Post-Acute Care Stroke Rehabilitation

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Presenter Disclosure Information

- Kenny Chantasi, DO
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  - FINANCIAL DISCLOSURE:
    - No relevant financial relationship exists

Objectives

- Introduction
  - Statistics
- Criteria for Admission to Inpatient Rehab
- The Rehabilitation “Dream Team”
  - Assessment
  - Impairments
  - Activities/Treatment
- Transitions in Care and Community Rehabilitation
- Treatment Gaps

Introduction

- CDC statistics on number of CVAs
  - Each year, about 795,000 people experience a new or recurrent stroke. 610,000 are first attacks and 185,000 are recurrent.
  - Someone in the US has a stroke every 40 seconds
  - Stroke is a leading cause of serious long-term disability in the U.S.
- Most common types of CVAs
  - Ischemic (87%)
  - Hemorrhagic
  - TIA (transient ischemic attack)
- Transitions in Care
  - Rehab 22%, SNF 32%, Home Health 15%

(Benjamin et al., 2018)
(CDC, 2017)

CMS Requirements/CARF Accreditation

- Elective unit and have specific requirements (through CMS) for admission to Rehab, separate payment methodology for initial admission to Sanford Health
  - CMS established Rehab Units Exempt from DRGs in 1984
  - Opportunity for Hospitals to reduce the rate of readmission of patients through screening patients for the ability to participate in high intense rehabilitation and whom have medical necessity for continued acute care.
- CARF (Commission on Accreditation of Rehabilitation Facilities) is an international accrediting body like Joint Commission but specific for all types of rehab programs.
  - In ND, all acute inpatient Rehab units/hospitals are required to get this accreditation.
  - In MN, CARF is not a requirement, however, demonstrates commitment to excellence.

Inpatient Rehabilitation

- The most intense for therapies, 24/7 hospital level care
- CMS requires at least 3 hours of therapy per day for at least 5 days per week
- Timing and intensity of acute rehab are important issues, but remain controversial.
  - The only large randomized clinical trials in stroke recovery and rehab are focused on the chronic recovery phase, and thus further research on interventions in acute rehab phase are needed, as currently small and limited
- Need medical necessity to remain in acute care

(Winstein et al., 2016)

Criteria for Admission to Inpatient Rehabilitation

- Medical Management required
  - Diagnostics/studies completed and diagnosis established
- Therapy:
  - Patient will be able to participate in 3 hours of therapy a day 5 of 7 days/week
  - Require minimally 2 therapies
    - One of them must be PT
- Payer Source
  - Elective unit and have specific requirements for admission as separate payment methodology
  - Prior auth required for commercial insurances and some Medicaid policies
- Patients must have family support clarified for discharge plan. Anticipated that patients will be discharged from inpatient rehab to community living level, home, or assisted living.

The Rehabilitation “Dream Team”

- Patient and family
- PM&R Physiatrist
- Nursing
- Physical Therapy
- Occupational Therapy
- Speech Therapy
- Nutritional Therapy
- Recreational Therapy
- Case Management
- Psychology
- Neuropsychology
- Chaplaincy
- Audiology
- Chemical Dependency
- Diagnostic Radiology
- Laboratory Services
- Orthotic services
- Respiratory Services
- Other medical specialties
- Pharmacist
- Child Life Specialist
- Neuro-ophthalmology
- Financial Services

PM&R Physiatrist

T1

- Physical Medicine and Rehabilitation (PM&R) physicians treat a wide variety of medical conditions affecting:
  - the brain,
  - spinal cord
  - nerves,
  - bones,
  - joints,
  - ligaments,
  - muscles,
  - tendons.
- PM&R physicians are medical doctors who have completed training in the specialty of Physical Medicine and Rehabilitation.

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The Rehabilitation “Dream Team”

Physical Therapy

- Assessment
- Impairments
  - Balance
  - Ataxia
  - Mobility
  - Strength
- Treatment
  - Gait training
  - Therapeutic exercise
  - Neuromuscular re-education
  - Balance training
  - BERG balance test
    - 0-56
      - <43 = high fall risk,
      - 43-47 = moderate fall risk,
      - >47 = low fall risk

The Rehabilitation “Dream Team”

Occupational Therapy

- Assessment
  - Comprehensive evaluation that includes but not limited to:
    - Gross and fine motor skills
    - Muscle strength
    - Cognitive functioning
    - Ability to complete self-cares
    - Vision
    - Life skills such as IADLS
- Impairments
  - ADLS (Activities of Daily Living)
    - Grooming, toileting, dressing
  - IADLS (Instrumental Activities of Daily Living)
    - Money/Medication management
    - Cooking/Housework
  - U/E activity/strength
  - Vision (Visual-spatial/perceptual)
  - Cognition (CAM/MoCA)

(Winstein et al., 2016)

The Rehabilitation “Dream Team”

Occupational Therapy Cont.

- Treatment
  - Incorporate use of simple functional tasks in a therapeutic way. We strive to use real life situations and events to prepare patients for their home environment
  - Available technology include but not limited to
    - BITS (Bioness Integrated Technology System)
    - Bioness e-stim
    - Saebo Products (flex, rejoice, stretch, glove)
  - Available services upon hospital or acute rehab discharge
    - Home assessments
    - Driving evaluations
    - Vision therapy
    - Seating evaluations
    - Ongoing outpatient services
    - Constraint induced movement therapy

(Yadav et al., 2016)

The Rehabilitation “Dream Team”

Speech Therapy

- Impairments
  - Dysphagia-difficulty or inability to swallow, oral, pharyngeal or oropharyngeal
  - Cognition
  - Dysarthria-difficulty speaking, able to comprehend and find words normally but slurring of speech
  - Aphasia/apraxia of speech
    - Aphasia is inability to comprehend or express words due to damage to the language parts of the brain.
      - Expressive (Broca’s) aphasia-patient knows what they want to say but unable to say it, located in the left frontal lobe in 97% population
      - Receptive (Wernicke’s) aphasia-patient has difficulty understanding written and spoken language, left parietal lobe in 97% population
      - Global aphasia-mix of expressive and receptive aphasia

The Rehabilitation "Dream Team"

Speech Therapy Cont.

- Swallowing and cognition evaluations
  - Swallowing evaluation is first and foremost used with a patient who has suffered a stroke before a cognitive assessment. Often a bedside swallow evaluation is used first and then possibly a video swallow study is needed if a bedside is not able to safely say the patient does not have dysphagia.
    - FEES-fiber optic endoscopic evaluation of swallowing
    - VFSS-videofluoroscopic swallow study
- Cognitive assessments are done by speech therapy and can determine need for inpatient rehab, address tolerance for PT and OT and are ongoing to determine specific treatment strategies.
  - MOCA-rapid screen for cognitive dysfunction, >26=normal, 26-22 mild cog impairment, 22-16 moderate cognitive impairment, <16 severe cognitive impairment
  - GOAT-used to assess post traumatic amnesia
  - Mini mental-cognitive testing, 24/30=normal cognition, 19-23 mild, 10-18 moderate, <9 severe

The Rehabilitation “Dream Team”

Nutritional Therapy

- Assessment-Nutrition focused physical exam on all rehab patients
  - Diabetes assessment-carb counting in relation to insulin
  - Meal/snack intake-evaluation of number or carbs, protein and fats in diet
  - Micronutrient deficiency
    - Assessment of deficiencies in vitamins and minerals, supplementation as needed
- Impairments
  - Modifications in diets
  - Decreased appetite-rehab is not a time to try and lose weight, caloric intake is increased due to therapy
  - Different routes for intake
    - PEG tube/NG tube
- Treatment
  - Recommendations for adding medications for appetite stimulation

The Rehabilitation “Dream Team”

Recreational Therapy

- Incorporates leisure into rehab stay
- Uses patient’s interests such as games and activities to help make rehab stay more enjoyable
- Incorporates outings on a weekly basis with occupational therapy to see how patient adapts in the community

The Rehabilitation “Dream Team”

Rehabilitation Nursing – Bladder and Bowel

Bladder
- Impairment
  - Urinary incontinence
  - Urinary retention/neurogenic bladder
- Treatment
  - Schedule/timed bathroom breaks
  - Drinking fluids during the day and limiting them in evening to reduce # of times going to the bathroom at NOC
  - Medications
  - Intermittent Cath Protocol

Bowel
- Impairment:
  - Constipation – reduced fluid intake, limited mobility, weakness in muscle that holds bowel movement?
  - Bowel incontinence
  - Neurogenic bowel?
- Treatment:
  - Bowel programs
    - Same time every day, sitting positions
  - Medications

(Winstein et al., 2016)

The Rehabilitation “Dream Team”

Rehabilitation Nursing-Safety/Fall Prevention

Assessment:

- Morse fall scale
- History of falls or impulsivity
- Education on fall prevention program and use of call light.

Impairments

- Safety/fall prevention
  - Up to 70% of people with a CVA fall during the first 6 months after discharge from hospital or rehab facility.

Treatment

- Recommended that CVA patient be provided a formal fall prevention program during hospitalization
  - Bed alarm, chair alarms, do not leave alone in chair or bathroom, call light within reach, more impulsive patients – constant observer.
- Both patients and caregivers should be provided with information target to home and environment modifications designed to reduce falls
  - Home visits by OT/Home Health visits

(Winstein et al., 2016)

The Rehabilitation “Dream Team”

DVT Prophylaxis, Coping, Pain

- Assessment
- Impairments
  - DVT prophylaxis-Can be divided into pharmacological and mechanical
    - Heparin, Lovenox
    - TED stockings, SCDs
    - Often discontinued when patient is ambulating over 150 feet
  - Coping (depression/anxiety/pseudobulbar affect)
    - Antidepressants, antianxiety medication, psychology referral
  - Pain
    - Medication, heat or ice, TENS unit, PT, aromatherapy, Distractions (pet therapy, music)

Transitions in Care and Community Rehabilitation

- **Home with outpatient therapies**
  - Outpatient therapies are ordered at discharge and patient goes to different appointments
- **Home Health agencies**
  - Assists with post acute care services to people who are homebound and need skill nursing or therapy services
- **LTACHS**
  - Provide hospital level care for medically complex, long stay patients
  - Provider treatment for a wide range of conditions, including: respiratory failure with ventilator dependency, infections, complex wounds, trauma
  - Longer LOS: usually 25 days or more on average.

Transitions in Care and Community Rehabilitation cont.

- **Skilled Nursing facilities/TCUs**
  - Provide around the clock skilled nursing, medical management, and therapy services to patients who do not require high intensity services provided in hospitals and are not well enough to go home
  - Medicare generally will cover up to 100 days in a SNF, longer term care generally paid out of pocket, by long-term insurance, or through the Medicaid program.
  - Don’t need daily supervision by a physician, although the care provided must still be based on physicians plans.
  - Majority of patients received 9-12 hours of therapy per week
  - Greatest volume of patients discharged from hospitals go to SNFS

Caregiver support

- The transition from inpatient care to home following a stroke can be difficult for patients and caregivers.
  - Education throughout stay in acute is beneficial for patient
    - Medications, mobility, ADLs, nursing cares, therapy recommendations
  - Training-ADLs, transfers, nursing cares
  - Counseling
    - 12-55% of caregivers suffer from some emotional distress-most common depression.
  - Development of support structure
    - Additional support so caregiver can still take care of themselves as well as their loved one who suffered a CVA
  - Financial assistance
    - Post acute care services: outpatient therapy, different level of care setting costs (SNF/TCU/Assisted living), medications, follow up appointments
- Due to the complexity of CVA, the deficits and disability, and change in family and significant other dynamics, the caregiver and family are integral to the post-stroke treatment plan, thus important not to forget about the caregiver. (Winstein et al., 2016)

Outpatient/Recreational Services

- Return to driving
  - OT-Driving program
    - Cognitive screen
    - Written test
    - Driving test
- Return to work
  - Vocational rehab
- Recreational/leisure activities/phone applications (luminosity, brain games, peak)
- ND/MN resources/CVA support groups

Treatment Gaps

- Outpatient services
  - Rural ND/MN
  - Accessibility to outpatient follow up appointments
  - Accessibility to outpatient Neuropsychology
  - Accessibility for OT, PT and speech therapy
  - Potential for telehealth in the future?

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Questions?

Thank you