

□ Literature Overview: Steffen Paschen, M.D.

1. **Comparative Study: STN-FUS vs Vim-FUS for Parkinsonian Tremor (2025)**

* **Design:** Retrospective two-center cohort—63 PD patients treated with either unilateral Subthalamic (STN) or Ventral Intermediate (Vim) focused ultrasound thalamotomy between 2015–2022 ([researchgate.net][1], [pubmed.ncbi.nlm.nih.gov][2]). * **Findings:**

- Both STN-FUS and Vim-FUS improved tremor at 4 months.
- At 12 months, STN-FUS showed superior sustained tremor reduction ($4.4 \pm 2.0^*$ vs $2.7 \pm 3.7^*$, $*P=0.012$) ([pubmed.ncbi.nlm.nih.gov][2]).
- Complete tremor abolition in 47.5% of STN-FUS vs 8.7% Vim-FUS cases ([pubmed.ncbi.nlm.nih.gov][2]).

* **Implication:** Suggests a promising, more enduring benefit of subthalamotomy over thalamotomy for tremor-dominant PD.

2. **Subthalamotomy Terminology Note (June 23, 2025)**

* Positioning focused ultrasound ablation of the STN as “subthalamotomy,” advocating for precise nomenclature ([pubmed.ncbi.nlm.nih.gov][3], [researchgate.net][4]). * No outcome data included; serves mainly a semantic clarification.

3. **Resistance vs Balance Training in PD (2015)**

* Rater-blinded RCT: Examined strength vs balance training effects on postural control. * Paschen collaborated—particularly in data analysis and interpretation ([drks.de][5], [journals.plos.org][6]). * Highlights early interest in non-invasive neuromodulation or rehabilitative strategies.

4. **Clinical Trial Registration (DRKS00023540, 2020)**

* Led by Paschen’s institutional group: a German pilot study on unilateral MRgFUS subthalamotomy assessing motor and non-motor outcomes. * Suggests groundwork for prospective, controlled PD focused-ultrasound research ([researchgate.net][1], [drks.de][5], [pubmed.ncbi.nlm.nih.gov][2]).

5. **Other Contributions & Collaborations**

* Involvement in case report on thalamic DBS for rare POLR3A tremor disorder ([researchgate.net][1]). * Collaboration on ORCID-listed work addressing progressive supranuclear palsy comorbidities ([orcid.org][7]).

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□ Summary

Paschen’s work focuses on **non-invasive, focused ultrasound interventions** for movement disorders—primarily Parkinson’s tremor. His 2025 comparative study provides quantitative evidence highlighting the advantages of STN lesioning over thalamotomy. He also contributes to ongoing clinical and semantic framing efforts in this emerging field. Earlier in his career, Paschen engaged in rehabilitative clinical trials, indicating a broad interest in neurological outcome improvement.

[1]:

https://www.researchgate.net/scientific-contributions/Steffen-Paschen-71493443?utm_source=chatgpt.com "Steffen Paschen's research works - Holstein and other places" [2]:

https://pubmed.ncbi.nlm.nih.gov/40028918/?utm_source=chatgpt.com "Comparative Study of Focused Ultrasound Unilateral Thalamotomy ..." [3]:

https://pubmed.ncbi.nlm.nih.gov/40545895/?utm_source=chatgpt.com "Lesioning the Subthalamic Nucleus Using Magnetic Resonance ..." [4]:

https://www.researchgate.net/publication/389520452_Comparative_Study_of_Focused_Ultrasound_Unilateral_Thalamotomy_and_Subthalamotomy_for_Medication-Refractory_Parkinson%27s_Disease_Tremor?utm_source=chatgpt.com "Comparative Study of Focused Ultrasound Unilateral Thalamotomy ..." [5]:

https://drks.de/search/en/trial/DRKS00023540?utm_source=chatgpt.com "DRKS00023540 - German Clinical Trials Register" [6]:

https://journals.plos.org/plosone/article/authors?id=10.1371%2Fjournal.pone.0140584&utm_source=chatgpt.com "Author Info | PLOS One" [7]:

https://orcid.org/0000-0002-9306-8332?utm_source=chatgpt.com "Steffen Paschen (0000-0002-9306-8332) - ORCID"

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