Lifelong Occupational Therapy Needs

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Disclosures

• None

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What is Occupational Therapy

• “Therapeutic use of everyday life activities which enhance or enable participation in roles, habits and routines.” (AOTA, 2014, S1)

• Occupational Therapists (OT) enable participation in activities that children, adolescents and adults desire such as:
  – Activities of Daily Living
  – Leisure & Play
  – School & Work
  – Sleep
  – Socialization

Why is this important?
  – Studies show that the more children with MD participate in desired activities (such as roles, habits and routines), that it correlates to strength and function. (Bendixen et al., 2014)
How is the goal of independence achieved?

- **Maintaining Body Functions** (as much as possible)
  - Physical, Neuromuscular & Cardiovascular
  - Mental
  - Sensory

- **Addressing the performance patterns and context of the occupation**
  - Environmental modification
  - Social Modifications
  - Habit, Routine, Ritual and Role Analysis
EVALUATION
Reminder: Expected UE Functional Stages (Janssen et al., 2014)

- **Ambulatory Stage**
  - Upper body fatigue
  - Proximal weakness
  - Upper body pain/stiffness minimal

- **Early Non-Ambulatory Stage**
  - Impaired UE mobility
  - Increased difficulties with ADLs
  - Participation restrictions begin
  - Elbow & mid-arm weakness
  - Increasing pain/stiffness

- **Late Non-Ambulatory Stage**
  - Distal weakness
  - Severe loss of independence
  - ROM loss
Performance of the Upper Limb (PUL) (Mayhew et al., 2013)

- Designed for & developed by those affected with DMD
- Addresses all levels of ability
  1. High level
  2. Mid level
  3. Distal level
- Client-centered, reflecting meaningful ADLs
- Used primarily in research
- Excellent inter- & intrarater reliability (Pane et al., 2014)

Figure 1: PUL Kit  Mayhew et al., 2013
Patient-Reported Outcome Measure (PROM) (Klingels et al., 2016)

- Developed in parallel to PUL
- Client-centered measure for DMD; 7 years - adults
- Focused on upper-limb function impacting QoL in four domains:
  - Food
  - Self-care
  - Household & environment
  - Leisure & communication
- Self-completed measure
- Internal consistency and test-retest reliability
Other Assessments
(Escolar et al., 2001) (Mayhew et al., 2007)

• Manual Muscle Testing
  – Reliable when trained consistently and with small number of clinicians

• Quantitative Muscle Measures
  – Hand-held dynamometer (MVIC) is reliable
  – Reliable with larger number of clinicians
SUPPORTIVE AIDS
Splinting
Addressing Body Function

Purpose:
- Prevent contractures
- Prevent pain
- Maintain function and mobility of a joint
- Allow increased function by placing joint in ideal position
  - Particularly thumb
- **NOTE:** should be combined with stretching

Figure 2: Weichbrodt et al.
Splint Recommendation Guidelines (Weichbrodrt et al., 2017)

Begin passive stretching at:
• Wrist extension with finger extension < 70°

Begin splinting:
• Wrist extension with finger extension < 50°

• Alternate sides each night
• Functional position
Mobile Arm Supports (MAS) Addressing Body Function

MAS Purpose:
- Increase function
- Upper limb training (Jansen et al., 2015)
- Fixed height at horizontal plane vs. horizontal & vertical plane
- Powered vs. non-powered (spring-balanced)
- Free standing vs. wheelchair mount

Figure 3: Neater MAS (n.d.)
Upper Extremity Function (Jansen et al., 2016)

Promotes

• Cortico-steroids
• Healthy BMI
• Functional Activities

Hinders

• Contractures
• Spinal deformities – Position
• Pain and stiffness

Figure 4: Wheelchair (Huntstock, n.d.)
Adaptive Equipment
Addressing Occupations

Purpose
• Enable independence
• Improve quality of life
• Increase accessibility

Note:
• Insurance coverage varies
• Options are endless
Assistive Technology
Possibilities are Endless

• Ranges from simple to complex

• Smart Home Technology

• Benefits:
  – Increase independence
  – Ease of use
  – Increasing availability

• Limitations:
  – Cost
  – Trained providers
PARTICIPATION
Socialization

• Engaging in enjoyable socialization (especially as the physical limitations progress) is critical to:
  – mental health well-being
  – improving quality of life

• Places to explore socialization include:
  – social skills group
  – support groups
  – special interest clubs
  – adaptive sports programs
Accommodations

- School
  - Involvement in 504/IEP
  - Assistive technology
- Work/vocation
  - ADA
  - Vocational Rehabilitation
  - Transition Skills
- Relationships
  - Bullying prevention
  - Caregiving roles
  - Sexual relationships
Pain & Stiffness in Upper Body
(Janssen et al., 2014)
Hands and Fingers

1. With the patient’s palm facing up towards the ceiling, use your hand to curl the fingers toward the palm of the hand. Return fingers to a straightened position.

2. With the patient’s palm facing upwards grasp the patient’s thumb and move it outwards away from the hand. Return thumb back to the palm and across towards the little finger.

Repeat _____ times.
Do _____ sessions per day.

LONG FINGER FLEXORS

Position
- With elbow as straight as possible
- Support the child’s palm, maintaining straight fingers
- Keep thumb out to the side
- Support the wrist

Stretch
- Slowly bend the wrist and hand back until a stretch is felt in the forearm

Figure 9: ROM
Questions?

THANKS FOR LISTENING QUESTIONS..?!
References


References


