

Curriculum Vitae

Anthony Herbert Guarino, M.D.

Prepared 4/15

Sex	Male
Date of Birth	2/15/64
Place of Birth	Baltimore, MD
Citizenship	United States
Office Address	969 N. Mason Rd., Suite 240 Creve Coeur, MO 63141 314-996-8631 guarinoa@wustl.edu
Home Address	525 Conway Village Dr. Town and Country, MO 63141 314-580-4609 aguarino@msn.com www.painstrategy.com
Present Position	Associate Professor in Department of Anesthesiology Washington University in St. Louis, MO 2012-present Director of Pain Management Barnes Jewish West County Hospital 1998-present
Education	
Undergraduate	Yale University, New Haven, CT, Molecular Biophysics and Biochemistry, B.A., 1986
Graduate	Yale Divinity School, New Haven, CT, M.A.R., 1988
Medical School	University of Maryland, Baltimore, MD, M.D., 1992
Internship	Internal Medicine at Sinai Hospital in Baltimore, MD, 7/92-6/93
Residency	Anesthesiology at Johns Hopkins Hospital in Baltimore, MD, 7/93-6/96
Fellowship	Pain Management at Johns Hopkins Hospital in Baltimore, MD, 7/96-6/97

Academic and Employment Positions

Review Medical-Legal Issues for Plaintiff and Defense Attorneys in the United States concerning Pain Management Standards of Care (2002-present)

Instructor in Department of Anesthesiology, Washington University 2/98-1999

Assistant Professor in Department of Anesthesiology, Washington University 1999-2012

Private Practice Pain Management and Anesthesiology, Dulles Pain Management Center, Dulles, VA, 7/97-2/98

Private Practice House Officer Moonlighting in the Intensive Care Unit and Emergency Room at St. Joseph's Hospital, Towson, MD, 1995-1997

Staff Physician Moonlighting at Prompt Care, a walk-in acute medical services center, 1995-1997

Hospital Appointments and Committees

Barnes Jewish West County Hospital
Quality Assurance Committee (2001-present)

Washington University Medical School
Faculty Mentor (2013-present)

Barnes Jewish West County Hospital
Credentialing Committee (2001-2007)

Barnes Jewish West County Hospital
Pharmacology and Therapeutics Committee (2001-2007)

Barnes Jewish West County Hospital
Medical Executive Committee (2004-2006)

Organizational Committees

American Academy of Pain Medicine
Medical School Curriculum Committee
(2011-present)

American Academy of Pain Medicine
Educational Programs Committee (2011-present)

American Academy of Pain Medicine
Strategic Planning Committee (2011)

International Spinal Injection Society
Research Committee (2007-2011)

Medical Licensure and Board Certification

Missouri Medical License
Certificate #md114360
Drug Enforcement Agency
Certificate#bg4351677
Diplomat of American Board of Anesthesiology
Certificate #31085
Pain Management Qualified for the
American Board of Anesthesiology
Certificate #31085
Recertified 11/10
Diplomat of American Board of Pain Medicine
Certificate #19299
Recertified 5/09

Awards and Honors

“Top Doctor” in Pain Management by Doctors across America (2003)
“Top Doctor” by St. Louis Magazine and Alive Magazine (2006)
Delegate for People to People Ambassador Program to China (2002)
Roxane Scholar for study of HIV at Johns Hopkins Hospital (1997)
Alpha Omega Alpha National Honor Medical Society *as a Junior* (1991)
National Collegiate Weightlifting Champion with All-American distinction
(1987)
Baltimore High School Football Player of the Year Scholarship (1981)

Editorial Responsibilities

Spine ad hoc reviewer (2002-present)
Pain Medicine ad hoc reviewer (2007-present)
Pain Physician ad hoc reviewer (2005-present)
Associate Editor (2007-2008)
Assistant Editor (2005-2007)

Societies and Organizations

American Academy of Pain Medicine
American Society of Anesthesiology
American Society of Regional Anesthesiology
International Spinal Injection Society
North American Spine Society

Invited Lectures

Continuous Medical Education Locally and Regionally

- 4/15 Avoiding Spinal Injection Problems in Pain Management for Barnes Jewish West County Hospital Quarterly Meeting
- 3/14 Pain Management for Washington University medical students
- 12/14 Use of Induction Agents for Anesthesiology residents at Washington University
- 4/14 Pain Management for Washington University medical students
- 4/14 Complex Regional Pain Syndrome for Missouri Society of Anesthesiologist Annual Meeting in St. Louis, MO
- 4/14 Complex Regional Pain Syndrome Review for Washington University Pain Management Center
- 4/13 Topical Medications in Contemporary Pain Management for Barnes Jewish West County Hospital Quarterly Meeting
- 2/13 Interventional Spine Pain Management Interventions for Chronic Abdominal Pain for Washington University Pain Management Center
- 3/12 Contemporary Pain Management Issues for Barnes Jewish West County Hospital Quarterly Meeting
- 7/11 Use of Opioids to Manage Pain for Washington University Physical Medicine and Rehabilitation Group
- 7/11 Neuropathophysiology in Chronic Pain for Washington University Pain Management Center
- 5/11 Management of Visceral Pain for Washington University Gastroenterology Group
- 5/11 New Opioid Options for Washington University Pain Management Center
- 4/11 Contemporary Pain Management Issues for Barnes Jewish West County Hospital Quarterly Meeting
- 9/10 Management of Visceral Pain for Washington University Pain Management Center
- 7/10 Interventional therapies for Chronic Visceral Pain for Barnes Jewish West County Hospital

12/09 Cervical Discography for Fellows at Washington University Pain Management Center

4/09 Universal Precautions for Opioid Use for Barnes Jewish West County Hospital

4/09 Management of Fibromyalgia for Physical Medicine and Rehabilitation Rounds, Barnes Hospital

11/08 Management of Low Back Pain for Barnes Jewish West County Hospital

7/08 Rheumatologic Diseases in Interventional Pain Management at American Society of Interventional Pain Physicians Board Review Course in St. Louis

6/08 Cervical discography for Washington University Pain Management Center

6/08 Cervical injections: indications, complications and their management-Grand Rounds for the Department of Neurosurgery, Washington University in St. Louis

2/08 Cervical injections: indications, complications and management of complications to the Pain Management Group of the Department of Anesthesia at Washington University in St. Louis, MO

12/07 Opioid Prescribing for Pain Management Group at Barnes Jewish West County Hospital in St. Louis, MO

6/07 Management of neurological complications after epidural steroid injections for Midwest Pain Meeting of the American Pain Society in St. Louis, MO

4/07 Management of neurological complications after epidural steroid injections for Missouri Society of Anesthesiology Annual Meeting in Kansas City

4/07 Management of neurological complications after epidural steroid injections at Grand Rounds for Washington University Pain Management Group, St. Louis, MO

4/06 *Management of neuropathic pain* for Missouri American Society of Consultant Pharmacists

6/05 *Cytokine Modifying Therapy* at the Blaustein Pain Lecture at Johns Hopkins Hospital, Baltimore, MD

5/05 *Management of Chronic Pain in the Primary Care Setting* for the American Association of Physicians of Indian Origin Annual Convention in Oklahoma City, OK

1/05 Addressing *Tumor Necrosis Factor in Pain Management* Grand Rounds for the Department of Anesthesia at Oklahoma City Medical Center

1/05 Addressing *Tumor Necrosis Factor in Pain Management* Research Conference for the Pain Management Division of the Department of Anesthesia at Washington University

12/04 *Medications for Palliative Care* for Southern Illinois palliative nurses sponsored by Cephalon Pharmaceuticals

8/04 *Metalloproteinase Inhibitors in Degenerative Disc Disease* to Washington University Pain Management Group

7/04 *Sympathetic Nerve Blocks* for Barnes Jewish West County clinical staff.

6/03 *Medical Management of Chronic Pain* for DePaul Medical Group

5/03 *Use and Abuse of Opioids* for Washington University Pain Management Group

2/03 *Use of Opioids in Pain Management* for Medicine Department at Washington University

11/02 *Treatment for Peripheral Neuropathies* for Pain Management group at Barnes Jewish West County Hospital

9/02 *Degenerative Disc Disease* for Pain Management group at Barnes Jewish West County Hospital

8/02 *Spinal Cord Stimulators and Intrathecal Pumps* for Pain Management group at Barnes Jewish West County Hospital

6/02 *Opioid Use in the Chronic Pain Patient* for Pain Management group at Barnes Jewish West County Hospital

5/02 *Pain Management* for Department of Orthopedics Grand Rounds at Washington University in St. Louis

5/02 *Procedural Complications* for Pain Management group at Barnes Jewish West County Hospital

3/02 *Complex Regional Pain Syndrome* for Pain Management group at Washington University

3/02 *Procedures in Pain Management* for Pain Management group at Barnes Jewish West County Hospital

1/02 *Opioids* for Pain Management group at Barnes Jewish West County Hospital

12/01 *Pain Management Procedures* for Pain Management group at Barnes Jewish West County Hospital

11/01 *Use of Implantables in Chronic Pain Patient* for Pain Management group at Barnes Jewish West County Hospital

8/01 *Painful Peripheral Neuropathies* for Pain Management group at Barnes Jewish West County Hospital

7/01 *Degenerative Disc Disease* for Pain Management group at Barnes Jewish West County Hospital

3/01 *Complex Regional Pain Syndrome* for Pain Management group at Barnes Jewish West County Hospital

11/00 *Selective Nerve Root Injections* for Pain Management group at Washington University

9/00 *Introduction to Pain Management* for Orthopedic Grand Rounds at Washington University

6/00 *Complex Regional Pain Syndrome* for Plastic Surgery Grand Rounds at Washington University
5/00 *Use of Opioids in the Management of Nonmalignant Pain* for Medical Staff at St. Elizabeth Medical Center in Granite City, IL
4/00 *Intradiscal Electrotherapy* for Pain Management group at Barnes Jewish West County
4/00 *End of Life Care* for Missouri State Medical Association Annual Convention
2/00 *Opioid Use for the Treatment of Chronic Pain* for Parkland Health Center
2/00 *Intradiscal Electrotherapy* for Orthopedic Surgery Grand Rounds at Washington University
1/00 *Intradiscal Electrotherapy* for Pain Management group at Washington University
10/99 *Opioids and Other Pain Management Techniques* for Ft. Leonard Medical Staff
7/99 *Opioids* for Cape County, MO Medical Society
7/99 *Pain Management* for OASIS
3/99 *Radiofrequency Neuroablation, discography and Spinal Cord Stimulators* for Maricopa Health System

Continuous Medical Education Occurring at National Meetings

1/09 Controversies in the Use of Intrathecal Therapies at the American Academy of Pain Medicine National Meeting in Honolulu, HI
1/09 Strategies to Reduce Complications in Cervical Spine Injections at the American Academy of Pain Medicine National Meeting in Honolulu, HI
9/08 Management of CRPS for Pain Week in Las Vegas, NV
9/08 Use of Neurolytics in Pain Management for Pain Week in Las Vegas, NV
9/08 Treatment of Compression Fractures for Pain Week in Las Vegas, NV
9/08 Discography for Pain Week in Las Vegas, NV
2/08 Perils of intravascular injection of DepoMedrol into the vertebral artery – an animal study to the American Academy of Pain Medicine National Meeting in Orlando, FL
2/08 Cervical injections: indications, complications and management of complications to the American Academy of Pain Medicine National Meeting in Orlando, FL
7/07 Patient perceptions to epidural steroid injection procedures at International Spinal Injection Society National Meeting, Baltimore, MD
7/07 Soluble versus nonsoluble steroid injections into the pig vertebral artery at ISIS National Meeting, Baltimore, MD
10/06 *Epidural complications* for National Meeting of American Society of Anesthesia, Chicago, IL

9/06 *Observational Study of the Effects of Infliximab on Low Back Pain* at National Meeting of North American Spine Society, Seattle, WA

2/06 *Immunomodulation Therapies as a Treatment in Chronic Pain* at the national meeting of the American Academy of Pain Medicine, New Orleans, LA

9/05 *A double blind placebo controlled study evaluating the effect of a metalloproteinase inhibitor in chronic low back pain secondary to degenerative disc disease* in Philadelphia at the national meeting of the North American Spine Association

2/00 The following three lectures at the Washington University's Wyoming Winter Anesthesia Symposium in Jackson Hole, Wyoming:

Interpreting Diagnostic Pain Blocks

Discography in Diagnosis and Management of Back Pain

Role of Electrical Stimulation in Pain Management

Poster Presentations

1. Guarino AH, Bailey T. (2003) Randomized, double blind placebo controlled study of modafanil in opioid induced sedated patients. American Society of Anesthesiology national meeting, San Francisco, CA
2. Guarino AH. (2004) Transmucosal Fentanyl for Treatment of Non-malignant Pain: An Observational Study. American Society of Regional Anesthesia and Pain Medicine annual Fall Pain Meeting, Phoenix, AZ
3. Guarino AH (2005) A double blind placebo controlled study evaluating the effect of a metalloproteinase inhibitor in chronic low back pain secondary to degenerative disc disease. National meeting of North American Spine Society Philadelphia, PA
4. Schirin Tang MS, Benjamin M Braun, Karl Hock, Mitchell G Scott PhD, Anthony H Guarino MD, Richard Brasington MD, Michael E Mullins MD (2012) Does therapeutic use of tapentadol produce a false positive urine drug screen for amphetamine? EAPCCT, London, England

Public Education

- 11/13 Management of Neck Pain for Washington University public relations office
- 1/11 Management of Low Back Pain for WAMC Northeast Public Radio
- 3/10 Contemporary Pain Management for Cephalon Representatives in Philadelphia, PA
- 10/09 Contemporary Pain Management for Cephalon Representatives in Philadelphia, PA
- 6/09 Pain Management for Kid's Chance of Missouri (Annual Worker's Compensation Seminar)
- 1/07 Risk analysis for the use of Celebrex for St. Louis TV KSDK's Ask the Doctor
- 12/05 *Indications and Issues for Patients with NSAIDs* for Oglivey
- 2/02 *Pain Management Principles* for Elan pharmaceutical representatives in the Midwest
- 2/02 *Pain Management Principles* for WGNU Radio Show in St. Louis
- 4/01 *Complex Regional Pain Syndrome* for KSDK St. Louis TV Station
- 2/01 *IDET* for Oratech at a Medial Roundtable for Medical Administrators in St. Louis
- 1/01 *Pain Management* for Cable TV Show *Shades of Success*

Multiple Presentations

- 2010-2012 *Pathophysiology of Pain* for Lilly
- 2006-2012 *Lyrica as a Treatment for Neuropathic Pain* for Pfizer
- 2001-2011 *Opioid Use in the Chronic Pain Patient* for Cephalon Pharmaceuticals
- 2010-2012 *Amrix* Detailing for Cephalon
- 2006-2012 *Opana Use in the Chronic Pain Patient* for Endo Pharmaceuticals
- 2010-2012 *Exalgo Use in the Pain Patient* for Covidien/Mallankrodt
- 2011 *Gralise as a Therapeutic for Treatment of Post Herpetic Neuralgia* for Depomed
- 2011 *Abstral as a Therapeutic for Cancer Patients with Breakthrough Pain* for ProStraken
- 2010 *Nucynta Use in the Pain Patient* for PriCara
- 5/06-2009 *Ultram ER as an Analgesic* for Pricara
- 10/07-2008 *Zanaflex Capsules* for Acorda
- 4/05-2008 *Kadian as a Therapeutic Agent* for Alpharma

1/04-10/05 *Indications for Provigil* for Cephalon Pharmaceuticals
12/02-6/05 *Opioid Use in the Chronic Pain Patient* for Organon Pharmaceuticals
5/04-10/04 *Celebrex* for Pfizer
6/05 *Lidoderm Use in Patients with Post Herpetic Neuralgia* for Endo Pharmaceuticals
5/04-9/04 *Ultracet Use in the Acute Pain Patient* for Ortho-McNeil Pharmaceuticals
7/99-7/01 *Oxycontin as a Therapeutic Agent* for Purdue Pharma
8/00 *Management of Insomnia Using Sonata in the Chronic Pain Patient* for Wyeth-Ayerst
10/05-2011 *Cymbalta as a Treatment for Painful Diabetic Peripheral Neuropathy, Low Back Pain and Osteoarthritis* for Lilly

Ongoing Presentations

10/13-present *Subsys* as a Therapeutic for Cancer Patients with Breakthrough Pain for Insys Pharmaceuticals
11/13-present *Abstral* as a Therapeutic for Cancer Patients with Breakthrough Pain for Galena Pharmaceuticals
4/14-present *Responsible Prescribing of Zohydro* for Zogenix Pharmaceuticals
2011-present *Amitiza* as a Treatment for Opioid Induced Constipation for Takeda Pharmaceuticals
3/15-present *Hysingla* as a Therapeutic for Purdue Pharma

Physician Advisory Boards – assist in the interpretation of scientific data and standards of clinical care as well as the appropriate education

Of their products

Cephalon Pharmaceuticals (2005-2011)

Lilly Pharmaceuticals 2006-2011

Pricara – a division of Johnson and Johnson 2009-2012

Insys Corporation – 2013-present

Galena Pharma – 2014-present

Purdue Pharma – 2014-present

RESEARCH

Prior Grants

1. Pilot study on the response of patients with arachnoiditis to thalidomide from Celgene Corporation 2005 (\$10,000)
2. Study site for the use of lenolidomide as a therapeutic for CRPS for Celgene Corporation 2005 (\$36,000)
3. Study site for the use of lenolidomide as a therapeutic for lumbar radiculitis for Celgene Corporation 2005 (\$18,000)

Current Research Project

Influence of cervical injections on sensory and motor function

Clinical Responsibilities

I direct clinical care in a pain management practice for the Washington University Department of Anesthesia at Barnes Jewish West County Hospital. In addition, I oversee the financial and organizational components of the business.

Teaching Responsibilities

I educate Washington University residents and fellows on pain management who train at Barnes Jewish West County Hospital. In addition, I coordinate a weekly teaching conference for the pain management fellows and faculty since 1998. I participate in meetings advancing curriculum and course development for the fellows.

BIBLIOGRAPHY

Peer Reviewed

1. Guarino AH. Discography: A Review, *Current Review of Pain* 1999; 3(6): 473-480.
2. Guarino AH, Wright NM. Pneumocephalus after a lumbar epidural steroid injection. *Pain Physician* 2005; 8(2):239-241.
3. Guarino AH, Use of Orlistat as Treatment for Intractable Constipation , *Pain Medicine*, 2005;6(2),127-130.
4. Guarino AH, Myers J, Cornell ME, A descriptive case series: oral transmucosal fentanyl use in patients with noncancerous pain. *J Opioid Management* 2006;2(2):81-87.
5. Guarino AH, Cornell M, Brassington R, Stone C, Hefferman M. Observational study of the effects of infliximab on low back pain. *Proceedings of the NASS 21st Annual Meeting* 6(2006) 53S.
6. Guarino AH, Silverman T. Using thalidomide in patients with arachnoiditis, *Pain Medicine* 2007; 8(1)104.
7. Okubadejo GO, Talcott MR, Schmidt RE, Sharma A, Mackey B, Guarino AH, Moran C, Riew KD. Assessment of spinal cord and brain injury following cervical intravascular steroid injection – an animal model. *The Spine Journal* 7(2007)S30.
8. Okubadejo GO, Talcott MR, Schmidt RE, Sharma A, Mackey B, Guarino AH, Moran C, Riew KD. Perils of intravascular methylprednisolone injection into the vertebral artery – an animal study, *J Bone Joint Surg Am.* 2008;90:1932-1938.
9. Okubadejo GO, Talcott MR, Schmidt RE, Sharma A, Mackey B, Guarino AH, Moran C, Riew KD. Perils of intravascular methylprednisolone injection into the vertebral artery – an animal study, *The Spine J* 10(2010)102.
10. Mullins ME, Braun BM, Hock KG, Scott MG, Guarino AH, Brassington RD. Can tapentadol cause a false-positive urine drug screen result for amphetamine? *Clinical Toxicology* (2012)1-2.

Invited Publications

1. Salem M, Guarino AH, Chernow B. "Adrenal Dysfunction in the Intensive Care Unit" Textbook of Critical Care Medicine, Third Edition, Shoemaker WC, et.al., (editors), W.B. Saunders Company, Florida, 1994.
2. Grossman SA, Guarino AH. "Pain Control in Genitourinary Malignancies" *Comprehensive Textbook of Genitourinary Oncology*, Vogelzang NJ et.al., (editors), Williams and Wilkins, Baltimore, 1995.
3. Guarino AH, Raja S. Review on Regional Anesthesia CD-ROM, *Anesthesiology* 1995; 82:3.
4. Guarino AH, Staats PS. Diagnostic Neural Blockade, *Pain Digest* 1997; July.
5. Guarino AH. Clarification of Sympathetically Mediated Pain, *NEJM* 1998; 33:334-335.
6. Grabow TS, Guarino AH, Raja S. "Terminology and Pathogenesis of Complex Regional Pain Syndrome" *Essentials of Pain Medicine and Regional Anesthesia*, Benzon HT et.al., (editors) 1999: 245-247.
7. Guarino AH, Raja S. "Complex Regional Pain Syndrome: Diagnosis" *Essentials of Pain Medicine and Regional Anesthesia*, Benzon HT et.al., (editors) 1999;. 248-251.
8. North RB, Guarino AH. Spinal Cord Stimulation for the Failed Back Surgery Syndrome: Technical Advances, Patient Selection and Outcome, *Neuromodulation* 1999; 2(3).
9. Patell JJP, Guarino AH. "Pain Management" in PMR Secrets, 2001.
10. Grabow TS, Guarino AH, Raja SN. "Complex Regional Pain Syndrome: Terminology and pathophysiology" *Essentials of Pain Medicine and Regional Anesthesia*, Benzon HT et.al. (Editors) 2004;. 376-379.
11. Grabow TS, Guarino AH, Raja SN. "Complex Regional Pain Syndrome: Diagnosis" *Essentials of Pain Medicine and Regional Anesthesia*, Benzon HT et.al. (Editors) 2004;. 380-385.
12. Guarino AH, Cornell M. Opioids as an Option in MS Patients with Chronic Pain, *International Journal of MS Care* 2005; 7(1):10-15.
13. Guarino AH, Cornell ME, Breakthrough pain in non-cancer patients, *Practical Pain Management*, April 2006:12-16.
14. Guarino AH. Observational study of dural punctures: a retrospective review of the rate of dural punctures as a complication of lumbar epidural steroid injections, *Practical Pain Management*, October 2006:22-28.
15. Guarino AH, Myers J. Post procedural management of complications after translaminar epidural steroid injections, *Current Reviews*, 2007.

16. Guarino AH, Myers J. An assessment protocol to guide opioid prescriptions for patients with chronic pain, *Missouri Medicine*, Nov/Dec 2007.
17. Guarino AH. A guide for opioid prescribing in patients with chronic pain. *Current Reviews*, 2008.
18. Williams K, Guarino A, Raja SN. “Complex Regional Pain Syndrome” *Essentials of Pain Medicine and Regional Anesthesia*, Benzon HT et.al. (Editors) 2011.
19. Tang S, Mullins ME, Braun, B, Hock KG, Scott MG, Guarino AH, Brassington RD. Can tapentadol cause a false=positive urine drug screen result for amphetamine? *Clin Toxicology*, Early Online, 1-2, 2012.
20. Guarino AH, “The Autonomic Nervous System”, *5 Minute Anesthesia Consult*, Walters Kluwer 112-113, 2013.
21. Guarino AH, “Questionable Benefit of Pot for Pain”, Barnes Jewish West County Hospital quarterly newsletter, 12/14.
22. Guarino AH, “Spinal Injection Expert Witness: Risks and Complications”, for SEAK website, 3/15.

Books

1. Guarino AH. Reclaiming Your Life: Breakthrough Strategies in Low Back Pain Management. EFG Publications, March 2008.
2. Guarino AH. Get Your Lower Back Pain under Control--and Get on with Life. Johns Hopkins Press, November 2010. Peer reviewed.