Preventing falls

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@BasBloem
“Take home” message!
The windmills

Falls are not really important
Falls are not really important

Falls typically have a single cause
Falls are not really important

Falls typically have a single cause

Falls are mainly a “motor” problem
Falls are not really important

Falls typically have a single cause

Falls are mainly a “motor” problem

Falls cannot be prevented
Why falls are so important
Falls are a “late” feature in Parkinson’s

Risk of falls (in subjects with no prior falls)

Pickering et al., Mov Disord 2007;22:1892-1900
The best predictor of falls is a prior fall (but falls predict much more ...)

“Take home” message!
Injuries in Parkinson patients

- Broken hip
- Fall on the head
Fear of falling
Fear also leads to inactivity

I will never fall again!
Falls are a “late” feature in Parkinson’s

Risk of falls (in subjects with no prior falls)

Pickering et al., Mov Disord 2007;22:1892-1900
Fewer falls is not necessarily better!
The ParkFit trial
Every patient needs a coach!
Possible side effect: FALLS
My final soccer slide 😊
“Take home” message!

Find a personal coach to help you remain safely active
Types of falls
Types of falls

WITH preceding loss of consciousness

WITHOUT preceding loss of consciousness
Useful tips & tricks

Falls, faints, fits and funny turns

Roland D. Thijs
Bastiaan R. Bloem
J. Gert van Dijk

! Contact moment with the floor!

! Nature of the injuries!
“Spontaneous” falls include:

- (Brief) transient loss of consciousness
- Freezing of gait
Freezing of gait
Important cause of falls

Predictors of future falls in Parkinson disease

ABSTRACT

Background: Falls are a major health and injury problem for people with Parkinson disease (PD). Despite the severe consequences of falls, a major unresolved issue is the identification of factors that predict the risk of falls in individual patients with PD. The primary aim of this study was to prospectively determine an optimal combination of functional and disease-specific tests to predict falls in individuals with PD.
“Take home” message!

Falls in Parkinson’s disease = freezing!
Consider freezing of gait when patients

• Fall forward
• Claim “spontaneous” falls
• Fall while turning around
Causes of falls
Falls: a multifactorial problem
Falls: a multifactorial problem

Age-related factors
• Weakness
• Intoxications (alcohol!)
• Adverse effects of treatment
• ...


Intoxications
Avoid benzodiazepines!

RR 5.0 (P < 0.01)

Bloem et al., J Neurol 2001;248:950-958
**Falls: a multifactorial problem**

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<thead>
<tr>
<th>Age-related factors</th>
<th>Disease-related factors</th>
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<td>• Sensory problems (diabetes)</td>
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Do not forget muscle weakness
Most falls in Parkinson patients are intrinsic

→ Treat the patient, not the environment
The influence of cognition (thinking)
The danger of multitasking
“ Stops walking when talking” as a predictor of falls in elderly people

Lillemor Lundin-Olsson, Lars Nyberg, Yngve Gustafson
Multiple tasking & falls in Parkinson

Percentage

P = 0.001

Patients Controls

Bloem et al, J Neurol 2001;87:950-958
“Take home” message!

- Falls in Parkinson disease often related to multitask circumstances
- Avoiding dual tasking is potentially trainable
## Falls: a multifactorial problem

### Age-related factors
- Weakness
- Intoxications (alcohol)
- Adverse effects of treatment
- ...

### Disease-related factors
- Freezing of gait (Parkinson disease)
- Joint problems (arthritis)
- Sensory problems (diabetes)
- ...

### Environment
- Poor lighting
- Loose rugs
- Slippery floors
- ...

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Commonest environmental hazard?
Commonest environmental hazard?
## Falls: a multifactorial problem

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The importance of compensation

Primary disease process
Compensatory strategies
The importance of compensation

Primary disease process

Medical management

Compensatory strategies

Disease signs
The importance of compensation

Primary disease process

Medical management

Compensatory strategies

Allied health care
A beautiful example
A beautiful example
Cycling for Freezing of Gait

A 58-YEAR-OLD MAN WITH A 10-YEAR HISTORY OF IDIOPATHIC PARKINSON'S disease presented with an incapacitating freezing of gait (Panel A, Video 1). The patient had severe difficulties initiating gait and was able to take only a few shuffling steps when provided with a visual cue (the examiner's foot placed in front of the patient). Attempts to walk evolved rapidly into forward festination and ultimately a fall to the ground. Axial turning was impossible. However, the patient's ability to ride a bicycle was remarkably preserved (Panel B, Video 2). Gait freezing recurred instantaneously after he dismounted the bicycle. This striking kinesia paradoxica may be explained by the bicycle's rotating pedals, which may act as an external pacing cue. Alternatively, the motor-control mechanisms involved in gait as compared with other activities engaging the legs, such as cycling, could be affected differentially in Parkinson's disease. Cycling may offer a useful approach for exercise training in patients with Parkinson's who are “grounded” by severe freezing of gait. (Editor's note: In Video 2, the patient is not wearing a safety helmet because in the Netherlands, unlike the United States, wearing a safety helmet is neither required by law nor customary.)
How can I help to prevent falls?
Mission impossible ... Or not?!
Effects of medication

PINK1 parkinsonism

Part 1

OFF Med
Treatment in relation to clinical state

- OFF state falls
- ON state falls
- Medication resistant falls
Effects on gait

STN stimulators ON

STN stimulators OFF
Physiotherapy = compensation
Effect of single cues

Normal situation

Effect of visual cue

Courtesy of Mariella Graziano
Effect of single cues

Normal situation

Effect of visual cue

Courtesy of Mariella Graziano
2004: Physical therapy

2009: Occupational therapy
## Individually tailored intervention

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<td>Increase levodopa</td>
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<td>Cueing strategies</td>
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Full national coverage

- 66 regional networks
- >2800 trained professionals
- 12 different disciplines
HEALTHCARE

Meten van zorguitkomsten: de heilige graal binnen handbereik

kpmg.nl
kpmgplexus.nl
% patients with hip fracture

- Regular care: 1.95
- ParkinsonNet care: 0.82
Falls are NOT untreatable
1. Find an expert to look after you
2. Work up YOUR causes of falls
3. Optimize medication
4. Sometimes brain surgery
5. “Always” physiotherapy
6. Often occupational therapy
Thank you
Thank you

Questions & Answers
You may reach our Helpline staff Monday - Friday from 9 am - 5 pm EST.
For today’s webinar:

“Balancing Act: Falls Prevention in Parkinson’s”

Use #PDfalls on Twitter to join the live conversation during the webinar!

Follow NPF on Twitter: @ParkinsonDotOrg