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Randomized Controlled Trials

1. Taylor, Ann Gill, Anderson, Joel G., Riedel, Shannon L., Lewis, Janet E. and Bourguignon, Cheryl. A randomized, controlled, double-blind pilot study of the effects of cranial electrical stimulation on activity of brain pain processing regions in individuals with fibromyalgia. *Explore*, 9(1):32-40, 2013.
2. Lande, R. Gregory and Gragnani, Cynthia. Efficacy of cranial electric stimulation for the treatment of insomnia: A randomized pilot study. *Complementary Therapies in Medicine*, unpublished ahead of print, <http://dx.doi.org/10.1016/j.ctim.2012.11.007>. 2012.
3. Taylor, Ann Gill, Anderson, Joel G., Riedel, Shannon L., Lewis, Jante E., Kinser, Patricia A., and Bourguignon, Cheryl. Cranial electrical stimulation improves symptoms and functional status in individuals with fibromyalgia, *Pain Management Nursing*, unpublished ahead of print, [http://www.painmanagementnursing.org/article/S1524-9042\(11\)00136-6/fulltext](http://www.painmanagementnursing.org/article/S1524-9042(11)00136-6/fulltext). 2011.
4. Tan, Gabriel, Rintala, Diana, Jensen, Mark P., Richards, J. Scott, Holmes, Sally Ann, Parachuri, Rama, Lashgari-Saegh, Shamsi and Price, Larry R. Efficacy of cranial electrotherapy stimulation for neuropathic pain following spinal cord injury: a multi-site randomized controlled trial with a secondary 6-month open-label phase. *The Journal of Spinal Cord Medicine*, 34(3):285-296, 2011.
5. Shultz, Jennifer C., The effects of Cranial Electrotherapy Stimulation on attention: A double-blinded, placebo-controlled investigation. Doctoral dissertation. The Chicago School of Professional Psychology, 106 pages; 2010.
6. Rintala, Diana H., Tan, Gabriel, Willson, Pamela, Bryant, Mon S., and Lai, Eugene C. H. Feasibility of Using Cranial Electrotherapy Stimulation for Pain in Persons with Parkinson's Disease. *Parkinson's Disease*. 8 pages, 2010.
7. Strentzsch, Julie A. An examination of cranial electrotherapy stimulation (CES) on alpha-amylase levels, cortisol levels and state-trait anxiety scores in the chronically mentally ill. Doctoral dissertation, Saint Mary's University, San Antonio, Texas. 121 pages, 2008. Poster Presentation at the International Society of Neurotherapy and Research 17th Annual Conference, Indianapolis, Indiana, September 4, 2009.
8. Mellen, Ronald R. and Mackey, Wade. Reducing sheriff's officers' symptoms of depression using cranial electrotherapy stimulation (CES): a control experimental study. *The Correctional Psychologist*, 41(1):9-15, 2009.
9. Mellen, Ronald R. and Mackey, Wade. Cranial electrotherapy stimulation (CES) and the reduction of stress symptoms in a sheriff's jail security and patrol officer population: a pilot study. *American Jails*, 22(5):32-38, 2008.
10. Kim, Hyun Jung, Kim, Woon Young, Lee, Yoon Sook, Chang, Moon Seok, Kim, Jae Hwan, and Park, Young Cheol. The effect of cranial electrotherapy stimulation on preoperative anxiety and hemodynamic responses. *Korean Journal of Anesthesiology*, 55(6): 657- 661, 2008.
11. Tan, Gabriel, Rintala, Diana H., Thornby, John, Yang, June, Wade, Walter, and Vasilev, Christine. Using cranial electrotherapy stimulation to treat pain associated with spinal cord injury. *Journal of Rehabilitation Research and Development*, 43(4):461-474, 2006.
12. Cork, Randall C., Wood, Patrick, Ming, Norbert, Clifton, Shepherd, James, Eddy and Price, Larry. The effect of cranial electrotherapy stimulation (CES) on pain associated with fibromyalgia. *The Internet Journal of Anesthesiology*, 8(2), 2004.
13. Lichtbroun, Alan S. The treatment of fibromyalgia with cranial electrotherapy stimulation. *Journal of Clinical Rheumatology*, 7(2):72-78, 2001.
14. Schroeder, M.J., and Barr, R.E. Quantitative analysis of electroencephalogram during cranial electrotherapy stimulation. *Clinical Neurophysiology*. 112:2075-2083, 2001. Doctoral dissertation, The Graduate School of the University of Texas at Austin, 191 pages, 1999.
15. Sizer, P., Sawyer, S., Brismee, J., Jones, K. and Slauterbeck, J. The effect of microcurrent stimulation on postoperative pain after patellar tendon-bone anterior cruciate ligament reconstruction. Presented at the American Physical Therapy Association Annual Conference, Indianapolis, Indiana, June 2000.
16. Winick, Reid L. Cranial electrotherapy stimulation (CES): a safe and effective low cost means of anxiety control in a dental practice. *General Dentistry*, 47(1):50-55,1999.
17. Heffernan, Michael. The effect of variable microcurrents on EEG spectrum and pain control. *Canadian Journal of Clinical Medicine*, 4(10):4-11,1997.

18. Heffernan, Michael. Comparative effects of microcurrent stimulation on EEG spectrum and correlation dimension. *Integrative Physiological and Behavioral Science*, 31(3):202-209, 1996.
19. Voris, Marshall D. and Good, Shirley. Treating sexual offenders using cranial electrotherapy stimulation. *Medical Scope Monthly*, 3(11):14-18, 1996.
20. Voris, Marshall D. An investigation of the effectiveness of cranial electrotherapy stimulation in the treatment of anxiety disorders among outpatient psychiatric patients, impulse control parolees and pedophiles. Delos Mind/Body Institute Newsletter, Dallas and Corpus Cristi, Texas, 1995.
21. Heffernan, Michael. The effect of a single cranial electrotherapy stimulation on multiple stress measures. *The Townsend Letter for Doctors and Patients*, 147:60-64, 1995.
22. Overcash, Stephen J, and Siebenthal, Alan. The effects of cranial electrotherapy stimulation and multisensory cognitive therapy on the personality and anxiety levels of substance abuse patients. *American Journal of Electromedicine*, 6(2):105-111, 1989.
23. Zimmerman, Stephen I. and Lerner, Fred N. Biofeedback and electromedicine reduce the cycle of pain-spasm-pain in low back patients. *Medical Electronics*, 117:108-120, June 1989. Doctoral dissertation (SZ), City University Los Angeles, 284 pages, 1987.
24. Roth, Peter M, & Thrash, William J. Effect of transcutaneous electrical nerve stimulation for controlling pain associated with orthodontic tooth movement *American Journal of Orthodontics*, 90(2):132-138, 1986.
25. Brotman, Philip. Low-intensity transcranial electrostimulation improves the efficacy of thermal biofeedback and quieting reflex training in the treatment of classical migraine headache. *American Journal of Electromedicine*, 6(5):120-123, 1989. Doctoral dissertation, City University Los Angeles, 117 pages, 1986.
26. Gibson, Thomas H. and O'Hair, Donald E. Cranial application of low level transcranial electrotherapy vs. relaxation instruction in anxious patients. *American Journal of Electromedicine*, 4(1):18-21, 1987. Doctoral dissertation (TG), California School of Professional Psychology, 152 pages, 1983.

Open Clinical Trials

27. Liu Yanmin and Zhang Guiqing. qEEG Study on the Treatment of ADHD with CES. *Chinese Journal of Clinicians*, 5(8):2462-2463, 2011.
28. Tan, Gabriel, Dao, Tam K., Smith, Donna L., Robinson, Andrew and Jensen, Mark P. Incorporating Complementary and Alternative Medicine (CAM) Therapies to Expand Psychological Services to Veterans Suffering From Chronic Pain. *Psychological Services*, 7(3):148-161, 2010.
29. Holubec, Jerry T. Cumulative Response from Cranial Electrotherapy Stimulation (CES) for Chronic Pain. *Practical Pain Management*, 9(9):80-83, 2009.
30. Eidelman, William S. Control of cigarette cravings with cranial electrotherapy stimulation. *The Townsend Letter for Doctors*, 311(6): 81-85, 2009.
31. Bystritsky, Alexander, Kerwin, Lauren and Feusner, Jamie. A pilot study of cranial electrotherapy stimulation for generalized anxiety disorder. *Journal of Clinical Psychiatry*, 69:412-417, 2008.
32. Tae-Kyu Lee, Kwan-Sung Lee, Shin-Soo Jeun, Young-Kil Hong, Chun-Kun Park, Joon-Ki, and Moon-Chan Kim. The control of chronic pain using microcurrent electrical therapy and cranial electrotherapy stimulation. From the Department of Neurosurgery, Kangnam St. Mary's Hospital, College Of Medicine, and The Catholic University of Korea, Seoul, Korea. Presented at the Korea Society for Stereotactic and Functional Neurosurgery April 14, 2004.
33. Kulkarni, Arun D. The use of microcurrent electrical therapy and cranial electrotherapy stimulation in pain control. *Clinical Practice of Alternative Medicine*, 2(2):99-102, 2001.
34. Overcash, Stephen J. A retrospective study to determine the effect of cranial electrotherapy stimulation (CES) on patients suffering from anxiety disorders, *American Journal of Electromedicine*, 16(1):49-51, 1999.
35. Smith, Ray B, & Shiromoto, Frank N. The use of cranial electrotherapy stimulation to block fear perception in phobic patients. *Journal of Current Therapeutic Research*, 51(2):249-253, 1992.

Mechanistic Articles

36. Feusner, J. D., Madsen, S., Moody, T. D., Bohon, C., Hembacher, E., Bookheimer, S. Y. and Bystritsky, A. Effects of cranial electrotherapy stimulation on resting state brain activity. *Brain and Behavior*. Pp 1-10, 2012.
37. Feusner, Jamie, Moody, Teena, Hembacher, Emily, Madsen, Sarah, Bookheimer, Susan and Bystritsky, Alexander. Effects of Cranial Electrotherapy Stimulation on Brain Activity in the Resting State. Poster presented at the New Clinical Drug Evaluation Unit (NCDEU) 2010 50th Anniversary Meeting: Learning from the Past to Advance the Future of Mental Health Treatment. Co-sponsored by the National Institute of Mental Health (NIMH) and the American Society of Clinical Psychopharmacology (ASCP). June 14 - June 17, 2010 in Boca Raton, Florida.
38. Bystritsky, Alexander, Moody, Teena, Hembacher, Emily, Hoffman, Jordan, Moller, Hayley, Feusner, Jamie. Effects of cranial electrotherapy stimulation on brain activity in the resting state. Poster presented at the American College of Neuropsychopharmacology (ACNP), Hollywood, Florida, December 8, 2009
39. Bystritsky, Alexander. Current and future of other brainstimulating techniques, an fMRI study of Alpha-Stim CES in the track: New Techniques of Neuromodulation. Presented at the American Psychiatric Association Annual Meeting, San Francisco, May 19, 2009.

40. Kennerly, Richard C. Changes in quantitative EEG and low resolution tomography following cranial electrotherapy stimulation. Doctoral dissertation, the University of North Texas. 529 pp., 81 tables, 233 figures, 171 references, 2006
41. Kennerly, Richard. QEEG analysis of cranial electrotherapy: a pilot study. *Journal of Neurotherapy* (8)2:112-113, 2004. Presented at the International Society for Neuronal Regulation Annual Conference, Houston, Texas, September 18-21, 2003.

Case Series and Case Reports

42. Kirsch DL, Price LR, Nichols F, Marksberry JA, Platoni KT. Efficacy of Cranial Electrotherapy Stimulation for Anxiety, PTSD, Insomnia and Depression: US Military Service Members and Veterans Self Reports. Poster presented at the Annual Meeting of the Chinese Society of Psychiatry; co-sponsored by the Chinese Medical Association, Psychiatry Branch of the Chinese Medical Association and the Nanjing Brain Hospital. October 18-21, 2012 in Nanjing, Jiangsu Province, China.
43. Alfred G. Bracciano, Wen-Pin Chang, Stephanie Kokesh, Abe Martinez, Melissa Meier & Kathleen Moore. Cranial Electrotherapy Stimulation in the Treatment of Posttraumatic Stress Disorder: A Pilot Study of Two Military Veterans. *Journal of Neurotherapy*, 16(1): 60-69, 2012.
44. Johnson, Mark, Bodenhamer-Davis, Eugenia, and Bailey, Laurie. Neurofeedback, cranial electrotherapy stimulation and microcurrent electrical stimulation to treat tinnitus: a case series. Poster presented at Helping the Brain Help Us, the 18th Annual meeting of the International Society for Neurotherapy and Research, Denver, Colorado, September 29-October 3, 2010.
45. Annibali, Joseph. Case of the Week: Jeff -- Bipolar Disorder and More. Published online at <http://www.amenclinics.com/blog/tag/alpha-stim-100>, April 22, 2010.
46. Bracciano, Albert G., Kokesh, Stephanie, Martinez, Abe, Meier, Melissa, and Moore, Kathleen. Cranial electrotherapy stimulation in the treatment of posttraumatic stress disorder. Poster presented at Creighton University St. Albert's Day, Omaha, Nebraska, March 31, 2009.
47. Mellen, Ronald R. and Mitchell, Stephanie. Cranial electrotherapy stimulation: a case study. *The Correctional Psychologist*, 40(4):4-8, 2008.
48. Childs, Allen and Price, Larry. Cranial electrotherapy stimulation reduces aggression in violent neuropsychiatric patients. *Primary Psychiatry*, 14(3):50-56, 2007.
49. Childs, Allen. Cranial electrotherapy stimulation reduces aggression in a violent retarded population: a preliminary report. *The Journal of Neuropsychiatry and Clinical Neurosciences*, 17(4):548-551, 2005.
50. Overcash Stephen. The Effect of ROSHI protocol and cranial electrotherapy stimulation on a 9-year-old anxious, dyslexic male with attention deficit disorder: A case study. *Journal of Neurotherapy*, 9(2):63-77, 2005.
51. Plotnick, Stephen E. Finding hope: Alpha-Stim 100 may help clinicians yield better fibromyalgia treatment results. *Advance for Directors in Rehabilitation*, p 82, May 2005.
52. Frick, Ava. Microcurrent electrical therapy heals a recalcitrant wound in a horse. *Journal of Equine Veterinary Science*, 25(10)418-422, 2005. Presented at Western Veterinary Conference, Las Vegas, February 24, 2005
53. Smith, Ray B. Is microcurrent stimulation effective in pain management? An additional perspective. *American Journal of Pain Management*, 11(2):62-66, 2001.
54. Clark, Nancy, Mills, Daniel, and Marchant, Jeremy. Evaluation of the potential efficacy of the Alpha-Stim SCS in the horse. DeMontfort University Equestrian Centre and Field Station, Caythorpe, Lincolnshire, United Kingdom. January 2000.
55. Alpher, Elliott J. and Kirsch, Daniel L. Traumatic brain injury and full body reflex sympathetic dystrophy patient treated with cranial electrotherapy stimulation. *American Journal of Pain Management*, 8(4):124-128, 1998.
56. Bauer, William. Electrical treatment of severe head and neck cancer pain. *Archives of Otolaryngology*, 109(6):382-383, 1983.

Meta-Analyses, Commentaries and Review Articles

1. Novakovic, Vladan, Sher, Leo, Lapidus, Kyle AB, Mindes, Janet, Golier, Julia A, and Yehuda, Rachel. Brain stimulation in posttraumatic stress disorder. *European Journal of Psychotraumatology*, 2: 5609, 2011.
2. Kirsch, Daniel L. and Marksberry, Jeffrey A. Advances in Cranial Electrotherapy Stimulation. *Practical Pain Management*, 11(3):77-81, 2011.
3. Holleran-Steiker, Lori K, Machedehl-Helmly, Pam, Clements, Todd and Earthman, Brian. New and promising technologies in the field of addiction recovery: highlights of emerging benefits. *Journal of Social Work Practice in the Addictions*. 10(4):331-338, 2010.
4. Zaghi, Soroush, Acar, Mariana, Hultgren, Brittney, Boggio, Paulo S. and Felipe Fregni. Noninvasive brain stimulation with low-intensity electrical currents: putative mechanisms of action for direct current and alternating current stimulation. *Neuroscientist Online First*. December, 2009, 24 pp. Note: The authors classify the Alpha-Stim with a group of AC devices (it is a bipolar DC), but admit that the effects may be highly dependent on the specific parameters of stimulation.
5. Mellen, Ronald R. and Gillilan, Jason. Inmate Violence, Officer Protection and CES. *Southern Concourse*, 28, Summer 2009
6. Emdin, Les. Cranial Electrotherapy Stimulation (CES). *Natural Therapies*, 49(6):114-116, 2009.
7. Kirsch, Daniel L. CES for mild traumatic brain injury. *Practical Pain Management*, 8(6):70-77, 2008.
8. Farina Woodbury, Michael A. Efecto de la microcorriente sobre síntomas, de ansiedad, depresión, insomnio y dolor. *Galanus*, 1(5):15-18, 2008.
9. Kirsch, Daniel L. and Gilula, Marshall F. CES in the treatment of pain-related disorders. *Practical Pain Management*, 8(3):12-25, 2008.

10. Kirsch, Daniel L. and Gilula, Marshall F. CES in the treatment of insomnia: A review and meta-analysis. *Practical Pain Management*, 7(8):30-43, 2007.
11. Tan Gabriel and Jensen Mark P. Integrating complementary and alternative medicine (CAM) into multidisciplinary chronic pain treatment. In Multidisciplinary Chronic Pain Management: a Guidebook for Program Development and Excellence of Treatment. Schatman and Campbell (editors), Taylor & Francis, Pp. 75-99, 2007.
12. Gilula, Marshall F. Cranial electrotherapy stimulation and fibromyalgia. *Expert Review of Devices*, 4(4):489-495, 2007.
13. Kirsch, Daniel L. and Gilula, Marshall. Cranial electrotherapy stimulation in the treatment of depression – Part 1. *Practical Pain Management*, 7(4):33-41, 2007.
14. Kirsch, Daniel L. and Gilula, Marshall. Cranial electrotherapy stimulation in the treatment of depression – Part 2. *Practical Pain Management*, 7(5):32-40, 2007.
15. Kirsch, Daniel L. and Gilula, Marshall. A review and meta-analysis of cranial electrotherapy stimulation in the treatment of anxiety disorders – Part 1. *Practical Pain Management*, 7(2):40-47, 2007.
16. Kirsch, Daniel L. and Gilula, Marshall. Cranial electrotherapy stimulation in the treatment of anxiety disorders: statistical considerations – Part 2. *Practical Pain Management*, 7(3):22-39, 2007.
17. Tan, Gabriel, Alvarez, Julie A., and Jensen, Mark P. Complementary and alternative medicine approaches in pain management. *Journal of Clinical Psychology: In Session*, 62(11):1419-1431, 2006.
18. Kirsch, Daniel L. Cranial electrotherapy stimulation in the treatment of fibromyalgia. *Practical Pain Management*, 6(6):60-64, 2006.
19. Kirsch, Daniel L. Cranial electrotherapy stimulation for the treatment of anxiety, depression, insomnia and other conditions. Insert: Giordano, James. Illustrating how CES works. *Natural Medicine*, 23:118-120, 2006.
20. Kirsch, Daniel L. Why electromedicine? *Practical Pain Management*, 6(5):52-54, 2006.
21. Gilula, Marshall F., and Kirsch, Daniel L. Cranial electrotherapy stimulation review: a safer alternative to psychopharmaceuticals in the treatment of depression. *Journal of Neurotherapy*, 9(2):7-26, 2005.
22. Gilula, Marshall F. and Barach, Paul R. Cranial electrotherapy stimulation: a safe neuromedical treatment for anxiety, depression or insomnia. *Southern Medical Journal*, 97(12):1269-1270, 2004.
23. Kirsch, Daniel L. and Smith R. Cranial electrotherapy stimulation for anxiety, depression, insomnia, cognitive dysfunction, and pain. Chapter 44 in Bioelectromagnetic Medicine. Paul J. Rosch, Ed. Marcel Dekker, New York, Pp 727-740, 2004.
24. Kirsch, Daniel L. The Science Behind Cranial Electrotherapy Stimulation (2nd Ed), Medical Scope Publishing Corporation, Edmonton, Alberta, Canada, 2002.
25. Thuile, Christian and Kirsch, Daniel L. Schmerzen lindern ohne Chemie CES, die Revolution in der Schmerztherapie. Internationale Ärztgesellschaft für Energiemedizin, Austria, 2000 (in German).
26. Mercola, Joseph M. and Kirsch, Daniel L. The basis for microcurrent electrical therapy in conventional medical practice. *Journal of Advancement in Medicine*, 8(2):107-120, 1995.

Tutorials

1. Kirsch, Daniel L. Electromedical treatment of headaches. *Practical Pain Management*, 6(8):58-65, 2006.
2. Kirsch, Daniel L. Microcurrent electrical therapy (MET): A tutorial. *Practical Pain Management*, 6(7):59-64, 2006.
3. Kirsch, Daniel L. A practical protocol for electromedical treatment of pain. Chapter 61 in Pain Management: A Practical Guide for Clinicians (the textbook of the American Academy of Pain Management) edited by Richard S. Weiner, CRC Press, Boca Raton, Florida, Pp 759-776, 2002.
4. Kirsch, Daniel L. Electromedicine: the other side of physiology. Chapter 60 in Pain Management: A Practical Guide for Clinicians (the textbook of the American Academy of Pain Management) edited by Richard S. Weiner, CRC Press, Boca Raton, Florida, Pp 749-758, 2002
5. Kirsch, Daniel L. Cranial electrotherapy stimulation, a practical protocol for the treatment of pain. *Practical Pain Management*, 2(3):34-37, May/June 2001.

Full Disclosure of All Alpha-Stim Studies With Negative or Indeterminate Outcomes

1. Rose, Karen M., Taylor, Ann Gill and Bourguignon, Cheryl. Effects of cranial electrical stimulation on sleep disturbances, depressive symptoms, and caregivers of persons with Alzheimer's disease. *Applied Nursing Research*, 22:119-125, 2009.
2. Scherder, E., Knol, D., van Someren, E., Deijen, J-B, Binnekade, R., Tilders, F. and Sergeant, J. Effects of low-frequency cranial electrostimulation on the rest-activity rhythm and salivary cortisol in Alzheimer's disease. *Neurorehabilitation and Neural Repair*, 17(2):101-108, 2003.
3. Tan, Gabriel, Monga, Trilok and Thornby, John. Efficacy of microcurrent stimulation on pain severity, psychological stress, and disability. *American Journal of Pain Management*, 10(1):35-44, 2000. (Also see Tan, 2006 and 2009, above, showing this same research group continuing their use of Alpha-Stim with good results).