

Ricardo Vallejo

Curriculum Vita

Director of Research
Staff Pain Medicine
Millennium Pain Center
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Education

- 1988 M.D.
University Libre Cali-Colombia
- 1994 PhD Immunology
University Complutense, Madrid, Spain

Internships and Residencies

- 2000-2001 Chief Resident
Jackson Memorial Hospital, University of Miami. Miami, FL.
Department of Anesthesiology
- 2000-2001 Chief Administrative / Research Resident
VA Hospital / Jackson Memorial Hospital, University of Miami
Anesthesiology Department
- 2000-2001 Chairman Resident Committee / Chair Board of Directors
Florida Society of Anesthesiology
- 1998-2001 Anesthesiology Resident
Jackson Memorial Hospital, University of Miami. Miami, FL.
Department of Anesthesiology.
- 1997-1998 Internal Medicine Internship
Jackson Memorial Hospital, University of Miami. Miami, FL.
Department of Internal Medicine.
- 1999-2001 Resident representative Florida Society of Anesthesiology
University of Miami / Jackson Memorial Hospital,
Anesthesiology Department


4/12/10

Postgraduate Training

2001-2001 Pain Management Fellow
Harvard Medical School, Massachusetts General Hospital.
Boston, MA. Department of Anesthesia and Critical Care

Licensure

1995 ECFMG Permanent Certificate

2002 Illinois State Medical License

Board Certification

2001 Board Certified in Anesthesiology by the American Board of Anesthesiology

2003 Board Certified in Pain Medicine by the American Board of Anesthesiology

2004 Fellow Interventional Pain Practice by the World Institute of Pain

2008 American Board of Interventional Pain Physicians

Academic Appointments

2003 Adjunct Professor, Department of Biological Science, Illinois State University

2005 Associate Editor, *Pain Practice*, A publication of the World Institute of Pain

2005 Examiner, Fellow of Interventional Pain Practice Certificate Exam, World Institute of Pain

2005 Editorial Board, Journal of Opioid Management

2006 Editorial Board Clinical Journal of Pain

2006 Editorial Board, Pain Physician, the publication of the American Society of Interventional Pain Physicians

- 2007 World Institute of Pain Examination Board Member
- 2009 Secretary Illinois Society of Interventional Pain Physician
- 2009 Board of Examiners, American Board of Interventional Pain Physicians

Hospital Appointments

- 2002 Staff Anesthesiologist, BroMenn Medical Center, Normal, Illinois
- 2003 Staff Pain Physician, St Joseph Medical Center, Bloomington, Illinois
- 2008 Staff Pain Clinic, Centro Medico Teknon. Senior Consultant, Barcelona, Spain
- 2009 Staff Pain Physician, Resurrection Medical Center, Chicago, Illinois
- 2010 Staff Pain Physician, St. James Medical Center, Pontiac, Illinois

Professional Organizations

- 1998 American Society of Anesthesiology
- 1999 American Society of Regional Anesthesia and Pain Medicine
- 2000 American Academy of Pain Medicine
- 2002 International Association for the Study of Pain
- 2003 American Pain Society
- 2002 World Institute of Pain
- 2006 American Society of Interventional Pain Physicians
- 2006 American Medical Association
- 2007 Colegio de Medicos de Barcelona

Guest Reviewer

- 2000-2002 Reviewer for *Critical Reviews in Oncogenesis* (International Peer Review Journal)

- 2000-2002 Reviewer for *Chronic Fatigue Syndrome*
(International Peer Review Journal)
- 2003 Reviewer for the *Clinical Journal of Pain* (International Peer Review Journal)
- 2004 International Reviewer for *Revista Mexicana de Anestesiología*
(Peer Reviewed Journal)
- 2004 Reviewer for *Pain Practice*
(International Peer Review Journal)
- 2004 Reviewer for *Journal of Opioid Management*,
(International Peer Review Journal)
- 2005 Reviewer for *Immunology Letters*,
(International Peer Reviewed Journal)
- 2006 Reviewer for *Pain Medicine*
(International Peer Reviewed Journal)
- 2005 **Guest Editor:** *Techniques in Regional Anesthesia and Pain Management*. Volume 9, Issue 2: 2005
- 2006 Reviewer *Pain Physician*
(International Peer Review Journal)
- 2007 Reviewer Life Science
(International Peer Review Journal)

Journal Publications

1. Jacobs JS; **Vallejo R**; DeSouza GJ; TerRiet MF. Severe hypoglycemia after labor epidural. *Anesthesia and Analgesia*, 2000, 90(4), 892-893.
2. **Vallejo, R.**, DeSouza, G., Lee, J. Shy-Drager syndrome and severe unexplained intraoperative hypotension responsive to vasopressin. *Anesthesia and Analgesia*, 2002, 95(1), 50-52.
3. **Vallejo, R.**, Hord, D., Barna, S., Santiago-Palma, J., Ahmed, S. Perioperative immunosuppression in cancer patients. *Journal of Environmental Pathology, Toxicology and Oncology*, 2003, 22(2), 139-146.

4. Patarca, R., Isava, A., Campos, R., Rodriguez, N., Alter, M., Sanabia, M., Mitchel, C., Rivera, D., Scott, G., Jayaweera, D., Moreno, J., Kolber, M., Mask, C., Sierra, E., **Vallejo, R.**, Kilmas, N., Fletcher, M. Human immunodeficiency virus type 1 pharmacogenomics in clinical practice: relevance of HIV-1 drug resistance testing (Part 1). *Journal of Environmental Pathology, Toxicology and Oncology*, 2003, 22(3), 201-234.
5. Patarca, R., Isava, A., Campos, R., Rodriguez, N., Alter, M., Sanabia, M., Mitchel, C., Rivera, D., Scott, G., Jayaweera, D., Moreno, J., Kolber, M., Mask, C., Sierra, E., **Vallejo, R.**, Kilmas, N., Fletcher, M. Human immunodeficiency virus type 1 pharmacogenomics in clinical practice: relevance of HIV-1 drug resistance testing (Part 2). *Journal of Environmental Pathology, Toxicology and Oncology*, 2003, 22(3), 235-279.
6. Stojanovic, M., Zhou, Y., Hord, D., **Vallejo, R.**, Cohen, S. The single needle approach for multiple medial branch blocks: A New Technique. *Clinical Journal of Pain*, 2003, 19, 134-137.
7. Hord, D., Cohen, S., Ahmed, S., Chang, Y., **Vallejo, R.**, Barna, S., Stojanovich, M. The predictive value of sympathetic block for the success of spinal cord stimulation. *Neurosurgery*, 2003, 53(3), 626-633.
8. Santiago-Palma, J., Hord, D., **Vallejo, R.**, Trella, J., Ahmed, S. Respiratory distress after intrathecal baclofen withdrawal. *Anesthesia and Analgesia*, 2004, 99(1), 227-229.
9. Hord, D., Stojanovic, M., **Vallejo, R.**, Barna, S., Santiago-Palma, J., Mao, J. Multiple Bier Blocks with Labetalol for Complex Regional Pain Syndrome Refractory to Other Treatments. *Journal of Pain and Symptom Management*. 2003, 25(4), 299-302.
10. Ahmed, S., **Vallejo, R.**, Hord, D. "Seizures following a Bier block with clonidine and lidocaine" *Anesthesia and Analgesia*, 2004, 99(2), 593-594.
11. **Vallejo, R.**, Benyamin, R., Deleon Cassasola, O. Opioid Therapy and immunosuppression: A Review. *American Journal of Therapeutics* 2004, 11(5), 354-365.
12. **Vallejo, R.**, Benyamin, R. Epidural Analgesia for Cancer Patients. *Journal of Cancer Pain and Symptom Palliation*, 2005, 1(3), 21-29.
13. Santiago-Palma, J., **Vallejo, R.**, Kornick, C., Barna, S. Are cervical nerve root blocks "safe and effective"? *American Journal of Neuroradiology*, 2005; 26(9), 2434-35.

14. Benyamin, R., **Vallejo, R.** Vertebroplasty. *Techniques in Regional Anesthesia and Pain Management*, 2005, 9, 62-67.
15. **Vallejo, R.** Cervical Facet Radiofrequency. *Techniques in Regional Anesthesia and Pain Management*, 2005, 9, 81-85.
16. **Vallejo, R.** Interventional Pain Management. *Techniques in Regional Anesthesia and Pain Management*. 2005, 9, 57.
17. **Vallejo, R.**, Benyamin, R.M. and Naveed, Y. (2005). Low Back Pain. *Pain Practice*, 5(4), 354-355.
18. **Vallejo, R.**, Benyamin, R.M. and Yousuf, N. (2005). Neck and Shoulder Pain. *Pain Practice*, 5(3), 249-250.
19. **Vallejo, R.**, Plancarte, R., Benyamin, R., Stanton, G. Anterior Cervical Approach for Stellate and T2/T3 Sympathetic Block: a Novel Technique. *Pain Practice* 2005;5(3):244-8.
20. **Vallejo, R.**, Benyamin, R., Floyd, B., Casto, J., Joseph, N., Mekhail, N. Percutaneous Cement injection into a created cavity for the treatment of vertebral body fracture: Preliminary results of a new vertebroplasty technique. *Clinical Journal of Pain*, 2006, 22(2), 182-189.
21. **Vallejo, R.**, Benyamin, R., Kramer, J. Epidurales Cervicales, como? donde?, cuando? y porque?: La controversia continua. *Revista de Anestesiología de Argentina*, 2006, 63(6), 402-406.
22. **Vallejo, R.**, Benyamin, R., Yousuf, N., Kramer, J. Images in Pain Practice: Disc Herniation and Clinical Radicular Disparities. *Pain Practice*, 2006, 6(2), 135-138.
23. **Vallejo, R.**, Benyamin, R., Kramer, J. Neuromodulation of the occipital nerve in pain medicine. *Techniques in Regional Anesthesiology and Pain Management*. 2006, 10, 12-15.
24. **Vallejo, R.**, Fidalgo Pérez, M.I., Malo Cancellor, J.M., Paredes, M.M., Kramer, J. Spinal Neuromodulation: A Novel Approach in the Management of Peripheral Vascular Disease. *Techniques in Regional Anesthesia and Pain Management*, 2006, 10, 3-6.
25. **Vallejo R.**, Benyamin, R., Joseph, N., Stanton, G., Kramer, J. Pulsed radiofrequency denervation for the treatment of sacroiliac joint syndrome. *Pain Medicine*, 2006;7(5):429-34.

26. **Vallejo, R.**, Benyamin, R., Yousuf, N., Kramer, J. Images in Pain Practice: Vertebroplasty. *Pain Practice*, 2006;6(3):203-5.
27. **Vallejo R**, Benyamin R, Kramer J, Yousuf N. Images in Pain Practice: Morphine pump catheter rupture after percutaneous lithotripsy. *Pain Practice* 2006;(6)4:289-90
29. **Vallejo, R.**, Kramer, J.M. and Benyamin, R. (2006). Neuromodulation of the cervical spinal cord in the Treatment of Chronic Intractable Neck and Upper Extremity Pain: A Case Series and Review of the Literature. *Pain Physician* 2007;10(2):305-11
30. Benyamin, R., Kramer, J.M. and **Vallejo, R.** (2006). A Case of Spinal Cord Stimulation in Raynaud's Phenomenon: Can Subthreshold Sensory Stimulation Have an Effect? *Pain Physician* 2007;10(3):473-8
31. **Vallejo R.**, Benyamin R., Yousuf N., Kramer J. Images in Pain Practice: CT enhanced sphenopalatine ganglion blockade. *Pain Pract.* 2007 ;7(1):44-6
32. **Vallejo R.**, Kramer J., Benyamin R. Request for Additional Pertinent Information Regarding 4 Extremity Stimulation Coverage from C2 Spinal Cord Stimulation Lead Placement. *Pain Physician.* 2007; 10(3):516-7
33. **Vallejo R.**, Estimulacion de Nervios Perifericos. *Acta Neurologica Colombiana* (September 2007. In Press)
34. **Vallejo R**, Benyamin R, Estimuladores de Columna Dorsal. Revision. *Acta Neurologica Colombiana* (September 2007. In Press)
35. **Vallejo, R.**, Benyamin, R. Yousuf, N. and Kramer, J. Intradiscal intravasation of contrast during a transforaminal epidural injection. *Pain Practice*, 2007; 7(3), 285-287.
36. Benyamin, R., **Vallejo, R.**, Yousuf, N., Tamrazi, A. and Kramer, J.M. Incidental Diagnosis of Intradural Lumbar Disc Herniation During Discography: A Case Report. *Pain Practice*, 2007; 7(4), 332–336
37. Benyamin R., Trescot A., Datta S., Buenaventura R., Adlaka R., Sehgal N. Glaser S., **Vallejo R.** Opioid Complications and Side Effects. *Pain Physician*; 2008:S105-S120
38. Benyamin RM, **Vallejo R**, Kramer J, Rafeyan R. Corticosteroid induced psychosis in the pain management setting. *Pain Physician* 2008;11(6):917-20

39. Nguyen T, Kramer J, **Vallejo R**, Stanton G, Heidenreich R, Vogel LA, Citalopram enhances B cell numbers in a murine model of morphine-induced immunosuppression. *Pain Practice* 2009;9(3):195-205
40. **Vallejo R**, Tilley DM, Vogel L, Benyamin RM. The role of glia and the immune system in the development and maintenance of neuropathic pain. *Pain Practice* 2010 (In Press)
41. **Vallejo R**, Benyamin RM. Radiofrequency versus pulsed radiofrequency: the end of the controversy. *Techniques in Regional Anesthesia & Pain Management* 2010 (In Press)
42. **Vallejo R**, Benyamin RM. Vertebro augmentation techniques for the treatment of vertebral compression fractures: a review. *Techniques in Regional Anesthesia & Pain Management* 2010 (In Press)

On-Line Publications

Barna S, Santiago-Palma J, Hord D, Vallejo R, Discography. Review article and CME questions, *Emedicine* 2001.

Santiago-Palma J, Barna S, Hord DE, Vallejo R, Cancer Pain Management. Review article and CME questions. *Emedicine* 2002.

Book Chapters

1. **Vallejo R**. Immunologic Effects of Acute and Chronic Opiate Administration, In: Oscar de Leon-Casasola. *Cancer Pain: Pharmacologic, Interventional, and Palliative Care Approaches*. Elsevier Science. 2006.
2. **Vallejo R**, Monitorizacion del dolor en Anesthesia, Cuidados Criticos y medicina de Urgencia. In: Borja Quintana. *Monitorizacion en Anesthesia, Cuidados Criticos y Medicina de Urgencia*. Elsevier Science, Spain. 2003
3. **Vallejo R.**, Benyamin R., Kramer J., Bounds D. Epidural Spinal Cord Stimulator for the treatment of Chronic Pain. In Laxmaiah Manchikanti. *Practical Guide to Interventional Techniques*. American Society of Interventional Pain Physicians. (In Press, 2007)

4. Benyamin R., **Vallejo R.**, Kramer J., Bounds R. Peripheral Nerve Stimulation. In Laxmaiah Manchikanti. Practical Guide to Interventional Pain Practice. American Academy of Interventional techniques (In Press, 2007)
5. **Vallejo R**, Benyamin R, Tecnicas de relleno de fracturas de cuerpos vertebrales. Indicaciones y seleccion de tecnicas. In: De Andres J. Puesta al dia en Anestesia Regional y tratamiento del dolor. Vol 10. 2007.
6. **Vallejo R**, Beanyamin R. Dolor sacroiliaco, tecnicas diagnosticas y posibilidades terapeuticas. In: De Andres J. Puesta al dia en Anestesia Regional y tratamiento del dolor. Vol 10. 2007.
7. **Vallejo R**, Benyamin R. Dolor Cervico-toracico mantenido por el simpatico. Bases para la decision del nivel y metodologia. In: De Andres J. Puesta al dia en Anestesia Regional y tratamiento del dolor. Vol 10. 2007.
8. **Vallejo R**, Benyamin R. Discografia. In: Torres Morera LM. Tecnicas Intervencionistas para manejo del dolor. 2007
9. **Vallejo R**, Benyamin R. Tecnicas percutaneas de decompresion discal. In: Torres Morera LM. Tecnicas Intervencionistas para manejo del dolor. 2007

Abstracts

Hord D, Cohen S, Ahmed S, Chang Y, **Vallejo R**, Barna S, Stojanovic M., Does Sympathetic Block Predicts Success in Complex Regional Pain Syndrome? *Journal of Pain* 2002.

Vallejo R, Benyamin R, Stanto G. "Pulse Radiofrequency denervation: an effective treatment for intreatable sacroiliac joint syndrome." *Pain Practice*, a publication of the 3rd World Congress. World Institute of Pain Barcelona, Spain, September 2004

Abstract Presentations

2002 Stojanovic MP, Santiago-Palma J, Barna SA, **Vallejo R**, Trella J, Hord DE. Is the Anteroposterior Fluoroscopy View Alone Adequate to Assess Epidural Contrast Spread? 10th World Congress of Pain, International Association for the Study of Pain. San Diego, California.

- 2002 **Vallejo R**, Santiago-Palma J, Ahmed S. Tizanidine for the treatment of chronic myofascial pain. 10th World Congress of Pain, International Association for the Study of Pain. San Diego, California.
- 2002 Santiago-Palma J, Barna S, **Vallejo R**, Mao J, Ahmed S, Opioid rotation in the management of non cancer pain. Preliminary results of an analysis of dose ratios between methadone and controlled release oxycodone. 10th World Congress of Pain, International Association for the study of Pain. San Diego, California.
- 2004 **Vallejo R**, Benyamin R, Floyd B, Casto J. "New technique for treatment of vertebral body fracture: Initial experience with the cavity creation system." 20th Annual Meeting, American Academy of Pain Management. Orlando, Florida.
- 2004 **Vallejo R**, Benyamin R, Stanton G. "Pulse Radiofrequency denervation: an effective treatment for untreatable sacroiliac joint syndrome." 3rd World Congress. World Institute of Pain. Barcelona, Spain, September 2004
- 2004 Benyamin R, **Vallejo R**. "Incidence of intravascular injection during interlaminar cervical epidural steroid injection." 3rd World Congress. World Institute of Pain. Barcelona, Spain, September 2004
- 2005 **Vallejo, R**, Benyamin R, Plancarte R, Santiago-Palma J. "Anterior Cervical Approach for Stellate and T2-T3 Sympathetic Block: A Novel Technique," American Society of Regional Anesthesia and Pain Medicine, Toronto, Canada, April 2005
- 2006 **Vallejo R**, Benyamin R, Kramer J. Chronic pain following neck surgery is effectively treated with cervical spinal cord stimulation: A case series. North American Neuromodulation Society. Las Vegas, Nevada, December 2006.
- 2006 Benyamin R., **Vallejo R.**, Kramer J. Sensory subthreshold stimulation maintains pain relief in spinal neuromodulation in Raynaud's Phenomenon. North American Neuromodulation Society. Las Vegas, Nevada, December 2006.

- 2006 Kramer J, **Vallejo R**, Benyamin R, et al. Somatization factor of the pain patient questionnaire predicts spinal cord stimulation trial outcome. North American Neuromodulation Society. Las Vegas, Nevada, December 2006.
- 2007 **Vallejo R.**, Kramer J., Benyamin R. Pulsed radiofrequency neuromodulation of the c2 nerve root for the treatment of cervicogenic headache originating in the lateral atlantoaxial joint. 4th World Congress of the World Institute of Pain. (Budapest, Sep. 2007)
- 2008 Nguyen T., **Vallejo R.**, Benyamin R., Kramer J., Vogel L. Spinal glial modulation of neuropathic pain using a spare nerve ligation in mouse. Federation of American Society of Experimental Biology, San Diego, California, March 2008
- 2009 **Vallejo R**, Tilley D, Vogel L, Benyamin R., Pulsed radiofrequency modulates cytokine expression. American Society of Regional Analgesia, San Antonio, Texas, November 2009

Editorial Appointments

- 2004 **Guest Editor**, *Techniques in Regional Anesthesia & Pain Management*. April 2005 issue. W.B. Saunders Company, Philadelphia, PA.
- 2005 **Associated Editor** for the journal *Pain Practice*, a publication of the World Institute of Pain, Blackwell Publishing, Inc. Malden, MA.
- 2005 **Editorial Board**, *Journal of Opioid Management*, Prime National Publishing Corporation
- 2006 **Editor Clinical Section**: World Institute of Pain Newsletter.
- 2006 **Editorial Board**, *Clinical Journal of Pain*, Lippincott, Williams and Wilkins
- 2006 **Editorial Board**, *Pain Physician*, a publication of the American Society of Pain Physicians
- 2008 **Examination Board Member**, World Institute of Pain

2009 **Guest Editor**, Techniques in Regional Anesthesia & Pain Management. June 2010 issue. W.B. Saunders Company, Philadelphia, PA

Presentations

- 2001 Opioid Rotation, equianalgesic doses and indications. A criticalReview. Multidisciplinary pain conference. Massachusetts General Hospital. Harvard Medical School. November
- 2001 Neuraxial Blocks and Coagulopathy. Current Trends. Multidisciplinary Pain Conference. Massachusetts General Hospital. Harvard Medical School. November
- 2002 Epidural Infusion Therapy for Intractable Cancer Pain. Interventional Pain Conference. Massachusetts General Hospital. Harvard Medical School.
- 2003 Cytokines and Neuropathic Pain. Biology Science Department Seminar, Illinois State University.
- 2003 The Role of the Immune System in Chronic Neuropathic Pain. Multidisciplinary Pain Conference Jackson Memorial Hospital. University of Miami
- 2003 The role of peripheral opioid receptors in the regulation of the Immune response. Neuroscience Group Meeting. Universidad del Valle, Colombia
- 2003 Workshop in Regional Anesthesia XXVII Latinoamerican Congress of Anesthesia. Guatemala.
- 2003 Pain Management for the patient in the ICU XXVII Latinoamerican Congress of Anesthesia. Guatemala.
- 2004 Hyperalgesia and Post-Operative Pain. 20th International Congress of Anesthesiology Sociedad Peruna de Anestesia, Analgesia y Reanimacion.Lima, Peru. October 2004.
- 2004 NMDA Antagonist in Treatment of Post-Operatic Pain. 20th International Congress of Anesthesiology Sociedad Peruna de Anestesia, Analgesia y Reanimacion. Lima, Peru. October 2004.

- 2005 Vallejo, R, Benyamin R, Plancarte R, Santiago-Palma J. *“Anterior Cervical Approach for Stellate and T2-T3 Sympathetic Block: A Novel Technique,”* American Society of Regional Anesthesia and Pain Medicine, Toronto, Canada, April 2005
- 2006 History of Opioids, Opioid Certification Program. The Conference Center at Harvard Medical Boston, Massachusetts. April 2006
- 2006 Intradiscal Procedures. Annual Fall Pain Meeting and Workshops. American Society of Regional Anesthesia and Pain Medicine. San Francisco, California. November 2006
- 2006 History of Opioids. Opioid Education Program. Opioid Management Society. Chicago, Illinois. September 2006.
- 2006 Interventional Pain Medicine. Opioid Education Program. Opioid Management Society. Chicago, Illinois. September, 2006
- 2006 History of Opioids. Opioid Education Program. Opioid Management Society. Philadelphia, Pennsylvania, October, 2006
- 2006 History of Opioids. Opioid Educational Program. Opioid Management Society. Miami, Florida. October 2006
- 2006 History of Opioids. Opioid Education Program. Opioid Management Society. Houston, Texas, 2006
- 2006 Interventional Pain Medicine. Opioid Education Program. Opioid Management Society. Houston, Texas, 2006
- 2006 Vertebroplasty. Cadaver Workshop. Annual Fall Pain Meeting and Workshops. American Society of Regional Anesthesia and Pain Medicine. San Francisco, California. November 2006
- 2007 Estado Actual de los procedimientos invasivos en el dolor lumbar Cronico. Jornada Cientifica de Ultimas Tecnicas en el tratamiento Del Dolor. Clinica Teknon, Barcelona May 24th 2007.
- 2007 SCS in the treatment of low Back Pain. Precision Symposia. Grand Hotel National, Lucerne, Switzerland, June, 2007

- 2007 Radiofrecuencia en el tratamiento del dolor. VIII Congreso Colombiano de Neurología. Cali, Colombia. August 2007
- 2007 Manejo alternativo del dolor. VIII Congreso Colombiano de Neurología. Cali, Colombia. August 2007
- 2007 Uso de estimuladores de columna dorsal y periféricos. VIII Congreso Colombiano de Neurología. Cali, Colombia. August 2007
- 2007 Radiofrecuencia. Congreso Anual de la Fundación Santa Fe de Bogotá. Avances técnicos y Farmacológicos en Anestesia y Cuidado Intensivo. Bogotá, Colombia. September, 2007
- 2007 Estimuladores electrónicos del cordón espinal. Congreso Anual de la Fundación Santa Fe de Bogotá. Avances técnico Farmacológicos en Anestesia y Cuidado Intensivo. Bogotá, Colombia. September, 2007
- 2007 Dolor Sacroiliaco, técnicas diagnósticas y alternativas terapéuticas European Society of Regional Anesthesia. Valencia, Spain. September, 2007.
- 2007 Dolor cervico-torácico mantenido por el simpático. Bases para la decisión del nivel y metodología utilizada. European Society of Regional Anesthesia. Valencia, Spain. September, 2007.
- 2007 Técnicas de relleno de fracturas de cuerpos vertebrales; Indicaciones y selección de técnicas. European Society of Regional Anesthesia. Valencia, Spain. September, 2007.
- 2007 Programación computerizada: Nuestra experiencia. Clínica en más de 100 pacientes. VII Congreso de la Sociedad Española del Dolor. Santander, Spain, September, 2007
- 2007 Vertebroplasty and Kyphoplasty, complications. IV World Congress of Pain. World Institute of Pain. Budapest, Hungary. September 2007
- 2007 Controversies in radiofrequency. Pulse vs. Neurolytic. American Society of Anesthesiology, Annual Meeting. San Francisco, California, October, 2007
- 2007 Vertebroplasty / Kyphoplasty. Annual Pain Medicine Meeting. American Society of Regional Anesthesia and Pain Medicine. Boca Raton, Florida. November 2007.

- 2008 Controversies: pulse radiofrequency vs. neurolytic radiofrequency. Cleveland Clinic 10th Annual Pain Management Symposium, San Diego, California, February 2008
- 2008 Vertebroplasty vs. Kyphoplasty. What is new? Puerto Rican Anesthesia Society, Annual Meeting. Rio Grande, Puerto Rico, June 2008
- 2008 Radiofrequency of the lumbar spine. What is the evidence. Puerto Rican Anesthesia Society, Annual Meeting. Rio Grande, Puerto Rico, June 2008
- 2008 Vision for Cervical Facet Medial Branch Radiofrequency Lesion, Brazilian Congress of Minimally Invasive Spinal Surgery and Techniques, Gramado, Brazil, August 2008.
- 2008 Spinal Cord Stimulation for Axial Low Back Pain: Initial Experience with 100 Cases. Brazilian Congress of Minimally Invasive Spinal Surgery and Techniques, Gramado, Brazil, August 2008.
- 2009 Vertebroplasty: Indications and Complications Brazilian Congress of Minimally Invasive Spinal Surgery and Techniques, Gramado, Brazil, August 2008.
- 2008 A Voyage from trial to implantation. American Society of Interventional Pain Physicians meeting on spinal stimulation, Memphis, TN, 2008
- 2008 Vertebroplasty and Kyphoplasty; New Concepts in Neuromodulation. First Symposium Controversies in the Management of Pain Patients, Medellin, Colombia, November 2008.
- 2009 Intrathecal Gabapentin for neuropathic pain. Cleveland Clinic 11th Annual Pain Management Symposium, Orlando, Florida, February 2009
- 2009 Thermal and Pulsed Radiofrequency lesions. Cleveland Clinic 11th Annual Pain Management Symposium, Orlando, Florida, February 2009

- 2009 Controversies on radiofrequency therapy. National Institute of Medical Science, Salvador Zubiran. International Forum of Pain and Palliative Medicine, Mexico City, Mexico, September 2009.
- 2009 Spinal Stimulation. National Institute of Medical Science, Salvador Zubiran. International Forum of Pain and Palliative Medicine, Mexico City, Mexico, September 2009
- 2009 Should Pulse Radiofrequency Replace Conventional Radiofrequency? American Society of Anesthesiology Annual Meeting. New Orleans, LA, October, 2009.
- 2009 Discography and IDET. American Society of Anesthesiology Annual Meeting. New Orleans, LA, October, 2009.

Invited Lectures

- 2004 Complications and Controversy in the Use of Radio Frequency. 6° Curso de Actualizacion en Medicina del dolor y Paliativa. Instituto Nacional de Ciencias Medicas y Nutricion "Salvador Zubrian." Mexico.
- 2004 Effects of Opioids on Immune System. 6° Curso de Actualizacion en Medicina del dolor y Paliativa. Instituto Nacional de Ciencias Medicas y Nutricion "Salvador Zubrian." Mexico.
- 2004 Cytokines and Opiates. American Society of Regional Anesthesia and Pain Medicine. Annual Fall Meeting, Phoenix, Arizona. November 12, 2004.
- 2004 The Patient with Vertebral Fractures. American Society of Regional Anesthesia and Pain Medicine. Phoenix, Arizona. November 12, 2004.
- 2004 Neuropathic Pain, Can It be Prevented? General Session-Interventional Pain Management. XVII Congreso Venezolano de Anestsiologia. Venezuela. November 26, 2004.
- 2004 Immune System and Its Relationship with Acute Pain Management. XVII Congreso Venezolano de Anestsiologia. Venezuela. November 26, 2004.

- 2005 Opioid Therapy and Immunosuppression. World Institute of Pain and Puerto Rico Pain Society, San Juan, Puerto Rico. January 30, 2005.
- 2005 Caudal/Cervical Neuroplasty. Cleveland Clinic 7th Annual Pain Management Symposium, Orlando, FL. February 14, 2005.
- 2005 RFA of Splanchnic & Lumber Plexuses. Cleveland Clinic 7th Annual Pain Management Symposium, Orlando, FL. February 15, 2005
- 2005 Prevention of post-surgical pain. Fundacion Dolor 11th International course. Buenos Aires, Argentina. May 6th and 7th, 2005
- 2005 Radiofrequency: An update. Fundacion Dolor 11th International course. Buenos Aires, Argentina. May 6th and 7th, 2005
- 2005 Opioids and the immune system: Clinical implications. Fundacion Dolor 11th International course. Buenos Aires, Argentina. May 6th and 7th, 2005
- 2005 Vertebroplasty/ Kyphoplasty. American Society of Regional and Pain Management. Annual Fall Meeting and workshops. Miami Beach, Florida. November 17th-20th, 2005.
- 2005 Cadaver Workshop on Interventional Pain Medicine. University of Buenos Aires, and Fundacion Dolor, December 1st and 2nd, 2005.
- 2006 History of Opioids. Opioid Management Society. Boston, MA. April 22-23, 2006.
- 2006 Faculty, Pain Foundation of Argentina, First International Pain Cadaver Workshop, Buenos Aires, Argentina, 2006.
- 2006 Faculty, Opioid Management Society, Inaugural Opioid Certification Program, Harvard Medical, Boston, Massachusetts, 2006.
- 2007 Cadaver workshop, Annual Fall Pain Medicine Meeting. American Society of Regional Anesthesia and Pain Medicine. Boca Raton, Florida. November 2007
- 2008 Cadaver workshop, World Institute of pain Annual meeting. Budapest, Hungary, September 2008

- 2009 Cadaver workshop, 5th World Congress of Pain by the World Institute of Pain, New York, NY, March 2009
- 2010 Faculty, Comprehensive Didactic Review Course, American Society of Interventional Pain Physicians, Memphis, Tennessee, February 2010
- 2010 Lumbar Transforaminal Epidural and Lumbar Discography: Relevant Anatomy, Technical Aspects, Complications, and Patient Selection, Comprehensive Didactic Review Course, American Society of Interventional Pain Physicians, Memphis, Tennessee, February 2010
- 2010 Lumbar Transforaminal Epidural Injections: Relevant Anatomy, Technical Aspects, Complications, Evidence and Patient Selection, Comprehensive Didactic Review Course, American Society of Interventional Pain Physicians, Memphis, Tennessee, February 2010
- 2010 Spinal Cord Stimulation Lead Placement: Relevant Anatomy, Technical Aspects, Complications, and Patient Selection, Comprehensive Didactic Review Course, American Society of Interventional Pain Physicians, Memphis, Tennessee, February 2010
- 2010 Faculty, Controlled Substance Management Comprehensive Review Course, American Society of Interventional Pain Physicians, Memphis, Tennessee, February 2010
- 2010 Current Drug Therapy for Chronic Pain, Controlled Substance Management Comprehensive Review Course, American Society of Interventional Pain Physicians, Memphis, Tennessee, February 2010

Course Co-Director

- 2003 New Advances in Pain Management.
Central Illinois Neuroscience Foundation
Bloomington, Illinois
- 2004 Second Annual New Advances in Pain Management.
Central Illinois Neuroscience Foundation
Bloomington, Illinois.

2005 Third Annual New Advances in Pain Management
Central Illinois Neuroscience Foundation
Bloomington, Illinois

Research Activities

Current Clinical Research – Investigator Initiated and Externally Sponsored Trials

- 2006 Principal Investigator: Spinal Neuromodulation in the Treatment of Chronic Discogenic Low Back Pain. Sponsored by: Advanced Bionics and Millennium Pain Center.
- 2008 Principal Investigator: Paresthesia and Spinal Cord Stimulation: Functional Relevance or Sensory Overlap? Sponsored by: Boston Scientific and Millennium Pain Center.
- 2008 Principal Investigator: Implantable System Performance Registry (ISPR). Sponsored by: Medtronic
- 2008 Sub-Investigator: A Randomized, Double-Blind, Active-Controlled Crossover Study to Evaluate the Efficacy and Safety of Fentanyl Buccal Tablets Compared with Immediate-Release Oxycodone for the Management of Breakthrough Pain in Opioid-Tolerant Patients with Chronic Pain, Followed by a 12-week Open-Label Extension to Evaluate the Impact of Fentanyl Buccal Tablets on Patient Outcomes. Sponsored by: Cephalon
- 2008 Sub-Investigator: A Randomized, Double-Blind, Placebo-Controlled, Parallel Dose Response Study of Gabapentin Injection for Intrathecal Administration in Subjects with Chronic, Intractable Pain. Sponsored by: Medtronic
- 2008 Sub-Investigator: A Multi-Center, Prospective, Randomized, Controlled, Single-Blind Evaluation of the Safety and Efficacy of Percutaneous Lumbar Epidural Adhesiolysis in the Treatment of Painful Spinal Stenosis. Sponsored by: Epimed
- 2008 Principal Investigator: A Prospective, Randomized, Controlled, Double-Blind, Multi-center Study to Evaluate the Safety and Efficacy of Pulsed-Radiofrequency Versus Continuous Radiofrequency Neuromodulation for the Treatment of Chronic Lower Back Pain Originating from Lumbar Zygapophysial Joints. Sponsored by: Millennium Pain Center, Teknon Foundation, and La Marató de TV3 Foundation

- 2009 Sub-Investigator: A Phase 3, Multi-Center, Randomized, Double-Blind, Controlled Study of the Long-Term Analgesic Efficacy and Safety of Tanezumab Alone or in Combination with Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) Versus NSAIDs Alone in Patients with Osteoarthritis of the Knee or Hip. Sponsored by: Pfizer, Inc.
- 2009 Sub-Investigator: A Phase 3 Randomized, Double-Blind Placebo and Naproxen Controlled Multicenter Study of the Analgesic Efficacy and Safety of Tanezumab in Patients with Osteoarthritis of the Hip or Knee. Sponsored by: Pfizer, Inc.
- 2009 A Phase 3, Multicenter, Randomized, Long Term Study of the Safety of Tanezumab in Patients with Osteoarthritis of the Knee or Hip. Sponsored by: Pfizer, Inc.

Prior Clinical Trials

Sponsor: GlaxoSmithKline

A Randomized, Double-Blind, Placebo-Controlled, Multicenter Phase 3 Study to Evaluate the Efficacy and Safety of Alvimopan 0.5mg Once Daily and 0.5mg Twice Daily for 12 Weeks for the Treatment of Opioid-Induced Bowel Dysfunction in Adults taking Opioid Therapy for Persistent Non-Cancer Pain

Sponsor: GlaxoSmithKline

A Randomized, Double-Blind, Placebo-Controlled, Multicenter Phase 3 Study to Evaluate the Long-Term Safety of Alvimopan 0.5mg Twice Daily for 12 Months for the Treatment of Opioid-Induced Bowel Dysfunction in Adults taking Opioid Therapy for Persistent Non-Cancer Pain

Sponsor: Advanced Bionics, A Boston Scientific Company

Effectiveness of the Precision® Spinal Cord Stimulation System in Patients with FBSS and Axial Low Back Pain.

Sponsor: Orthovita

A Randomized, Controlled Clinical Study to Evaluate the Safety and Effectiveness of Cortoss® Synthetic Cortical Bone Void Filler in Vertebral Augmentation.

Sponsor: Advanced Bionics, A Boston Scientific Company and Millennium Pain Center

Analgesia and Paresthesia in Spinal Electrical Neuromodulation:
Mechanistic Interaction or Sensory Overlap?

Sponsor: Advanced Neuromodulation Systems.

A Clinical Evaluation of the Eon™ 16-Channel Implantable Pulse Generator (IPG) in combination with two Octrode® (8 contact) leads for the management of chronic back pain with or without neuropathic leg pain.

Sponsor: Covance/ Sucampo

A Multicenter, Randomized, Placebo-controlled, Doubleblinded Study of the Efficacy and Safety of Lubiprostone in Patients with Opioid-induced Bowel Dysfunction.

Sponsor: Covance/ Sucampo

A Multicenter, Open-Labeled Study of the Long-Term Safety and Efficacy of Lubiprostone in Patients with Opioid-Induced Bowl Dysfunction.

Sponsored by: Nektar/Parexel

A Phase 2, Double-Blind, Randomized, Placebo-Controlled, Multiple-Dose, Dose Escalation Study to Evaluate the Efficacy, Safety and Tolerability of NKTR-118 in Patients with Opioid-Induced Constipation (OIC).

Sponsored by: Omnicare/ Johnson and Johnson

A Randomized, Double-Blind, Placebo and Oxycodone Immediate Release (IR)- Controlled Study of Tapentadol HCl IR for the Treatment of Acute Pain Caused by Vertebral Compression Fractures Associated with Osteoporosis.

Grant and Contract Support

- 2004 Grant Sponsor: Millennium Pain Center.
Co-Investigator: Laura Vogel, PhD
Work Title: Effects of Monoaminergic system modulation in the immunosuppression mediated by opiates.
Amount: \$4000
- 2004 Grant Sponsor: Millennium Pain Center.
Co-Investigator: Laura Vogel, PhD
Work Title: Effects of continuous versus intermittent opioid therapy on the immune function.
Amount: \$4000

- 2006 NIH R21
Monoamine reuptake inhibition, morphine, and immunomodulation
Role: Co-PI
- 2007 Grant Sponsor: Fundacio La Marato TV3.
Co-investigator: Luis Aliaga Font
Work Title: Effects of Pulse radiofrequency on neuroinflammation.

Interventional Skills

Discography, Intradiscal Electrothermal Annuloplasty (IDET), Biaccuplasty, Minimally invasive Lumbar decompression, Radiofrequency Nerve Lesioning Epidural and Facet Injections with Fluoroscopic Guidance at Lumbar, Thoracic and Cervical Levels Stellate, Thoracic, Celiac and Lumbar Sympathetic Blocks Spinal Cord and Peripheral Stimulator and Intrathecal Pump Placement, Neurolytic Procedures for Cancer Pain Peripheral Joints and Soft Tissue Injections, Vertebroplasty, Sacroplasty, Gasserian Ganglion Block, Sphenopallatine ganglion block, Trigeminal peripheral branches blocks .