Independence, Mobility, Communication & Function: An Adult Rehab Panel

- Jill Gettings, MD
- Michael Peterson, Speech-Language Pathologist
- Catherine McMillin, Occupational Therapist
- Gillette Lifetime Clinic
Gillette Lifetime Clinic

- See adults with child-onset neurologic conditions.

- Adult MDA Clinic site

- Provide specialty and subspecialty care.
Physical Medicine and Rehabilitation (PM&R) physicians, also known as physiatrists, treat a wide variety of medical conditions affecting the brain, spinal cord, nerves, bones, joints, ligaments, muscles, and tendons.

- Focus on **function**, use a team approach.
Members of the rehab team

- Patient, family & caregivers
- Physical therapist
- Psychology
- Occupational therapist
- Social worker
- Therapeutic recreation
- Assistive technology (seating, orthotics)
- Nursing
- Speech therapist
- PMR doc
- Assistive technology (seating, orthotics)
Areas PMR might address

- Speech/communication
- Swallowing/feeding issues
- Nutrition
- Muscle strength/dexterity/use of extremities
- Joint contractures
- NM scoliosis
- Bone health
- Toileting
- Bowel issues
- Skin integrity
- Bracing needs
Areas PMR might address

- Pain
- Fatigue
- ADL/care needs
- Home layout including steps, bathroom layout, etc.
- Exercise program
- Equipment list
- Computer/phone access
- Work concerns
- Mood issues/stress management
- Palliative care/end of life issues
Speech’s Role for the Neuromuscular Team

- Supports function with focus on swallowing and communication
- Assessment and Management of swallowing difficulties
  - Oropharyngeal dysphagia is important issue in various muscular dystrophies, such as Duchenne muscular dystrophy
  - Increased incidence of feeding and swallowing difficulties noted with age
- Assessment and Management of communication difficulties
  - Difficulties in communicating may arise.
Speech’s Role for the Neuromuscular Team

- Informal and formal assessment, with a focus on oral and pharyngeal dysphagia
  - General health
    - Video swallow studies and/or fiberoptic endoscopic evaluation of swallowing (FEES)
    - Signs of dysphagia
    - Factors that may trigger dysphagia
    - Reflux, constipation, blood gases, etc
  - Pulmonary status
    - Tracheostomy/Assisted Ventilation
  - Sleep
  - Nutrition
  - Cognition and Mental Health
  - Physical/oral mech examination
  - Assessment of swallow function
  - Recommendations
Physiology of Swallowing

Oral Phase

Pharyngeal Phase

(http://slideplayer.com/slide/11727381/)
Toussaint 2015
Progression of swallowing dysfunction

- Childhood and early adolescence
  - Increased issues with chewing
  - Issues with weight loss vs aspiration
  - Patients require multiple swallows to completely clear a food
  - After the swallow, more food present in the areas approximating the vocal cords/trachea

(Pane et al., 2006, van den Engel-Hoek et al., 2014)
Progression of swallowing dysfunction

- Late adolescence and adulthood
  - Continued difficulties with chewing
  - Swallowing muscle weakness
    - More residue present by vocal cords/trachea
    - Predisposed to choking episodes
    - Aspiration may be underestimated

- Goal: Least restrictive diet while maintaining overall health status

(Pane et al., 2006, van den Engel-Hoek et al., 2014)
Use of Instrumental Assessment

Visualizes swallow mechanism and function including timing and coordination, as well as movement of food and drink in throat and/or mouth.

- Videofluoroscopic swallow study
- Fiberoptic Endoscopic Evaluation of Swallowing (FEES)

Image from www.ceaslp.com
Communication

- if speech production is limited
  - Compensatory strategies
  - Speaking valves
  - Amplification
  - Augmentative communication aids
References


Physical Therapy’s role for the neuromuscular team

- Strength testing
- Functional movement testing
- Pain management
- Patient and caregiver education
- Equipment screening
Equipment Needs Over Time

- **Goals of Equipment:**
  - To maintain highest level of independence possible throughout lifespan
  - Accommodate changes in strength over time
  - Provide caregiver assistance with transfers, positioning and home exercise programs
  - Assist with pain management and offer changes in position
Equipment: Versaform
Equipment: Standers
Equipment: Gait Trainers
Equipment: Wheelchairs
Pain management

- Positioning equipment
- Wheelchair seating
  - Proper support
  - Power features
  - Ability to reposition self
- TENs unit
  - Transcutaneous electrical nerve stimulation
  - Sends pulses across skin surface and nerve strands
Occupational Therapy’s role for the neuromuscular team

- Functional needs
- Upper extremity orthoses
- Self-care equipment
- Wheelchair needs
OT: Functional needs

- Self cares
- Self feeding
- Bathroom safety
- Independent living skills
- Wheelchair driving
- Computer access
- Access to gaming
Hand orthoses

- Position wrist/fingers/thumb for functional use
- Maintain/improve ROM
- Protect skin
Equipment needs over time

- Shower/bath chairs
- Toileting equipment
- Beds/mattresses
- Adapted equipment
Toileting equipment
Bath Equipment
Beds/ mattresses
Adapted equipment
Technology for independence
Questions?