OPMD:
PHYSICAL THERAPY AND EXERCISE

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OBJECTIVES

- Is it safe to exercise with OPMD?
- Why exercise?
- What type of exercise and how often?
- Adaptations and assistive devices for common mobility problems (time permitting)
Is it safe?

- Traditional concerns
  - Overuse and muscle repair
  - Inability to strengthen
- Current research
  - Human studies
  - Mouse models of Duchenne's MD
Why exercise?

- Risks associated with aging / lifestyle
  - Loss of muscle mass after 40
  - Cardiovascular risks
  - Osteoporosis
  - Falls
  - Weight gain with inactivity

- OPMD
  - Strength loss
  - Slow progression
Why exercise?

- Typical patterns of weakness in OPMD
  - Greater frequency proximal LE vs UE
    - Impact on
      - Walking
      - Balance
      - Sit to stand
      - Stairs
      - Picking up objects from floor / low surfaces
What type of exercise?

Strength training

Cardiovascular
STRENGTH TRAINING

- RESISTANCE TRAINING
  - Machines
  - Free weights
  - Resistance Bands
  - Body weight / anti-gravity
  - Gravity eliminated
  - Active assistive
PROXIMAL vs. DISTAL

Trunk muscles (abs and spine)
Shoulder blade / shoulder girdle
Hips / pelvic girdle
STRENGTHENING and PROGRESSIVE WEAKNESS

MILD TO MODERATE WEAKNESS VS SEVERE WEAKNESS
STRETCHING AND RANGE OF MOTION

- Stretching for comfort
- Avoiding contractures
- Over stretch – weak muscles
- Range of Motion (ROM)
Strength Training

- Determining level of resistance
  - Single repetition maximum (SRM)
  - Best guestimate
  - 50% - 80% or SRM
- 2-3 sets of 10 – 12 repetitions
  - Fatigue
CHALLENGING ACTIVITIES

- Sit to stand
- Stairs
- Picking up objects from floors
- Low / overhead surfaces
Cardiovascular Exercise

- **TARGET HEART RATE**
  - 70 – 80% of maximum
  - Maximum = 220 – age

- **DURATION / FREQUENCY**
  - Ideal – 20 – 30 min/day
  - Target – 20 -30 min 3 x/ week
Monitoring Exertion Levels

- Borg Rating of Perceived Exertion - RPE
Options for Cardio Exercise

- Walk / run
- Equipment
  - Treadmills / ellipticals
  - Stationary bikes / steppers
  - Recumbent options
  - Arm bikes / ergometers
POOL EXERCISE

- Safe environment
- Supportive
- Resistive
- Decreased resistance
- Cardio-vascular
COMBINING STRENGTH AND CARDIO

CIRCUIT TRAINING
45 – 55% SRM
30 seconds exercise
5 – 10 sec rest
New exercise
Pain and Exercise

• Delayed onset muscle soreness vs. acute / persistent pain
Monitoring pain

- Never exceed 8
- Never increase > 2 points

Wong-Baker FACES Pain Rating Scale

48-72 hours between workouts for same muscle groups

At least one full rest day per week

Strength and cardio same day, alternating Upper and Lower body
PACING

- Recovery within 20 -30 min
- Breaking activities into shorter segments with frequent rest vs.
- Pushing to complete with excess fatigue at end
- Applies equally to exercise and daily activities
Exercise and OPMD

Is it safe? -
Yes, with appropriate precautions.
Pacing, moderate level, respect pain.

Why exercise? –
Strengthen, moderate impact of aging and potential other health problems.
Possibly slow progression.

What type? –
Strength and cardio.
CHALLENGING ACTIVITIES

- Sit to stand
- Stairs
- Picking up objects from floors
- Low / overhead surfaces
Modifications
Modifications
Stairs, Rails and Ramps

Rails on stairs
Vertical rails / grab bars at doorways

Ramps – thinking ahead to wheelchairs
One inch of rise per foot of run
“Rest” areas every 5 feet
Modifications / Adaptations

- Moving frequently used items to counter / middle shelves
- Reachers
- Shower chairs
- Grab bars
Mobility Devices

- Canes
- Crutches (Standard, Forearm)
- Walkers (std., 2 wheeled, 4-wheeled, seats)
Wheelchairs and Scooters
Considerations in Selecting

- Primary usage
- Weight and ease of transport
- Transport devices / costs
- Insurance and frequency of replacement