OVERVIEW

• Have an understanding of the European Physiotherapy Guideline for PD main messages

• Recognize parkinsonian gait main characteristics

• Understand movement strategy training Rationale and its application for gait and transfers
UNIQUE COLLABORATION

From.. 2004 to.. 2014

PEOPLE & ASSOCIATIONS

GDG: representatives physiotherapy associations
- Writing Group, Reading Group, Review Panel*
- Steering Committee*
- Expert & Patient Review*
- MDS-ES review panel: Referral criteria

*patients included

Slide courtesy Samyra Keus
What is a clinical guideline for?
It is a decision-making support tool
Provides evidence-based recommendations

PATIENT CENTEREDNESS – GOAL DIRECTED

Goals defined and agreed by the Person with Parkinson (PWP) together with PT and caregiver when required.

Goals are set at the end of assessment, and reviewed at a set date.

Set goals follow the SMART principle that is Specific, Measurable, Attainable, Relevant and Timely
CORE AREAS PT IN PD

- Specific reasons for referral
- Patients know what to expect
- Specifies PT role in the MDT
HOEHN & YAHRT STAGING SCALE

Table 2.5.1 Description of the Hoehn and Yahr staging scale and disease phases

<table>
<thead>
<tr>
<th>HY</th>
<th>Description</th>
<th>Phase</th>
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<tbody>
<tr>
<td>1</td>
<td>Unilateral involvement only; minimal or no functional disability</td>
<td>Early</td>
</tr>
<tr>
<td>2</td>
<td>Bilateral or midline involvement; no impairment of balance</td>
<td>Early</td>
</tr>
<tr>
<td>3</td>
<td>Bilateral; mild to moderate activity limitations; impaired postural reflexes</td>
<td>Complicated</td>
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<tr>
<td></td>
<td>Physically independent</td>
<td></td>
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<tr>
<td>4</td>
<td>Severe activity limitations; still able to walk or stand unassisted</td>
<td>Complicated</td>
</tr>
<tr>
<td>5</td>
<td>Confinement to bed or wheelchair unless aided</td>
<td>Late</td>
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</tbody>
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PHYSIOTHERAPY MODEL

Quick Reference Card 3. Treatment goals

Diagnosis [medical]

Start of drug treatment

Possible neurosurgery

Time

Hoehn and Yahr 1

Hoehn and Yahr 2 to 4

Hoehn and Yahr 5

Physiotherapy goals:
- Self-management support
- Prevent inactivity
- Prevent fear to move or fall
- Improve physical capacity
- Reduce pain
- Delay onset activity limitations
  (motor learning, up to HY3)

Additional goals:
- Maintain or reduce limitations in transfers, balance, manual activities and gait

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TAKE HOME MESSAGES

• Decision making support
• GRADE-based recommendations
• PT intervention is defined according to Hoehn & Yahr disease stages (H&Y)
• Patient centeredness – Set goals follow the SMART principle - Specific, Measurable, Attainable, Relevant and Timely.
• 5 core areas of PT: Gait, transfers, balance & falls, Dexterity, physical capacity

GAIT LIMITATIONS IN PD

Limitations in gait also present in early stages of the disease.

Two types are distinguished: the ‘continuous’ and the ‘episodic’ gait disorder.

(Hausdorff et al 2009)

Present in ON and Off periods.
It includes an asymmetrically reduced or absent arm swing, a stooped posture, reduced and variable step length, and difficulties turning around in the standing or recumbent positions.

Early stage – Hoehn & Yahr - 2

As Parkinson’s progresses, gait becomes slower, with shuffling and short steps, bilaterally reduced arm swing and slow, bloc turns.

Further reduced step length, when a cognitive task is added (dual tasking) or when walking in complete darkness.
**GAIT LIMITATION - EPISODIC FESTINATION OR FREEZING**

**FREEZING**
Person with Parkinson’s is suddenly unable to generate effective stepping movements (*Giladi et Nieuwboer 2008*)

Unpredictable and episodic nature

Patients commonly define it as
“ My feet are glued to the floor ”

Types of Freezing episodes

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**COMPLEX MOTOR SEQUENCES**

Difficulties present - Hoehn & Yahr 2 to 4

example

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The ability to walk, perform transfers, and negotiate complex environments relies upon automaticity.

Automaticity depends on intact basal ganglia function and therefore is increasingly disturbed in person with Parkinson.

In PD the ability to maintain or learn a novel skill may be preserved by compensation of the basal ganglia dysfunction with activation of other brain structures such as the cerebellum.

The rationale of movement strategy training is to compensate for the deficits with the internal (automatic) generation of behaviour.

It includes, cueing, attention and strategies for complex motor sequences.

*Note*: complex motor sequences were formerly called cognitive movement strategies

Cues and strategies set and agree upon individual, SMART goals in collaboration with the pwp

Strategies selection requires personalised management according to the person’s motor problems, cognitive and emotional status.
TAKE HOME MESSAGES

• In PD the progressive loss of automaticity due to basal ganglia dysfunction may be preserved by activation of other brain structures, eg, the cerebellum.

• Movement strategies include cueing, attention and strategies for complex motor sequences.

• Strategies selection depends on the person’s motor problems, cognitive and emotional status.

MOVEMENT STRATEGY TRAINING - CUEING - VISUAL

VISUAL:
• stepping over strip(s) of tape on a floor
• someone’s foot a
• laser line projected on the floor
MOVEMENT STRATEGY TRAINING
- CUEING - AUDITORY

AUDITORY:
• Metronome
• Music
• Singing
• Voice cues
• Hand clapping
• Snap fingers

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MOVEMENT STRATEGY TRAINING
- CUEING TYPES - TACTILE

TACTILE:
• walking on the vibration rhythm of a vibrating wrist band
• Simple touch

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MOVEMENT STRATEGY TRAINING
- ATTENTION

ATTENTION:

- Thinking about taking big steps
- Choosing a point of reference to walk towards
- Making wide turns
- Lifting knees high up

Attentional strategies are distinct from cueing, as they need to be self-generated and provide an internal focus on the movement.

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STRATEGIES FOR COMPLEX MOTOR SEQUENCES

GOAL SMART PRINCIPLE
Specific, Measurable, Attainable, Relevant and Timely.

Irene will get up from her favorite chair at home in one out of 3 attempts, after training for three weeks, three times a week for 30 minutes.

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STRATEGIES FOR COMPLEX MOTOR SEQUENCES

Strategies for complex motor sequences involve

• Breaking down complex movement sequences into their components
• Performing each component individually at a conscious level
• Avoiding simultaneous activities (dual tasking)
• Identify which component part is causing the main difficulty and practice it
• To practice and rehearse each movement mentally.
• The performance has to be consciously controlled. It is not meant to become automatic.

TAKE HOME MESSAGES

Movement strategy training for PD includes:

To improve transfers, often a combination of cueing, attention and sequencing strategies is used.

To improve gait, often a combination of cueing and strategies for complex motor sequences are used.
Obtain FREE electronic version

http://parkinsonnet.info/guidelines/european-guidelines

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THANK YOU

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