

Parkinson's disease: multi-disciplinary rehabilitation

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Content

- Review of NICE guideline
- Relevant features of Parkinson's disease
- Relevant features of rehabilitation
- Evidence
- Research – need & how
- Draw a conclusion

Main messages

- NICE guideline very useful, but mixes:
 - Single interventions (usually drugs)
 - Generic approach (by a profession)
 - Ignores context of service organisation
 - All interventions delivered in a context
- Multi-disciplinary rehabilitation
 - Benefits patients
 - Ensures that all actions needed are identified and occur on time in order
- Research is essential (and easy!)

Competing interest

- I have been involved in a large RCT of multidisciplinary rehabilitation for people with Parkinson's Disease

Multidisciplinary rehabilitation for people with Parkinson's Disease: a randomised controlled trial.

Journal of Neurology, Neurosurgery, & Psychiatry 2003;74:158-162

Wade DT, Gage H, Owen C, Trend P, Grossmith C, Kaye J

PARKINSON'S DISEASE

National clinical guideline for diagnosis
and management in primary and
secondary care

The aim of the National Collaborating Centre for Chronic Conditions (NCC-CC) is to provide a user-friendly, clinical evidence-based guideline for the NHS in England and Wales that:

- offers best clinical advice for PD
- is based on best published evidence and expert consensus
- takes into account patient choice and informed decision making
- defines the major components of NHS care provision for PD
- indicates areas suitable for clinical audit
- details areas of uncertainty or controversy requiring further research
- provides a choice of guideline versions for different audiences.

The guideline will cover the care received from primary, secondary and tertiary NHS care settings.

Non-pharmacological management:

- current surgical options (eg deep brain stimulation)
- Physiotherapy
- speech and language therapy
- occupational therapy
- Parkinson's disease nurse specialists

Why was multidisciplinary rehabilitation excluded from review (was not outside scope)?

Pathology - multiple

- Progressive loss of
 - Strio-nigral neurones initially
 - Other neurones later
- Neuro-fibrillary tangles etc
- Cause unknown

Impairments - multiple

- Motor control:
 - Bradykinesia, poor initiation, tremor, rigidity
 - Loss of balance control
- Cognition
 - Memory, mental flexibility & speed etc
- Emotion
 - Depression, anxiety, psychosis
- Other (autonomic, bulbar etc)
 - Dysphagia, bladder control, constipation etc

Activities

- Primary limitations on:
 - Mobility
 - Dexterity
 - Oral & pharyngeal functions (communication, chewing & swallowing)
- Affecting
 - Almost all activities
 - Work, domestic, leisure, community, personal

Participation

- Limitation on/loss of many roles
 - Partner/spouse/lover
 - Keeping household etc
 - Breadwinner/earner/employee/workmate
 - Some parental roles
 - Membership of/role within various groups
 - Church, hobby, political etc

Contextual factors

- Physical:
 - Housing may be poor/unsuitable
 - Practical support reducing (*partner also ill*)
- Social:
 - Financial resources limited
 - Social support and contacts reducing
- Personal:
 - Expectations limited
 - Other diseases and impairments (age related)

Summary of (health) problems

- People with Parkinson's disease have
 - Problems affecting many domains and levels
 - Problems that change (and increase) over time
- This requires:
 - Multiple interventions, *from*
 - Many different professions (& organisations)
 - *Over* a prolonged time

People with PD should have regular access to the following:

- clinical monitoring and medication adjustment
- a continuing point of contact for support, including home visits when appropriate
- a reliable source of information about clinical and social matters of concern to people with PD and their carers, which *may* be provided by a Parkinson's disease **nurse specialist**.

Physiotherapy should be available for people with PD.

The Alexander Technique *may* be offered to benefit people with PD ...

Occupational therapy should be available for people with PD.

Speech and language therapy should be available for people with PD.

Where is rehabilitation?

Rehabilitation is

an educational, problem-solving **process** that
focuses on activity limitations and
aims to optimise social participation and
to reduce stress on carer/family

Rehabilitation interventions:

- Multi-focal (i.e. affecting several factors)
 - Any level:
 - pathology, impairment, disability, handicap
 - Any context:
 - personal, physical, social
- Change over time
 - Different interventions/intensities
- Usually are inter-dependent
 - And order may be important too

Rehabilitation requires:

- a **team**, working together towards
- **common goals**
- co-ordinating their input over time

- NOT separate individuals who happen to meet at the patient's house

Needs of people with Parkinson's Disease

- Care/support (activities)
- Treatment
 - **Impairments** - pharmacological (& surgical)
 - **Activities** - 'Therapy' (practice, adaptation)
 - **Participation** - guidance and facilitation
 - **Personal context** - to alter knowledge etc
 - **Physical context** - to facilitate activities
 - **Social context** - to retain social roles

Evidence - rehabilitation

Gage H, Storey L

Rehabilitation for Parkinson's Disease:

A systematic review of available evidence

Clinical Rehabilitation 2004;18:463-482

44 studies (25 physiotherapy, 4 occupational therapy, 10 speech & language therapy, 3 counselling, 1 educational, 1 multidisciplinary rehabilitation)

Evidence - rehabilitation

- For most therapies
 - Quantity limited, quality poor
 - Might just support therapy
- For contextual interventions
 - Quantity very limited, quality poor
 - Might just support equipment
- For support/monitoring
 - none

Evidence rehabilitation 2

- *“All studies, except one, reported improvements on at least one outcome measure”*
- Only 20/44 studies followed up beyond treatment episode
- Most studies were single discipline (despite overlap of studies included in single discipline reviews)

Evidence for multi-disciplinary neurological rehabilitation

- Is extensive and powerful
 - Stroke unit rehabilitation (Cochrane)
 - Multiple sclerosis (NICE)
 - Head injury (BSRM/RCP)
 - Spinal injury (*'obvious'*)
- Why should Parkinson's disease be different?

RCT of MDT

- 144 registered and randomised
 - Immediate or delayed (6 months) rehabilitation
- 94 followed up to 6 months
- **Sample:** mean age 71; sufficient cognition to consent and able to attend day hospital
- Data on
 - Activities, mobility, mood, carer stress etc
- General decline over 6/12 detected

Multi-disciplinary rehabilitation

- Initial improvements in mobility, speech, mood, quality of life
- At six months (16-20 weeks after treatment), trends for:
 - Improved mobility
 - worse mood and carer stress
- Minimal input (six weeks, 24 hours maximum)

Evidence - conclusions

- Rehabilitation *should* be effective
 - Needs are complex, and evidence for expert multi-disciplinary teams is good
- Evidence for effectiveness is limited
 - Some effects, specially on mobility
 - Probably not sustained

Research (new evidence)

- Parkinson's disease is common
 - Many potential participants
- Designs exist
 - Look at other conditions
 - RCTs are easiest (and most convincing)
- Need to specify **goal** of intervention
 - Determines **outcome measure** required
 - They exist (or can be made)

Research - priorities

- Need to research
 - Multi-disciplinary team input
 - Follow-up input
- Advantages of research into MDT
 - Prior hypothesis that has a powerful effect
 - Outcome measures exist
 - Large number of patients
 - Would support continuation of **all** professions

NICE – mixed level of action

- Many recommendations relate to **specific** actions
 - Drugs, surgical intervention
- Some recommendations relate to **general** approach
 - Physiotherapy, nursing

Mixed levels - 2

- Specific actions follow from involvement of a professional person
 - Why not recommend everyone is seen by a doctor?
- Professional people do many actions
 - Support (informational, practical, emotional)
 - Teach or train skill or activity
 - Help carer
 - Refer on

NICE did not acknowledge importance of organisation

- All actions take place in a structure
 - Physical (building etc)
 - Organisation (how link & work)
 - Financial (who pays)
- Structure determines
 - Whether actions occur

Rehabilitation teams

- Provide a good structure
 - Focused on goals
 - Identify problems and solutions
 - Ensure actions occur and are coordinated
- Evidence supports their effectiveness

Omission of multi-disciplinary rehabilitation was:

- Not logical
 - Vital if all other excellent recommendations are to occur
- Not sensible
 - Evidence supports effectiveness
 - *(But more research needed)*

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