

REFERENCES FOR Dr. Jain's TEDxBerkeley Talk

Please see below for peer-reviewed published references of empirical research studies and clinical practice guidelines that Dr. Jain refers to in her TEDxBerkeley talk.

NEUROSCIENCE: Social Pain and Neural Circuitry/Empathic Connection and Neural Circuitry/Handholding and Pain Reduction (slides/animations in slides 2 and 3)

Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science*, 302(5643), 290-292.

Eisenberger, N. I., & Lieberman, M. D. (2004). Why rejection hurts: a common neural alarm system for physical and social pain. *Trends in cognitive sciences*, 8(7), 294-300.

Eisenberger, N. I. (2012). The pain of social disconnection: examining the shared neural underpinnings of physical and social pain. *Nature reviews neuroscience*, 13(6), 421-434.

Masten, C. L., Morelli, S. A., & Eisenberger, N. I. (2011). An fMRI investigation of empathy for 'social pain' and subsequent prosocial behavior. *Neuroimage*, 55(1), 381-388.

Meyer, M. L., Masten, C. L., Ma, Y., Wang, C., Shi, Z., Eisenberger, N. I., & Han, S. (2013). Empathy for the social suffering of friends and strangers recruits distinct patterns of brain activation. *Social cognitive and affective neuroscience*, 8(4), 446-454.

Reddan, M. C., Young, H., Falkner, J., López-Solà, M., & Wager, T. D. (2020). Touch and social support influence interpersonal synchrony and pain. *Social Cognitive and Affective Neuroscience*, 15(10), 1064-1075.

Goldstein, Pavel, Irit Weissman-Fogel, Guillaume Dumas, and Simone G. Shamay-Tsoory. "Brain-to-brain coupling during handholding is associated with pain reduction." *Proceedings of the national academy of sciences* 115, no. 11 (2018): E2528-E2537.

Sola, M. L., Koban, L., Geuter, S., Coan, J., & Wager, T. (2019). (304) Brain mediators of handholding analgesia. *The Journal of Pain*, 20(4), S50.

BIOFIELD SCIENCE: BIOELECTROMAGNETICS (slide 6)

Martin, J. L. R., Barbanoj, M. J., Schlaepfer, T. E., Thompson, E., Pérez, V., & Kulisevsky, J. (2003). Repetitive transcranial magnetic stimulation for the treatment of depression: Systematic review and meta-analysis. *The British Journal of Psychiatry*, 182(6), 480-491.

Cirillo, P., Gold, A. K., Nardi, A. E., Ornelas, A. C., Nierenberg, A. A., Camprodon, J., & Kinrys, G. (2019). Transcranial magnetic stimulation in anxiety and trauma-related disorders: a systematic review and meta-analysis. *Brain and behavior*, 9(6), e01284.

Mollica A, Safavifar F, Fralick M, Giacobbe P, Lipsman N, Burke MJ. Transcranial Magnetic Stimulation for the Treatment of Concussion: A Systematic Review. *Neuromodulation*. 2021 Jul;24(5):803-812. doi: 10.1111/ner.13319. Epub 2020 Nov 12. PMID: 33184973.

Yang, X., He, H., Ye, W., Perry, T. A., & He, C. (2020). Effects of pulsed electromagnetic field therapy on pain, stiffness, physical function, and quality of life in patients with osteoarthritis: a systematic review and meta-analysis of randomized placebo-controlled trials. *Physical therapy, 100*(7), 1118-1131.

Ryang We, S., Koog, Y. H., Jeong, K. I., & Wi, H. (2013). Effects of pulsed electromagnetic field on knee osteoarthritis: a systematic review. *Rheumatology, 52*(5), 815-824.

Vavken, P., Arrich, F., Schuhfried, O., & Dorotka, R. (2009). Effectiveness of pulsed electromagnetic field therapy in the management of osteoarthritis of the knee: a meta-analysis of randomized controlled trials. *Database of Abstracts of Reviews of Effects (DARE): Quality-assessed Reviews [Internet]*.

MONOCULTURAL ETHNOCENTRISM / COLONIALISM IN MEDICINE (slide 9)

Hollenberg, D., & Muzzin, L. (2010). Epistemological challenges to integrative medicine: An anti-colonial perspective on the combination of complementary/alternative medicine with biomedicine. *Health Sociology Review, 19*(1), 34-56.

Chao, M. T., & Adler, S. R. (2018). Integrative medicine and the imperative for health justice. *The Journal of Alternative and Complementary Medicine, 24*(2), 101-103.

BIOFIELD SCIENCE: CLINICAL STUDIES (highlighted in slide 11; please employ PubMed and PychInfo searches for full list of > 125 RCTs in biofield therapies, or feel free to inquire for further references on published RCTs in this area)

Jain, S., Pavlik, D., Distefan, J., Bruyere, R. R. L., Acer, J., Garcia, R., ... & Mills, P. J. (2012). Complementary medicine for fatigue and cortisol variability in breast cancer survivors: a randomized controlled trial. *Cancer, 118*(3), 777-787.

Jain, S., McMahan, G. F., Hasen, P., Kozub, M. P., Porter, V., King, R., & Guarneri, E. M. (2012). Healing touch with guided imagery for PTSD in returning active duty military: A randomized controlled trial. *Military medicine, 177*(9), 1015-1021.

Lutgendorf, S. K., Mullen-Houser, E., Russell, D., DeGeest, K., Jacobson, G., Hart, L., ... & Lubaroff, D. M. (2010). Preservation of immune function in cervical cancer patients during chemoradiation using a novel integrative approach. *Brain, behavior, and immunity, 24*(8), 1231-1240.

Gaesser, A. H., & Karan, O. C. (2017). A randomized controlled comparison of Emotional Freedom Technique and Cognitive-Behavioral Therapy to reduce adolescent anxiety: A pilot study. *The Journal of Alternative and Complementary Medicine, 23*(2), 102-108.

Reeve, K., Black, P. A., & Huang, J. (2020). Examining the impact of a Healing Touch intervention to reduce posttraumatic stress disorder symptoms in combat veterans. *Psychological Trauma: Theory, Research, Practice, and Policy, 12*(8), 897.

Jain, S., & Mills, P. J. (2010). Biofield therapies: helpful or full of hype? A best evidence synthesis. *International journal of behavioral medicine, 17*(1), 1-16.

BIOFIELD SCIENCE: PRECLINICAL STUDIES (Slide 12 – please also see additional references for related studies conducted by other investigators)

Yang, P., Rhea, P. R., Conway, T., Nookala, S., Hegde, V., Gagea, M., & Cohen, L. (2020). Human Biofield Therapy Modulates Tumor Microenvironment and Cancer Stemness in Mouse Lung Carcinoma. *Integrative cancer therapies*, 19, 1534735420940398.

Yang, Peiying, Yan Jiang, Patrea R. Rhea, Tara L. Conway, Dongmei Chen, Mihai Gagea, Sean L. Harribance, and Lorenzo Cohen. "Human biofield therapy and the growth of mouse lung carcinoma." *Integrative cancer therapies* 18 (2019): 1534735419840797.

Gronowicz, Gloria, Eric R. Secor Jr, John R. Flynn, and Liisa T. Kuhn. "Human biofield therapy does not affect tumor size but modulates immune responses in a mouse model for breast cancer." *Journal of Integrative Medicine* 14, no. 5 (2016): 389-399.

Yount, Garret, Shrikant Patil, Umang Dave, Leonardo Alves-dos-Santos, Kimberly Gon, Robert Arauz, and Kenneth Rachlin. "Evaluation of biofield treatment dose and distance in a model of cancer cell death." *The Journal of Alternative and Complementary Medicine* 19, no. 2 (2013): 124-127.

Yan, X., Shen, H., Jiang, H., Zhang, C., Hu, D., Wang, J., & Wu, X. (2006). External Qi of Yan Xin Qigong differentially regulates the Akt and extracellular signal-regulated kinase pathways and is cytotoxic to cancer cells but not to normal cells. *The international journal of biochemistry & cell biology*, 38(12), 2102-2113.

CLINICAL PRACTICE GUIDELINES FOR PAIN:

Qaseem, A., Wilt, T. J., McLean, R. M., Forciea, M. A., & Clinical Guidelines Committee of the American College of Physicians*. (2017). Noninvasive treatments for acute, subacute, and chronic low back pain: a clinical practice guideline from the American College of Physicians. *Annals of internal medicine*, 166(7), 514-530.

Chou, R., & Huffman, L. H. (2007). Nonpharmacologic therapies for acute and chronic low back pain: a review of the evidence for an American Pain Society/American College of Physicians clinical practice guideline. *Annals of internal medicine*, 147(7), 492-504.

Please feel free to reach out to shaminijain@gmail.com with any queries regarding the evidence base relating to this talk. Thank you!