

Conor O'Neill, M.D.
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Education

1981: Bachelor of Arts, Biology (summa cum laude), College of St. Thomas, St. Paul, Minnesota

1985: Doctor of Medicine, Washington University, St. Louis, Missouri

1985-1986: Intern, Internal Medicine, Duke University Medical Center, Durham, North Carolina

1986-1988: Resident, Internal Medicine, Barnes Hospital, St. Louis, Missouri

1988-1991: Resident, Anesthesiology, Massachusetts General Hospital, Boston, Massachusetts

Board Certification and Medical Licensure

1988: American Board of Internal Medicine

1992: American Board of Anesthesiology

1996-2006 American Board of Anesthesiology Subspecialty Certification in Pain Management, (recertification pending)

State of California Medical License G084882

Academic Appointments

July 1991-October 1991: Senior Associate Consultant in Anesthesiology, Mayo Clinic, Rochester, MN

September 2001 to present: Assistant Clinical Professor, Dept. of Radiology, University of California San Francisco, San Francisco, CA

Employment

November 2003- present: San Francisco Spine Diagnostics, San Francisco, CA

October 1998- November 2003: Spinal Diagnostics & Treatment Center, Daly City, CA

September 1997- September 1998: Comprehensive Spine Diagnostics, P.A., Minneapolis, MN

October 1991- September 1997: Associated Anesthesiologists, P.A., St. Paul, MN

July 1991-October 1991: Mayo Clinic, Department of Anesthesiology, Rochester, MN

Professional Memberships

International Society for Study of Lumbar Spine

North American Spine Society (Member of Non-Operative Coding Committee 1999 – 2003, Member Clinical Guidelines Committee 2003- present)

International Spinal Injection Society (Member Research Committee 2003- 2005)

International Intradiscal Therapy Society

American Back Society Chairman of the Committee on Pain Management 1999 – 2004

San Francisco Medical Society

Scientific Advisory Boards

2000-2002, 2007-present: Arthrocare Corp.

2006-present: Kyphon

2005-present: Relieva Corp.

Editorial Boards

2001 to present: *The Spine Journal* Advisory Editorial Board

2005: Abstract grader, Section on Diagnostics, North American Spine Society annual meeting

2004: Abstract grader, Section on Diagnostics, North American Spine Society annual meeting

2001: Abstract grader, Section on Diagnostics, North American Spine Society annual meeting

Research Grants

Effects of Nucleoplasty on Pathophysiology of Pain in an Animal Model of Disc Degeneration.

Principle Investigator: Jeffrey Lotz, Ph.D.

Co-principle Investigator: Conor O'Neill, M.D.

Funding Source: University of California Biostar Program (with private sponsor Arthrocare Corporation)

Amount: \$145,920.30

Period: January 18, 2002 - January 17, 2003

Regulation of Pro-Inflammatory Mediators and Their Effects on Intervertebral Disc Cells by Glucosamine and Chondroitin Sulfate.

Principle Investigator: Jeffrey Lotz, Ph.D.

Funding Source: International Spinal Intervention Society

Amount: \$30,000.00

Period: January 1, 2005 - January 1, 2006

Administrative Appointments

1998-2003: Director of Research and Development, Spinal Diagnostics and Treatment Center, Daly City, CA

2000-2002: Medical Director, Santa Rosa Ambulatory Surgical Center, Santa Rosa, CA,

1997-1998: Medical Director of Spine Rehabilitation Program, Spectrum Physical Therapy, St. Paul, MN

1995-1997: Assistant Medical Director, United Pain Center, St. Paul, MN

July 1988-December 1988: Interim Director, Intensive Care Unit, Barnes/St. Peters Hospital, St. Louis, MO

Invited Talks

Discography: A Fair and Balanced View. University of California, San Francisco Spine Day 2006, April 28-29, 2006.

Sacroiliac joint injections. North American Spine Society Lumbar Spinal Injections: a Hands on Course, Feb 17-18, 2006, Memphis, TN.

Diagnostic Testing: Discograms. North American Spine Society Annual Meeting, October 27-30, 2004, Chicago, Illinois.

Biology of Minimally Invasive Intradiscal Therapies. North American Spine Society Spring Meeting, April 22-24, 2004, Boca Raton, FL.

Biochemical Treatments for Discogenic Pain. American Back Society Annual Symposium on Advanced Diagnosis and Treatment for Neck and Back Pain, November 13-15, 2003, Las Vegas, Nevada.

Interventional Pain Management. American Back Society Annual Symposium on Advanced Diagnosis and Treatment for Neck and Back Pain, November 13-15, 2003, Las Vegas, Nevada.

Advances in Minimally Invasive Plasma Discectomy. Spine Society of Europe 5th Annual Meeting, Prague, Czech Republic, October 1-4, 2003.

Radiographic Evaluation of the Spine. Spinal Diagnostics and Treatment Center Symposium, Soft Tissue Injuries of the Spine: New Concepts in Diagnosis and Treatment, San Francisco, CA, July 18-19, 2003.

Minimally Invasive Therapies. Spinal Diagnostics and Treatment Center Symposium, Soft Tissue Injuries of the Spine: New Concepts in Diagnosis and Treatment, San Francisco, CA, July 18-19, 2003.

Intra-Articular Regenerative Injection Therapy for Whiplash . American Association of Orthopedic Medicine 20th Annual Conference and Scientific Seminar. April 30-May 3, 2003, Orlando, FL.

Discography in the Failed Back Surgery Syndrome, North American Spine Society Annual Meeting, Montreal, Canada, October, 2002.

Percutaneous Discectomy using Nucleoplasty. Isis 10th Annual Scientific Meeting Austin, Texas. September 6-8, 2002.

The Disc Injection Procedure. A Seminar on Spinal Disc Disease. Spinal Diagnostics and Treatment Center in association with The American Association of Orthopedic Medicine and Arthrocare Spine. Daly City, California. August 24th, 2002.

Pathophysiology of Disc Disease. A Seminar on Spinal Disc Disease. Spinal Diagnostics and Treatment Center in association with The American Association of Orthopedic Medicine and Arthrocare Spine. Daly City, California. August 24th, 2002.

Update on Discography. The American Academy of Neurologic & Orthopedic Surgeons, 26th Scientific Meeting, Las Vegas, Nevada. August 14-17, 2002.

Interventional Treatment for Cervical Disorders. The Florida Academy of Pain .2002 Annual Conference. Orlando, Florida, May 30th-June 2nd, 2002.

ISIS Protocols for LBP in View or Current Research. The Florida Academy of Pain. 2002 Annual Conference. Orlando , Florida . May 30th-June 2nd, 2002.

Coblation Nucleoplasty for Discogenic Pain. Jubilee-20th Course For Percutaneous Endoscopic Spinal Surgery and Complimentary Techniques. Zollikerberg/Zurich, Switzerland, January 24-25, 2002.

Minimally Invasive Therapy: Spine care through the Needle . 4TH Interdisciplinary World Congress on Low Back and Pelvic Pain. Montreal, Canada, November 8-10, 2001.

Cervical Discography and the Dynamic Internal Disc Model. 7th Mckenzie Institute International Conference. Ottawa, Ontario, Canada, August 17-19, 2001.

The Neurophysiology of Discography. 7th Mckenzie Institute International Conference. Ottawa, Ontario, Canada, August 17-19, 2001.

Nucleoplasty: a Minimally Invasive Option for Percutaneous Disc Decompression. International Symposium On Intervertebral Disc Replacement And Non-Fusion-Technology. Munich, Germany May 3-5, 2001.

Arthrocare - The Continuing Effort for Understanding and improved Treatment. Workshop of American Association of Orthopedic Medicine in association with Arthrocare. Daly City, California, February 23 – 25, 2001.

Treatment of Thoracic Disc and Faset Joint Disease. Workshop of American Association of Orthopedic Medicine In association with Arthrocare. Daly City, California, February 23 – 25, 2001.

Nucleoplasty: a Minimally Invasive Treatment for Contained Herniated discs. International Course for Percutaneous Endoscopic Spinal Surgery and Complimentary Techniques. Zurich, Switzerland, January 25 – 26, 2001.

Discography and Annulography – New Information for Identification of the Pain Generators. Advanced Diagnosis and Treatment for Neck and Back Pain 2000. Meeting of American Back Society, Vancouver, Canada, December 7-9, 2000.

Spinal Injection Techniques for Diagnosis and Treatment – the Search for the Pain Generator. Advanced Diagnosis and Treatment for Neck and Back Pain 2000. Meeting of American Back Society, Vancouver, Canada, December 7-9, 2000.

Intradiscal Electrothermoplasty (IDET) and Neucleoplasty. Advanced Diagnosis and Treatment for Neck and Back Pain 2000. Meeting of American Back Society, Vancouver, Canada, December 7-9, 2000.

Clinical Epidemiology of Lumbar Discography. Spine Conference, Department of Orthopedic Surgery, University of California San Francisco, San Francisco, California, November, 6, 2000.

Mechanisms of Spinal Pain. 29th Annual Scientific Seminar of the Santo Tomas Hospital, Panama City, Panama, September 20-23, 2000.

Diagnosis and Treatment of Neck Pain. 29th Annual Scientific Seminar of the Santo Tomas Hospital, Panama City, Panama, September 20-23, 2000.

Diagnostics and Treatment of Spinal Pain. Annual Meeting of the Nordic Institute for Chiropractic and Clinical Biomechanics, Copenhagen, Denmark, September 2-3, 2000.

Discography: Case studies. Discography, International Spinal Injection Society Workshop, Cambridge, MA. June 17-18, 2000.

Pathophysiology of Whiplash Pain and Cervicogenic Headache. Annual Meeting of the American Academy of Orthopedic Medicine, Amelia Island, Florida, May 4-6, 2000.

Internal Disc Disruption: Ongoing Research in Diagnostics and Treatment. Annual Meeting of the American Academy of Orthopedic Medicine, Amelia Island, Florida, May 4-6, 2000.

Lumbar & Thoracic Injection: Case studies. Lumbar & Thoracic Spine, International Spinal Injection Society Workshop, Salt Lake City, UT April 1-2, 2000

Precision Injection Techniques. Annual meeting of the American Back Society, Las Vegas, NV, December, 1999.

Intradiscal Electrothermal Annuloplasty. Annual meeting of the American Back Society, Las Vegas, NV, December, 1999.

Discography: Indications & Technique. Discography, International Spinal Injection Society Workshop Memphis TN November 20-21, 1999

Drug Doses and Interactions – Patient Risks. Lumbar Spine, Workshop Using Cadavers for the California Society of Anesthesiologists. Santa Monica, California. September 18-19, 1999.

Cervical Epidural Steroid Injections. Annual Meeting of the International Spinal Injection Society, Las Vegas NV, September 23, 1999.

Discography: Indications & Technique. International Spinal Injection Society anatomical workshop, Discography: An Advanced Cadaveric Workshop, Daly City, California, November 21-22, 1998.

Scientific Abstracts

Liu J, O'Neill C, Demir-Deviren S, Lotz JC. The Effects of Glucosamine and Chondroitin on Human Disc Cells in-Vitro. Oral presentation, International Spinal Intervention Society Annual meeting, July 14-15, 2006, Salt Lake City, Utah.

Kee-Won Ryu, M.D.; Andrew Walsh, PhD; Conor O'Neill, MD; Jeffrey C Lotz, PhD; David S Bradford, M.D.. Tissue Ablation has a Direct Biologic Effect on Pro-Inflammatory Mediator Production by Disc Cells. Poster presentation, 33rd Annual Meeting of the International Society for Study of Lumbar Spine, Bergen, Norway, June 13-17, 2006.

Lisi AJ, O'Neill CW, Lindsey DP, Cooperstien R, Morschauser E, Zucherman J.. In-Vivo Measurement of Lumbar Intervertebral Disc Pressure During Spinal Manipulation. Poster presentation, 33rd Annual Meeting of the International Society for Study of Lumbar Spine, Bergen, Norway, June 13-17, 2006.

O'Neill CW, Kurgansky M, Kaiser J. High Intensity Zone and Bone Marrow Signal Intensity Change Have No Effect on the Accuracy of MRI. Poster presentation, 33rd Annual Meeting of the International Society for Study of Lumbar Spine, Bergen, Norway, June 13-17, 2006.

Walsh, A, Rhyu, K-W, O'Neill, C, Lotz, J C. Coblation Alters Production of Inflammatory Agents and Heat Shock Protein by Intervertebral Disc Cells in Vitro. Oral presentation, International Spinal Injection Society Annual meeting, Sept 8-11, 2004, Maui, Hawaii.

Walsh, A, O'Neill, C, Lotz, J C. Glucosamine Suppresses Cytokine Secretion From Intervertebral Disc Cells In- vitro. Oral presentation, Annual Meeting of the International Society for Study of Lumbar Spine, Porto, Portugal, 2004.

Walsh, A, O'Neill, C, Lotz, J C. Glucosamine Suppresses Cytokine Secretion From Intervertebral Disc Cells In- vitro. Poster presentation, Annual Meeting of the Orthopedic Research Society, San Francisco, CA, 2004.

O'Neill, C.W., Liu, J.J., Leibenberg, E., Hu, S.S., Deviren, V., Tay, B. K-B., Chin, C.T., and Lotz, J.C.. Percutaneous Plasma Decompression Alters Cytokine Expression in Injured Porcine Intervertebral Discs. Oral presentation, Spine Arthroplasty 3, Global Symposium on Intervertebral Disc Replacement and Non-Fusion Technology, May 1-3, 2003, The Phoenician Resort, Scottsdale, AZ.

O'Neill, C.W., Liu, J.J., Leibenberg, E., Hu, S.S., Deviren, V., Tay, B. K-B., Chin, C.T., and Lotz, J.C.. Percutaneous Plasma Decompression Alters Cytokine Expression in Injured Porcine Intervertebral Discs. Oral presentation, International Spinal Injection Society Annual meeting, August 1-3, 2002, Orlando, FLA.

O'Neill, C.W., Liu, J.J., Leibenberg, E., Hu, S.S., Deviren, V., Tay, B. K-B., Chin, C.T., and Lotz, J.C.. Percutaneous Plasma Decompression Alters Cytokine Expression in Injured Porcine Intervertebral Discs. Poster presentation, Spine Society of Europe 5th Annual Meeting, Prague, Czech Republic, October 1-4, 2003.

Lotz, J.C., Liu, J.J., Hu, S.S., Tay, B. K-B., and O'Neill, C.W.. Cytokines in Normal, Degenerated, and Nucleoplasty-treated Porcine Discs. Poster presentation, 30th Annual meeting of the International Society for the Study of the Lumbar Spine, Vancouver, Canada, May13-17, 2003.

O'Neill C, Kaiser J, Derby R, Coe J, Howard M, Lettice J, Pappas P, Kurgansky M, Ryan D.. Pain Thresholds on Discography: An Examination of the Distension Pressure Clustering Across Intervertebral Discs. Poster presentation, 29th Annual meeting of the International Society for the Study of the Lumbar Spine, Cleveland, USA, May14-18, 2002.

O'Neill C, Kaiser J, Derby R, Coe J, Howard M, Lettice J, Pappas P, Kurgansky M. MRI Findings as Predictors of Discography Results. Poster presentation, 28th Annual meeting of the

- International Society for the Study of the Lumbar Spine, Edinburgh, Scotland, June 21-23, 2001
- Lettice J, Kula, T, Kelley J, Kutner J, Derby R, O'Neill C, Owen B. Long-term Outcome of Circumferential Reconstructive Surgery of the Lumbosacral Spine. Poster presentation, 28th Annual meeting of the International Society for the Study of the Lumbar Spine, Edinburgh, Scotland, June 21-23, 2001
- O'Neill C, Derby R, Berquam J, Ryan D. Mechanisms of Leg Pain in Patients with Intervertebral Disc Disorders: Referred Pain Resulting from Intradiscal Thermal Stimulation. Poster presentation Annual meeting of the American Association of Neurological Surgeons, San Francisco, California, April 8-13, 2000.
- O'Neill C, Derby R, Eek B, Kenderes L. Provocative Annulography for the Diagnosis of Outer Annular Lesions. Poster presentation Annual meeting of the American Association of Neurological Surgeons, San Francisco, California, April 8-13, 2000.
- O'Neill C, Derby R, Kaiser J, Coe J, Howard M W, Lettice JJ, Pappas P, Ryan D. Intradiscal Pressure and Pain Provocation on Discography: Correlation with MRI Findings. Oral presentation, Annual Meeting of North American Spine Society, New Orleans , October 25-28, 2000.
- O'Neill C, Yerby S, Derby J, Derby R. Effects of External Compressive Loads and Loads Resulting From Discography on Annular Stresses of the Lumbar Spine. Oral presentation, Annual Meeting of the International Spinal Injection Society, San Francisco, California, September 8-10, 2000.
- O'Neill C, Derby R, Kaiser J, Pappas P, Nguyen D, Van Peteghem PK, Ryan D. Prevalence of Painful Concentric Annular Tears in Discs that are Negative on Discography. Oral presentation, Annual Meeting of the International Intradiscal Therapy Society, Belgium, WI, USA, June 8-10, 2000.
- O'Neill C, Derby R, Eek B, Kenderes L. Provocative Annulography for the Diagnosis of Outer Annular Lesions. Oral presentation, 27th Annual Meeting of the International Society for the Study of the Lumbar Spine, Adelaide, Australia, April 9-13, 2000.
- O'Neill C, Yerby S, Derby J, Derby R. Effects of External Compressive Loads and Loads Resulting From Discography on Annular Stresses of the Lumbar Spine. Oral presentation, 27th Annual Meeting of the International Society for the Study of the Lumbar Spine, Adelaide, Australia, April 9-13, 2000.
- Derby R, O'Neill C, Berquam J, Vaughan P. Mechanisms of Leg Pain in Patients with Intervertebral Disc Disorders. Oral presentation, 27th Annual Meeting of the International Society for the Study of the Lumbar Spine, Adelaide, Australia, April 9-13, 2000.
- O'Neill C, Derby R, Kaiser J, Pappas P, Nguyen D, Van Peteghem PK, Ryan D. Painful Concentric Annular Fissures in Discs with Normal Nucleograms. Oral presentation, 38th annual meeting of American Society of Neuroradiology, Atlanta, April 2 - 8, 2000.
- O'Neill C, Derby R, Berquam J, Vaughan P, Ryan D. Disc Stimulation and Patterns of Referred Pain. Oral presentation, Annual Meeting of the American Academy of Neurologic Surgeons Section on Spine and Peripheral Nerve, Palm Springs CA 2000.
- O'Neill C, Derby R, Eek B, Kenderes L. Mechanisms of Leg Pain in Patients with Intervertebral Disc Disorders: Referred Pain Resulting from Intradiscal Thermal Stimulation. Oral poster presentation, Congress of Neurological Surgeons, Boston MA, October 30 - November 4, 1999.
- O'Neill C, Derby R, Berquam J, Vaughan P, Ryan D. Disc Stimulation and Patterns of Referred Pain. Oral poster presentation, Annual Meeting of the Congress of Neurological Surgeons, Boston MA, October 30 - November 4, 1999.

- O'Neill C, Derby R, Eek B, Kenderes L. Provocative Annulography for the Diagnosis of Outer Annular Lesions. Oral presentation, Annual Meeting of the North American Spine Society, Chicago Ill, October 20 - 23, 1999.
- O'Neill C, Derby R, Eek B, Kenderes L. Mechanisms of Leg Pain in Patients with Intervertebral Disc Disorders: Referred Pain Resulting from Intradiscal Thermal Stimulation. Oral presentation, Annual Meeting of the North American Spine Society, Chicago Ill, October 20-23, 1999.
- O'Neill C, Derby R, Eek B, Kenderes L. Provocative Annulography for the Diagnosis of Outer Annular Lesions. Oral presentation, 7th Annual Meeting for the International Spinal Injection Society. Las Vegas, Nevada. August 13-15, 1999.
- Derby R, Eek B, Chen Y, O'Neill C, Kenderes L. Intradiscal Electrothermal Therapy (IDET). Oral presentation, 7th Annual Meeting for the International Spinal Injection Society. Las Vegas, Nevada. August 13-15, 1999.
- O'Neill C, Derby R, Eek B, Kenderes L. Mechanisms of Leg Pain in Patients with Intervertebral Disc Disorders: Referred Pain Resulting from Intradiscal Thermal Stimulation.. Oral presentation, First Combined Meeting of the International Intradiscal Therapy Society and the International Society for Minimally Invasive Spinal Surgery, Cambridge England August 1-5, 1999.
- O'Neill C, Derby R, Eek B, Kenderes L. Provocative Annulography for the Diagnosis of Outer Annular Lesions. Oral presentation, First Combined Meeting of the International Intradiscal Therapy Society and the International Society for Minimally Invasive Spinal Surgery, Cambridge England August 1 - 5, 1999.
- Derby R, Eek B, Chen Y, O'Neill C, Ryan D, Kenderes L. Intradiscal electrothermal therapy (IDET): A novel approach for treating chronic discogenic back pain. Poster presentation, Presented at the 26th Annual Meeting for the International Society for the Study of the Lumbar Spine. Kona, Hawaii. June 21-25, 1999.
- Derby R, Bjorn E, O'Neil C, Kenderes L Intradiscal Electrothermal Therapy (IDET): a follow-up report. Poster presentation 9th World Congress on Pain, Vienna, Austria, August 22 – 27, 1999.

Educational Seminars

- Instructor, North American Spine Society Lumbar Spinal Injections: a Hands on Course, March 2-3, 2007, Chicago, Ill.
- Co-chair, North American Spine Society Lumbar Spinal Injections: a Hands on Course, Feb 17-18, 2006, Memphis, TN.
- Course Director, Spinal Diagnostics and Treatment Center Symposium, Soft Tissue Injuries of the Spine: New Concepts in Diagnosis and Treatment, San Francisco, CA, July 18-19, 2003.
- Instructor, Nucleoplasty, Surgical Bioskills workshop, American Back Society Annual Symposium on Advanced Diagnosis and Treatment for Neck and Back Pain, November 13-15, 2003, Las Vegas Nevada.
- Instructor, Phase IV Discography, International Spinal Injection Society Workshop, Phoenix, AZ . April 6th-7th , 2002.
- Instructor, Entry level Lumbar Spine, International Spinal Injection Society Workshop, St Louis MO July 29-30, 2000.
- Instructor, Discography, International Spinal Injection Society Workshop, Cambridge, MA. June 17-18, 2000.
- Instructor, Lumbar & Thoracic Spine, International Spinal Injection Society Workshop, Salt Lake City, UT April 1-2, 2000

Instructor, Discography, International Spinal Injection Society Workshop, Memphis TN November 20-21, 1999

Instructor, Lumbar Spine Workshop Using Cadavers for the California Society of Anesthesiologists. Santa Monica, California. September 18-19, 1999.

Instructor, International Spinal Injection Society Anatomical workshop, Discography: An Advanced Cadaveric Workshop, Daly City, California, November 21-22, 1998.

Publications

Kee-Won Ryu, M.D., Andrew Walsh, PhD, **Conor O'Neill, MD**, Jeffrey C Lotz, PhD, David S Bradford, M.D.. The Short-Term Effects of Electrosurgical Ablation on Pro-Inflammatory Mediator Production by Intervertebral Disc cells in Tissue culture. Spine J, in press.

Andrew Walsh, PhD, **Conor O'Neill, MD**, Jeffrey C. Lotz, PhD. Glucosamine HCl Alters Production of Inflammatory Mediators by Rat Intervertebral Disc Cells in Vitro. Spine J, in press.

O'Neill, C.W., Carrino, J., and Chin, C. Percutaneous Discectomy. In: Interventional Pain Medicine, an Algorithmic Approach, ed. by Slipman and Derby, Elsevier, in press.

Lisi AJ, **O'Neill C.W.**, Lindsey DP, Cooperstien R., Morschauser E, Zucherman J.. In-Vivo Measurement of Lumbar Intervertebral Disc Pressure During Spinal Manipulation. Journal of Applied Biomechanics, in press.

O'Neill, C.W. Commentary on Derby, et al, "Pressure-controlled lumbar discography in volunteers without low back symptoms". Pain Med, Volume 6, Number 3, 2005

O'Neill, CW and Alamin, T. The Utility of Provocation Discography in the Evaluation and Treatment of Chronic Low Back Pain: A State of the Art Debate. SpineLine, March/April 2005.

O'Neill, C.W. and Kurgansky, M.E. Subgroups of Positive Discs on Discography. Spine, 29(19): 2134-9, 2004.

O'Neill, C.W., Liu, J.J., Leibenberg, E., Hu, S.S., Deviren, V., Tay, B. K-B., Chin, C.T., and Lotz, J.C.. Percutaneous Plasma Decompression Alters Cytokine Expression in Injured Porcine Intervertebral Discs. Spine J 4(1): 88-98, 2004

O'Neill, C. W., Kurgansky M. E., Derby, R., and Ryan, D.P.. Disc Stimulation and Patterns of Referred Pain. Spine, 27(24): 2776-81, 2002.

Klein, R.G., Eek, B.J., **O'Neill, C.W.**, Elin, C., Mooney, V., Derby, R. et al. Biochemical Injection Treatment for Discogenic Low Back Pain: a Pilot Study. Spine J (3): 220-226, 2003.

Schofferman J, Reynolds J, Herzog R, Covington E, Dreyfuss P, **O'Neill C.** Failed Back Surgery: Etiology and Diagnostic Evaluation. Spine J. 2003 Sep-Oct; 3(5): 400-3.

O'Neill C, Derby R. Diagnostic Injections for Spine Pain. In: Principles and Practice of Pain Management, 2nd edition, McGraw Hill, October 2003.

Derby R, Eek B., Chen Y., **O'Neill C.**, Ryan D. Intradiscal Electrothermal Annuloplasty (IDET): A Novel Approach for Treating Chronic Discogenic Back Pain. Neuromodulation, 2000, Vol.3, Number 2, 82-88.

O'Neill C., Derby R., Kenderes L. Precision Injection Techniques for Diagnosis and Treatment of Lumbar Disc Disease. Seminars in Spine Surgery 1999. 11(2): 104-118.

O'Neill, C. Regional Anesthesia. Clinical Anesthesia Procedures of the Massachusetts General Hospital. 4th edition. Little Brown, 1992.