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DEPENDENT MOBILITY

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Access to Independence

What we are Covering

- Mobility Series
  - Augmented Mobility
  - **Dependent Mobility**
  - Manual Mobility
  - Power Mobility

CONTINUED™

Learning Objectives:

1. The participant will be able to describe clinical indicators for adaptive strollers.
2. The participant will be able to describe clinical indicators for transport or standard manual wheelchairs.
3. The participant will be able to describe clinical indicators for a manual tilt in space wheelchair.

Dependent Mobility

- Mobility bases that are not designed for self-propulsion
  - Adaptive Strollers
  - Transport chairs
  - Tilt in space manual wheelchairs
  - Reclining manual wheelchairs
  - Standard manual wheelchairs

Dependent Mobility

- Why does someone need these devices?
  - Very small size
  - Transport use only
  - Temporary use
  - Inability to self-propel a manual wheelchair and:
    - The dependent mobility base is a “back-up” to a power wheelchair
    - The client cannot use a power wheelchair

Dependent Mobility

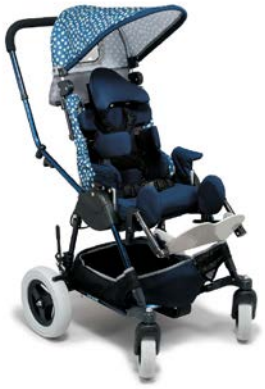
- Goals of use include:
  - Dependent transport
  - Support of seating system
  - Pressure ulcer prevention
  - Postural management
  - Fatigue management

Dependent Mobility

- Who uses this technology?
  - Varies with category

Adaptive Strollers

- Criteria
  - Age
  - Motor Control
  - Vision
  - Cognition
  - Parental preference
  - Transportation



Kid Kart Xpress

Adaptive Strollers

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

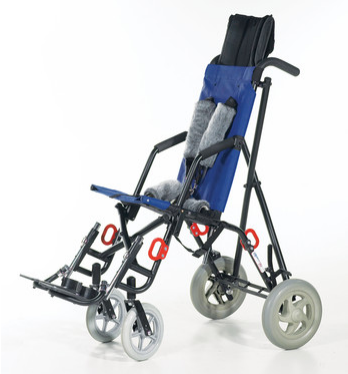
Adaptive Strollers

- Pros:
  - Works well for very young, very small children
  - Often lots of features for the young, medically involved child: tilt, recline, child can face caregiver, oxygen and vent support
  - Families often accept this more easily
  - Often lightweight and easy to fold

Kid Kart Xpress, rear facing

Adaptive Strollers

- Cons:
  - Often minimal seating options
  - Often fixed posterior tilt
  - Dependent mobility
  - Hard to mount SGD to frame
  - Some have little growth
  - Some have little frame adjustment



Kid Kart Mighty Lite

Adaptive Strollers

- Seating
  - Sling seating
  - Other seating options
  - Adding on after market seating

Adaptive Strollers

- Seating
  - Sling seating
    - Common
    - Little support
    - Seat depth often too
    - short for the back height
    - Makes folding easier

Convaid Cruisers

Adaptive Strollers

- Seating
  - Other seating options
    - Various supports,
    - not very aggressive or adjustable
    - Solid seating surfaces
    - Has to be removed for folding

Convaid Cuddle Bug

Adaptive Strollers

- Seating
  - Adding on after market seating
    - Linear
      - Hardware attachment can
      - be difficult
    - Contoured
      - Sometimes placed on top
      - of the sling

Convaid Mountee Seating System on Safari Tilt base

Adaptive Strollers

- Frame considerations
  - Seat to back angle adjustment
  - Tilt adjustment
  - Recline adjustment
  - Transportation
  - Growth
  - Medical

Frame Considerations

- Seat to back angle adjustment
  - Fixed
  - By tool
  - Easily adjustable, i.e. knob
  - For positioning purposes

Karman Healthcare
Buggy

Frame Considerations

- Tilt adjustment
  - For fatigue
  - For postural control
  - For feeding
  - For medical reasons
    - i.e. post seizure

Stealth Lightning

Fixed posterior tilt

Kid Kart Xpress
Adjustable tilt

Frame Considerations

- Recline adjustment
  - For fatigue
  - For postural control
  - For feeding
  - For medical reasons
    - i.e. post seizure
  - May lose positioning upon return to upright

Convaid Cuddle Bug Recline

Frame Considerations

- Transportation
  - Folding
    - Often no accessible vehicle yet
    - Perhaps not yet in school
    - Young child safer in car seat
  - Tie downs
    - Future use
    - School bus

Frame Considerations

- Growth
  - Very young children grow a tremendous amount
  - Dependent Mobility Bases often offer less growth than manual wheelchairs
  - Easy to outgrow in a short time

Frame Considerations

- Medical
- Particularly pertinent for the newborn/infant with medical issues
  - Vent trays
  - Oxygen holders
  - IV poles
  - Child can face caregiver

Kid Kart O2 holder and vent tray

Kimba O2 holder

Frame Considerations

- Other

Hi-low

Hi Low Base

Frame Considerations

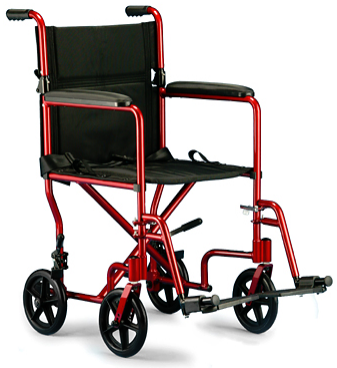
- Other

Otto Bock Tandem

Baby Jogger configuration

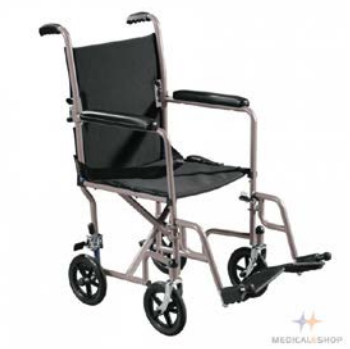
Transport Chairs

- Criteria
  - Age
  - Motor Control
  - Vision
  - Cognition
  - Caregiver preference
  - Transportation



Transport Chairs

- Clinical Indicators
  - For short trips
    - From car into doctor's office
  - Not designed for prolonged sitting



Transport Chairs

- Pros
  - For short trips
    - Lightweight, easy to fold
  - inexpensive

Transport Chairs

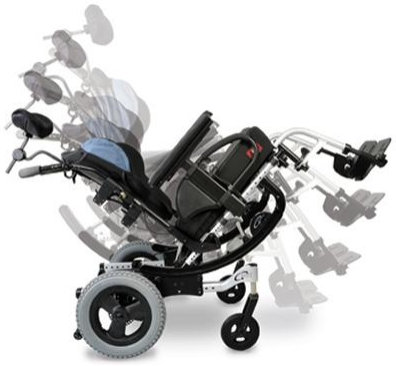
- Cons
  - Minimal seating
    - Can add cushion
  - No frame adjustments
  - Small wheels
    - No opportunity for self-propulsion
    - Difficult to push on varied terrains
    - Larger rear wheels may be an option

Transport Chairs

- Specialty
- Beach wheelchairs provide transport over sand

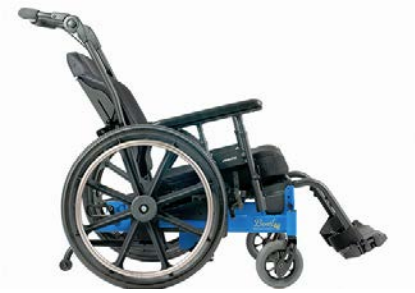
Tilt in Space Manual Wheelchairs

- Criteria
  - Age
  - Motor Control
  - Vision
  - Cognition
  - Caregiver preference
  - Transportation



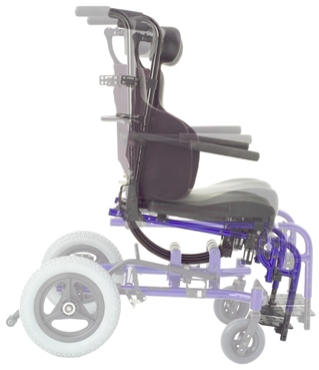
Tilt in Space Manual Wheelchairs

- Clinical Indicators
  - The majority of tilt in space manual wheelchairs are not designed for self-propulsion
    - The few that are weigh a lot, impacting mobility
  - Clients who can benefit from tilt



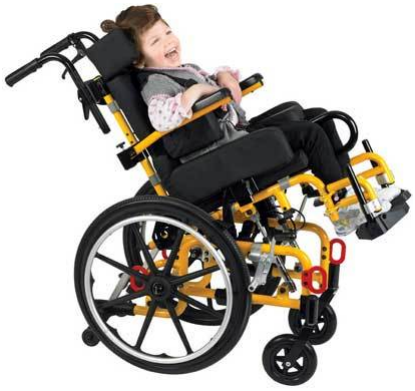
What is Tilt in Space?

- Tilt maintains the seated angles at the pelvis and knees
- Posterior Tilt
- Anterior Tilt
- Lateral Tilt
  - Not available on MWCs



Benefits to Tilt in Space

- Redistributes pressure
- Postural control
  - Head and trunk control
- Fatigue management
  - Including postictal
- May help:
  - Vision
  - Feeding
  - Function



Tilt in Space

- Seating
  - Sling seating
  - Other seating options
    - Linear
    - Contoured
    - Cushions

Zippie Iris

Tilt in Space

- Frame considerations
  - Seat to back angle adjustments
  - Tilt adjustments
  - Recline adjustments
  - Knee angle
  - Folding
  - Stroller handles
  - Transportation
  - Growth
  - Dynamic seating
  - Other

Optional Reclining Back

TS Frame Considerations

- Seat to back angle adjustments
  - Important for positioning
  - Not as critical for one piece seating systems
    - i.e. contoured
    - But these still need to be mounted

Frame Considerations

- Knee angle
  - Young children often placed at 90 degrees
    - Short legs = no caster interference on most frames
    - Tight hamstrings

Frame Considerations

- Folding
  - For transportation in non-accessible vehicles
  - Frame may still be quite heavy
  - Seat may have to be removed
  - Child may not be riding in wheelchair

Quickie Folding Iris

Frame Considerations

- Stroller handles
  - Pediatric frames are short
  - Eases pushing by caregiver
  - Even more critical if chair is
  - pushed while tilted
  - Some are angle adjustable
  - Some are removable for folding

Quickie Iris

Frame Considerations

- Transportation
  - Crash tested
  - Tie downs
  - For the client who rides in the chair at any time, including school bus

Frame Considerations

- Growth
  - Most pediatric manual wheelchairs have lots of growth built-in
  - Many children have far more linear growth than growth in width

Quickie GS

Frame considerations

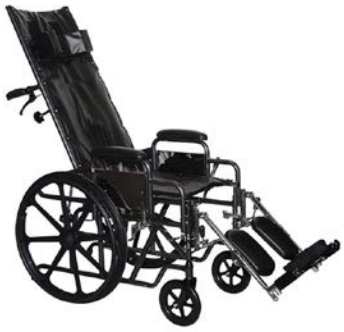
- Dynamic Seating
  - Dynamic backs
  - Dynamic footrest hangers
  - Dynamic headrests

Frame Considerations

- Other
  - Medical related features
    - Vent trays
    - Oxygen holders
  - Seat to Floor height
    - Some children who do not self-propel may still be working on transfers

Reclining Manual Wheelchairs

- Criteria
  - Age
  - Motor Control
  - Vision
  - Cognition
  - Caregiver preference
  - Transportation

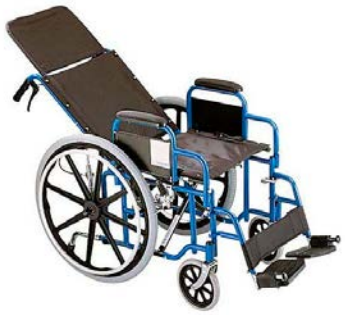


Reclining Manual Wheelchairs

- Clinical Indicators
  - Typically used post-surgery to accommodate open seat to back angle
    - i.e. post VDRO surgery
  - Not generally used long term

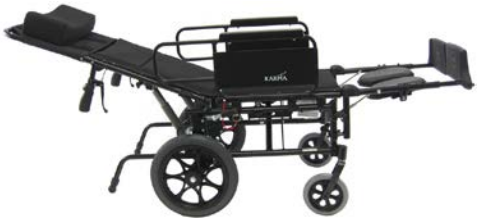
Reclining Manual Wheelchairs

- Pros
  - Provides open seat to back angle for temporary use



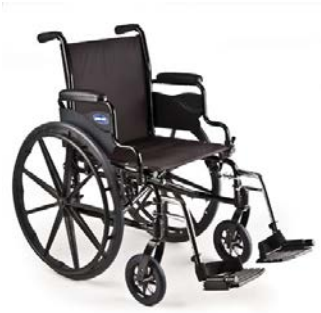
Reclining Manual Wheelchairs

- Cons
  - Limited seating options
  - Limited frame adjustments
  - High degree of sheer during recline
    - Leading to loss of position upon return to upright
    - Leading to pressure (friction forces) over sacral area
  - If combined with elevating legrests (ELRs), these do not articulate
  - Not designed for self-propulsion



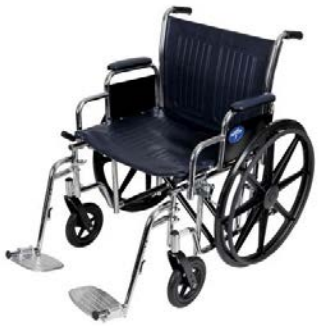
Standard Manual Wheelchairs

- Criteria
  - Age
  - Motor Control
  - Vision
  - Cognition
  - Caregiver preference
  - Transportation



Standard Manual Wheelchairs

- Clinical Indicators
  - Similar to Transport Chairs
  - Temporary use only

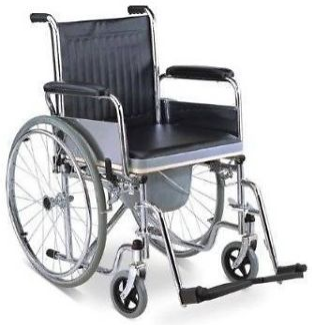


Standard Manual Wheelchairs

- Pros
  - Inexpensive
  - Fold for transport

Standard Manual Wheelchairs

- Cons
  - Very heavy
    - Not designed for self-propulsion
  - Limited seating
  - Limited frame adjustments



Resources

- For more information, check out:
- Life-cycle analysis of depot versus rehabilitation manual wheelchairs, http://www.ncbi.nlm.nih.gov/pubmed/8868417
- ABLEDATA Fact Sheet on Manual Wheelchairs

http://www.abledata.com/abledata_docs/manual_wheelchairs.htm

Hands-on Activity

- Borrow a standard wheelchair to try
- Push a friend in this base through a variety of environments
- Hop in and try to self-propel

Activity Time!

Thank You!

Contact Information

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