PARKINSONISM – MOVEMENT CONSIDERATIONS

• MOVEMENT QUALITY?
  • Slower or smaller movements (Bradykinesia)
  • Difficulty starting or stopping (Akinesia)
  • Stiffness or rigidity
  • Muscle cramping or spasm
  • Freezing of gait*
IMPROVING YOUR MOBILITY

• EXERCISE AND PHYSICAL ACTIVITY
  • Increase muscle endurance
  • Increase muscle strength and power
  • Improve cardiovascular endurance
  • Loosen up muscles and tight joints

EXERCISE AND ACTIVITY

• EXERCISE
  • Specific regimens to improve specific underlying problems
    • Ex: balance, gait, flexibility, etc.
    • Often is supervised by a healthcare professional, coach, trainer, etc.

• PHYSICAL ACTIVITY
  • Any movement of the body that uses energy
    • Ex: walking the dog, hiking, gardening, etc.
    • Necessary to maintain gains made through exercise
EXERCISE AND YOUR BRAIN

• NEUROPLASTICITY

“The ability of the brain to form and reorganize synaptic connections, especially in response to learning or experience or following injury.”

• Exercising specific to your deficits improves mind-muscle connection
• Improve your ability to use available dopamine
• Through practice you can learn new skills or relearn lost skills
• Exercise for brain change!

EXERCISE FOR PARKINSONISM

• COMMON MISSTEPS

*Why do exercise programs for people with parkinsonism fail?*

• Lack repetition or frequency \(\rightarrow\) How often?
• Lack intensity \(\rightarrow\) How challenging physically/mentally?
• Lack specificity \(\rightarrow\) Is this what you need?
• Lack salience \(\rightarrow\) Does this matter to you?
• Lack variability \(\rightarrow\) Does it change regularly?
EXERCISE FOR PARKINSONISM

• EXERCISE PROGRAMMING
  • Flexibility
    • Daily stretching for 10-15 minutes to prevent posture changes
  • Aerobic Exercise
    • Improve your endurance and heart health
  • Progressive Resistance Exercise Training
    • Improve your movement quality and strength
  • Amplitude and Brain Games!

EXERCISE FOR PARKINSONISM

• FLEXIBILITY
  • Posture
    • Prevent rounded, stooped posture
  • Stretch: chest, neck, shoulders, hips
  • Movement
    • Normal walking requires specific range of motion
    • Stretch: calves, hamstrings, hip flexors
    • Hold for 20-30 seconds up to 3x, 1-2x per day
EXERCISE FOR PARKINSONISM

• **AEROBIC EXERCISE**
  • Monitoring through perceived exertion
  • Goal of 3-7, depending on exercise
  • Steady state exercise
    • Ex: Walking on treadmill at 4/10 exertion
  • High-intensity Interval Training (HIT)
    • Ex: Alternating fast (7/10) and slow (4/10) on bike
  • At least 3-5x per week for up to 30min

EXERCISE FOR PARKINSONISM

• **PROGRESSIVE RESISTANCE EXERCISE TRAINING**
  • Strength training also based on perceived exertion
  • Attempting to work with varying set and repetition schemes
    • Ex:
      • 3 sets of 12-15 lighter rep’s for endurance (general)
      • 5 sets of 5 heavier rep’s for power (force production → bradykinesia)
  • Compound, functional movements
    • Squat, lifting from floor, sit to stand, push overhead
EXERCISE FOR PARKINSONISM

• AMPLITUDE AND BRAIN GAMES
  • Amplitude
    • Recalibrate your perception of “normal” movement
    • If it feels normal, it’s probably not big enough
  • Brain Games
    • Utilize dual task training (DTT) and attention training
    • Exercise should incorporate a thinking component

EXERCISE FOR PARKINSONISM

• OVERVIEW
  • Daily exercise with various components – mix it up to/over an hour!
    • Flexibility (10-15min)
    • Aerobic Exercise (20-30min)
    • Progressive Resistance Exercise training (20-30min)
    • Amplitude and Brain Games (10-15min* -- incorporate with flexibility)
  • Meet with health professionals for initial prescription
  • Check in regularly
  • EXERCISES ARE SPECIFIC TO YOUR NEEDS
THANK YOU

(StAND uP OR sTRETCH!)