STEPS
Sunrise Training & Education Programs

Dependent Mobility Bases: How do I choose?

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Objectives

Upon completion of this presentation participants will be able to:

- List 3 indicators as to when it is appropriate to recommend an adaptive stroller.
- List 3 clinical indicators for use of a tilt-in-space wheelchair instead of an adaptive stroller.
- List 3 seating options available on a tilt-in-space wheelchair.

Sooo….What's the Big Deal?

Proper Seating Impacts:
- PLAY!
- Access to environment
- Developmental milestones
- Reduction or prevention of risk for injuries in the future
- Respiratory status
- Gastrointestinal function

Mobility Impacts:
- PLAY!
- Cognition
- Decision making
- Social interaction
- Spatial awareness
- Body control in gravity

What's The Big Deal?

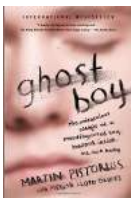
"The first time I saw her sitting in her KidKart I was shocked at how upright she was sitting and how much more engaged she was in her surroundings. It was a wake-up call to her dad and I about how important proper positioning is for Maryn."
- Kim (Arlington, VA)

"Providing clients with proper seating and positioning is vital for feeding, communication, and socialization!
- Becky, CCC-SLP (Pensacola, FL)

Perspective

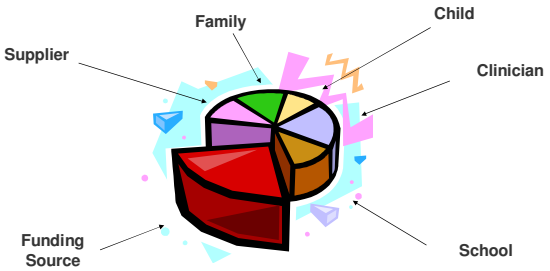
"I understand why my parents want to see me walk and talk, but it's exhausting to live in a body that feels like the property of everyone else."

- Martin Pistorius



Slicing Up The "Pie"

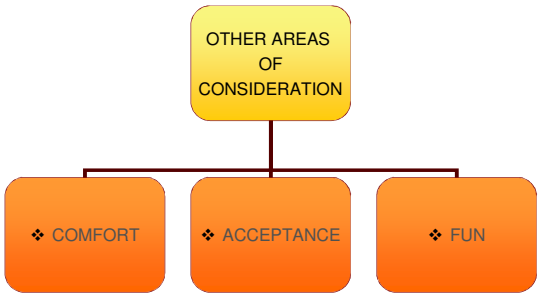
Who is fighting for a piece of the pie when it comes to choosing equipment?



Setting Goals

- ***Targeted areas to consider:***
  - ***Positioning***
  - ***Stability***
  - ***Manage Tone***
  - ***Changes in size***
  - ***Sitting tolerance***
  - ***Skin integrity***
  - ***Function***

Goals to Keep In Mind



What are the goals?

- **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

Question…

Is there EVER conflict???

Recommended Flow

- Explain the purpose
- Review goals
- Complete history
  - Medical
    - Dx
    - Rx
    - Surgeries
  - School
  - Therapy
  - Equipment & AT experience
  - Environment & transportation
  - Likes/Dislikes
- Observation
  - Before introductions
  - Current equipment
  - Out of equipment
- Hands-on
  - Skin
  - Mat evaluation
  - Cognitive skills
  - Sensory status
  - Function
- Featuring matching
- Education
  - Funding process
  - Resources for support
  - Planning for lifetime of equipment
- Recommendations
  - Appointment summary
  - Contact information
  - Follow-up plan
  - Review goals…again!

Additional Evaluation Considerations

- **Screenings, reports, or formal consultation**
  - Physicians – neurologist, ophthalmologist, orthopedic surgeon, physiatrist, etc.
  - Speech Therapist
  - Teacher - classroom aide
  - School therapists – IEP
  - Audiologist
- **Cognition**
  - Ability to following directions (one-step, two-step, multi-step, related, non-related, etc.)
  - Initiation of exploring the environment independently
  - Visual learner vs. auditory learner (supports needed?)
- **Auditory status**
  - Acuity vs. processing
- **Communication Status**
  - Verbal vs. non-verbal
  - Picture based vs. word based

Additional Evaluation Considerations

- **Vision Status**
  - Acuity vs. processing
  - Field loss, field neglect, color blind, visual motor, etc.
- **Cortical Visual Impairment**
  - CVI is a neurological condition that is the leading cause of visual impairment of children in the US.
  - Commonly behaviors associated with CVI include:
    - Require movement to see
    - Visual field preference–see better looking at objects in certain directions (such as left or right periphery).
    - Lack of visual-motor match–look and touch occur as separate functions (looks, turns head away from item, then reaches for it)
    - Light gazing and/or non purposeful gaze–often need more light to see or will gaze non-purposefully because they can't make sense of what they see

CVI Common Comorbidities

- Cerebral Palsy
- Cognitive impairment
- Seizure disorder
- Microcephaly
- Hearing loss
- Memory dysfunction
- Hyper or hyposensitivity to sensory stimulation

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

Early Intervention Adaptive Strollers

Standard vs. Adaptive

<u>Standard Stroller</u>

- Mainstream
- Lower profile
- Standard seating option only
- Limited recline available in some brands.
- Easily transportable

<u>Adaptive Stroller</u>

- Seating & positioning options.
- Durability
- Storage and accessories for transporting medical equipment
- Seating system removable
- Tilt, recline, & transit available
- Foldable base

Seating Considerations

- Seating
  - Reversible?
  - Size?
  - Growth?
  - Weight limits?
  - Cushion, back, positioning components, headrest options?
  - Tilt, recline, ELRs?



Frame Considerations

- Transit
- Folding
- Weight
- Age appropriate


Accessories





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

Tilt-In-Space Wheelchairs



Points to Consider

- Seating compatibility
  - Standard
  - Custom
  - Tilt
  - Recline
- Accessories
  - Headrests
  - Upper extremity supports
  - Lower extremity supports
  - Positioning belts
  - Wheel options
- Weight
- Folding options
- Configuration
- Growth

Tilt Options

Folding Options

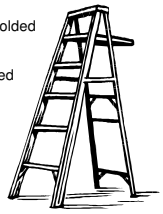
Consider A Seating Ladder

Custom made seating – molded

Custom made seating – linear and contoured

Off the shelf seating – customizable

Basic off the shelf seating – non customizable



Off the Shelf Cushions - Customization

Cover Considerations

- Material
- Stretch
- Layers
- Style

Maintenance & Care

- Concerns about moisture or incontinence?
  - Type of protection needed

- How is the cushion washed/cleaned?
  - Additional covers?

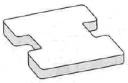
Out of the Box Backs & Adaptations

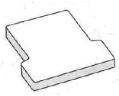



Custom Fabricated Seating: Unique Postures

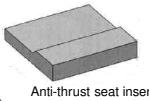

Custom Seating Surfaces

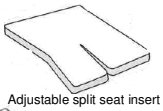

Solid seat insert

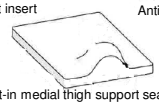

I seat insert

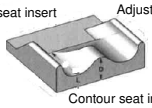

T seat insert


Offset seat insert


Anti-thrust seat insert


Adjustable split seat insert


Built-in medial thigh support seat insert

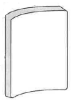

Contour seat insert

Custom Backrest Shapes


Solid back insert


I back insert


T back insert


Curved back insert


Grid back insert


Bi-angular back insert


Contour back insert


Adjustable lumbar back insert

Foam In Place

- Back rest/Carrying Structure
- 1" Sunmate foam
- Loose 4" deep cover
- 1 Unit of liquid soft Sunmate foam.
- Common Mod's
  - Lateral Supports
  - I style back
  - Curved wood
  - Custom base foam


"Hybrid" Option - ShurShape

- What is it? What is the process?
  - Chopped up foam pieces in a large vacuum sealed bag (one for the seat and one for the back).
  - Glue is poured in the bag to mix with the foam. Next a suction machine is hooked up to the bag and the glue/foam concoction is molded to the client.
  - A "dry run" can be done by using the suction without the glue to determine how the system will impact the client.
- Things to keep in mind
  - Slight adjustments can be made while mold is setting.
  - Carrying structures enable specific seat depth, back height and angle adjustments to accommodate an optimum fit to the wheelchair base.
  - Can do a dry mold
  - The foam can be cut away or modified in the field by a seating professional.
  - Mixture must be mixed thoroughly.
  - Not ideal for clients with high tone.



Custom Molded Seating

- In **some** cases it is easier to attain consistent positioning/targeting with a mold needing less adjustment or repositioning after transfer.
- Molding systems allow direct involvement of the clinician in the final shape as opposed to taking measurements.
- Molds eliminate moveable, adjustable parts – **can be positive**
- Molds eliminate adjustment and fine tuning – **can be negative**

Additional Seating Components

Lateral Thoracic & Pelvic Pads

Thoracic

Curved

Pelvic

Tappered

Lateral Mounting Hardware

Fixed

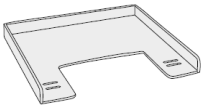
Adjustable

Removable

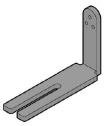
Swing-away

Hardware cover

Upper Extremity Supports



Medial Thigh Supports and Hardware



Wedge

Oval

Lower Extremity Supports




Contracture Footrest System

Inside Mount

Outside Mount

Lower Extremity Positioning Supports

Shoe holders

Leg Extension

Knee Adductor

Foot Boxes

Stablizer

Positioning Belts





Headrest Pad & Component Options







Dynamic Seating Components



Whitmyer Flex Interface Bracket

Millers Dynamic Footrests

Growth Considerations for Mobility Bases

- What is to 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!

Dependent Transport Strollers

- Frame Considerations
  - Transit
  - Folding
  - Weight
  - Length of time

Dependent Transport Strollers

- Seating Considerations
  - Positioning support
  - Adjustments
  - Tilt
  - Recline

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?

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

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?

Words of Wisdom

"Can't is not a bad word. We ALL have "can'ts" but when there is a can't that significantly impairs your life, you find a work around. So for the little boy who couldn't walk a wheelchair is simply a work around."

Dr. Lisa Thornton,
Pediatric and Adolescent Physiatrist
LaRabida Children's Hospital &Schwab Rehabilitation Hospital

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