JBI RECOMMENDED PRACTICE

Parkinson's Disease: Exercise Programs

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Equipment

- Patient's medical record
- Exercise equipment as required and available (eg, resistance exercise machines, therapeutic elastic bands, etc.)

Recommended Practice

Purpose

Different types of exercise benefit Parkinson's disease patients by maximizing functionality and minimizing deterioration. These include aerobic exercises, strengthening exercises, gait and balance training. Physical activities such as yoga, dancing, and swimming are also helpful and interesting for many patients.

Special considerations

- Any medical condition preventing the person from participating in exercise is contraindicated.
- The chosen exercises and therapeutic approach should be guided by patient preferences and clinical discretion.
- Health professionals should be aware of the potential for adverse events, such as falls and pain, resulting from exercise interventions. Clinical discretion is advised.
- Exercise programs should be tailored to the individual; therefore, no specific recommendations are provided regarding technique, dosage or frequency. However, evidence-informed suggested practices are outlined below.

Procedure

1. Explain the procedure to the patient and obtain consent.
2. Perform hand hygiene according to the 5 moments of hand hygiene.
3. Conduct an appropriate assessment to determine individual patient needs and any contraindications/ precautions to treatment.
4. Establish appropriate outcome measures to monitor patient status over time.
5. Tailor the exercise prescription to the individual, as informed by the results of the assessment. The exercise program should be individualized according to patient's needs and abilities. The exercise program may involve a combination of the following exercise types.
    a. Aerobic exercises:
        i. Aerobic exercises may include walking, cycling (8-15 kph), ballroom dancing, bowling or yoga. For higher intensity aerobic exercise, consider uphill walking, cycling (>16 kph), aerobic dancing, tennis, lap swimming or any competitive sport. For patients afraid of falling, at risk of falls or freezing of gait, consider hydrotherapy.

ii. Aim for regular, moderate intensity exercise (eg, at least 3 times per week for 30-40 minutes).

iii. The target heart rate during exercise should be maintained within 60-80% of the maximum heart rate (220-age).

b. Resistance training:

i. Strength training can involve the use of weights, machines in the gym, or using the body weight as resistance.

ii. Aim for regular exercise focusing on major muscle groups (eg, core muscles, thigh muscles, gluteal muscles, back and arms), 2-3 times per week for 45-60 minutes with a load of 80% repetition maximum (RM) to improve strength or 40% RM to improve power. Progress resistance by 2% when the patient can do 3 sets of 15 repetition.

iii. Focus on functional tasks (eg, sit-to-stand) and targeting multi-joint and large muscle groups before single-joint and small muscle groups.

c. Gait training:

i. Use audio and visual cues to enhance step and stride length during gait training.

ii. Consider doing treadmill training, uphill walking or Nordic walking to encourage large movements thus allowing for increased step and stride length.

iii. Aim for regular gait training of 3x30 minute sessions, at least 3 times per week.

d. Balance training:

i. Consider using the aid of technology when training for balance (eg, use of force plates, rotating treadmills, wearable sensors, virtual reality).

ii. Balance and resistance training can be done together.

6. Monitor for adverse effects including fatigue, muscle pain and falls. If adverse effects present, cease the exercise, reduce exercise intensity, or slow down the progression of the exercise program accordingly.
7. Patients may require initial supervision but should also be encouraged to carry out exercises independently at home.
8. Educate patients about exercise, including information about specific parameters, precautions and proper monitoring of symptoms and progress.
9. Advise and provide instructions on the use of appropriate walking aids, reorganization of environment to reduce hazards and facilitate movement.
10. Document in the patient’s medical record, including the patient’s response to treatment and/or adverse reactions, if any.

Supporting Evidence Summaries

- JBI-ES-680-6-Parkinson's Disease: Physiotherapy Exercises

Archived Publications

1. JBI-RP-4653-2 (Published at 1 July 2021)
2. JBI-RP-4653-1 (Published at 12 May 2021)

Occupational Health and Safety Considerations

Author(s) potential or perceived conflicts of interest are collected and managed in line with the International Committee of Medical Journal Editors (ICMJE) standards.

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For details on the method for development see Munn Z, Lockwood C, Moola S. The development and use of evidence summaries for point of care information systems: A streamlined rapid review approach. Worldviews Evid Based Nurs. 2015;12(3):131-8.