Rehabilitation Continuum of Care

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Objectives:

- What is Rehabilitation?
- How do I get it?
- What does it cost?
- Why?
  - Parkinson's Disease
  - Fall Prevention

What is Rehabilitation?

- "… a process aimed at enabling them to reach and maintain their optimal physical, sensory, intellectual, psychological and social functional levels."
  - *World Health Organization*
- "to restore to useful life"
  - *Wikipedia*
- "to restore or bring to a condition of health or useful and constructive activity"
  - *Merriam-Webster Online Dictionary*

What is Rehabilitation?

- **Physical Therapists (PT)**
  - "Physical therapists (PTs) are highly-educated, licensed health care professionals who can ***help patients reduce pain and improve or restore mobility -*** in many cases without expensive surgery and often reducing the need for long-term use of prescription medications and their side effects." --APTA
- **Occupational Therapists (OT)**
  - "In its simplest terms, occupational therapists ***help people across the lifespan participate in the things they want and need to do through the therapeutic use of everyday activities (occupations)***. …..helping people recovering from injury ***to regain skills, and providing supports for older adults experiencing physical and cognitive changes***." --AOTA
- **Speech-Language Pathologists (SLP)**
  - "Working with the full range of human communication, speech-language pathologists (SLPs) ***evaluate and diagnose speech, language, cognitive-communication, and swallowing disorders and treat such disorders*** in individuals of all ages, from infants to the elderly." --ASHA

Types of Rehabilitation

- **Hospital Inpatient**
  - Physical, Occupational and Speech Therapy while admitted during a hospital stay. Ordered by a Physician.
  - **Goal** of inpatient rehabilitation: Assess and make discharge recommendations
  - **Cost**: typically covered completely by insurance
- **Acute Rehabilitation**
  - As soon as medically stable, patient is transferred from hospital to acute rehab medical facility when indicated.
  - Indicated when intensive multi-disciplinary rehabilitation is warranted for physical or cognitive rehabilitation. Under MD plan of care.
    - Neurological events (CVA, TBI, SCI)
    - Major / Multiple trauma
  - Average length of stay can last up to 4 months
    - Local: Mt. Vernon, HealthSouth in Aldie, VA and NRH
  - **Goal:** To restore patient to most safe and independent level of care
  - **Cost**: Typically covered by insurance once criteria are met, may have co-pay for stay.

Types of Rehabilitation

- **Sub-Acute Rehabilitation**
  - Upon discharge from the hospital, when an individual is not safe or independent to return home they can be admitted to a sub-acute facility.
    - Joint replacements
    - Spinal surgery
    - Weakness / deconditioning due to inpatient stay / illness
  - Provides intensive, multi-disciplinary rehabilitation under MD plan of care.
  - Variety of settings throughout Northern Virginia
  - **Goal**: To restore patient to safe, independent level of function to return home.
  - **Cost**: typically covered by insurance once criteria are met. May have co-pay for stay.

Types of Rehabilitation

- **Home Health**
  - Physical, Occupational and/or Speech Therapy delivered in the home.
  - Specific criteria must be met.
    - Physician certifies that you are homebound
    - Physician demonstrates medical necessity for home rehab or nursing services.
    - Under a physician plan of care for services.
  - **Goal:** Assist in transition from inpatient stay to independent living, or prior level of living.
  - **Cost**: Typically covered once ordered by physician and patient status has been confirmed as unable to participate in outpatient settings.

Types of Rehabilitation

- **Outpatient Rehabilitation Clinics:**
  - ***Private Community Clinics***
    - Typically Physical Therapy only
    - Orthopedic focused
    - Multiple community sites
    - Limited options for speech and occupational therapy services in private outpatient settings.
  - ***Multi-Disciplinary based centers***
    - Limited community sites.
    - Provides outpatient speech, occupational and/or physical therapy.
  - ***Hospital Based Centers***
    - Provides a minimum of speech, occupational and physical therapy.
    - May offer more specialty rehab services lines – to include Cardio/Pulmonary Rehabilitation, Oncology Rehabilitation, Vestibular...
- **Goal**: To *continue the journey* to optimal health, wellness and preserved independence**.**
- **Cost**: Commonly have co-pays, caps, deductibles…

Types of Outpatient PHYSICAL THERAPY

- **Orthopedic Rehabilitation**
  - Strength and conditioning of large muscle groups.
  - Generalized gait and balance training.
  - Recovery from orthopedic injuries
- **Neurological Rehabilitation**
  - Recovery of mobility following neurological insult.
    - Variety of modalities from functional electrical stimulation to movement therapies such as Big/Loud.
- **Balance / Vestibular**
  - Trained, competent therapists who specialize in the human balance system and Fall Prevention.

Types of Outpatient PHYSICAL THERAPY

- **Manual Therapy Specialists**
  - Cranial Sacral Therapy, Myofascial Release…
- **Wound Care Services**
- **Lymphedema and Oncology Rehabilitation**
- **Concussion Management**
- **Women's Health**

Types of Outpatient OCCUPATIONAL THERAPY

- **Activities of Daily Living (ADL) training**
  - Bathing, toileting, grooming
- **Independent ADL training**
  - Grocery shopping, balancing checkbook, preparing small meals.
  - Cognitive Retraining
- **Strength/conditioning of fine motor groups**
  - Handwriting, keyboarding/mouse.
- **Low Vision Specialists**
- **Balance Specialists**
- **Some OT's are manual therapy trained as well.**
  - Lymphedema Therapists
  - Myofascial therapists

Types of Outpatient SPEECH THERAPY

- Feeding and Swallowing Rehabilitation
  - Vital Stimulation, oral-motor stimulation
- Voice Therapy
  - VisiPitch/LSVT Loud
- Cognitive Therapy
  - Memory, Processing, Dementia

Why Rehabilitation?

To reach and maintain optimal physical, sensory, intellectual, psychological and social functional levels.

World Health Organization

Parkinsons Disease

- **A neurodegenerative disease**.
  - Marked by depletion of dopamine in the brain.
  - Dopamine is responsible for communication among different parts of the brain that control body movements.
  - By the time 60-80% of the dopamine producing cells are damaged, the motor symptoms of the disease appears.
- **At time of diagnosis, some individuals may have been living with the disease for up to 20 years.**
- **There are however, non-motor signs of Parkinson's disease that develop years prior to the motor signs.**
  - Loss of sense of smell
  - Sleep disorders
  - Constipation
- **Researchers are focusing efforts on early detection and intervention that will greatly slow the progression of the disease.**

Parkinson's Disease

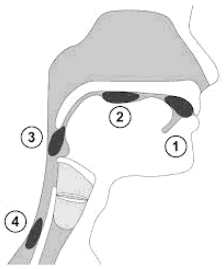
- **Symptoms of Parkinson's Disease treated by Speech Therapists**:
  - ***Dysphagia***
    - Impaired Swallowing Function
    - Four phases of swallow – accurate diagnosis of impairment leads to more direct intervention

      Vital Stimulation Technology and goal directed exercise.
  - ***Dysarthria***
    - A motor speech disorder characterized by distorted articulation. Any of the speech subsystems (respiration, phonation, resonance, prosody, articulation and movements of jaw and tongue) can be affected

      A home exercise program of oral-motor exercises to strengthen muscles

      Vocal strengthening exercises as needed

      Education for oral articulator placement to produce individual sounds



- **Symptoms treated by a Speech Therapist continued:**
  - ***Voice***
    - Rapid positioning of the vocal cords for alternating between phonatory onset and offset during connected speech is impaired.

      SLP treats the weaknesses noted in volume, pitch, ability to sustain voice, and shortness of breath through goal directed exercises.
  - ***Dementia***
    - Approximately 30% of patients with Parkinson's disease develop dementia similar to Alzheimer's.
    - Up to 40-50% of patients with Parkinson's disease suffer from problems with word-finding, cognition, and memory.

      Cognitive Retraining when indicated.

      Compensatory Strategies

      Lifestyle recommendations

Parkinson's Disease

- Lee Silverman Voice Training (LSVT) Loud Program
  - Intensive SLP program that focuses on Voice Retraining through concept of neural plasticity.
  - 16 week – 4/week in clinic program consisting of hierarchical exercises directed at improving muscle strength and vocal performance.
  - Daily Home Program
  - "Is That As Loud As You Can Get?!"
  - Significant results that carry over into swallowing function.
  - Results have been noted to last 2 years!

Parkinson's Disease

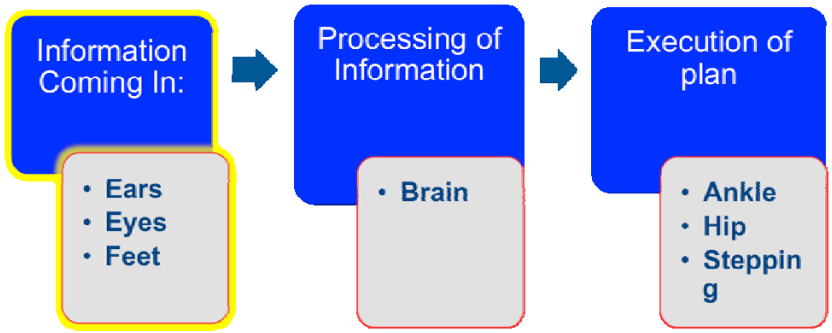
- Symptoms treated by Occupational and Physical Therapists:
  - Bradykinesia (slowed movements)
  - Hypokinesia (small movements)
    - Movement therapy consisting of:
      Sustained maximal daily exercises (BIG)
      Reciprocal, rhythmic movement therapies
      Fine motor training (grasp, handwriting)
    - Concepts based in Neuroplasticity
      "The brain can't fix what the brain can't see"
      LSVT Big Therapy

Parkinson's Disease

- **Postural Instability**
  - May experience forward, stooped posture
  - This posture:
    - Shifts your center of gravity forward of your base of support and increases your risk for falls.
    - Affects swallowing/feeding abilities
    - May lead to joint pain/injury
- **Balance impairments**
  - Forward Posture may displace center of gravity leading to increased risk for falls.
  - May have weakened input from one or more balance sensory systems.
  - May have inability to access postural recovery strategies.

What is Balance?

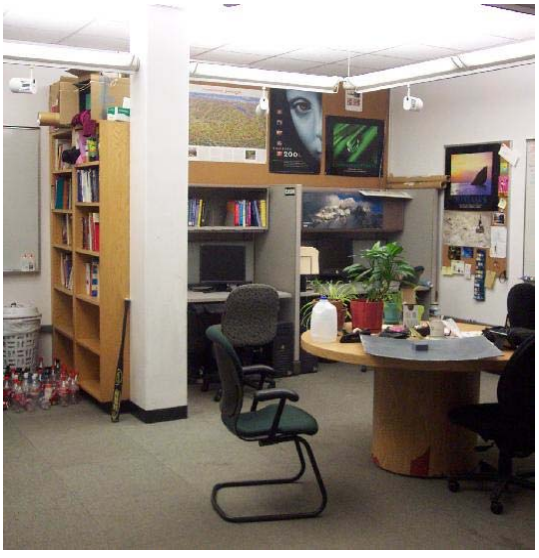
Components of Effective Balance:

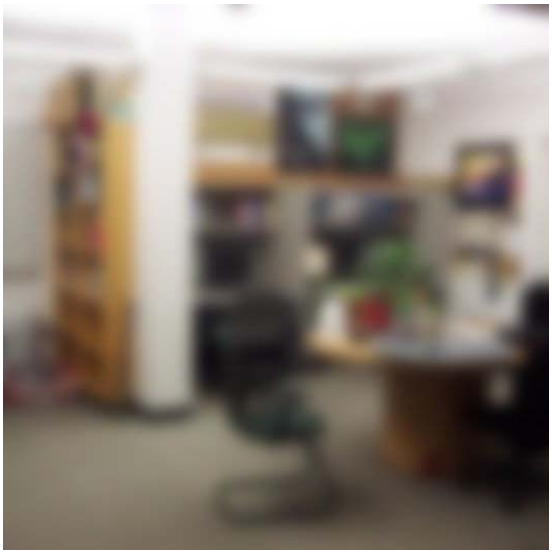


Information Coming In: The Balance Sensory Systems - Eyes

- Eyes
  - Provides visual reference of environment
  - Changes in vision occur naturally as we age:
    - Changes in visual acuity
    - Changes in color perception
    - Decreased contrast sensitivity
    - Changes in depth perception
    - Changes in glasses prescription
    - Changes in Vestibulo-Ocular Reflex

Visual Acuity





Visual Acuity

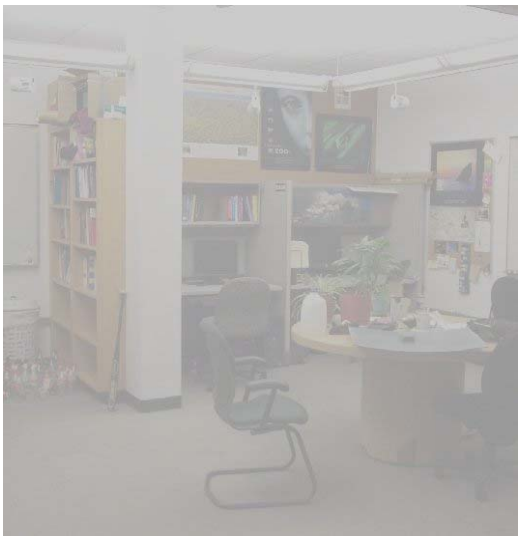
- Blurring of your vision creates:
  - Difficulty distinguishing the edges of objects
  - Difficulty determining when one object ends and when one begins
  - Challenge with judging distances, i.e. reduced depth perception

Color Perception

Color Perception

- Usually related to the distinguishing between shades of blue and yellow
- Associated with a decrease in nerve fibers
- Mainly related to changes in the lens of the eye
- *Also contributes to difficulty determining edges of objects, where one object ends and another begins, and depth perception.*

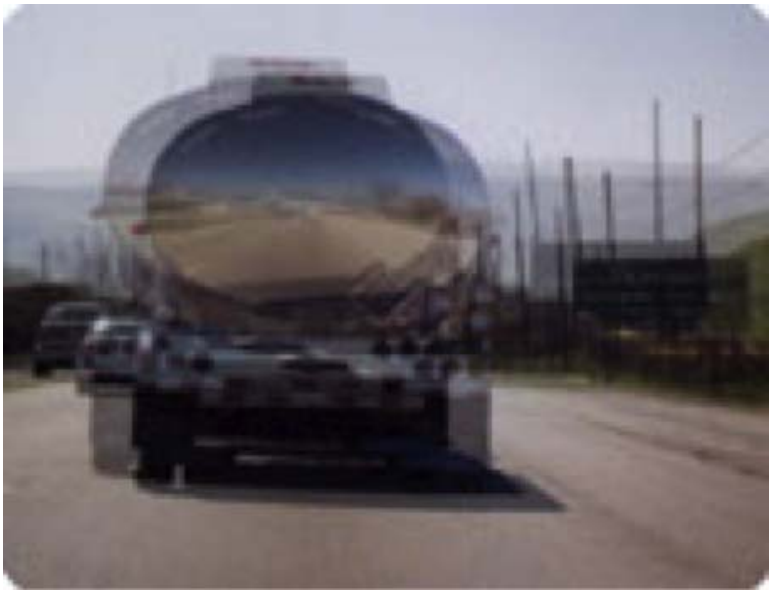
Contrast Sensitivity



Contrast Sensitivity

- Contrast sensitivity is our ability to differentiate dark from light
  - For example newspaper print has less contrast than a laser printer printed text
- The greater the contrast the easier it is for us to see
- Decreased contrast sensitivity is one reason it is harder for us to see at night
- *Also contributes to difficulty determining edges of objects, where one object ends and another begins, and depth perception.*

Depth Perception



Depth Perception

- Results from difference in vision between eyes
- Muscle imbalance or palsy
- Unilateral Cataract
- Wearing the wrong glasses

Depth perception affects ability to determine edges of curbs/steps, edges of objects and transitions in floors.

Support Effective Vision!

- Have annual vision checks!
- Ensure your glasses prescription is updated annually when indicated.
- Ask your eye doctor whether your type of glasses is the best fit for you.

Information Coming In: The Balance Sensory Systems - Ears

- Ears (Vestibular System)
  - Detects head movements and inertia (cars/elevators)
  - Responsible for effectiveness of Vestibulo-Ocular Reflex
    - Ability to stabilize vision on targets in the environment to give reliable visual input

Support Effective Vestibular Input

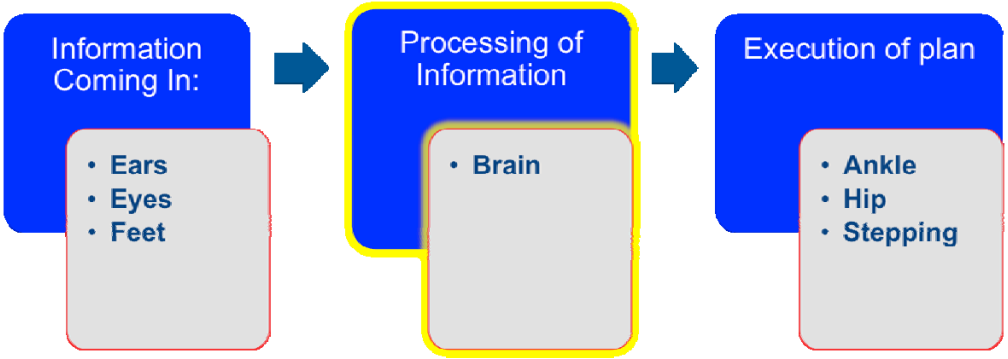
- Natural age related changes occur in our vestibular system.
  - Vestibular system is affected by:
    - Hydration/nutrition status
    - Frequency of use – the more you move, the more you use ☺
    - Specific Vestibular Rehabilitation exercises can improve performance of this system.

Information Coming In: The Balance Sensory Systems - Feet

- Somatosensory System – AKA Feet
  - Provides information regarding our support surface – most commonly our feet our touching support surface, but can also be arms/hips….
  - Factors affecting our body awareness:
    - Peripheral neuropathy
    - Surgeries/Injuries
    - Alignment Changes

What is Balance?

Components of Effective Balance:



Processing

The Brain integrates the information received from the balance sensory systems. It then decides on a course of action and sends information to the muscles that control posture.

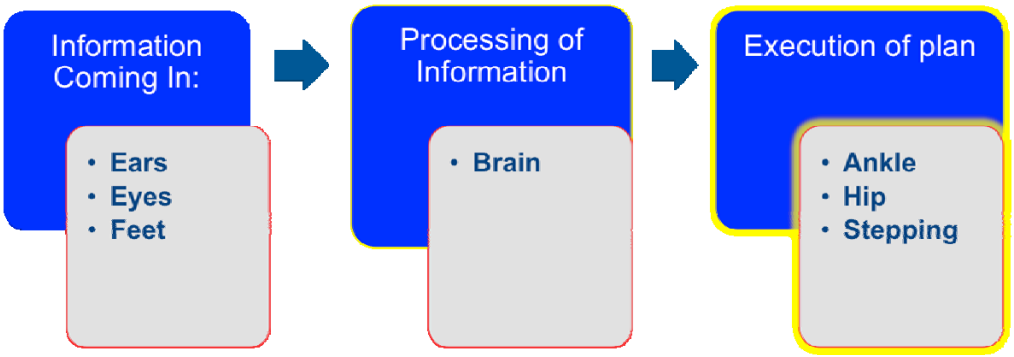
- Factors affecting the brains ability to process:
  - Neuromuscular Disease
  - Stress
  - Cognitive Decline
  - Environmental distractions

Support Effective Processing

- Investigate Physical Therapy for compensatory strategies if Neuromuscular Disease is present.
- Prevent cognitive decline
  - Software programs
  - SOCIAL Interactions
  - Suduko/reading
- Reduce stress when possible
  - Music, daily walking, SOCIAL interactions
- Environmental Distractions
  - Know your capabilities
  - Practice makes perfect!

What is Balance?

Components of Effective Balance:



Execution of Plan – Postural Recovery Strategies

- Ankle Strategy
- Hip Strategy
- Stepping Strategy

Must have adequate range of motion and strength to access recovery strategies!

Supporting Effective Postural Recovery Strategies

The best way to support your ability to recovery from a challenge to balance is by daily exercise!

CDC Fall Prevention Pillars

- **Get Some Exercise**
  - "Growing Stronger" Exercise Program
- **Be Mindful of Medications**
  - Have an annual medication review with your physician/pharmacist to discuss medications that may increase your risk for falls.
- **Keep Vision Sharp**
  - Annual vision screening by Optometrist
- **Eliminate Hazards at Home**
  - Perform annual home safety checks!
    - Complimentary home safety checks are performed by the Northern Virginia Fall Prevention Coalition once you've participated in a Screening Event.

Nutrition – the Forgotten Pillar

Poor nutrition and dehydration are ***directly correlated with an increased risk for falls.***

Inadequate nutrition can lead to anemia, lethargy, dizziness and muscle weakness – all which can increase your risk to fall.

Strategies to Support Effective Nutrition to Reduce Risk

- Try to **drink 8-8 oz glasses of water/fluid** daily.
- **Eat 3 meals per day**– that include a variety of fruits and vegetables
- Eat healthy snacks such as **fruits, veggies, and nuts**
- Ensure you are eating enough **protein each day** (try to eat 2-4 oz at each meal)
- Ensure you are consuming foods that provide **adequate calcium**
- Ensure you are consuming foods that provide **adequate Vitamin D**
- Talk to your doctor about **vitamin D and/or calcium supplementation**
- **Avoid processed and pre packaged food** as they may be high in sodium and contribute to dehydration
  - Look for foods that contain **less tan 250 mg of sodium** per serving
- **Avoid excessive caffeine** intake that can contribute to dehydration.

Strategies to Support Effective Nutrition to Reduce Risk

- Talk to your doctor about nutritional supplements/shakes.
- Discuss vitamin/mineral supplementation when indicated.
- Inquire about an annual review with a Registered Dietician to promote optimal nutritional support.

Thank you for your time today –please feel free to contact me with any questions!

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