



August 2016 News

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A GENEALOGY INTERNET DATABASE BENEFITTED FROM CROWD-SOURCING

Last month, the free genealogy site, familysearch.org, sent out a request for volunteers to index primary documents. The documents (draft registration cards, marriage records, etc.) had been scanned but needed to be formatted to improve search results and access. This is similar to our intention with WIKISTIM. The documents that our citations point to are available in a wide variety of locations (often for a cost) but exist in a format that is not easy to assess or access. We conceived of WIKISTIM in the belief that the neurostimulation community will help us hyper-abstract its literature, and we continue to expect this to occur eventually. We are currently creating a form that will facilitate this effort. In the meantime, imagine the impact when we can hold an indexing event similar to the successful effort carried out by familysearch.org. In a mere 72 hours, 116,475 participants indexed 10,447,887 documents!

CAVEAT

When searching PUBMED for citations about DBS in Parkinson's Disease on August 15th, we found that using the search terms "Parkinson" and "DBS" yielded 2063 hits whereas "Parkinson's Disease" and "DBS" yielded 2627. Most of the nearly 600 citations won't be added to WIKISTIM because they don't present primary data, but we have to assess all of them. Also, we are continuing to add citations from a few other years. We had been using the shorter search term, expecting the results to include (and exceed) those of the longer term, and unexpectedly missed citations. We are in the process of indexing the additional citations. In contrast, our users may be assured that a search of WIKISTIM using either set of terms yields identical numbers.

QUALITY CONTROL

In July, we scoured the DRG, GES, PNS, SCS, and SNS databases, removing the occasional duplicates, updating epubs with definitive citation information whenever possible, and adding links to full-text papers for those that appear in *Neuromodulation*. The GES section cites a lot of abstracts (courtesy of its editor!), and we removed those that duplicated definitive papers. We also added full-text links for these abstracts when they did not appear on PUBMED. After we finish building the DBS database, we will do the same for those citations.

WISH LIST—WE NEED YOUR VOTE!

Please send a short email to wikistim@gmail.com telling us which WIKISTIM enhancement you think we

should pursue as resources become available:

- A section on vagal nerve stimulation
- A section on noninvasive brain stimulation
- Optimized performance on various platforms (screen sizes, browsers, operating systems)
- Linking the data fields to additional information (e.g., descriptions and preferred uses of study designs and outcome criteria, authors' CVs, etc.),
- Incorporating data visualization graphics that will update immediately as data are extrapolated from papers and uploaded, and
- Offering a dynamic user experience, including the ability to save searches and customize the way the site behaves
- Your new idea!

REMINDER: DONATIONS WELCOME

We are grateful for any donation in any amount from those who use this free resource. All donations are 100% deductible for those of you who file US income tax and itemize deductions.

CURRENT STATUS

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

- 371 subscribers (19 new)
- SCS citations 1928 (17 new)
- DBS citations 2286 (277 new: 0 depression; 2 epilepsy; 0 OCD; the rest PD or other)
- SNS citations 776 (2 new)
- PNS citations 45 (1 new)
- DRG citations 36 (1 new)
- GES citations 467 (2 new)

HOW THE NEUROSTIMULATION COMMUNITY CAN HELP

- Submit extracted data from published reports of your choice, or use our datasheets as a guide when you plan your study and write your paper, and then submit the datasheet to us upon journal acceptance.
- Notify us about any reports we might have missed that contain primary data on SCS, SNS, DRG, PNS, GES, DBS/OCD, DBS/Epilepsy, or reports you would like to see added for DBS/PD.
- Suggest website improvements.

FINANCIAL SUPPORT FOR 2015 to 2016

(Listed alphabetically by first name):

- B. Todd Sitzman, MD, MPH
- Greatbatch
- Medtronic
- The NANS Foundation (3-year grant commitment started 2014)
- NEVRO
- Richard B. North, MD
- Thomas Abell, MD

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 papers that report primary data added Aug 16, 2016

DBS Epilepsy (adding to our comprehensive list)

1. Jiltsova E, Möttönen T, Fahlström M, Haapasalo J, Tähtinen T, Peltola J, Öhman J, Larsson EM, Kiekara T, Lehtimäki K. Imaging of anterior nucleus of thalamus using 1.5T MRI for deep brain stimulation targeting in refractory epilepsy. *Neuromodulation* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27398710>
2. Sweeney-Reed CM, Lee H, Rappaport S, Zaehle T, Buentjen L, Voges J, Holtkamp M, Hinrichs H, Heinze HJ, Schmitt FC. Thalamic interictal epileptiform discharges in deep brain stimulated epilepsy patients. *J Neurol* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27485172>

DBS PD (adding to 2015-2016 citations)

1. Abbasi O, Hirschmann J, Schmitz G, Schnitzler A, Butz M. Rejecting deep brain stimulation artefacts from MEG data using ICA and mutual information. *J Neurosci Methods* 2016 268:131-141 <http://www.ncbi.nlm.nih.gov/pubmed/27090949>
2. Alam M, Sanghera MK, Schwabe K, Lütjens G, Jin X, Song J, von Wrangel C, Stewart RM, Jankovic J, Grossman RG, Darbin O, Krauss JK. Globus pallidus internus neuronal activity: a comparative study of linear and non-linear features in patients with dystonia or Parkinson's

- disease. *J Neural Transm (Vienna)* 2016;123(3):231-240
<http://www.ncbi.nlm.nih.gov/pubmed/26597125>
- 3. Alesch F, Jain R, Chen L, Brucke T, Seijo F, San Martin ES, Haegelen C, Verin M, Maarouf M, Barbe MT, Gill S, Whone A, Porta M, Servello D, Timmermann L. A comparison of outcomes between deep brain stimulation under general anesthesia versus conscious sedation with awake evaluation. *Neurosurgery* 2016;63(Suppl 1):155
<http://www.ncbi.nlm.nih.gov/pubmed/27399414>
 - 4. Alhourani A, Korzeniewska A, Wozny TA, Kondylis E, Lipski WJ, Crammond D, Richardson RM. Movement-related dynamics of beta band causal interactions between subthalamic nucleus and sensorimotor cortex revealed through intraoperative recordings in Parkinson's disease. *Neurosurgery* 2016;63(Suppl 1):182 <http://www.ncbi.nlm.nih.gov/pubmed/27399488>
 - 5. Antoniades CA, FitzGerald JJ. Using saccadometry with deep brain stimulation to study normal and pathological brain function. *J Vis Exp* 2016;epub
<http://www.ncbi.nlm.nih.gov/pubmed/27501123>
 - 6. Arocho-Quinones EV, Pahapill PA. Non-infectious peri-electrode edema and contrast enhancement following deep brain stimulation surgery. *Neuromodulation* 2016;epub
<http://www.ncbi.nlm.nih.gov/pubmed/27098925>
 - 7. Asahi T, Kashiwazaki D, Yoneyama T, Noguchi K, Kuroda S. Importance of (123)I-ioflupane SPECT and myocardial MIBG scintigraphy to determine the candidate of deep brain stimulation for Parkinson's disease. *Neurol Med Chir (Tokyo)* 2016;56(3):125-131
<http://www.ncbi.nlm.nih.gov/pubmed/26794041>
 - 8. Asha MJ, Kausar J, Krovvidi H, Shirley C, White A, Chelvarajah R, Hodson JA, Pall H, Mitchell RD. The effect of dopaminergic therapy on intraoperative microelectrode recordings for subthalamic deep brain stimulation under GA: can we operate on patients 'on medications'? *Acta Neurochir (Wien)* 2016;158(2):387-393 <http://www.ncbi.nlm.nih.gov/pubmed/26602236>
 - 9. Aygun D, Kocabicak E, Yildiz MO, Temel Y. Effect of age and disease duration on the levodopa response in patients with advanced Parkinson's disease for deep brain stimulation of the subthalamic nucleus. *Front Neurol* 2016;7:97 <http://www.ncbi.nlm.nih.gov/pubmed/27445964>
 - 10. Belasen A, Youn Y, Gee L, Prusik J, Lai B, Ramirez-Zamora A, Rizvi K, Yeung P, Shin DS, Argoff C, Pilitsis JG. The effects of mechanical and thermal stimuli on local field potentials and single unit activity in Parkinson's disease patients. *Neuromodulation* 2016;epub
<http://www.ncbi.nlm.nih.gov/pubmed/27284636>
 - 11. Bouwyn JP, Derrey S, Lefaucheur R, Fetter D, Rouille A, Le Goff F, Maltête D. Age limits for deep brain stimulation of subthalamic nuclei in Parkinson's disease. *J Parkinsons Dis* 2016;6(2):393-400 <http://www.ncbi.nlm.nih.gov/pubmed/27061064>
 - 12. Chan DT, Zhu CX, Lau CK, Poon TL, Cheung FC, Lee M, Taw B, Hung KN, Choi P, AuYeung M, Chan G, Cheung YF, Chan AY, Yeung JH, Mok VC, Poon WS. Subthalamic nucleus deep brain stimulation for Parkinson's disease in Hong Kong: a prospective territory-wide 2 year follow-up study. *World Neurosurg* 2016;epub <http://www.ncbi.nlm.nih.gov/pubmed/27297243>
 - 13. Chiou SM. Benefits of subthalamic stimulation for elderly parkinsonian patients aged 70 years or older. *Clin Neurol Neurosurg* 2016;149:81-86
<http://www.ncbi.nlm.nih.gov/pubmed/27494146>
 - 14. Coenen VA, Rijntjes M, Prokop T, Piroth T, Amtage F, Urbach H, Reinacher PC. One-pass deep brain stimulation of dentato-rubro-thalamic tract and subthalamic nucleus for tremor-dominant or equivalent type Parkinson's disease. *Acta Neurochir (Wien)* 2016;158(4):773-781
<http://www.ncbi.nlm.nih.gov/pubmed/26876564>
 - 15. Couto J, Grill WM. Kilohertz frequency deep brain stimulation is ineffective at regularizing the firing of model thalamic neurons. *Front Comput Neurosci* 2016;epub 10:22
<http://www.ncbi.nlm.nih.gov/pubmed/27014047>

16. Crespo-Burillo JA, Rivero-Celada D, Saenz-de Cabezón A, Casado-Pellejero J, Alberdi-Viñas J, Alarcia-Alejos R. Deep brain stimulation for patients with Parkinson's disease: effect on caregiver burden. Spanish. *Neurologia* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27443241>
17. Davidson CM, de Paor AM, Cagnan H, Lowery MM. Analysis of oscillatory neural activity in series network models of Parkinson's disease during deep brain stimulation. *IEEE Trans Biomed Eng* 2016 63(1):86-96 <http://www.ncbi.nlm.nih.gov/pubmed/26340768>
18. Delavallée M, Delaunois J, Ruwet J, Jeanjean A, Raftopoulos C. STN DBS for Parkinson's disease: results from a series of ten consecutive patients implanted under general anaesthesia with intraoperative use of 3D fluoroscopy to control lead placement. *Acta Neurochir (Wien)* 2016 158(9):1783-1788 <http://www.ncbi.nlm.nih.gov/pubmed/27405941>
19. Diaz AP, Freitas FC, de Oliveira Thais ME, da Silva Areas FZ, Schwarzbold ML, Debona R, Nunes JC, Guarnieri R, Martinez-Ramirez D, Prediger RD, Shukla AW, Linhares MN, Walz R. Variables associated with physical health-related quality of life in Parkinson's disease patients presenting for deep brain stimulation. *Neurol Sci* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27457654>
20. Falowski S, Safriel Y, Ryan MP, Hargens L. The rate of magnetic resonance imaging in patients with deep brain stimulation. *Stereotact Funct Neurosurg* 2016 94(3):147-153 <http://www.ncbi.nlm.nih.gov/pubmed/27245875>
21. Fiore VG, Rigoli F, Stenner MP, Zaehle T, Hirth F, Heinze HJ, Dolan RJ. Changing pattern in the basal ganglia: motor switching under reduced dopaminergic drive. *Sci Rep* 2016 6:23327 <http://www.ncbi.nlm.nih.gov/pubmed/27004463>
22. Fischer P, Ossandón JP, Keyser J, Gulberti A, Wilming N, Hamel W, Köppen J, Buhmann C, Westphal M, Gerloff C, Moll CK, Engel AK, König P. STN-DBS reduces saccadic hypometria but not visuospatial bias in Parkinson's disease patients. *Front Behav Neurosci* 2016 10:85 <http://www.ncbi.nlm.nih.gov/pubmed/27199693>
23. Fisher IH, 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>
24. Fundament T, Eldridge PR, Green AL, Whone AL, Taylor RS, Williams AC, Schuepbach WM. Deep brain stimulation for Parkinson's disease with early motor complications: a UK cost-effectiveness analysis. *PLoS One* 2016 11(7):e0159340 <http://www.ncbi.nlm.nih.gov/pubmed/27441637>
25. Fytagoridis A, Silburn PA, Coyne TJ, Thevathasan W. Understanding the human pedunculopontine nucleus in Parkinson's disease. *J Neural Transm (Vienna)* 2016 123(7):769-774 <http://www.ncbi.nlm.nih.gov/pubmed/26780720>
26. Geevarghese R, Tuura RO'G, Lumsden DE, Samuel M, Ashkan K. Registration accuracy of CT/MRI fusion for localisation of deep brain stimulation electrode position: an imaging study and systematic review. *Stereotact Funct Neurosurg* 2016 94(3):159-163 <http://www.ncbi.nlm.nih.gov/pubmed/27318464>
27. Georgiev D, Dirnberger G, Wilkinson L, Limousin P, Jahanshahi M. In Parkinson's disease on a probabilistic Go/NoGo task deep brain stimulation of the subthalamic nucleus only interferes with withholding of the most prepotent responses. *Exp Brain Res* 2016 234(4):1133-1143 <http://www.ncbi.nlm.nih.gov/pubmed/26758720>
28. Hacker ML, Currie AD, Molinari AL, Turchan M, Millan SM, Heusinkveld LE, Roach J, Konrad PE, Davis TL, Neimat JS, Phibbs FT, Hedera P, Byrne DW, Charles D. Subthalamic nucleus deep brain stimulation may reduce medication costs in early stage Parkinson's disease. *J Parkinsons Dis* 2016 6(1):125-131 <http://www.ncbi.nlm.nih.gov/pubmed/26967937>
29. Hana A, Hana A, Dooms G, Boecker-Schwarz H, Hertel F. Depiction of dentatorubrothalamic

- tract fibers in patients with Parkinson's disease and multiple sclerosis in deep brain stimulation. *BMC Res Notes* 2016 9:345 <http://www.ncbi.nlm.nih.gov/pubmed/27431652>
- 30. Holt AB, Wilson D, Shinn M, Moehlis J, Netoff TI. Phasic burst stimulation: a closed-loop approach to tuning deep brain stimulation parameters for Parkinson's disease. *PLoS Comput Biol* 2016 12(7):e1005011 <http://www.ncbi.nlm.nih.gov/pubmed/27415832>
 - 31. Inan SY, Soner BC, Sahin AS. Behavioural effects of basal ganglia rho-kinase inhibition in the unilateral 6-hydroxydopamine rat model of Parkinson's disease. *Metab Brain Dis* 2016 31(4):849-857 Erratum 31(4):859 <http://www.ncbi.nlm.nih.gov/pubmed/26996632>
 - 32. Jacob RL, Geddes J, McCartney S, Burchiel KJ. Cost analysis of awake versus asleep deep brain stimulation: a single academic health center experience. *J Neurosurg* 2016 124(5):1517-1523 <http://www.ncbi.nlm.nih.gov/pubmed/26587660>
 - 33. Jia F, Hao H, Meng F, Guo Y, Zhang S, Zhang J, Li L. Patient perspectives on the efficacy of a new kind of rechargeable deep brain stimulators. *Int J Neurosci* 2016 126(11):996-1001 <http://www.ncbi.nlm.nih.gov/pubmed/27435521>
 - 34. Johnson LA, Nebeck SD, Muralidharan A, Johnson MD, Baker KB, Vitek JL. Closed-Loop deep brain stimulation effects on Parkinsonian motor symptoms in a non-human primate - is beta enough? *Brain Stimul* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27401045>
 - 35. Kawamoto Y, Mouri M, Taira T, Iseki H, Masamune K. Cost-effectiveness analysis of deep brain stimulation in patients with Parkinson's disease in Japan. *World Neurosurg* 2016 89:628-635 <http://www.ncbi.nlm.nih.gov/pubmed/26704203>
 - 36. Kobayashi M, Ohira T, Mihara B, Fujimaki T. Changes in intracortical inhibition and clinical symptoms after STN-DBS in Parkinson's disease. *Clin Neurophysiol* 2016 127(4):2031-2037 <http://www.ncbi.nlm.nih.gov/pubmed/26971486>
 - 37. Kojovic M, Higgins A, Jahanshahi M. In Parkinson's disease STN stimulation enhances responsiveness of movement initiation speed to high reward value. *Neuropsychologia* 2016 89:273-280 <http://www.ncbi.nlm.nih.gov/pubmed/27371365>
 - 38. Kostoglou K, Michmizos KP, Stathis P, Sakas D, Nikita KS, Mitsis GD. Classification and prediction of clinical Improvement in deep brain stimulation from intraoperative microelectrode recordings. *IEEE Trans Biomed Eng* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27429431>
 - 39. Kumaravelu K, Brocker DT, Grill WM. A biophysical model of the cortex-basal ganglia-thalamus network in the 6-OHDA lesioned rat model of Parkinson's disease. *J Comput Neurosci* 2016 40(2):207-229 <http://www.ncbi.nlm.nih.gov/pubmed/26867734>
 - 40. Kwon WK, Kim JH, Lee JH, Lim BG, Lee IO, Koh SB, Kwon TH. Microelectrode recording (MER) findings during sleep-aware anesthesia using dexmedetomidine in deep brain stimulation surgery for Parkinson's disease. *Clin Neurol Neurosurg* 2016 143:27-33 <http://www.ncbi.nlm.nih.gov/pubmed/26895206>
 - 41. Lee WW, Ehm G, Yang HJ, Song IH, Lim YH, Kim MR, Kim YE, Hwang JH, Park HR, Lee JM, Kim JW, Kim HJ, Kim C, Kim HC, Park E, Kim IY, Kim DG, Jeon B, Paek SH. Bilateral deep brain stimulation of the subthalamic nucleus under sedation with propofol and fentanyl. *PLoS One* 2016 11(3):e0152619 <http://www.ncbi.nlm.nih.gov/pubmed/27018855>
 - 42. Lezcano E, Gómez-Esteban JC, Tijero B, Bilbao G, Lambarri I, Rodriguez O, Villoria R, Dolado A, Berganzo K, Molano A, de Goegue ER, Pomposo I, Gabilondo I, Zarranz JJ. Long-term impact on quality of life of subthalamic nucleus stimulation in Parkinson's disease. *J Neurol* 2016 263(5):895-905 <http://www.ncbi.nlm.nih.gov/pubmed/26964542>
 - 43. Little S, Beudel M, Zrinzo L, Foltyne T, Limousin P, Hariz M, Neal S, Cheenan B, Cagnan H, Gratwick J, Aziz TZ, Pogosyan A, Brown P. Bilateral adaptive deep brain stimulation is effective in Parkinson's disease. *J Neurol Neurosurg Psychiatry* 2016 87(7):717-721 <http://www.ncbi.nlm.nih.gov/pubmed/26424898>

44. Liu C, Wang J, Deng B, Wei X, Yu H, Li H, Fietkiewicz C, Loparo K. Closed-loop control of tremor-predominant Parkinsonian state based on parameter estimation: a computational study. *IEEE Trans Neural Syst Rehabil Eng* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/26955042>
45. Lizarraga KJ, Jagid JR, Luca CC. Comparative effects of unilateral and bilateral subthalamic nucleus deep brain stimulation on gait kinematics in Parkinson's disease: a randomized, blinded study. *J Neurol* 2016 263(8):1652-1656 <http://www.ncbi.nlm.nih.gov/pubmed/27278062>
46. Mathers J, Rick C, Jenkinson C, Garside R, Pall H, Mitchell R, Bayliss S, Jones LL. Patients' experiences of deep brain stimulation for Parkinson's disease: a qualitative systematic review and synthesis. *BMJ Open* 2016 6(6):e011525 <http://www.ncbi.nlm.nih.gov/pubmed/27338883>
47. Matias CM, Silva D, Machado AG, Cooper SE. 'Rescue' of bilateral subthalamic stimulation by bilateral pallidal stimulation: case report. *J Neurosurg* 2016 124(2):417-421 <http://www.ncbi.nlm.nih.gov/pubmed/26230477>
48. Mayer JS, Neimat J, Folley BS, Bourne SK, Konrad PE, Charles D, Park S. Deep brain stimulation of the subthalamic nucleus alters frontal activity during spatial working memory maintenance of patients with Parkinson's disease. *Neurocase* 2016 22(4):369-378 <http://www.ncbi.nlm.nih.gov/pubmed/27337498>
49. Mazzone P, Vilela Filho O, Viselli F, Insola A, Sposito S, Vitale F, Scarnati E. Our first decade of experience in deep brain stimulation of the brainstem: elucidating the mechanism of action of stimulation of the ventrolateral pontine tegmentum. *J Neural Transm (Vienna)* 2016 123(7):751-767 <http://www.ncbi.nlm.nih.gov/pubmed/26865208>
50. McEvoy J, Ughratdar I, Schwarz S, Basu S. Electrophysiological validation of STN-SNr boundary depicted by susceptibility-weighted MRI. *Acta Neurochir (Wien)* 2015 157(12):2129-2134 <http://www.ncbi.nlm.nih.gov/pubmed/26489736>
51. Meissner SN, Südmeier M, Keitel A, Pollok B, Bellebaum C. Facilitating effects of deep brain stimulation on feedback learning in Parkinson's disease. *Behav Brain Res* 2016 313:88-96 <http://www.ncbi.nlm.nih.gov/pubmed/27374161>
52. Min HK, Ross EK, Jo HJ, Cho S, Settell ML, Jeong JH, Duffy PS, Chang SY, Bennet KE, Blaha CD, Lee KH. Dopamine release in the nonhuman primate caudate and putamen depends upon site of stimulation in the subthalamic nucleus. *J Neurosci* 2016 36(22):6022-6029 <http://www.ncbi.nlm.nih.gov/pubmed/27251623>
53. Mirzadeh Z, Chapple K, Lambert M, Evidente VG, Mahant P, Ospina MC, Samanta J, Moguel-Cobos G, Salins N, Lieberman A, Tröster AI, Dhall R, Ponce FA. Parkinson's disease outcomes after intraoperative CT-guided 'asleep' deep brain stimulation in the globus pallidus internus. *J Neurosurg* 2016 124(4):902-907 <http://www.ncbi.nlm.nih.gov/pubmed/26452116>
54. Mo SJ, Linder J, Blomstedt P, Granåsen G, Forsgren L, Hariz M. Long-term dopamine transporter imaging in Parkinson's disease treated with zona incerta stimulation. *Nucl Med Commun* 2016 37(5):499-508 <http://www.ncbi.nlm.nih.gov/pubmed/26716545>
55. Moro E, Schüpbach M, Wächter T, Allert N, Eleopra R, Honey CR, Rueda M, Schiess MC, Shimo Y, Valkovic P, Whone A, Stoeverlaar H. Referring Parkinson's disease patients for deep brain stimulation: a RAND/UCLA appropriateness study. *J Neurol* 2016 263(1):112-119 <http://www.ncbi.nlm.nih.gov/pubmed/26530503>
56. Neumann WJ, Staub F, Horn A, Schanda J, Mueller J, Schneider GH, Brown P, Kühn AA. Deep brain recordings using an implanted pulse generator in Parkinson's disease. *Neuromodulation* 2016 19(1):20-24 <http://www.ncbi.nlm.nih.gov/pubmed/26387795>
57. Ory S, Le Jeune F, Haegelen C, Vicente S, Philippot P, Dondaine T, Jannin P, Drapier S, Drapier D, Sauleau P, Vérit M, Péron J. Pre-frontal-insular-cerebellar modifications correlate with disgust feeling blunting after subthalamic stimulation: a positron emission tomography study in Parkinson's disease. *J Neuropsychol* 2015 epub <http://www.ncbi.nlm.nih.gov/pubmed/26670087>

58. Ostrem JL, Ziman N, Galifianakis NB, Starr PA, Luciano MS, Katz M, Racine CA, Martin AJ, Markun LC, Larson PS. Clinical outcomes using ClearPoint interventional MRI for deep brain stimulation lead placement in Parkinson's disease. *J Neurosurg* 2016;124(4):908-916 <http://www.ncbi.nlm.nih.gov/pubmed/26495947>
59. Pereira JLB, Furie S, Sharim J, Yazdi D, DeSalles AAF, Pouratian N. Lateralization of the subthalamic nucleus with age in Parkinson's disease. *Basal Ganglia* 2016;6(2):83-88 <http://www.ncbi.nlm.nih.gov/pubmed/26900546>
60. Petersen MV, Lund TE, Sunde N, Frandsen J, Rosendal F, Juul N, Østergaard K. Probabilistic versus deterministic tractography for delineation of the cortico-subthalamic hyperdirect pathway in patients with Parkinson disease selected for deep brain stimulation. *J Neurosurg* 2016;epub:1-12 <http://www.ncbi.nlm.nih.gov/pubmed/27392264>
61. Pietzsch JB, Garner AM, Marks WJ Jr. Cost-effectiveness of deep brain stimulation for advanced Parkinson's disease in the United States. *Neuromodulation* 2016;epub <http://www.ncbi.nlm.nih.gov/pubmed/27491661>
62. Pote I, Torkamani M, Kefalopoulou ZM, Zrinzo L, Limousin-Dowsey P, Foltynie T, Speekenbrink M, Jahanshahi M. Subthalamic nucleus deep brain stimulation induces impulsive action when patients with Parkinson's disease act under speed pressure. *Exp Brain Res* 2016;234(7):1837-1848 <http://www.ncbi.nlm.nih.gov/pubmed/26892884>
63. Pourfar MH, Mogilner AY. Lead angle matters: side effects of deep brain stimulation improved with adjustment of lead angle. *Neuromodulation* 2016;epub <http://www.ncbi.nlm.nih.gov/pubmed/27489123>
64. Preda F, Cavandoli C, Lettieri C, Pilleri M, Antonini A, Eleopra R, Mondani M, Martinuzzi A, Sarubbo S, Ghisellini G, Trezza A, Cavallo MA, Landi A, Sensi M. Switching from constant voltage to constant current in deep brain stimulation: a multicenter experience of mixed implants for movement disorders. *Eur J Neurol* 2016;23(1):190-195 <http://www.ncbi.nlm.nih.gov/pubmed/26498428>
65. Qiu MH, Chen MC, Wu J, Nelson D, Lu J. Deep brain stimulation in the globus pallidus externa promotes sleep. *Neuroscience* 2016;322:115-120 <http://www.ncbi.nlm.nih.gov/pubmed/26917269>
66. Sanders TH, Jaeger D. Optogenetic stimulation of cortico-subthalamic projections is sufficient to ameliorate bradykinesia in 6-ohda lesioned mice. *Neurobiol Dis* 2016;95:225-237 <http://www.ncbi.nlm.nih.gov/pubmed/27452483>
67. Sayad M, Zouambia M, Chaouch M, Ferrat F, Nebbal M, Bendini M, Lesage S, Brice A, Brahim Errahmani M, Asselah B. Greater improvement in LRRK2 G2019S patients undergoing subthalamic nucleus deep brain stimulation compared to non-mutation carriers. *BMC Neurosci* 2016;17:6 <http://www.ncbi.nlm.nih.gov/pubmed/26831335>
68. Scarnati E, Vitale F, Capozzo A, Mazzone P. Cholinergic input from the pedunculopontine nucleus to the cerebellum: implications for deep brain stimulation in Parkinson's disease. *Neural Regen Res* 2016;11(5):729-730 <http://www.ncbi.nlm.nih.gov/pubmed/27335550>
69. Scholten M, Govindan RB, Braun C, Bloem BR, Plewnia C, Krüger R, Gharabaghi A, Weiss D. Cortical correlates of susceptibility to upper limb freezing in Parkinson's disease. *Clin Neurophysiol* 2016;127(6):2386-2393 <http://www.ncbi.nlm.nih.gov/pubmed/27178857>
70. Sidiropoulos C, Rammo R, Merker B, Mahajan A, LeWitt P, Kaminski P, Womble M, Zec A, Taylor D, Wall J, Schwab JM. Intraoperative MRI for deep brain stimulation lead placement in Parkinson's disease: 1 year motor and neuropsychological outcomes. *J Neurol* 2016;263(6):1226-1231 <http://www.ncbi.nlm.nih.gov/pubmed/27126457>
71. Sidtis JJ, Alken AG, Tagliati M, Alterman R, Van Lancker Sidtis D. Subthalamic stimulation reduces vowel space at the initiation of sustained production: implications for articulatory motor control in Parkinson's disease. *J Parkinsons Dis* 2016;6(2):361-370

- http://www.ncbi.nlm.nih.gov/pubmed/27003219
72. Strumpf H, Noesselt T, Schoenfeld MA, Voges J, Panther P, Kaufmann J, Heinze HJ, Hopf JM. Deep brain stimulation of the pedunculopontine tegmental nucleus (PPN) influences visual contrast sensitivity in human observers. *PLoS One* 2016 11(5):e0155206
http://www.ncbi.nlm.nih.gov/pubmed/27167979
73. Sun L, Hinrichs H. Moving average template subtraction to remove stimulation artefacts in EEGs and LFPs recorded during deep brain stimulation. *J Neurosci Methods* 2016 266:126-136
http://www.ncbi.nlm.nih.gov/pubmed/27039973
74. Teive HA, Moro A, Moscovitch M, Munhoz RP. Increased sexual arousal in patients with movement disorders. *Arq Neuropsiquiatr* 2016 74(4):303-306
http://www.ncbi.nlm.nih.gov/pubmed/27097003
75. Telkes I, Jimenez-Shahed J, Viswanathan A, Abosch A, Ince NF. Prediction of STN-DBS electrode implantation track in Parkinson's disease by using local field potentials. *Front Neurosci* 2016 10:198 http://www.ncbi.nlm.nih.gov/pubmed/27242404
76. Timmermann L, Jain R, Chen L, Brucke T, Seijo F, San Martin ES, Haegelen C, Verin M, Visser-Vandewalle V, Barbe MT, Gill S, Whone A, Porta M, Servello D, Alesch F. VANTAGE Trial: three-year outcomes of a prospective, multicenter trial evaluating deep brain stimulation with a new multiple-source, constant-current rechargeable system in Parkinson disease. *Neurosurgery* 2016 63(Suppl 1):155 http://www.ncbi.nlm.nih.gov/pubmed/27399413
77. Udupa K, Bahl N, Ni Z, Gunraj C, Mazzella F, Moro E, Hodaie M, Lozano AM, Lang AE, Chen R. Cortical plasticity induction by pairing subthalamic nucleus deep-brain stimulation and primary motor cortical transcranial magnetic stimulation in Parkinson's disease. *J Neurosci* 2016 36(2):396-404 http://www.ncbi.nlm.nih.gov/pubmed/26758832
78. van Horne CG, Quintero JE, Gurwell JA, Wagner RP, Slevin JT, Gerhardt GA. Implantation of autologous peripheral nerve grafts into the substantia nigra of subjects with idiopathic Parkinson's disease treated with bilateral STN DBS: a report of safety and feasibility. *J Neurosurg* 2016 1-8 http://www.ncbi.nlm.nih.gov/pubmed/27153166
79. van Laar PJ, Marinus Oterdoom DL, Ter Horst GJ, van Hulzen AL, de Graaf EK, Hoogduin H, Meiners LC, van Dijk JM. Surgical accuracy of 3-Tesla versus 7-Tesla MRI in deep brain stimulation for Parkinson's disease. *World Neurosurg* 2016 epub
http://www.ncbi.nlm.nih.gov/pubmed/27368505
80. Van Lier S, Batens K, Santens P, Van Roost D, Van Herreweghe M, De Letter M. The influence of subthalamic nucleus stimulation on pragmatic language production in Parkinson's disease. *Acta Neurol Belg* 2016 116(2):163-170 http://www.ncbi.nlm.nih.gov/pubmed/26442686
81. van Riesen C, Tsironis G, Gruber D, Klostermann F, Krause P, Schneider GH, Kupsch A. Disease-specific longevity of impulse generators in deep brain stimulation and review of the literature. *J Neural Transm (Vienna)* 2016 123(6):621-630 http://www.ncbi.nlm.nih.gov/pubmed/27198700
82. Volkmann J, Chabardes S, Steinke GK, Carcieri S. DIRECT DBS: a prospective, multicenter clinical trial with blinding for a directional deep brain stimulation lead. *Neurosurgery* 2016 63(Suppl 1):211-2 http://www.ncbi.nlm.nih.gov/pubmed/27399572
83. Walling IT, Kaszuba BC, Gee L, Shin D, Pilitsis JG. Effects of subthalamic deep brain stimulation with duloxetine on mechanical and thermal thresholds in 6-hydroxydopamine-lesioned rats. *Neurosurgery* 2016 63(Suppl 1):150 http://www.ncbi.nlm.nih.gov/pubmed/27399399
84. Walter U, Müller JU, Rösche J, Kirsch M, Grossmann A, Benecke R, Wittstock M, Wolters A. Magnetic resonance-transcranial ultrasound fusion imaging: a novel tool for brain electrode location. *Mov Disord* 2016 31(3):302-309 http://www.ncbi.nlm.nih.gov/pubmed/26362398
85. Wang DD, de Hemptinne C, Miocinovic S, Qasim SE, Miller AM, Ostrem JL, Galifianakis NB, San Luciano M, Starr PA. Subthalamic local field potentials in Parkinson's disease and isolated dystonia: an evaluation of potential biomarkers. *Neurobiol Dis* 2016 89:213-222

- <http://www.ncbi.nlm.nih.gov/pubmed/26884091>
86. Wang J, Nebeck S, Muralidharan A, Johnson MD, Vitek JL, Baker KB. Coordinated reset deep brain stimulation of subthalamic nucleus produces long-lasting, dose-dependent motor improvements in the 1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine non-human primate model of Parkinsonism. *Brain Stimul* 2016 9(4):609-617
<http://www.ncbi.nlm.nih.gov/pubmed/27151601>
 87. Wessel JR, Ghahremani A, Udupa K, Saha U, Kalia SK, Hodaie M, Lozano AM, Aron AR, Chen R. Stop-related subthalamic beta activity indexes global motor suppression in Parkinson's disease. *Mov Disord* 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27474845>
 88. Yousif N, Bhatt H, Bain PG, Nandi D, Seemungal BM. The effect of pedunculopontine nucleus deep brain stimulation on postural sway and vestibular perception. *Eur J Neurol* 2016 23(3):668-670 <http://www.ncbi.nlm.nih.gov/pubmed/26800658>
 89. Zaccaria A, Bouamrani A, Chabardès S, El Atifi M, Seigneuret E, Lobrinus JA, Dubois-Dauphin M, Berger F, Burkhard PR. Deep brain stimulation-associated brain tissue imprints: a new in vivo approach to biological research in human Parkinson's disease. *Mol Neurodegener* 2016 11:12
<http://www.ncbi.nlm.nih.gov/pubmed/26822202>
 90. Zavala B, Tan H, Ashkan K, Foltynie T, Limousin P, Zrinzo L, Zaghloul K, Brown P. Human subthalamic nucleus-medial frontal cortex theta phase coherence is involved in conflict and error related cortical monitoring. *Neuroimage* 2016 137:178-187
<http://www.ncbi.nlm.nih.gov/pubmed/27181763>
 91. Zhao Z, Gong R, Huang H, Wang J. Design, fabrication, simulation and characterization of a novel dual-sided microelectrode array for deep brain recording and stimulation. *Sensors (Basel)* 2016 16(6) <http://www.ncbi.nlm.nih.gov/pubmed/27314356>

DBS PD (catching up—this month adding citations from 2006)

1. Agid Y, Schüpbach M, Gargiulo M, Mallet L, Houeto JL, Behar C, Maltête D, Mesnage V, Welter ML. Neurosurgery in Parkinson's disease: the doctor is happy, the patient less so? *J Neural Transm Suppl* 2006 (70):409-414 <http://www.ncbi.nlm.nih.gov/pubmed/17017560>
2. Alonso-Frech F, Zamarbide I, Alegre M, Rodríguez-Oroz MC, Guridi J, Manrique M, Valencia M, Artieda J, Obeso JA. Slow oscillatory activity and levodopa-induced dyskinésias in Parkinson's disease. *Brain* 2006 129(Pt 7):1748-1757 <http://www.ncbi.nlm.nih.gov/pubmed/16684788>
3. Amirnovin R, Williams ZM, Cosgrove GR, Eskandar EN. Experience with microelectrode guided subthalamic nucleus deep brain stimulation. *Neurosurgery* 2006 58(1 Suppl):ONS96-102
<http://www.ncbi.nlm.nih.gov/pubmed/16543878>
4. Anderson TR, Hu B, Iremonger K, Kiss ZH. Selective attenuation of afferent synaptic transmission as a mechanism of thalamic deep brain stimulation-induced tremor arrest. *J Neurosci* 2006 26(3):841-850 <http://www.ncbi.nlm.nih.gov/pubmed/16421304>
5. Apetauerova D, Ryan RK, Ro SI, Arle J, Shils J, Papavassiliou E, Tarsy D. End of day dyskinesia in advanced Parkinson's disease can be eliminated by bilateral subthalamic nucleus or globus pallidus deep brain stimulation. *Mov Disord* 2006 21(8):1277-1279
<http://www.ncbi.nlm.nih.gov/pubmed/16637040>
6. Arantes PR, Cardoso EF, Barreiros MA, Teixeira MJ, Gonçalves MR, Barbosa ER, Sukwinder SS, Leite CC, Amaro E Jr. Performing functional magnetic resonance imaging in patients with Parkinson's disease treated with deep brain stimulation. *Mov Disord* 2006 21(8):1154-1162
<http://www.ncbi.nlm.nih.gov/pubmed/16671094>
7. Asanuma K, Tang C, Ma Y, Dhawan V, Mattis P, Edwards C, Kaplitt MG, Feigin A, Eidelberg D. Network modulation in the treatment of Parkinson's disease. *Brain* 2006 129(Pt 10):2667-2678
<http://www.ncbi.nlm.nih.gov/pubmed/16844713>
8. Aström M, Johansson JD, Hariz MI, Eriksson O, Wårdell K. The effect of cystic cavities on deep

- brain stimulation in the basal ganglia: a simulation-based study. *J Neural Eng* 2006 3(2):132-138
<http://www.ncbi.nlm.nih.gov/pubmed/16705269>
- 9. Baker KB, Tkach JA, Phillips MD, Rezai AR. Variability in RF-induced heating of a deep brain stimulation implant across MR systems. *J Magn Reson Imaging* 2006 24(6):1236-1242
<http://www.ncbi.nlm.nih.gov/pubmed/17078088>
 - 10. Baron MS, Noonan JB, Mewes K. Restricted ablative lesions in motor portions of GPi in primates produce extensive loss of motor-related neurons and degeneration of the lenticular fasciculus. *Exp Neurol* 2006 202(1):67-75 <http://www.ncbi.nlm.nih.gov/pubmed/16814773>
 - 11. Benvenuti E, Cecchi F, Colombini A, Gori G. Extradural motor cortex stimulation as a method to treat advanced Parkinson's disease: new perspectives in geriatric medicine. *Aging Clin Exp Res* 2006 18(4):347-348 <http://www.ncbi.nlm.nih.gov/pubmed/17063072>
 - 12. Blomstedt P, Hariz GM, Hariz MI. Pallidotomy versus pallidal stimulation. *Parkinsonism Relat Disord* 2006 12(5):296-301 <http://www.ncbi.nlm.nih.gov/pubmed/16554182>
 - 13. Blomstedt P, Hariz MI. Are complications less common in deep brain stimulation than in ablative procedures for movement disorders? *Stereotact Funct Neurosurg* 2006 84(2-3):72-81
<http://www.ncbi.nlm.nih.gov/pubmed/16790989>
 - 14. Blomstedt P, Jabre M, Bejjani BP, Koskinen LO. Electromagnetic environmental influences on implanted deep brain stimulators. *Neuromodulation* 2006 9(4):262-269
<http://www.ncbi.nlm.nih.gov/pubmed/22151760>
 - 15. Boulet S, Lacombe E, Carcenac C, Feuerstein C, Sgambato-Faure V, Poupart A, Savasta M. Subthalamic stimulation-induced forelimb dyskinesias are linked to an increase in glutamate levels in the substantia nigra pars reticulata. *J Neurosci* 2006 26(42):10768-10776
<http://www.ncbi.nlm.nih.gov/pubmed/17050715>
 - 16. Breit S, LeBas JF, Koudsie A, Schulz J, Benazzouz A, Pollak P, Benabid AL. Pretargeting for the implantation of stimulation electrodes into the subthalamic nucleus: a comparative study of magnetic resonance imaging and ventriculography. *Neurosurgery* 2006 58(1 Suppl):ONS83-S95
<http://www.ncbi.nlm.nih.gov/pubmed/16543877>
 - 17. Brodsky MA, Hogarth P, Nutt JG. OFF-off rebound dyskinesia in subthalamic nucleus deep brain stimulation of Parkinson's disease. *Mov Disord* 2006 21(9):1487-1490
<http://www.ncbi.nlm.nih.gov/pubmed/16721730>
 - 18. Burghaus L, Hilker R, Thiel A, Galldiks N, Lehnhardt FG, Zaro-Weber O, Sturm V, Heiss WD. Deep brain stimulation of the subthalamic nucleus reversibly deteriorates stuttering in advanced Parkinson's disease. *J Neural Transm (Vienna)* 2006 113(5):625-631
<http://www.ncbi.nlm.nih.gov/pubmed/16075183>
 - 19. Butson CR, Maks CB, McIntyre CC. Sources and effects of electrode impedance during deep brain stimulation. *Clin Neurophysiol* 2006 117(2):447-454
<http://www.ncbi.nlm.nih.gov/pubmed/16376143>
 - 20. Butson CR, McIntyre CC. Role of electrode design on the volume of tissue activated during deep brain stimulation. *J Neural Eng* 2006 3(1):1-8 <http://www.ncbi.nlm.nih.gov/pubmed/16510937>
 - 21. Caire F, Derost P, Coste J, Bonny JM, Durif F, Frenoux E, Villéger A, Lemaire JJ. Subthalamic deep brain stimulation for severe idiopathic Parkinson's disease. Location study of the effective contacts. *French. Neurochirurgie* 2006 52(1):15-25
<http://www.ncbi.nlm.nih.gov/pubmed/16609656>
 - 22. Chakravarty MM, Sadikot AF, Mongia S, Bertrand G, Collins DL. Towards a multi-modal atlas for neurosurgical planning. *Med Image Comput Comput Assist Interv* 2006 9(Pt 2):389-396
<http://www.ncbi.nlm.nih.gov/pubmed/17354796>
 - 23. Chen CC, Pogosyan A, Zrinzo LU, Tisch S, Limousin P, Ashkan K, Yousry T, Hariz MI, Brown P. Intra-operative recordings of local field potentials can help localize the subthalamic nucleus in Parkinson's disease surgery. *Exp Neurol* 2006 198(1):214-221

- <http://www.ncbi.nlm.nih.gov/pubmed/16403500>
24. Chen H, Hua SE, Smith MA, Lenz FA, Shadmehr R. Effects of human cerebellar thalamus disruption on adaptive control of reaching. *Cereb Cortex* 2006;16(10):1462-1473
<http://www.ncbi.nlm.nih.gov/pubmed/16357337>
25. Chen SY, Lee CC, Lin SH, Hsin YL, Lee TW, Yen PS, Chou YC, Lee CW, Annie Hsieh W, Su CF, Lin SZ. Microelectrode recording can be a good adjunct in magnetic resonance image-directed subthalamic nucleus deep brain stimulation for parkinsonism. *Surg Neurol* 2006;65(3):253-260
<http://www.ncbi.nlm.nih.gov/pubmed/16488244>
26. Chevrier E, Fraix V, Krack P, Chabardes S, Benabid AL, Pollak P. Is there a role for physiotherapy during deep brain stimulation surgery in patients with Parkinson's disease? *Eur J Neurol* 2006;13(5):496-498 <http://www.ncbi.nlm.nih.gov/pubmed/16722975>
27. Cho C, Osaki Y, Kunin M, Cohen B, Olanow CW, Raphan T. A model-based approach for assessing parkinsonian gait and effects of levodopa and deep brain stimulation. *Conf Proc IEEE Eng Med Biol Soc* 2006;1:1228-1231 <http://www.ncbi.nlm.nih.gov/pubmed/17946882>
28. Chung SJ, Jeon SR, Kim SR, Sung YH, Lee MC. Bilateral effects of unilateral subthalamic nucleus deep brain stimulation in advanced Parkinson's disease. *Eur Neurol* 2006;56(2):127-132
<http://www.ncbi.nlm.nih.gov/pubmed/16960454>
29. Coenen VA, Fromm C, Kronenbürger M, Rohde I, Reinacher PC, Becker R, Marks B, Gilzbach JM, Rohde V. Electrophysiological proof of diffusion-weighted imaging-derived depiction of the deep-seated pyramidal tract in human. *Zentralbl Neurochir* 2006;67(3):117-122
<http://www.ncbi.nlm.nih.gov/pubmed/16958008>
30. Colloca L, Benedetti F, Bergamasco B, Vighetti S, Zibetti M, Ducati A, Lanotte M, Lopiano L. Electroencephalographic responses to intraoperative subthalamic stimulation. *Neuroreport* 2006;17(14):1465-1468 <http://www.ncbi.nlm.nih.gov/pubmed/16957589>
31. Compta Y, Valls-Solé J, Valldeoriola F, Kumru H, Rumià J. The silent period of the thenar muscles to contralateral and ipsilateral deep brain stimulation. *Clin Neurophysiol* 2006;117(11):2512-2520 <http://www.ncbi.nlm.nih.gov/pubmed/17008124>
32. Corcuff JB, Krim E, Tison F, Foubert-Sanier A, Guehl D, Burbaud P, Cuny E, Baillet L, Gin H, Rigalleau V, Perlemoine C. Subthalamic nucleus stimulation in patients with Parkinson's disease does not increase serum ghrelin levels. *Br J Nutr* 2006;95(5):1028-1029
<http://www.ncbi.nlm.nih.gov/pubmed/16611397>
33. Costa J, Valls-Solé J, Valldeoriola F, Pech C, Rumià J. Single subthalamic nucleus deep brain stimuli inhibit the blink reflex in Parkinson's disease patients. *Brain* 2006;129(Pt 7):1758-1767
<http://www.ncbi.nlm.nih.gov/pubmed/16735455>
34. Coyne T, Silburn P, Cook R, Silberstein P, Mellick G, Sinclair F, Fracchia G, Wasson D, Stanwell P. Rapid subthalamic nucleus deep brain stimulation lead placement utilising CT/MRI fusion, microelectrode recording and test stimulation. *Acta Neurochir Suppl* 2006;99:49-50
<http://www.ncbi.nlm.nih.gov/pubmed/17370763>
35. Crenna P, Carpinella I, Rabuffetti M, Rizzone M, Lopiano L, Lanotte M, Ferrarin M. Impact of subthalamic nucleus stimulation on the initiation of gait in Parkinson's disease. *Exp Brain Res* 2006;172(4):519-532 <http://www.ncbi.nlm.nih.gov/pubmed/16555105>
36. Dagtekin O, Berlet T, Gerbershagen HJ, Dueck M, Giesecke T. Anesthesia and deep brain stimulation: postoperative akinetic state after replacement of impulse generators. *Anesth Analg* 2006;103(3):784 <http://www.ncbi.nlm.nih.gov/pubmed/16931704>
37. Danish SF, Jaggi JL, Moyer JT, Finkel L, Baltuch GH. Conventional MRI is inadequate to delineate the relationship between the red nucleus and subthalamic nucleus in Parkinson's disease. *Stereotact Funct Neurosurg* 2006;84(1):12-18 <http://www.ncbi.nlm.nih.gov/pubmed/16636641>
38. Davis JT, Lyons KE, Pahwa R. Freezing of gait after bilateral subthalamic nucleus stimulation for Parkinson's disease. *Clin Neurol Neurosurg* 2006;108(5):461-464

- <http://www.ncbi.nlm.nih.gov/pubmed/16139421>
39. Deogaonkar A, Deogaonkar M, Lee JY, Ebrahim Z, Schubert A. Propofol-induced dyskinesias controlled with dexmedetomidine during deep brain stimulation surgery. *Anesthesiology* 2006; 104(6):1337-1339 <http://www.ncbi.nlm.nih.gov/pubmed/16732105>
40. Deuschländer A, Asmus F, Marelli E, Klopstock T, Gasser T, Bötzl K. Excellent response to apomorphine in Parkinsonism with optic atrophy unresponsive to oral antiparkinsonian medication. *Mov Disord* 2006; 21(9):1523-1525
<http://www.ncbi.nlm.nih.gov/pubmed/16755578>
41. Devos D, Defebvre L. Effect of deep brain stimulation and L-Dopa on electrocortical rhythms related to movement in Parkinson's disease. *Prog Brain Res* 2006; 159:331-349
<http://www.ncbi.nlm.nih.gov/pubmed/17071241>
42. Devos D, Szurhaj W, Reynolds N, Labey E, Houdayer E, Bourriez JL, Cassim F, Krystkowiak P, Blond S, Destée A, Derambure P, Defebvre L. Predominance of the contralateral movement-related activity in the subthalamo-cortical loop. *Clin Neurophysiol* 2006; 117(10):2315-2327
<http://www.ncbi.nlm.nih.gov/pubmed/16926112>
43. Driver-Dunckley E, Evidente VG, Adler CH, Hillman R, Hernandez J, Fletcher G, Lyons MK. Restless legs syndrome in Parkinson's disease patients may improve with subthalamic stimulation. *Mov Disord* 2006; 21(8):1287-1289
<http://www.ncbi.nlm.nih.gov/pubmed/16671093>
44. Elwassif MM, Kong Q, Vazquez M, Bikson M. Bio-heat transfer model of deep brain stimulation-induced temperature changes. *J Neural Eng* 2006; 3(4):306-315
<http://www.ncbi.nlm.nih.gov/pubmed/17124335>
45. Erola T, Haapaniemi T, Heikkinen E, Huikuri H, Myllyä V. Subthalamic nucleus deep brain stimulation does not alter long-term heart rate variability in Parkinson's disease. *Clin Auton Res* 2006; 16(4):286-288 <http://www.ncbi.nlm.nih.gov/pubmed/16791409>
46. Erola T, Heikkinen ER, Haapaniemi T, Tuominen J, Juolasmaa A, Myllylä VV. Efficacy of bilateral subthalamic nucleus (STN) stimulation in Parkinson's disease. *Acta Neurochir (Wien)* 2006; 148(4):389-394 <http://www.ncbi.nlm.nih.gov/pubmed/16284705>
47. Falkenberg JH, McNames J, Burchiel KJ. Automatic microelectrode recording analysis and visualization of the globus pallidus interna and stereotactic trajectory. *Stereotact Funct Neurosurg* 2006; 84(1):28-34 <http://www.ncbi.nlm.nih.gov/pubmed/16741375>
48. Fang X, Sugiyama K, Akamine S, Namba H. Improvements in motor behavioral tests during deep brain stimulation of the subthalamic nucleus in rats with different degrees of unilateral parkinsonism. *Brain Res* 2006; 1120(1):202-210
<http://www.ncbi.nlm.nih.gov/pubmed/16997286>
49. Fellows SJ, Kronenbürger M, Allert N, Coenen VA, Fromm C, Noth J, Weiss PH. The effect of subthalamic nucleus deep brain stimulation on precision grip abnormalities in Parkinson's disease. *Parkinsonism Relat Disord* 2006; 12(3):149-154
<http://www.ncbi.nlm.nih.gov/pubmed/16549385>
50. Foffani G, Ardolino G, Egidi M, Caputo E, Bossi B, Priori A. Subthalamic oscillatory activities at beta or higher frequency do not change after high-frequency DBS in Parkinson's disease. *Brain Res Bull* 2006; 69(2):123-130 <http://www.ncbi.nlm.nih.gov/pubmed/16533660>
51. Fraix V, Houeto JL, Lagrange C, Le Pen C, Krystkowiak P, Guehl D, Arduin C, Welter ML, Maurel F, Defebvre L, Rougier A, Benabid AL, Mesnage V, Ligier M, Blond S, Burbaud P, Bioulac B, Destée A, Cornu P, Pollak P; SPARK Study Group. Clinical and economic results of bilateral subthalamic nucleus stimulation in Parkinson's disease. *J Neurol Neurosurg Psychiatry* 2006; 77(4):443-449 <http://www.ncbi.nlm.nih.gov/pubmed/16543519>
52. Frysinger RC, Quigg M, Elias WJ. Bipolar deep brain stimulation permits routine EKG, EEG, and polysomnography. *Neurology* 2006; 66(2):268-270

- <http://www.ncbi.nlm.nih.gov/pubmed/16434672>
53. Fukaya C, Otaka T, Obuchi T, Kano T, Nagaoka T, Kobayashi K, Oshima H, Yamamoto T, Katayama Y. Pallidal high-frequency deep brain stimulation for camptocormia: an experience of three cases. *Acta Neurochir Suppl* 2006;99:25-28
<http://www.ncbi.nlm.nih.gov/pubmed/17370758>
54. Funkiewiez A, Arduouin C, Cools R, Krack P, Fraix V, Batir A, Chabardès S, Benabid AL, Robbins TW, Pollak P. Effects of levodopa and subthalamic nucleus stimulation on cognitive and affective functioning in Parkinson's disease. *Mov Disord* 2006;21(10):1656-1662
<http://www.ncbi.nlm.nih.gov/pubmed/16830317>
55. Galati S, Mazzone P, Fedele E, Pisani A, Peppe A, Pierantozzi M, Brusa L, Tropepi D, Moschella V, Raiteri M, Stanzione P, Bernardi G, Stefani A. Biochemical and electrophysiological changes of substantia nigra pars reticulata driven by subthalamic stimulation in patients with Parkinson's disease. *Eur J Neurosci* 2006;23(11):2923-2928
<http://www.ncbi.nlm.nih.gov/pubmed/16819981>
56. Gallagher CL, Garell PC, Montgomery EB Jr. Hemispatial neglect and deep brain stimulation. *Neurology* 2006;66(3):E12 <http://www.ncbi.nlm.nih.gov/pubmed/16476922>
57. Geday J, Ostergaard K, Gjedde A. Stimulation of subthalamic nucleus inhibits emotional activation of fusiform gyrus. *Neuroimage* 2006;33(2):706-714
<http://www.ncbi.nlm.nih.gov/pubmed/16959496>
58. Gimza U, Schreiber U, Habel B, Flehr J, van Rienen U, Gimza J. Matching geometry and stimulation parameters of electrodes for deep brain stimulation experiments--numerical considerations. *J Neurosci Methods* 2006;150(2):212-227
<http://www.ncbi.nlm.nih.gov/pubmed/16095718>
59. Godinho F, Thobois S, Magnin M, Guenot M, Polo G, Benabid I, Xie J, Salvetti A, Garcia-Larrea L, Broussolle E, Mertens P. Subthalamic nucleus stimulation in Parkinson's disease: anatomical and electrophysiological localization of active contacts. *J Neurol* 2006;253(10):1347-1355
<http://www.ncbi.nlm.nih.gov/pubmed/16788774>
60. Goerendt IK, Lawrence AD, Mehta MA, Stern JS, Odin P, Brooks DJ. Distributed neural actions of anti-parkinsonian therapies as revealed by PET. *J Neural Transm (Vienna)* 2006;113(1):75-86
<http://www.ncbi.nlm.nih.gov/pubmed/16049638>
61. Goodman RR, Kim B, McClelland S 3rd, Senatus PB, Winfield LM, Pullman SL, Yu Q, Ford B, McKhann GM 2nd. Operative techniques and morbidity with subthalamic nucleus deep brain stimulation in 100 consecutive patients with advanced Parkinson's disease. *J Neurol Neurosurg Psychiatry* 2006;77(1):12-17 <http://www.ncbi.nlm.nih.gov/pubmed/16361585>
62. Grafton ST, Turner RS, Desmurget M, Bakay R, Delong M, Vitek J, Crutcher M. Normalizing motor-related brain activity: subthalamic nucleus stimulation in Parkinson disease. *Neurology* 2006;66(8):1192-1199 <http://www.ncbi.nlm.nih.gov/pubmed/16636237>
63. Green AL, Bittar RG, Bain P, Scott RB, Joint C, Gregory R, Aziz TZ. STN vs. pallidal stimulation in Parkinson disease: improvement with experience and better patient selection. *Neuromodulation* 2006;9(1):21-27 <http://www.ncbi.nlm.nih.gov/pubmed/22151589>
64. Green AL, Owen SL, Davies P, Moir L, Aziz TZ. Deep brain stimulation for neuropathic cephalgia. *Cephalgia* 2006;26(5):561-567 <http://www.ncbi.nlm.nih.gov/pubmed/16674765>
65. Green AL, Wang S, Owen SL, Paterson DJ, Stein JF, Aziz TZ. Controlling the heart via the brain: a potential new therapy for orthostatic hypotension. *Neurosurgery* 2006;58(6):1176-1183
<http://www.ncbi.nlm.nih.gov/pubmed/16723897>
66. Green AL, Wang S, Owen SL, Paterson DJ, Xie K, Liu X, Bain PG, Stein JF, Aziz TZ. Functional Neurosurgery Resident Award: controlling the cardiovascular system with deep brain stimulation. *Clin Neurosurg* 2006;53:316-323 <http://www.ncbi.nlm.nih.gov/pubmed/17380769>
67. Green AL, Wang S, Owen SL, Xie K, Bittar RG, Stein JF, Paterson DJ, Aziz TZ. Stimulating the

- human midbrain to reveal the link between pain and blood pressure. *Pain* 2006 124(3):349-359
<http://www.ncbi.nlm.nih.gov/pubmed/16781077>
68. Gronchi-Perrin A, Viollier S, Ghika J, Combremont P, Villemure JG, Bogousslavsky J, Burkhard PR, Vingerhoets F. Does subthalamic nucleus deep brain stimulation really improve quality of life in Parkinson's disease? *Mov Disord* 2006 21(9):1465-1468
<http://www.ncbi.nlm.nih.gov/pubmed/16763974>
69. Guehl D, Cuny E, Benazzouz A, Rougier A, Tison F, Machado S, Grabot D, Gross C, Bioulac B, Burbaud P. Side-effects of subthalamic stimulation in Parkinson's disease: clinical evolution and predictive factors. *Eur J Neurol* 2006 13(9):963-971
<http://www.ncbi.nlm.nih.gov/pubmed/16930362>
70. Guehl D, Dehail P, de Sèze MP, Cuny E, Faux P, Tison F, Barat M, Bioulac B, Burbaud P. Evolution of postural stability after subthalamic nucleus stimulation in Parkinson's disease: a combined clinical and posturometric study. *Exp Brain Res* 2006 170(2):206-215
<http://www.ncbi.nlm.nih.gov/pubmed/16328280>
71. Guo T, Finnis KW, Deoni SC, Parrent AG, Peters TM. Comparison of different targeting methods for subthalamic nucleus deep brain stimulation. *Med Image Comput Comput Assist Interv* 2006 9(Pt 1):768-775 <http://www.ncbi.nlm.nih.gov/pubmed/17354960>
72. Guo T, Finnis KW, Parrent AG, Peters TM. Visualization and navigation system development and application for stereotactic deep-brain neurosurgeries. *Comput Aided Surg* 2006 11(5):231-239
<http://www.ncbi.nlm.nih.gov/pubmed/17127648>
73. Hamani C, Schwalb JM, Rezai AR, Dostrovsky JO, Davis KD, Lozano AM. Deep brain stimulation for chronic neuropathic pain: long-term outcome and the incidence of insertional effect. *Pain* 2006 125(1-2):188-196 <http://www.ncbi.nlm.nih.gov/pubmed/16797842>
74. Hanajima R, Chen R, Ashby P, Lozano AM, Hutchison WD, Davis KD, Dostrovsky JO. Intraoperative recording of the very fast oscillatory activities evoked by median nerve stimulation in the human thalamus. *Suppl Clin Neurophysiol* 2006 59:121-126
<http://www.ncbi.nlm.nih.gov/pubmed/16893102>
75. Hanajima R, Dostrovsky JO, Lozano AM, Chen R. Dissociation of thalamic high frequency oscillations and slow component of sensory evoked potentials following damage to ascending pathways. *Clin Neurophysiol* 2006 117(4):906-911
<http://www.ncbi.nlm.nih.gov/pubmed/16495148>
76. Hebb MO, Gaudet P, Mendez I. Deep brain stimulation to treat hyperkinetic symptoms of Cockayne syndrome. *Mov Disord* 2006 21(1):112-115
<http://www.ncbi.nlm.nih.gov/pubmed/16108029>
77. Heimer G, Rivlin M, Israel Z, Bergman H. Synchronizing activity of basal ganglia and pathophysiology of Parkinson's disease. *J Neural Transm Suppl* 2006 (70):17-20
<http://www.ncbi.nlm.nih.gov/pubmed/17017503>
78. Hellmann MA, Djaldetti R, Israel Z, Melamed E. Effect of deep brain subthalamic stimulation on camptocormia and postural abnormalities in idiopathic Parkinson's disease. *Mov Disord* 2006 21(11):2008-2010 <http://www.ncbi.nlm.nih.gov/pubmed/16972244>
79. Hertel F, Züchner M, Weimar I, Gemmar P, Noll B, Bettag M, Decker C. Implantation of electrodes for deep brain stimulation of the subthalamic nucleus in advanced Parkinson's disease with the aid of intraoperative microrecording under general anesthesia. *Neurosurgery* 2006 59(5):E1138 <http://www.ncbi.nlm.nih.gov/pubmed/17143204>
80. Herzog J, Weiss PH, Assmus A, Wefer B, Seif C, Braun PM, Herzog H, Volkmann J, Deuschl G, Fink GR. Subthalamic stimulation modulates cortical control of urinary bladder in Parkinson's disease. *Brain* 2006 129(Pt 12):3366-3375 <http://www.ncbi.nlm.nih.gov/pubmed/17077105>
81. Hidding U, Bäumer T, Siebner HR, Demiralay C, Buhmann C, Weyh T, Moll C, Hamel W, Müncchau A. MEP latency shift after implantation of deep brain stimulation systems in the

- subthalamic nucleus in patients with advanced Parkinson's disease. *Mov Disord* 2006 21(9):1471-1476 <http://www.ncbi.nlm.nih.gov/pubmed/16703590>
82. Houeto JL, Mallet L, Mesnage V, Tezenas du Montcel S, Béhar C, Gargiulo M, Torny F, Pelissolo A, Welter ML, Agid Y. Subthalamic stimulation in Parkinson disease: behavior and social adaptation. *Arch Neurol* 2006 63(8):1090-1095
<http://www.ncbi.nlm.nih.gov/pubmed/16908734>
83. Israel Z. One for two? Exchanging implanted pulse generators for deep brain stimulation. *Neurosurg Rev* 2006 29(1):80-81 <http://www.ncbi.nlm.nih.gov/pubmed/15995883>
84. Jech R, Růžicka E, Urgosík D, Serranová T, Volfová M, Nováková O, Roth J, Dusek P, Mecíř P. Deep brain stimulation of the subthalamic nucleus affects resting EEG and visual evoked potentials in Parkinson's disease. *Clin Neurophysiol* 2006 117(5):1017-1028
<http://www.ncbi.nlm.nih.gov/pubmed/16516544>
85. Jeon SW, Shure MA, Baker KB, Huang D, Rollins AM, Chahlavi A, Rezai AR. A feasibility study of optical coherence tomography for guiding deep brain probes. *J Neurosci Methods* 2006 154(1-2):96-101 <http://www.ncbi.nlm.nih.gov/pubmed/16480773>
86. Jiménez F, Velasco F, Carrillo-Ruiz JD, García L, Madrigal A, Velasco AL, Márquez I. Comparative evaluation of the effects of unilateral lesion versus electrical stimulation of the globus pallidus internus in advanced Parkinson's disease. *Stereotact Funct Neurosurg* 2006 84(2-3):64-71
<http://www.ncbi.nlm.nih.gov/pubmed/16790988>
87. Kalteis K, Standhardt H, Kryspin-Exner I, Brücke T, Volc D, Alesch F. Influence of bilateral STN-stimulation on psychiatric symptoms and psychosocial functioning in patients with Parkinson's disease. *J Neural Transm (Vienna)* 2006 113(9):1191-1206
<http://www.ncbi.nlm.nih.gov/pubmed/16362628>
88. Kano T, Katayama Y, Kobayashi K, Kasai M, Oshima H, Fukaya C, Yamamoto T. Detection of boundaries of subthalamic nucleus by multiple-cell spike density analysis in deep brain stimulation for Parkinson's disease. *Acta Neurochir Suppl* 2006 99:33-35
<http://www.ncbi.nlm.nih.gov/pubmed/17370760>
89. Katayama Y, Kano T, Kobayashi K, Oshima H, Fukaya C, Yamamoto T. Feed-forward control of post-stroke movement disorders by on-demand type stimulation of the thalamus and motor cortex. *Acta Neurochir Suppl* 2006 99:21-23 <http://www.ncbi.nlm.nih.gov/pubmed/17370757>
90. Katayama Y, Oshima H, Kano T, Kobayashi K, Fukaya C, Yamamoto T. Direct effect of subthalamic nucleus stimulation on levodopa-induced peak-dose dyskinesia in patients with Parkinson's disease. *Stereotact Funct Neurosurg* 2006 84(4):176-179
<http://www.ncbi.nlm.nih.gov/pubmed/16905880>
91. Kelly VE, Samii A, Slimp JC, Price R, Goodkin R, Shumway-Cook A. Gait changes in response to subthalamic nucleus stimulation in people with Parkinson disease: a case series report. *J Neurol Phys Ther* 2006 30(4):184-194 <http://www.ncbi.nlm.nih.gov/pubmed/17233926>
92. Kim MS, Jung YT, Sim JH, Kim SJ, Kim JW, Burchiel KJ. Microelectrode recording: lead point in STN-DBS surgery. *Acta Neurochir Suppl* 2006 99:37-42
<http://www.ncbi.nlm.nih.gov/pubmed/17370761>
93. Klostermann F, Wahl M, Marzinik F, Schneider GH, Kupsch A, Curio G. Mental chronometry of target detection: human thalamus leads cortex. *Brain* 2006 129(Pt 4):923-931
<http://www.ncbi.nlm.nih.gov/pubmed/16418179>
94. Koop MM, Andrzejewski A, Hill BC, Heit G, Bronte-Stewart HM. Improvement in a quantitative measure of bradykinesia after microelectrode recording in patients with Parkinson's disease during deep brain stimulation surgery. *Mov Disord* 2006 21(5):673-678
<http://www.ncbi.nlm.nih.gov/pubmed/16440333>
95. Kovacs N, Balas I, Illes Z, Kellenyi L, Doczi TP, Czopf J, Poto L, Nagy F. Uniform qualitative electrophysiological changes in postoperative rest tremor. *Mov Disord* 2006 21(3):318-324

- <http://www.ncbi.nlm.nih.gov/pubmed/16211617>
96. Kovacs N, Nagy F, Kover F, Feldmann A, Llumiguano C, Janszky J, Kotek G, Doczi T, Balas I. Implanted deep brain stimulator and 1.0-Tesla magnetic resonance imaging. *J Magn Reson Imaging* 2006;24(6):1409-1412 <http://www.ncbi.nlm.nih.gov/pubmed/17083120>
 97. Kronenbuerger M, Fromm C, Block F, Coenen VA, Rohde I, Rohde V, Noth J. On-demand deep brain stimulation for essential tremor: a report on four cases. *Mov Disord* 2006;21(3):401-405 <http://www.ncbi.nlm.nih.gov/pubmed/16211619>
 98. Kühn AA, Kupsch A, Schneider GH, Brown P. Reduction in subthalamic 8-35 Hz oscillatory activity correlates with clinical improvement in Parkinson's disease. *Eur J Neurosci* 2006;23(7):1956-1960 <http://www.ncbi.nlm.nih.gov/pubmed/16623853>
 99. Kuncel AM, Cooper SE, Wolgamuth BR, Clyde MA, Snyder SA, Montgomery EB Jr, Rezai AR, Grill WM. Clinical response to varying the stimulus parameters in deep brain stimulation for essential tremor. *Mov Disord* 2006;21(11):1920-1928 <http://www.ncbi.nlm.nih.gov/pubmed/16972236>
 100. Li D, Zuo C, Guan Y, Zhao Y, Shen J, Zan S, Sun B. FDG-PET study of the bilateral subthalamic nucleus stimulation effects on the regional cerebral metabolism in advanced Parkinson disease. *Acta Neurochir Suppl* 2006;99:51-54 <http://www.ncbi.nlm.nih.gov/pubmed/17370764>
 101. Liu W, McIntire K, Kim SH, Zhang J, Dascalos S, Lyons KE, Pahwa R. Bilateral subthalamic stimulation improves gait initiation in patients with Parkinson's disease. *Gait Posture* 2006;23(4):492-498 <http://www.ncbi.nlm.nih.gov/pubmed/16098748>
 102. Lubik S, Fogel W, Tronnier V, Krause M, König J, Jost WH. Gait analysis in patients with advanced Parkinson disease: different or additive effects on gait induced by levodopa and chronic STN stimulation. *J Neural Transm (Vienna)* 2006;113(2):163-173 <http://www.ncbi.nlm.nih.gov/pubmed/15959852>
 103. Lyons KE, Pahwa R. Effects of bilateral subthalamic nucleus stimulation on sleep, daytime sleepiness, and early morning dystonia in patients with Parkinson disease. *J Neurosurg* 2006;104(4):502-505 <http://www.ncbi.nlm.nih.gov/pubmed/16619652>
 104. Lyons KE, Wilkinson SB, Pahwa R. Stimulation of the motor cortex for disabling essential tremor. *Clin Neurol Neurosurg* 2006;108(6):564-567 <http://www.ncbi.nlm.nih.gov/pubmed/16473460>
 105. Marceglia S, Foffani G, Bianchi AM, Baselli G, Tamma F, Egidi M, Priori A. Dopamine-dependent non-linear correlation between subthalamic rhythms in Parkinson's disease. *J Physiol* 2006;571(Pt 3):579-591 <http://www.ncbi.nlm.nih.gov/pubmed/16410285>
 106. Marceglia S, Mrakic-Sposta S, Foffani G, Cogiamanian F, Caputo E, Egidi M, Barbieri S, Priori A. Gender-related differences in the human subthalamic area: a local field potential study. *Eur J Neurosci* 2006;24(11):3213-3222 <http://www.ncbi.nlm.nih.gov/pubmed/17156382>
 107. May A, Leone M, Boecker H, Sprenger T, Juergens T, Bussone G, Tolle TR. Hypothalamic deep brain stimulation in positron emission tomography. *J Neurosci* 2006;26(13):3589-3593 <http://www.ncbi.nlm.nih.gov/pubmed/16571767>
 108. Mazzone P, Stocchi F, Galati S, Insola A, Altibrandi MG, Modugno N, Tropepi D, Brusa L, Stefani A. Bilateral implantation of centromedian-parafascicularis complex and GPI: a new combination of unconventional targets for deep brain stimulation in severe Parkinson disease. *Neuromodulation* 2006;9(3):221-228 <http://www.ncbi.nlm.nih.gov/pubmed/22151710>
 109. McCreery D, Lossinsky A, Pivov V, Liu X. Microelectrode array for chronic deep-brain microstimulation and recording. *IEEE Trans Biomed Eng* 2006;53(4):726-737 <http://www.ncbi.nlm.nih.gov/pubmed/16602580>
 110. Mercado R, Constantoyannis C, Mandat T, Kumar A, Schulzer M, Stoessl AJ, Honey CR. Expectation and the placebo effect in Parkinson's disease patients with subthalamic nucleus deep brain stimulation. *Mov Disord* 2006;21(9):1457-1461

- <http://www.ncbi.nlm.nih.gov/pubmed/16721750>
111. Merello M, Perez-Lloret S, Antico J, Obeso JA. Dyskinesias induced by subthalamotomy in Parkinson's disease are unresponsive to amantadine. *J Neurol Neurosurg Psychiatry* 2006;77(2):172-174 <http://www.ncbi.nlm.nih.gov/pubmed/16421117>
 112. Minville V, Chassery C, Benhaoua A, Lubrano V, Albaladejo P, Fourcade O. Nerve stimulator-guided brachial plexus block in a patient with severe Parkinson's disease and bilateral deep brain stimulators. *Anesth Analg* 2006;102(4):1296 <http://www.ncbi.nlm.nih.gov/pubmed/16551956>
 113. Miocinovic S, Parent M, Butson CR, Hahn PJ, Russo GS, Vitek JL, McIntyre CC. Computational analysis of subthalamic nucleus and lenticular fasciculus activation during therapeutic deep brain stimulation. *J Neurophysiol* 2006;96(3):1569-1580 <http://www.ncbi.nlm.nih.gov/pubmed/16738214>
 114. Montgomery EB Jr. Effects of GPI stimulation on human thalamic neuronal activity. *Clin Neurophysiol* 2006;117(12):2691-2702 <http://www.ncbi.nlm.nih.gov/pubmed/17029953>
 115. Moran A, Bar-Gad I, Bergman H, Israel Z. Real-time refinement of subthalamic nucleus targeting using Bayesian decision-making on the root mean square measure. *Mov Disord* 2006;21(9):1425-1431 <http://www.ncbi.nlm.nih.gov/pubmed/16763982>
 116. Morgan JC, diDonato CJ, Iyer SS, Jenkins PD, Smith JR, Sethi KD. Self-stimulatory behavior associated with deep brain stimulation in Parkinson's disease. *Mov Disord* 2006;21(2):283-285 <http://www.ncbi.nlm.nih.gov/pubmed/16258943>
 117. Mouton S, Xie-Brustolin J, Mertens P, Polo G, Damier P, Broussolle E, Thobois S. Chorea induced by globus pallidus externus stimulation in a dystonic patient. *Mov Disord* 2006;21(10):1771-1773 <http://www.ncbi.nlm.nih.gov/pubmed/16856144>
 118. Nandi D, Jenkinson N, Stein JF, Aziz TZ. Laboratory and clinical investigations of the region of the rostral brainstem in motor control. *Suppl Clin Neurophysiol* 2006;58:71-84 <http://www.ncbi.nlm.nih.gov/pubmed/16623323>
 119. Novak KE, Nenonen EK, Bernstein LP, Vergenz S, Medalle G, Prager JM, Eller TW, Cozzens JW, Rezak M. Two cases of ischemia associated with subthalamic nucleus stimulator implantation for advanced Parkinson's disease. *Mov Disord* 2006;21(9):1477-1483 <http://www.ncbi.nlm.nih.gov/pubmed/16721751>
 120. Ondo W. VIM deep brain stimulation does not improve pre-existing restless legs syndrome in patients with essential tremor. *Parkinsonism Relat Disord* 2006;12(2):113-114 <http://www.ncbi.nlm.nih.gov/pubmed/16446110>
 121. Ondo WG, Almaguer M, Cohen H. Computerized posturography balance assessment of patients with bilateral ventralis intermedius nuclei deep brain stimulation. *Mov Disord* 2006;21(12):2243-2247 <http://www.ncbi.nlm.nih.gov/pubmed/17078067>
 122. Ondo WG, Silay Y, Almaguer M, Jankovic J. Subthalamic deep brain stimulation in patients with a previous pallidotomy. *Mov Disord* 2006;21(8):1252-1254 <http://www.ncbi.nlm.nih.gov/pubmed/16673406>
 123. Orozco A, Alvarez M, Guijarro E, Castellanos G. Identification of spike sources using proximity analysis through hidden Markov models. *Conf Proc IEEE Eng Med Biol Soc* 2006;1:5555-5558 <http://www.ncbi.nlm.nih.gov/pubmed/17946315>
 124. Østergaard K, Aa Sunde N. Evolution of Parkinson's disease during 4 years of bilateral deep brain stimulation of the subthalamic nucleus. *Mov Disord* 2006;21(5):624-631 <http://www.ncbi.nlm.nih.gov/pubmed/16283616>
 125. Owen SL, Green AL, Nandi D, Bittar RG, Wang S, Aziz TZ. Deep brain stimulation for neuropathic pain. *Neuromodulation* 2006;9(2):100-106 <http://www.ncbi.nlm.nih.gov/pubmed/22151633>
 126. Owen SL, Green AL, Stein JF, Aziz TZ. Deep brain stimulation for the alleviation of post-stroke neuropathic pain. *Pain* 2006;120(1-2):202-206

- <http://www.ncbi.nlm.nih.gov/pubmed/16359796>
127. Ozben B, Bilge AK, Yilmaz E, Adalet K. Implantation of a permanent pacemaker in a patient with severe Parkinson's disease and a preexisting bilateral deep brain stimulator. *Int Heart J* 2006; 47(5):803-810 <http://www.ncbi.nlm.nih.gov/pubmed/17106151>
 128. Ozturk F, Osher RH. Phacoemulsification in a patient with a deep brain stimulator. *J Cataract Refract Surg* 2006; 32(4):687-688 <http://www.ncbi.nlm.nih.gov/pubmed/16698498>
 129. Pahwa R, Lyons KE, Wilkinson SB, Simpson RK Jr, Ondo WG, Tarsy D, Norregaard T, Hubble JP, Smith DA, Hauser RA, Jankovic J. Long-term evaluation of deep brain stimulation of the thalamus. *J Neurosurg* 2006; 104(4):506-512 <http://www.ncbi.nlm.nih.gov/pubmed/16619653>
 130. Paluzzi A, Bain PG, Liu X, Yianni J, Kumarendran K, Aziz TZ. Pregnancy in dystonic women with in situ deep brain stimulators. *Mov Disord* 2006; 21(5):695-698 <http://www.ncbi.nlm.nih.gov/pubmed/16281297>
 131. Paluzzi A, Belli A, Bain P, Liu X, Aziz TM. Operative and hardware complications of deep brain stimulation for movement disorders. *Br J Neurosurg* 2006; 20(5):290-295 <http://www.ncbi.nlm.nih.gov/pubmed/17129876>
 132. Park SI, Oh JH, Hwang YS, Kim SJ, Chang JW. Electrical stimulation of the anterior cingulate cortex in a rat neuropathic pain model. *Acta Neurochir Suppl* 2006; 99:65-71 <http://www.ncbi.nlm.nih.gov/pubmed/17370767>
 133. Plaha P, Ben-Shlomo Y, Patel NK, Gill SS. Stimulation of the caudal zona incerta is superior to stimulation of the subthalamic nucleus in improving contralateral parkinsonism. *Brain* 2006; 129(Pt 7):1732-1747 <http://www.ncbi.nlm.nih.gov/pubmed/16720681>
 134. Portman AT, van Laar T, Staal MJ, Rutgers AW, Journee HL, Leenders KL. Chronic stimulation of the subthalamic nucleus increases daily on-time without dyskinesia in advanced Parkinson's disease. *Parkinsonism Relat Disord* 2006; 12(3):143-148 <http://www.ncbi.nlm.nih.gov/pubmed/16460986>
 135. Priori A, Ardolino G, Marceglia S, Mrakic-Sposta S, Locatelli M, Tamma F, Rossi L, Foffani G. Low-frequency subthalamic oscillations increase after deep brain stimulation in Parkinson's disease. *Brain Res Bull* 2006; 71(1-3):149-154 <http://www.ncbi.nlm.nih.gov/pubmed/17113940>
 136. Rasche D, Foethke D, Gliemroth J, Tronnier VM. Deep brain stimulation in the posterior hypothalamus for chronic cluster headache. Case report and review of the literature. *German. Schmerz* 2006; 20(5):439-444 <http://www.ncbi.nlm.nih.gov/pubmed/16404629>
 137. Rasche D, Rinaldi PC, Young RF, Tronnier VM. Deep brain stimulation for the treatment of various chronic pain syndromes. *Neurosurg Focus* 2006; 21(6):E8 <http://www.ncbi.nlm.nih.gov/pubmed/17341052>
 138. Rozet I, Muangman S, Vavilala MS, Lee LA, Souter MJ, Domino KJ, Slimp JC, Goodkin R, Lam AM. Clinical experience with dexmedetomidine for implantation of deep brain stimulators in Parkinson's disease. *Anesth Analg* 2006; 103(5):1224-1228 <http://www.ncbi.nlm.nih.gov/pubmed/17056959>
 139. Saitoh Y, Hirayama A, Kishima H, Oshino S, Hirata M, Kato A, Yoshimine T. Stimulation of primary motor cortex for intractable deafferentation pain. *Acta Neurochir Suppl* 2006; 99:57-59 <http://www.ncbi.nlm.nih.gov/pubmed/17370765>
 140. Sakas DE, Panourias IG. Rostral cingulate gyrus: a putative target for deep brain stimulation in treatment-refractory depression. *Med Hypotheses* 2006; 66(3):491-494 <http://www.ncbi.nlm.nih.gov/pubmed/16337750>
 141. Santens P, Vonck K, De Letter M, Van Driessche K, Sieben A, De Reuck J, Van Roost D, Boon P. Deep brain stimulation of the internal pallidum in multiple system atrophy. *Parkinsonism Relat Disord* 2006; 12(3):181-183. Erratum 2007; 13(1):63 <http://www.ncbi.nlm.nih.gov/pubmed/16338160>
 142. Schulte T, Brecht S, Herdegen T, Illert M, Mehdorn HM, Hamel W. Induction of immediate early

- gene expression by high-frequency stimulation of the subthalamic nucleus in rats. *Neuroscience* 2006; 138(4):1377-1385 <http://www.ncbi.nlm.nih.gov/pubmed/16460881>
143. Schüpbach M, Gargiulo M, Welter ML, Mallet L, Béhar C, Houeto JL, Maltête D, Mesnage V, Agid Y. Neurosurgery in Parkinson disease: a distressed mind in a repaired body? *Neurology* 2006; 66(12):1811-1816 <http://www.ncbi.nlm.nih.gov/pubmed/16801642>
144. Senatus PB, Teeple D, McClelland S 3rd, Pullman SL, Yu Q, Ford B, McKhann GM 2nd, Goodman RR. A technique for minimally altering anatomically based subthalamic electrode targeting by microelectrode recording. *Neurosurg Focus* 2006; 20(5):E8 <http://www.ncbi.nlm.nih.gov/pubmed/16711665>
145. Shi LH, Luo F, Woodward DJ, Chang JY. Basal ganglia neural responses during behaviorally effective deep brain stimulation of the subthalamic nucleus in rats performing a treadmill locomotion test. *Synapse* 2006; 59(7):445-457 <http://www.ncbi.nlm.nih.gov/pubmed/16521122>
146. Shields DC, Lam S, Gorgulho A, Emerson J, Krahl SE, Malkasian D, DeSalles AA. Eyelid apraxia associated with subthalamic nucleus deep brain stimulation. *Neurology* 2006; 66(9):1451-1452 <http://www.ncbi.nlm.nih.gov/pubmed/16682687>
147. Shivitz N, Koop MM, Fahimi J, Heit G, Bronte-Stewart HM. Bilateral subthalamic nucleus deep brain stimulation improves certain aspects of postural control in Parkinson's disease, whereas medication does not. *Mov Disord* 2006; 21(8):1088-1097 <http://www.ncbi.nlm.nih.gov/pubmed/16671073>
148. Siderowf A, Jaggi JL, Xie SX, Loveland-Jones C, Leng L, Hurtig H, Colcher A, Stern M, Chou KL, Liang G, Maccarone H, Simuni T, Baltuch G. Long-term effects of bilateral subthalamic nucleus stimulation on health-related quality of life in advanced Parkinson's disease. *Mov Disord* 2006; 21(6):746-753 <http://www.ncbi.nlm.nih.gov/pubmed/16463342>
149. Sixel-Döring F, Trenkwalder C, Kappus C, Hellwig D. Abscess at the implant site following apical parodontitis. Hardware-related complications of deep brain stimulation. *German. Nervenarzt* 2006; 77(8):946-947 <http://www.ncbi.nlm.nih.gov/pubmed/16821063>
150. Smeling HM, Speelman JD, Koning-Haanstra M, Schuurman PR, Nijssen P, van Laar T, Schmand B. Neuropsychological effects of bilateral STN stimulation in Parkinson disease: a controlled study. *Neurology* 2006; 66(12):1830-1836 <http://www.ncbi.nlm.nih.gov/pubmed/16801645>
151. Sokal P, Harat M, Gryz J, Ackerman D. Motor cortex stimulation in the treatment of the central pain: a case report. *Polish. Neurol Neurochir Pol* 2006; 40(3):253-257 <http://www.ncbi.nlm.nih.gov/pubmed/16794967>
152. Stefani A, Fedele E, Galati S, Raiteri M, Pepicelli O, Brusa L, Pierantozzi M, Peppe A, Pisani A, Gattoni G, Hainsworth AH, Bernardi G, Stanzione P, Mazzone P. Deep brain stimulation in Parkinson's disease patients: biochemical evidence. *J Neural Transm Suppl* 2006; (70):401-408 <http://www.ncbi.nlm.nih.gov/pubmed/17017559>
153. Stemper B, Beric A, Welsch G, Haendl T, Sterio D, Hilz MJ. Deep brain stimulation improves orthostatic regulation of patients with Parkinson disease. *Neurology* 2006; 67(10):1781-1785 <http://www.ncbi.nlm.nih.gov/pubmed/17130410>
154. Swartz CM. Electroconvulsive therapy stimulus dose expressed as volume of seizure foci. *J ECT* 2006; 22(1):54-58 <http://www.ncbi.nlm.nih.gov/pubmed/16633209>
155. Takado Y, Shimohata T, Terajima K, Suwazono S, Kameyama S, Tanaka K, Nishizawa M. Posttraumatic hyperkinésie volitionnelle was markedly improved by Vim thalamic deep brain stimulation. *Japanese. Rinsho Shinkeigaku* 2006; 46(9):638-643 <http://www.ncbi.nlm.nih.gov/pubmed/17260806>
156. Talmant V, Esposito P, Stilhart B, Mohr M, Tranchant C. Subthalamic stimulation in a patient with multiple system atrophy: a clinicopathological report. *French. Rev Neurol (Paris)* 2006; 162(3):363-370 <http://www.ncbi.nlm.nih.gov/pubmed/16585892>
157. Tass PA, Majtanik M. Long-term anti-kindling effects of desynchronizing brain stimulation: a

- theoretical study. *Biol Cybern* 2006 94(1):58-66
<http://www.ncbi.nlm.nih.gov/pubmed/16284784>
158. Temel Y, Blokland A, Ackermans L, Boon P, van Kranen-Mastenbroek VH, Beuls EA, Spincemaille GH, Visser-Vandewalle V. Differential effects of subthalamic nucleus stimulation in advanced Parkinson disease on reaction time performance. *Exp Brain Res* 2006 169(3):389-399
<http://www.ncbi.nlm.nih.gov/pubmed/16273395>
159. Temel Y, Cao C, Vlamings R, Blokland A, Ozen H, Steinbusch HW, Michelsen KA, von Hörsten S, Schmitz C, Visser-Vandewalle V. Motor and cognitive improvement by deep brain stimulation in a transgenic rat model of Huntington's disease. *Neurosci Lett* 2006 406(1-2):138-141
<http://www.ncbi.nlm.nih.gov/pubmed/16905252>
160. Temel Y, Visser-Vandewalle V, Kaplan S, Kozan R, Daemen MA, Blokland A, Schmitz C, Steinbusch HW. Protection of nigral cell death by bilateral subthalamic nucleus stimulation. *Brain Res* 2006 1120(1):100-105 <http://www.ncbi.nlm.nih.gov/pubmed/16999940>
161. Trottnerberg T, Fogelson N, Kühn AA, Kivi A, Kupsch A, Schneider GH, Brown P. Subthalamic gamma activity in patients with Parkinson's disease. *Exp Neurol* 2006 200(1):56-65
<http://www.ncbi.nlm.nih.gov/pubmed/16499911>
162. Ulla M, Thobois S, Lemaire JJ, Schmitt A, Derost P, Broussolle E, Llorca PM, Durif F. Manic behaviour induced by deep-brain stimulation in Parkinson's disease: evidence of substantia nigra implication? *J Neurol Neurosurg Psychiatry* 2006 77(12):1363-1366
<http://www.ncbi.nlm.nih.gov/pubmed/17110749>
163. Ushe M, Mink JW, Tabbal SD, Hong M, Schneider Gibson P, Rich KM, Lyons KE, Pahwa R, Perlmuter JS. Postural tremor suppression is dependent on thalamic stimulation frequency. *Mov Disord* 2006 21(8):1290-1292 <http://www.ncbi.nlm.nih.gov/pubmed/16685684>
164. Vaillancourt DE, Prodoehl J, Sturman MM, Bakay RA, Metman LV, Corcos DM. Effects of deep brain stimulation and medication on strength, bradykinesia, and electromyographic patterns of the ankle joint in Parkinson's disease. *Mov Disord* 2006 21(1):50-58
<http://www.ncbi.nlm.nih.gov/pubmed/16124011>
165. Valldeoriola F, Tolosa E, Alegret M, Tolosa E, Rey MJ, Morsi O, Pilleri M, Rumià J. Cognitive changes in Parkinson's disease during subthalamic stimulation: a clinicopathologic study. *J Neurol Neurosurg Psychiatry* 2006 77(4):565-566
<http://www.ncbi.nlm.nih.gov/pubmed/16543547>
166. van den Wildenberg WP, van Boxtel GJ, van der Molen MW, Bosch DA, Speelman JD, Brumia CH. Stimulation of the subthalamic region facilitates the selection and inhibition of motor responses in Parkinson's disease. *J Cogn Neurosci* 2006 18(4):626-636
<http://www.ncbi.nlm.nih.gov/pubmed/16768365>
167. Varma TR, Eldridge P. Use of the NeuroMate stereotactic robot in a frameless mode for functional neurosurgery. *Int J Med Robot* 2006 2(2):107-113
<http://www.ncbi.nlm.nih.gov/pubmed/17520621>
168. Venkatraghavan L, Manninen P, Mak P, Lukitto K, Hodaie M, Lozano A. Anesthesia for functional neurosurgery: review of complications. *J Neurosurg Anesthesiol* 2006 18(1):64-67
<http://www.ncbi.nlm.nih.gov/pubmed/16369142>
169. Vergani F, Landi A, Antonini A, Sganzerla EP. Bilateral subthalamic deep brain stimulation in a patient with Parkinson's disease who had previously undergone thalamotomy and autologous adrenal grafting in the caudate nucleus: case report. *Neurosurgery* 2006 59(5):E1140
<http://www.ncbi.nlm.nih.gov/pubmed/17143205>
170. Villéger A, Ouchchane L, Lemaire JJ, Boire JY. Assistance to planning in deep brain stimulation: data fusion method for locating anatomical targets in MRI. *Conf Proc IEEE Eng Med Biol Soc* 2006 1:144-147 <http://www.ncbi.nlm.nih.gov/pubmed/17946793>
171. Voges J, Waerzeggers Y, Maarouf M, Lehrke R, Koulousakis A, Lenartz D, Sturm V. Deep-brain

- stimulation: long-term analysis of complications caused by hardware and surgery--experiences from a single centre. *J Neurol Neurosurg Psychiatry* 2006;77(7):868-872
<http://www.ncbi.nlm.nih.gov/pubmed/16574733>
172. Wang EQ, Metman LV, Bakay RA, Arzbaecher J, Bernard B, Corcos DM. Hemisphere-specific effects of subthalamic nucleus deep brain stimulation on speaking rate and articulatory accuracy of syllable repetitions in Parkinson's disease. *J Med Speech Lang Pathol* 2006;14(4):323-334 <http://www.ncbi.nlm.nih.gov/pubmed/18270553>
173. Weinberger M, Mahant N, Hutchison WD, Lozano AM, Moro E, Hodaie M, Lang AE, Dostrovsky JO. Beta oscillatory activity in the subthalamic nucleus and its relation to dopaminergic response in Parkinson's disease. *J Neurophysiol* 2006;96(6):3248-3256
<http://www.ncbi.nlm.nih.gov/pubmed/17005611>
174. Wider C, Russmann H, Villemure JG, Robert B, Bogousslavsky J, Burkhard PR, Vingerhoets FJ. Long-duration response to levodopa in patients with advanced Parkinson disease treated with subthalamic deep brain stimulation. *Arch Neurol* 2006;63(7):951-955
<http://www.ncbi.nlm.nih.gov/pubmed/16831963>
175. Wingeier B, Tcheng T, Koop MM, Hill BC, Heit G, Bronte-Stewart HM. Intra-operative STN DBS attenuates the prominent beta rhythm in the STN in Parkinson's disease. *Exp Neurol* 2006;197(1):244-251 <http://www.ncbi.nlm.nih.gov/pubmed/16289053>
176. Witt K, Daniels C, Herzog J, Lorenz D, Volkmann J, Reiff J, Mehdorn M, Deuschl G, Krack P. Differential effects of L-dopa and subthalamic stimulation on depressive symptoms and hedonic tone in Parkinson's disease. *J Neuropsychiatry Clin Neurosci* 2006;18(3):397-401
<http://www.ncbi.nlm.nih.gov/pubmed/16963590>
177. Witt K, Kopper F, Deuschl G, Krack P. Subthalamic nucleus influences spatial orientation in extra-personal space. *Mov Disord* 2006;21(3):354-361
<http://www.ncbi.nlm.nih.gov/pubmed/16211596>
178. Wojtecki L, Timmermann L, Jörgens S, Südmeyer M, Maarouf M, Treuer H, Gross J, Lehrke R, Koulousakis A, Voges J, Sturm V, Schnitzler A. Frequency-dependent reciprocal modulation of verbal fluency and motor functions in subthalamic deep brain stimulation. *Arch Neurol* 2006;63(9):1273-1276 <http://www.ncbi.nlm.nih.gov/pubmed/16966504>
179. Woods SP, Rippeth JD, Conover E, Carey CL, Parsons TD, Tröster AI. Statistical power of studies examining the cognitive effects of subthalamic nucleus deep brain stimulation in Parkinson's disease. *Clin Neuropsychol* 2006;20(1):27-38 <http://www.ncbi.nlm.nih.gov/pubmed/16393919>
180. Xie K, Wang S, Aziz TZ, Stein JF, Liu X. The physiologically modulated electrode potentials at the depth electrode-brain interface in humans. *Neurosci Lett* 2006;402(3):238-243
<http://www.ncbi.nlm.nih.gov/pubmed/16697525>
181. Yamada K, Goto S, Matsuzaki K, Tamura T, Murase N, Shimazu H, Nagahiro S, Kuratsu J, Kaji R. Alleviation of camptocormia by bilateral subthalamic nucleus stimulation in a patient with Parkinson's disease. *Parkinsonism Relat Disord* 2006;12(6):372-375
<http://www.ncbi.nlm.nih.gov/pubmed/16731023>
182. Yamamoto T, Katayama Y, Obuchi T, Kano T, Kobayashi K, Oshima H, Fukaya C. Thalamic sensory relay nucleus stimulation for the treatment of peripheral deafferentation pain. *Stereotact Funct Neurosurg* 2006;84(4):180-183
<http://www.ncbi.nlm.nih.gov/pubmed/16905881>
183. Yianni J, Wang SY, Liu X, Bain PG, Nandi D, Gregory R, Joint C, Stein JF, Aziz TZ. A dominant bursting electromyograph pattern in dystonic conditions predicts an early response to pallidal stimulation. *J Clin Neurosci* 2006;13(7):738-746
<http://www.ncbi.nlm.nih.gov/pubmed/16857361>
184. Yokoyama T, Ando N, Sugiyama K, Akamine S, Namba H. Relationship of stimulation site location within the subthalamic nucleus region to clinical effects on parkinsonian symptoms.

Stereotact Funct Neurosurg 2006 84(4):170-175
<http://www.ncbi.nlm.nih.gov/pubmed/16905883>

DRG (updating our comprehensive list)

1. Rowland DC, Wright D, Moir L, FitzGerald JJ, Green AL. Successful treatment of pelvic girdle pain with dorsal root ganglion stimulation. Br J Neurosurg 2016 epub:1-2
<http://www.ncbi.nlm.nih.gov/pubmed/27425005>

GES (updating our comprehensive list)

1. Davis BR, Bashashat M, Alvarado B, McCallum RW, Sarosiek I. The long-term efficacy and safety of pyloroplasty combined with gastric electrical stimulation: a single academic center experience. Gastroenterology 2016 150(4 Suppl 1):S1184
[http://www.gastrojournal.org/article/S0016-5085\(16\)33997-X/pdf](http://www.gastrojournal.org/article/S0016-5085(16)33997-X/pdf)
2. Soota K, Kedar A, Nikitina Y, Arendale E, Vedanarayanan V, Abell TL. Immunomodulation for treatment of drug and device refractory gastroparesis. Results Immunol 2016 6:11-14
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4792859/>

PNFS (updating our comprehensive list)

1. Shaw A, Sharma M, Zibly Z, Ikeda D, Deogaonkar M. Sandwich technique, peripheral nerve stimulation, peripheral field stimulation and hybrid stimulation for inguinal region and genital pain. Br J Neurosurg 2016 epub:1-6 <http://www.ncbi.nlm.nih.gov/pubmed/27347767>

SCS (updating our comprehensive list)

1. Dones I, Zanin L, Marongiu I, Levi V, Chiapparini L, Rizzi M. Severe pain and edema due to a widespread lymphangioma: disappearance of symptoms and reduction of lesion with spinal cord stimulation. World Neurosurg 2016 epub
<http://www.ncbi.nlm.nih.gov/pubmed/27402439>
2. Gad PN, Roy RR, Zhong H, Gerasimenko YP, Taccolla G, Edgerton VR. Neuromodulation of the neural circuits controlling the lower urinary tract. Exp Neurol 2016 epub
<http://www.ncbi.nlm.nih.gov/pubmed/27381425>
3. Gatzinsky K, Baardsen R, Buschman HP. Evaluation of the effectiveness of percutaneous octapolar leads in pain treatment with spinal cord stimulation of patients with failed back surgery syndrome during a 1-year follow-up: a prospective multicenter international study. Pain Pract 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27435009>
4. Gerasimenko Y, Gad P, Sayenko D, McKinney Z, Gorodnichev R, Puhov A, Moshonkina T, Savochin A, Selionov V, Shigueva T, Tomilovskaya E, Kozlovskaya I, Edgerton VR. Integration of sensory, spinal, and volitional descending inputs in regulation of human locomotion. J Neurophysiol 2016 116(1):98-105 <http://www.ncbi.nlm.nih.gov/pubmed/27075538>
5. Haider S, Owusu-Sarpong S, Peris Celda M, Wilcock M, Prusik J, Youn Y, Pilitsis JG. A single center prospective observational study of outcomes with tonic cervical spinal cord stimulation. Neuromodulation 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27491956>
6. Korvela M, Lind AL, Wetterhall M, Gordh T, Andersson M, Pettersson J. Quantification of 10 elements in human cerebrospinal fluid from chronic pain patients with and without spinal cord stimulation. J Trace Elem Med Biol 2016 37:1-7
<http://www.ncbi.nlm.nih.gov/pubmed/27473826>
7. Kowalski KE, Romaniuk JR, Brose S, Richmond MA, Kowalski T, DiMarco AF. High frequency spinal cord stimulation-new method to restore cough. Respir Physiol Neurobiol 2016 epub
<http://www.ncbi.nlm.nih.gov/pubmed/27395446>
8. Kueper J, Lampe LP, Hughes AP. Thoracic spine degeneration following microlaminotomy for

- spinal cord stimulator placement and subsequent removal-a case report. HSS J 2016 12(2):186-189 <http://www.ncbi.nlm.nih.gov/pubmed/27385950>
9. Lambru G, Trimboli M, Palmisani S, Smith T, Al-Kaisy A. Safety and efficacy of cervical 10-kHz spinal cord stimulation in chronic refractory primary headaches: a retrospective case series. J Headache Pain 2016 17(1):66 <http://www.ncbi.nlm.nih.gov/pubmed/27393015>
 10. Levine AB, Parrent AG, MacDougall KW. Stimulation of the spinal cord and dorsal nerve roots for chronic groin, pelvic, and abdominal pain. Pain Physician 2016 19(6):405-412 <http://www.ncbi.nlm.nih.gov/pubmed/27454271>
 11. Lind AL, Emami Khoonsari P, Sjödin M, Katila L, Wetterhall M, Gordh T, Kultima K. Spinal cord stimulation alters protein levels in the cerebrospinal fluid of neuropathic pain patients: a proteomic mass spectrometric analysis. Neuromodulation 2016 19(6):549-562 <http://www.ncbi.nlm.nih.gov/pubmed/27513633>
 12. Marola O, Cherala R, Prusik J, Kumar V, Fama C, Wilcock M, Crimmins J, Pilitsis JG. BMI as a predictor of spinal cord stimulation success in chronic pain patients. Neuromodulation 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27491832>
 13. Matzke LL, Lamer TJ, Gazelka HM. Spinal cord stimulation for treatment of neuropathic pain associated with erythromelalgia. Reg Anesth Pain Med 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27512936>
 14. Pilitsis JG, Barolat G, Rosenow JM, Brennan JJ, Bailey AS, Epstein JM, Hammond B, Metzger C, Huynh D, Lechleiter K, Mekel-Bobrov N. Low-back pain relief with a new 32-contact surgical lead and neural targeting algorithm. Neurosurgery 2016 63(Suppl 1):151 <http://www.ncbi.nlm.nih.gov/pubmed/27399403>
 15. Samuel N, Bernstein M, Alotaibi NM, Kalia SK, Shamji MF. Patient perspectives regarding ethics of spinal column stimulators in the surgical management of persistent postoperative neuropathic pain. Neuromodulation 2016 epub <http://www.ncbi.nlm.nih.gov/pubmed/27491346>
 16. 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 epub <http://www.ncbi.nlm.nih.gov/pubmed/27512935>
 17. Vallejo R, Tilley DM, Cedeño DL, Kelley CA, DeMaegd M, Benyamin R. Genomics of the effect of spinal cord stimulation on an animal model of neuropathic pain. Neuromodulation 2016 19(6):576-586 <http://www.ncbi.nlm.nih.gov/pubmed/27391866>

SNS (updating our comprehensive list)

1. Bai CH, Ma XL. The effects of sacral nerve root electrostimulation on the colon function and its mechanisms in a rat model of spinal cord injury. Chinese. Zhongguo Ying Yong Sheng Li Xue Za Zhi 2016 32(1):34-38 <http://www.ncbi.nlm.nih.gov/pubmed/27255038>
2. Patton V, Stewart P, Lubowski DZ, Cook IJ, Dinning PG. Sacral nerve stimulation fails to offer long-term benefit in patients with slow-transit constipation. Dis Colon Rectum 2016 59(9):878-885 <http://www.ncbi.nlm.nih.gov/pubmed/27505117>