



July 2020 News

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FROM ONE MONTH TO THE NEXT

Nearly four months ago, in March, when shut-downs started in Maryland in response to the COVID-19 pandemic, a staff member at Jane's favorite community library said that they would be closed until June 1st. That date seemed impossibly far away; yet, the library remains sequestered from the public on July 1st with no date set for reopening. As time has passed, abnormal circumstances have begun to seem normal. Nevertheless, we ask ourselves ask how America got to the point where we can learn with no sense of surprise that Dr. Anthony Fauci has warned Congress of the potential of 100,000 new cases per day? This didn't have to happen, and the fact that it did has caused untold and unnecessary suffering and sacrifice.

As proof that we knew (and know) how to overcome this pandemic, in Baltimore City, a century-old nursing home has had no infection among its 30 residents, 21 full-time, and 19 part-time employees (as of a report in *The Baltimore Sun* on June 18th because those charged with resident care implemented infection-control protocols in February after hearing about the first 15 infections in the United States. These measures are simple and include eliminating visitors (the director himself, whose aunt is a resident, stopped entering the home), masks for everyone, social distancing (including the purchase of extra televisions to increase space), no communal meals, immediately securing extra PPE for staff, scheduling extra cleaning, limiting staff travel and contacts with outsiders, checking the temperature of staff members three times/day, and having staff fill in daily questionnaires about their outside activities. To ease the sense of isolation among residents, the home hired an extra activities coordinator and allows one resident at a time to go a porch to speak to relatives and friends standing on the sidewalk 12 to 18 feet away.

The contrast between this reasoned behavior and the reckless actions of American citizens at all levels of society who engage in magical thinking and refuse to wear masks or give up their social life is as stark as the difference between life and death. Because too many of us have behaved foolishly, our "normal" lives continue to be on hold and will never be the same.

As evidence that we have a new normal, the 27th Napa Pain Conference on August 14-15 (<https://napapainconference.com>) will be held online, with free registration for all, and the North American Neuromodulation Society is already querying members about their willingness to attend in person the 24th Annual Meeting planned for January 2021

(<http://conference.neuromodulation.org/nans-2021>), which also seems an impossibly long way away until we look back to March (this is a good place to point out that abstracts for the NANS meeting (<https://neuromodulation.org/Meetings/2021AnnualMeeting/AbstractFAQs.aspx>) are due on July 30th).

Finally, we continue our work from our homes and are pleased that our update of our 2007 publication setting out "Practice Parameters for the Use of Spinal Cord Stimulation in the Treatment of Neuropathic Pain" (*Pain Medicine* 8(S4):S200-275, 2007) is proceeding well. In addition to covering all of the advances in the field in the past 13 years, our new version will include ischemic pain. Furthermore, our ambitions for expanding and deepening the impact of WIKISTIM continue to provide us with enthusiasm and energy as we pursue improvements and growth beyond the normal monthly updates, as presented below. We already have enough to keep us busy for many years to come.

JULY 2020 STATISTICS

Membership

In June, the number of our subscribers grew to 1269. Thank you for helping to spread the word!

Number of citations in each section

- DBS 5535, with 2 completed WIKISTIM abstracts
- DRG 132, with 9 completed WIKISTIM abstracts
- GES 499
- PNS 59 (limited to peripheral nerve field stimulation)
- SCS 2522 with 132 completed or partially completed WIKISTIM abstracts
- SNS 1012

CITATIONS ADDED FROM SEARCH ON JUNE 26, 2020

See below for the list of citations that received the most-clicks last month.

DBS

1. Anderson RW, Kehnemouyi YM, Neuville RS, Wilkins KB, Anidi CM, Petrucci MN, Parker JE, Velisar A, Bronte-Stewart H. A novel method for calculating beta band burst durations in Parkinson's disease using a physiological baseline. *J Neurosci Methods* 2020 epub 108811
<https://pubmed.ncbi.nlm.nih.gov/32565222>
<https://www.sciencedirect.com/science/article/pii/S016502702030234X?via%3Dihub>
2. Andrews JC, Roy FD, Stein RB, Ba F, Sankar T. Effects of deep brain stimulation and dopaminergic medication on excitatory and inhibitory spinal pathways in Parkinson disease. *J Clin Neurophysiol* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32501952>
3. Ball TJ, John KD, Donovan AM, Neimat JS. Deep brain stimulation lead implantation using a customized rapidly manufactured stereotactic fixture with submillimetric euclidean accuracy. *Stereotact Funct Neurosurg* 2020 epub 1-8 <https://pubmed.ncbi.nlm.nih.gov/32485726>
4. Barcelos LB, Marinho MM, Barcellos I, Silva CCD, Silva SMA, Centeno RS, Borges V, Ferraz HB. Improvement of post-hypoxic cerebellar tremor with bilateral thalamic deep brain stimulation: a case report and review of the literature. *Clin Neurol Neurosurg* 2020 epub 195:105879
<https://pubmed.ncbi.nlm.nih.gov/32502947>
5. Bogdan ID, Laar TV, Oterdoom DLM, Drost G, van Dijk JMC, Beudel M. Optimal parameters of deep brain stimulation in essential tremor: a meta-analysis and novel programming strategy. *J Clin Med* 2020 9(6):E1855 <https://pubmed.ncbi.nlm.nih.gov/32545887>
<https://www.mdpi.com/2077-0383/9/6/1855>
6. Brown EC, Clark DL, Forkert ND, Molnar CP, Kiss ZHT, Ramasubbu R. Metabolic activity in subcallosal cingulate predicts response to deep brain stimulation for depression.

- Neuropsychopharmacology 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32580207>
7. Davidson B, Giacobbe P, Mithani K, Levitt A, Rabin JS, Lipsman N, Hamani C. Lack of clinical response to deep brain stimulation of the medial forebrain bundle in depression. *Brain Stimul* 2020 13(5):1268-1270 <https://pubmed.ncbi.nlm.nih.gov/32540453>
[https://www.brainstimjrn.com/article/S1935-861X\(20\)30128-5/pdf](https://www.brainstimjrn.com/article/S1935-861X(20)30128-5/pdf)
 8. Deng H, Yue JK, Wang DD. Trends in safety and cost of deep brain stimulation for treatment of movement disorders in the United States: 2002-2014. *Br J Neurosurg* 2020 epub 1-8
<https://pubmed.ncbi.nlm.nih.gov/32476485>
 9. Fomenko A, Lee DJ, McKinnon C, Lee EJ, de Snoo ML, Gondard E, Neudorfer C, Hamani C, Lozano AM, Kalia LV, Kalia SK. Deep brain stimulation of the medial septal nucleus induces expression of a virally delivered reporter gene in dentate gyrus. *Front Neurosci* 2020 epub 14:463
<https://pubmed.ncbi.nlm.nih.gov/32477058>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7235415/>
 10. Ghanchi H, Siddiqi I, Patchana T, Ananda A. Acquired Holmes tremor in a HIV IRIS patient treated with deep brain stimulation. *World Neurosurg* 2020 epub
<https://pubmed.ncbi.nlm.nih.gov/32565375>
 11. González-Herrero B, Jauma-Classen S, Gómez-Llopico R, Plans G, Calopa M. Intestinal levodopa/carbidopa infusion as a therapeutic option for unresponsive freezing of gait after deep brain stimulation in Parkinson's disease. *Parkinsons Dis* 2020 2020:1627264
<https://pubmed.ncbi.nlm.nih.gov/32509261>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7244984/>
 12. Grabie M, Gabriels J, Xiang K, Elayi CS, Makaryus JN, Catanzaro JN. Feasibility of radiofrequency catheter ablation in a patient with deep brain stimulators. *Heart Rhythm Case Rep* 2020 6(5):253-255 <https://pubmed.ncbi.nlm.nih.gov/32461888>
[https://www.heartrhythmcasereports.com/article/S2214-0271\(20\)30005-1/fulltext](https://www.heartrhythmcasereports.com/article/S2214-0271(20)30005-1/fulltext)
 13. Guo S, Li J, Zhang Y, Li Y, Zhuang P. Optimal target localisation and eight- year outcome for subthalamic stimulation in patients with Parkinson's disease. *Br J Neurosurg* 2020 epub 1-6
<https://pubmed.ncbi.nlm.nih.gov/32532160>
 14. Hamed MA, Ponce FA, Lambert M, Moguel-Cobos G. Subcortical atrophy and motor outcomes in pallidal deep brain stimulation for Parkinson's disease. *World Neurosurg* 2020 epub
<https://pubmed.ncbi.nlm.nih.gov/32540287>
 15. Hernandez-Martin E, Arguelles E, Deshpande R, Sanger TD. Evoked potentials during peripheral stimulation confirm electrode location in thalamic subnuclei in children with secondary dystonia. *J Child Neurol* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32567481>
 16. Imbalzano G, Artusi CA, Montanaro E, Romagnolo A, Rizzone MG, Lopiano L, Zibetti M. Tuning deep brain stimulation related depression by frequency modulation: a case report. *Brain Stimul* 2020 13(5):1265-1267 <https://pubmed.ncbi.nlm.nih.gov/32534251>
[https://www.brainstimjrn.com/article/S1935-861X\(20\)30124-8/pdf](https://www.brainstimjrn.com/article/S1935-861X(20)30124-8/pdf)
 17. Kandemir AL, Litvak V, Florin E. The comparative performance of DBS artefact rejection methods for MEG recordings. *Neuroimage* 2020 epub 219:117057
<https://pubmed.ncbi.nlm.nih.gov/32540355>
<https://www.sciencedirect.com/science/article/pii/S1053811920305437?via%3Dihub>
 18. Kashanian A, DiCesare JAT, Rohatgi P, Albano L, Krahl SE, Bari A, De Salles A, Pouratian N. Case series: deep brain stimulation for facial pain. *Oper Neurosurg (Hagerstown)* 2020 epub opaa170
<https://pubmed.ncbi.nlm.nih.gov/32542398>
<https://academic.oup.com/ons/article/doi/10.1093/ons/opaa170/5857687>
 19. Lapa S, Claus I, Reitz SC, Quick-Weller J, Sauer S, Colbow S, Nasari C, Dziewas R, Kang JS, Baudrexel S, Warnecke T. Effect of thalamic deep brain stimulation on swallowing in patients with essential tremor. *Ann Clin Transl Neurol* 2020 epub

- <https://pubmed.ncbi.nlm.nih.gov/32548923>
<https://onlinelibrary.wiley.com/doi/epdf/10.1002/acn3.51099>
20. Meoni S, Bradi AC, Wadia P, Poon YY, Moro E. Dyspnea after subthalamic deep brain stimulation in Parkinson's disease: a case-control study. *J Neurol* 2020 epub
<https://pubmed.ncbi.nlm.nih.gov/32524258>
 21. Mohammed A, Bayford R, Demosthenous A. A framework for adapting deep brain stimulation using parkinsonian state estimates. *Front Neurosci* 2020 epub 14:499
<https://pubmed.ncbi.nlm.nih.gov/32508580>
<https://www.frontiersin.org/articles/10.3389/fnins.2020.00499/full>
 22. Molina R, Hass CJ, Sowalsky K, Schmitt AC, Opri E, Roper JA, Martinez- Ramirez D, Hess CW, Foote KD, Okun MS, Gunduz A. Neurophysiological correlates of gait in the human basal ganglia and the PPN region in Parkinson's disease. *Front Hum Neurosci* 2020 epub 14:194
<https://pubmed.ncbi.nlm.nih.gov/32581744>
<https://www.frontiersin.org/articles/10.3389/fnhum.2020.00194/full>
 23. Mosley PE, Paliwal S, Robinson K, Coyne T, Silburn P, Tittgemeyer M, Stephan KE, Perry A, Breakspear M. The structural connectivity of subthalamic deep brain stimulation correlates with impulsivity in Parkinson's. *Brain* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32568370>
<https://academic.oup.com/brain/article/doi/10.1093/brain/awaa148/5859844>
 24. Niederer J, Patriat R, Rosenberg O, Palnitkar T, Darrow D, Park MC, Schrock L, Eberly LE, Harel N. Factors influencing electrode position and bending of the proximal lead in deep brain stimulation for movement disorders. *Stereotact Funct Neurosurg* 2020 epub 1-13
<https://pubmed.ncbi.nlm.nih.gov/32485728>
 25. Niemelä V, Salih A, Solea D, Lindvall B, Weinberg J, Miltenberger G, Granberg T, Tzovla A, Nordin L, Danfors T, Savitcheva I, Dahl N, Paucar M. Phenotypic variability in chorea-acanthocytosis associated with novel VPS13A mutations. *Neurol Genet* 2020 6(3):e426
<https://pubmed.ncbi.nlm.nih.gov/32494755>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7217656/>
 26. Ouyang J, Hao Q, Zhu R, Wu G, Ding H, Wang D, Liu R. Subthalamic nucleus deep brain stimulation in primary Meige syndrome: a 1-year follow-up study. *Neuromodulation* 2020 epub
<https://pubmed.ncbi.nlm.nih.gov/32476223>
<https://onlinelibrary.wiley.com/doi/epdf/10.1111/ner.13174>
 27. Porta M, Servello D, Zekaj E, Gonzalez-Escamilla G, Groppa S. Pre-dopa deep brain stimulation: is early deep brain stimulation able to modify the natural course of Parkinson's disease? *Front Neurosci* 2020 epub 14:492 <https://pubmed.ncbi.nlm.nih.gov/32581675>
<https://www.frontiersin.org/articles/10.3389/fnins.2020.00492/full>
 28. Robins D, Figue M, Mayberg H, Finkelstein J. Utilizing user-centered EHR design for systematic deep brain stimulation data collection. *AMIA Jt Summits Transl Sci Proc* 2020 2020:527-532
<https://pubmed.ncbi.nlm.nih.gov/32477674>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7233084/>
 29. Roldán A, Portella MJ, Sampedro F, Alonso-Solís A, Sarró S, Rabella M, Grasa EM, Álvarez E, Rodríguez R, Camacho V, Fernandez-León A, Fuentes F, Pérez-Blanco J, Pérez V, Mckenna P, Pomarol-Clotet E, Corripio I. Brain metabolic changes in patients with treatment resistant schizophrenia treated with deep brain stimulation: a series of cases. *J Psychiatr Res* 2020 127:57-61 <https://pubmed.ncbi.nlm.nih.gov/32485433>
 30. Ruoff L, Jarosiewicz B, Zak R, Tchong TK, Neylan TC, Rao VR. Sleep disruption is not observed with brain-responsive neurostimulation for epilepsy. *Epilepsia Open* 2020 5(2):155-165
<https://pubmed.ncbi.nlm.nih.gov/32524041>
<https://onlinelibrary.wiley.com/doi/epdf/10.1002/epi4.12382>
 31. Sabourin S, Khazen O, DiMarzio M, Staudt MD, Williams L, Gillogly M, Durphy J, Hanspal EK, Adam

- OR, Pilitsis JG. Effect of directional deep brain stimulation on sensory thresholds in Parkinson's disease. *Front Hum Neurosci* 2020 epub 14:217 <https://pubmed.ncbi.nlm.nih.gov/32581755>
<https://www.frontiersin.org/articles/10.3389/fnhum.2020.00217/full>
32. Sedrak M, Alaminos-Bouza AL. Applied mathematics of ray tracing and perspective projection in fiducial-based registration of x-ray images. *Cureus* 2020 12(4):e7904
<https://pubmed.ncbi.nlm.nih.gov/32494519>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7263414/>
33. Shin HW, Kim MS, Kim SR, Jeon SR, Chung SJ. Long-term effects of bilateral subthalamic deep brain stimulation on postural instability and gait difficulty in patients with Parkinson's disease. *J Mov Disord* 2020 13(2):127-132 <https://pubmed.ncbi.nlm.nih.gov/32498496> <https://www.e-jmd.org/upload/jmd-19081.pdf>
34. Singer A, Dutta S, Lewis E, Chen Z, Chen JC, Verma N, Avants B, Feldman AK, O'Malley J, Beierlein M, Kemere C, Robinson JT. Magnetolectric materials for miniature, wireless neural stimulation at therapeutic frequencies. *Neuron* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32516574>
35. Strzalkowski N, Sondergaard RE, Gan LS, Kiss ZH. Case studies in neuroscience: deep brain stimulation changes upper limb cortical motor maps in dystonia. *J Neurophysiol* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32579422>
36. Tambirajoo K, Furlanetti L, Hasegawa H, Raslan A, Gimeno H, Lin JP, Selway R, Ashkan K. Deep brain stimulation of the internal pallidum in lesch-nyhan syndrome: clinical outcomes and connectivity analysis. *Neuromodulation* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32573906>
<https://onlinelibrary.wiley.com/doi/epdf/10.1111/ner.13217>
37. Tassigny D, Soler-Rico M, Delavallée M, Santos SF, Tahry RE, Raftopoulos C. Anterior thalamic nucleus deep brain stimulation for refractory epilepsy: preliminary results in our first 5 patients. *Neurochirurgie* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32497543>
38. Treu S, Strange B, Oxenford S, Neumann WJ, Kühn A, Li N, Horn A. Deep brain stimulation: imaging on a group level. *Neuroimage* 2020 epub 117018
<https://pubmed.ncbi.nlm.nih.gov/32505698>
<https://www.sciencedirect.com/science/article/pii/S1053811920305048?via%3Dihub>
39. Villalba Martínez G, Justicia A, Salgado P, Ginés JM, Guardiola R, Cedrón C, Polo M, Delgado-Martínez I, Medrano S, Manero RM, Conesa G, Faus G, Grau A, Elices M, Pérez V. A randomized trial of deep brain stimulation to the subcallosal cingulate and nucleus accumbens in patients with treatment- refractory, chronic, and severe anorexia nervosa: initial results at 6 months of follow up. *J Clin Med* 2020 9(6):E1946 <https://pubmed.ncbi.nlm.nih.gov/32580399>
<https://www.mdpi.com/2077-0383/9/6/1946>
40. Vitek JL, Jain R, Chen L, Tröster AI, Schrock LE, House PA, Giroux ML, Hebb AO, Farris SM, Whiting DM, Leichter TA, Ostrem JL, San Luciano M, Galifianakis N, Verhagen Metman L, Sani S, Karl JA, Siddiqui MS, Tatter SB, Ul Haq I, Machado AG, Gostkowski M, Tagliati M, Mamelak AN, Okun MS, Foote KD, Moguel-Cobos G, Ponce FA, Pahwa R, Nazzaro JM, Buetefisch CM, Gross RE, Luca CC, Jagid JR, Revuelta GJ, Takacs I, Pourfar MH, Mogilner AY, Duker AP, Mandybur GT, Rosenow JM, Cooper SE, Park MC, Khandhar SM, Sedrak M, Phibbs FT, Pilitsis JG, Uitti RJ, Starr PA. Subthalamic nucleus deep brain stimulation with a multiple independent constant current-controlled device in Parkinson's disease (INTREPID): a multicentre, double-blind, randomised, sham-controlled study. *Lancet Neurol* 2020 19(6):491-501 <https://pubmed.ncbi.nlm.nih.gov/32470421>
41. Wang S, Wang X, Zhao M, Li T, Zhang C, Wang M, Luan G, Guan Y. Long-term efficacy and cognitive effects of voltage-based deep brain stimulation for drug- resistant essential tremor. *Clin Neurol Neurosurg* 2020 epub 194:105940 <https://pubmed.ncbi.nlm.nih.gov/32480294>
42. Wu H, Yan X, Tang D, Gu W, Luan Y, Cai H, Zhou C, Xiao C. Internal states influence the representation and modulation of food intake by subthalamic neurons. *Neurosci Bull* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32567027>

43. Zhang C, Wang L, Hu W, Wang T, Zhao Y, Pan Y, Almeida L, Ramirez-Zamora A, Sun B, Li D. Combined unilateral subthalamic nucleus and contralateral globus pallidus interna deep brain stimulation for treatment of Parkinson disease: a pilot study of symptom-tailored stimulation. *Neurosurgery* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32459849> Access free full text from this link: <https://academic.oup.com/neurosurgery/article/doi/10.1093/neuros/nyaa201/5847859>
44. Zhang C, Zhu K, Li D, Voon V, Sun B. Deep brain stimulation telemedicine for psychiatric patients during the COVID-19 pandemic. *Brain Stimul* 2020 13(5):1263-1264 <https://pubmed.ncbi.nlm.nih.gov/32540452> [https://www.brainstimjrnl.com/article/S1935-861X\(20\)30129-7/pdf](https://www.brainstimjrnl.com/article/S1935-861X(20)30129-7/pdf)
45. Zhang J, Hu W, Chen H, Meng F, Li L, Okun MS. Implementation of a novel bluetooth technology for remote deep brain stimulation programming: the pre- and post-COVID-19 Beijing experience. *Mov Disord* 2020 35(6):909-910 <https://pubmed.ncbi.nlm.nih.gov/32478886> <https://onlinelibrary.wiley.com/doi/epdf/10.1002/mds.28098>

DRG

1. Graham RD, Bruns TM, Duan B, Lempka SF. The effect of clinically controllable factors on neural activation during dorsal root ganglion stimulation. *Neuromodulation* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32583523> <https://onlinelibrary.wiley.com/doi/epdf/10.1111/ner.13211>
2. Horan M, Jacobsen AH, Scherer C, Rosenlund C, Gulisano HA, Sjøe M, Sørensen JCH, Meier K, Blichfeldt-Eckhardt MR. Complications and effects of dorsal root ganglion stimulation in the treatment of chronic neuropathic pain: a nationwide cohort study in Denmark. *Neuromodulation* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32539189> <https://onlinelibrary.wiley.com/doi/epdf/10.1111/ner.13171>
3. Kretzschmar M, Reining M, Schwarz MA. Three-year outcomes after dorsal root ganglion stimulation in the treatment of neuropathic pain after peripheral nerve injury of upper and lower extremities. *Neuromodulation* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32573868> <https://onlinelibrary.wiley.com/doi/epdf/10.1111/ner.13222>

SCS

1. Corallo F, De Salvo S, Cannistraci C, Lo Buono V, Di Cara M, Florida D, Cerra F, Romeo L, Pria D, Bramanti P, Marino S, Bonanno L. Chronic pain and spinal cord stimulation. *Medicine (Baltimore)* 2020 99(22):e20490 <https://pubmed.ncbi.nlm.nih.gov/32481461> https://journals.lww.com/md-journal/FullText/2020/05290/Chronic_pain_and_spinal_cord_stimulation.106.aspx
2. Costandi S, Mekhail N, Azer G, Mehanny DS, Hanna D, Salma Y, Bolash R, Saweris Y. Longevity and utilization cost of rechargeable and non-rechargeable spinal cord stimulation implants: a comparative study. *Pain Pract* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32543118>
3. De Groote S, Goudman L, Linderth B, Buyck F, Rigoard P, De Jaeger M, Van Schuerbeek P, Peeters R, Sunaert S, Moens M. A regions of interest voxel-based morphometry study of the human brain during high-frequency spinal cord stimulation in patients with failed back surgery syndrome. *Pain Pract* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32470180/>
4. Dougherty MC, Woodroffe RW, Wilson S, Gillies GT, Howard MA 3rd, Carnahan RM. Risk factors and survival analysis of spinal cord stimulator explantation. *Neuromodulation* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32491256> <https://onlinelibrary.wiley.com/doi/epdf/10.1111/ner.13173>
5. Eriksen LE, Terkelsen AJ, Sørensen JCH, Knudsen ALH, Meier K. Multiple limb involvement in a severe case of complex regional pain syndrome treated with spinal cord stimulation: a case report. *A A Pract* 2020 14(7):e01224 <https://pubmed.ncbi.nlm.nih.gov/32520472>
6. Falowski SM, Moore GA, Cornidez EG, Hutcheson JK, Candido K, Peña I, Blomme B, Capobianco

- RA. Improved psychosocial and functional outcomes and reduced opioid usage following burst spinal cord stimulation. *Neuromodulation* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32583937>
<https://onlinelibrary.wiley.com/doi/epdf/10.1111/ner.13226>
7. Fishman MA, Calodney A, Kim P, Slezak J, Benyamin R, Rehman A, Soto E, Yang T, Hacobian A, Griffith L, Yu C, Vallejo R. Prospective, multicenter feasibility study to evaluate differential target multiplexed spinal cord stimulation programming in subjects with chronic intractable back pain with or without leg pain. *Pain Pract* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32462791>
 8. Gupta M, Scowcroft J, Kloster D, Guirguis M, Carlson J, McJunkin T, Chaiban G, Israel A, Subbaroyan J. 10 kHz SCS for chronic postsurgical pain: results from a 12-month prospective, multicenter study. *Pain Pract* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32585742>
 9. Hatcher SE, Air EL. Catastrophic failure of spinal cord stimulator paddle electrodes in the cervical spine. *Clin Neurol Neurosurg* 2020 epub 196:106010 <https://pubmed.ncbi.nlm.nih.gov/32563977>
 10. Kapural L, Gupta M, Paicius R, Strodtbeck W, Vorenkamp KE, Gilmore C, Gliner B, Rotte A, Subbaroyan J, Province-Azalde R. Treatment of chronic abdominal pain with 10-kHz spinal cord stimulation: safety and efficacy results from a 12-month prospective, multicenter, feasibility study. *Clin Transl Gastroenterol* 2020 11(2):e00133 <https://pubmed.ncbi.nlm.nih.gov/32463618>
https://journals.lww.com/ctg/FullText/2020/02000/Treatment_of_Chronic_Abdominal_Pain_Wit_h_10_kHz.3.aspx
 11. Leung N, Tsourmas NF, Yuspeh L, Kalia N, Lavin RA, Tao XG, Bernacki EJ. Increased spinal cord stimulator use and continued opioid treatment among injured workers: a regional pilot study. *J Occup Environ Med* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32541622>
 12. Liu B, Yang Y, Zhang Z, Wang H, Fan B, Sima L. Clinical study of spinal cord stimulation and pulsed radiofrequency for management of herpes zoster-related pain persisting beyond acute phase in elderly patients. *Pain Physician* 2020 23(3):263-270 <https://pubmed.ncbi.nlm.nih.gov/32517392>
<https://www.painphysicianjournal.com/current/pdf?article=NzA1Ng%3D%3D&journal=127>
 13. Ridwan S, Ostertun B, Stubbe H, Hans FJ. First report of extraspinal lead migration along a thoracic spinal nerve after spinal cord stimulation. *World Neurosurg* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32540296>
 14. Samotus O, Parrent A, Jog M. Long-term update of the effect of spinal cord stimulation in advanced Parkinson's disease patients. *Brain Stimul* 2020 13(5):1196-1197 <https://pubmed.ncbi.nlm.nih.gov/32504828> [https://www.brainstimjrn.com/article/S1935-861X\(20\)30122-4/pdf](https://www.brainstimjrn.com/article/S1935-861X(20)30122-4/pdf)
 15. Sun L, Fleetwood-Walker S, Mitchell R, Joosten EA, Cheung CW. Prolonged analgesia by spinal cord stimulation following a spinal injury associated with activation of adult neural progenitors. *Pain Pract* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32474998>
 16. Telkes L, Hancu M, Paniccioli S, Grey R, Briotte M, McCarthy K, Raviv N, Pilitsis JG. Differences in EEG patterns between tonic and high frequency spinal cord stimulation in chronic pain patients. *Clin Neurophysiol* 2020 131(8):1731-1740 <https://pubmed.ncbi.nlm.nih.gov/32504934>
 17. Woźniak-Dąbrowska K, Nowacka A, Smuczyński W, Śniegocki M. Skin allergic reaction to a spinal cord stimulation (SCS): an analysis of the world literature and a case report. *Postepy Dermatol Alergol* 2020 37(1):114-116 <https://pubmed.ncbi.nlm.nih.gov/32467695>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7247077/>

SNS

1. De Meyere C, Nuytens F, Parmentier I, D'Hondt M. Five-year single center experience of sacral neuromodulation for isolated fecal incontinence or fecal incontinence combined with low anterior resection syndrome. *Tech Coloproctol* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32556866>

2. High RA, Winkelman W, Panza J, Sanderson DJ, Yuen H, Halder G, Shaver C, Bird ET, Rogers RG, Danford JM. Sacral neuromodulation for overactive bladder in women: do age and comorbidities make a difference? *Int Urogynecol J* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32588075>
3. Timm B, Jayarajan J, Chan G, Bolton D. Botox rechalleng—an additional tool in the management of an incompletely emptying bladder and inadequate overactive symptom control following sacral neuromodulation. *Low Urin Tract Symptoms* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32548938>
4. Tu L, Gharibani P, Yin J, Chen JDZ. Sacral nerve stimulation ameliorates colonic barrier functions in a rodent model of colitis. *Neurogastroenterol Motil* 2020 e13916 <https://pubmed.ncbi.nlm.nih.gov/32537873>
5. Vaganée D, Van de Borne S, Voorham-van der Zalm P, Voorham J, Fransen E, De Wachter S. Pelvic floor muscle electromyography as a guiding tool during lead placement and (re)programming in sacral neuromodulation patients: validity, reliability, and feasibility of the technique. *Neuromodulation* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32558094> <https://onlinelibrary.wiley.com/doi/epdf/10.1111/ner.13177>
6. Vaganée D, Voorham J, Panicker JN, Fransen E, Voorham-van der Zalm P, Van de Borne S, De Wachter S. Neural pathway of bellows response during SNM treatment revisited: Conclusive evidence for direct efferent motor response. *Neurourol Urodyn* 2020 39(5):1576-1583 <https://pubmed.ncbi.nlm.nih.gov/32484961>
7. Vaganée D, Voorham J, Van de Borne S, Voorham-van der Zalm P, Fransen E, De Wachter S. Pelvic floor activation upon stimulation of the sacral spinal nerves in sacral neuromodulation patients. *Neurourol Urodyn* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32585049>

Most clicked links from the June newsletter

1. Andrade P, Heiden P, Hoevels M, Schlamann M, Baldermann JC, Huys D, Visser-Vandewalle V. Modulation of fibers to motor cortex during thalamic dbs in tourette patients correlates with tic reduction. *Brain Sci* 2020 10(5):E302 <https://pubmed.ncbi.nlm.nih.gov/32429216> <https://www.mdpi.com/2076-3425/10/5/302/htm>
2. Bellini G, Best LA, Brechany U, Mills R, Pavese N. Clinical impact of deep brain stimulation on the autonomic system in patients with Parkinson's disease. *Mov Disord Clin Pract* 2020 7(4):373-382 <https://pubmed.ncbi.nlm.nih.gov/32373653>
3. Adair DSP, Gomes KS, Kiss ZHT, Gobbi DG, Starreveld YP. Tactics: an open-source platform for planning, simulating and validating stereotactic surgery. *Comput Assist Surg (Abingdon)* 2020 25(1):1-14 <https://pubmed.ncbi.nlm.nih.gov/32401082> <https://www.tandfonline.com/doi/full/10.1080/24699322.2020.1760354>
4. Shah RV, Kaye AD, Urman RD. Emerging concepts in the closed-loop spinal cord stimulation system: preliminary results of the Avalon study. *Ann Palliat Med* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32434351> <http://apm.amegroups.com/article/view/42795/pdf>
5. Bos MJ, Alzate Sanchez AM, Bancone R, Temel Y, de Greef BTA, Absalom AR, Gommer ED, van Kranen-Mastenbroek VHJM, Buhre WF, Roberts MJ, Janssen MLF. Influence of anesthesia and clinical variables on the firing rate, coefficient of variation and multi-unit activity of the subthalamic nucleus in patients with Parkinson's disease. *J Clin Med* 2020 9(4):E1229 <https://pubmed.ncbi.nlm.nih.gov/32344572> <https://www.mdpi.com/2077-0383/9/4/1229/htm>
6. Al-Ozzi TM, Botero-Posada LF, Lopez Rios AL, Hutchison WD. Single unit and beta oscillatory activities in subthalamic nucleus are modulated during visual choice preference. *Eur J Neurosci* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32378745>
7. Casamento-Moran A, Yacoubi B, Wilkes BJ, Hess CW, Foote KD, Okun MS, Shukla A, Vaillancourt DE, Christou EA. Quantitative separation of tremor and ataxia in essential tremor. *Ann Neurol* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32418250>

8. Bucurenciu I, Staack AM, Gharabaghi A, Steinhoff BJ. High-frequency electrical stimulation of the anterior thalamic nuclei increases vigilance in epilepsy patients during relaxed and drowsy wakefulness. *Epilepsia* 2020 epub <https://pubmed.ncbi.nlm.nih.gov/32385944>

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