



Welcome to WIKISTIM

Neuromodulation Data Extracted & Categorized



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WIKISTIM presents searchable lists of neurostimulation papers that report primary data from clinical, experimental, and modeling studies or describe study protocols. At present we list citations for deep brain, dorsal root ganglion, gastric, peripheral, spinal cord (SCS), and sacral nerve stimulation. In addition, WIKISTIM has a discrete section for SCS meta-analyses. Each section offers a customized list of categories for uploading data from a paper, creating tables, designing studies, drafting manuscripts, and conducting peer review. Multiple (or single) datasheets are downloadable into a CSV spreadsheet that exhibits all data headings and rows to permit comparison. WIKISTIM's discussion section allows immediate correction of errors, and registrants can receive a monthly emailed newsletter listing new citations along with links to their PubMed abstracts and to open-access papers. The goals of WIKISTIM are to improve patient care by inspiring improvement in the quality of research reports, fostering communication and collaboration, revealing research needs, and supporting the practice of evidence-based medicine. WIKISTIM is free to registrants.



Why WIKISTIM?

We rely on neurostimulation data to **improve patient care** by informing regulatory submissions, study design, practice decisions, reimbursement, etc.



Challenges to *accessing* neurostimulation data:

- The repositories of abstracts (e.g., PubMed) respond best to expert search techniques that yield sufficiently specific and sensitive results. Even then, time-consuming curation is required to remove “noise” from search results.
- Abstracts routinely omit important data.
- Literature on the same topic is published in a host of journals.
- Access to this literature is expensive.



How does WIKISTIM help us access neurostimulation data?

WIKISTIM provides human-curated, searchable citation lists of reports that provide primary data or study protocols. These lists are organized by stimulation target (currently SCS, SCS Meta-analyses, DRG, DBS, PNS, SNS, and GES, with NBS under development). Monthly updates and links are listed in WIKISTIM newsletters emailed to registrants.

Citations listed in WIKISTIM are linked to available PUBMED entries and free full-text articles.



Challenges to *generating* neurostimulation data:

Study results can be flawed when biases and mistakes lead to inappropriate research techniques (e.g., study design, patient selection, outcome measures, data analysis, etc.) for a given study question.



How does WIKISTIM help us generate neurostimulation data?

WIKISTIM provides data sheets comprising ~ 200 fields for each stimulation target to support data abstraction using narrative or numeric entries

Uncompleted data sheets provide templates that support the development of research protocols and preparation of manuscripts by encouraging the inclusion of important data. They also facilitate peer review.



Challenges to *analyzing* neurostimulation data:

Meta-analyses, HTAs, “guidelines,” literature reviews:

- Can (and do) incorporate mistakes
- Are fixed in time and, thus, are immediately out-of-date
- Are constrained by the subjective interests and inherent biases of the authors
- Are static rather than searchable/updatable
- Provide limited data visualization



How does WIKISTIM help us analyze neurostimulation data?

Raw data sheets can be downloaded, completed, uploaded, and then downloaded again from search results or a citation list into a table to support rapid, up-to-date analysis and comparison of data.

When downloaded as a PDF, a data sheet presents each group heading and the fields with values added. When downloaded as a CSV file, every field appears to support comparison (downloaded table is too large to illustrate here).

Part of a screen in the Search SCS section. Citations can be downloaded into letter-oriented PDF format (see Slide 10).



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Search

This database comprises citation information on 3,561 reports that report primary data on spinal cord stimulation (SCS) as well as relevant study protocols. Of these entries, 98 have been completely and another 34 partially abstracted in WIKISTIM format. We believe the citation list is comprehensive. Latest update of “epub” citations December 2024. Latest monthly update for content June 8, 2025.

Please note that entries beginning with accented authors' names might not appear in standard alphabetical order in the list of papers.

Sort By:

Use the checkboxes to select multiple papers:

36 found.

- ☐ [Management and cost of spinal cord stimulator explants due to infection.](#)
Royds J.
Neuromodulation epub, 2025.
Status:
[Free Full Text](#) [PubMed](#)

- ☐ [Sonication in patients with spinal cord stimulation: a new approach for infection diagnostics.](#)
Kasapovic A, Jaenisch M, Ali T, Gathen M, Babasiz M, Bojko J, Roos J, Smajic S.
Neuromodulation 27(6):1076-1081, 2024.
Status:
[PubMed](#)

- ☐ [Epidural spread of surgical site infection from spinal cord stimulation trial.](#)
Mukhdomi T, Andrassy B, Gungor S.
Pain Manag 14(5-6):235-240, 2024.
Status:
[PubMed](#)

[Searchable SCS Papers](#)

[SCS Data Categories](#)

A sample screen in the list of SCS data categories that comprise the SCS data sheet. Each heading drops down as indicated.



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SCS Data Categories

[PUBLICATION INFORMATION](#)

[STUDY DESCRIPTION](#)

- STUDY DESIGN
- STUDY QUESTION
- POPULATION ASSESSED
- MODEL USED IF EXPERIMENTAL STUDY
- STUDY DATES
- FOLLOW-UP DURATION
- FOLLOW-UP INTERVALS
- THIRD-PARTY FOLLOW-UP
- OTHER EFFORTS TO REDUCE BIAS
- PATIENT PROTECTION
- OUTCOME MEASURES
- PRIMARY OUTCOME
- SECONDARY OUTCOMES
- DEFINITION OF SUCCESS
- STATISTICAL SIGNIFICANCE
- STATISTICAL ANALYSES PERFORMED

[PATIENT SELECTION](#)

[DEMOGRAPHIC/PROGNOSTIC FACTORS](#)

[PAIN LOCATION](#)

[PAIN CHARACTERISTICS](#)

[INDICATIONS \(TRIAL/IMPLANT\)](#)

[SCREENING TRIAL](#)

[STIMULATION](#)

[SYSTEM IMPLANTATION](#)

[OUTCOMES](#)

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The beginning of a completed data sheet viewed online.



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Effectiveness of cervical spinal cord stimulation for the management of chronic pain.

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Publication Information

Author(s): Deer TR, Skaribas IM, Haider N, Salmon J, Kim C, Nelson C, Tracy J, Espinet A, Lininger TE, Tiso R, Archacki MA, Washburn SN.

Journal: Neuromodulation

Volume, issue, pages: 17(3):265-271

Year: 2014

Full Text Link: <http://onlinelibrary.wiley.com/doi/10.1111/ner.12119/pdf>

PubMed Link: <http://www.ncbi.nlm.nih.gov/pubmed/24112709>

Study description

Study design: Prospective, multi-center (with disability scores at baseline collected retrospectively)

Study question: Do international registry data support the use of cervical SCS?

Population assessed: Human. Implanted with electrodes in the cervical spine.

Follow-up intervals: 3 (n=26), 6 (n=21), 12 (n=16) months post-implantation

Patient protection: IRB

Outcome measures: Pain Disability Index score, QoL, patient satisfaction

Statistical analyses performed: Descriptive; Tukey's pairwise comparisons for changes from baseline in disability scores

Patient selection

Demographic / prognostic factors

Completed data sheets can be identified by sorting the list of citations by “status” or by searching “completed” in a section.



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Searchable SCS Papers

Note: sorting by authors, title, etc. is available when you have the first row displayed on your page. Our program remembers your most recent location when it opens, so be sure to return to the first row by clicking the indicator at the bottom of the page.

Use the checkboxes to select multiple papers: [Export to CSV](#)

Select ▾	Authors ▾	Title ▾	Journal ▾	Year ▾	Status ▾
☐	Baranidharan G, Simpson KH, Dhandapani K.	Spinal cord stimulation for visceral pain—a novel approach.	Neuromodulation	2014	Completed
☐	Barolat G, Oakley JC, Law JD, North RB, Ketcik B, Sharan A.	Epidural spinal cord stimulation with a multiple electrode paddle lead is effective in treating intractable low back pain.	Neuromodulation	2001	Completed
☐	Buonocore M, Bodini A, Demartini L, Bonezzi C.	Inhibition of somatosensory evoked potentials during spinal cord stimulation and its possible role in the comprehension of antalgic mechanisms of neurostimulation for neuropathic pain.	Minerva Anesthesiol	2012	Completed
☐	Burton C.	Dorsal column stimulation: optimization of application.	Surg Neurol	1975	Completed
☐	Chivukula S, Tomycz ND, Moossy JJ.	Paddle lead cervical spinal cord stimulation for failed neck surgery syndrome.	Clin Neurol Neurosurg	2013	Completed
☐	Choi J, Babu R, Bagley JH, Agarwal V, Huang MI, Ugiliweneza B, Patil CG, Boakye M, Lad SP.	Utilization of spinal cord stimulation in patients with failed back surgery syndrome. Abstract.	Neurosurgery	2012	Completed
☐	Clark K.	Electrical stimulation of the nervous system for control of pain: University of Texas Southwestern Medical School experience.	Surg Neurol	1975	Completed
☐	Connor DE, Cangiano-Heath A, Brown B, Vidrine R, Battley T 3rd,	The utility of bone cement to prevent lead migration with minimally invasive placement of spinal cord stimulator	Neurosurgery	2012	Completed



WIKISTIM and Collaboration

The WIKISTIM discussion section offers an excellent means for members of the neurostimulation community to discuss current topics and controversies.

The discussion section can be used to submit corrections and citations, suggest data fields and citations, and offer advice.



Citation status as of August 15, 2025

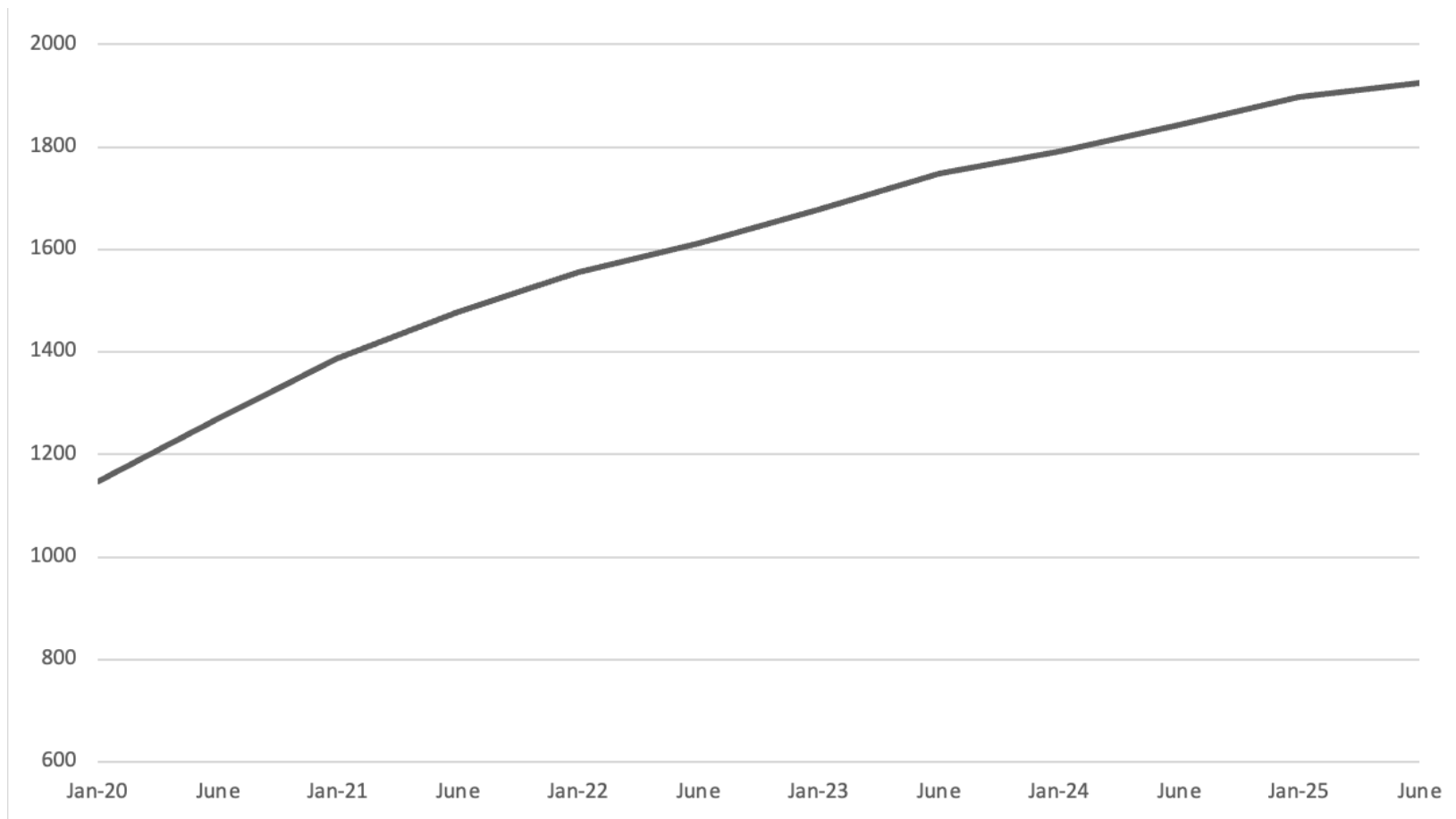
	Aug 2021	Aug 2022	Aug 2023	Aug 2024	Aug 2025
Deep brain stimulation	6,364	7,061	7,747	8,466	9,195
Dorsal root ganglion stimulation	200	229	254	280	309
Gastric electrical stimulation	510	518	522	528	533
Meta-analyses (SCS)					58
Peripheral nerve stimulation	564	635	714	816	936
Spinal cord stimulation	2,745	2,938	3,172	3,350	3,617
Sacral nerve stimulation	1,090	1,139	1,186	1,242	1,319
Total	11,473	12,520	13,595	14,682	15,967

In the pipeline:

- **Non-invasive brain stimulation section**
- **Vagus nerve stimulation awaiting funding**



1927 subscribers ~ 34 countries as of August 2025





The goals of WIKISTIM are to improve patient access and care by:

- Facilitating study design and reporting through use of WIKISTIM's data sheets, which provide templates for research protocols and manuscripts, encourage inclusion of important data, and facilitate peer review
- Fostering communication and collaboration
- Extending the useful life of publications
- Eliminating the need for researchers conducting meta-analyses to recreate the wheel



Newsletter

Each month, we email a newsletter listing the citations added in each stimulation section along with links to their PubMed abstracts and Free Full Text (when available).

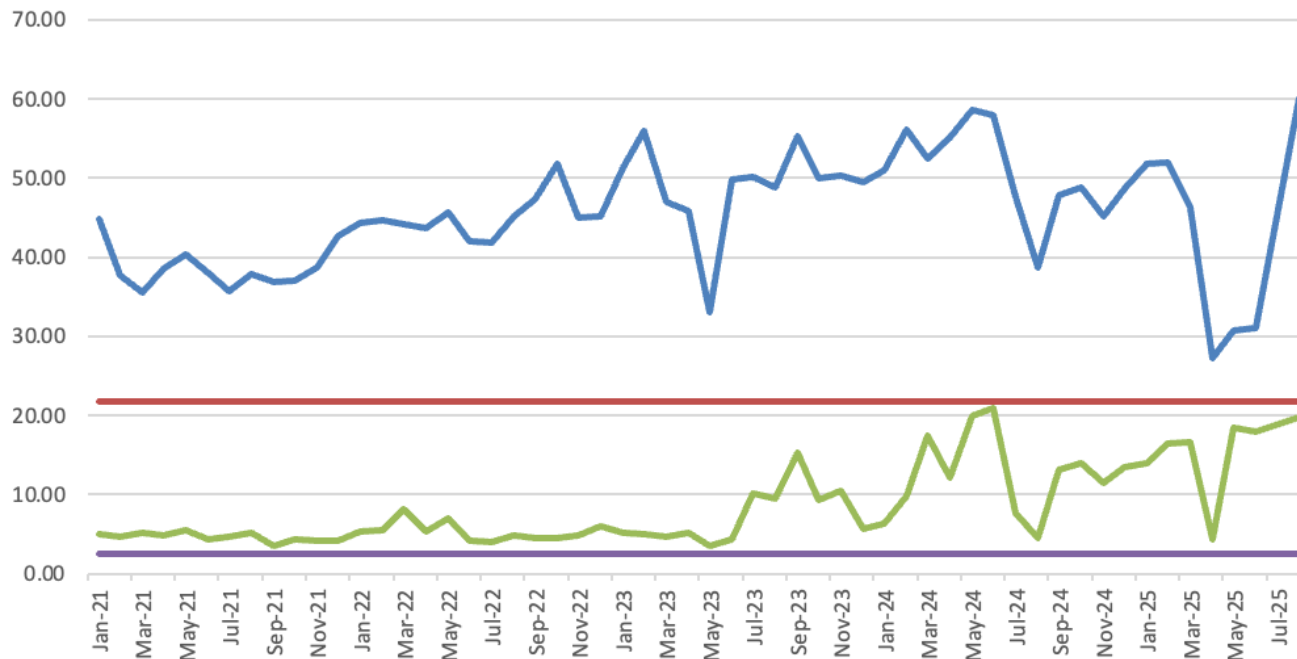
We add commentary when a pertinent subject calls for it.

These newsletters are archived without a password barrier under NEWS on the WIKISTIM home page.

The newsletters perform above expectation for our sector (see next slide).



Newsletter performance as of July 2025; these data are from emailed newsletters not those accessed from our homepage.



Percent opened (blue) versus industry standard* (red) and percent clicks (green) versus industry standard (purple).

*Medical, dental, and healthcare sector mailchimp.com



Facilitating systematic reviews and meta-analyses (MAs)

- We have developed an online SR of SCS MAs to provide an overview and address inconsistencies among MAs, and we are maintaining and continually updating it as a “living systematic review.”
- We created a list of data fields that incorporates AMSTAR requirements and expands beyond other such lists.
- As of August 2025, our database contains 58 SCS MAs, up from 47 when we launched this section in December 2024.



WIKISTIM What Will the Future Bring?

- Forms that facilitate online data submission (incorporating reward elements of gaming)
- Additional sections, such as VNS, and ONS
- The use of AI to fill in data sheets is undergoing investigation by an academic team
- Links from data fields to additional information
- A dynamic user experience (saved search results, customized site behavior, automatic updates of searches) with data presented graphically using cutting-edge data visualization techniques



We urge you to join in this effort by:

- Registering for WIKISTIM (the process is free and easy)
- Spreading the word about WIKISTIM
- Making a donation and/or encouraging companies that make educational grants to support WIKISTIM
- Submitting completed datasheets
- Helping us to create new sections



Financial support from inception to date:

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The NANS Foundation

The Neuromodulation Foundation, Inc. (WIKISTIM's parent organization)

The North American Neuromodulation Society

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