On Your Mark, Get Set, Go!
Exploring Pediatric Mobility Equipment

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  – Complete the seminar evaluation form.
Hand-outs

• STEPS is proud to be green!

• You may view and/or print a PDF copy of the hand-outs for this seminar by visiting:
  http://marketing.sunrisemedical.com/Education/GoingGreen/index.html

Objectives

Upon completion of this presentation participants will be able to:

• Identify three (3) reasons as to why mobility is important for development.
• Differentiate between standard stroller and adaptive stroller.
• Differentiate between dependent mobility system and independent mobility system.

What’s The Big Deal?

• Benefits to proper seating and mobility
  – Improve respiratory and gastrointestinal status
  – Access to the environment
  – Improve developmental milestones
  – Reduction or prevention of risk for injuries in the future

• Why is mobility so important?
  – Neuronal pathway development
  – Somatosensory system development
  – Spatial awareness / depth perception
  – Body control in gravity
  – Cognition
  – Decision making
  – Social interaction / Inclusion
Building Blocks for Pediatric Seating & Mobility

- Development
- Identify Goals
- Evaluation
- Mobility Bases & Seating
- Additional Considerations
- Funding & Documentation

Skill Development Review

- 1-3 months
  - Begins to develop a social smile
  - Enjoys playing with other people, and may cry when playing stops
  - Imitates some movements and facial expressions
  - Grasps and shakes hand toys
  - Lifts head while in prone

- 4-6 months
  - Reach for and grasp objects
  - Smiles at self in a mirror
  - Move toys from one hand to another

- 7-9 months
  - Struggles to get objects that are out of reach
  - Enjoys social play
  - Knocks two blocks together
  - Control of trunk and sits without support

Skill Development Review

- 9-12 months
  - Object Permanence
  - Means-end behavior (crawls to get what they want; pulls string toy)
  - Standing, creeping and walking

- 13-18 months
  - Purposeful exploration of toys
  - Trial and error learning
  - Hands toy to adult to request assistance
  - Imitates sounds
  - Responds to simple commands
  - Walks
Skill Development Review

• 19-24 months
  – Build a 6 cube block tower
  – Plays with doll (combs hair, feeds bottle, etc.)
  – Combines two toys in pretend play (pours from pot to cup)
  – Runs
  – Kicks a ball

• 2-3 years old
  – Represents daily experiences (plays house)
  – Stares to use short sentences
  – Fear of separation
  – Scribbles with crayon
  – Jumps off a step

Items To Keep In Mind

• Children should be allowed to meet recognized milestones, even if his/her positioning is modified

• Children normally achieve momentary, unstable sitting when placed in position between 3 and 7 months, thus we should provide our children with effective support in sitting at equivalent age.

• Children should be provided with the opportunity to play.

Why Is Play So Important?

• Play is described as the “work” of children.

• Through play, children learn to solve problems, make decisions, persevere, and interact with people and objects in the environment.

• Through play, children develop language symbolic thinking, social skills, and motor skills

• Without proper seating and positioning, a child may not be able access toys or equipment for play.
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What Are The Goals?

Who is fighting for a piece of the pie when it comes to choosing equipment?
What Is Everyone Hoping For?

- Child
  - Peer interaction
  - Independence
  - Fun
  - Play
  - Explore
  - Interact
  - Learn - feel, touch, do
  - Looks "cool"

- Family
  - Aesthetics (low profile)
  - Acceptability
  - Accessibility
  - Ease of use
  - Comfort

- Clinician
  - Good positioning
  - Complimenting therapy goals
  - Easy to use
  - Promote independence
  - Safety

- Funding Source
  - Thorough documentation
  - Meeting the criteria
  - More later……

Question…

Is there EVER conflict???

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Successful Outcomes

To meet all of the goals and get the information we need for successful outcomes we need a Pediatric Assessment Team and Process!

Clinical Best Practices

- Are there any related to seating and mobility?
- What would they be?
- Check out the RESNA Wheelchair Service Provision Guide (http://resna.org/dotAsset/22485.pdf)

Key Assessment Information
Where Do We Start?

Prior to the evaluation

- Completion of an intake form by the client or parent/caregiver. Information should include:
  - Goals of the evaluation
  - Brief background of the client including experience with Assistive Technology and specifically power mobility.
  - Current level of function
- If contact information is provided, contact should be made to the clients school team and/or outpatient therapists.
- Review any documents provided by the family or referring physician.
- Arrange loaner equipment including alternative controls and demo power wheelchairs.

The Pediatric Evaluation

- Medical history
  - Diagnoses and associated conditions
  - Secondary diagnoses
  - Prognosis and potential for change
  - Complications/contraindications
  - Surgeries
- Medications
- Physical Status
  - Orthopedic
  - Neuromotor – strength, ROM, tone
  - Primitive postural reflexes

The Pediatric Evaluation

- Skin Integrity/sensation
- Cognition/behavior
  - Integrate, sequence, retain information
  - Judgment
- Perceptual/visual limitations
- Endurance
  - Effects of current mobility system?
- Functional skills
  - Present and desired skills in seating/mobility system
The Pediatric Evaluation

• Special Considerations
  – Upcoming medical procedures
  – Respiratory needs/equipment
  – GI needs and/or equipment
  – Orthotics, splints, etc.
  – Other AT equipment (i.e. AAC device, switches, mounts, computers, etc.)

• Environmental Considerations
  – Accessibility to home, school, play
  – Types of terrain - indoors/outdoors
  – Inclines, ramps – to spec?
  – Distance
  – Stairs

The Pediatric Evaluation

• Transportation
  – School bus
  – Family vehicle

• Integration with other assistive technology
  – Communication device
  – Computer
  – Environmental control

• Simulation
  – Beneficial to all to try before final decision is made

• Funding

General Flow Of The Evaluation

• Explain the purpose and process of the evaluation with the client and caregivers.
• Review goals of the evaluation and case history with the client and caregivers.
• Evaluate the client’s positioning in his/her current seating system and make adjustments/modifications as needed.
• Complete a mat evaluation.

• Equipment trials with the client.
• Review of recommendations with the client and caregivers.
• Review follow-up plan (i.e. funding process, dealer contact information, potential delivery time, etc.)
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Positioning For Function

- What posture would our body choose to prepare for activity?
  - Possible variable positions – sitting by itself is hard work!
  - Posture of readiness?
    - Shoulders and head in front of pelvis
    - COG in front of base of support
    - Feet on floor / footplate, weight bearing
    - Knees < 90° flexion ("under" the body)
  - Posture cannot be maintained all day

- With controlled movement, body experiences:
  - Response to gravity
  - Activation of vestibular system
  - Weight bearing

- Immobile child
  - Minimum experience with gravity
  - Difficult to integrate sensory-motor skills

Positioning For Mobility

- Initial independent mobility
- Wheel is visible to child
- If possible, feet should be visible to the child
- Visualization of cause & effect
- Improved access for short upper extremities
- Consideration of power mobility
Positioning for Clinical Needs

- Respiratory
- Feeding/GI (reflux management)
- Contractures
- Communication (access to a device or for vocal quality)

Time For The Stroller Talk

- When is it appropriate to recommend adaptive seating for a child?
- What is the best way to approach the family?
- What information do you need to have prepared prior to talking with the family?
- Why might a family tell you “no”?

Standard Strollers
Adaptive Strollers

Functionality & Design

Stroller To Wheelchair

• Why do some parents hesitate with transitioning from a stroller to a wheelchair?
  – Strollers (even adaptive strollers) look more mainstream
  – Accessibility
    • Home
    • Transportation
  – Ease of getting from point A to point B
  – Acceptance
  – Funding

• Why is it important to move a child from a stroller to a wheelchair?
  – Positioning
  – Age appropriateness
  – Seating
  – Access to the environment
Dependent Wheelchairs

Dynamic Seating for Dependent Manual Wheelchairs

• Who is appropriate for tilt, recline, or elevating leg rest?
  – Consider the client’s:
    • Ability to change position / shift weight
    • Postural stability
    • Physiological risks
    • Problems with homeostatic control
    • Mobility Related Activities of Daily Living (MRADLs) needs
    • Environment demands

Clinical Justifications: Tilt

• Provides for pressure redistribution
• Accommodates joint contracture(s)
• Maintains specific seated angles
• Adds no resulting shear forces
• Minimizes extensor spasticity
• Provides for position change
• Minimizes effects of gravity
• Provides increased trunk stability and head control
• Improves postural alignment
• Improves visual field (fixed kyphosis)
• Maintains access to specialty devices mounted on chair
Clinical Justification: Recline

- Provides change in position & body angles
  - Provide relief for sensate clients
- Allow for personal care while in chair
  - Bladder management, dressing
  - Avoid additional transfers
- Allow supine transfers

- Shifts and expands weight bearing surfaces
- Decreases peak pressures
- Provides different body angles

Clinical Justification: Elevating Leg Rests

- Elevates LE to:
  - Accommodate knee extension contractures
  - Accommodate orthotics, prosthetics, casts
  - Provide position change/support with recline

Independent Manual Wheelchairs Frames
Independent Manual Mobility

- Folding vs. Rigid
- Weight and materials
- Standard Configuration vs. Reverse Configuration
- Rear Wheel
  - Vertical Position
  - Seat to floor height
  - Lateral Position
  - Camber
- Casters and Caster Housing
- Back support
- Front rigging
- Arm rests
- Foot plates

Pediatrics & Power

- Children develop thru exploration/stimulation
- Children without physical impairments begin mobility at ~12 mo
- Give children with disabilities the same opportunities
  - Introduction to power mobility as young as 12-18 months
  - Time and practice to learn and make mistakes
  - Appropriate supervision
- Marginal ambulation or manual propulsion:
  - Risk of stress/damage to muscles, joints
  - Requires energy and endurance
  - Reduces energy available for other activities

Power Wheelchair Bases

- RWD – footrests
- FWD – rear casters
- MWD – footrests or rear stabilizers
Specialty Controls

Game Control (Switch-It, Inc.)
Head Array (ASL, Inc.)
Mechanical Switches (ASL, Inc.)
MicroPilot (Switch-It, Inc.)
And MANY MORE!

Seating Equipment

Adjustable Back Rest
Modular Back Rest
Positioning Cushions
Adjustable Positioning Cushion

Custom Seating Surfaces

• Flat Seat
• Wedge Seat
• Anti Thrust Seat
• Contour Seat
Custom Backrest Shapes

- I Back
- T-back
- Curved Back wood and foam
- Bi angular
- Grid

Dynamic Backrest Options

Additional Seating Components

- Positioning Belt
- Lateral
- Headrest
- Foot plate/rest
- Tray
- Hip Guide
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Be sure to ask “How does the chair grow?”

Growth Considerations for Mobility Bases

- What is too much growth?
- Chair frames
  - Should have both width, depth and seat to floor height change capability
- Quick Adjustments
  - Moving the back post
  - Growing the cross brace, or strut tubes
  - Swapping side frames (height)
- More Involved Adjustments
  - Adjustment kit
  - New frame
WAIT... Don’t Forget The Most Important Parts!

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**Critical Questions**

- Who is the funding source?
- What is the client’s medical history?
  - Diagnosis (primary, secondary, etc.)
  - Surgeries (previous and upcoming)
  - Medications (past, present, future)
- What equipment has the patient had?
  - Not just wheelchairs
  - When was it received, why does it no longer meet their needs (medical - primary)? Who funded the equipment?

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**The Funding Source**

- The reviewers are required to ensure that the coverage criteria/rules are met.
- The budget must be managed through their decisions.
- How do you learn the coverage criteria for all the funding sources?

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**Common Funding Sources**

- State Medicaid Programs
- Private Insurance
- Medicare
- Worker’s Compensation
- Veterans Affairs
- How does secondary insurance work?
  - Will it matter to you?
- Others…?
Documentation Thoughts

- Your time is limited… how can documentation not kill your time?
- As you go through your evaluation, keep in mind that at the same time you are also creating your documentation.
- Think about “climbing a ladder” to justify the equipment selected.
- Tie your thought process and selections to what will be down on paper.
- Things to consider:
  - Your clients are individuals
  - Proof-read!
  - Contradictions

Documentation

- Is your evaluation completed electronically or hand-written?
- Letter of medical necessity?
- Template or not?
- Important documentation reminders:
  - Your clients are individuals
  - Proof-read!
  - Contradictions

Forgotten “Steps”

- Will they be safe?
- Does it fit throughout their home?
- Do they want it? (Is it going to be used?)
What About Physician Notes?

- Be careful
- Communicate
- Funding sources will use both, but they vary on how they are considered.

Final Questions to Ask Yourselves

1. Does the client and/or caregiver have a clear understanding of the plan?
2. Have I specified that the recommended equipment is in fact the minimal equipment essential to this client?
3. Have I demonstrated how I ruled out lesser level equipment?
4. Is the equipment that I am recommending in fact the least costly alternative?
5. Do I have all of the information needed for funding?
6. Has my documentation left the reader with a clear picture of the consequences to the client in the absence of having the recommended equipment?

Questions???
Thank You For Participating!

“Embrace every challenge! Determination and perseverance will significantly impact someone’s life!”
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“Always remember that at the end of the day your client is your number one priority!”
Angie Kiger, Clinical Education Specialist
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