Perception and Use of Compensation Strategies for Gait Impairment by Persons With Parkinson Disease

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Study Question
What is patients’ awareness and actual use of compensation categories for gait impairments in Parkinson disease (PD); (2) what is the patient-rated efficacy of compensation strategies, and is it context-dependent; and (3) are there differences between subgroups based on sex, age, disease duration, freezing status, and dual task ability?

What Is Known and What This Paper Adds
The use of compensation strategies may help patients with PD overcome gait impairments, and clinical observations suggest that the efficacy of different compensation strategies varies depending on both individual patient characteristics and the context in which patients apply the strategies. This investigation’s results indicate that the choice of compensation strategies for gait impairment in patients with PD should be tailored to the individual and to the context in which the strategy must be applied. This data provides Class IV evidence that compensation strategies are an effective treatment for gait impairment in PD patients with gait impairment.

Methods
For this qualitative survey study, the investigators distributed an online survey to 6,700 adults with PD who participated in the Fox Insight cohort and 1,573 Dutch adults with PD who participated in the ParkinsonNEXT platform. The online survey was accessible from March–June 2020. The investigators obtained survey response data from 4,324 adults with a self-reported PD diagnosis and self-reported disabling gait impairments. For each of the 7 main categories of compensation strategies, the survey respondents answered questions concerning their awareness of a given strategy, their usage of a given strategy, and, if applicable, how a given strategy affected gait under various contexts. The present study’s primary outcomes were findings concerning awareness of potential compensation strategies, the use of various strategies, and the efficacy of various strategies under a variety of contexts.

Results and Study Limitations
The main findings were that (1) persons with PD commonly use compensation strategies for their gait impairments, but that their awareness of the full spectrum of available strategies is limited; (2) the patient-rated efficacy of compensation strategies is high but varies depending on the context in which patients apply them; and (3) compensation strategies are useful for all types of persons with PD, although the efficacy of the different strategies varies among individuals. The present study’s limitations include possible selection bias and a lack of objective data on cognitive status.

Study Funding and Competing Interests
This study was funded by the Netherlands Organization for Health Research and Development. Some authors report serving on journal editorial boards and receiving personal fees and funding from the Critical Path Institute, the European Union, and various health care companies and foundations. Go to Neurology.org/N for full disclosures.

Table Efficacy of Selected Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Percentage reporting a positive effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changing balance requirements</td>
<td>76%</td>
</tr>
<tr>
<td>Altering mental state</td>
<td>74%</td>
</tr>
<tr>
<td>Internal cueing</td>
<td>68%</td>
</tr>
<tr>
<td>Adopting new walking pattern</td>
<td>67%</td>
</tr>
<tr>
<td>Action observation and motor imagery</td>
<td>64%</td>
</tr>
<tr>
<td>External cueing</td>
<td>62%</td>
</tr>
</tbody>
</table>

Percentages of patients describing selected strategies as effective.
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