Arnold J. Weil, M.D. Non-Surgical Orthopaedics, P.C. 335 Roselane Street Marietta, Georgia 30060 Office 770-420-4645 nonsurgicalmd@lowbackpain.com

MEDICAL SPECIALTIES

Non-Surgical Orthopaedics and Spine Care Physical Medicine and Rehabilitation Occupational & Sports Medicine Pain Management & Interventional Spine Injections

Practice focus on conservative, non-surgical care of orthopaedic injuries, including the spine and extremities, with emphasis on spine rehabilitation, functional restoration, pain management, and ergonomic modifications

	<u>Website</u>		<u>E Mail</u>
BIO	Blog	You	<u>YouTube</u>
in	<u>LinkedIn</u>	E	Twitter

Extensive experience with Phase II, III, IV Clinical Trials

Speaks nationally on a variety of medically-related subjects.

Local and national radio and television guest health expert

BOARD CERTIFICATIONS

Diplomat, American Board of Physical Medicine and Rehabilitation

LICENSURE

Georgia

EDUCATION AND TRAINING

POSTGRADUATE:	Kennesaw State University; Kennesaw, Georgia Executive <i>MBA</i> , 1995-1997
POSTGRADUATE:	National Rehabilitation Hospital; Washington, D.C.; Physical Medicine and Rehabilitation; Residency, 1989-1992 Washington Hospital Center; Washington, D.C.; Obstetrics and Gynecology; Internship, 1988-1989

GRADUATE:	The University of Texas Southwestern Medical Center; Dallas, Texas; <i>M.D</i> .; 1984-1988
UNDERGRADUATE:	Texas A&M University; College Station, Texas; <i>B.S</i> . in Biology, <u>cum laude;</u> 1980-1984

PROFESSIONAL EXPERIENCE

Private Practice CEO Non-Surgical Orthopaedics, P.C. 335 Roselane Street Marietta, Georgia 30060 April 1993 - Present

Medical Director Georgia Institute for Clinical Research 335 Roselane Street Marietta, GA 30060 2000 - Present

Medical Advisor Montgomery Insurance Group Workers' Comp and Liability Atlanta, Georgia January 2003 – 2004

Board of Advisors MD News Magazine Atlanta, Georgia July 2003 -2006

National Medical Director Progressive Sports Medicine and Physical Therapy 335 Roselane Street, Suite #201 Marietta, Georgia 30060 January 2001 – 2003

nTouch Research Primary Clinical Investigator 1431 White Circle Marietta, Georgia 30066 October 1999 - 2003

Medical Director Spine & Sport of Marietta 945 Church Street, #A Marietta, Georgia 30060 January 1996 – May, 2001

Medical Director Spine & Chronic Pain Program HealthSouth Rehabilitation Center Kennesaw, Georgia 30144 August 1994 - 1997

Medical Director of Rehabilitation Knollwood Terrace Atlanta, Georgia January 1996 – March 1997

Medical Director Marietta Spinal Rehabilitation Center Marietta, Georgia 30060 April 1993 - June 1996

Chairman, Rehab Advisory Board Olsten Kimberly Quality Care Marietta, Georgia 30067 November 1994 - August 1995

Medical Director, Subacute Rehabilitation Integrated Health Services, Inc. Marietta, Georgia 30060 August 1995 - August 1996

Medical Director - Rehabilitation Services Hillhaven Rehabilitation and Convalescent Center Marietta, Georgia 30060 October 1993 - October 1995

Medical Director Genesis Med-X Rehab 50 Plaza Way, Suite A Marietta, Georgia 30060 June 1993 - October 1994

Medical Director Department of Rehabilitation Medicine Kennestone Hospital at Windy Hill Marietta, Georgia 30067 July 1992 - March 1993

Associate REACT (Rehabilitation Evaluation and Comprehensive Treatment) Center Kennestone Hospital at Windy Hill Marietta, Georgia 30067 July 1992 - March 1993

Associate Department of Occupational Medicine Kennestone Hospital at Windy Hill Marietta, Georgia 30067 July 1992 - March 1993

ACADEMIC AFFILIATIONS

Clinical Assistant Professor of Rehabilitation Medicine Department of Physical Medicine and Rehabilitation Emory University School of Medicine Atlanta, Georgia 30322 July 1992 – Present

Clinical Assistant Professor of Surgery Department of Surgery Philadelphia College of Osteopathic Medicine Georgia Campus Philadelphia, PA February 2006 - present

HONORS AND ACHIEVEMENTS

Chairperson, Center for the Treatment of Pain; July 2008 Advisory Board, PainPhysicians.org; 2005 Radio Sandy Springs; Guest Presenter; "Low Back Pain"; July 13, 2005 World Talk Radio; Guest Presenter, "Treatment of Low Back Pain"; March 14, 2005 Dannemiller Muskuloskeletal Pain Institute, Advisory Board; 2001 Medical Advisory Board for numerous Insurance and Workers' Comp Organizations, 2003-2004 Medical Advisory Board for numerous Pharmaceutical Companies, 1999-present Feature Story on Channel 5 WAGA-TV, Medical Segments, January 1997

HONORS AND ACHIEVEMENTS continued

Cover Story in *Life in Medicine*, a national medical magazine, March 1996
Cobb County Medical Society; Chairman, Bylaws Committee, 1996 - 1998
Georgia Medicare Carrier Advisory Committee, 1994 - Present
Medical Association of Georgia Council on Legislation, 1994 - 1996
Georgia State Health Care Reform Coordinator, American Academy of Physical Medicine and Rehabilitation, 1993 - 1998
Executive Member, Cobb County Special Olympics Committee, 1992 - 1995
American Medical Association/Burroughs Wellcome Co. Leadership Award, 1991
American Academy of Physical Medicine and Rehabilitation Resident Physician Council: Chairman, Health Policy and Legislation Committee, 1990 - 1991

Vice-President, Northern Virginia Council of Big Brothers, 1990 – 1991

PRESENTATIONS & PUBLICATIONS

"NSAIDs in Pain Management"; Pain Week, April 2014, Atlanta, GA MAGI Clinical Research Conferences (2011, 2012, 2013)

- "Efficacy of Subcutaneous Methylnaltrexone in the Treatment of Opioid-Induced Constipation: A Responder Post Hoc Analysis"; Pain Med, November 2011
- "Conducting & Managing Clinical Research at Small Sites"; MAGI's Clinical Research Conference 2011, Las Vegas, NV, Oct. 2011
- "High Molecular Weight Hyaluronan for Treatment of Chronic Shoulder Pain Associated with Glenohumeral Arthritis"; Osteoarthritis and Cartilage, Volume 19, September 2011.
- "High Molecular Weight Hyaluronan for Treatment of Chronic Shoulder Pain Associated with Glenohumeral Arthritis"; Abstract & Poster Presentation, OARSI, September 2011, San Diego, CA
- "High Molecular Weight Hyaluronan for Treatment of Chronic Shoulder Pain Associated with Glenohumeral Arthritis"; Medical Devices: Evidence and Research; 2011:4
- "Opioid Use Among Patients With Chronic Non-Malignant Pain Receiving Methylnaltrexone For Opioid-Induced Constipation"; Abstract & Poster Presentation, The 13th World Congress on Pain / IASP, September 2010, Montreal, Quebec, Canada
- "Efficacy and Tolerability of Cyclobenzaprine Extended Release for Acute Muscle Spasm: A Pooled Analysis"; Postgraduate Medicine, July 2010
- "Subcutaneous Methylnaltrexone for the Treatment of Opioid-Induced Constipation in Patients with Chronic, Non-Malignant Pain: Safety Results in Patients Treated for 12 Weeks"; Abstract & Poster Presentation, APS May 2010, Baltimore, MD
- "Subcutaneous Methylnaltrexone Improves Bowel Movement Frequency and Quality in Patients with Chronic, Non-Malignant Pain and Opioid Induced Constipation"; Abstract & Poster Presentation, APS May 2010, Baltimore, MD
- "Cyclobenzaprine Extended-Release: The Difference is in the Formulation"; Pharmacy Times, November 2009
- "Cyclobenzaprine extended release for acute low back and neck pain"; Therapy, November 2009, Vol.6 No.6

PRESENTATIONS & PUBLICATIONS continued

- "Correspondence of the Pharmacokinetics and Efficacy of Once-Daily Cyclobenzaprine Extended-Release"; Abstract & Poster Presentation, PainWeek 2009 National Conference
- "Relationship Between the Pharmacokinetics and Efficacy of Once-Daily Cyclobenzaprine Extended-Release"; Abstract and Poster Presentation, AAPM 2009
- "Cyclobenzaprine ER for Muscle Spasm Associated With Low Back and Neck pain: Two Randomized, Double-Blind, Placebo-Controlled Studies of Identical Design; Current Medical Research and Opinion, 2009
- "Factors affecting dosing regimens of morphine sulfate extended-release (KADIAN) capsules"; Journal of Opioid Management, January / February 2009
- "New Advances in Pain Management"; multiple presentations to physicians nationally 2005-2008
- "Non-Surgical Orthopaedics & Pain Management"; CE presentation to the Georgia Chiropractic Association 2005-2008
- "Correspondence of the Pharmacokinetics and Efficacy of Once-Daily Cyclobenzaprine Extended-Release";AAPM, December 2008.
- "Managing the Patient with Chronic Pain"; Clinical Bulletin, July 2008
- "Tolerability of once-daily cyclobenzaprine hydrochloride modified-release 15 mg and 30 mg for low back and neck pain associated with muscle spasm"; Abstract, Journal of Pain; 2008
- "Efficacy and Tolerability of Once-Daily Cyclobenzaprine HCl Extended-Release 15 mg and 30 mg for Low Back and Neck Pain Associated With Muscle Spasm"; Abstract and Poster Presentation; American Pain Society 27th Annual Meeting; Tampa, Florida; May 8-10, 2008
- "Efficacy of Cyclobenzaprine Hydrochloride Extended-Release 15 mg and 30 mg Once-Daily For Low Back and Neck Pain Associated with Muscle Spasms: A Pooled Analysis of Two Randomized, Double-Blind, Parallel-Group, Placebo-Controlled, Multicenter Studies"; Abstract and Poster Presentation; American Academy of Pain Medicine Annual Meeting; Orlando, Florida; Feb. 2008; Pain Medicine, Vol 9 No. 1, 2008
- "Treatment of Chronic Neck Pain Using Polymer-Coated Extended-Release Morphine Sulfate Capsules"; 67th Annual Assembly of the AAPM&R; Honolulu, Hawaii; November 9-12, 2006 "Use of Kadian® (morphine sulfate extended-release)
- Capsules for chronic non-malignant pain in patients aged ≥ 75 years"; Abstract and Poster Presentation; American Pain Society 25th Annual Meeting; San Antonio, Texas; May 3-6, 2006
- "Treatment of chronic moderate-to-severe non-malignant pain with polymer-coated extended-release morphine sulfate capsules"; Current Medical Research and Opinions, Volume 22 No, 3, 2006; pages 539-550
- "Treatment of chronic, moderate to severe, non-malignant pain with KADAIN® using individualized doses and dosing frequencies"; Abstract and Poster Presentation; Southern Medical Association (SMA) 99th Annual Scientific Assembly; November, 2005; San Antonio, Texas

PRESENTATIONS & PUBLICATIONS continued

- "Long-term effects of extended-release morphine sulfate (Kadian®) vs controlled-release oxycodone HCL (OxyContin®) on relief of moderate to severe pain"; Abstract and Poster Presentation; American Academy of Physical Medicine & Rehabilitation (AAPM&R) 66th Annual Assembly; October 2005; Philadelphia, PA
- "Dealing with Treatment Adherence Issues in Acute Conditions"; Resident & Staff Physician; August, 2005
- "Efficacy and tolerability of polymer-coated sustained-release morphine sulfate (KADIAN®) at doses of 200 mg/day or greater in the treatment of moderate to severe noncancer pain"; Abstract and Poster Presentation;
- American Academy of Nurse Practitioners; June 2005; Fort Lauderdale, FL "Factors Impacting Kadian ® once-twice-daily dosing regimens: Analysis from the Kronus-MSP trial"; The Journal of Pain; March 2005 "The concordance of patient and physician satisfaction with Kadian ® (morphine-sulfate sustained-release capsules) in the treatment of chronic, non-malignant, moderate to severe pain"; The Journal of Pain; March 2005
- "Treatment of neuropathic pain with Kadian ® in poor responders to other pain medications"; "; The Journal of Pain; March 2005
- "The Efficacy and Tolerability of Kadian ® (morphine-sulfate sustained-release capsules) in Elderly Patients With Persistent Non-malignant Moderate / Severe Pain"; Abstract and Poster Presentation; 2005 Annual Scientific Meeting of the American Geriatrics Society; May, 2005; Orlando, FL
- "Effect of Demographic Factors and Outcomes on Kadian ® Once- or Twice- Daily Dosing"; Poster Presentation at the American Academy of Pain Medicine Meeting, 2005; Palm Springs, CA
- "Non-Surgical Management of Low Back Pain"; March 2005; Institute of Continuing Legal Education in Georgia
- "Improved quality of life with Kadian ® (morphine sulfate sustained-release capsules) in patients with chronic non-malignant, moderate/severe pain: The KRONUS-MSP Trial; Poster Presentation at the American Society of Regional Anesthesia & Pain Medicine Meeting, 2004; Phoenix, Arizona
- "Patients With Chronic, Non-malignant, Moderate/Severe Pain Can Be Successfully Switched from Other Sustained-Release Morphine or Oxycodone Compounds to Kadian ® (morhine sulfate sustained-release capsules): The KRONUS-MSP Trial; Poster Presentation at the American Pain Society Meeting, 2004; Quebec, Canada
- "Assessing Quality of Life: Focus on Sustained-release Opioids"; 2004; The Royal Society of Medicine Press; The Clinical Journal of Pain
- "Assessing Pain: Focus on Sustained-release Opioids"; 2003; The Royal Society of Medicine Press
- "New Advances in Interventional Pain Management"; June 2003; Essentials of Pain Management for the Practicing Clinician; North Shore Long Island Jewish Health System; New York, New York

PRESENTATIONS & PUBLICATIONS continued

- "Non-Surgical Management of Back & Neck Pain"; February 2003; Institute of Continuing Legal Education in Georgia (I.C.L.E.)
- "The 10-Minute Examination for Low Back Pain"; *The Journal of Musculoskeletal Medicine;* December, 2002
- "Issues in Workers' Comp; Aggravation of a Pre-Existing Injury vs. a New Injury; 2002-2003; lectures to various organizations and insurance companies, locally and nationally
- "Non-Surgical Management of Low Back Pain"; 1999-2003; lectures to various organizations and insurance companies, locally and nationally
- "Management of Soft Tissue Injuries"; February 2002; Institute of Continuing Legal Education in Georgia (I.C.L.E.)
- "Non-Surgical Treatment for Low Back Pain"; August 1999; Georgia Annual Workers' Compensation Seminar, Atlanta; "Non-Surgical Treatment for Low Back Pain"; June
- 1998; Southeastern Society of Family Physicians Annual Meeting; Aruba
- "Non-Surgical Treatment for Low Back Pain"; October 1997, 1998, 2002; Georgia Academy of Family Physicians Annual Meeting; Atlanta, Georgia
- "Fibromyalgia and Workers' Compensation Injuries"; October 1997; GSIA Annual Meeting; Calloway Gardens, Georgia
- "Degenerative Spine Conditions; Non-Surgical Treatment of Back Pain"; August, 1997; Atlanta Arthritis Foundation
- Monthly seminars and lectures to insurance and industry on back pain and workers' compensation injuries; 1993-present
- **REHAB REVIEW**; Editor, quarterly newsletter on Orthopaedic Rehabilitation, 1994-2008
- "Rehabilitation of the Chronic Pain Patient"; April 1994; 6th International Congress Pain Clinic; Atlanta, Georgia
- "Rehabilitation of Neck and Shoulder Pain"; April 1994; 6th International Congress Pain Clinic; Atlanta, Georgia
- "Low Back Pain: Prevention and Management"; Monthly Seminars, September 1993-2006
- "Rehabilitation in the 90's"; August, 1993; presented at the Cobb County Women's Insurance Auxiliary Meeting
- "Functional Restoration Programs for Chronic Pain Management"; February, 1993; Presented at the Private Rehabilitation Suppliers of Georgia Seminar
- "Limb Lengthening by the Ilizarov Technique"; September 1991; Pediatric Ground Rounds at Mt. Washington Pediatric Hospital
- Brachial Plexus Injuries in Children"; February 1991; Grand Rounds at the National Rehabilitation Hospital
- "Public Policy Issues in Rehabilitation: A Model for Increased Resident Awareness"; <u>Archives of Physical Medicine and Rehabilitation</u>, September 1990
- "Public Policy Issues in Rehabilitation: A Model for Resident Participation"; May 1990; Presented at the Pennsylvania Society of PM&R Annual Meeting

RESEARCH EXPERIENCE

- Shionogi 1314V9231 A Randomized, Double-blind, Placebo-controlled, Parallel-group Study of XXXX in the Treatment of Opioid-induced Constipation in Subjects with Nonmalignant Chronic Pain Receiving Opioid Therapy (2013).
- Seikagaku Gel/1133 A Multi-Center, Randomized, Double-Blind, Phosphate Buffered Saline-Controlled Study to Evaluate Effectiveness and Safety of a Single Intra-Articular Injection of Gel-One® for the Treatment of Osteoarthritis of the Knee with Open-Label Safety Extension (2013).
- Seikagaku 6603/1131 A Multicenter, Randomized, Double-blind, Controlled, Comparative Study of SI-6603 in Patients with Lumbar Disc Herniation (2013).
- TEVA C33237/3104 A 6-Month, Open-Label, Extension Study to Evaluate the Safety of Hydrocodone Bitartrate Extended-Release Tablets (CEP-33237) at 15 to 90 mg Every 12 Hours for Relief of Moderate to Severe Pain in Patients With Chronic Low Back Pain (2013).
- TEVA C33237/3103 A 12-Week, Randomized, Double-Blind, Placebo-Controlled, Randomized-Withdrawal Study to Evaluate the Efficacy and Safety of Hydrocodone Bitartrate Extended-Release Tablets (CEP-33237) at 30 to 90 mg Every 12 Hours for Relief of Moderate to Severe Pain in Patients With Chronic Low Back Pain Who Require Opioid Treatment for an Extended Period of Time (2013).
- Collegium CP-OXYDET-08 A Phase 3, Multi-Center, Randomized, Double-blind, Placebo-Controlled, Safety, Tolerability, and Efficacy Study of Oxycodone DETERx[™] Versus Placebo in Opioid-Experienced and Opioid-NaiveSubjects with Moderate-to-Severe Chronic Low Back Pain (2013).
- Cubist 5945-OIC- 12-02: A Multicenter, Randomized, Double-Blind, Placebo-Controlled, Phase 3 Study to Evaluate the Efficacy and Safety of CB-5945 for the Treatment of Opioid Induced Constipation in Adults Taking Opioid Therapy for Chronic Non-Cancer Pain (2013).
- Cubist CB-5945 A Multicenter, Randomized, Double-Blind, Placebo-Controlled, Phase 3 Study to Evaluate the Long-Term Safety and Tolerability of CB-5945 for the Treatment of Opioid-Induced Constipation in Adults Taking Opioid Therapy (2013).
- Forest NAC-MD-01A Multicenter, Randomized, Double-blind, Placebo-Controlled, 8-Week Study toEvaluate the Safety and Efficacy of Nebivolol and Valsartan Given as a Fixed-Dose Combination in Patients With Stage 1 or 2 Essential Hypertension (2013).
- Pfizer A0081279, A Randomized Double Blind Placebo Controlled Parallel Group Study of the Efficacy and Safety of Pregabalin (BID) in Subjects with Post-Traumatic Peripheral Neuropathic Pain (2013).
- Endo EN3409-307 A Phase 3, Double-Blind, Placebo-Controlled, Multicenter, Randomized Withdrawal Study to Evaluate the Analgesic Efficacy, Safety, and Tolerability of BEMA Buprenorphine in Opioid-Experienced Subjects with Moderate to Severe Chronic Low Back Pain Requiring Around the Clock Opioid Analgesia for an Extended Period of Time (2013).

- Endo EN3409-308 A Phase 3, Double-Blind, Placebo Controlled Multicenter, Randomized withdrawal Study to Evaluate the Analgesic Efficacy, Safety and Tolerability of BEMA Buprenorphine in Opioid Naive Subjects with Moderate to Severe Chronic Low Back Pain Requiring Around the Clock Opioid Analgesia for an Extended Period of Time (2013).
- Sanofi ACT11917 Multinational, Multicenter, randomized double-blind, placebocontrolled, parallel-group study of efficacy and safety of SAR292833 administration for 4 weeks in patients with chronic peripheral neuropathic pain. (2012).
- Shionogi 1107V9221 A Randomized, Double-blind, Placebo-controlled, Parallel-group Study of XXXX S-297995 for the Treatment of Opioid-induced Constipation (OIC) in Subjects with Non-malignant Chronic Pain Receiving Opioid Therapy (2011)
- Purdue HYD3002 A Multicenter, Randomized, Double-blind, Placebo-controlled Study With an Open-label Run-in to Assess the Efficacy and Safety of XXXX (HYD) Tablets 20 to 120 mg Once-daily in Subjects with Moderate to Severe Chronic Low Back Pain (2011)
- Alkermes ALK37-007 A Phase 2 Randomized, Double-blind, Placebo-controlled, Study to Evaluate the Safety and Efficacy of ALKS 37 (100 mg) in Subjects with Opioid-induced Constipation (2011)
- Novartis CAIN457F2208 A multicenter, 12 week, randomized, double-blind, placebocontrolled biomarker study of secukinumab (AIN457) in rheumatoid arthritis patients followed by an open label extension.
- Purdue HYD3003 An Open-label Multicenter Study to Assess the Long-term Safety of Hydrocodone Bitartrate (HYD) Tablets 20 to 120 mg Once-daily in Subjects with Moderate to Severe Chronic Nonmalignant and Nonneuropathic Pain.
- Protocol ALO-02-10-3001 A Multicenter, 12-Month, Open-Label, Single-Arm, Safety Study of XXXX and XXXX in Subjects With Moderate to Severe Chronic Noncancer Pain. (Alpharma/King) 12/2010.
- Protocol C37247/1083 A Randomized, Double-Blind, Placebo-Controlled, Ascending-Dose Study to Evaluate the Safety and Efficacy of CEP-37247 Administered at Single Doses of 0.5, 1, 3, 6, or 12 mg by the Transforaminal Epidural Route for the Treatment of Patients With Lumbosacral Radicular Pain Associated With Disk Herniation. (Cephalon) 12/2010.
- Protocol C33237/3080 A 12-Month, Open-Label Study to Evaluate the Long-Term Safety of XXXX (CEP-33237) at 15 to 90 mg Every 12 Hours in Patients Who Require Opioid Treatment for an Extended Period of Time. (Cephalon) 12/2010.
- Protocol C33237/3079 A 12-Week, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy and Safety of XXXX Extended-Release Tablets (CEP-33237) at 15 to 90 mg Every 12 Hours for Relief of Moderate to Severe Pain in Patients With Osteoarthritis or Low Back Pain Who Require Opioid Treatment for an Extended Period of Time. (Cephalon) 12/2010.
- Protocol MNTX 3201 A Phase 3, Multicenter, Randomized, Double-blind, Placebocontrolled, Parallel-group Study of XXXX for the Treatment of Opioid-Induced Constipation (OIC) in Subjects with Chronic, Non-Malignant Pain. (Progenics) 11/2010.

- Protocol ZX002-0802 Phase 3 A Long-Term Open-Label Safety Study of XXXX Controlled-Release Capsules with Flexible Dosing to Treat Subjects with Moderate to Severe Chronic Pain. (Zogenix) 7/2010
- Protocol 42160443-PAI-2006 Phase 2b A Randomized, Double-Blind, Placebo and Active-Controlled Study to Evaluate the Efficacy, Safety and Tolerability of JNJ-42160443 as Monotherapy in Subjects with Moderate to Severe, Chronic Knee Pain from Osteoarthritis. (Johnson & Johnson PR&D) 06/2010
- Protocol ZX002-0801 A Randomized Double-Blind, Placebo-Controlled Trial to Evaluate the Efficacy, Tolerability and Safety of XXXX Controlled-Release Capsules in Opioidexperienced Subjects with Moderate to Severe Chronic Low Back Pain. (Zogenix) 4/2010
- Protocol R331333PAII3027 Phase 3 A Randomized-Withdrawal, Placebo-Controlled, Study Evaluating the Efficacy, Safety, and Tolerability of XXXX (ER) in Subjects With Chronic, Painful Diabetic Peripheral Neuropathy (DPN). (Johnson & Johnson PR&D) 11/2009
- Protocol 44CL240 Phase 2a A Randomized, Double-Blind, Placebo and Active controlled, Parallel group, Multicenter Study Evaluating the Analgesic Efficacy and Safety of ADL5859 and ADL5747 in Subjects With Moderate to Severe Pain Due to Osteoarthritis of the Knee. (Adolor Corporation) 10/2009
- Protocol 2009-03 EXXTEND Trial A 26-Week, Double-Blind, Randomized, Placebo-Controlled Study of the Efficacy and Safety of Single Intr-Articular Injection XXXX for Treatment of Painful Osteoarthritis of the Knee, With Optional 26-Week Open-Label Safety Extension. (Ferring Pharmaceuticals). 8/2009.
- Protocol EUF-SHO-0001 Case Study A Single-Bloind, Open-Label Study of Three Injections Of Sodium Hyaluronate for the Treatment of Chronic Shoulder Pain Associated with Arthritis. (Georgia Insitute for Clinical Research, L.L.C. -Arnold J. Weil, M.D.) 8/2009.
- Protocol CARISNPP2003 Phase 2b. A Randomized, Double-Blind, Placebo and Active-Contriled Study of XXXX in the Treatment of Neuropathic Pain in Diabetic Peripheral Neuropathy Followed by a Blinded Extension Phase. (Johnson & Johnson PR&D) 4/2009.
- Protocol R331333-PAI-3020 A phase 3b, randomized, double-blind, placebo- and active- controlled, parallel-arm, multicenter study in subjects with end stage joint disease to compare the frequency of constipation symptoms in subjects treated with XXXX and Oxycodone IR using a bowel function patient diary. (Johnson and Johnson PR&D). 10/2008.
- Protocol R331333-PAI-3024 Study for the validation of the BF-Diary for Assessing Opioid-Induced Constipation. (Johnson and Johnson PR&D). 10/2008.
- Protocol No. CL-033-III-06 Multicentre, Randomized, Double-Blind, Placebo-Controlled Study of Safety and Efficacy of Epicutaneously applied Diractin® (ketoprofen in Transfersome gel®) For the Treatment of Osteoarthritis of the Knee. (IDEA/ Chiltern). 5/2008.

- Protocol No. XP110448 A Dose-Response Study of XP13512, Compared With Concurrent Placebo Control and Pregabalin (Lyrica®), in Subjects With Neuropathic Pain Associated With Diabetic Peripheral Neuropathy (DPN). (GlaxoSmithKline) 3/2008.
- Protocol No. NMT 1077-302 A Phase III, Flexible-Dose Titration Followed by a Randomized Double-Blind Study of Controlled-Release OROS Hydormorphone HCI (NMED-1077) Compared to Placebo in Patients with Osteoarthritis Pain. (Neuromed / PPD Development). 2/2008.
- Protocol TD-07-14: The efficacy and safety of TDS-943 in the treatment of osteoarthritis of the knee: Pivotal Study II. (Wyeth Consumer Healthcare). 10/2007
- Protocol No. R331333-PAI-301- Open-Label Extension, Single-Arm, Flexible-Dosing, Phase III Trial with CG5503 Extended-Release (ER) in Subjects with Moderate to Severe Chronic Pain. (Johnson & Johnson PRD). 11/2007.
- Protocol No. BUP3025: A Multi-center, Randomized, Double-blind, Placebo-controlled Study with an Open-label Run-in Assess the Efficacy, Tolerability, and Safety of BTDS 10 or BTDS 20 Compared to Placebo in Opioid-naïve Subjects with Moderate to Severe, Chronic Pain due to Osteoarthritis of the Knee. (Purdue Pharma / PRA International) 10/2007.
- Protocol No. SPI/0211OBD-0631: A multi-center, Randomized, Placebo-Controlled, Double-Blinded Study of the Efficacy and Safety of Lubiprostone in Patients with Opioid-induced Bowel Dysfunction. (Sucampo/Covance). 10/2007.
- Protocol No. SPI/0211OBD-06S1: A multicenter, open-labled study of the long-term Safety and Efficacy of Lubiprostone in Patients with Opioid-induced Bowel dysfunction. (Sucampo/Covance). 2007.
- Protocol No. 3200K1-3356-WW: A Multi-center, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study of Subcutaneous MOA-728 for the Treatment of Opioid-Induced Constipation in Subjects with Chronic Non-Malignant Pain. (Wyeth). 2007.
- Protocol No. NAL-20: Randomized, double blind placebo controlled dose escalation study of the analgesic efficacy of Nalbuphine-ER in patients with Chronic Pain Secondary to Osteoarthritis of the Knee/Hip. (Penwest Pharmaceuticals Co. / i3 Research). 2007.
- Protocol No. HTF919N2302, entitled "An open label 52-week study to evaluate the safety and efficacy of tegaserod (6 mg b.i.d. and 12 mg o.d.) given orally for the treatment of opioid-induced constipation (OIC) in patients with chronic non-cancer pain (Novartis). 2007.
- Protocol No. ALO-KNT-302. A Long-Term, Open-Label, Safety Study of Kadian NT (Morphine Sulfate Plus Naltrexone Hydrochloride Extended-Release) Capsules in Subjects with Chronic Moderate to Severe Nonmalignant P ain. (Alpharma / INC Research). 2006.

- Protocol No. ALO-KNT-301. A Multicenter, Randomized, Placebo-Controlled, Phase 3 Efficacy Study of Kadian NT(Morphine Sulfate Plus Naltrexone Hydrochloride Extended-Release) Capsules in Subjects with Moderate to Severe Chronic Pain Due to Osteoarthritis of the Hip or Knee. (Alpharma / INC Research) 2006.
- Protocol No. R331333-PAI-3011 A Randomized Double-Blind, Placebo- and Active-Control, Parallel-arm, Phase III Trial with Controlled Adjustment of Dose to Evaluate the Efficacy and Safety of CG5503 Extended-Release (ER) in Subjects with Moderate to Severe Chronic Low Back Pain. Protocol (Johnson & Johnson PRD). 2007.
- Protocol No. 3200A3-200-WW A Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study of Oral MOA-728 For the Treatment of Opioid-Induced Bowel Dysfunction in Subjects With Chronic Non-Malignant Pain (Wyeth Pharmaceuticals). Phase II. 7/200
- Protocol No. EN3269-302 A Randomized, Double-Blind, Placebo-Controlled, Parallel Group Phase III Study of the Efficacy, Tolerability and Safety of Ketoprofen Topical Patch (KTP) in the Treatment of Pain Associated with Tendonitis or Bursitis of the Shoulder, Elbow or Knee (Endo Pharmaceuticals / PPD Development). 6/2006.
- "A Randomized, Double-Blind, Placebo-Controlled, Multicenter Phase 3 Study to Evaluate the Efficacy and Safety of Alvimopan 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 (9/2005) SB-767905/012
- 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. (9/2005) SB-767905/014
- A Randomized, Multicenter, Double-Blind, Placebo-Controlled, Two-Week Study to Assess the Safety and Efficacy of HKT-500 in Subjects with Pain from Moderate Lateral Epicondylitis. (6/2005). HKT-500-US05.
- A Randomized, Multicenter, Double-Blind, Placebo-Controlled, Two-Week Study to Assess the Safety and Efficacy of HKT-500 in Subjects with low back pain. (6/2005). HKT-500-US04.
- A Phase III Pivotal, Multi-center, Double-Blind, Randomized, Placebo-Controlled Monotherapy Study of (Study Drug) for Treatment of Fibromyaligia. Forest Laboratories / Scirex. (MLN-MD-02), Oct. 2004
- A Mutli-Center, Randomized, Double-Blind, Placebo Controlled, Parallel Comparison of the Efficacy and Safety of Fixed-Dose Extended Release Hydrocodone Bitartrate / Acetaminophen in the Relief of Moderate to Moderately Severe Chronic Osteoarthritis Pain of the Hip or Knee (Phase III) PPD Development / Watson Laboratories (Protocol HA03028), Aug. 2004

A Randomized, Double-Blind, Placebo-Controlled, Multicenter Phase IIb Study to Evaluate the Efficacy and Safety of Multiple Alvimopan Dosage Regimens for the Treatment of Opioid-Induced Bowel Dysfunction in Subjects with

Chronic Pain of Non-Malignant Origin; GlaxoSmithKline; Aug. 2004

- A Multicenter, Randomized, Double-Blind, Active Comparator Study to Determine the Efficacy and Safety of BTDS 20 and OxyIR® versus BTDS 5 in Subjects with Moderate to Severe Osteoarthritis (OA) Pain. Purdue Pharma. /2004 (BUP3019)
- Flexeril® Community Based Study. Kendle / McNeil. 3/2004 (Protocol 19-401).
- A Randomized, Parallel-Design, Multicenter Study To Evaluate The Efficacy of Avinza® vs Oxycontin® For The

Treatment of Chronic Low Back Pain. Scirex / Organon. 3/2004 (Protocol 178900)

- A Phase III, Randomized, Double-Blind, Fixed Dose, Parallel-Group Comparison of Controlled-Release Hydromorphone Hydrochloride (HCL) vs. Placebo in Subjects With Osteoarthritis; Abbott / Scirex, 1/2004 (M03-644)
- A 4 Week, Randomized, Double-Blind, Placebo Controlled, Parallel Group, Multicenter Study of SD-6010 in Subjects With Symptomatic Osteoarthritis of the Knee; Pfizer, 1/2004 (A6171009)
- A Multicenter, Randomized, Double-Blind, Active Comparator Study to Determine the Efficacy and Safety of BTDS 20 and Oxy IR®vs. BTDS 5 in Subjects With Moderate to Severe Osteoarthritis (OA) Pain; Purdue Pharma, 1/2004 (3019)
- A Phase IIIb, Open-Label, Multicenter Study to Evaluate the Safety of 1.0 mg./kg. Subcutaneously Administered Efalizumab (Raptiva) in Adults with Moderate to Severe Plaque Psoriasis, Including Those Who Are Receiving Concomitant Antipsoriatic Therapies or Have Recently Transitioned From Systemic Therapies. Genetech Inc./ Parexel 1/2004 (ACD2782g)
- A Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Multicenter Study to Determine the Efficacy and Safety of the Buprenorphine Transdermal Delivery System (BTDS) in Subjects with Moderate to Severe

Osteoarthritic Pain of the Hip or Knee. Purdue Pharma. 8/2003. (BUP3012)

- An Open-Label, Long-Term Effectiveness and Safety of Oxymorphone Extended Release Tablets in Patients with Cancer or Neuropathic Pain. Endo Pharmaceuticals Inc., 8/2003. (EN3202-029)
- A Randomized, Double-Blind, PlaceboControlled Multicenter Study of the Analgesic Efficacy of Celecoxib Compared to Placebo in Patients With Chronic Low Back Pain; Pfizer; 2003 (KND073)
- An Open-label, Large Sample Usual Care Study of the Effect of Adding Rofecoxib 50mg. to a Regimen of Selected Opioid Analgesic PRN in Patients Undergoing Selected Outpatient Surgical Knee Arthroscopy Procedures; Merck; 2003
- A Randomized, Double-Blind, Parallel-Group, Active-Controlled, Placebo-Controlled, Multicenter Trial to Study the Efficacy and Safety of Cyclobenzaprine HCl Modifiedrelease (CMR) 15 mg and 30 mg in Subjects with Pain due to Muscle Spasms of Local Origin; ECR Pharmaceuticals: 2002-2003 (IBA033)

- A Three-arm Study Comparing the Analgesic Efficacy & Safety of Tramadol HCl OAD Tablets at doses of 100 mg or 200 mg and Placebo for the treatment of Pain due to Osteoarthritis of the Knee; Merck; 2002-2003 (MCK033)
- A 12-week Randomized, Placebo- and Active Comparator-Controlled, Parallel-Group, Double-Blind Study to Assess the Safety and Efficacy of Etoricoxib 30 mg Versus Ibuprofen 2400 mg in Patients With Osteoarthritis; 2003
- A Randomized, Double-Blind, Placebo-Controlled, Multicenter Study to Determine the Efficacy and Safety of BTDS in Subjects With Moderate to Severe Chronic Osteoarthritis Pain of the Hip or Knee; BUP 3012; Purdue Pharma; 2003 (PRD012)
- Safety Evaluation of D-TRANS® Fentanyl with Naltrexone HCL in Opioid-Tolerant Patients; Johnson & Johnson; 2003 (JJX004 / JJX007)
- A Usual Care, Multicenter, Open-Label, Randomized, 4-Month Parallel-Group Trial to Compare the Impact of Therapy with OxyContin ® (Controlled-Release Oxycodone) vs. Usual Care (Percocet ®) on Health Outcomes and Resource Utilization in Subjects with Moderate to Severe Osteoarthritis Pain of the Hip or Knee; Purdue Pharma; 2002 (COV056)
- A Randomized, Double-Blind, Multicenter Study to Evaluate the Tolerability and Effectiveness of Entoricoxib 90 mg. qd vs. Diclofenac 50 mg. tid in Patients with Osteoarthritis; Merck; 2002 (MC029)
- A Randomized, Double-Blind, Active-Comparator-Controlled, Parallel-Group Study to Evaluate the Safety of Etoricoxib Phase II Study on Analgesic Efficacy, Safety, and Tolerability of AZD3582: A 6 Week, Double Blind, Randomized, Placebo-Controlled, Dose-Finding, Multicentre Study Comparing AZD3582 with Rofecoxib (Vioxx ®) in Subjects With Osteoarthritis of the Hip or Knee; Astra Zeneca; 2002 (ZEN010)
- A Multicenter, Randomized, Double-Blind, Active- and Placebo-Controlled. Phase II Dose Escalation, Efficacy and Safety Study of Oxycodone HCL and Low-Dose Naltrexone-HCL in Patients with Moderate to Severe Chronic Pain Due to Osteoarthritis of the Hip or Knee; ECR Pharmaceuticals; 2002 (SCX038)
- Kronus-MSP Trial; Response of Non-Malignant, Under-treated Subjects with Moderate/Severe Pain; Faulding; 2002
- Kronus-MSP Companion Trial; Response of Non-Malignant, Under-treated Subjects with Moderate/Severe Pain; Faulding; 2002
- A 12 Week Randomized, Double-Blind, Placebo-Controlled, Multicenter Study of Analgesic Efficacy of XXXXX Compared to Placebo in Patients with Chronic Low Back Pain; Pharmacia UpJohn; 2002 (PUJ048)
- Dose Escalation of XXXX vs. Morphine in Opioid-Responsive Chronic Pain Patients; Endo Parmaceuticals; 2001 (KND035)
- 12-Month Rollover Extension Study for KND035; Endo Parmaceuticals; 2002 (KND039)
- A Comparison of XXX and XXX for the Treatment of Chronic Non-Malignant Pain; 1999

- A Double-Blind, Placebo Controlled, Parallel-Group, 12 Week Trial to Assess the Efficacy and Safety of XXX in Patients with Chronic Low Back Pain; 2000
- * Primary Investigator for national clinical trials with various pharmaceutical companies; 2000-2003; nTouch Research
- * CEO / Principal Investigator with Non-Surgical Orthopaedics, P.C. , Department of Research; 2003 present

ACADEMIC CONFERENCES

MAGI Clinical Research Symposium; Las Vegas, NV October 2013 MAGI Clinical Research Symposium; San Diego, CA October 2012 AAPM&R 2009 Annual Meeting; Atlanta, GA; November, 2012 AAPM&R 2009 Annual Meeting; Austin, Texas; November, 2009 Pain Week 2009; Las Vegas, Nevada; October 2009 Southern Medical Association (SMA) 99th Annual Scientific Assembly; November, 2005; San Antonio, Texas American Academy of Physical Medicine & Rehabilitation (AAPM&R) 66th Annual Assembly; October 2005; Philadelphia, PA 2005 Annual Scientific Meeting of the American Geriatrics Society; May, 2005; Orlando, FL American Society of Regional Anesthesia & Pain Medicine Annual Fall Meeting; Phoenix, AZ; November 2004 American Pain Society Annual Meeting; Vancouver, Canada; May 2004 Orthopaedic MRI National Symposium; Las Vegas, Nevada; April 2003 IntraDiscal ElectroThermal Therapy Training Workshop; Nashville, TN; March, 2000 American Back Society Annual Meeting; Las Vegas, Nevada; December 1999 UCLA Medical Acupuncture for Physicians; Los Angeles, California; May 1999; Washington D.C.; October 1999 Interventional Pain Management Techniques-Intensive; Atlanta, Georgia; April 1998 AAPM&R 1997 Annual Meeting; Atlanta, Georgia The Pain Clinic, 7th International Symposium; Istanbul Turkey; October 1996 AAPM&R 1995 Annual Meeting; Orlando, Florida International Spinal Injection Society Lumbar Fluoroscopic Injection Workshop; San Francisco, CA; March 1995 Pain Management: Alaska Anesthesia Symposium; Anchorage, Alaska; August 1994 American Back Society/University of Montreal: Cost Effective Back Care; Montreal, Canada; June 1994 6th International Congress-Pain Clinic; Atlanta, Georgia; April 1994 Ohio State University College of Medicine Bonica Pain Conference; Maui, Hawaii; April 1994 American Back Society/San Francisco Spine Center: Cost Effective Back Care; San Francisco, CA; December 1993

ACADEMIC CONFERENCES continued

AAPM&R 1991, 1993 Annual Meetings; (Washington D. C. and Miami, Florida) Exercise Rehabilitation of the Spine; University of Florida; June 1993 Principles of Manual Medicine; Michigan State University College of Osteopathic Medicine;

PROFESSIONAL ASSOCIATIONS AND MEMBERSHIPS

Fellow, American Academy of Physical Medicine and Rehabilitation American College of Physician Executives American Association of Electrodiagnostic Medicine American Academy of Disability Evaluating Physicians American Medical Association American Association of Orthopaedic Medicine International Spinal Injection Society American Academy of Pain Medicine Georgia Society of PM&R Medical Association of Georgia Medical Association of Atlanta **Cobb County Medical Society** American College of Physicians and Surgeons American Osteopathic Academy of Sports Medicine Association of American Physicians and Surgeons American Back Society North American Spine Society

HOSPITAL AFFILIATIONS

Kennestone Wellstar Hospital Northside Hospital St. Joseph's Hospital Wellstar Hospital at Windy Hill Marietta Surgical Center Health South Surgery Center of Atlanta The Center for Spine Procedures, PC

PROCEDURES

Electrodiagnostic testing (EMG/NCS) Cervical, thoracic, and lumbar epidural steroid injections Transforaminal selective nerve root injections Cervical, thoracic, and lumbar facet injections Lumbar sympathetic nerve blockade Lumbar and thoracic discography Lumbar spinal endoscopy / lysis of adhesions Intra-articular injections, including Prolotherapy Trigger point and Botox injections Medical Acupuncture Annuloplasty / IntraDiscal ElectroThermal Therapy (IDET) Lumbar Percutaneous Discectomy via Nucleoplasty, Disc Dekompressor, ElectroThermal Disc Decompression Prolotherapy Platelet Rich Plasma (PRP) Injections

ADDITIONAL AREAS OF EXPERTISE

Ergonomic assessments Independent Medical Evaluations Medical Record and Peer Reviews Impairment and Disability Evaluations Expert Witness and Medical Consultations Media relations and public speaking

PROFESSIONAL ENDEAVORS

Developed international musculoskeletal and spine fellowship program. Focus is on diagnostic evaluation, injection procedures, and non-surgical orthopaedic care. 2000-present

Social Media and Professional Marketing

Nationally recognized speaker on The Non-Surgical Management of Back Pain.

Nationally recognized speaker on New Advances in Pain Management

Medical Consultant and National Speaker for numerous Pharmaceutical Companies

Founded *Georgia Institute for Clinical Research LLC,* conducting Phase II, III, IV Clinical Trials with pharmaceutical companies