February 2017 News **PLEASE FORWARD TO YOUR COLLEAGUES** **www.wikistim.org**

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DONATIONS

This month, we were grateful to receive an individual donation from our GES Section Editor Thomas Abell, MD. Please visit the ***DONATE*** link on the WIKISTIM homepage for information on tax-deductible donations! Our goal is to keep WIKISTIM available free of charge.

FROM THE MANAGING EDITOR

If you take a moment to compare the statistics we reported in our February 2016 newsletter (reproduced below) with those we report in this issue, you will see that WIKISTIM continues to grow. Thanks to our exposure at NANS and to people spreading the word, our number of subscribers jumped this month. Our list of DBS citations is, we believe, comprehensive for OCD, treatment-resistant depression, and epilepsy, and we continue to add to the Parkinson's database each month (we don't list the old citations that we add in the newsletter—just what is new). We also believe that our lists for DRG, GES, SCS, and SNS are comprehensive, as well as our list of PNFS papers (and we look forward to tackling the thousands of PNS papers). We are in the process of developing two new sections (motor cortex stimulation and non-invasive brain stimulation), and we continually perform quality improvements, such as updating epubs with definitive citation information as it becomes available.

WIKISTIM already offers several services that we now point out to new registrants and will take this opportunity to review:

- Curated lists of papers reporting primary data
  - Presented by stimulation target
  - Updated monthly
  - Can be sorted by author, title, journal, publication year, data abstraction completion status
  - Can and do include some not available in PUBMED
  - Consistent and bibliography-friendly capitalization of titles
- Search capability for each stimulation target section
- Each stimulation target has a customized list of data categories for:
  - Uploading WIKI-abstracted data from a paper or abstract
  - **Creation of evidence tables (when completed)**
  - Study design
  - Manuscript creation
  - Peer review
- Online view of individual papers shows each data heading but only rows with data completed (all entries show citation data)
- Multiple (or single) datasheets can be downloaded into CSV spreadsheet from the list of papers or from a search. This spreadsheet exhibits all data headings and rows to permit comparison.
- Discussion section makes it possible to keep papers current by allowing:
  - Unlimited conversation about a paper

Immediate correction of errors
- Free CME credits are available for data abstraction
- Monthly email newsletter lists new citations for each stimulation target

The emphasis on "Creation of evidence tables (when completed)" reflects the fact that the value of WIKISTIM will increase exponentially when all possible data are abstracted from all of the papers cited. This is a huge task and requires careful consideration of the papers. It would obviously be easiest for authors to submit their own datasheets, since they know their work best, and we encourage everyone to use a datasheet from the time of study design through manuscript preparation so that the completed form will be ready to submit to WIKISTIM as soon as an abstract or paper has been accepted for publication. (And, yes, we will include data from any abstract accepted for presentation at a scientific conference.) We are in the process of exploring ways to make this hyper-abstraction task easier and more pleasant, and, to emphasize also the second-to-last bullet point above, we offer CME credit for completion of a data sheet.

LAST YEAR'S STATISTICS (February 2016):

- 307 subscribers
- DBS citations 1671
- DRG citations 31
- GES citations 469
- PNS citations 26
- SCS citations 1864
- SNS citations 753

CURRENT February 2017 Status

- 436 subscribers
- DBS citations 2863
- DRG citations 43
- GES citations 472
- PNS citations 48
- SCS citations 2010
- SNS citations 814

CITATIONS OF NEW PAPERS THAT REPORT PRIMARY DATA ADDED FEBRUARY 2017

DBS Depression (adding to our comprehensive list)

1. Bergfeld IO, Mantione M, Hoogendoorn ML, Ruhé HG, Horst F, Notten P, van Laarhoven J, van den Munckhof P, Beute G, Schuurman PR, Denys D. Impact of deep brain stimulation of the ventral anterior limb of the internal capsule on cognition in depression. Psychol Med 2017 epub 1-12 https://www.ncbi.nlm.nih.gov/pubmed/28179035
2. Birchall EL, Walker HC, Cutter G, Guthrie S, Joop A, Memon RA, Watts RL, Standaert DG, Amara AW. The effect of unilateral subthalamic nucleus deep brain stimulation on depression in Parkinson's disease. Brain Stimul 2016 epub https://www.ncbi.nlm.nih.gov/pubmed/28065487
3. Tsolaki E, Espinoza R, Pouratian N. Using probabilistic tractography to target the subcallosal cingulate cortex in patients with treatment resistant depression. Psychiatry Res 2017 261:72-74 https://www.ncbi.nlm.nih.gov/pubmed/28142056

DBS Epilepsy (adding to our comprehensive list)

1. Picillo M, Rohani M, Lozano AM, Fasano A. Two indications, one target: concomitant epilepsy and Tourettism treated with centromedian/parafascicular thalamic stimulation. Brain Stimul 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28117177
2. Tröster AI, Meador KJ, Irwin CP, Fisher RS; SANTE Study Group. Memory and mood outcomes

after anterior thalamic stimulation for refractory partial epilepsy. Seizure 2016 45:133-141 https://www.ncbi.nlm.nih.gov/pubmed/28061418

DBS OCD (adding to our comprehensive list)

1. Calandrella D, Rizzi M, Ferré FM, Romito LM. Excoriation disorder as a risk factor for deep brain stimulation hardware removal. J Neurol Sci 2017 373:342-343 https://www.ncbi.nlm.nih.gov/pubmed/28131218

DBS PD & Miscellaneous (we only list recent publications here even though we continue to add older citations to the database)

1. Bentley JN, Guan Z, Cummings KS, Chou KL, Patil PG. Influence of intracranial air on electrode position and clinical outcomes following deep brain stimulation for Parkinson's disease. Stereotact Funct Neurosurg 2017 95(1):6-12 https://www.ncbi.nlm.nih.gov/pubmed/28088795
2. Coelho M, Abreu D, Correia-Guedes L, Lobo PP, Fabbri M, Godinho C, Domingos J, Albuquerque L, Freitas V, Pereira JM, Cattoni B, Carvalho H, Reimão S, Rosa MM, Ferreira AG, Ferreira JJ. Disability in activities of daily living and severity of dyskinesias determine the handicap of Parkinson's disease patients in advanced stage selected to DBS. J Parkinsons Dis 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28157106
3. Constantinescu R, Eriksson B, Jansson Y, Johnels B, Holmberg B, Gudmundsdottir T, Renck A, Berglund P, Bergquist F. Key clinical milestones 15 years and onwards after DBS-STN surgery—a retrospective analysis of patients that underwent surgery between 1993 and 2001. Clin Neurol Neurosurg 2017 154:43-48 https://www.ncbi.nlm.nih.gov/pubmed/28113102
4. Foki T, Hitzl D, Pirker W, Novak K, Pusswald G, Auff E, Lehrner J. Assessment of individual cognitive changes after deep brain stimulation surgery in Parkinson's disease using the Neuropsychological Test Battery Vienna short version. Wien Klin Wochenschr 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28176003
5. Fukaya C, Watanabe M, Kobayashi K, Oshima H, Yoshino A, Yamamoto T. Predictive factors for long-term outcome of subthalamic nucleus deep brain stimulation for Parkinson's disease. Neurol Med Chir (Tokyo) 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28154341
6. Gratkowski M, Storzer L, Butz M, Schnitzler A, Saupe D, Dalal SS. BrainCycles: experimental setup for the combined measurement of cortical and subcortical activity in Parkinson's disease patients during cycling. Front Hum Neurosci 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28119591
7. Khabarova EA, Denisova NP, Rogov DY, Dmitriev AB. The preliminary results of subthalamic nucleus stimulation after destructive surgery in Parkinson's disease. Russian. Zh Vopr Neirokhir Im N N Burdenko 2016 80(6):36-41 https://www.ncbi.nlm.nih.gov/pubmed/28139571
8. Maier F, Lewis CJ, Eggers C, Kühn AA, Krug H, Volkmann J, Kirsch AD, Wojtecki L, Schnitzler A, Deuschl G, Krauss JK, Woopen C, Timmermann L. Development and validation of the deep brain stimulation impairment scale (DBS-IS). Parkinsonism Relat Disord 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28089264
9. Mehanna R, Machado AG, Connett JE, Alsaloum F, Cooper SE. Intraoperative microstimulation predicts outcome of postoperative macrostimulation in subthalamic nucleus deep brain stimulation for Parkinson's disease. Neuromodulation 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28093818
10. Péron J, Renaud O, Haegelen C, Tamarit L, Milesi V, Houvenaghel JF, Dondaine T, Vérin M, Sauleau P, Grandjean D. Vocal emotion decoding in the subthalamic nucleus: an intracranial ERP study in Parkinson's disease. Brain Lang 2017 168:1-11 https://www.ncbi.nlm.nih.gov/pubmed/28088666

11. Philipsson J, Sjöberg RL, Yelnik J, Blomstedt P. Acute severe depression induced by stimulation of the right globus pallidus internus. Neurocase 2017 epub 1-4 https://www.ncbi.nlm.nih.gov/pubmed/28165911
12. Qian X, Chen Y, Feng Y, Ma B, Hao H, Li L. A method for removal of deep brain stimulation artifact from local field potentials. IEEE Trans Neural Syst Rehabil Eng 2016 epub https://www.ncbi.nlm.nih.gov/pubmed/28113981
13. Sakai W, Nakane S, Urasaki E, Toyoda K, Sadakata E, Nagaishi A, Fukudome T, Yamakawa Y, Matsuo H. The cross-sectional area of paraspinal muscles predicts the efficacy of deep brain stimulation for camptocormia. J Parkinsons Dis 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28157107
14. Sobstyl MR, Ząbek M, Brzuszkiewicz-Kuźmicka G, Pasterski T. Dual anchor internal pulse generator technique may lower risk of twiddler's syndrome: a case series and literature review. Neuromodulation 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28185373
15. Trenado C, Elben S, Friggemann L, Gruhn S, Groiss SJ, Vesper J, Schnitzler A, Wojtecki L. Long-latency somatosensory evoked potentials of the subthalamic nucleus in patients with Parkinson's disease. PLoS One 2017 12(1):e0168151 https://www.ncbi.nlm.nih.gov/pubmed/28081139

GES (updating our comprehensive list)

1. Busetto L, Torres AJ, Morales-Conde S, Alarcón Del Agua I, Moretto C, Fierabracci P, Rovera G, Segato G, Rubio MA, Favretti F. Impact of the feedback provided by a gastric electrical stimulation system on eating behavior and physical activity levels. Obesity (Silver Spring) 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28164463

SCS (updating our comprehensive list)

1. Alam M, Garcia-Alias G, Jin B, Keyes J, Zhong H, Roy RR, Gerasimenko Y, Lu DC, Edgerton VR. Electrical neuromodulation of the cervical spinal cord facilitates forelimb skilled function recovery in spinal cord injured rats. Exp Neurol 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28192079
2. Bai Y, Xia X, Li X, Wang Y, Yang Y, Liu Y, Liang Z, He J. Spinal cord stimulation modulates frontal delta and gamma in patients of minimally consciousness state. Neuroscience 2017 346:247-254 https://www.ncbi.nlm.nih.gov/pubmed/28147246
3. Bamford J, Lebel R, Parseyan K, Mushahwar V. The fabrication, implantation and stability of intraspinal microwire arrays in the spinal cord of cat and rat. IEEE Trans Neural Syst Rehabil Eng 2016 epub https://www.ncbi.nlm.nih.gov/pubmed/28113558
4. Crapanzano JT, Harrison-Bernard LM, Jones MR, Kaye AD, Richter EO, Potash MN. High frequency spinal cord stimulation for complex regional pain syndrome: a case report. Pain Physician 2017 20(1):E177-E182 https://www.ncbi.nlm.nih.gov/pubmed/28072810 https://www.painphysicianjournal.com/current/pdf?article=NDAxOA%3D%3D&journal=101
5. Dizdarevic A, Bremer N. Cervical spinal cord stimulation with concomitant serotonin norepinephrine reuptake inhibitor therapy leading to the serotonin syndrome. Pain Med 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28057811
6. Ghosh R, Holland R, Mammis A. Thoracic radiculopathy following spinal cord stimulator implantation treated with corticosteroids. World Neurosurg 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28153621
7. Giugno A, Gulì C, Basile L, Graziano F, Maugeri R, Visocchi M, Iacopino DG. Spinal cord stimulation: an alternative concept of rehabilitation? Acta Neurochir Suppl 2017 124:15-18 https://www.ncbi.nlm.nih.gov/pubmed/28120047
8. Halawa O. Winding the spotted snake: feasibility of spinal cord stimulation after extensive spine surgery. J Pain 2016 17(4S):S74 https://www.ncbi.nlm.nih.gov/pubmed/28162642

9. Kinfe TM, Muhammad S, Link C, Roeske S, Chaudhry SR, Yearwood TL. Burst spinal cord stimulation increases peripheral antineuroinflammatory interleukin 10 levels in failed back surgery syndrome patients with predominant back pain. Neuromodulation 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28194840
10. Lempka S, Ozinga J, Wyant A, Dong F, Jones S, Nagel S, Machado A. Patient-specific computer models of spinal cord stimulation for chronic pain management. J Pain 2016 17(4S):S74 https://www.ncbi.nlm.nih.gov/pubmed/28162645
11. Levine AB, Steven DA, Parrent AG, MacDougall KW. Successful long-term nerve root stimulation for chronic neuropathic pain: a real world, single center Canadian experience. Pain Physician 2017 20(2):95-106 https://www.ncbi.nlm.nih.gov/pubmed/28158157
12. Naar J, Jaye D, Linde C, Neužil P, Doškář P, Málek F, Braunschweig F, Lund LH, Mortensen L, Bäck M, Linderoth B, Lind G, Kueffer F, Koehler J, Shahgaldi K, Ståhlberg M. Spinal cord stimulation in heart failure: effect on disease-associated biomarkers. Eur J Heart Fail 2017 19(2):283-286 https://www.ncbi.nlm.nih.gov/pubmed/28157269
13. Perrucci RM, Coulis CM. Chiropractic management of post spinal cord stimulator spine pain: a case report. Chiropr Man Therap 2017 epub 25:5 https://www.ncbi.nlm.nih.gov/pubmed/28191306
14. Reeves C, Galang E, Frye J, Kelleher L, Torres B. Single lead spinal cord stimulation of the C2-C5 nerve roots for persistent pain secondary to schwannoma resection. J Pain 2016 17(4S):S74-S75 https://www.ncbi.nlm.nih.gov/pubmed/28162641
15. Robb LP, Cooney JM, McCrory CR. Evaluation of spinal cord stimulation on the symptoms of anxiety and depression and pain intensity in patients with failed back surgery syndrome. Ir J Med Sci 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28132158
16. Sun L, Tai L, Qiu Q, Mitchell R, Fleetwood-Walker S, Joosten EA, Cheung CW. Endocannabinoid activation of CB(1) receptors contributes to long-lasting reversal of neuropathic pain by repetitive spinal cord stimulation. Eur J Pain 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28107590
17. Tilley DM, Cedeño DL, Kelley CA, DeMaegd M, Benyamin R, Vallejo R. Changes in dorsal root ganglion gene expression in response to spinal cord stimulation. Reg Anesth Pain Med 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28079752
18. Veizi E, Hayek SM, North J, Brent Chafin T, Yearwood TL, Raso L, Frey R, Cairns K, Berg A, Brendel J, Haider N, McCarty M, Vucetic H, Sherman A, Chen L, Mekel-Bobrov N. Spinal cord stimulation (SCS) with anatomically guided (3D) neural targeting shows superior chronic axial low back pain relief compared to traditional SCS-LUMINA study. Pain Med 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28108641
19. Yamamoto T, Watanabe M, Obuchi T, Kobayashi K, Oshima H, Fukaya C, Yoshino A. Spinal cord stimulation for vegetative state and minimally conscious state: changes in consciousness level and motor function. Acta Neurochir Suppl 2017 124:37-42 https://www.ncbi.nlm.nih.gov/pubmed/28120050
20. Yusuf E, Bamps S, Thüer B, Mattheussen J, Ursi JP, Del Biondo E, de Smedt K, Van Paesschen R, Berghmans D, Hofkens K, Van Schaeren J, van Havenbergh T, Van Herendael B. A multidisciplinary infection control bundle to reduce the number of spinal cord stimulator infections. Neuromodulation 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28116797

SNS (updating our comprehensive list)

1. Faris AE, Gill BC, Pizarro-Berdichevsky J, Dielubanza E, Clifton MM, Okafor H, Goldman HB, Moore CK, Rackley RR, Vasavada SP. Impact of age and comorbidities on utilization of sacral neuromodulation. J Urol 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28192077
2. Horodyski L, Mahdy A. Right-sided InterStim placement in a patient with left sacral hypoplasia. Urology 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28161378

3. Janssen PT, Kuiper SZ, Stassen LP, Bouvy ND, Breukink SO, Melenhorst J. Fecal incontinence treated by sacral neuromodulation: long-term follow-up of 325 patients. Surgery 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28159117
4. Killinger KA, Gupta P, Gilleran JP, Bartley J, Ehlert M, Boura JA, Peters KM. The impact of baseline functional bladder capacity on short-term neuromodulation outcomes. Urology 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28093307
5. Mege D, Meurette G, Vitton V, Leroi AM, Bridoux V, Zerbib P, Sielezneff I; Club NEMO. Sacral nerve stimulation can alleviate symptoms of bowel dysfunction after colorectal resections. Colorectal Dis 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28181378
6. Richter HE, Moalli P, Amundsen CL, Malykhina AP, Wallace D, Rogers R, Myers D, Paraiso M, Albo M, Shi H, Nolen T, Meikle S, Word RA; Pelvic Floor Disorders Network. Urinary biomarkers in women with refractory urgency urinary incontinence randomized to sacral neuromodulation versus OnabotulinumtoxinA compared to controls. J Urol 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28089729
7. Tolopka TC, Messick CA. Successful restoration of fecal continence using sacral nerve stimulation following chemoradiation and transanal excision of an anal melanoma with partial internal anal sphincter resection: a case report. Neuromodulation 2017 epub https://www.ncbi.nlm.nih.gov/pubmed/28150422
8. Zhang P, Zhang JZ, Wu LY, Niu HQ, Yang YB, Zhang XD. Short-term outcome of sacral neuromodulation on refractory interstitial cystitis/pelvic pain syndrome. Chinese. Zhonghua Yi Xue Za Zhi 2016 96(48):3875-3878 https://www.ncbi.nlm.nih.gov/pubmed/28057156

FINANCIAL SUPPORT TO DATE FOR 2016/17

- B. Todd Sitzman, MD, MPH
- NEVRO
- Richard B. North, MD
- The NANS Foundation, now the Institute of Neuromodulation
- Thomas Abell, MD

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- The International Neuromodulation Society (publicity and conference registration)
- The Neuromodulation Foundation (parent non-profit, overhead and development)
- The North American Neuromodulation Society (publicity and conference registration)

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.

Contact
The Neuromodulation Foundation, Inc.
117 East 25th Street
Baltimore, MD 21218
wikistim@gmail.com
wikistim.org
neuromodfound.org