Moving with a purpose in Parkinson’s disease

The term Parkinson’s disease (PD) often encompasses all clinical diagnoses falling under the broad term of Parkinson’s disease and parkinsonism. This includes Parkin Syndrome, a genetic problem, and Parkinson’s Plus, which produces similar symptoms.

PD affects initiation and performance of movement. Symptoms like bradykinesia (slow movement), tremor, akinesia (rigidity), freezing and festination (slow shuffling gait) cause problems with many daily living activities. Dyskinetic (slow, writhing, uncontrollable) movements can occur from the side-effects of medication and can be uncomfortable, distressing and embarrassing. This article will introduce some methods to facilitate movement in PD.

Rehabilitation

Traditional treatment methods include general exercises to improve range of movement, muscle power, balance and walking patterns. Treatment has been enhanced by several developments, namely Bobath, proprioceptive neuromuscular facilitation (PNF) and conductive education (CE).

Bobath (1990) developed techniques while working with children with cerebral palsy, which are successfully used to treat stroke patients. Bobath uses inhibiting techniques to reduce abnormal muscle tone (spasticity) and improve posture, for example putting weight through joints. This technique evolved into what is termed ‘normal movement’.

PNF is a ‘hands-on’ technique that reduces rigidity using active muscle contractions, prolonged stretches and auditory cues to facilitate initiation of movement (Jackson, 1998).

Useful techniques

There are many strategies care staff can use to help address movement problems. These have their foundation based upon the generally accepted treatment methods already described.

Care staff can either directly assist individuals if needed, or teach residents or their relatives the different techniques. It is important, though, to make sure that a proper assessment is carried out first before intervention.

- Difficulty initiating movement: Count and then move, e.g. 1, 2, 3, then go.
- Difficulty getting up:
  - Push on the arms of a chair to rise and to bring body weight forward
  - Sit on a chair with arms of a suitable height in the lounge and dining room.
- Loss of balance:
  - Place handrails or solid furniture strategically for support
  - Use corner protectors on furniture and purchase future furniture with rounded ends
  - Ensure that footwear is supportive and well fitting
  - Arm swinging can help balance
  - Walking equipment can provide stability if anteriopulsion is present and can bring the body forwards to prevent retropulsion.
- Posture:
  - Encourage person to stand erect
  - Correct posture when walking along.
- Getting ‘stuck’ when walking:
  - Strike heel down first before moving forwards.

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- Swing the leading leg backwards and forwards before moving off
- Take steps back then move forwards, repeating this action if shuffling starts
- March steps ‘on the spot’ before moving off
- Exaggerate movements
- Use visual imagery and imagination – e.g. there is a piece of wood in front that needs stepping over
- Twist around to look behind, then move off
- Instil a rhythm and encourage walking to the rhythm
- Practise walking to a marching song or to a distinct rhythm.
- Count up to ten or whistle
- Stop, do deep breathing and relaxation techniques, then start off again.

- Getting stuck when going through a doorway:
  - Use visually contrasting door strips and encourage stepping over rather than walking through a doorway.

- Steps gradually becoming smaller when walking:
  - Place your foot at right angles in front of the client’s foot and encourage him/her to step over it
  - Look ahead, not down.

- Tremor and dyskinesia:
  - Press arm into the body and ‘fix’ into this position until the tremor/dyskinesia lessens
  - Push the feet into the floor and extend the knee
  - Push the hands together.

Part of the physical treatment of PD is to maintain joint suppleness and muscle power and to put a rhythm in movement patterns. Movement patterns can be practised and applied across a variety of situations; for example, reaching forwards is applied to activities like turning on taps, reaching for clothing and playing table games. Breaking movement patterns down into small component parts, then putting these together to create a definite task-oriented movement pattern, is helpful (work simplification).

Within residential care, the ‘hands-on’ care staff have the most contact with residents with PD; therefore, they can do the most to help with movement patterns. By analysing movement patterns, you can judge the parts of the day during which residents are most mobile and advise on appropriate activities according to levels of mobility.

**Medication**

It may be necessary to consult with the GP to see if alterations of medication will be helpful. Nazarof (2005) described how subcutaneous apomorphine (Apo-go) is used to treat ‘on-off’ symptoms and warned of some of the side-effects, including personality changes and dyskinesia.

McCall and Williams (2004) describe how injections act as a ‘rescue treatment’, taking only 10–15 mins to have an impact. An injection can be very useful when out socially, as it is faster-acting than tablets, with the effect lasting for around 90 minutes.

**Encouragement**

It is important to exercise and maintain a range of movement, so ask a visiting physiotherapist for some gentle exercises or go to the library. Movement patterns can be broken down into simple stages and the patterns of movements practised.

Do some specific exercises with arm swinging and leg actions in a movement to music (chair aerobics) session. Lifting legs up and down, stamping and swinging legs and arms in time to a marching song can be practised in a seated position. ‘Chair yoga’ stretches help to maintain suppleness. Ask a speech and language therapist about facial and speech exercises.

**Help communication**

Communication is often difficult, particularly if there is poor voice production, staring eyes and an expressionless face. You can encourage expression or even try a team game of gestures. Activities programmes can concentrate on facial movements and speech to improve expression, breathing (to assist with volume), intonation and clarity of speech.

People with PD can often sing, but speech output in social situations can be impaired and Karaoke or sing-a-longs can be used. Try the CE technique of using speech or inner speech to express an
intention followed by movement; for example, ‘I will lift up my knee’ followed by the action.

Use language to plan, imagine, intend and implement a movement by focusing on attention to the movement. Rhythm can be used to control the speed of the movement and followed through when walking.

Reduce tremor and dyskinesia

Tremor and dyskinesia are often increased when people are anxious. Relaxation sessions are useful, and can be reinforced on an individual basis.

Increase independence

When doing individual sessions, the emphasis is placed on individual problem areas. Specific tasks could concentrate on helping to overcome problems areas owing to impairment of fine finger movements, posture or festination. Some equipment may be required to enable a task to be carried out more easily or indeed to achieve independence. Useful assistive equipment was identified in Swann (2005).

Conclusion

There are many ways of helping people with PD to establish an automatic rhythm, which can be applied in any situation. Techniques described in this article can be taught to overcome problems like initiation of movement patterns or the sense of ‘freezing’ that some people experience. Successful management of the problems is important to individuals to help them participate in a wide range of social and personal situations.

Our brain is capable of learning at all ages, even if it is slower as we get older. By using conscious cognitive and sensory pathways, it is possible to facilitate movement and maintain function. Care workers have a critical role to play in helping ensure that people with PD develop techniques of movement and learn to minimize the impact of the disease. In this way, staff can help people to move with a purpose.


Further reading


It may be necessary to consult with the GP to see if alterations of medication will help.

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