



Mt. Washington Pediatric Hospital, Inc.

# A Pediatric Perspective on Brain Injury



Dr. Brenda Elliott, Ph.D  
Natalie Heinold MS, CCC-SLP

Date space

1708 West Rogers Avenue  
Baltimore, MD 21209- 4596

410-578-8600  
[www.mwph.org](http://www.mwph.org)



# Mt. Washington Pediatric Hospital, Inc.

|           | ER      | Hospital | Death | Total   |
|-----------|---------|----------|-------|---------|
| age 0-4   | 251,546 | 15239    | 998   | 267,283 |
| age 5-9   | 105,015 | 8799     | 450   | 114264  |
| age 10-14 | 117,387 | 11098    | 726   | 129,211 |
| age 15-19 | 157,198 | 24892    | 3995  | 186,089 |

**Grand Total: 696,847 estimated per year**

Estimated Average Annual Numbers, Rates, and Percentages of Traumatic Brain Injury-Related Emergency Department Visits, Hospitalizations, and Deaths, by Age



# Impact of Traumatic Brain Injury

- Affects the child, family, close friends, and the community
- Education about brain injury should be initiated as early as possible.
  - Increases understanding of what has happened
  - May help a family to prepare for recovery process
  - Helps a family manage expectations
  - May be provided throughout recovery
  - Important for the parent, those caring for the child, and the child



# Three Tiered Approach to Education

- The family
- Hospital staff and professionals
- The child





# Family Perspective

- Devastation associated with a brain injury is often beyond comprehension
- It is not just physical injury that can be “treated” by medicines or rehabilitation
- Recovery depends on many factors
  - Access to services
  - Support system
  - Family attitudes and values
  - Finances
  - Pre-injury functioning
  - Understanding about what has happened and what to expect





# Stages of Grief

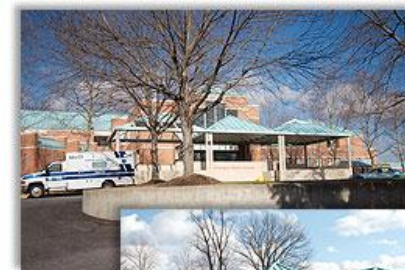
- One to three months
  - Shock, denial, guilt, hope, uncertainty
- Three to nine months
  - Anger, fear, depression, loss
- Six months to one year
  - Escalation of fear or frustration
  - Concerns about future
  - Information seeking





# Tier One: Family Involvement in Recovery

- Starts on day of admission
  - Orientation to the hospital
  - Explanation of the rehabilitation process
  - Written materials about brain injury
- Meet and greet
  - Introduction of family to therapists
  - Discuss results of initial evaluation
  - Encourage questions
  - Discuss plan of care





# Tier One: Family Education

- Family Group
  - Open to families in the hospital and outside the hospital
  - Provides information about brain injury
    - Brain Anatomy
    - Rancho scales
    - Brain injury and development
    - School and IEPs







# Tier One: Family Education

- Educational resources
  - Published materials
  - Family education manual
- Communication book
  - Therapists document activities in therapy and progress
  - Families write down questions and concerns
- Family meetings





# Education for Community Outings

- Children are taken on community outings as part of their rehab
- Type of outing depends on their level of recovery-policy for outings (see handout)
- Outings are videotaped with family consent and reviewed by parents and therapists
- Parents are given a pre-test and a post-test
- Education Applications:
  - Baseline
  - Intermediate
  - Pre-discharge
  - Caregiver outings





# Community Outing Criteria for Brain Injury/Multi-Trauma Clinical Pathways

|  | <b>Baseline Outing</b>   | <b>Outing</b>   | <b>Outing</b>  | <b>Discharge</b>  |
|--|--|---|--|---|
| <b>Medical</b>   | Medically stable. Meds administered prior to outing. Nurse present if patient with trach.                                | Medically stable. Meds administered prior to outing. Nurse present if patient with trach. | Medically stable. Meds administered prior to outing. Nurse present if patient with trach.              | Medically stable. Meds administered prior to outing. Nurse present if patient with trach.   |
| <b>Caregiver Involvement</b>   | Primary caregiver reviews tape of outing independently with observation form   | Primary caregiver reviews tape of therapy outing with clinicians                          | Primary caregiver reviews tape of therapy outing with clinicians                                       | Primary caregivers are strongly encouraged to attend outing prior to discharge with clinicians  |
| <b>Supervision</b>   | Patient on individual or small group outing with therapy (PT, OT, speech, neuropsych)<br>Patients' 1:1 or tech to attend | Patient on individual or small group outing with therapy (PT, OT, speech, neuropsych)     | May attend CL/TR outing following therapy recommendations (appropriate level to be determined by Team) | Primary caregivers are strongly encouraged to lead therapeutic outing with patient and clinicians prior to discharge. (Multiple training outings may be appropriate.) |
| <b>Rancho Level</b>  | V-VI   | V-VI  | VI-VII   | VI-VII  |
| <b>Stimulation Level of Outing</b><br><small>*please see Level of Outing sheet</small> | Baseline Outing<br>Level to be determined by Team  | Level One-Two<br>Low stimulation with time constraints                                    | Level Two-Three<br>Increased, but moderate level of stimulation with increased length of time          | Level Three<br>Increased amount of stimulation with increased length of time  |
| <b>Agitated Behavior Scale</b>   | No greater than 20   | No greater than 18<br><small>*may repeat level per Team discretion</small>                | No greater than 16<br><small>*may repeat level per Team discretion</small>                             | No greater than 14  |
| <b>Videotaping</b>   | Mandatory taping to use as therapeutic feedback/caregiver education with observation form                                | Taping may be used by discretion of clinicians  | Mandatory taping to use as therapeutic feedback/caregiver education for progress from first outing     | Primary caregivers to review videotape from outing prior to discharge with post observation form  |



# Caregiver Outings

- Occur prior to discharge
- Families are strongly encouraged to participate
- Highest outing level to challenge
- Purpose:
  - Observe behavior in the community
  - Opportunity for parents to identify concerns
  - Recognize strengths and weaknesses
  - Recognizing the important role they play in the child's continued recovery



# Tier Two: The Staff

- Understanding that every child is different
- Understanding the stages of recovery
- Understanding the behavior of the parent and child
- Understanding the role of culture
- Understanding the stages of grief
- Recognizing the important role they play in recovery





# Tier Two: Approaches

- Nursing orientation
- Classes for nurses and PCA's
- Activity sheets for Rancho Levels to encourage participation
- Complete Agitated Behavior Scale
- Write in communication book





# PCA's Role in Recovery

- Encourage PCA's to participate in rehab activities
- Increases their own awareness and knowledge of brain injury
- Encourages their participation as a part of the team
- Demonstrates the VERY important role they play in recovery





# Tier Three: The Kids

- Cognitive Group
- Therapeutic Outings
- Cool Kids Group
- Adolescent Group
- Transition Books
- Presentations







# Cognitive Group

- Co-lead by speech and occupational therapy
- Focuses on community reentry skills
- Application of planning, problem solving, memory, and various cognitive skills
- Reinforces appropriate social behaviors
- Facilitates application of life skills





# Therapeutic Outings

- Participate in outings with occupational therapy, physical therapy, speech therapy, and neuropsychology
- Individual and group outings
- Various levels of outings to control level of stimulation and set up for success
- Transition to larger group, Child Life outings → encourage participation outside of hospital
- Patients participate in planning outings





# Cool Kids Group

- Group for children ages 6-12
- Support for peers who are in the hospital
- Share feelings about what has happened
- Learn how to cope with illness or effects of injury, surgery etc.
- Provides fun activities for kids to do with their same-aged peers
- Encourages ownership and education about their injury





# Adolescent Group

- Group for children ages 12+
- Support for peers who are in the hospital
- Share and process feelings about what has happened
- Learn how to cope with illness or effects of injury
- Provides age appropriate activities
- Addresses age appropriate issues
- Encourages ownership and education about injury





# Transition Books

- Patients create book to take to setting outside of MWPH
- Includes:
  - Presentation
  - Goals
- Can be tailored to different age groups, levels of functioning
- Use transition book to educate family and peers





# Presentations

- Patients create presentations to give to hospital staff
- Encourages education about the brain
- Provides insight into progress and deficits





*Please Welcome...*

Dalontai,  
MJ,  
and  
Blair



# Conclusions

- Education and recovery from TBI is a tiered approach
- Education of the child is as important as education of the caregiver → allows them to be a part of their recovery
- Education increases the patient's awareness of:
  - Their injury
  - Their progress
  - Strategies for difficulties and challenges
- Many children enjoy the opportunity to tell their own story





# Questions??

## Thank you!!