

CURRICULUM VITAE

NAME

Allen W. Burton, M.D.

PRESENT TITLE AND AFFILIATION

Primary Appointment

Professor and Section Chief of Cancer Pain Management,
Department of Anesthesiology and Pain Medicine, Division of Anesthesiology and
Critical Care, The University of Texas M. D. Anderson Cancer Center, Houston, TX

Dual/Joint/Adjunct Appointments

N/A

CITIZENSHIP AND VISA STATUS

U.S.

OFFICE ADDRESS

UT M. D. Anderson Cancer Center, Department of Anesthesiology and Pain
Medicine, FC13.3026, Unit 409, 1400 Holcombe Boulevard, Houston, Texas, 77030.
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EDUCATION

Degree-Granting Education

University of Notre Dame, Notre Dame, Indiana, B.S., 1987

Baylor College of Medicine, Houston, Texas, M.D., 1991

Postgraduate Training

Transitional Medicine Internship, Mac Neal Hospital, Chicago, Illinois, 1991-92
Program Director: Russell Petrak, M.D.

Anesthesiology Residency, Dept. of Anesthesiology, Brigham and Women's
Hospital, Harvard Medical School, Boston, Massachusetts, 1992-1995
Program Director: Daniel Detrick, M.D.

Chief Resident, Dept. of Anesthesia, Brigham and Woman's Hospital, Harvard Medical
School, Boston, Massachusetts, 1994-1995
Program Director: Daniel Detrick, M.D.

Fellow in Pain Management, UTMB, Galveston, Texas, 1997-98
Program Director: Courtney Williams, M.D.

CREDENTIALS

Board Certification

Diplomate, American Board of Anesthesiology (ABA), Certificate # 26912, 1996
Subspecialty Certification in Pain Management, #26912 (ABA), 1998-2008

Diplomate, American Board of Pain Medicine #11401 (ABPM), 2001-2011

Fellow of Interventional Pain Practice #0054, World Institute of Pain, 2003

Licensure(s)

Active

Texas, J7922, 6/28/1995, 2/28/2008

Inactive

Oklahoma, 20698, 1998, 2000

Massachusetts, 77060, 1993, 1995

EXPERIENCE/SERVICE

Academic Appointments

Chief Resident, Department of Anesthesia, Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, 1994-1995

Assistant Professor, Department of Anesthesiology, UT Medical Branch at Galveston, Galveston, Texas, 1995-1998

Fellow in Pain Management, UT Medical Branch at Galveston, Galveston, Texas, 1997-1998

Anesthesiologist and Pain Management Specialist, Associated Anesthesiologists, Inc., Saint Francis Hospital, Tulsa, Oklahoma, 1998-2000

Associate Professor, Department of Anesthesiology, UT M.D. Anderson Cancer Center, Houston, Texas, 2000-2/2007

Academic Administrative Appointments/Responsibilities

Medical Director of Operating Room, University of Texas Medical Branch at Galveston, Galveston, Texas, 1995-1997

Section Chief of Cancer Pain Management, Department of Anesthesiology, Division of Anesthesiology, Critical Care, and Research, UT M. D. Anderson Cancer Center, Houston, TX, 2000-present

Clinical Medical Director, Pain Management Center
UT M. D. Anderson Cancer Center, Houston, TX, 12/2003-present

Institutional Committee Activities

Co-Chair, Pain Care Improvement Task Force, 2001
Faculty Senate, 9/1/05 - 8/31/06

Other Appointments/Responsibilities

Member, Committee on Surgical Anesthesia, American Society of Anesthesiology (ASA), 1998-2000

Question Preparation, American Board of Anesthesiology (ABA) 1999–2001

Board of Directors, Texas Pain Society, 2000-2003

Treasurer, Texas Pain Society, 2003-2006
President-Elect, Texas Pain Society, 2006-2007

Board of Directors, National Chronic Pain Society, Inc. 2001-2005

Alternate Delegate, Texas Society of Anesthesiologists, 2003-present

Director-at-Large, Board of Directors, North American Neuromodulation Society,
2003-2005

Nominating Committee, American Academy of Pain Medicine, 2006-

Co-Founder, Vapogenix, Inc. 2006-

Consultantships

N/A

Military or Other Governmental Service

N/A

HONORS AND AWARDS

Laura Bragg McDaniel Teaching Award, 1995-1996

James F. Arens Award for Excellence in Teaching, 1997-1998

Physician's Recognition Award – American Medical Association, 2002-2005

Best Doctors in America, 2005-2006

Ministry of Health Singapore, Visiting Professor, 2-2006

RESEARCH

Grants and Contracts

Braun Fellow in Pain Management, American Society of Regional Anesthesia,
1997-1998, \$40,000 Research Grant

Medtronic, Inc. Research Grant (CRPS), 2001, \$20,000

Protocols (funded and pending)-past 5 years

Co-PI: C Cleeland, PI. Laboratory Studies of Pain Control Methods II:
Neuroimaging of Opioid and Pain Interactions, DM96-205, 1997-2002,
\$1,105,678 (\$221,135/year); Closed

Co-PI: P Dougherty, PI. Psychophysical Studies of Cancer and Chemotherapy-
Induced Pain, ANSOO-339, 8/2001-present.

PI: Clinical Outcomes After Intrathecal Pump Implantation, RCR02-016,
1/10/2002-2006 (\$ 0)

PI: Oral Transmucosal Fentanyl Citrate as an Alternative to Intravenous Analgesics in the Outpatient Management of Severe Cancer Related Pain, RCR02-223, 4/2002-2003 (\$ 0); Closed

PI: Correlation of Pain Relief After Celiac Plexus or Splanchnic Nerve Block and Abdominal Tumor Burden, RCR02-416, 8/2002-2005 (\$ 0)

PI: A Randomized, Double Blind, Placebo-Controlled Study of Intrathecal Ziconotide in Adults with Severe Chronic Pain, DM02-317, 10/14/2002-2004, \$9,612 (\$28,836/yr);Elan, Inc. Closed

PI: An Open-Label, Long-Term, Multicenter Study of Ziconotide Administered Intrathecally, DM02-318, 10/16/02-2004. Elan, Inc. \$2.400 (\$7,200)

PI: Development and Validation of a Variant Version of the Treatment Outcomes in Pain Survey (TOPS) for Cancer-Related Pain, ID02-567, 3/2003-4/2003 (\$ 0) Closed

PI: Retrospective review of our outcomes of our first Prialt patients. RCR 06-0092. 4/20/2006-2007. Elan, Inc. (\$40,375)

PI: Academic Development Grant: Comprehensive Intraspinal Analgesia. 2006-2009, (\$150,000/yr x 3 years)

PI: Nasal Fentanyl for cancer breakthrough pain ID 2006-0967 (\$37,750) Archimedes, Ltd.

PI: Nasal Fentanyl long term cancer pain study ID 2006-0968. (\$58,397) Archimedes, Ltd.

PI: Cancer Patient Fracture Evaluation (CAFÉ) ID 2006-0519. (\$167,250) Kyphon, Inc.

Patents and Technology Licenses (granted and pending)

Allen W Burton and Phillip C. Phan, US Patent Pending, US60/734,152, Date of filing Nov. 7, 2005. "Mesh Anchoring System." Licensure pending.

Phillip C. Phan and **Allen W. Burton**, US Patent Pending, Date of Filing Sept. 20, 2006. Methods for Delivering Active Agent Gases. Licensed to Vapogenix, Inc.

Christopher Capelli, Phillip C Phan, **Allen W Burton**. US Patent Pending, "LoVIS: Low Volatility Isoflurane Solution Compositions." Date of Filing Oct 2006. Licensed to Vapogenix, Inc.

Allen W Burton, Phillip C Phan, Hatice Ozsoy. US Patent Pending, US 61/011,898, "Volatile Anesthetic Compositions Comprising Emulsions." Date of filing Jan 22, 2008.

Grant Reviewer/Service on NIH/Other Study Sessions

N/A

PUBLICATIONS

a. Articles in Peer-Reviewed Journals

Bacher A, **Burton AW**, Uchida T, Zornow MH. Sevoflurane or halothane anesthesia: Can we tell the difference? *Anesth Analg* 5:1203-6, 1997.

Burton AW, Conroy B, Garcia E, Solanki D, Williams CGA. Illicit substance abuse via an implanted intrathecal pump. *Anesthesiology* 89:1264-67, 1998.

Burton AW, Lee DH, Saab C, Chung JM. Preemptive intrathecal ketamine injection produces a long-lasting decrease in neuropathic pain behaviors in a rat model. *Regional Anesth Pain Medicine* 24:208-213, 1999.

Burton AW and Hassenbusch SJ. The double catheter technique for intrathecal medication trial: A brief clinical note and report of five cases. *Pain Medicine* 2(4):352-354, 2001.

Stanton-Hicks M, **Burton AW**, Bennett GB, Bruehl SP, Carr DB, Harden RN, Hassenbusch SJ, Lubenow TR, Oakley JC, Racz GB, Raj PP, Rauck, RL, Rezai AR. Updated interdisciplinary clinical pathway for CRPS: Report of an expert panel. *Pain Practice* 2(1):1-16, 2002.

Janjan N, **Burton AW**, Cleeland C. Issues in the management of bone metastases. *Current Oncology* 9(2):3-6, 2002.

Bruera E, Strasser F, Shen L, Palmer JL, Willey J, Driver LC, **Burton AW**. The effect of donepezil on sedation and other symptoms in patients receiving opioids for cancer pain: A pilot study. *J Pain Symptom Management* 26(5):1049-54, 2003.

Manchikanti L, Staats PS, Singh V, Schultz DM, Villims BD, Jasper JF, Kloth DS, Trescot AM, Hansen HC, Falasca TD, Racz GB, Deer TR, **Burton AW**, Helm S, Lou L, Bakhit CE, Dunbar EE, Atluri SL, Calodney AK, Hassenbusch SJ, Feler CA. Evidence-based practice guidelines for interventional techniques in the management of chronic spinal pain. *Pain Physician* 2003;6:3-81.

Cata J, Cordiella J, **Burton AW**, Hassenbusch SJ, Dougherty PM, Weng H-R. Spinal Cord Stimulation Relieves Chemotherapy-Induced Pain: A Clinical Case Report. *J Pain Symptom Management* 27(1):72-78, 2004.

Dougherty PM, Cata JP, Cordella JV, **Burton AW**, Weng HR. Taxol-Induced Sensory Disturbance is Characterized by Preferential Impairment of Myelinated Fiber Function in Cancer Patients. *Pain* 109(1-2):132-42, 2004.

Burton AW, Driver LC, Mendoza TR, Syed G. Oral Transmucosal in the Outpatient Management of Severe Cancer Pain Crises: A Retrospective Case Series. *Clin J Pain* 20(3):195-7, 2004.

Burton AW, Hassenbusch SJ, Warneke C, Racz G, Stanton-Hicks M. Complex-Regional Pain Syndrome: Survey of Current Practices. *Pain Practice* 4(2):74-83, 2004.

Burton AW, Rajagopal A, Shah HN, Mendoza T, Cleeland CS, Hassenbusch SJ, Arens JF. Epidural and Intrathecal Analgesia is Effective in Treating Refractory Cancer Pain. *Pain Medicine* 5(3);239-247, 2004.

Note: Accompanying Editorial- Gallagher RM. Epidural and Intrathecal Cancer Pain Management: Prescriptive Care for Quality of Life. *Pain Medicine* 5(3);235, 2004.

Burton AW, Fukshansky M, Brown J, Hassenbusch SJ. Refractory insomnia in a patient with spinal cord stimulator lead migration. *Neuromodulation* 7(4):242-245, 2004.

Hentschel SJ, Rhines LD, Shah HN, **Burton AW** and Mendel E. Percutaneous Vertebroplasty in Vertebra Plana Secondary to Metastasis. *J Spinal Disord Tech* 17(6):554-557, 2004.

Hentschel SJ, **Burton AW**, Rhines LD, Mendel E. Vertebroplasty for spinal metastases: Refuting proposed contraindications. *J Neurosurg Spine* 2(4):436-440, 2005.

Burton AW, Reddy SK, Shah HN, Tremont-Lukas I, Mendel E. Percutaneous vertebroplasty-a technique to treat refractory spinal pain in the setting of advanced metastatic cancer: A case series. *J Pain Sympt Manage* 30(1):87-95, 2005.

Bennett D, **Burton AW**, Fishman SM, Fortner B, McCarberg B, Miaskowski C, Nash DB, Pappagallo M, Payne R, Ray J, Viscusi ER, Wong W. Consensus Panel Recommendations for the Assessment and Management of Breakthrough Pain, Parts 1: Assessment. *Pharmacy and Therapeutics*, May 30(5):296-301, 2005.

Bennett D, **Burton AW**, Fishman SM, Fortner B, McCarberg B, Miaskowski C, Nash DB, Pappagallo M, Payne R, Ray J, Viscusi ER, Wong W. Consensus Panel Recommendations for the Assessment and Management of Breakthrough Pain, Parts 2: Treatment. *Pharmacy and Therapeutics* May 30(5):354-361, 2005.

Mendel E, **Burton AW**, Sawaya R. Commentary on "Combination treatment of vertebral metastases using image-guided percutaneous radiofrequency ablation and vertebroplasty: a case report, *Surg Neurol*. May;63(5):469-474, 2005.

Chakrabarti I, **Burton AW**, Rao G, Feiz-Erfan I, Htlaky R, Rhines LR, Mendel E. Percutaneous vertebroplasty of a myelomatous compression fracture in the presence of previous posterior instrumentation: Report of two cases. *J Neurosurg (Spine)*. 5(2);168-171, 2006.

Cata JP, Weng HR, **Burton AW**, Villareal H, Giralt S, Dougherty PM. Quantitative sensory findings in patients with bortezomib-induced neuropathy. *J Pain* 8(4);2007:296-306.

Boswell MV, Trescot AM, Datta S, Schultz DM, Hansen HC, Abdi S, Sehgal N, Shah RV, Singh V, Benyamin RM, Patel VB, Buenaventura RM, Colson JD, Corder HJ, Epter RS, Jasper JF, Dunbar EE, Atluri SL, Bowman RC, Deer TR,

Swicegood JR, Staats PS, Smith HS, **Burton AW**, Kloth DS, Giordano J, Manchikanti L. Interventional Techniques: Evidence-based Practice Guidelines in the Management of Chronic Spinal Pain. *Pain Physician*.2007Jan;10(1):7-111.

Dougherty PM, Cata JP, **Burton AW**, Vu K, Weng HR. Dysfunction in multiple primary afferent fiber subtypes revealed by quantitative sensory testing in patients with chronic vincristine-induced pain. *J Pain Sympt Manage* 2007;33(2):166-79.

Burton AW, Fanciullo GJ, Beasley RD, Fisch MJ. Chronic Pain in the Cancer Survivor: A New Frontier. *Pain Medicine* 2007;8(2):189-198.

Ho T, Vrabec JT, **Burton AW**. Hydrocodone use and Sensorineural Hearing Loss.*Pain Physician* 2007;10(3):467-72.

Ting JC, Fukshansky M, **Burton AW**. Treatment of refractory ischemic pain from chemotherapy induced Raynaud's syndrome with spinal cord stimulation: A case study. *Pain Practice* 2007;7(2):143-6.

Deer T, Krames ES, Hassenbusch SJ, **Burton A**, Caraway D, Du Pen S, Eisenach J, Erdek M, Grigsby E, Kim P, Levy R, et al. Polyanalgesic consensus conference 2007: Recommendations for the management of pain by intraspinal (intrathecal) drug delivery: Report of an expert interdisciplinary panel. *Neuromodulation* 2007;10(4):300-28.

Burton AW, Hamid B. Kyphoplasty and vertebroplasty. *Curr Pain Headache Reports* 2008;12:22-27.

Burton AW. Vertebroplasty and Kyphoplasty: Case presentation, complications, and their avoidance. *Pain Medicine* 2008;9(S1):S58-64.

b. Invited Articles

Burton A and Camann W. Electrocardiographic changes during cesarean section: a review. *Int J Obstet Anesth* 5(1):47-53, 1996.

Reddy SK and **Burton AW**. Post operative pain management in the opioid tolerant patient. *Surgical Rounds*. 23-28, October 2001.

Burton AW. Anti-epileptic drugs for pain management. *The Internet Journal of Pain, Symptom Control and Palliative Care* 1(N2), 2001.
w.ispub.com/journals/IJPSP/Vol1N2/pain.html

Burton AW and Cleeland CS. Cancer pain: Progress since the WHO Guidelines. *Pain Practice* 1(3):236-242, 2001.

Burton AW and Mendel E. Vertebroplasty and kyphoplasty: a comprehensive review. *American Pain Society Bulletin*. 13(4):3-12, July/August 2003.

Burton AW and Mendel E. Vertebroplasty and kyphoplasty. *Pain Physician* 6:335-343. ISSN 1533-3159, 2003.

Strasser F, Driver LC, **Burton AW**. Update on Adjuvant Medications for Chronic Nonmalignant Pain: A review. *Pain Practice* 3(4):282-97, 2003.

Burton AW. Interventional Management of Cancer Pain. *Medscape Clinical Update*. January 29, 2004. Available at: <http://www.medscape.com/viewprogram/2910>

Burton AW and Bejarano PF. What every professional working in palliative care should know about cancer pain management. *Psicooncologia* 1(2-3):57-90,2004.

Fukshansky M, Are M, **Burton AW**. The Role of Opioids in Cancer Pain Management. *Pain Practice* 5(1):43-54, 2005.

Burton AW, Rhines LD, Mendel E. Vertebroplasty and kyphoplasty: a comprehensive review. *Neurosurg Focus* 18(3):E1:1-9, 2005.

Burton AW. Cancer Pain Control in the New Millenium. *Oncolog* 50(1):8, 2005. Accessible on <http://www2.mdanderson.org/depts/oncolog>

Boswell, MV, Shah RV, Everett CR, Sehgal N, McKenzie-Brown AM, Abdi S, Bowman RC, Deer TR, Datta S, Colson JD, Spillane WF, Smith HS, Lucas LF, **Burton AW**, Chopra P, Staats PS, Wasserman RA, Manchikanti L. Interventional techniques in the management of chronic spinal pain: Evidence-based practice guidelines. *Pain Physician* 8:1-47, 2005.

Burton AW, Bruehl, Harden RN. Current diagnosis and therapy of complex regional pain syndrome: refining diagnostic criteria and therapeutic options. *Expert Rev Neurother* 5(5):643-51, 2005.

Burton AW. Outpatient management of breakthrough pain. *Medscape Neurology and Neurosurgery* 7(1):1-6, 2005. <http://www.medscape.com/viewarticle/506124>

Phan PC, Are M, **Burton AW**. Neuraxial infusions. *Techniques in Regional Anesthesia and Pain Management*. 9(3):152-160, 2005.

Ting J, **Burton AW**. A Patient with refractory central nervous system tumor-related plexopathic pain treated with intrathecal ziconotide. *Case Studies in Pain Management*. *Cancer Publications* (1(1), March 2007

Burton AW. Vertebroplasty and Kyphoplasty: Case Presentation, Complications, and their Prevention. *Pain Med*. *In Press*.

c. Editorials

Burton AW. Marijuana disappoints in pain-relief trials, but still deserves study. *MD Consult Pain Medicine* online article. <http://www.mdconsult.com>, Accessed on February 21, 2002.

Burton AW. Vertebroplasty: The controversy. *MD Consult Pain Medicine Online Article*. <http://www.mdconsult.com>, Accessed on April 5, 2002.

Burton AW. *Pain Medicine: palliative care section: a call for more research*. *Pain Med*. 7(4);317-318, 2006.

Burton AW, Hamid B. Current challenges in cancer pain management: Does the WHO ladder approach still have relevance? *Expert Rev Anticancer Ther.* 2007;7(11):1501-2.

d. Other Articles

N/A

e. Abstracts (Last five years only)

Palmer SM, Mahankali S, Jackson EF, Johnson BA, **Burton AW**, Cleeland CS. Neuroimaging of opioid and pain interactions. American Pain Society 21st Annual Meeting, Baltimore, MD, March, 2002.

Burton AW, Hassenbusch SJ, Racz GB, Stanton-Hicks M. Complex regional pain syndromes (CRPS): Survey of current practices. American Pain Society Annual Meeting, Baltimore, MD, March, 2002.

Dougherty PM, **Burton AW**, Reddy SK. Psychophysical testing in post chemotherapy induced painful peripheral neuropathy. American Pain Society Annual Meeting, Baltimore, MD, March, 2002.

Burton AW, Rajagopal A, Hassenbusch SJ, Danielson M, Roach P, Kylo M. Reduction in pain and oral opioid intake after intrathecal pump implantation. IASP 10th World Congress on Pain, San Diego, CA, August, 2002.

Palmer SN, Mahankali S, Jackson EF, Johnson BA, **Burton AW**, Liu Y, Cleeland CS. Neuroimaging of opioid and pain Interactions. Society for Neuroscience, 32nd Annual Meeting, Orlando, FL, November, 2002.

Wang M, Weber D, Fourney D, **Burton AW**, Schomer DL, Ahrar K, Gokaslan, Alexanian R. Value of vertebroplasty and kyphoplasty for painful vertebral compression fractures in multiple myeloma. *Blood* 100;11:p 403a, Abstract #1565, November, 2002.

Polomano R, Gordin V, **Burton AW**, Harvey H, Smith AL, Mannes A, Orkin F, Carr D. A Comparison of Outcomes Using the Treatment Outcomes in Pain Survey (TOPS) Between Patients with Cancer-related Pain and Chronic Nonmalignant Pain. AAPM 19th Annual Meeting. New Orleans, LA. February 20-21, 2003.

Shah HN, **Burton AW**, Mendoza T, Rajagopal A, Motaparathi M, Driver LC, Arens JF. Neurolytic Blockade of the Splachnic Nerves Block Relieves Refractory Pain Associated with Upper Abdominal Malignancy. UT MD Anderson Cancer Center Trainee Day Presentation, April 25, 2003.

Polomano R, Gordin V, **Burton AW**, Harvey H, Smith AL, Mannes A, Orkin F, Carr D. A Comparison of Outcomes Using the Treatment Outcomes in Pain Survey (TOPS) Between Patients with Cancer-related Pain and Chronic Nonmalignant Pain. International Anesthesia Research Society (IARS) 77th Clinical & Scientific Congress March 21-25, 2003.

Polomano R, **Burton AW**, Gordin V, Rathmell JP, Harvey H, Smith AL, Vydyanathan A, Orkin FK, Carr DB. Differences in Pain Outcomes and Quality of Life Among Outpatients Experiencing Pain From Advanced Cancer Using the Treatment Outcomes in Pain Survey (TOPS). American Society of Anesthesiologists. San Francisco, CA. October 14, 2003. Anesthesiology 99:A1112, 2003.

Shah HN, **Burton AW**, Mendoza T, Rajagopal A, Motaparathi M, Driver LC, Arens JF. Neurolytic Blockade of the Splanchnic Nerves Block Relieves Refractory Pain Associated with Upper Abdominal Malignancy. American Society of Anesthesiologists. San Francisco, CA. October 14, 2003. Anesthesiology 99:A1024, 2003.

Hentschel S, Rhines LR, **Burton AW**, Mendel E. Vertebroplasty for Spinal Metastases: Refuting Proposed Contraindications. Congress of Neurological Surgeons Annual Meeting, Denver, CO, October 18-23, 2003.

Orkin FK, Polomano RC, **Burton AW**, Gordin V, Rathmell JP, Carr DB. Comparison of Pain Outcomes in Pain Survey (TOPS) in Cancer-Related Pain. International Society of Pharmacoeconomics and Outcomes Research (ISPOR). Value in Health 6(6):739, 2003.

Yao KC, Hentschel SJ, Fourney DR, Wang MLH, Rhines LD, **Burton AW**, Mendel E. Percutaneous Vertebroplasty and Kyphoplasty for Painful Vertebral Compression Fractures in Patients with Multiple Myeloma. American Association of Neurological Surgeons (AANS) Annual Meeting, Orlando, FL, May 1-6, 2004.

Phan PC, Warneke CL, Shah H, Motaparathi A, Rajagopal A, **Burton AW**. Correlation of Splanchnic Nerve Block Efficacy and Cancer Staging. Annual Meeting of the American Pain Society and the Canadian Pain Society, Vancouver, B.C., Canada, May 7, 2004.

Burton AW, Incalcaterra JR, Fukshansky M, Driver LC, Are M, Phan PC, Boddu K, Hassenbusch SJ, Mendel E, Long SV, Brown DL. Pain Medicine Growth in a Tertiary Care Cancer Center: A Natural Experiment. Presented at the World Congress of Pain, Sydney Australia, August 2005.

Burton AW. Cancer Pain Management: State of the art 2005. Chicago Supportive Oncology Conference, Chicago IL, October 2005. EA-3. J Support Oncol 3(5):12, 2005.

Jolly TJ and **Burton AW**. Early Clinical Experience with Ziconotide Intrathecal Admixture Infusions in the Challenging Pain Patient. Presented at the 2006 Annual Meeting of the American Academy of Pain Medicine, San Diego, CA, February, 2006.

Ness R, Fukshansky M, Are M, **Burton AW**. Paraplegia after Attempted Placement of Intrathecal Catheter: Lessons Learned. Presented at the 2006 Annual Meeting of the American Academy of Pain Medicine, San Diego, CA, February, 2006.

Jolly TJ, Fukshansky M, Ness R, **Burton AW**. Intrathecal Ziconotide Admixtures: Dose Sparing Effect on Hydromorphone and Baclofen: A Case Report. 2006 World Congress on Regional Anesthesia and Pain Therapy. Rio de Janeiro, Brazil, March 2006.

Liebschner M., Sun K., Tawackoli W., **Burton AW**, Fukshansky M., Rhines L, Mendel E.: "Aggressive Vertebroplasty Reduces Adjacent Bone Strength and May Lead to Premature Vertebral Bone Failure." Bone Innovation Summit 2006, Cleveland, OH, May 3, 2006.

Liebschner M., Tawackoli W., **Burton AW**., Rhines L, Mendel E.: "Acoustic Vibration as a New Diagnostic to Detect the Onset of Vertebral Compression Fractures." Bone Innovation Summit 2006, Cleveland OH, May 3, 2006.

Burton AW, Lemus B, Fletcher R, Chandler S, Marmon T. Effectiveness of Intrathecal ziconotide in malignant pain: A combined analysis of two controlled trials. American Society Clinical Oncology Annual Meeting, June 4, 2006.

Thomas SK, Wang ML, Yao K, Villareal H, Fukshansky M, Suki D, Mendel E, Weber DM, Alexanian R, **Burton AW**. Percutaneous vertebroplasty and/or kyphoplasty is an effective and safe treatment for painful vertebral compression fractures in multiple myeloma. American Society Clinical Oncology Annual Meeting, June 4, 2006.

Sun, K., Tawackoli W., Fukshansky M., Mendel E., Rhines L., **Burton AW**, Liebschner M.: " Disperse Cement Filling is More Important Than Cement Material Properties in Biomechanics of Vertebroplasty." 21st Annual Meeting of the North American Spine Society, Seattle WA, July 27, 2006.

Bruel B, **Burton AW**, Ting J, Dougherty P, Phan PC. Spinal Cord Stimulation in the treatment of Chemotherapy Induced Painful Peripheral Neuropathy. North American Neuromodulation Society Annual Meeting. Las Vegas, NV, December 2006.

Lalani I, **Burton AW**, Phan PC. Kyphoplasty in the treatment of planar vertebral fractures. American Academy of Pain Medicine Annual Meeting. New Orleans LA, February 2007.

Bruel BM, **Burton AW**. One leg to stand on: Sacroplasty for pain and limited mobility after contra-lateral hemipelvectomy. Association of Academic Physiatrists Annual Meeting. San Juan PR, April 2007.

Bruel BM, Mosura MS, Ting J, **Burton AW**. Rapid titration of ziconotide for the treatment of severe intractable back pain from metastatic spinal anaplastic ependymoma. 2nd International Congress on Neuropathic Pain. Berlin, Germany, June 2007.

Hamid B, **Burton AW**. Provocation of neuropathic pain by photic and phonic stimuli. Translational pain research meeting, Gulf Coast Pain Consortium, Galveston TX, March 2008.

f. **Book Chapters**

Burton AW and Prough DS. The Patient with Renal Disease *In* Prough DS and Fleisher LA (eds): Preoperative Evaluation in an Era of Cost Containment. Problems in Anesthesia. Vol. 9, Issue 2, pp. 201-207, 1997.

Burton AW, Mazze R, Prough DS. Renal Disease *In* Benumof J(ed): Anesthesia and Uncommon Diseases, 4th edition, pp. 123-146, 1998.

Patt RB and **Burton AW**. Pain Associated with Advanced Malignancy, Including Adjuvant Analgesic Drugs in Cancer Pain Management. *In* Aronoff GM (ed): Evaluation and Treatment of Chronic Pain, 3rd edition, pp. 337-377, 1999.

Burton AW and Eappen S. Pain Management in the Intensive Care Unit, Interventional Techniques. *In* Lang JL and McArdle P (eds): Critical Care Clinics: Perspectives in Pain Management, Vol.15, Issue1, pp. 77-88, 1999.

Burton AW, Bender JB, Lord EAC. Evidenced Based Practice: Outcomes Using Procedures for Nociceptive Pain. *In* Raj PP (ed): Textbook of Regional Anesthesia, pp. 957-967, 2002.

Burton AW. Acute, Chronic and Cancer Pain: Clinical Management *In* Pan ZZ (ed): Methods in Molecular Medicine: Opioid Research: Methods & Protocols, Vol. 84, pp 267-283, 2003.

Burton AW. Spinal Cord Stimulation. *In* Schwartz AJ (ed): Refresher Courses in Anesthesiology, Volume 32, Chapter 4, pp.29-41, 2004.

Wargo BW and **Burton AW**. Chronic Pain Management: Cancer Pain. *In* Wallace MS and Staats PS (eds): Pain Medicine & Management; Just the Facts, pp 183-189, 2005.

Fukshansky M and **Burton AW**. Spinal Cord Stimulation. *In* Benzon HT, Raja SN, Molloy RE, Liu SS, Fishman SM (eds.): Essentials of Pain Medicine and Regional Anesthesia, 2nd Edition. pp. 454-465, 2005.

Burton AW, Lubenow TR, Raj PP. CRPS: Traditional Interventional Therapies. *In* Wilson P, Stanton-Hicks M, Harden RN, (eds) CRPS: Current Diagnosis and Therapy. Progress in Pain Research and Management, Vol 32. Seattle, IASP Press. pp 217-233, 2005.

Polomano RC, **Burton AW**, Rajan N, McQuillan PM. Acute and Chronic Pain: Assessment and Management. In: Kochman M (ed). The Clinician's Guide to Gastrointestinal Oncology. Thorofare, NJ: SLACK Inc. pp.195-222, 2005.

Phan P and **Burton AW**. Pain Management of Cancer. *In* S. Baum and MJ Pentecost (eds): Abrams Angiography 2nd Edition: Interventional Radiology. New York: Lippincott Williams and Wilkins pp. 31-54, 2006.

Burton AW and Hassenbusch SJ. Neurostimulation. *In* DeLeon-Cassola O (ed): Cancer Pain: Pharmacologic, Interventional, and Palliative Care Approaches. Philadelphia: Elsevier, Inc, pp. 429-439, 2006.

Phan PC, Are M, Hassenbusch SJ, **Burton AW**. Epidural and intrathecal analgesia and neurosurgical techniques in the palliative setting. *In* Bruera E, Higginson IJ, Ripamonti C, von Gunten C (eds) Textbook of Palliative Medicine. London: Hodder Arnold pp. 431-449, 2006.

Burton AW, Fanciullo GJ, Beasley RD. Chronic pain in the cured cancer patient. *In* Fisch MJ and Burton AW (eds) Cancer Pain Management. New York: McGraw Hill pp.155-161, 2007.

Phan P, Are M, **Burton AW**. Neuraxial infusions. *In* Fisch MJ and Burton AW (eds) Cancer Pain Management. New York: McGraw Hill pp.243-250, 2007.

Jolly TJ, Are M, **Burton AW**. The MD Anderson approach to cancer pain. *In* Fisch MJ and Burton AW (eds) Cancer Pain Management. New York: McGraw Hill pp.297-300, 2007.

Jolly TJ, Are M, **Burton AW**. Troubleshooting intrathecal infusion pumps. *In* Fisch MJ and Burton AW (eds) Cancer Pain Management. New York: McGraw Hill pp.301-304, 2007.

Burton AW, Veramonti TL, Phan PC, Wefel JS. Symptom management for patients with brain tumors: Improving quality of life. *In* DeMonte F and Mahajan A (eds.) Tumors of the Brain and Spine. *In Press*.

g. Books (edited and written)

Fields AI, Shaw AD, Reidel BJ, **Burton AW**, Feeley TW. (eds), Acute Care of the Cancer Patient. New York: Marcel Dekker, 2005.

Fisch MJ and **Burton AW** (eds). Cancer Pain Management. New York: McGraw-Hill, 2007.

h. Letters to the Editor

Burton AW and Zeitlin GL. Having pride, taking action. ASA Newsletter. 57:34, 1993.

Burton AW and Steinbrook RA. Precipitous decrease in oxygen saturation during laparoscopic surgery (letter). Anesthesia and Analgesia. 76:1177-1178, 1993.

Burton AW. Another potential source of medication administration error. Anesthesia and Analgesia. 78:192, 1994.

Burton AW. Epidural pump failure. Anesthesia and Analgesia. 80:1066, 1995.

Burton AW. Pain relief. Notre Dame Magazine. 25:2, 1996.

Burton AW and Zornow MZ. Laryngotracheal lidocaine administration. *Anesthesiology*, 87:185-6, 1997.

Burton AW, Conroy BP, Sims S, Solanki D, Williams CGA. Complex regional pain syndrome type II as a complication of subclavian line insertion. *Anesthesiology*, 89:804, 1998.

Reddy SK, **Burton AW**. Re: video-assisted thoracoscopic sympathectomy-splachnic nerve block. *Journal of Pain and Symptom Management*. 23(3)177, 2002.

Burton AW. Multidisciplinary pain abstracts literature review. *Pain Practice*, 2(2):2002.

Burton AW, Arens JF. Spirituality and chronic illness. *JAMA*, 288(20):2541, 2002.

Burton AW, Hassenbusch SJ. Re: Intrathecal granuloma case report. *Neuromodulation*, 7(1):65, 2004.

Burton AW, Rajagopal A, Cleeland CS, Hassenbusch SJ, Carr DB. Management of Cancer Pain. *JAMA*; 291(9):1067-8, 2004.

Rozner MA, **Burton AW**, Kumar AJ. Pacemaker Complication during MRI. *Journal of the American College of Cardiology*, 45:161-2, 2005.

i. Manuals, Teaching Aids, Other Publications

Burton AW. Interactive regional anesthesia (book review). *Regional Anesthesia* 20:361, 1995.

Burton AW. Chronic pain. Television Interview-Healthbeat Segment, KPRC, Channel 2, Houston, TX, Jan. 10, 1998.

Burton AW. Television Interview - drugs, crime, and politics; Local access Channel -17, Houston, TX, Sept.12, 2001.

Burton AW and Cleeland CS. Cancer Pain Guideline Booklet. UT M. D. Anderson Cancer Center. Houston, TX, January, 2002.

Bruera E, **Burton AW**, and Cleeland CS. Clinical Practice Guidelines: Cancer Pain. *Oncolog*, UT M. D. Anderson Cancer Center, 4(1) Spring 2002.

Burton AW. Raj's Review Book: The "Orange Book" Enhanced (book review). *J Pain Sympt Management* 27(6):567-8, 2004.

Burton AW, Lozano R, Lin EH. Management of Cancer Pain. Lin EH, Lozano R, Karp DD (eds) *In 3rd Edition, Color-Matrix Cancer Staging and Treatment Handbook*. UT MD Anderson Press, pp.144-5, 2004.

Burton AW. A Physician's Guide to Pain and Symptom Management in Cancer Patients (book review). *J Opioid Management*, May/June 112, 2005.

Burton AW. Pain Management: A Primer for Texas Physicians. Texas Medical Association/Texas Medical Liability Trust/Texas Pain Society CME Program, Distributed to 35,000 physicians in Texas, Spring 2006.

j. Other
N/A

EDITORIAL AND REVIEW ACTIVITIES

Editor/Service on Editorial Board(s)

Associate Editor, The Internet J of Pain, Symptom Control, Palliative Care, 2000-present

Associate Editor, Pain Practice, 2001-present

Associate Editor, Pain Physician, 2001-present

Associate Editor, MD Consult – Pain, 2001-2004

Section Editor, Pain Medicine, 2005-present

Journal Reviewer

The International Journal of Pain Medicine and Palliative Care

Anesthesia and Analgesia

Clinical Journal of Pain

JAMA

Other Reviews

AHRQ (NCI) Manuscript Review: Symptom Management in Cancer: Pain, Depression, and Fatigue

TEACHING

Within Current Institution

Formal Teaching

Courses Taught

Neuropathic Pain: When the Nervous System Turns from Friend to Foe. Palliative Care Grand Rounds, 11/2000

Acute, Chronic, and Cancer Pain: Where Have We Been, Where Are We, and Where Are We Going? Cancer Pain Management Grand Rounds, 12/2000

Acute, Chronic, and Cancer Pain: Where Have We Been, Where Are We, and Where Are We Going? Division of Medicine Grand Rounds, 1/2001

Interventional Pain Management. PM & R Grand Rounds, 1/2001

Intrathecal Medication Therapy, Cancer Pain Management Grand Rounds, 2/2001

Interventional Pain Management. Dept. of Head and Neck Surgery AM Conference, 3/2001

Cancer Pain Management, Cancer Pain Management Grand Rounds, 7/2001

Cancer Pain and Pain Task Force. Pain Management Grand Rounds, 8/2001

Neuropathic Pain - When the Nervous System Turns From Friend to Foe, Cancer Pain Management Grand Rounds, 9/2001

What's New in Cancer Pain Management. 23rd Annual MD Anderson Pharmacy Symposium, J. W. Marriott Hotel. 10/2001

Vertebroplasty. Pain Management Grand Rounds, 12/2001

Neuropathic Pain: When the Nervous System Turns From Friend to Foe, Cancer Pain Management Grand Rounds, 2/2002

Management of Acute Pain in Adults, Thoracic Surgery Journal Club, 9/2002

Pain Management Pearls, Pearls: The Art and Science of Medicine, Third Pearls Lecture, Institutional Grand Rounds, 9/2002

Chemotherapy Induced Neuropathic Pain. Department of Thoracic Head and Neck Medical Oncology AM Conference, 11/2002

Session IV - Cancer Pain, Moderator. Mechanisms and Treatment of Cancer-Related Symptoms Symptom Research Seminar UT MD Anderson Cancer Center, 2/22/2004

Cancer Pain Management: State of the Art, Cancer Pain Management Grand Rounds, 3/2004

Physician Assisted Suicide: What to do when the Patient Asks. Institutional Grand Rounds. 8/2004

Vertebroplasty. Cancer Pain Management Grand Rounds. 8/2004

Cancer Pain Treatment: State of the Art 2004. 26th Annual UT MD Anderson Pharmacy Symposium. 10/2004

Interventional Cancer Pain Management. 8th Annual Interdisciplinary Approach to Palliative Medicine in Cancer Care. MD Anderson Cancer Center, 10/29/2004

Interventional Cancer Pain Management, 10th Annual Palliative Medicine Course, 10/7/2006

Training Programs

Spinal Cord Stimulator / Intrathecal Pump / Celiac Splanchnic, Annual Hands-On Interventional Pain Cadaver Workshop, 5/2002, 5/2003, 4/29/2004

Interventional Pain Treatment. American Society of Interventional Pain Practitioners Cadaver Course. Memphis Educational and Research Institute (MERI), Memphis TN 11/6/2004

Spinal Cord Stimulation Cadaver Course. American Society of Regional Anesthesia and Pain Medicine. Phoenix AZ, 11/2004, Miami FL 11/2005

Other Educational Programs

Pain Management: Where Have We Been? Where Are We Going? MD Anderson Network - Community Outreach Group, Harlingen TX, 3/2001

Living Fully with Cancer, Topic: Advances in the Treatment of Cancer Pain, UT M. D. Anderson Network Conference, Omni Houston Hotel Westside, Houston TX, 9/2001

Cancer Pain – State of the Art Management. PIKNIC – Partners in Knowledge, News in Cancer, The Anderson Network, Place of Wellness, 6/2002

Living Fully with Cancer, Topic: Advances in the Treatment of Cancer Pain, UT M. D. Anderson Network Conference, Omni Houston Hotel Westside, Houston TX, 9/2002

Supervisory Teaching

Advisory Committees

Member, Pharmacy and Therapeutics Committee, 2000-present
Member, Cancer Pain Management Fellows Evaluation Committee, 2000-present

Supervisory Committees

N/A

Examining Committee

N/A

Direct Supervision

Undergraduate and Allied Health Students

N/A

Medical Students, Clinical Residents and Fellows

Numerous from 2000 to present

Teaching Outside of Current Institution

CONFERENCES AND SYMPOSIA

Organization of National or International Conferences/Symposia (Include chairing session)

Scientific Session Moderator, Texas Society of Anesthesiology Annual Meeting, Dallas TX, 9/1997

Cardiac Workup for the Patient Undergoing Non-Cardiac Surgery: What's New and Cost Effective? Texas Society of Anesthesiologists Annual Meeting, Dallas TX, Invited Speaker, 9/1997

Moderator. Baylor Second Annual Advances in Analgesic Therapy, Baylor College of Medicine, Marriott Hotel, Houston TX, 1/2001

Complex Regional Pain Syndrome (CRPS) Advisory Panel, Minneapolis, MN, Chair, 8/2001

Cancer Pain Research Study Design Advisory Board, Minneapolis, MN, 9/2002

Interventional Pain Management 2003: Who does the Training, Certifies the Practitioners, and Introduces New Procedures? (Panel Discussion Moderator) American Society of Anesthesiologists annual meeting. San Francisco CA, 10/15/2003

Chair, Fellows Pain Management Development Course, 1/22/2005

Presentations at National or International Conferences Invited

Complex Regional Pain Syndrome (CRPS): Treatment Guidelines, Report of an Expert Panel. Annual Meeting of the American Academy of Pain Medicine (AAPM), San Francisco CA, 2/2002

Interventional Cancer Pain Management. 19th Annual Pain Symposium. Texas Tech University School of Medicine, Lubbock TX, 6/2002

The Various Peripheral Nerve Block Techniques. Regional Anesthesia Workshop, Texas Society of Anesthesiology 2002 Annual Meeting, Frisco TX, 9/2002

Neuromodulation (Refresher Course), American Society of Regional Anesthesia and Pain Medicine, 2002 Annual Fall Meeting, Phoenix AZ, 11/2002.

Complex Regional Pain Syndrome, Medtronic's Pain Management Group, Phoenix AZ, 11/2002

Cancer Pain Management. 20th Annual Pain Symposium. Texas Tech University School of Medicine, Lubbock TX, 6/2003

Neurostimulation in the Treatment of CRPS. Annual Japanese Pain Society Meeting. Sendai Japan, 7/2003.

Neurostimulation: Case Conference, Annual Japan Society of Pain Congress. Tokyo, Japan, 7/2003.

CRPS, Neurostimulation, Thalidomide, and Physiotherapy: Combining High and Low-Tech Therapies Rationally. IASP Symposium, Budapest, Hungary, 9/2/2003

Treatment of Sciatica/Low Back Pain with Neurostimulation and Intrathecal Pumps (Panel Discussion Lecture). American Society of Anesthesiologists Annual meeting. San Francisco CA, 10/14/2003

Neurostimulation in the Treatment of Chronic Pain (Refresher Course Lecture). American Society of Anesthesiologists Annual meeting. San Francisco CA, 10/11/2003

State of the Art Cancer Pain Treatment: 2003. East Africa Oncologic Symposia. Dubai, UAE, 12/13/2003

Neuropathic Cancer Pain, IASP Neuropathic Pain Symposium, Madrid Spain, 5/16/2004

Cancer Pain, Peripheral and Cranial Nerve Injections, Pharmacology of Local Anesthetic Agents. American Academy of Physical Medicine and Rehabilitation (AAPMR) Meeting, New Orleans LA, 5/1/2004

Cancer Pain Management. MGI Pharma Symposia. Minneapolis MN, 9/2004

The Rational Use of Neurostimulation and Intrathecal Drug Delivery to Treat CRPS. (Panel Discussion Lecture) American Society of Anesthesiologists Annual meeting. Las Vegas NV, 10/26/2004

Interventional Treatment of Neuropathic Pain. (Panel Discussion Lecture). American Society of Anesthesiologists Annual meeting. Las Vegas NV, 10/27/2004

Neurostimulation in the Treatment of Chronic Pain (Refresher Course Lecture). American Society of Anesthesiologists Annual meeting. Las Vegas NV, 10/24/2004

Intrathecal Analgesia. Elan Pharma ziconotide product launch keynote lecture. Huntington Beach, CA 2/2005.

Interventional Pain Medicine: Confessions of a Reformed "Needle Jockey" Baylor College of Medicine Anesthesiology Grand Rounds. 2/28/2005.

Intrathecal Analgesia Seminar. American Society of Pain Management Nurses Annual Meeting. Albuquerque, NM, 3/2005

Percutaneous Vertebroplasty. 22nd Annual Pain Symposium. Texas Tech University School of Medicine, Lubbock TX, 6/2005

Rational Use of Opioids. 22nd Annual Pain Symposium. Texas Tech University School of Medicine, Lubbock TX, 6/2005

Percutaneous Vertebral Reconstruction Techniques. Society of Pain and Practice Management. Boston, MA, 7/2005

Neurostimulation. Society of Pain and Practice Management. Las Vegas, NV, 9/2005

Vertebroplasty and Kyphoplasty: An Overview. Society for Pain and Practice Management. Las Vegas, NV, 9/2005

Neurostimulation in the Treatment of Chronic Pain (Refresher Course Lecture). American Society of Anesthesiologists Annual meeting. Atlanta, GA, 10/2005

Cancer Pain Management: State of the Art 2005. Chicago Supportive Oncology Conference, 10/2005

Intrathecal Therapy: Progress in the Making. Session Chair. American Society of Regional Anesthesia and Pain Medicine, 2005 Annual Fall Meeting, Miami, FL, 11/2005

Intrathecal Therapy: Progress in the Making: Intrathecal analgesia: Side-effects, complications, pitfalls, and disasters...recognition and avoidance strategies. American Society of Regional Anesthesia and Pain Medicine, 2005 Annual Fall Meeting, Miami, FL, 11/2005

Vertebroplasty and Kyphoplasty: What is the refracture rate? (Problem Based Learning Discussion), American Society of Regional Anesthesia and Pain Medicine, 2005 Annual Fall Meeting, Miami, FL, 11/2005

Cancer Pain Treatment: The Role of Intrathecal Therapy. 5th Annual Neuromodulation Society Meeting UK/Ireland, Dudley, England 12/2005

Visiting Professor, Wayne State University, Grand Rounds Detroit Receiving Hospital. Neuromodulation for Pain. Cancer Pain Treatment: State of the Art. Detroit, MI, 1/15/2006

Neuromodulation for the Treatment of Chronic Pain. Methodist Neurological Institute: Advances in Neurology. Houston TX, 1/27/2006

Lecture Series, Case Discussions, Operative Cases, Health Ministry of Singapore Visiting Professor, 2/13/2006-2/18/2006 (Host Dr Sow Nam Alex Yeo):

- Setting up a Pain Centre, Advances in Cancer Pain, Advances in Low Back Pain Management, Difficult Case Discussion, Acute Pain Management in the Opioid Tolerant Patient, Ward Rounds, Interventional Pain Procedures: Singapore General Hospital.
- Research Collaboration Discussions. A-Star, Singapore Economic Development Board.
- Neuropathic Pain Treatment: Alexandria Hospital.
- Neuraxial analgesia for Cancer Pain: National Cancer Center.
- Vertebral Compression Fracture: Minimally Invasive Reconstruction: Changi Hospital.
- Case Discussion, Ward Rounds: Dover Park Hospice.
- Difficult to Manage Cancer Pain Problems. Ward Rounds. Tat Tong Seng Hospital.
- Update on Cancer Pain Management, Management of Opioid Tolerant Patients: National University Hospital.

- Neuropathic Pain. Advanced Pain Treatment Options. Evening Sessions. Singapore Pain Society. Host Dr. Alex Sow Nam Yeo.

Intrathecal Therapies, Complications and avoidance. Annual Meeting of the American Society of Pain Management Nurses. Orlando, FL, 4/1/2006

Neuromodulation in the treatment of pain. Missouri Society of Anesthesiologists Annual Meeting, St. Louis, MO, 4/8/2006

Pain in the Injured Worker. The Texas Pain Summit. Austin TX, 8/25/2006

Peripheral Nerve Field Stimulation. Spinal Cord Stimulation Consensus Update. Plano TX, 8/26/2006

Intrathecal analgesia. Methodist Neurological Institute: Advances in Neurology 2nd Annual. Houston TX, 9/9/2006

Opioids in the Treatment of Pain. Society of Forensic Toxicologists Annual Meeting, Austin TX, 10/3/2006

Neurostimulation in the Treatment of Chronic Pain (Refresher Course Lecture). American Society of Anesthesiologists Annual meeting. Chicago IL, 10/2006.

Vertebroplasty and Kyphoplasty: Indications, Complications, and Avoidance Strategies. American Academy of Pain Medicine Annual Meeting. New Orleans LA 2/2007.

Vertebroplasty and Kyphoplasty: Case discussions, Cadaver Teaching. American Society of Interventional Pain Specialists. Memphis TN 2/2007.

Intrathecal analgesia with ziconotide. Washington University Pain Medicine Lecture. 3/2007.

Chinese Association for Treatment of Pain Annual Meeting. Cancer Pain Management. Interventional Pain Therapies. Taipei, Taiwan. 3/2007.

Courses Taught

Complex Regional Pain Syndrome (Problem Based Learning Session), American Society of Regional Anesthesia and Pain Medicine, 2002 Annual Fall Meeting, Phoenix AZ, 11/2002

Complex Regional Pain Syndrome (Problem Based Learning Session), American Society of Anesthesiologists Annual Meeting, San Francisco, CA, 10/12/2003

Neurolytic Blocks of the Sympathetic Axis for Cancer Pain Management, Neurostimulation, 8th Annual Hands-On Interventional Pain Workshop, Houston TX, 4/29/2004

Cancer Pain Treatment (Problem Based Learning Sessions), American Society of Anesthesiologists Annual Meeting, Las Vegas NV, 10/2004

Cancer Pain Treatment (Problem Based Learning Sessions), American Society of Regional Anesthesia and Pain Medicine, 2004 Annual Meeting, Phoenix AZ, 11/2004

Intrathecal Drug Delivery Panel Discussion. American Society of Regional Anesthesia and Pain Medicine. Phoenix AZ, 11/2004

Radiofrequency lesioning; Basic/Intermediate Cadaver Workshop, University of Texas Health Science Center-Houston, Course Director, Houston TX, 2/2005

Cadaver Course Teaching. 22nd Annual Pain Symposium. Texas Tech University School of Medicine, Lubbock TX, 6/2005

Percutaneous Vertebral Reconstruction Techniques. Society of Pain and Practice Management. Boston, MA, 7/2005

Neurostimulation. Society of Pain and Practice Management. Las Vegas, NV, 9/2005

Vertebroplasty Seminar, Technique, Complications, and Case Discussion. Society of Pain and Practice Management. Las Vegas, NV, 9/2005

Neurolytic blocks/Vertebroplasty (Cadaver Teaching). American Society of Anesthesiologists Annual meeting. Atlanta, GA, 10/2005

Vertebroplasty and Kyphoplasty, RF Lesioning DRG, Cadaver Courses. American Society of Regional Anesthesia and Pain Medicine, 2006 Annual Fall Meeting, San Francisco, CA 11/2005

Vertebroplasty and Kyphoplasty; Implantable Pain Pumps, RF Lesioning DRG, Cervical Spine Cadaver Courses. American Society of Regional Anesthesia and Pain Medicine, 2005 Annual Fall Meeting, Miami, FL, 11/2005

Vertebroplasty/Head and Neck Blocks (cadaver Teaching). American Society of Anesthesiologists Annual Meeting, Chicago IL, 10/2006.

Vertebroplasty and Kyphoplasty: Case discussions, Cadaver Teaching. American Society of Interventional Pain Specialists. Memphis TN 2/2007.

Kyphoplasty workshop, didactics and cadaver teaching. Washington University. St Louis, MO. 3/2007.

Other, Including Scientific Exhibitions

Chronic Pain Management for the New Millenium, What's New? The 4th Annual Greater Tulsa Area Pain Conference, Tulsa OK, 10/1998

Cancer Pain Management at the End of Life, Saint Francis Hospice and Home Health Departments, Tulsa OK, 6/1999

Cardiac Workup for the Patient Undergoing Non-Cardiac Surgery,
Anesthesiology Department, Saint Francis Hospital, Tulsa OK, 7/1999

Pain Management A to Z, Department of Surgery Grand Rounds, University
of Oklahoma-Tulsa, St. John's Hospital, Tulsa OK, 9/1999

Acute Pain Management, Perioperative Pain Management, Hospital
Grand Rounds, St. Francis Hospital Education Center, Tulsa OK, 9/2000

Seminar Invitations from Other Institutions

Neuropathic Pain: When the Nervous System Turns from friend to foe, Baylor
Second Annual Advances in Analgesic Therapy, Houston TX, 1/2001

Vertebroplasty . Texas Chiropractic College, Pasadena TX, 11/2001

Interventional Pain Management. Third Annual Advances in Analgesic
Therapy, Baylor College of Medicine, Houston TX 5/2002

Pain, Patients, and Physicians, Primary Care Update Conference, Baylor
College of Medicine, University of Houston, Houston TX, 10/2002

Other Presentations (state, local) Conferences)

Cancer Pain: A Physician's Perspective. Medtronic Corporate Meeting,
Sugarland TX, 12/2000

Pain Management. Gulf Coast Anesthesia Society, The Doctor's Club of
Houston, Houston TX, 9/2001

Intrathecal Medications for Cancer Pain. The Gulf Coast Society Case
Manager's Meeting, Houston TX, 11/2001

Management of Cancer Pain. Kidney Cancer Association Survivor and
Patient Conference, Houston, TX, 9/2005

PROFESSIONAL MEMBERSHIPS/ACTIVITIES

Professional Society Activities, with Offices Held

Local/state

American Board of Anesthesiology (ABA) Question Preparation, 1999-2001

American Academy of Pain Medicine (AAPM), Nominating Committee 2006-

American Medical Association (AMA) 1999-

American Pain Society (APS) 2000-

American Society of Anesthesiologists (ASA), Committee on Surgical
Anesthesia, 1998-2000

American Society of Interventional Pain Physicians (ASIPP)

American Society of Regional Anesthesia and Pain Medicine (ASRAPM)

Texas Society of Anesthesiologists (TSA), Alternate Delegate Place 8,

Economics Sub-Committee on Pain Management, 2003-

Texas Medical Association (TMA) 2000-

Texas Pain Society (TPS), Board of Directors, 2002-2004, Treasurer, 2004-,
President Elect 2006-2007,

Houston Academy of Medicine/Harris County Medical Society (HCMS) 2000-

National and International

North American Neuromodulation Society (NANS), Director-at-Large, Board of Directors, 2003-

International Society for the Study of Pain (IASP)

World Institute of Pain (WIP)

International Spinal Injection Society (ISIS)

OTHER

Clinical Interests - Chronic and Cancer Pain Therapy (including medical management, neurostimulation, intradiscal procedures, intrathecal analgesia, vertebroplasty and kyphoplasty).

Conversant in Medical Spanish