



December 2016 News

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CHECKING IT TWICE (a note from Jane)

Many of you likely know the song about Santa making a list and checking it twice. When I update WIKISTIM each month, I check many things twice (to avoid duplication, to make certain that I have individually entered every list of authors that includes accented names, etc.). When you make your end-of-year donations list, please check to be sure that you included WIKISTIM. We operate on a shoestring, and our grant income disappears like smoke when our advocates leave major neuromodulation companies. My choice each month is to spend time fund-raising or to work to enhance and update the site. This month, Dr. North and I have donated a great deal of time to writing chapters for an upcoming book on Neuromodulation, and I was happy to have the opportunity to join Dr. North in the contractual work that augments the Foundation coffers. We will be able to accomplish much more with WIKISTIM when we have sufficient funding for me to devote a full-time effort to this resource.

Once again, please note that we at The Neuromodulation Foundation offer WIKISTIM free of cost and that all donations to the Foundation are 100% deductible for those who file US income tax and itemize. You have indicated your interest in WIKISTIM by registering, and you understand what we are achieving and hope to achieve in the future with your support. Click [here](#) for ways to donate!

SUBSCRIBER LIST TOPS 400

As noted below, we are pleased that we now have more than 400 subscribers! Thanks to all of you who spread the word about WIKISTIM.

ION (FORMERLY NANS FOUNDATION) DONATION

We are grateful that the leaders in our field who are reconfiguring the NANS Foundation into the new Institute of Neuromodulation have continued to support WIKISTIM with a \$10,000 grant.

CURRENT STATUS

December numbers (see the appendix for the list of new citations.)

- 403 subscribers
- DBS citations 2711
- DRG citations 42
- GES citations 470
- PNS citations 47
- SCS citations 1979
- SNS citations 802

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 (3-year grant commitment started 2014)

Ongoing in-kind support:

- 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)

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Disclosure

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

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APPENDIX: Citations of new papers that report primary data added December 2016

DBS Depression (adding to our comprehensive list)

1. Cervera-Ferri A, Teruel-Martí V, Barceló-Molina M, Martínez-Ricós J, Luque-García A, Martínez-Bellver S, Adell A. Characterization of oscillatory changes in hippocampus and amygdala after deep brain stimulation of the infralimbic prefrontal cortex. *Physiol Rep* 2016 epub 4(14) <http://www.ncbi.nlm.nih.gov/pubmed/27449812>
2. Magdaleno-Madrigal VM, Pantoja-Jiménez CR, Bazaldúa A, Fernández-Mas R, Almazán-Alvarado S, Bolaños-Alejos F, Ortíz-López L, Ramírez-Rodríguez GB. Acute deep brain stimulation in the thalamic reticular nucleus protects against acute stress and modulates initial events of adult hippocampal neurogenesis. *Behav Brain Res* 2016 314:65-76 <http://www.ncbi.nlm.nih.gov/pubmed/27435420>
3. Pathak Y, Salami O, Baillet S, Li Z, Butson CR. Longitudinal changes in depressive circuitry in response to neuromodulation therapy. *Front Neural Circuits* 2016 epub 10:50 <http://www.ncbi.nlm.nih.gov/pubmed/27524960>

DBS Epilepsy (adding to our comprehensive list)

1. Adhikari MH, Heeroma JH, di Bernardo M, Krauskopf B, Richardson MP, Walker MC, Terry JR. Characterisation of cortical activity in response to deep brain stimulation of ventral-lateral nucleus: modelling and experiment. *J Neurosci Methods* 2009 183(1):77-85 <http://www.ncbi.nlm.nih.gov/pubmed/19616579>
2. Chen N, Yan N, Liu C, Ge Y, Zhang JG, Meng FG. Neuroprotective effects of electrical stimulation of the anterior nucleus of the thalamus for hippocampus neurons in intractable epilepsy. *Med Hypotheses* 2013 80(5):517-519 <http://www.ncbi.nlm.nih.gov/pubmed/23481284>
3. Valentín A, Selway RP, Amarouche M, Mundil N, Ughratdar I, Ayoubian L, Martín-López D, Kazi F, Dar T, Jiménez-Jiménez D, Hughes E, Alarcón G. Intracranial stimulation for children with epilepsy. *Eur J Paediatr Neurol* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27840024>

DBS PD & Miscellaneous (we only list recent publications here even though we continue to add older citations to the database = 183 in December)

1. Blumenfeld Z, Koop MM, Prieto TE, Shreve LA, Velisar A, Quinn EJ, Trager MH, Brontë-Stewart H. Sixty-hertz stimulation improves bradykinesia and amplifies subthalamic low-frequency oscillations. *Mov Disord* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27859579>
2. Cao CY, Zeng K, Li DY, Zhan SK, Li XL, Sun BM. Modulations on cortical oscillations by subthalamic deep brain stimulation in patients with Parkinson disease: a MEG study. *Neurosci Lett* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27818350>
3. Cunningham MG, Yadollahikhales G, Vitaliano G, van Horne C. Administration of electroconvulsive therapy for depression associated with deep brain stimulation in a patient with post-traumatic Parkinson's disease: a case study. *BMC Psychiatry* 2016 16(1):399 <http://www.ncbi.nlm.nih.gov/pubmed/27842519>
4. Eatough V, Shaw K. 'I'm worried about getting water in the holes in my head': a phenomenological psychology case study of the experience of undergoing deep brain stimulation surgery for Parkinson's disease. *Br J Health Psychol* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27860038>
5. Fabbri M, Coelho M, Abreu D, Guedes LC, Rosa MM, Costa N, Antonini A, Ferreira JJ. Do patients with late-stage Parkinson's disease still respond to levodopa? *Parkinsonism Relat Disord* 2016 26:10-16 <http://www.ncbi.nlm.nih.gov/pubmed/26972527>

6. Goelz LC, David FJ, Sweeney JA, Vaillancourt DE, Poizner H, Metman LV, Corcos DM. The effects of unilateral versus bilateral subthalamic nucleus deep brain stimulation on prosaccades and antisaccades in Parkinson's disease. *Exp Brain Res* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27844097>
7. Hamel W, Köppen JA, Alesch F, Antonini A, Barcia JA, Bergman H, Chabardes S, Contarino MF, Cornu P, Demmel W, Deuschl G, Fasano A, Kühn AA, Limousin P, McIntyre CC, Mehdorn HM, Pilleri M, Pollak P, Rodríguez-Oroz MC, Rumià J, Samuel M, Timmermann L, Valldeoriola F, Vesper J, Visser-Vandewalle V, Volkmann J, Lozano AM. Targeting of the subthalamic nucleus for deep brain stimulation: a survey among Parkinson's disease specialists. *World Neurosurg* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27838430>
8. Hanrahan SJ, Nedrud JJ, Davidson BS, Farris S, Giroux M, Haug A, Mahoor MH, Silverman AK, Zhang JJ, Hebb AO. Long-term task- and dopamine-dependent dynamics of subthalamic local field potentials in Parkinson's disease. *Brain Sci* 2016 epub 6(4) <http://www.ncbi.nlm.nih.gov/pubmed/27916831>
9. Heusinkveld L, Hacker M, Turchan M, Bollig M, Tamargo C, Fisher W, McLaughlin L, Martig A, Charles D. Patient perspectives on deep brain stimulation clinical research in early stage Parkinson's disease. *J Parkinsons Dis* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27911344>
10. Hindle Fisher I, Pall HS, Mitchell RD, Kausar J, Cavanna AE. Apathy in patients with Parkinson's disease following deep brain stimulation of the subthalamic nucleus. *CNS Spectr* 2016 21(3):258-264 <http://www.ncbi.nlm.nih.gov/pubmed/27151388>
11. Houvenaghel JF, Duprez J, Argaud S, Naudet F, Dondaine T, Robert GH, Drapier S, Haegelen C, Jannin P, Drapier D, Vérin M, Sauleau P. Influence of subthalamic deep-brain stimulation on cognitive action control in incentive context. *Neuropsychologia* 2016 91:519-530 <http://www.ncbi.nlm.nih.gov/pubmed/27664297>
12. Hu K, Moses ZB, Hutter M, Williams Z. Short-term adverse outcomes following deep brain stimulation treatment in Parkinson's disease patients. *World Neurosurg* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27826085>
13. Kubu CS, Cooper SE, Machado A, Frazier T, Vitek J, Ford PJ. Insights gleaned by measuring patients' stated goals for DBS: more than tremor. *Neurology* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27913696>
14. Lönnfors-Weitzel T, Weitzel T, Slotboom J, Kiefer C, Pollo C, Schüpbach M, Oertel M, Kaelin A, Wiest R. T2-relaxometry predicts outcome of DBS in idiopathic Parkinson's disease. *Neuroimage Clin* 2016 12:832-837 <http://www.ncbi.nlm.nih.gov/pubmed/27843765>
15. Muralidharan A, Zhang J, Ghosh D, Johnson MD, Baker KB, Vitek JL. Modulation of neuronal activity in the motor thalamus during GPI-DBS in the MPTP nonhuman primate model of Parkinson's disease. *Brain Stimul* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27839724>
16. Pal GD, Ouyang B, Serrano G, Shill HA, Goetz C, Stebbins G, Metman LV, Driver-Dunckley E, Mehta SH, Caviness JN, Sabbagh MN, Adler CH, Beach TG; Arizona Study of Aging Neurodegenerative Disorders. Comparison of neuropathology in Parkinson's disease subjects with and without deep brain stimulation. *Mov Disord* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27911008>
17. Park SC, Lee CS, Kim SM, Choi EJ, Lee JK. Comparison of the stereotactic accuracies of function-guided deep brain stimulation, calculated using multi-track target locations geometrically inferred from three-dimensional trajectory rotations, and of MRI-guided deep brain stimulation and outcomes. *World Neurosurg* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27876666>

18. Sundstedt S, Nordh E, Linder J, Hedström J, Finizia C, Olofsson K. Swallowing quality of life after zona incerta deep brain stimulation. *Ann Otol Rhinol Laryngol* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27831516>
19. Troche MS, Brandimore AE, Hegland KW, Zeilman PR, Foote KD, Okun MS. Tailored deep brain stimulation optimization for improved airway protective outcomes in Parkinson's disease. *Interdiscip Neurosurg* 2016 5:3-5 <http://www.ncbi.nlm.nih.gov/pubmed/27795943>
20. Vivancos-Matellano F, Garcia-Ruiz AJ, Garcia-Agua Soler N. Pharmacoeconomic study of the treatment of advanced Parkinson's disease. Spanish. *Rev Neurol* 2016 63(12):529-536 <http://www.ncbi.nlm.nih.gov/pubmed/27897303>
21. von Eckardstein KL, Sixel-Döring F, Kazmaier S, Trenkwalder C, Hoover JM, Rohde V. Asphyxia due to laryngeal spasm as a severe complication of awake deep brain stimulation for Parkinson's disease: a case report. *BMC Neurol* 2016 16(1):216 <http://www.ncbi.nlm.nih.gov/pubmed/27821134>
22. West T, Farmer S, Berthouze L, Jha A, Beudel M, Foltynie T, Limousin P, Zrinzo L, Brown P, Litvak V. The Parkinsonian subthalamic network: measures of power, linear, and non-linear synchronization and their relationship to L-DOPA treatment and OFF state motor severity. *Front Hum Neurosci* 2016 epub 10:517 <http://www.ncbi.nlm.nih.gov/pubmed/27826233>

DRG (updating our comprehensive list)

1. Pawela CP, Kramer JM, Hogan QH. Dorsal root ganglion stimulation attenuates the BOLD signal response to noxious sensory input in specific brain regions: insights into a possible mechanism for analgesia. *Neuroimage* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27876655>
2. Quan X, Huang L, Yang Y, Ma T, Liu Z, Ge J, Huang J, Luo Z. Potential mechanism of neurite outgrowth enhanced by electrical stimulation: involvement of microRNA-363-5p targeting DCLK1 expression in rat. *Neurochem Res* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27900578>

GES (updating our comprehensive list)

1. Davis BR, Sarosiek I, Bashashati M, Alvarado B, McCallum RW. The long-term efficacy and safety of pyloroplasty combined with gastric electrical stimulation therapy in gastroparesis. *J Gastrointest Surg* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27896652>
2. Tiller M, Reif S, Volz S, Schepp W, Gundling F. Neuromodulation of gastric muscle can affect the electrocardiogram: a case report. *Ann Intern Med* 2016 165(9):677-678 <http://www.ncbi.nlm.nih.gov/pubmed/27802460>

SCS (updating our comprehensive list)

1. Abd-Elsayed A, Grandhi R, Sachdeva H. Lack of electrical interference between spinal cord stimulators and other implanted electrical pulse devices. *J Clin Anesth* 2016 35:475-478 <http://www.ncbi.nlm.nih.gov/pubmed/27871577>
2. Capogrosso M, Milekovic T, Borton D, Wagner F, Moraud EM, Mignardot JB, Buse N, Gandar J, Barraud Q, Xing D, Rey E, Duis S, Jianzhong Y, Ko WK, Li Q, Detemple P, Denison T, Micera S, Bezard E, Bloch J, Courtine G. A brain-spine interface alleviating gait deficits after spinal cord injury in primates. *Nature* 2016 539(7628):284-288 <http://www.ncbi.nlm.nih.gov/pubmed/27830790>
3. de Eulate-Beramendi SÁ, Santamarta-Liébaña E, Leon RF, Saiz-Ayala A, Seijo-Fernandez FJ. Cervical cord compression secondary to epidural fibrous scar tissue around the spinal cord stimulation electrode. *Neurol India* 2016 64(6):1363-1365 <http://www.ncbi.nlm.nih.gov/pubmed/27841230>

4. Ghaly RF, Lissounov A, Tverdohleb T, Kohanchi D, Candido KD, Knezevic NN. Spinal neuromodulation as a novel surgical option for failed back surgery syndrome following rhBMP exuberant bony growth in instrumented lumbar fusion: a case report and literature review. *Surg Neurol Int* 2016 7(Suppl 25):S668-S674 <http://www.ncbi.nlm.nih.gov/pubmed/27843683>
5. Imran TF, Malapero R, Qavi AH, Hasan Z, de la Torre B, Patel YR, Yong RJ, Djousse L, Gaziano JM, Gerhard-Herman MD. Efficacy of spinal cord stimulation as an adjunct therapy for chronic refractory angina pectoris. *Int J Cardiol* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27836302>
6. Lalkhen AG, Chincholkar M, Patel J. Microbiological evaluation of the extension wire and percutaneous epidural lead anchor site following a '2-stage cut-down' spinal cord stimulator procedure. *Pain Pract* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27910210>
7. Pinto de Souza C, Hamani C, Oliveira Souza C, Lopez Contreras WO, Dos Santos Ghilardi MG, Cury RG, Reis Barbosa E, Jacobsen Teixeira M, Talamoni Fonoff E. Spinal cord stimulation improves gait in patients with Parkinson's disease previously treated with deep brain stimulation. *Mov Disord* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27862267>
8. Slavin KV, North RB, Deer TR, Staats P, Davis K, Diaz R. Tonic and burst spinal cord stimulation waveforms for the treatment of chronic, intractable pain: study protocol for a randomized controlled trial. *Trials* 2016 17(1):569 <http://www.ncbi.nlm.nih.gov/pubmed/27906080>
9. Tilley DM, Cedeño DL, Kelley CA, Benyamin R, Vallejo R. Spinal cord stimulation modulates gene expression in the spinal cord of an animal model of peripheral nerve injury. *Reg Anesth Pain Med* 2016 41(6):750-756 <http://www.ncbi.nlm.nih.gov/pubmed/27512935>
10. van Beek M, van Kleef M, Linderoth B, van Kuijk SM, Honig WM, Joosten EA. Spinal cord stimulation in experimental chronic painful diabetic polyneuropathy: delayed effect of high-frequency stimulation. *Eur J Pain* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27891705>
11. Wong K, Monroe BR. Successful treatment of post-dural puncture headache using epidural fibrin glue patch after persistent failure of epidural blood patches. *Pain Pract* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27910226>

SNS (updating our comprehensive list)

1. Lu PL, Asti L, Lodwick DL, Nacion KM, Deans KJ, Minneci PC, Teich S, Alpert SA, Yacob D, Di Lorenzo C, Mousa HM. Sacral nerve stimulation allows for decreased antegrade continence enema use in children with severe constipation. *J Pediatr Surg* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27887683>
2. Mizrahi I, Chadi SA, Haim N, Sands DR, Gurland B, Zutshi M, Wexner SD, da Silva G. Sacral neuromodulation for the treatment of faecal incontinence following proctectomy. *Colorectal Dis* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27885800>
3. Povo A, Arantes M, Matzel KE, Barbosa J, Ferreira MA, Pais D, Rodríguez-Baeza A. Surface anatomical landmarks for the location of posterior sacral foramina in sacral nerve stimulation. *Tech Coloproctol* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27844258>