Proportional Access

- Joysticks and a few others
- Requires grading of force and distance of movement
- 360 degree control
- Speed control

Digital Access

Basically, using 1-5 switches to control the direction of the chair
Programming

• Optimizes drive performance and efficiency
• Enables control of other features such as speed, reverse and actuators through the drive control

Built-in Features

Newer electronics offer built-in features:
• IR transmission
• Mouse emulation
Interfacing

Using the access method to control other assistive technology devices, such as a speech generating device, laptop computer or EADL.

Related Factors

• Environment
• Transportation
• Functional Activities
Environmental Factors

Can the client use the recommended mobility technology in all required environments?
- Indoors
- Outdoors
- Accessible entrances
Environmental Factors

Transportation Factors
• How will the mobility base be transported?
• Can the client be safely transported in the mobility base?
Functional Activities

• Can the client reach what is needed?
• Can the client transfer to other surfaces?

Review Questions (feel free to discuss with your neighbors)

1. Clinical indicators for a dependent mobility base include:
   a. To provide a means of independent mobility
   b. To provide support for a very young child
   c. To provide one handed access
   d. To improve transfers

2. What accessibility factors need to be evaluated before recommending a mobility device:
   a. Home
   b. Transportation
   c. Transfers
   d. All of the above

3. Proportional control provides the following directional control:
   a. 4 direction
   b. 8 direction
   c. 180 degree control
   d. 360 degree control
Review Questions (Here are the answers. How did you do?)

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Questions?