



February 2021 News

PLEASE FORWARD TO YOUR COLLEAGUES

[www.wikistim.org](http://www.wikistim.org)

*If you are encountering this newsletter for the first time, please visit WIKISTIM's [ABOUT](#) section, which describes the site's unique resources and is accessible without registration.*

#### UPDATE

As we begin the 12th month of life during a pandemic, with the current challenge defined by the race between vaccine production and the never-ending mutations that might increase the power of the virus, we send out the hope that all of you who are working with patients have been vaccinated or soon will be. Like many of our generation, we are now eligible and are waiting our turn. Once again, we thank all of the health care workers who continue to risk their lives and health treating infected patients. We also thank the researchers who developed the vaccines and those who are organizing distribution.

#### HOW TO TAKE ADVANTAGE OF THIS NEWSLETTER TO BUILD YOUR LIBRARY

Each month, we check every PubMed link in our new citation lists to determine whether or not the abstracted paper is available as free full-text. When we find such papers, we provide the links herein; thus, the newsletter offers one-stop clicking, which saves time. This month, our readers can download 49 full-text papers from our 106 new citations. We invite you to take advantage of our effort to make your lives easier and to build your neurostimulation library.

#### THE HEGEMONY OF THE ALPHABET AND OUR PLAN FOR A SMALL IMPROVEMENT

For some time, we have been listing the "most clicked" citations from the previous month. For a while, we presented "most clicked" before we listed the new citations, but then we recognized that this simply caused the previously "most clicked" to continue as the "most clicked." It has become abundantly clear, furthermore, that the "most clicked" citations are generally those that appear first in each category simply because the first author's last name is near the beginning of the alphabet. As this is not meaningful, we propose instead to find a way to identify the "most cited" papers in the WIKISTIM database.

Many of the "most cited" papers in our field, however, are review articles and guidelines that do not meet our current inclusion criteria - namely, papers that report primary data, modeling studies, and study protocols. For some time, we have been considering adding citations for selected reviews and meta-analyses, which a few users have said would be helpful. If any of our readers wishes to weigh in on this proposal, we would be delighted to hear from you. Would adding these citations be useful?

## MEMBERSHIP

In January, the number of our subscribers grew to 1408. Thank you for helping to spread the word!

## CITATIONS ADDED JANUARY 26, 2021 (if necessary, please click "View Entire Message")

### Deep Brain Stimulation (now 6005 citations, with 2 completed WIKISTIM abstracts)

1. Alonso-Matielo H, Gonçalves ES, Campos M, Oliveira VRS, Toniolo EF, Alves AS, Lebrun I, de Andrade DC, Teixeira MJ, Britto LRG, Hamani C, Dale CS. Electrical stimulation of the posterior insula induces mechanical analgesia in a rodent model of neuropathic pain by modulating GABAergic signaling and activity in the pain circuitry. *Brain Res* 2021 epub [PubMed](#)
2. Andrews JC, Roy FD, Stein RB, Ba F, Sankar T. Effect of motor state on postactivation depression of the soleus h-reflex in Parkinson's disease during deep brain stimulation and dopaminergic medication treatment: a pilot study. *J Clin Neurophysiol* 2020 epub [PubMed](#)
3. Balak N. Deep brain stimulation for refractory epilepsy. *Neurochirurgie* 2021 epub [PubMed](#)
4. Baláž M, Filip P, Bočková M, Feitová V, Říha I, Hrabovský D, Chrastina J. Successful asymmetrical deep brain stimulation using right subthalamic and left pallidal electrodes in a patient with Parkinson's disease. *Br J Neurosurg* 2021 epub:1-5 [PubMed](#)
5. Bargiotas P, Nguyen TAK, Bracht T, Mürset M, Nowacki A, Debove I, Muellner J, Michelis JP, Pollo C, Schüpbach WMM, Lachenmayer ML. Long-term outcome and neuroimaging of deep brain stimulation in Holmes tremor: a case series. *Neuromodulation* 2021 epub [PubMed Full Text](#)
6. Beylgeril SB, Murray J, Noecker AM, Gupta P, Kilbane C, McIntyre CC, Shaikh AG, Ghasia FF. Effects of subthalamic deep brain stimulation on fixational eye movements in Parkinson's disease. *J Comput Neurosci* 2021 epub [PubMed](#)
7. Boon LI, Potters WV, Zoon TJC, van den Heuvel OA, Prent N, de Bie RMA, Bot M, Schuurman PR, van den Munckhof P, Geurtsen GJ, Hillebrand A, Stam CJ, van Rootselaar AF, Berendse HW. Structural and functional correlates of subthalamic deep brain stimulation-induced apathy in Parkinson's disease. *Brain Stimul* 2020 14(1):192-201 [PubMed Free Full Text](#)
8. Cavalloni F, Debove I, Lachenmayer ML, Krack P, Pollo C, Schuepbach WMM, Bassetti CLA, Bargiotas P. A case series and systematic review of rapid eye movement sleep behavior disorder outcome after deep brain stimulation in Parkinson's disease. *Sleep Med* 2020 77:170-176 [PubMed Free Full Text](#)
9. Chamaa F, Darwish B, Nahas Z, Al-Chaer ED, Saadé NE, Abou-Kheir W. Long-term stimulation of the anteromedial thalamus increases hippocampal neurogenesis and spatial reference memory in adult rats. *Behav Brain Res* 2021 402:113114 [PubMed](#)
10. Coblenz A, Elias GJB, Boutet A, Germann J, Algarni M, Oliveira LM, Neudorfer C, Widjaja E, Ibrahim GM, Kalia SK, Jain M, Lozano AM, Fasano A. Mapping efficacious deep brain stimulation for pediatric dystonia. *J Neurosurg Pediatr* 2021 epub [PubMed](#)
11. Dembek TA, Baldermann JC, Petry-Schmelzer JN, Jergas H, Treuer H, Visser-Vandewalle V, Dafsaari HS, Barbe MT. Sweetspot mapping in deep brain stimulation: strengths and limitations of current approaches. *Neuromodulation* 2021 epub [PubMed Free Full Text](#)
12. Doshi PK, Rai N, Das D. Surgical and hardware complications of deep brain stimulation-a single surgeon experience of 519 cases over 20 years. *Neuromodulation* 2021 epub [PubMed Full Text](#)
13. Du TT, Chen YC, Zhu GY, Liu DF, Liu YY, Yuan TS, Zhang X, Zhang JG. Anterior thalamic nuclei deep brain stimulation inhibits mossy fiber sprouting via 3',5'-cyclic adenosine monophosphate protein kinase A signaling pathway in a chronic epileptic monkey model. *Chin Med J (Engl)* 2021 epub [PubMed](#)
14. Ehlen F, Al-Fatly B, Kühn AA, Klostermann F. Impact of deep brain stimulation of the subthalamic nucleus on natural language in patients with Parkinson's disease. *PLOS One* 2020 15(12):e0244148 [PubMed Free Full Text](#)

15. Eisenberg HJ, Malinova V, Mielke D, Bähr M, Göricker MB, van Riesen C. ADCY5-induced dyskinetic storm rescued with pallidal deep brain stimulation in a 46-year-old man. *Mov Disord Clin Pract* 2020 8(1):142-144 [PubMed](#) [Free Full Text](#)
16. Fricke P, Nickl R, Breun M, Volkmann J, Kirsch D, Ernestus RI, Steigerwald F, Matthies C. Directional leads for deep brain stimulation: technical notes and experiences. *Stereotact Funct Neurosurg* 2021 epub 1-8 [PubMed](#) [Free Full Text](#)
17. Germann J, Elias GJB, Boutet A, Narang K, Neudorfer C, Horn A, Loh A, Deeb W, Salvato B, Almeida L, Foote KD, Rosenberg PB, Tang-Wai DF, Wolk DA, Burke AD, Salloway S, Sabbagh MN, Chakravarty MM, Smith GS, Lyketsos CG, Okun MS, Lozano AM. Brain structures and networks responsible for stimulation-induced memory flashbacks during forniceal deep brain stimulation for Alzheimer's disease. *Alzheimers Dement* 2021 epub [PubMed](#)
18. Goyal A, Goetz S, Stanslaski S, Oh Y, Rusheen AE, Klassen B, Miller K, Blaha CD, Bennet KE, Lee K. The development of an implantable deep brain stimulation device with simultaneous chronic electrophysiological recording and stimulation in humans. *Biosens Bioelectron* 2021 176:112888 [PubMed](#)
19. Hagiwara K, Sekiguchi F, Munakata M, Yokoyama H, Hino-Fukuyo N, Uematsu M, Jin K, Nagamatsu K, Ando T, Miyake N, Matsumoto N, Kure S. A patient with a 6q22.1 deletion and a phenotype of non-progressive early-onset generalized epilepsy with tremor. *Epilepsy Behav Rep* 2020 15:100405 [PubMed](#) [Free Full Text](#)
20. Hariz M, Hariz GM, Blomstedt P. Longevity of deep brain stimulation batteries; a global survey of neurosurgeons and neurologists. *Mov Disord* 2021 epub [PubMed](#) [Free Full Text](#)
21. Heiden P, Hoevels M, Bayram D, Baldermann JC, Schüller T, Huys D, Visser-Vandewalle V, Andrade P. Connectivity patterns of deep brain stimulation targets in patients with Gilles de la Tourette syndrome. *Brain Sci* 2021 11(1):E87 [PubMed](#) [Free Full Text](#)
22. Jones JD, Orozco T, Bowers D, Hu W, Jabarkheel Z, Chiu S, Ramirez-Zamora A, Foote K, Okun MS, Wagle Shukla A. Cognitive outcomes for essential tremor patients selected for thalamic deep brain stimulation surgery through interdisciplinary evaluations. *Front Hum Neurosci* 2020 14:578348 [PubMed](#) [Free Full Text](#)
23. Jones MR, Baskaran AB, Nolt MJ, Rosenow JM. Intraoperative computed tomography for registration of stereotactic frame in frame-based deep brain stimulation. *Oper Neurosurg (Hagerstown)* 2020 opaa361 [PubMed](#)
24. Jørgensen LM, Henriksen T, Mardosiene S, Keller SH, Stenbæk DS, Hansen HD, Jespersen B, Thomsen C, Weikop P, Svarer C, Knudsen GM. Parkinson patients have a presynaptic serotonergic deficit: a dynamic deep brain stimulation PET study. *J Cereb Blood Flow Metab* 2021 epub [PubMed](#)
25. Kashyap S, Ceponiene R, Savla P, Bernstein J, Ghanchi H, Ananda A. Resolution of tardive tremor after bilateral subthalamic nucleus deep brain stimulation placement. *Surg Neurol Int* 2020 11:444 [PubMed](#) [Free Full Text](#)
26. Krause P, Koch K, Gruber D, Kupsch A, Gharabaghi A, Schneider GH, Kühn AA. Long-term effects of pallidal and thalamic deep brain stimulation in myoclonus dystonia. *Eur J Neurol* 2021 epub [PubMed](#)
27. Kwong AK, Tsang MH, Fung JL, Mak CC, Chan KL, Rodenburg RJT, Lek M, Huang S, Pajuslu S, Yau MM, Tsoi C, Fung S, Liu KT, Ma CK, Wong S, Yau EK, Tai SM, Fung EL, Wu NS, Tsung LY, Smeitink J, Chung BH, Fung CW. Exome sequencing in paediatric patients with movement disorders. *Orphanet J Rare Dis* 2021 16(1):32 [PubMed](#) [Free Full Text](#)
28. Lähde N, Basnyat P, Lehtinen H, Rainesalo S, Rosti-Otajärvi E, Peltola J. EpiTrack is a feasible tool for assessing attention and executive functions in patients with refractory epilepsy. *Epilepsy Behav* 2020 115:107691 [PubMed](#)
29. Lai Y, Song Y, Su D, Wang L, Zhang C, Sun B, Nonnekes J, Bloem BR, Li D. Pallidal stimulation as

- treatment for camptocormia in Parkinson's disease. *NPJ Parkinsons Dis* 2021 7(1):8 [PubMed](#) [Free Full Text](#)
30. Lam J, Lee J, Williams M, Cohn M, Wilson M, Mark C, Esnaashari N, Petkus A, Hui J, Feigenbaum D, Liker M, Liu CY, Lee B, Lee DJ. Cognitive effects of theta frequency bilateral subthalamic nucleus stimulation in Parkinson's disease: a pilot study. *Brain Stimul* 2021 epub [PubMed](#) [Free Full Text](#)
31. Lévy JP, Nguyen TAK, Lachenmayer L, Debove I, Tinkhauser G, Petermann K, Amil AS, Michelis J, Schüpbach M, Nowacki A, Pollo C. Structure-function relationship of the posterior subthalamic area with directional deep brain stimulation for essential tremor. *Neuroimage Clin* 2020 28:102486 [PubMed](#) [Free Full Text](#)
32. Lippmann B, Barmashenko G, Funke K. Effects of repetitive transcranial magnetic and deep brain stimulation on long-range synchrony of oscillatory activity in a rat model of developmental schizophrenia. *Eur J Neurosci* 2021 epub [PubMed](#) [Free Full Text](#)
33. Lopez-Sosa F, Reneses B, Sanmartino F, Galarza-Vallejo A, Garcia-Albea J, Cruz-Gomez AJ, Yebra M, Oliviero A, Barcia JA, Strange BA, Gonzalez-Rosa JJ. Nucleus accumbens stimulation modulates inhibitory control by right prefrontal cortex activation in obsessive-compulsive disorder. *Cereb Cortex* 2021 epub bhaa397 [PubMed](#)
34. Lu C, Amundsen Huffmaster SL, Louie KH, Sovell-Brown K, Vitek JL, MacKinnon CD, Cooper SE. Pallidal oscillation dynamics following cessation of deep brain stimulation in Parkinson's disease. *Mov Disord* 2020 35(9):1697-1698 [PubMed](#) [Free Full Text](#)
35. Mahmoudzadeh M, Wallois F, Tir M, Krystkowiak P, Lefranc M. Cortical hemodynamic mapping of subthalamic nucleus deep brain stimulation in Parkinsonian patients, using high-density functional near-infrared spectroscopy. *PLOS One* 2021 16(1):e0245188 [PubMed](#) [Free Full Text](#)
36. Melo M, Furlanetti L, Hasegawa H, Mundil N, Ashkan K. Comparison of direct MRI guided versus atlas-based targeting for subthalamic nucleus and globus pallidus deep brain stimulation. *Br J Neurosurg* 2021 epub 1-6 [PubMed](#)
37. Micheli F, Vissani M, Pecchioli G, Terenzi F, Ramat S, Mazzoni A. Impulsivity markers in parkinsonian subthalamic single-unit activity. *Mov Disord* 2021 epub [PubMed](#)
38. Miller KM, Patterson JR, Kochmanski J, Kemp CJ, Stoll AC, Onyekpe CU, Cole-Strauss A, Steele-Collier K, Howe JW, Luk KC, Sortwell CE. Striatal afferent BDNF is disrupted by synucleinopathy and partially restored by STN DBS. *J Neurosci* 2021 epub [PubMed](#)
39. Minbashi Moeini M, Sadr SS, Riahi E. Deep brain stimulation of the lateral hypothalamus facilitates extinction and prevents reinstatement of morphine place preference in rats. *Neuromodulation* 2021 epub [PubMed](#) [Full Text](#)
40. Morrison MA, Lee AT, Martin AJ, Dietiker C, Brown EG, Wang DD. DBS targeting for essential tremor using intersectional dentato-rubro-thalamic tractography and direct proton density visualization of the VIM: technical note on 2 cases. *J Neurosurg* 2021 epub 1-9 [PubMed](#)
41. Nayak R, Lee J, Chantigan SA, Fatemi M, Chang SY, Alizad A. Imaging the response to deep brain stimulation in rodent using functional ultrasound. *Phys Med Biol* 2021 epub [PubMed](#) [Free Full Text](#)
42. Noecker AM, Frankemolle-Gilbert AM, Howell B, Petersen MV, Beylergil SB, Shaikh AG, McIntyre CC. StimVision v2: examples and applications in subthalamic deep brain stimulation for Parkinson's disease. *Neuromodulation* 2021 epub [PubMed](#) [Full Text](#)
43. Parastarfeizabadi M, Sillitoe RV, Kouzani AZ. Multi-disease deep brain stimulation. *IEEE Access* 2020 8:216933-216947 [PubMed](#) [Free Full Text](#)
44. Peng RC, Liu XX, Ke Y, Yung WH. Randomized cortical stimulation could ameliorate locomotive inability in Parkinsonian rats: a pilot study. *Biomed Phys Eng Express* 2020 6(2):027002 [PubMed](#)
45. Petry-Schmelzer JN, Dembek TA, Steffen JK, Jergas H, Dafsari HS, Fink GR, Visser-Vandewalle V, Barbe MT. Selecting the most effective DBS contact in essential tremor patients based on

- individual tractography. *Brain Sci* 2020 10(12):1015 [PubMed Free Full Text](#)
46. Piano C, Bove F, Tufo T, Imbimbo I, Genovese D, Stefani A, Marano M, Peppe A, Brusa L, Cerroni R, Motolese F, Di Stasio E, Mazza M, Daniele A, Olivi A, Calabresi P, Bentivoglio AR; Lazio DBS Study Group. Effects of COVID-19 lockdown on movement disorders patients with deep brain stimulation: a multicenter survey. *Front Neurol* 2020 11:616550 [PubMed Free Full Text](#)
47. Poláková K, Růžička E, Jech R, Kemlink D, Rusz J, Miletínová E, Brožová H. 3D visual cueing shortens the double support phase of the gait cycle in patients with advanced Parkinson's disease treated with DBS of the STN. *PLOS One* 2020 15(12):e0244676 [PubMed Free Full Text](#)
48. Ramezani Ghamsari M, Ghourchian S, Emamikhah M, Safdarian M, Shahidi G, Parvaresh M, Moghaddasi M, Habibi SAH, Munhoz RP, Rohani M. Long term follow-up results of deep brain stimulation of the globus pallidus interna in pediatric patients with DYT1-positive dystonia. *Clin Neurol Neurosurg* 2020 201:106449 [PubMed](#)
49. Rissanen SM, Koivu M, Hartikainen P, Pekkonen E. Ambulatory surface electromyography with accelerometry for evaluating daily motor fluctuations in Parkinson's disease. *Clin Neurophysiol* 2020 132(2):469-479 [PubMed](#)
50. Rocha AL, Oliveira A, Sousa C, Monteiro P, Rosas MJ, Vaz R. Long term mortality of patients with Parkinson's disease treated with deep brain stimulation in a reference center. *Clin Neurol Neurosurg* 2021 202:106486 [PubMed](#)
51. Scangos KW, Makhoul GS, Sugrue LP, Chang EF, Krystal AD. State-dependent responses to intracranial brain stimulation in a patient with depression. *Nat Med* 2021 epub [PubMed](#)
52. Schumacher FK, Schumacher LV, Amtage F, Horn A, Egger K, Piroth T, Weiller C, Schelter BO, Coenen VA, Kaller CP. The rostro-caudal gradient in the prefrontal cortex and its modulation by subthalamic deep brain stimulation in Parkinson's disease. *Sci Rep* 2021 11(1):2138 [PubMed Free Full Text](#)
53. Sharma VD, Buetefisch CM, Kendall FD, Gross RE, DeLong MR, Juncos JL. Secondary dystonia in a novel mitochondrialopathy responsive to deep brain stimulation therapy. *Mov Disord Clin Pract* 2020 8(1):135-138 [PubMed](#)
54. Shils J, Kochanski RB, Borghei A, Candocia A, Pal GD, Afshari M, Verhagen LM, Sani S. Motor evoked potential recordings during segmented deep brain stimulation-a feasibility study. *Oper Neurosurg (Hagerstown)* 2021 opaa414 [PubMed](#)
55. Stavropoulos I, Selway R, Hasegawa H, Hughes E, Rittey C, Jiménez-Jiménez D, Valentin A. Low frequency centromedian thalamic nuclei deep brain stimulation for the treatment of super refractory status epilepticus: a case report and a review of the literature. *Brain Stimul* 2020 epub [PubMed Free Full Text](#)
56. Tao R, Xue C, Yang C, Simfukwe K, Hu X, Wu X, Bi H. Reconstruction of chronic scalp erosion after deep brain stimulation surgery. *J Plast Reconstr Aesthet Surg* 2020 epub [PubMed](#)
57. Tisch S, Kumar KR. Pallidal deep brain stimulation for monogenic dystonia: the effect of gene on outcome. *Front Neurol* 2021 11:630391 [PubMed Free Full Text](#)
58. Tsolaki E, Sheth SA, Pouratian N. Variability of white matter anatomy in the subcallosal cingulate area. *Hum Brain Mapp* 2021 epub [PubMed Free Full Text](#)
59. van den Wildenberg WPM, van Wouwe NC, Ridderinkhof KR, Neimat JS, Elias WJ, Bashore TR, Wylie SA. Deep-brain stimulation of the subthalamic nucleus improves overriding motor actions in Parkinson's disease. *Behav Brain Res* 2021 epub 113124 [PubMed Free Full Text](#)
60. van der Vlis TAMB, Ackermans L, Mulders AEP, Vrij CA, Schruers K, Temel Y, Duits A, Leentjens AFG. Ventral capsule/ventral striatum stimulation in obsessive-compulsive disorder: toward a unified connectomic target for deep brain stimulation? *Neuromodulation* 2020 epub [PubMed Free Full Text](#)
61. van Wouwe NC, Neimat JS, van den Wildenberg WPM, Hughes SB, Lopez AM, Phibbs FT, Schall JD, Rodriguez WJ, Bradley EB, Dawant BM, Wylie SA. Subthalamic nucleus subregion stimulation

- modulates inhibitory control. *Cereb Cortex Commun* 2020 1(1):tgaa083 [PubMed Free Full Text](#)
62. van Zwieten G, Roberts MJ, Schaper FL, Smit JV, Temel Y, Janssen MLF. Noise-induced neurophysiological alterations in the rat medial geniculate body and thalamocortical desynchronization by deep brain stimulation. *J Neurophysiol* 2021 epub [PubMed](#)
  63. Veraart JKE, Kamphuis J, Schlegel M, Schoevers RA. Oral S-ketamine effective after deep brain stimulation in severe treatment-resistant depression and extensive comorbidities. *BMJ Case Rep* 2021 14(1):e238135 [PubMed Free Full Text](#)
  64. Viana MB, Martins RS, Silva MSCF, Xapelli S, Vaz SH, Sebastião AM. Deep brain stimulation of the dorsal raphe abolishes serotonin 1A facilitation of AMPA receptor-mediated synaptic currents in the ventral hippocampus. *Behav Brain Res* 2021 epub [PubMed](#)
  65. Wang A, Molho E, Yang Y, Pilitsis J, Ramirez-Zamora A. Dissociative tremor response with pallidal deep brain stimulation in Parkinson's disease. *Tremor Other Hyperkinet Mov (NY)* 2020 10:53 [PubMed Free Full Text](#)
  66. Wang T, Zhang Y, Pan Y, Wang L, Zhang C, Liu J, Bian L, Sun B, Li D. Development and initial validation of the Chinese version of the Florida Surgical Questionnaire for Parkinson's Disease. *Parkinsons Dis* 2020 2020:8811435 [PubMed Free Full Text](#)
  67. Wu W, Zhou J, Huang P, Pan C, Huang Z, Xu C. Antifriction mechanism of longitudinal vibration-assisted insertion in DBS. *Ann Biomed Eng* 2021 epub [PubMed](#)
  68. Yakufujiang M, Higuchi Y, Aoyagi K, Yamamoto T, Sakurai T, Abe M, Okahara Y, Izumi M, Nagano O, Yamanaka Y, Hirano S, Shiina A, Murata A, Iwadate Y. Predicting neurocognitive change after bilateral deep brain stimulation of subthalamic nucleus for Parkinson's disease. *World Neurosurg* 2020 epub [PubMed](#)
  69. Yamahata H, Horisawa S, Hodotsuka K, Kawamata T, Taira T. Long-term successful outcome of dystonic head tremor after bilateral deep brain stimulation of the ventral intermediate and ventro-oral internus nuclei: a case report and literature review of dystonic head tremor. *Stereotact Funct Neurosurg* 2021 epub 1-6 [PubMed](#)
  70. Yan H, Elkaim L, Loh A, Boutet A, Germann J, Elias GJ, Lozano AM, Ibrahim GM. Lesions causing self-injurious behavior engage putative networks modulated by deep brain stimulation. *Brain Stimul* 2021 epub [PubMed Free Full Text](#)

#### **Dorsal Root Ganglion Stimulation (now 158 citations, with 9 completed WIKISTIM abstracts)**

1. Bridger C, Prabhala T, Dawson R, Khazen O, MacDonell J, DiMarzio M, Staudt MD, De EJB, Argoff C, Pilitsis JG. Neuromodulation for chronic pelvic pain: a single-institution experience with a collaborative team. *Neurosurgery* 2020 epub nyaa537 [PubMed](#)
2. Chapman KB, van Roosendaal BK, Yousef TA, Vissers KC, van Helmond N. Dorsal root ganglion stimulation normalizes measures of pain processing in patients with chronic low back pain: a prospective pilot study using quantitative sensory testing. *Pain Pract* 2020 epub [PubMed](#)
3. Parker T, Divanbeighi AP, Huang Y, Aziz TZ, Sverrisdottir YB, Green AL. Dorsal root ganglion stimulation: a new target for autonomic neuromodulation? *Clin Auton Res* 2021 epub [PubMed](#)
4. Sankarasubramanian V, Chiravuri S, Mirzakhalili E, Anaya CJ, Scott JR, Brummett CM, Clauw DJ, Patil PG, Harte SE, Lempka SF. Quantitative sensory testing of spinal cord and dorsal root ganglion stimulation in chronic pain patients. *Neuromodulation* 2021 epub [PubMed Full Text](#)

#### **Gastric Electrical Stimulation (now 507 citations)**

1. Leitzke M, Schimpf S, Altrock M, Schönknecht P, Bischoff S, Schubert H, Hoyer D, Bauer R, Olbrich S. Afferent vagal stimulation via gastric electrical stimulation alters sympathetic-vagal balance in domestic pigs - a pilot trial. *J Biol Regul Homeost Agents* 2021 35(1) [PubMed Free Full Text](#)
2. Tan ZT, Ward M, Phillips RJ, Zhang X, Jaffey DM, Chesney L, Rajwa B, Baronowsky EA, McAdams J, Powley TL. Stomach region stimulated determines effects on duodenal motility in rats. *Am J*

**Peripheral Nerve Stimulation (now 485 citations, with 6 completed WIKISTIM abstracts)**

1. Baudry S, Duchateau J. Changes in corticospinal excitability during the preparation phase of ballistic and ramp contractions. *J Physiol* 2021 epub [PubMed](#)
2. English A, Drummond PD. Acoustic startle stimuli inhibit pain but do not alter nociceptive flexion reflexes to sural nerve stimulation. *Psychophysiology* 2021 epub [PubMed](#)
3. Gabriel RA, Ilfeld BM. Acute postoperative pain management with percutaneous peripheral nerve stimulation: the SPRINT neuromodulation system. *Expert Rev Med Devices* 2021 epub [PubMed](#)
4. Habekost B, Germann M, Baker SN. Plastic changes in primate motor cortex following paired peripheral nerve stimulation. *J Neurophysiol* 2020 epub [PubMed](#)
5. Hokanson JA, Langdale CL, Sridhar A, Milliken P, Grill WM. State-dependent bioelectronic interface to control bladder function. *Sci Rep* 2021 11(1):314 [PubMed Free Full Text](#)
6. Page DM, George JA, Wendelken SM, Davis TS, Kluger DT, Hutchinson DT, Clark GA. Discriminability of multiple cutaneous and proprioceptive hand percepts evoked by intraneuronal stimulation with Utah slanted electrode arrays in human amputees. *J Neuroeng Rehabil* 2021 18(1):12 [PubMed Free Full Text](#)

**Spinal Cord Stimulation (now 2678 citations, with 133 completed or partially completed WIKISTIM abstracts)**

1. Al-Kaisy A, Vajramani G, Love-Jones S, Patel NK, Royds J, Palmisani S, Pang D, Wesley S, Park HJ, Raza A, Agnesi F. Multicentre, clinical trial of burst spinal cord stimulation for neck and upper limb pain NU-BURST: a trial protocol. *Neurol Sci* 2021 epub [PubMed](#)
2. Barkley JE, Vucetic H, Leone D, Mehta B, Rebold M, Kobak M, Carnes A, Farnell G. Increased physical activity and reduced pain with spinal cord stimulation: a 12-month study. *Int J Exerc Sci* 2020 13(3):1583-1594 [PubMed Free Full Text](#)
3. Choi EJ, Ri HS, Park H, Kim HJ, Yoon JU, Byeon GJ. Unexpected extrusion of the implantable pulse generator of the spinal cord stimulator - a case report. *Anesth Pain Med (Seoul)* 2021 epub [PubMed Free Full Text](#)
4. Goudman L, Van Buyten JP, De Smedt A, Smet I, Devos M, Jerjir A, Moens M. Predicting the response of high frequency spinal cord stimulation in patients with failed back surgery syndrome: a retrospective study with machine learning techniques. *J Clin Med* 2020 9(12):4131 [PubMed Free Full Text](#)
5. Goyal A, Bhandarkar AR, Kerezoudis P, Lamer TJ, Gazelka HM, Belzberg AJ, North RB, Bydon M. Trends in utilization and cost of inpatient spinal cord stimulation: analysis of data from 2008 to 2014. *World Neurosurg* 2020 epub [PubMed](#)
6. Lu Y, Xie D, Zhang X, Dong S, Zhang H, Yu B, Wang G, Wang JJ, Li L. Management of intractable pain in patients with implanted spinal cord stimulation devices during the COVID-19 pandemic using a remote and wireless programming system. *Front Neurosci* 2020 14:594696 [PubMed Free Full Text](#)
7. Motov S, Aftahy K, Jörger AK, Wagner A, Meyer B, Shiban E. High-frequency spinal cord stimulation in failed back surgery syndrome patients with predominant low back pain-single-center experience. *Neurosurg Rev* 2021 epub [PubMed Free Full Text](#)
8. Pinto de Souza C, Coelho DB, Campos DDSF, Dos Santos Ghilardi MG, de Oliveira Vicente EC, González-Salazar C, Junior MCF, Barsottini OGP, Pedroso JL, Fonoff ET. Spinal cord stimulation improves motor function and gait in spastic paraparesis type 4 (SPG4): clinical and neurophysiological evaluation. *Parkinsonism Relat Disord* 2020 83:1-5 [PubMed](#)
9. Yao Q, Guan J, Ma L, Cheng L, Duan F, Xu F, Zhao W, Duan W, Wu H, Chen Z, Jian F. Wireless epidural electrical stimulation in combination with serotonin agonists improves intraspinal

- metabolism in spinal cord injury rats. *Neuromodulation* 2020 epub [PubMed Full Text](#)
10. Ahmadi R, Campos B, Hajiabadi MM, Doerr-Harim C, Tenckhoff S, Rasche D, Unterberg A, Vesper J, Bruckner T, Tronnier V. Efficacy of different spinal cord stimulation paradigms for the treatment of chronic neuropathic pain (PARS-trial): study protocol for a double-blinded, randomized, and placebo-controlled crossover trial. *Trials* 2021 22(1):87 [PubMed Free Full Text](#)
  11. Canós-Verdecho A, Abejón D, Robledo R, Izquierdo R, Bermejo A, Gallach E, Argente P, Peraita-Costa I, Morales-Suárez-Varela M. Randomized prospective study in patients with complex regional pain syndrome of the upper limb with high-frequency spinal cord stimulation (10-kHz) and low-frequency spinal cord stimulation. *Neuromodulation* 2021 epub [PubMed Full Text](#)
  12. Goudman L, De Smedt A, Forget P, Eldabe S, Moens M. High-dose spinal cord stimulation reduces long-term pain medication use in patients with failed back surgery syndrome who obtained at least 50% pain intensity and medication reduction during a trial period: a registry-based cohort study. *Neuromodulation* 2021 epub [PubMed Full Text](#)
  13. Hagedorn JM, Deer TR, Canzanello NC, Covington SM, Schroeder DR, Bendel MA, Moeschler SM, Hooten WM. Differences in calculated percentage improvement versus patient-reported percentage improvement in pain scores: a review of spinal cord stimulation trials. *Reg Anesth Pain Med* 2021 epub rapm-2020-102238 [PubMed](#)
  14. Hagedorn JM, Lam CM, D'Souza RS, Sayed D, Bendel MA, Ha CT, Romero J, Hall M, Freeman E, Richardson BF, Hoelzer BC. Explantation of 10 kHz spinal cord stimulation devices: a retrospective review of 744 patients followed for at least 12 months. *Neuromodulation* 2021 epub [PubMed Full Text](#)
  15. Hofstoetter US, Danner SM, Freundl B, Binder H, Lackner P, Minassian K. Ipsi- and contralateral oligo- and polysynaptic reflexes in humans revealed by low-frequency epidural electrical stimulation of the lumbar spinal cord. *Brain Sci* 2021 11(1):112 [PubMed Free Full Text](#)
  16. Hwang BY, Negoita S, Duy PQ, Tesay Y, Anderson WS. Opioid use and spinal cord stimulation therapy: the long game. *J Clin Neurosci* 2021 84:50-52 [PubMed](#)
  17. Patel N, Calodney A, Kapural L, Province-Azalde R, Lad SP, Pilitsis J, Wu C, Cherry T, Subbaroyan J, Gliner B, Caraway D. High-frequency spinal cord stimulation at 10 kHz for the treatment of nonsurgical refractory back pain: design of a pragmatic, multicenter, randomized controlled trial. *Pain Pract* 2020 epub [PubMed Free Full Text](#)
  18. Sankarasubramanian V, Chiravuri S, Mirzakhahili E, Anaya CJ, Scott JR, Brummett CM, Clauw DJ, Patil PG, Harte SE, Lempka SF. Quantitative sensory testing of spinal cord and dorsal root ganglion stimulation in chronic pain patients. *Neuromodulation* 2021 epub [PubMed Full Text](#)

### **Sacral Nerve Stimulation (now 1064 citations)**

1. Alghazwani Y, Alghafees MA, Alfraidi O, Aldarrab R. Sacral neuromodulation in a pregnant patient with Fowler's syndrome: a case report. *Cureus* 2020 12(11):e11796 [PubMed Free Full Text](#)
2. Hendrickson WK, Amundsen CL. Sacral neuromodulation: troubleshooting needle placement. *Int Urogynecol J* 2021 epub [PubMed](#)
3. Hofstoetter US, Perret I, Bayart A, Lackner P, Binder H, Freundl B, Minassian K. Spinal motor mapping by epidural stimulation of lumbosacral posterior roots in humans. *iScience* 2020 24(1):101930 [PubMed Free Full Text](#)
4. Meng L, Diao T, Wang M, Liu X, Zhang W, Tian Z, Wang J, Zhang Y. Variable frequency stimulation of sacral neuromodulation in black-zone overactive bladder patients: a case report. *Transl Androl Urol* 2020 9(6):2842-2847 [PubMed Free Full Text](#)
5. Meurette G, Siproudhis L, Leroi AM, Damon H, Keller DUJ, Faucheron JL; French Faecal Registry Study Group. Sacral neuromodulation with the Interstim<sup>tm</sup> system for faecal incontinence: results from a prospective French multicentre observational study. *Colorectal Dis* 2021 epub [PubMed](#)

6. Sampogna G, Montanari E, Spinelli M. Computer-assisted lead placement for peripheral nerve evaluation test in a candidate for sacral neuromodulation. *Int Neurotol J* 2020 24(4):382-386  
[PubMed](#) [Free Full Text](#)

### If WIKISTIM SAVES YOU TIME. . . WIKISTIM SAVES YOU MONEY!

Contributions to The Neuromodulation Foundation are tax-deductible for United States tax-payers aged 70 1/2 who contribute directly from an Individual Retirement Account or for those who itemize deductions. A special provision of the 2020 CARES Act allows all United States tax-payers to deduct up to \$300 in charitable contributions whether or not they itemize deductions.

We welcome and acknowledge all donations. While we aren't operating at the level where we can afford to collect donations via credit cards, the PAYPAL option on the [DONATE](#) page is available for your convenience, or you may, of course, ask your bank to send a check to The Neuromodulation Foundation, Inc., 117 East 25th Street, Baltimore, MD 21218.

The Internal Revenue Service judges our suitability to continue as a 501(c)(3) non-profit charitable corporation based on the level of public support we receive. Please join the donors listed below and on our website with a contribution large or small. Please encourage institutional and corporate donors as well. We'd love to add your name and theirs to our list of financial supporters below!

#### Individual supporters 2019-21:

- Thomas Abell, MD
- Kenneth Chapman, MD
- Richard B. North, MD
- B. Todd Sitzman, MD, MPH
- Konstantin Slavin, MD, PhD

#### Industry support 2019-21:

- Medtronic
- Stimwave

#### Nonprofit support:

- The North American Neuromodulation Society (publicity, conference registration, grant)
- The International Neuromodulation Society (publicity and conference registration)
- The Neuromodulation Foundation, Inc. (WIKISTIM's parent organization)

### EDITORIAL BOARD

#### Editor-in-chief

[Richard B. North, MD](#)

#### Section editors

[Thomas Abell, MD](#), Gastric Electrical Stimulation

Tracy Cameron, PhD, Peripheral Nerve Stimulation

[Roger Dmochowski, MD](#), Sacral Nerve Stimulation

Robert Foreman, MD, PhD, Experimental Studies

[Elliot Krames, MD](#), Dorsal Root Ganglion Stimulation

[Bengt Linderoth, MD, PhD](#), Experimental Studies

[Richard B. North, MD](#), Spinal Cord Stimulation

B. Todd Sitzman, MD, MPH, At Large

[Konstantin Slavin, MD, PhD](#), Deep Brain Stimulation  
[Kristl Vonck, MD, PhD](#), Deep Brain Stimulation for Epilepsy  
Richard Weiner, MD, Peripheral Nerve Stimulation  
[Jonathan Young, MD](#), Noninvasive Brain Stimulation  
To be determined, Vagus Nerve Stimulation

**Managing editor**

[Jane Shipley](#)

**Disclosure**

WIKISTIM includes citations for indications that are or might be considered off-label in the United States.

**A reminder about personal information**

We never share our registrants' personal information or email addresses.

**CONTACT**

The Neuromodulation Foundation, Inc.  
117 East 25th Street  
Baltimore, MD 21218  
[wikistim@gmail.com](mailto:wikistim@gmail.com)