Rehabilitation Following Catastrophic Injuries: Where do we go from here?

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Learning Objectives

1. Evaluate a patient's needs in order to select the appropriate level of rehabilitation.
2. Correctly identify the rehabilitation goals, appropriate facility, and treatment timeline based on the patient's injuries.
3. Partner with referral sources and transportation vendors to ensure an efficient transition to the next level of care.
4. Navigate insurance companies and identify the differences between commercial, government and private pay.
5. Develop a successful strategy to manage patient and family emotions and expectations when faced with a potentially life-altering prognosis.

Disclosures

- Kim Roberts is employed by Shirley Ryan AbilityLab
- Nothing to disclose

Catastrophic Injury

- Often referred to as poly-trauma with or without brain/spine involvement
  - Onset due to MVA, fall, other accident, victim of violence, work-related injury
- Severe injury to spine/spinal cord and/or brain
- May also include fractures, loss of limb(s), trauma to internal organs, and/or severe burn injuries



Catastrophic Injury



- Results in a long recovery process
- May lead to long-term or permanent disability
- Can create significant emotional and financial burden to patient and family/caregivers

Who is Impacted?

- Patient
  - Traumatic injuries, interrupted life roles, possible impaired cognition/decision-making, quality of life, self-worth
- Family + patient support system
  - Decision making, emotional toll, sadness/fear, financial stress, hope (can be false-hope)
- Hospital care team
  - Medical decision making for life-saving interventions and medical stability
- Social worker/discharge planner/case manager
  - Supporting patient/family needs and expectations
    - Now what? Where do we go from here?
    - Pressures of facilitating appropriate and TIMELY discharge

Patient Perspectives

- "I did not understand my diagnosis"
- "Not knowing what the doctors were saying – they just rattled things off and did not explain it"
- "I could not believe that this was me"
- "What am I going to do next?"

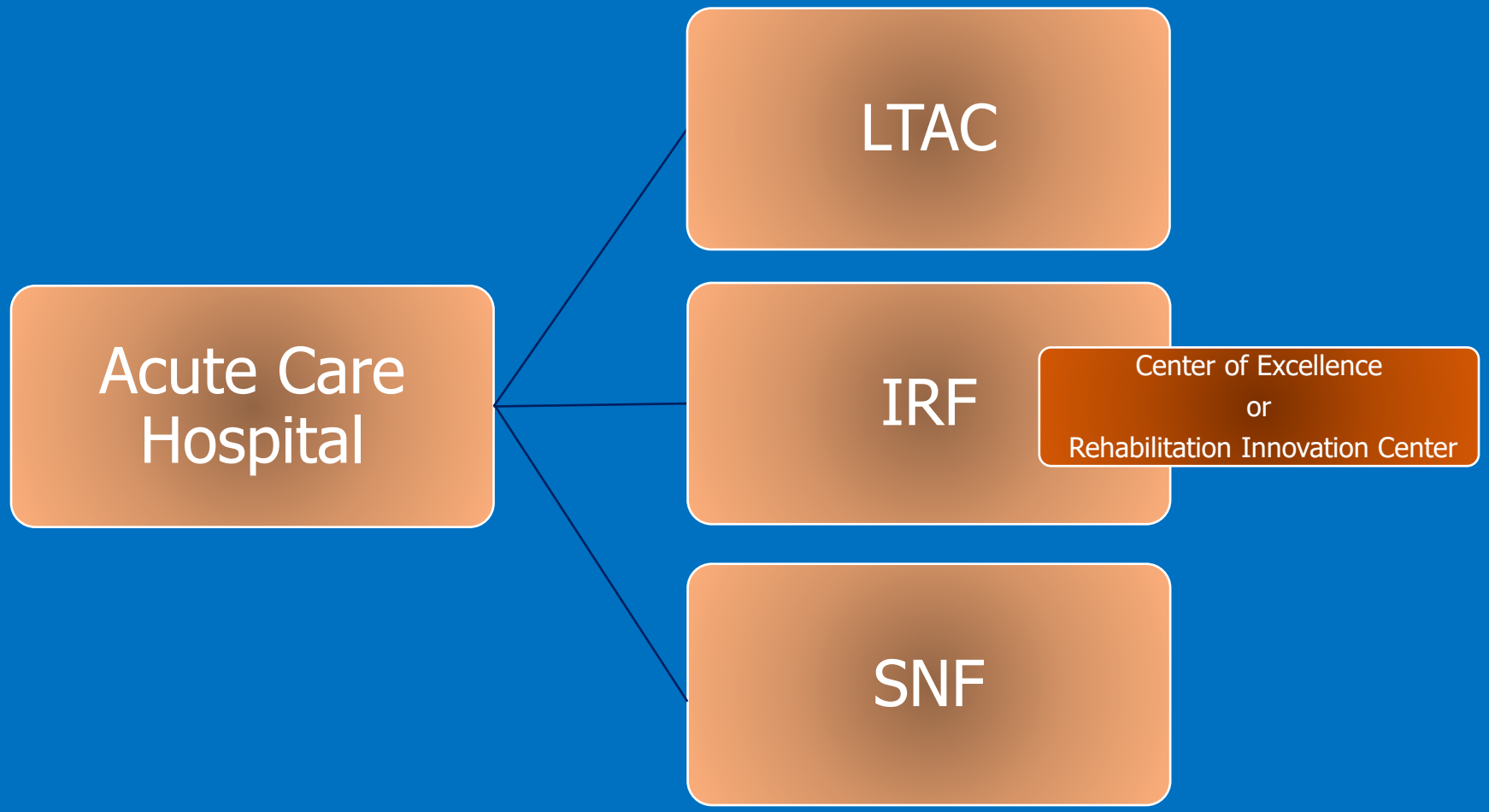
- *"There's no plan for this because no one plans for falling down and becoming a quadriplegic."*

  -Mike, spinal cord injury patient



"Voices of Experience" video series from facingdisability.com

Identifying the Appropriate Next Level of Care





Long-Term Acute Care (LTAC)

- Specialize in treating patients with more than one serious medical condition
  - Hospitalized >25 days
  - Services include:
    - Respiratory therapy
      - Vent weaning, trach care, chest tubes
    - Complex wound care
    - Pain management
    - Infectious disease
    - Rehabilitation (no requirement for hours/day) as appropriate
  - Patient needs require 24 hour nursing care, daily physician intervention, and intensive treatment for conditions
    - Nursing ratio 5:1-1:1 depending on patient acuity

Skilled Nursing Facility (SNF)

- Specialize in treating patients with medical conditions which require skilled services at a lower level of care
  - Hospitalized >3 days
  - Services include:
    - 24 hour nursing care, physician visits occur every 7-30 days
      - Nursing ratio 8:1-15:1
    - Rehabilitation (1-2 hours per day) as appropriate
    - Can typically accommodate patients with multiple weight bearing restrictions who may be appropriate for an IRF in the future
  - Short-term or long-term residencies
    - Patients can transition from rehab to maintenance or “custodial” care

Inpatient Rehabilitation Facility (IRF)

- Specialize in treating patients recovering from serious injury, illness, and/or post-surgery who require an intensive rehabilitation therapy program
  - Services include:
    - 24 hour nursing care + daily physician intervention
      - Nursing ratio 5:1-7:1
      - Attending physicians are physiatrists or physical medicine and rehabilitation doctors
    - Rehabilitation (3 hours per day/5-7 days per week)
      - Physical therapy, occupational therapy, speech therapy
    - Respiratory
    - Wound care

Center of Excellence or Rehabilitation Innovation Center

- Center of Excellence (COE) is a term utilized across a variety of industries
  - With regards to an IRF:
    - Specialty facility with collaborative approach, sub-specialty areas of expertise, implementation of best practices, innovative technology/interventions, research-focused (Goka & Arakaki, 1991)
      - Model System Programs
      - Accreditation (i.e. Magnet for nursing)
      - Providers treat a high volume of diagnoses per year, high level of expertise for diagnosis-specific treatment
      - High percentage of clinician certifications
        - i.e. nurses certified in rehabilitation, PTs with Neurologic Specialty Certification (NCS)
      - Priority on research
      - Positive outcomes

Center of Excellence or Rehabilitation Innovation Center

- Rehabilitation Innovation Center
  - Dr. Joanne Smith Memorial Rehabilitation Innovation Centers Act passed by Congress in January 2023
    - Defines "Rehabilitation Innovation Center" as a rehabilitation facility that provides care for patients with highly complex conditions, conducts multidisciplinary rehabilitation research, and educates a high number of medical residents
    - Directs the Department of Health and Human Services to disseminate best practices
    - Directs the Centers for Medicare and Medicaid Services (CMS) to publish and biannually update a list of all rehabilitation innovation centers

https://congress.gov/bill/117th-congress/senate-bill/2834

Who is appropriate?

LTAC	SNF	IRF	COE/Innovation Center
Limited therapy tolerance	Limited therapy tolerance	Therapy tolerance 3 hours/day (at least 2 therapy disciplines)	*must meet all IRF criteria AND:
Extensive wound care	Multiple weight bearing restrictions	Previously independent	Severe TBI/SCI/poly-trauma/stroke
Ventilator dependent/goals to wean	Dementia	Dispo to home following IRF admission	Need for sub-specialty expertise
Extensive respiratory needs	Previously dependent for ADLs/mobility	Mild-moderate deficits in ADLs/mobility	Interest in participating in research
Multiple lines/drains	Long-term residential needs	Equipment training needs	Home modifications, extensive caregiver training
Ongoing complex medical treatment			Prosthetics/orthotics and wheelchair seating center

Center of Excellence or Rehabilitation Innovation Center

- Consider length of stay (LOS)
  - To ensure safe discharge to home, LOS may be longer than average
  - Patients are more medically complex than average IRF patients
  - Ability to manage complications
    - Skin breakdown
    - Infections
    - Heterotopic ossification
    - Autonomic dysreflexia
    - Neuro storming
    - Spasticity/contractures
    - Psychosocial impacts of new onset injury – depression/anxiety

Insurance Authorization

Commercial Insurance

- Most will cover COE same as local rehabs
- Deductibles and OOP cost is same
- If denied – will go to P2P – usually occurs within 24 hours of denial
- Likely overturned after MD to MD conversation
- Free family housing

Government Plans

- Tricare- very hesitant to send to COE – like to keep at military hospital based rehabs
- Tricare will not cover day rehab
- Disorders of consciousness programs are individually reviewed for government payor
- No Free housing – seen as enticement

Private Pay

- Out of state Medicaid and plans that are OON – patient may choose to pay privately.
- Each stay is rated depending on diagnosis and predicted length of stay
- Pay in full up front
- Financial reconciliation is completed at end of stay
- Family eligible for housing

Medical Transportation

- Ground vs. Air Ambulance
  - Distance (> 150 miles?)
  - Insurance benefit
  - Is flight medically necessary?
    - Medically complex, vent/trach, agitated brain injury patient, SCI with compromised skin integrity, wounds



Insurance Authorization for Transportation

- Verify transportation benefits for non-emergent transfers
- Determine pre-authorization requirements
- Submit pre-authorization (if required)
  - Possible need for letter of medical necessity from physician

**Some air ambulance vendors will initiate the pre-authorization for medically necessary flights for IRF admission*

Air Medical Transportation

- Interfacility transfers account for 54% of air medical transports (Sherry & Wang 2022)
  - Over the period from 2019-2020, there were > 64,000 fixed wing medical flights per year (avg. 180/day)
- Interfacility transfers utilize fixed wing aircraft
  - Turbo prop or jet aircraft
- Evaluation of air ambulance provider:
  - Accreditation
  - Experience/credentials of crew
  - Comprehensive transportation coordination
  - Assistance with insurance authorization
  - Ability to accommodate a passenger
  - Communication of departments (flight coordination, billing, etc.)

Managing Patient and Family Expectations

- A catastrophic injury is a life changing event
- Burden of care (or caregiver burden)
- A comprehensive rehabilitation program should offer:
  - Psychological support
  - Education and training
  - Support groups
  - Peer visitors
  - Collaborative and patient-centered approach
    - Patient involved in goal setting and treatment planning, as appropriate
  - Education on specifics of Inpatient Rehabilitation (IPR) program provided to patient and family PRIOR to admission

Managing Patient and Family Expectations

- Be mindful of health literacy and understanding of insurance benefits
- Managing patient & family dynamics
  - Designated decision-maker?
  - Are patient and family on the same page?
  - Is patient and/or decision-maker emotionally ready to engage in discharge planning?



Positive Outcomes

- For catastrophic patients, seek IRFs with data that demonstrates positive outcomes for their patients
  - Discharge to home
  - Increased independence with functional tasks
  - Improved mobility (ambulation vs. wheelchair use)
- Frame the future for the patient and family
  - Research indicates initial conversations about a new onset injury frames the event for the patient/family for years to come
  - Positive psychological variables present during the IPR stay may contribute to the prediction of functional outcomes post-discharge (Kortte et. Al 2012)

Where Do We Go From Here?

"I will get back to doing the things that I want to do. I may have to do them a different way, but that's ok."

-Mike, spinal cord injury patient




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