Rehabilitation Readiness

Lane Brown, PhD
Magee Rehabilitation at Jefferson
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IT'S AN HONOR

RANKED 16TH BEST HOSPITAL IN THE NATION!

THOMAS JEFFERSON UNIVERSITY HOSPITAL

Among the Top 10 in the Nation

EAR, NOSE & THROAT

OPHTHALMOLOGY
Wills Eye Hospital

ORTHOPEDICS
Rothman Institute at Jefferson

Philadelphia Hand to Shoulder Center at Jefferson

Nationally Ranked Specialties

CANCER
Sidney Kimmel Cancer Center – Jefferson Health

CARDIOLOGY & HEART SURGERY

DIABETES & ENDOCRINOLOGY

GASTROENTEROLOGY & GI SURGERY

GERIATRICS

NEPHROLOGY

NEUROLOGY & NEUROSURGERY
Vickie and Jack Farber Institute for Neuroscience – Jefferson Health

UROLOGY

Jefferson Health®

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

Jefferson Health

14 Hospitals

- Abington Hospital
- Abington – Lansdale Hospital
- Jefferson Bucks Hospital
- Jefferson Cherry Hill Hospital
- Jefferson Frankford Hospital
- Jefferson Hospital for Neuroscience
  – *part of Vickie and Jack Farber Institute for Neuroscience*
- Jefferson Stratford Hospital
- Jefferson Torresdale Hospital
- Jefferson Washington Township Hospital
- Magee Rehabilitation Hospital
- Methodist Hospital
- Physicians Care Surgical Hospital
- Rothman Orthopaedic Specialty Hospital
- Thomas Jefferson University Hospital
  – *Sidney Kimmel Cancer Center (NCI-designated)*

BEST HOSPITALS U.S.News & WORLD REPORT HONOR ROLL 2017-18

6,600
physicians/practitioners

7,400 **nurses** (full/part time)

MAGNET RECOGNIZED AMERICAN NURSES CREDENTIALING CENTER

Abington Hospital, Jefferson Hospital for Neuroscience and Thomas Jefferson University Hospital are Magnet-designated hospitals

50+ **outpatient and urgent care locations**

Over **4.3 million**
patient interactions annually

Jefferson Health®

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

Thomas Jefferson University

9 Colleges + 4 Schools

- College of Architecture and the Built Environment
- College of Biomedical Sciences
- College of Health Professions
- College of Nursing
  – *Aria Health School of Nursing*
- College of Pharmacy
- College of Population Health
- College of Sciences, Health and the Liberal Arts
- Kanbar College of Design, Engineering and Commerce
  – *School of Business Administration*
  – *School of Design and Engineering*
- Sidney Kimmel Medical College
- School of Continuing and Professional Studies

and also

- Philadelphia University Design Institute
- Philadelphia University Honors Institute

160+ Graduate & Undergraduate programs

63,500 Alumni

7,800 Students (full/part time)

over **$122 million** in public/private research funding.

5th largest university in Philadelphia

326 combined years of providing professional education

Nationally ranked in architecture, fashion design, primary care, research and strategic leadership

Jefferson
Philadelphia University + Thomas Jefferson University

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Today's Rehabilitation Readiness Discussion:

- Rehabilitation settings
- Characteristics of inpatient settings
- Characteristics of **acute inpatient** rehabilitation candidates
- Influence of clinical picture on program planning
- Special considerations

Perspective….

Magee

Vent capable

Dialysis

High acuity and staffed to serv

Technology that allows advancement within inpatient stay

Creative Arts Therapies extend daily hours of therapy

- 96 beds
- Specialty Programs
  - Stroke
  - Brain Injury
  - Spinal Cord Injury
  - Amputee
  - Neurological Disorders
  - Medical Debility
- Continuum of Care
  - Inpatient
  - Day Hospital
  - Outpatient
  - Lifetime Follow-up
    - Case Management

Rehabilitation Settings

Long Term Acute Care
or
Acute Rehabilitation
or
Subacute Rehabilitation
or
Homecare
or
Outpatient

Setting choice:
Driven by Evidence of Efficacy

- What best serves the patient?
- How do we achieve the best outcome for the patient?

In rehabilitation:

- What are the critical elements of care?
- Where can those elements be provided?

Long Term Acute Care Hospital

Long Term Acute Care Hospital

- On average LOS of 28 days or more
- No specific “hours of therapy” requirement
- Definition framed around hours of care
- Nursing ratio 1:5

Long Term Acute Care Hospital

- Therapy available
- Complex nursing care available
- Complex respiratory care available

Consider for.....

- Medical care needs that inhibit therapy participation

Subacute Rehabilitation

Subacute Care or Subacute Rehabilitation

- Most often on a nursing home campus
- May exist as a unit in an acute care setting (transitional care units)

Subacute Care and Skilled Nursing Facilities...

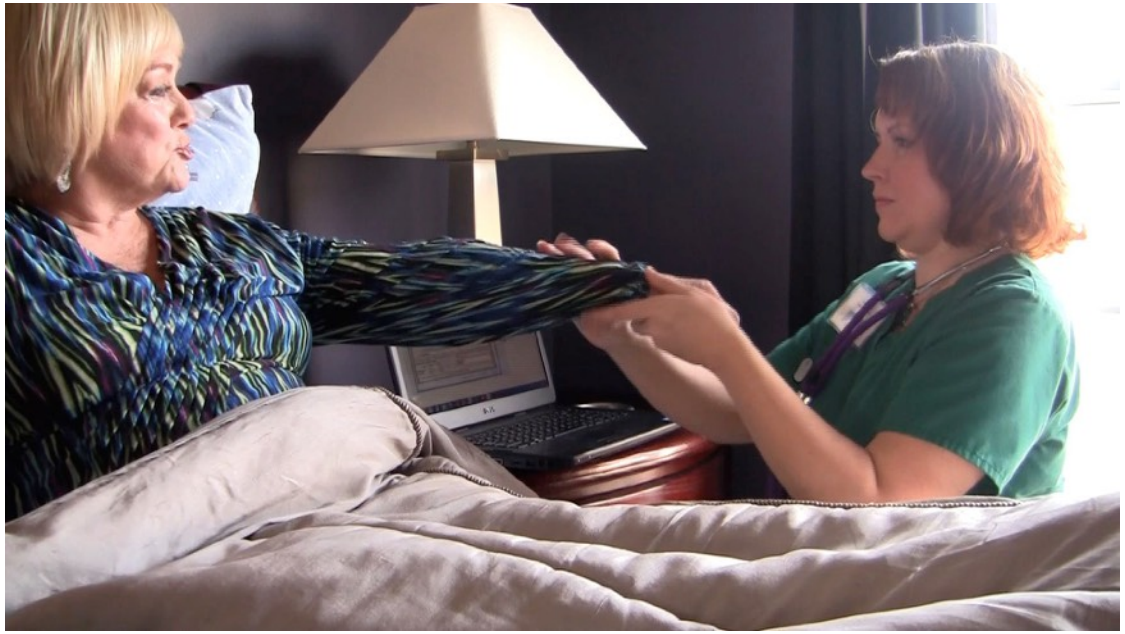
- Different levels of care within “nursing home” facility
  - Subacute
  - Skilled nursing care
  - Custodial care
- Payment differs by complexity of service

Subacute Care or Subacute Rehabilitation

- Subacute generally staffed for 1-2 hours therapy, 5 days per week
- RN ratio generally 1:10
- Less specialized equipment on site
- Fewer specialized programs

Subacute Care or Subacute Rehabilitation

- Consider when:
  - Longer term functional maintenance needed
  - Low intensity nursing needs



Acute Rehabilitation

Acute Rehabilitation

- Physician: 24/7 availability
- Therapy: Foundation of 3 hours, at least 5 days per week
- Manage medical complexity
  - Vent dependence
  - Dialysis
  - Wound care

Acute Rehabilitation

- More than one therapy discipline needed
- Measureable progress on a weekly basis
- Community discharge
- Length of stay
  - Varies by facility
  - Longer LOS leads to more frequent discharge home

Acute Rehabilitation

Discharge destination

- Return to community
- Particular strength of acute rehabilitation
  - Family training – knowledge and **support**
  - Community outings
  - Equipment specification, user training
  - Intensity of treatment to prepares patient for home

Comprehensive Interdisciplinary Team:

- Physician
- Nursing
- Physical Therapy
- Occupational Therapy
- Speech/Language Pathology
- Therapeutic Recreation
- Creative Arts Therapies
- Psychology

- Case Management
- Clinical Dietician
- Respiratory Therapy
- Wound/Ostomy Care
- Peer Support Services
- Pastoral Care
- Specialty Consultants
- Vocational Counseling

Interdisciplinary Team Meetings

- Team meets at least weekly to discuss:
  - Patient goals
  - Progress toward those goals
  - Barriers to progress toward goals
  - Actions to decrease or eliminate barriers
  - Discharge plan
  - Actions needed to accomplish discharge plan
    - e.g. Family teaching, equipment procurement

Preparing the Home Team :

- Patient
- Family
- Payor(s)
- Community based services
- Extended support systems

  school, friends, coworkers, faith community……

Acute Rehabilitation Candidates

Key Considerations

- Can and will the individual participate in beneficial intervention?
- Will there be significant functional benefit including discharge preparation?
- Is community return an option?
- Could another level of care meet all of the needs?
- Is this the right time in the course of recovery, given anticipated course and patient's benefits?

Basic Patient Readiness

Out of Bed Tolerance

- Prior to acute rehab admission, sitting up one to two hours a day
- Feet below the heart
- Can be a supported sit

Willing and able to participate, if within volitional control of survivor

Physical/ Medical Considerations

For Acute Rehabilitation Candidates

Will participation be limited?
What's the management plan for medical issues?
Who is the decision maker?

Spine Stability

- **If patient has a stabilizing device**
  - Length of time immobilization device
  - What is the process for determining removal?
  - Who is the decision maker?
  - Any precautions/limitations identified

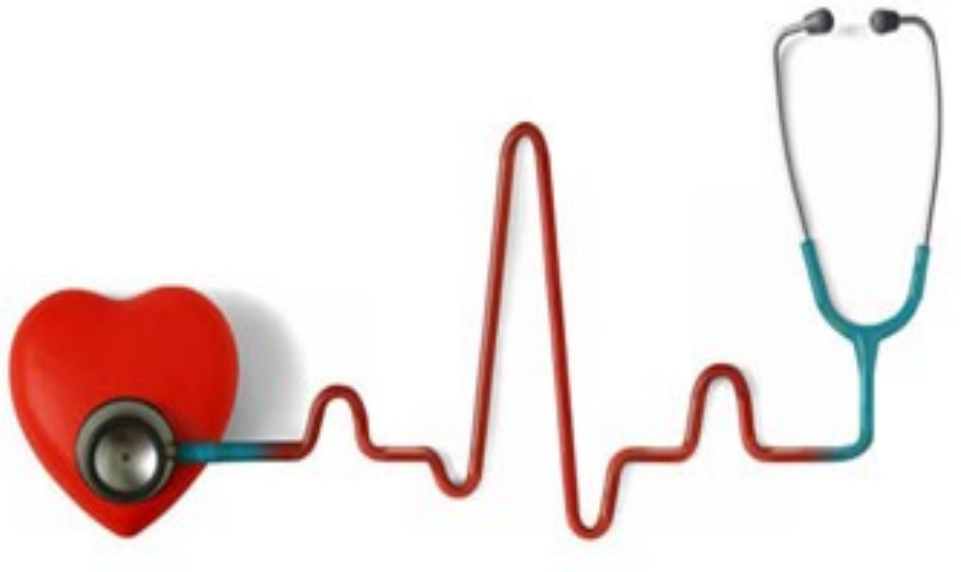
  - May limit goals for a period of time
  - May indicate “split” admission

Other Orthopedic Issues

- Casts
- Weight bearing status
- External fixators
- Spasticity management
- Pain
- Heterotopic ossification
- Joint contractures
- Osteoporosis

Cardiovascular

- Telemetry not an option in acute rehab
- Vital signs stable
  - Including with posture change
- Absence or control of cardiac arrhythmias
- DVT prophylaxis or clear rationale for none

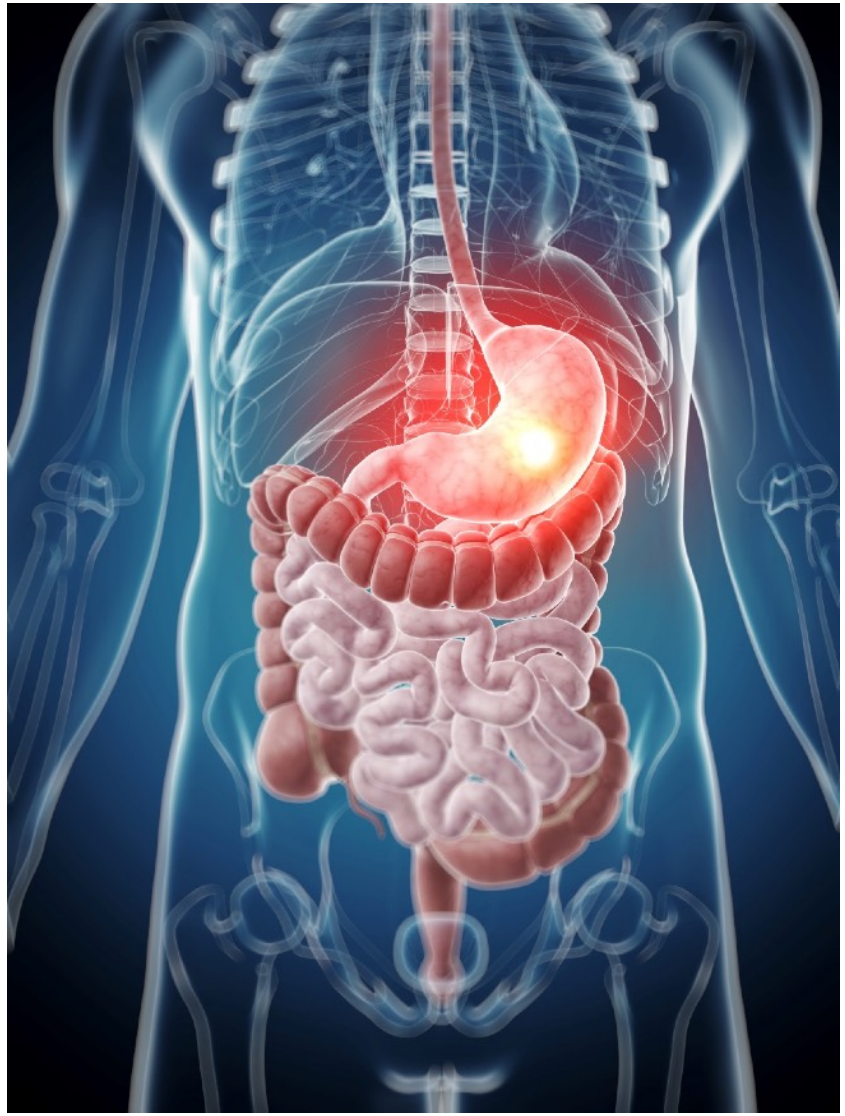


Respiratory

- On ventilator versus weaned
  - Prefer to wean in acute rehabilitation with activity
- Trach versus capped versus decannulated
  - Stability at that level
- Secretions management
  - Intervention no more than every 2 hours

Gastrointestinal

- Resolve or treat diarrhea
- Rectal bag generally not compatible with therapy
- Swallowing ability or evaluation
- Feeding tube: NG versus PEG
  - Agitation consideration (dislodging)
- Nutrition consult – Energy, skin, cognition



Urological

- If urological studies needed: Complet
  before transfer
- If indwelling catheter: Don’
  discontinue close to transfer

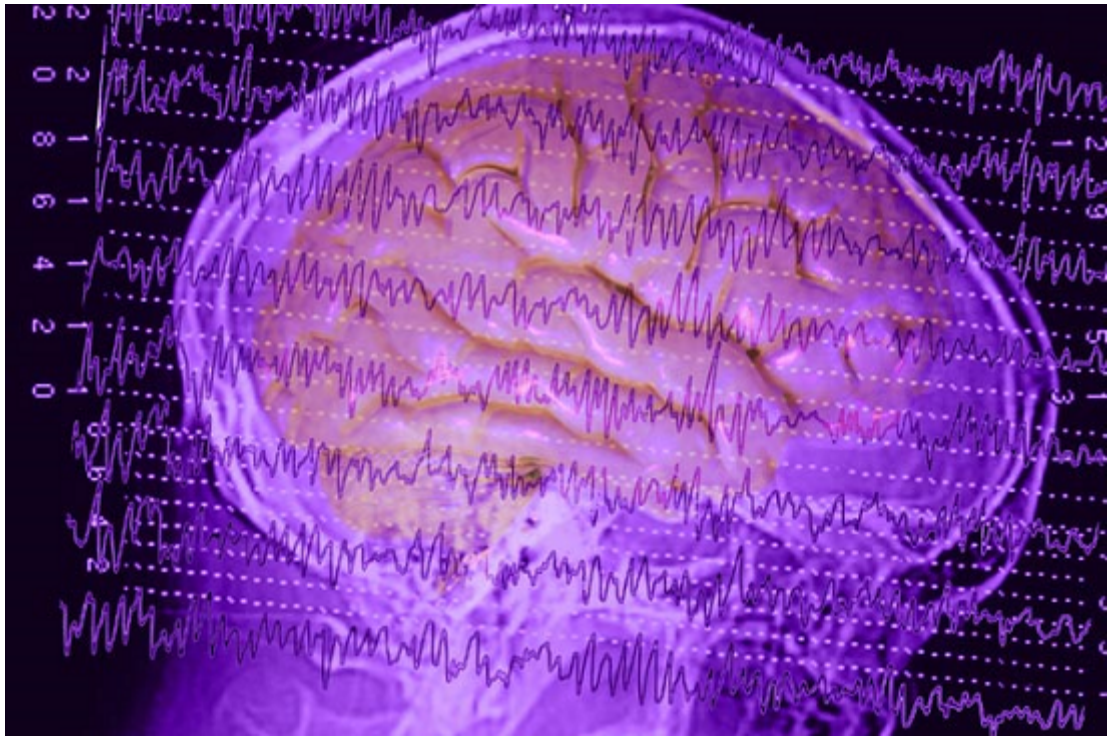
Skin Integrity

- Wise use of resources: What will facilitate best healing?
  - Provider experience
  - Nutritional resources and knowledge
  - Equipment and staffing resources

- Will this person be able to sit?
  - Sacral wounds: yes
  - Ischial wounds: usually, no
- What is the long term plan for management of the wound?
  - Conservative Healing
  - Surgery

Seizure Activity

- Seizure activity
  - Why?
  - Influence on participation
  - Management plan?



Participation

- Agitation
  - Anticipated part of recovery from traumatic brain injury
  - Safety provisions of setting
  - If anoxic component: What is plan?

Participation

- Responsiveness
  - Anticipated course
  - Consistency of response?
  - Follow commands (1-2 step)?

Participation

- Absence of responsiveness
  - Injury, age, length of time
  - Stewardship of funding
  - Options for discharge
  - Family: Grief and expectations

Plan of Care Considerations

Predicting Outcome:

Influence on Plan of Care

- More straightforward with SCI, amputation, other orthopedic:
  - Path predicted by physiological characteristics of the injury

- Acquired Brain Injury :
  - Path predicted by characteristics of injury AND characteristics of injured person

Spinal Cord Injury

Complete injury

- Anticipated outcomes well defined, for example:

	Abilities	Functional Goals
C1-C3	Limited movement of head and neck	Breathing: Depends on a ventilator for breathing.
		Communication: Talking is sometimes difficult, very limited or impossible. If ability to talk is limited, communication can be accomplished independently with a mouth stick and assistive technologies like a computer for speech or typing. Effective verbal communication allows the individual with SCI to direct caregivers in the person's daily activities, like bathing, dressing, personal hygiene, transferring as well as bladder and bowel management.
		Daily tasks: Assistive technology allows for independence in tasks such as turning pages, using a telephone and operating lights and appliances.
		Mobility: Can operate an electric wheelchair by using a head control, mouth stick, or chin control. A power tilt wheelchair also for independent pressure relief.

Incomplete injury

- More variation; learn parameters with response to intervention

Acquired Brain Injury

Pre-Injury Factors

- Age (> 20’s) – Brain aging
- Preexisting injury or disease, including psychiatric
- ETOH or other drugs onboard at time of injury
- Time between injury and medical stability

Slower Course of Recovery

Acquired Brain Injury

Injury factors

- Diffuse versus focal
- Brain stem involvement
- Corpus callosum involvement
- Non-traumatic, e.g., anoxia, other metabolic

Slower Course of Recovery

Acquired Brain Injury

Post-injury factors

- Infection
- Seizures
- Hypoxia
- Hypertension
- Hypotension
- Brain swelling

May indicate slower course of recovery

Special Considerations

All Diagnoses

Newly Weaned Vent

- Off vent when upright, not just supine
- No prolonged desaturation
- Off vent at least 3 days
- No pressure support
- O2 flow of less than 50%

All Diagnoses

Newly Weaned Vent

- Resting respiration rate < 30
- No labored breathing
- Secretions manage at intervals of 2 hours or more
- ABG’s in normal range (within 48 hours of transfer)
- Clear chest x-ray within 48 hours of transfer

Acquired Brain Injury

Vent Dependence

- Often a more negative prognostic sign, if central mechanism for respiratory failure

- May indicate a longer course of recovery, less favorable recovery

Acquired Brain Injury
Cognitive Needs Solely

Balance:

- Intensity of inpatient program
- Intensity of supervision needed for safety
- Survivor's typical lack of insight
- Survivor's tolerance for an inpatient setting

Managing Family Expectations

Challenges

- Learning curve regarding injury
- Unique individual outcomes
- Hope versus grief versus anger

Educational and supportive role of rehabilitation provider

Team, Psychologist, Physician, Peer Mentors

Complex puzzle....

- Funding
- Settings
- Capabilities of service setting

- Medical needs and stability
- Functional needs and readiness
- Diagnosis specific considerations

Guide patients and families we serve


TEAM
MAEE

Abington Hospital | Abington – Lansdale Hospital | Jefferson Bucks Hospital | Jefferson Cherry Hill Hospital
Jefferson Frankford Hospital | Jefferson Hospital for Neuroscience | Jefferson Stratford Hospital
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Methodist Hospital | Physicians Care Surgical Hospital | Rothman Orthopaedic Specialty Hospital
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