

DDSIG New and Noteworthy

APTA Neurology Section

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New

Assessment of Gait Therapy Effectiveness with Parkinson's Disease on the Basis of Three-Dimensional Movement Analysis. [Article Link](#)

Mirek et al. Front Neurol. 2016 Jun;7:102.

OBJECTIVE:

To assess the effect of exercise on gait pattern disorders, based on 3D gait analysis in the sagittal plane in a group of people with Parkinson's disease.

METHODS: 32 subjects with PD were qualified for the study, which ran for 3 weeks (18 therapeutic sessions). 35 control subjects were included in the research. Gait analysis using the Vicon 3D system took place in the Biokinetics Laboratory. The research group was tested before and after treatment, and the control group was tested once.

RESULTS: Comparing the average peak angle changes and average standard time results (% gait cycle) corresponding with angles of movement in the L-spine, C-spine, elbow, and shoulder, statistically significant changes were observed.

Improvement noted in the angular range of changes in thorax tilting, but no difference between the most and less affected side. For the cervical spine, a significant reduction in flexion during dual support was observed. The angular range of changes in shoulder joint was significant only in less affected shoulder during the initial contact (F1), terminal stance (F4), and terminal stance (F8) phases of gait ($p < 0.05$). After therapeutic treatment, significant angle and setting changes in the most affected limb of the elbow joint occurred during the initial contact and terminal swing phases (F1, F8). In the terminal stance phase (F4), an increase in range of motion by about $\pm 4^\circ$ was observed ($p < 0.05$).

CONCLUSION: Exercise therapy slightly increased the range of movement in the examined joints of PD's patients. Results of pathological walking patterns occurring prior to treatment improved after treatment and moved closer to the physiological gait pattern.

CONCLUSIONS and CLINICAL IMPLICATIONS: Exercise slightly increased range of motion in examined joints and also improved gait pattern. Future studies needed to define if positive changes are maintained.

Noteworthy



Link to article:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4921998/pdf/fneur-07-00102.pdf>

**September 20,
2016 - September 23, 2016**

4th World Parkinson Congress

Location: Oregon Convention Center, Portland, Oregon,
Offered By: World Parkinson Coalition

Contact: Elizabeth Pollard
Email: eli@worldpdcoalition.org
Website: www.wpc2016.org