#### PAIN MANAGEMENT EXPERT

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## Dr Vivek Mehta FRCA, MD, FFPMRCA Consultant in Pain Medicine

Name: Dr Vivek Mehta

**Date of birth:** 6<sup>th</sup> August 1971

**Nationality:** British

**Address:** Pain Expert Limited

**GMC status:** Registered with a licence to practice.

**GMC number:** 5197270

**Education:** London School of Anaesthesia 2000-2005

**Qualifications:** MBBS 1992

MD 1998 FRCA 2002 FFPMRCA 2008

**NHS employment:** St Bartholomew's Hospital 2006 – ongoing

**Private practice:** Holly Private Hospital 2006 – ongoing

Spire London East Hospital 2006 – ongoing 9 Harley Street 2008 – ongoing

**Medicolegal practice:** 2006 – ongoing

**Professional qualifications:** I qualified MBBS at University College Medical Sciences, New Delhi in 1992. I did my MD in 1998 from Delhi University. I completed my Anaesthesia and Pain management training from London School of Anaesthesia in 2005. I was appointed Clinical Lecturer in Pain Medicine and Research 2003-2005 at St Bartholomew's Hospital. I became a fellow of the Royal College of Anaesthetists (FRCA) in 2002 and a founding fellow of the Faculty of Pain Medicine of the Royal College of Anaesthetists (FFPMRCA) in 2008.

NHS Consultant appointments: I was appointed Consultant in Pain Management at St Bartholomew's Hospital, London in January 2006. I set up the joint neuromodulation services with neurosurgery at Barts Health NHS Trust in 2012. I have been working as the Director, Pain Research Centre at the St Bartholomew's Hospital since 2015. I am a medical appraiser for the consultants and allied health care professionals. I was appointed Honorary Reader at William Harvey Research Institute, Queen Mary University London in 2021. I have been appointed as the Chair of Fellowship of Faculty of Pain Medicine at the Royal College of Anaesthesia in 2023.

**Awards:** For my services to the NHS, I was awarded Bronze National Award in 2021.

#### **Roles in Pain Medicine:**

- Director of Pain Research, St Bartholomew's Hospital, London
- Honorary Reader, Queen Mary University London
- Chair, Fellowship of Faculty of Pain Medicine, RCoA
- Treasurer, Neuromodulation Society of UK and Ireland
- Co- Director: PG Certificate Program and EEPIN in Neuromodulation
- Visiting Professor, PGIMER, Chandigarh, India
- Member Education Committee North American Neuromodulation Society (NANS)
- Editorial Board: British Journal of Pain
- British Commonwealth Fellowship mentor
- Primary supervisor for PhDs (2019 & 2021) & secondary supervisor for MD (2018)

Clinical experience: I am a full time Pain consultant in the NHS and manage wide range of painful conditions. I have special interest in managing Complex pain conditions including Neuropathic pain, spinal pain, whiplash injuries and headache. I assess around 2000 chronic pain patients a year (400 new, 350 tertiary care multidisciplinary referrals, 40% out of area). I perform on average 860 complex injection procedures a year. Leading the neuromodulation academic unit I perform spinal cord stimulator, dorsal root ganglion and occipital nerve stimulator implants a year, one of the highest amongst peers in Europe, attracting high tariff income stream for the Trust.

**Academic activity:** I am Chief Investigator for various trials including NIHR generating academic grant (>£ 1.75 Million). Key achievements include:

- The FDA inspection of my research (2019) reported an exemplary, excellent outcome with o serious or critical findings.
- My research on multifidus stimulation for low back pain (top abstract award) INS World Congress, Edinburgh, 2017 was reported in Times. My research and patient interviews have been reported in BBC radio, Daily Mail & channel 4.

#### **Research & Publications**

- 1. Gilligan C, Volschenk W, Russo M, Green M, Gilmore C, **Mehta V**, Deckers K, De Smedt K, Latif U, Sayed D, Georgius P, Gentile J, Mitchell B, Langhorst M, Huygen F, Baranidharan G, Patel V, Mironer E, Ross E, Carayannopoulos A, Hayek S, Gulve A, Van Buyten JP, Tohmeh A, Fischgrund J, Lad S, Ahadian F, Deer T, Klemme W, Rauck R, Rathmell J, Schwab F, Maislin G, Heemels JP, Eldabe S. Three-Year Durability of Restorative Neurostimulation Effectiveness in Patients With Chronic Low Back Pain and Multifidus Muscle Dysfunction. Neuromodulation. 2023 Jan;26(1):98-108. doi: 10.1016/j.neurom.2022.08.457. Epub 2022 Sep 27.
- 2. Desai MJ, Salmon J, Verrills P, Mitchell B, Du Toit N, Bates D, Vajramani G, Williams A, Love-Jones S, Patel N, Nikolic S, **Mehta V**, Ahmad A, Yu J, Christellis N, Harkin S, Baranidharan G, Levy R, Staats P, Malinowski MN, Makous J, Sullivan N, Kottalgi S, Hartley M, Mishra LN. A Novel Pulsed Stimulation Pattern in Spinal Cord Stimulation: Clinical Results and Postulated Mechanisms of Action in the Treatment of Chronic Low Back and Leg Pain. Neuromodulation. 2022 Dec 8: S1094-7159(22)01351-4. doi: 10.1016/j.neurom.2022.10.053. Epub ahead of print. PMID: 36503999.
- 3. Poply K, Haroon A, Ganeshan B, Nikolic S, Sharma S, Ahmad A, Ellamushi H, Parsai A, **Mehta V**. Dynamic Brain Imaging Response to Spinal Cord Stimulation Differential Frequencies DiFY SCS-PET clinical trial. Neuromodulation. 2022 Sep 20:S1094-7159(22)00773-5. doi: 10.1016/j.neurom.2022.07.012. Epub ahead of print. PMID: 36151010.
- 4. Christopher Gilligan, Willem Volschenk, Marc Russo, Matthew Green, Christopher Gilmore, Vivek Mehta, Kristiaan Deckers, Kris De Smedt, Usman Latif, Peter Georgius, Jonathan Gentile, Bruce Mitchell, Meredith Langhorst, Frank Huygen, Ganesan Baranidharan, Vikas Patel, Eugene Mironer, Edgar Ross, Alexios Carayannopoulos, Salim Hayek, Ashish Gulve, Jean-Pierre Van Buyten, Antoine Tohmeh, Jeffrey Fischgrund, Shivanand Lad, Farshad Ahadian, Timothy Deer, William Klemme, Richard Rauck, James Rathmell, Greg Maislin, Jan Pieter Heemels, Sam Eldabe, Long-Term Outcomes of Restorative Neurostimulation in Patients With Refractory Chronic Low Back Pain Secondary to Multifidus Dysfunction: Two-Year Results of the ReActiv8-B Pivotal Trial, Neuromodulation: Technology at the Neural Interface, 2022, ISSN 1094-7159
- 5. **Mehta V**, Poply K, Ahmad A, Lascelles J, Elyas A, Sharma S, Ganeshan B, Ellamushi H, Nikolic S. Effectiveness of high dose spinal cord stimulation for non-surgical intractable lumbar radiculopathy HIDENS Study. Pain Pract. 2021 Oct 24. doi: 10.1111/papr.13087. Epub ahead of print. PMID: 34689409
- 6. Bourke JH, Wodehouse T, Clark LV, Constantinou E, Kidd BL, Langford R, **Mehta V**, White PD. Central sensitisation in chronic fatigue syndrome and fibromyalgia; a case control study. J Psychosom Res. 2021 Nov;150:110624. doi: 10.1016/j.jpsychores.2021.110624. Epub 2021 Sep 21
- 7. Gilligan C, Volschenk W, Russo M, Green M, Gilmore C, **Mehta V**, Deckers K, De Smedt K, Latif U, Georgius P, Gentile J, Mitchell B, Langhorst M, Huygen F, Baranidharan G, Patel V, Mironer E, Ross E, Carayannopoulos A, Hayek S, Gulve A, Van Buyten JP, Tohmeh A, Fischgrund J, Lad S, Ahadian F, Deer T, Klemme W,

- Rauck R, Rathmell J, Levy R, Heemels JP, Eldabe S; ReActiv8-B investigators. An implantable restorative-neurostimulator for refractory mechanical chronic low back pain: a randomized sham-controlled clinical trial. Pain. 2021 Oct 1;162(10):2486-2498. doi: 10.1097/j.pain.000000000002258. PMID: 34534176; PMCID: PMC8442741
- 8. Kallewaard JW, Paz-Solis JF, De Negri P, Canós-Verdecho MA, Belaid H, Thomson SJ, Abejón D, Vesper J, **Mehta V**, Rigoard P, Maino P, Love-Jones S, Peña IF, Bayerl S, Perruchoud C, Bougeard R, Mertz C, Pei Y, Jain R. Real-World Outcomes Using a Spinal Cord Stimulation Device Capable of Combination Therapy for Chronic Pain: A European, Multicenter Experience. J Clin Med. 2021 Sep 10;10(18):4085. doi: 10.3390/jcm10184085. PMID: 34575196; PMCID: PMC8466217
- 9. Mitchell B, Deckers K, De Smedt K, Russo M, Georgius P, Green M, Gulve A, van Buyten JP, Smet I, **Mehta V**, Baranidharan G, Rathmell J, Gilligan C, Goss B, Eldabe S. Durability of the Therapeutic Effect of Restorative Neurostimulation for Refractory Chronic Low Back Pain. Neuromodulation. 2021
- 10. Baranidharan G, Bretherton B, Eldabe S, Mehta V, Thomson S, Sharma ML, Vajramani G, Bojanic S, Gulve A, FitzGerald J, Hall S, Firth J. The impact of the COVID-19 pandemic on patients awaiting spinal cord stimulation surgery in the United Kingdom: a multi-centre patient survey. Br J Pain. 2020 Aug 21:2049463720948092. doi: 10.1177/2049463720948092. PMCID: PMC7443576.
- 11. Wodehouse T, Bahra A, **Mehta V**. Changes in peripheral and central sensitization in patients undergoing occipital nerve stimulation. Br J Pain 2020
- 12. Ashkan K, Sokratous G, Göbel H, **Mehta V**, Gendolla A, Dowson A, Wodehouse T, Heinze A, Gaul C. Peripheral nerve stimulation registry for intractable migraine headache (RELIEF): a real-life perspective on the utility of occipital nerve stimulation for chronic migraine. Acta Neurochir (Wien). 2020 Dec;162(12):3201-3211. doi: 10.1007/s00701-020-04372-z. Epub 2020 May 6. PMID: 32377948.
- 13. **Mehta V**, Bouchareb Y, Ramaswamy S, Ahmad A, Wodehouse T, Haroon A Metabolic imaging of Pain matrix Using <sup>18</sup>F Fluoro-deoxyglucose (FDG) PET/CT for Patients Undergoing L2 Dorsal Root Ganglion Stimulation for Low Back Pain. Neuromodulation. 2020; 23 (2): 222-233
- 14. Sam Eldabe, Anisah Tariq, Sherdil Nath, Ashish Gulve, Hugh Antrobus, Mohjir Baloch, Piotr Buczkowski, Neil Collighan, Tacson Fernandez, Ann-Katrin Fritz, Stephen Humble, Frank Huygen, Murali Krishnan, **Vivek Mehta**, Sailesh Mishra, Sundar Muthukrishnan, Saz Snidvongs, Rokas Tamosauskas, Martin Underwood. Best practice in radiofrequency denervation of the lumbar facet joints: a consensus technique. British Journal of Pain, 2019
- 15. Wodehouse T, Demopoulos M, Petty R, Miraki-Moud F, Belhaj A, Husband M, Fulton L, Randive N, Oksche A, **Mehta V**, Gribben J, Langford R. A randomized pilot study to investigate the effect of opioids on immunomarkers using gene expression profiling during surgery. Pain 2019; 160 (12): 2691-2698
- 16. Ramaswamy S, Wodehouse T, Langford RM, Thomson S, Taylor R, **Mehta V.** Characterizing the somatosensory profile of patients with failed back surgery syndrome with unilateral lumbar radiculopathy undergoing spinal cord stimulation: A single centre prospective pilot study. Neuromodulation 2019 Apr;22(3):333-340.
- 17. Angie Alamgir, Serge Nikolic, Habib Ellamushi, Richard Vangronigen, Kavita Poply, Joanne Lascelles, **Vivek Mehta.** A real-world follow-up of pain, depression and

- quality of life outcomes in a UK Neuromodulation Centre. Neuromodulation Volume 22 Issue 3. https://doi.org/10.1111/ner.12911
- 18. Kavita Poply, Serge Nikolic, Habib Ellamushi, Alia Ahmad, Angie Alamgir, **Vivek Mehta**. A pilot study investigating high-density spinal cord stimulation for intractable lumbar radiculopathy in virgin-back patients. Neuromodulation Volume 18 Issue2. <a href="https://doi.org/10.1111/ner.12950">https://doi.org/10.1111/ner.12950</a>
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- 20. Chang S, **Mehta V** Anaesthesia & Pain Relief. Bailey & Love's Short Practice of Surgery. 2018. 27<sup>th</sup> edition. CRC Press Taylor & Francis Group. Chapter 19. 269-278
- 21. Poply K, **Mehta V.** The dilemma of interventional pain trials: Thinking beyond the box. British Journal Of Anaesthesia. 119;4: 718-9
- 22. Bantel C, Tripathi SS, Molony D, Hefferman T, Oomman S, **Mehta V**, Dickerson S. Prolonged release oxycodone/ naloxone reduces opioid-induced constipation and improves quality of life in laxative-refractory patients:results of an observational study. Clinical Experimental Gastroenterology. 2018 Jan 24;11:57-67
- 23. **Mehta V**, Poply K, Husband M, Anwar S, Langford R. The effects of radiofrequency neurotomy using a strip-lesioning device on subjects with sacroiliac joint pain: Results from randomised, sham-controlled, trial" Pain Physician 2018 *2018 Nov*;21(6):607-618
- 24. Deckers K, Smedt K De, Mitchell B, Vivian D, Eldabe S, Gulve A, Baranidharan G, Ramaswamy S, **Mehta V**, Sullivan R, Gilligan C. New Therapy for Refractory Chronic Low Back Pain-Restorative Neurostimulation to activate lumbar multifidus: 1 year results of a prospective multicentre trial. Neuromodulation 2018; 21 (1): 48-55
- 25. Wei Lan, Alia Ahmad, Kavita Poply, **Vivek Mehta**. A Prospective single centre pilot study to investigate the duration of time and radiation exposure following Epiducer delivery system in patients undergoing anatomical placement of percutaneous paddle lead for spinal cord stimulation with intractable lumbar spinal neuropathic pain. Neuromodulation Volume 20, Issue 7. https://doi.org/10.1111/ner.12647
- 26. Sharma C, Long J, Shah S, Perret D, Ayoub SS, **Mehta V.** First evidence of the conversion of paracetamol to AM404 in human cerebrospinal fluid. Journal of Pain Research 2017, 10: 2703-2709
- 27. Saowarat Snidvongs, Rod Taylor, Alia Ahmad, Simon Thomson, Manohar Sharma, Angela Farr, Deborah Fitzsimmons, Stephanie Poulton, **Vivek Mehta** and Richard Langford: Facet Joint injections for non specific low back pain: a feasibility RCT. Health Technology Assessment.; Volume 21: Issue 74: December 2017, 1-162
- 28. *V Mehta* S Snidvongs, B Ghai, R Langford, T Wodehouse. Characterisation of peripheral and central sensitisation following dorsal root ganglion intervention in patients with unilateral lumbosacral radicular pain a prospective pilot study. British Journal of Anaesthesia 118; 6:924-931
- 29. Poply K, Bahra A, Mehta V. Migraine. BJA Education
- 30.Anjana-Reddy V, Sharma C, Chang KY, **Mehta V.** "Simplicity", Radiofrequency Neurotomy of Sacroiliac Joint: a real life 1 year follow up UK data. British Journal of Pain
- 31. Ramaswamy S, Chang S, Mehta V. Tapentadol-the evidence so far. Anaesthesia 2015;

70: 518-22

- 32. A. Alamgir, L. Casey, S. Ward, R. Vangronigen, S. Ramaswamy, H. Ellamushi, S. Nikolic, **V. Mehta**. A prospective evaluation of psychological response to SCS therapy in patients with intractable neuropathic pain. Neuromodulation 2015; 18: ee107-e399
- 33. Theresa Wodehouse, Anish Bahra, Shankar Ramaswamy, Liam Casey, Angie Alamgir, Richard VanGroningen and **Vivek Mehta**. Peripheral and central sensitization in patients undergoing occipital nerve stimulator insertion for intractable migraine. Neuromodulation 2015; 18: e107-e399
- 34. Shankar Ramaswamy, Theresa Wodehouse, Liam Casey, Angie Alamgir, Stephen Ward, Serge Nikolic, Richard VanGroningen, Habib Ellamushi, **Vivek Mehta**. Peripheral and Central sensitization in patients undergoing spinal cord stimulator insertion for chronic neuropathic back and leg pain. Neuromodulation 2015; 18: e107-e399
- 35. **Mehta V**, Alawad S, Kuravinakop S, Nikolic S,. Effect of a Fixed-Dose Opioid Agonist/Antagonist on Constipation in Patients on Long-term Opioids for Non-Malignant Pain Unable to Tolerate Laxatives. Pain Physician 2014; 17:415-424
- 36. **Mehta V**, Casey L, Ghai B, Snidvongs S, Langford RM, Wodehouse T A Prospective Human Open Label, Pilot Investigation Into Characterizing QST Response Following 5 Hz to DRG. Neuromodulation 2013
- 37. **Mehta V**, Sharma C, Long J, Shah S, Rahman J, Ayoub S, Perrett D, Langford RM. A Single Centre Prospective Randomised Study to Investigate the Cerebrospinal Fluid (CSF) Pharmacokinetics of Intravenous Paracetamol in Humans. Journal of Pain 2012 Vol 13
- 38.**Mehta V**, Halder J, Langford R M, Anaesthesia & Pain Relief. Bailey & Love Short Practice of Surgery 26 Edition. Anaesthesia & Pain Management. Chapter 17, 238-246
- 39. **Mehta V**, Snidvongs S, Langford RM, Wodehouse T. A prospective open label pilot study to investigate whether quantitative sensory testing correlates with the effectiveness of diagnostic dorsal root ganglion block in patients with unilateral lumbar radicular pain. Journal of Pain 2013
- 40.Husband M, **Mehta V** Cyclo-oxygenase-2 inhibitors . Continuing Education in Anaesthesia, Critical Care & Pain 2013; doi: 10.1093/bjaceaccp/mkt004
- 41. Chhaya V Sharma; **Vivek Mehta** Paracetamol: mechanisms and updates Continuing Education in Anaesthesia, Critical Care & Pain 2013; doi: 10.1093/bjaceaccp/mkt049
- 42. **Mehta V**, Alawad S, Kuravinakop S, Nikolic S, Taylor A. Effect of fixed dose opioid agonist/antagonist on constipation in patients on long term opioids for non cancer pain. Journal of Pain 2012 Vol 13 S80
- 43. Randive S, **Mehta V.** Breakthrough pain- novel analgesics. Current Clinical Pharmacology. 2012 May;7 (2):116-20
- 44. Snidvongs S, **Mehta V.** Recent advances in opioid prescription for chronic non-cancer pain. Postgrad Med J 2011doi:10.1136/pgmj.2010.112045
- 45. **Mehta V**, Siddhalingaiah V. Clinical Examination and Evaluation Cervical Spine. Symptom Oriented Pain Management, 2011. Jaypee Brothers.
- 46.Shah S, **Mehta V.** Controversies and advances in non-steroidal anti-inflammatory drug analgesia in chronic pain management. Postgrad Med J 2011 doi. 10.1136/postgradmedj-2011-130291

- 47. **Mehta V**, Shah S. Paracetamol- the forgotten drug. 2010 Br J Hosp Med 71 (11); 606-
- 48. Snidvongs S, **Mehta V.** Pulsed radiofrequency a non-neurodestructive therapy in pain management. Current Opinion in Palliative & Supportive Care- 2010; 4(2): 107-10
- 49. Kumar P, Nargund V, **Mehta V.** Chronic testicular pain management-a review. Urol Int. 2010; 84 (2):125-31
- 50. Chang SH, Maney KM, Phillips JP, Langford RM, **Mehta V.** A prospective, randomised, double-blind, placebo-controlled investigation of the respiratory effects of oxycodone versus morphine in anesthetised patients. 2010 65(10): 1007-1012
- 51. Chang SH, Maney KM, **Mehta V**, Langford RM. Pain Assessment and Management in Medical Wards: an area of unmet need. Postgrad Med J. 2010 May; 86 (1015): 279-84
- 52. **Mehta V.** Pulsed radiofrequency treatment in the management of chronic pain. Freedom from Pain. 2009. IK International 250-54
- 53. **Mehta V**, Pandit A. Pulsed radiofrequency treatment in management of neuropathic cancer pain. Pain Practice. 2009; 9(1): 71
- 54. Mehta V. Peripheral opioid antagonism. Anaesthesia 2009; 64: 1279-83
- 55. **Mehta V**, Langford RM. Acute pain management in opioid dependent patients. Reviews in Pain 2009; 3 (2): 10-14
- 56. Chang SH, **Mehta V**, Langford RM. Acute and chronic pain following breast surgery Acute Pain. 2009; 11: 1-14
- 57. Langford R M, **Mehta V.** Anaesthesia & Pain Relief. Bailey & Love Short Practice of Surgery 25 Edition. Anaesthesia & Pain Management. Chapter 14, 194-204
- 58. Chang SH, Maney KM, Phillips JP, Langford RM, **Mehta V.** A prospective randomised, double blind placebo controlled investigation of the respiratory effects of oxycodone vs morphine in anesthetised patients. British J Anaesthesia. 2008; 100: 575P-576P
- **59. Mehta V**, Johnston A, Cheung R, Bello A, Langford RM. Intravenous parecoxib rapidly leads to COX-2 inhibitory concentration of valdecoxib in the central nervous system. Clinical Pharmacology & Therapeutics. 2008; 83:430-5
- 60.**Mehta V**, Langford RM. Acute and chronic pain management. 2007 www.doctors.net.uk
- 61. Nikolic S, **Mehta V**, Ratciffe S, Phillips JP, Langford RM. Investigation of buprenorphine induced respiratory depression and its reversibility in anesthetised patients. British J Anaesthesia. 2007; 99: 759P
- 62. Langford R M. **Mehta V.** Selective cyclooxygenase inhibition: its role in pain and anaesthesia. Biomedicine and Pharmacotherapy. 2006; 7: 323-328
- 63. Langford R M, **Mehta V** Are COX-2 selective inhibitors safe for post-operative pain-Yes and No. International Journal of Acute pain. 2006; 8: 95
- 64.**Mehta V**, Langford RM. Acute pain management in opioid dependent patients. Anaesthesia. 2006; 61: 269-76
- 65. **Mehta V**, Phillips JP, Wantman AC, Ratcliffe SH, van Raders PA, Langford RM. Investigation of buprenorphine induced respiratory depression in anaesthetised patients and its reversibility. British J Anaesthesia. 2005; 94: 399-4

**Special interests:** Chronic Pain management, Spinal Cord stimulation, Headache, CRPS and whiplash injury, Fibromyalgia.

**Expert witness training:** I have attended several courses and conferences since 2016 on this subject. I am familiar with the Civil Procedure Rules Part 35.

Medico-legal training and Continuous Professional Development:

- Medico-legal Expert Witness 2012 ref HK/ML127 approved RCP Activity code 68954
- Cambridge Medico-legal Forum: 22 March 2012
- Medico-legal conference Peterhouse, Cambridge Oct 2012
- Cambridge Medico-legal Forum March 2013
- Medico-legal conference Peterhouse, Cambridge Oct 2013
- Medico-legal conference Peterhouse, Cambridge Sept 2016
- Medico-legal conference Peterhouse, Cambridge Sept 2018
- Medico-legal conference, Wolfson College Cambridge Sept 2021
- Medico-legal conference Peterhouse, Cambridge Sept 2022
- Medico-legal conference Peterhouse, Cambridge Sept 2023

**Medicolegal report writing experience:** I have been preparing expert evidence for the courts since 2012.

Dr Vivek Mehta October 2023