Deep brain stimulation (DBS) is a treatment option for movement disorders difficult to manage medically. DBS-related hardware complications, however, are associated with a loss of efficacy, which adversely impacts not only the quality of life but also health care costs.

**RESULTS**

Hardware complications: 44 (8.6%) of 512 patients in infections. Migrations were observed later compared to lead fractures and the different types of complications, (see box plots) \( P = 0.26 \).

The distribution of targets

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Number of targets (%):
- GPi nucleus: 97 (11.3%)
- STN nucleus: 401 (46.8%)
- VIM nucleus: 351 (41%)
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The distribution of targets

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Number of electrodes (%):
- Anterior 2 0
- Medial 2 4
- Lateral 3 3
- Upward 0 1
- Downward 1 0
- Unspecified 3 2
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**METHODS**

This is a retrospective review of all hardware complications that occurred between January 1996 to August 2010 and reasons for surgical revision in a large cohort of movement disorders patients treated with DBS implants and followed at the Parkinson’s Disease Center and Movement Disorders Clinic (PDCMDC) at Baylor College of Medicine, in Houston TX. We sought to determine the frequency of each complication, timing after the implant, and clinical correlates.

**RESULTS**

Characteristics of the Cohort:

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Number of patients (%):
- Parkinson’s disease (PD): 297 (58%)
- Dystonia: 40 (7.8%)
- Other: 48 (9.37%)
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The most common complication was lead fracture. The rate of complications was highest among patients with ET and in those with VIM nucleus stimulation. There was no significant difference in the time distribution of complications. Comparisons among previous published studies is difficult due to different surgical techniques, definition of complications, follow-up periods, and other factors.

**CONCLUSIONS**

- DBS hardware complications occurred in 8.5% of 512 patients, 7% of 856 electrodes.
- The most common complication was lead fracture.
- The rate of complications was highest among patients with ET and in those with VIM nucleus stimulation.
- There was no significant difference in the time distribution of complications.
- Comparisons among previous published studies is difficult due to different surgical techniques, definition of complications, follow-up periods, and other factors.

**REFERENCES**