Pankaj Satija, M.D.

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EDUCATION AND WORK EXPERIENCE:

Pain and Headache centers of Texas, Houston, TX, USA Nov 2014 - current Director and CEO

Clinical and procedural management of patients with complex chronic pain and headache syndromes.

LEADERSHIP POSITION IN A DISTINGUISHED INSTITUTION

Director, Methodist Pain Management Center Houston Methodist Hospital, Houston, TX, USA July 2011 – Nov 2014

Directed the clinical and research activities of Methodist Pain Management center. The center which was designed and structured with my guidance was built for comprehensive care of patients with complex chronic pain and headache disorders. As a leader of the team, I personally directed care of thousands of patients and supervised a team of nurse practitioners to assist with care of these patients. I along with my team also personally cared for patients admitted in the hospital for their pain management needs. I worked with the administration of the institution to improve HCAHPS (Hospital consumer assessment of healthcare providers and systems) scores.

UTHSCSA, San Antonio, TX, USA

July 2010 - June 2011

Interventional Pain Fellow, Dept of Anesthesiology

Clinical and procedural management of patients with headaches and chronic pain syndromes.

Methodist Neurological Institute, Houston, TX, USA

July 2009 – June 2010

Assistant Professor

Clinical and procedural management of patients with headaches and chronic pain syndromes.

Methodist Neurological Institute, Houston, TX, USA Headache Fellow

July 2008 – June 2009

Clinical and procedural management of patients with chronic pain syndromes. Rotations with anesthesiology, PMR, Neurology and Pain management departments.

Baylor College of Medicine, Houston, TX, USA Resident

July 2005 - June 2008

Dept of Neurology

Clinical and procedural management of patients at Methodist Hospital, St Luke's, VA Medical Center at Houston, Texas Children's hospital, MD Anderson Cancer Center and Ben Taub General Hospital.

Penn State Pinnacle Health Med Center, Harrisburg, PA, USA

July 2004 – June 2005

Preliminary Year Resident

Dept of Internal Medicine

Clinical and procedural management of patients at medical center and ambulatory clinics

U.T.Southwestern Medical Center, Dallas, TX, USA Postdoctoral Fellow

July 2002 – June 2004

Center of Clinical Metabolism

Clinical and procedural research care of patients at 3 facilities-UT Southwestern Metabolism and Lipid Clinic, Center of Human Metabolism & Nutrition and General Clinical Research Center at Parkland Hospital

University of Mumbai - B.Y.L Nair Hospital, India Internal Medicine Resident

February 1999 – February 2002 2nd Position

Managed inpatient, ambulatory and emergency care of patients at different facilities; Rotated through general and subspecialties.

Kasturba Hospital of Infectious Diseases, India

March 2002 – June 2002

Intensive Care Unit Registrar

Managed the ICU in a 840 bedded hospital. Refined my critical care knowledge and managed independently critically ill patients with diverse medical problems.

Primary Health Center, Sindhudurg, India

March 1998 – January 1999

Chief Medical Officer

Managed medical conditions in diverse patient groups with Adult, Pediatric, Gynecological & Obstetrical, Psycho-social, Mental Health problems, Occupational injuries, Emergency conditions.

Conducted obstetric deliveries and managed emergencies like Snake Bites, Drowning, Poisonings.

University of Mumbai -Topiwala National Medical College M.B.B.S (Bachelor of Medicine and Surgery)

February 1993 – February 1998

University of Mumbai, India

INVITED SPEAKER:

- 1) Invited as faculty at the North American Neuromodulation Society Annual Meeting January 19th 22nd, 2017 for Neurology Neuromodulation Workshop
- 2) Invited as faculty at the North American Neuromodulation Society Annual Meeting December 11-14th, 2014 for Neurology Neuromodulation Workshop
- 3) Invited as PRIME faculty for a course on Pain Medicine for residents, fellows and nurses, December 2nd, 2013 (http://primeinc.org/faculty/biography/927/Pankaj_Satija,_MD)
- 4) (Media coverage: Interviewed at abc13 morning news regarding treatment for migraine headaches in 2012)
- 5) Interview in "Leading Medicine" Stop Living in Pain by The Methodist hospital System in 2012
- 6) Invited Speaker and advisor for several pharmaceutical companies including: Pfizer, Astra Zeneca, Supernus, Depomed, Salix.

RESEARCH EXPERIENCE

Pain and Headache Centers of Texas. Houston, Texas

Nov 2014 – present

Multiple clinical research projects are ongoing in the field of Immunological markers for pain disorders, newer treatments for headaches and complex regional pain syndrome

Methodist Pain Management center, Houston, Texas

July 2011 - Nov 2014

Principal investigator under an institutional grant for studying "Use of ultrasound for interventional pain procedures.

MD Anderson Cancer Center, Houston, Texas

June 2007

Studying clinical and therapeutic outcomes of vertebroplasty and kyphoplasty in 100 patients of multiple myeloma with mixed nociceptive and neuropathic pain secondary to compression vertebral fractures.

Baylor College of Medicine, Houston, Texas **Neurology Resident**

July 2005 – June 2008

Designed and conducted control study of role of visual feedback in handwriting in 50 Parkinson's disease patients with 50 controls. The results were presented at the Movement Disorder Society conference in Kyoto, Japan in November 2006. Also see publications.

U T Southwestern Medical Center at Dallas, Texas

July 2002 – June 2004

Postdoctoral Fellow

Instrumented several research projects; approved and funded by National Institute of in the area of Endovascular risk factors; Involved in formulating hypothesis and assisting writing of grants, IRB approval, literature search, recruiting subjects, collecting ,organizing and interpretation of data.

"Genetic polymorphisms in Insulin Resistance and Type II DM- PC1, PPRy1 and IRS 1/2",

"IL6 and MMP9 cytokines as markers of CAD".

Conducting Multicenter Phase III Clinical Drug Trials for Antihypertensive and Lipid Lowering Drugs (IRIS, TROPHY, COMMET, VICTORY)

Univ of Mumbai / Dept of Nephrology

February 2000 - January 2001

Research Assistant

"Therapeutic trial of 1-Alpha Hydroxy Vitamin D3 in the management of Renal Bone Disease". Under IRB approval, 32 patients of Adynamic Renal Bone Disease were administered Vitamin D3 and their Clinical, Biochemical and Dexa profiles were studied prospectively over 1 year. Effects were evaluated in terms of symptomatic relief, normalization of serum levels of Calcium, Phosphate, Parathyroid and Vitamin D3 and Scores of Bone Density on DEXA Scan. Organized audits on "HIV Nephropathy" and "Peritoneal Dialysis".

Univ of Mumbai / Dept of Internal Medicine

March 1999 – January 2000

Research Assistant

"Acute Renal Failure in Malaria". Study of 402 smear positive patients of Malaria. Patients with Acute Renal Failure were evaluated in a retrospective analysis of data from patients admitted in B Y L Nair Hospital's Internal Medicine and Nephrology wards over 1 year. Results of the study were published in an index journal.

[&]quot;Supersupplementation of Vit B12 in Hyperhomocysteinemia"

College of Physicians and Surgeons

February1999 - March 2002

Cross sectional study to evaluate the relationship between "Waist to Hip Ratio and risk of Coronary Heart Disease" and "Correlation of Waist to Hip ratio with known major cardiovascular risk factors" in 224 patients attending local Outpatient Department. A second part of the project was a case control study for evaluation of risk factors in this patient population especially with reference to consumption of oil and non vegetarian food.

HONORS AND AWARDS

- 1 American pain society (APS) Resident Scholarship 2011
- 2 First position 'Jeopardy for Fellows', ASRA 2011 fall meeting, Pheonix, AZ
- 3 First Prize for the best research abstarct: Texas Pain Society, 2010
- 4 Dyer and Bauccum Fellowship 2009, Methodist Hospital, 2009-2010
- 5 Merit ranking in Neurology board examinations, 2008 90 percent
- 6 1st position in inservice examination for 3rd year Neurology residents 97 percentile
- American Pain Society scholarship to attend "The Essentials of Pain Management: Principles and Practice", May 1-5, 2007 at Washington DC.
- 8 1st position in inservice examination for 2nd year Neurology residents 99 percentile
- 9 Elected Clinic Director: AAPI MSRF, 2007-2008
- 10 2nd Position in Post Graduate Internal Medicne University Fellowship Examination F.C.P.S (Fellowship of College of Physicians and Surgeons) Examination 2002
- 11 State Level Rank Holder in HSC Examination 1991
- 12 National Talent Search Scholarship NCERT 1989
- 13 State Level Rank Holder in SSC Examination March 1989
- 14 State Merit Scholarship 1989

PUBLICATIONS AND PRESENTATIONS

- 1) Dextrose injection of sacral lateral branches for chronic sacroiliac joint pain. **Pankaj Satija, MD**, Marcus Parker, MD, Maxim Eckmann, MD, Somayaji Ramamurthy, MD. *American Pain Society annual meeting, Austin, TX May 2011*.
- 2) Why we who we are are? A survey based investigation. **Pankaj Satija, MD,** Monika Ummat, MD, Howard Derman, MD. *American Academy of Neurology annual meeting, Honululu April* 2011.
- 3) Risk Factors For Abnormal CLOX 1 And 2 Test Results In A South Texas Chronic Pain Population. Pankaj Satija, MD, Lucy B. Kupersmith, MD, Maxim Eckmann, MD, Somayaji Ramamurthy MD. American Academy of Pain Medicine annual Meeting, Washington DC –March 2011.

4) Treatment of trigger points with botulinum toxin A injection therapy for cervical myofascial pain syndrome: A randomized double blind study **Pankaj Satija**, **MD**, Tyler Sudweeks, MD, Maxim Eckmann, MD, Somayaji Ramamurthy, MD. *American Society of Regional Anesthesia annual meeting. Phoenix, AZ – November 2010*.

(Media Coverage: http://www.painmedicinenews.com/Clinical-Pain-Medicine/Article/04-11/Botox-A-Shown-Ineffective-for-Treating-Mvofascial-Pain/16953)

- 5) Video Presentation: Low Frequency, High Amplitude Electrical Stimulation of the Spinal Cord via Existing Implanted Dorsal Column Stimulator for Alleviation of Chronic Post-Mastectomy Pain after Failure of Standard Stimulation. **Pankaj Satija, MD,** Jamie Cauveren, MD, Maxin Eckmann, MD, Somayaji Ramamurthy, MD. *American Society of Regional Anesthesia annual meeting. Phoenix, AZ November 2010.*
- 6) Intradiscal Methylene Blue: A novel treatment for discogenic pain. **Pankaj Satija, MD,** Narciso Gonzalez, MD, Maxin Eckmann, MD, Somayaji Ramamurthy, MD. *Texas Pain Society annual meeting, Bastrop, TX Oct 2010.*
- 7) A subanesthetic, short duration protocol of ketamine infusion for refractory pain syndrome. **Pankaj Satija, MD,** Howard Derman, MD. *American Society of Regional Anesthesia annual meeting. Phoenix, AZ May 2009.*
- 8) "Greater Occipital Nerve Block: a Useful Tool in Chronic Daily Headache". **Pankaj Satija, MD,** Howard Derman, MD. Hani Haykal, MD. *Pain Medicine 10 (1): 216-217*.
- 9) An unusual case of Proximal Muscle weakness with B/L winging of the scapula. **Pankaj Satija**, **MD**, Howard Derman, MD. *Carrell krusen neuromuscular conference*, *Dallas*, *February* 2009.
- 10) Height restoration with Kyphoplasty: Is it for real? **Pankaj Satija, MD**, Howard Derman, MD, Hani Haykal, MD. *American Pain Society annual meeting, May 2009*.
- 11) "Headache" **Pankaj Satija, MD**, Howard Derman, MD. Book chapter in Neurology Secrets, 7th edition. (In Press).
- 12) Invited Review of "Comprehensive Review of Headache Medicine" By Morris Levin. Oxford University Press, May 2008 for. **Pankaj Satija, MD**, Howard Derman, MD. *Archives of Neurology* 2009; 66(5):673
- 13) "Satoyashi syndrome" **Pankaj Satija**, Gary Clark, James Killain. *Carrell-Krusen Neuromuscular Symposium (CKNS) 29th Annual, Dallas, TX February 21 –23, 2008.*
- 14) Restless Legs Syndrome: Pathophysiology, Diagnosis and Treatment. **Pankaj Satija**, William Ondo. *CNS Drugs*. 22(6):497-518, 2008.
- 15) "Focal arm weakness and pain" **Pankaj Satija**. *Journal of Clinical Neuromuscular disease* 2007 *March*; 8 (3): 5
- 16) Case series on "Inclusion body myositis diagnosis and management" –**Pankaj Satija**, Aziz Shaibani, Yessar Hussain. *Carrell-Krusen Neuromuscular Symposium (CKNS) 29th Annual, Dallas, TX February 22 –23, 2007.*

- 17) Diabetic Amyotrophy.**Pankaj Satija**, Aziz Shaibani. In "Medlink" peer reviewed online journal for neurology. www.medlink.com
- 18) Cranial Dystonia. **Pankaj Satija**, William Ondo. *In Stacy M. (ed.) Handbook of Dystonia. Informa Healthcare 2006*
- 19) Withdrawal of visual feedback improves writing in Parkinson's disease. **Pankaj Satija**, William Ondo. *Mov Disord 2006*; 21(supple 15):S485.
- 20) Role of Genetic Polymorphism Peroxisome Proliferator-Activated Receptor-{gamma}2 Pro12Ala on Ethnic Susceptibility to Diabetes in South-Asian and Caucasian Subjects: Evidence for heterogeneity. Nicola Abate, MD³, Manisha Chandalia, MD³, Pankaj Satija, MD³, Scott M. Grundy, MD, PHD³, Saurabh Ghosh, PHD⁴, Partha P. Majumder, PHD⁴, Raj Deepa, PHD¹, Sathyanarayana M.R. Rao, PHD² and Viswanathan Mohan, MD¹ Diabetes Care. 2006 May;29(5):1046-1051.
- 21) 'Pain in Multiple Sclerosis': **Pankaj Satija**. *Maxine Meninger Multiple Sclerosis clinic seminar September 18th 2005*.
- 22) ENPP1/PC-1 K121Q polymorphism and genetic susceptibility to type 2 diabetes. Nicola Abate¹, Manisha Chandalia¹, **Pankaj Satija**¹, Beverley Adams-Huet², Scott M. Grundy¹, Sreedharan Sandeep³, Venkatesan Radha³, Raj Deepa³, and Viswanathan Mohan³ *Diabetes*. 2005 Apr; 54(4):1207-13.
- 23) Comparison of peropoerative Glycemic control of diabetic and non diabetic patients in same day surgery unit. Binumol Kurian, **Pankaj Satija**, Renu Joshi. *Penn State Medical Education Day research presentation*, *April 4th 2005*.
- 24) Comparison of Glycemic control on RISS vs GTT in critically ill Patients with Diabetes. Pankaj Satija, Chekov Sergei, Renu Joshi. Penn State Medical Education Day research presentation, April 4th 2005.
- 25) Adipose Tissue Metabolites and Insulin Resistance in Nondiabetic Asian Indian Men. *J Clin Endocrinol Metab* 2004; 89: 2750-2755
- 26) Indirect Hyperbilirubinemia with Indinavir. **Satija P**, Parikh F, Aggarwal V, Sharma B, Pai-Dhungat JV. *J Assoc Physicians India* 2002 Oct; 50: 1316 7
- 27) Severe Acute Renal Failure in Malaria. Mehta KS, Halankar AR, Makwana PD, Torane PP, **Satija PS**, Jayakar VV. *J Post Graduate Med 2001 Jan Mar*; 47 (1): 24 6
- 28) Acute Renal Failure and Pathology in Malaria (Poster Presentation and Abstract) **Pankaj Satija**, Vishal Jayakar, Kalpana Mehta. *South Asian Nephrology Congress and International CME 2000, AIIMS*, *New Delhi*, *India*
- 29) Opthalmoplegia Plus. Kulkarni V, **Satija P**, Gaggar S, Nadkar MY, Kamath SA. *The Indian Practitioner 2001 April*; 54: 291 296

- 30) Bronchial Asthma and Effects of Oral Steroids and combination with Inhaled Steroids. N. Gadkar, P.D. Panchal, S.D. Drago, S. Kini, **P. Satija**, S.T. Nabar. *16th Asia- Pacific Congreso on Diseases of Chest* 2002; S 42 S 45
- 31) Gonococcal Infections. **Pankaj Satija**, Milind Nadkar. *API Text Book of Medicine VII th Edition-* 2003
- 32) Granuloma Inguinale. **Pankaj Satija**, Milind Nadkar. *API Text Book of Medicine VII th Edition-* 2003
- 33) "Lung a target organ in Diabetes". **Pankaj Satija**, AJ Pai-Dhungat. 56 th Joint Annual Conference of Association of Physicians of India, New Delhi, Jan 20 24, 2001
- 34) "Antiphospholipid Antobody Syndrome Diagnosis and Management". **Pankaj Satija.** *Bombay Hematology Group CME 2000. T N Medical college and B Y L Nair Hospital*, *February 18* 20, 2000
- 35) "Clinical Research Getting Started". **Pankaj Satija**, Falguni Pathak, AJ Pai-Dhungat. *Annual Research Conference*, TN Medical college and BYL Nair Hospital, March 26, 2000

VOLUNTEER EXPERIENCE

API-MSRF, Houston, TX Clinic Director

January 2007- January 2008

Ran a free of cost examination and disease education clinic for indigenous populations who lack health insurance every Saturday. The clinic is staffed and run with the help of medical students, residents and fellows of UT Houston, Baylor College of Medicine and UTMB Galveston and physicians from IDA, Houston branch. We organize health camps, free screenings and support group resources.

University of Mumbai - B Y L Nair Hospital Team Leader

January 2001 –February 2002

Led a team of seven physicians for Acute Care and Rehabilitation of earthquake victims at Bhuj District of Gujarat state in Jan 2001. Managed wounds, gastrointestinal, respiratory infections. Ensured provision of basic medications and daily necessities. Coordinated with military and non governmental organizations. Assisted organizing of health camps. Counseled and provided supportive therapy for post traumatic stress related problems.

University of Mumbai - B Y L Nair Hospital Resident – Internal Medicine

February 1999 - January 2002

Encouraged commercial sex workers and high risk population for seeking diagnosis of HIV infection and AIDS. Educated about safe sex practices. Pursued diagnosis and management of AIDS related complications through B Y L Nair hospital. Counseled patients and caretakers about support and Highly Active Anti Retroviral Treatment. Organized a three day seminar " Principles of Diagnosis and Management of AIDS " for medical and nursing students.

MEMBERSHIPS OF PROFESSIONAL SOCIETIES (Several of these require MD to qualify)

- 1) American Society of Regional Anesthesia
- 2) Texas Pain Society
- 3) American Pain Society
- 4) American Academy of Pain Medicine
- 5) American Neurological Association
- 6) American Academy of Neurology
- 7) Texas Medical Association
- 8) Harris County Medical Society
- 9) American College of Advancement in Medicne
- 10) Southern Medical Association
- 11) Association of Physicians of India

CERTIFICATION AND LICENCES

UCNS: Subspeciality certification in Headache October 2012
ABPN: Subspeciality certification in pain October 2011
American Board of Psychiatry and Neurology
Texas State License July 2008
Pennsylvania State License June 2004
ACLS Certified June 2004
All India Medical License April 2002