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Education:

- M.D. University of Minnesota, Minneapolis 1981
- B.A. University of Minnesota, Minneapolis (Physiology) 1976
- University of Colorado, Boulder 1971

Postgraduate Training and Medical Residency:

- Residency: Anesthesiology, University of Minnesota, Minneapolis 1985-1987
- Full-time Emergency Room physician for Emergency Department
Physicians Medical Group, Daniel Freeman Marina Hospital,
Robert F. Kennedy Medical Center, Los Angeles, CA 1983-1985
- Residency: PGY-2 General Surgery, Harbor UCLA Medical Center, CA 1982-1983
- Intern: General Surgery, Harbor UCLA Medical Center, CA 1981-1982

Appointments:

- Minnesota Medical Services Review Board (MSRB) alternate 2010-present
- Adjunct Clinical Assistant Professor, Department of Anesthesiology,
University of Minnesota, Minneapolis, MN 2008-present

Committee Member, Neuromodulation Therapy Access Coalition (NTAC)	2008-present
President, American Society of Interventional Pain Physicians	2008-2009
President Elect, American Society of Interventional Pain Physicians (ASIPP)	2007
Associate Editor, Pain Physician (Peer-reviewed journal)	2007
Board Examiner, American Board of Interventional Pain Physicians	2006-present
Medtronic Consultant	2006-present
Vice Chairman of Research Committee, American Society of Interventional Pain Physicians (ASIPP)	2005-present
Member and Representative for Pain Management, Medicare Carrier Advisory Committee (CAC)	2005-present
Secretary, American Society of Interventional Pain Physicians (ASIPP)	2004
Board of Directors, American Board of Interventional Pain Physicians (ABIPP)	2004
Board of Directors, American Society of Interventional Pain (ASIPP)	2003-present
Medical Director, Outpatient Pain Services, North Memorial Medical Center	2001-present
Instructor, American Society of Interventional Pain Physicians (ASIPP)	2001-present
President, Minnesota Society of Interventional Pain Physicians (MSIPP)	2001-2008
Executive Director, Minnesota Society of Interventional Pain Physicians (MSIPP)	2008-present
Instructor, International Spinal Injection Society (ISIS)	1996-present
Founder and Medical Director, Medical Advanced Pain Specialists (MAPS)	1995-present
Founder and Medical Director, MAPS Applied Research Center (MARC)	2007-present

Certificates:

Site Operations and Standard Operating Procedures, Western Institutional Review Board	2007
Investigator Training for Medical Research, Western Institutional Review Board	2007
American Cardiac Life Support Provider, American Heart Association	2001-2010
X-Ray Supervisor and Operator, California Department of Health	1984
Physician Base Station Operator, American College of Emergency Medicine	1984
Advanced Trauma Life Support Provider and Instructor, American College of Surgeons	1983

Board Certifications:

Competency Certifications in Controlled Substances and Coding Compliance	2005
American Board of Interventional Pain Physicians Part 1 Exam (ABIPP)	2005
American Board of Interventional Pain Physicians Board Certification (ABIPP)	2005
Fellow of Interventional Pain Practice (FIPP)	2004
American Board of Pain Medicine (ABPM)	1995
Added Qualification in Pain Management (ABA)	1993
American Board of Anesthesiology (ABA)	1989

Medical Licensure:

Minnesota (active)
California (active)
Arizona (active)
DEA on File

Employment:

Owner of MAPS Applied Research Center; a dedicated clinical research center conducting phase I-IV clinical studies across a variety of therapeutic areas	2007-present
Founder of MAPS Practice Solutions; a business management services corporation that provides business management services to pain specialist physicians on a national basis	2003-present
Founder and Medical Director of MAPS Medical Pain Clinics; a group of full-time physicians, nurse practitioners, physical therapists, psychologists, and other health professionals dedicated to the comprehensive evaluation and treatment of patients with persistent pain	1995-present
Medical Director, Post Anesthesia Care Unit at North Memorial Medical Center	1990-1995
Founder and Director of North Pain Institute; a comprehensive, outpatient pain management facility	1993
Founder and Director of Anesthesiology Pain Service; a hospital-based, inpatient acute pain service	1990
Partner in Anesthesiology, P.A. Corporation	1989-1995
Joined Anesthesiology, P.A; a group of anesthesiologists at North Memorial Medical Center in Minneapolis, MN	1987

Memberships:

International:

International Association for the Study of Pain
International Spinal Injection Society
World Institute of Pain

National:

American Medical Association
American Society of Anesthesiologists
American Society of Regional Anesthesia
American College of Pain Medicine
American College of Occupational and Environmental Medicine
American Society of Interventional Pain Physicians
American Academy of Pharmaceutical Physicians
Society of Pain Practice Management
Association of Clinical Research Professionals

Local:

Minnesota Society of Anesthesiologists
Minnesota Society of Interventional Pain Physicians

Awards:

Named Top Doctor 2010 Mpls/St. Paul Magazine	2010
Named Top Doctor 2009 Mpls/St. Paul Magazine	2009
Named Top Doctor 2008 Mpls/St. Paul Magazine	2008
Named Top Doctor 2007 Mpls/St. Paul Magazine	2007
Named Top Doctor 2006 Mpls/St. Paul Magazine	2006
Named Top Doctor 2005 Mpls/St. Paul Magazine	2005
As Executive Director of Minnesota Society of Interventional Pain Physicians (MSIPP), Recipient of the “Outstanding State Society Award” from the American Society of Interventional Pain Physicians (ASIPP)	2004

Editorial Positions:

Associate Editor, <u>Pain Physician</u>	2006-present
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Instructional Experience:

ISIS/Spinal Injection Workshops:

Lumbar Discography	May 2007
Lumbar/Thoracic Workshop	Mar 2004
Spinal Cord Stimulators Intraspinal Drug Infusion Systems	Nov 2003
Cervical Workshop	Nov 2002
Discography Workshop	Apr 2002
Radiofrequency-IDET Workshop	Nov 2001
Discography Workshop	Jun 2001
Cervical Workshop	Mar 2001
Radiofrequency & IDET Workshop	Dec 2000
Discography Workshop	Jun 2000
Advanced Cervical Workshop	May 2000
Cervical/Thoracic Workshop	Jul 1999

ASIPP Comprehensive Interventional Cadaver Workshops:

Spinal Cord Stimulation, Intrathecal Implantables, or Discal Therapies: Review Course and Cadaver Workshop	Dec 2009
Comprehensive Review Course (Basic, Intermediate, and ABIPP Part II Preparation) and Cadaver Workshop	Oct 2009
Course Director: Review Course and Cadaver Workshop in Vertebroplasty, Kyphoplasty, and Sacroplasty	May 2009
Course Director, Speaker, Instructor –Cadaver Workshop & Review Course in Fluoroscopy	Dec 2008
Course Director, Speaker, Instructor: Vertebroplasty, Kyphoplasty,	Feb 2008

Course Director, Speaker, Instructor –Cadaver Workshop & Review Course in Fluoroscopy	Dec 2007
Course Director, Speaker, Instructor –Comprehensive Review Course and Cadaver Workshop	Oct 2007
Speaker, Comprehensive Imaging Conference	Jul 2007
Course Director, Speaker, Instructor –Comprehensive Review Course and Cadaver Workshop	May 2007
Course Director: Vertebroplasty and Kyphoplasty	Feb 2007
Course Director: Fluoroscopy Safety Course	Sept 2006
Comprehensive Pain Medicine Board Review Course	Aug 2004
Cervical/Thoracic/Lumbar Course	Mar 2004
Cervical/Thoracic Course	Oct 2003
Cervical/Thoracic/Lumbar Course	May 2003
Cervical Course	Oct 2002

Annually:

Speaker ASIPP Annual Meetings	2004-2009
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Medtronic Neuromodulation Cadaver Courses:

Course Director: Cadaver Lab	Jan 2010
Course Director: Cadaver Lab	Oct 2009
Course Director: Cadaver Lab	Aug 2009
Course Director: Cadaver Lab	Jun 2009
Course Director: Cadaver Lab	Mar 2009
Course Director: Cadaver Lab	Jan 2009
Course Director: Cadaver Lab	Sept 2008
Faculty: Implantable Pumps and Neurostimulators	Jan 2007
Faculty: Implantable Pumps and Neurostimulators	Dec 2004

Smith & Nephew:

IDET and Disc Decompression Workshop	Sept 2003
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Oratec, Interventions, Inc.:

IDET Workshop, Stanford University	Feb 2000
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Clinical Trials:

A Prospective, Multi-Centered Clinical Evaluation of the Eon Mini 16-Channel Implantable Pulse Generator (IPG) in Combination with Percutaneous Leads for the Management of Chronic Pain of the Trunk and/or Limbs

Principal Investigator

Study Open

Implantable Systems Performance Registry (ISPR)

Principal Investigator

Study Open

A Prospective, Multi-Centered Clinical Evaluation of the Eon 16-Channel Implantable Pulse Generator (IPG) in Combination with a Lead Tripole Array for the Management of Chronic Back Pain with or without Leg Pain

Principal Investigator

Study Open

Evaluation of Cardiovascular Effects of Epidural Spinal Cord Stimulation at Multiple Thresholds

Principal Investigator

Study Open

A Randomized, Double-Blind, Placebo-Controlled, Parallel Dose Response Study of Gabapentin Injection for Intrathecal Administration in Subjects with Chronic Intractable Pain

Principal Investigator

Study Open

A Multicenter, Randomized, Placebo-controlled, Double-blinded Study of the Efficacy and Safety of Lubiprostone in Patients with Opioid-Induced Bowel Dysfunction

Principal Investigator

Study Open

A Multicenter, Open-labeled Study of the Long-term Safety and Efficacy of Lubiprostone in Patients with Opioid-Induced Bowel Dysfunction

Principal Investigator

Study Open

Opioid Utilization Study (OPUS) in Chronic Non-Cancer Pain

Principal Investigator

Study Open

A Multi-Center, Long-Term, Open Label Extension Study of [S,S]-Reboxetine (PNU-165442G) Administered Once Daily in Patients with Fibromyalgia

Principal Investigator

Study Open

A 14-Week, Randomized, Double-Blind, Placebo-Controlled, Multi-Center Study of [S,S]-Reboxetine (PNU-165442G) Administered Once Daily (Q.D.) in Patients with Fibromyalgia

Principal Investigator

Study Open

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

Principal Investigator

Study Open

Evaluation of Choline Fenofibrate (ABT-335) on Carotid Intima-Media Thickness (cIMT) in Subjects with Type IIb Dyslipidemia with Residual Risk in Addition to Atorvastatin Therapy (FIRST) Trial

Principal Investigator

Study Open

A Randomized, Double-Blind, Placebo-Controlled Multi-Center Study to Evaluate the Safety and Efficacy of Fentanyl Sublingual Spray (Fentanyl SL Spray) for the Treatment of Cancer Breakthrough Pain

Principal Investigator

Study Open

An Open Label Multi-Center Safety Trial of Fentanyl Sublingual Spray (Fentanyl SL Spray) for the Treatment of Breakthrough Cancer Pain

Principal Investigator

Study Open

A Randomized, Double-Blind, Placebo-Controlled Trial of the Efficacy and Tolerability of Flexibly Dosed Pregabalin in the Treatment of Cancer-Induced Bone Pain

Principal Investigator

Study Open

A Phase 3 Randomized, Double-Blind, Placebo-Controlled Multi-Center Study of the Analgesic Efficacy and Safety of Tanezumab in Patients with Osteoarthritis of the Knee

Principal Investigator

Study Open

A Phase 3 Randomized, Double-Blind, Placebo-Controlled Multi-Center Study of the Analgesic Efficacy and Safety of Tanezumab in Patients with Osteoarthritis of the Hip

Principal Investigator

Study Open

A Phase 3, Multi-Center, Randomized, Long Term Study of the Safety of Tanezumab in Patients with Osteoarthritis of the Knee or Hip

Principal Investigator

Study Open

An Open-Label Study to Evaluate the Long-term Safety of Subcutaneous MOA-728 for Treatment of Opioid-Induced Constipation in Subjects with Nonmalignant Pain

Principal Investigator

Study Open

A Multi-Center, Randomized, Double-Blind, Placebo-Controlled, Parallel Group Study of Subcutaneous MOA-728 for the Treatment of Opioid-Induced Constipation

Principal Investigator

Study Open

A Phase 3 Randomized, Double-Blind Placebo and Naproxen Controlled Multi-Center Study of the Analgesic Efficacy and Safety of Tanezumab in Patients with Osteoarthritis of the Knee
Principal Investigator
Study Open

A 12-Week, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Multi-Center Trial to Evaluate the Efficacy and Safety of Fesoterodine Flexible Dose Regimen in Vulnerable Elderly Patients with Overactive Bladder
Principal Investigator
Study Open

An Open-Label, Randomized Comparison of Duloxetine, Pregabalin, and the Combination of Duloxetine and Gabapentin among Patients with Inadequate Response to Gabapentin for the Management of Diabetic Peripheral Neuropathic Pain
Principal Investigator
Study Closed- 2009

A Phase II Randomized, Double-Blind, Placebo-Controlled, Multi-Center, Parallel Group, Proof of Concept Study of the Analgesic Effects of RN624 in Adult Patients with Post-Herpetic Neuralgia
Principal Investigator
Study Closed- 2008

Prevalence of Sleep Disordered Breathing in Subjects Taking Pain Medications to Treat Chronic Pain
Principal Investigator
Study Closed- 2008

Effect of Zeolite on Urinary Heavy Metal Clearance
Medical Monitor
Study Closed- August 2008

Effect of Topical Hexahop®95 in Men and Women with Mild to Moderate Acne Vulgaris
Medical Monitor
Study Closed- July 2008

Low Back Pain Outcomes Registry (LoBaPOR)
Principal Investigator
Study Closed- July 2008

Spinal Cord Stimulation Parameter Optimization and Paresthesia Mapping Using Constant Voltage and Constant Current and Simultaneous Pulses
Principal Investigator
Study Closed June 2008

Study of Percutaneous Intradiscal Nucleoplasty Efficacy (SPINE)

Principal Investigator

Study Closed- June 2008

Feasibility Study to Explore the Capabilities of an Ambulatory Data Recorder to Capture Mobility, Posture, and Behavior in a Sample of Chronic Low Back Pain Patients

Principal Investigator

Study Closed- April 2008

Effects of ProAlgaZyme on HDL Cholesterol in Subjects with Metabolic Syndrome

Medical Monitor

Study Closed-March 2007

An Open-Label, Long-Term, Multi-Center, Intrathecal Ziconotide (PRIALT) Effectiveness and Safety Trial (ZEST) in Patients with Chronic Severe Pain

Principal Investigator

Study Closed-2005

A 4-Week Randomized, Multi-Center, Double-blind, Placebo- and Active-controlled, Parallel-group, Forced-Titration Phase IIB Study Comparing Efficacy and Safety of Ascending Doses of CG5503 Prolonged Release up to 233 mg BID and Oxycodone Prolonged release up to 20 mg BID to Placebo in Subjects with Moderate to Severe Chronic Pain Due to Osteoarthritis of the Knee

Principal Investigator

Study Closed-2005

Plasma Disc Decompression Compared to Fluoroscopy-Guided Transforminal Epidural Injections for Symptomatic Contained Lumbar Disc Herniation: A Randomized, Controlled Trial

Principal Investigator

Study Closed- 2005

Evaluation of Cardiovascular Effects of Epidural Spinal Cord Stimulation

Principal Investigator

Study Closed-2004

An Open-Label, 3-week with Optional Long-Term Extension Phase, Multi-Center Study of the Safety and Efficacy of Intrathecal Ziconotide (PRIALT) for Chronic Severe Pain when Delivered via an External Pump

Principal Investigator

Study Closed-2004

An Open-Label, Long-Term, Multi-Center Study of Ziconotide Administered Intrathecally

Principal Investigator

Study Closed-2004

A Randomized, Double-Blind, Placebo-Controlled Study of Intrathecal Ziconotide in Adults with Severe Chronic Pain

Principal Investigator

Study Closed-2003

An Open-Label, Multicenter Study of the Safety and Efficacy of Adding Intrathecal (IT) Ziconotide to Stable Dose IT Morphine in Patients with Severe Chronic Pain

Principal Investigator

Study Closed-2003

Publications:

Asian Americans at High Risk for Brittle Bones. *Asian Pages*, May 1-14, 2006

Schultz DM, Trujillo A: Nurse practitioner and physician collaborative practice in pain management. *MAPS Applied Research Center*, submitted for publication November 2006

Acute Pain Service Manual: An internal manual used by North Memorial Medical Center nurses and residents, 1989

Policy Manual: Policies, procedures, and protocols for North Pain Institute

Invited Presentations:

1. Chronic pain, interventional management, sleep: Pain Management Summit, February 2009
2. Structural basis of spinal pain, American Society of Interventional Pain Physicians 4th Semi-Annual Meeting & Interventional Pain Management/Practice Symposium, Phoenix, AZ, May 14, 2004
3. Complication of interventional techniques, American Society of Interventional Pain Physicians 4th Semi-Annual Meeting & Interventional Pain Management/Practice Symposium, Phoenix, AZ, May 14, 2004
4. New techniques in pain management, Rounds at St. Francis Regional Medical Center, Minneapolis, MN, February 13, 2004
5. New techniques in pain management, Rounds at Park Nicollet, Minneapolis, MN, January 9, 2004
6. New techniques in pain management, Rounds at Unity & Mercy Hospitals, Minneapolis, MN, January 6, 2004
7. Surgical techniques for implanting pain control devices, International Spinal Injection Society Spinal Cord Stimulators Intraspinal Drug Infusion Systems Workshop, Phoenix, AZ, November 8, 2003

8. Potential complications and improving safety, American Society of Interventional Pain Physicians 5th Annual Meeting & Interventional Pain Management/Practice Symposium, Washington, DC, September 7, 2003
9. Structural basis of chronic spinal pain, American Society of Interventional Pain Physicians 3rd Semi Annual Meeting & Interventional Pain Management/Practice Symposium, San Diego, CA, March 21, 2003
10. Pathophysiology of neck pain and cervicogenic headache, American Society of Interventional Pain Physicians 4th Annual Meeting & Interventional Pain Medicine/Practice Symposium, Washington, DC, September 24, 2002
11. Use of MRI findings in the diagnosis and treatment of pain, Multidisciplinary Pain Management Group, Minneapolis, MN, June 2002
12. Facet neurotomy: injecting a new option, MTLA Medical/Legal Seminar, Minneapolis, MN, April 2002
13. Latest technology used in the care and management of back pain, Twin Cities Orthopedic Nurse's Association, Minneapolis, MN, March 2002
14. New treatments for the management of chronic pain, Third District Nurse's Association, Minneapolis, MN, February 2002
15. Medtronic peer-to-peer discussion on complex cases and pain management, Pain Management Practitioners, Philadelphia, PA. April 2001
16. Business management, Medtronic Speaker's Bureau, Seattle, WA: February 2001
17. Intradiscal electrothermal therapy (IDET), Mercy/Unity Hospital's Educational Rounds, February 2001
18. Moderator for Medtronic's Meeting of the Minds: San Diego, CA: December 2000
19. Intradiscal electrothermal therapy (IDET), North Memorial Medical Staff, March 2000
20. When is invasive pain management appropriate: QRC and Case Manager Workshop, North Memorial Medical Center, May 1995
21. Acute pain management, University of Minnesota Anesthesiology Department, Residents and Staff, April 1994
22. Reflex sympathetic dystrophy: Myth or Reality? North Memorial Medical Staff, November 1993

23. Pain management: yesterday, today and tomorrow, Minnesota Nursing Association Regional Conference, September 1989
24. Pain management: yesterday, today and tomorrow, North Memorial Medical Staff, April, 1989

Bibliography:

Journal Articles

1. **Schultz DM**, Zhou X, Singal A, Musley S: Cardiovascular effects of spinal cord stimulation in hypertensive patients. Submitted for publication, *Pain Physician* 2010
2. Coffey RJ, Owens ML, **Schultz DM**, Broste SK, et al: Medical practice perspective: identification and mitigation of risk factors for mortality associated with intrathecal opioids for non-cancer pain. *Pain Medicine* 11(7): 1001-1009, 2010
3. Gerszten PC, Smuck M, Rathmell JP, Simopoulos TT, **Schultz DM**, Bhagia SM, et al: Plasma disc decompression compared with fluoroscopy-guided transforaminal epidural injections for symptomatic contained lumbar disc herniation: a prospective, randomized, controlled trial. *J Neurosurg Spine* 12(4): 357-371, 2010
4. Schade CM, Sasaki J, **Schultz DM**, Tamayo N, King G, Johanek LM: Assessment of patient preference for constant voltage and constant current spinal cord stimulation. *Neuromodulation: Technology at the Neural Interface* 13(3): 210-217, 2010
5. Manchikanti L, Singh V, Helm S, **Schultz DM**, Datta S, Hirsch J: An introduction to an evidence-based approach to interventional techniques in the management of chronic spinal pain. *Pain Physician* 12: E1-E33, 2009
6. Coffey RJ, Owens ML, Broste SK, **Schultz DM**, Dubols MY, et al: Mortality associated with implantation and management of intrathecal opioid drug infusion systems to treat non-cancer pain. *Anesthesiology* 111(4): 881-891, 2009
7. Manchikanti L, Boswell MV, Singh V, Benyamin RM, **Schultz DM**, et al: Comprehensive evidence-based guidelines for interventional techniques in the management of chronic spinal pain. *Pain Physician* 12(4): 699-802, 2009
8. Frey ME, Manchikanti L, Benyamin RM, **Schultz DM**, Smith HS, Cohen SP: Spinal cord stimulation for patients with failed back surgery syndrome: a systematic review. *Pain Physician* 12(2): 379-397, 2009
9. Patel VB, Manchikanti L, Singh V, **Schultz DM**, Hayek SM, Smith HS: Systematic review of intrathecal infusion systems for long-term management of chronic non-cancer pain. *Pain Physician* 12(2): 345-360, 2009

10. Manchikanti L, Singh V, **Schultz DM**, Benyamin R: In response: interventional pain management and ACOEM guidelines, Letter to the Editor. *Pain Physician* 11(5): 705-706, 2008
11. Manchikanti L, Singh V, Derby R, **Schultz DM**, Benyamin RM, Prager JP, Hirsch JA: Reassessment of evidence synthesis of occupational medicine practice guidelines for interventional pain management. *Pain Physician* 11(4): 393-482, 2008
12. Wallace MS, Kosek PS, Staats P, Fisher R, **Schultz DM**, Leong M: Phase II, open-label, multicenter study of combined intrathecal morphine and ziconotide: addition of ziconotide in patients receiving intrathecal morphine for severe chronic pain. *Pain Medicine* 9(3): 271-281, 2008
13. **Schultz DM**: Inferior hypogastric plexus blockade: a transsacral approach. *Pain Physician* 10(6): 757-763, 2007
14. **Schultz DM**, Musley S, Beltrand P, Christensen J, Euler D, Warman E: Acute cardiovascular effects of epidural spinal cord stimulation. *Pain Physician* 10(5): 677-685, 2007
15. Abdi S, Datta S, Trescot Am, **Schultz DM**, Adlaka R, Atluri SL, Smith HS, Manchikanti L: Epidural steroids in the management of chronic spinal pain: a systematic review. *Pain Physician* 10(1): 185-212, 2007
16. Trescot A, Chopra P, Abdi S, Datta S, **Schultz DM**: Systematic review of effectiveness and complications of adhesiolysis in the management of chronic spinal pain: an update. *Pain Physician* 10(1): 129-146, 2007
17. Datta S, Everett C, Trescot A, **Schultz DM**, Adlaka R, Abdi S, Atluri S, Smith H, Shah R: An updated systematic review of the diagnostic utility of selective nerve root blocks. *Pain Physician* 10(1): 113-128, 2007
18. Boswell MV, Trescot AM, Datta S, **Schultz DM**, Hansen HC, Abdi S, Sehgal N, et al: Interventional techniques: evidence-based practice guidelines in the management of chronic spinal pain. *Pain Physician* 10(1): 7-111, 2007
19. **Schultz DM**: Thoughts on evidence-based medicine and interlaminar epidural injections: a letter to the editor. *Pain Physician* 8(4): 421-422, 2005
20. Smith J, Hooten WM, Olson J, **Schultz DM**, Daniels S, Long KH, Schellhas K: Technology assessment report: percutaneous radiofrequency ablation for facet-mediated neck and back pain. *Institute for Clinical Systems Improvement*, 2005
21. Hurdle M, **Schultz DM**, Schellhas K: Technology assessment report: fluoroscopically guided transforaminal epidural steroid injections for lumbar radicular pain. *Institute for Clinical Systems Improvement*, 2004

22. **Schultz DM**: Risk of transforaminal epidural injections: letter to the editor. *Pain Physician* 6(3): 390-391, 2003
23. Manchikanti L, Heavner J, Racz G, **Schultz DM**, et al: Methods for evidence synthesis in interventional pain management. *Pain Physician* 6(1): 89-111, 2003
24. Manchikanti L, Staats PS, Singh V, **Schultz DM**, Vilims BD, Jasper JF, et al: Evidence-based practice guidelines for interventional techniques in the management of chronic spinal pain. *Pain Physician* 6(1): 3-81, 2003
25. Manchikanti L, Singh V, Vilims B, **Schultz DM**, Hansen HC, Kloth DS: Medial branch neurotomy in management in chronic spinal pain: systematic review of evidence. *Pain Physician* 5(4): 405-418, 2002
26. **Schultz DM**: New tools, new knowledge: diagnosing and treating whiplash. *Minnesota Physician* XVI(16) Vol. 2: 18-19, 2002
27. **Schultz DM**: IDET: gaining acceptance in back pain treatment. *Minnesota Physician*, XIV(14) Vol. 9: 14-15, 2000

Book Chapters:

1. **Schultz DM**: ITDD: Medical necessity, documentation, coding and billing, *Intrathecal Drug Delivery for Pain and Spasticity*. Edited by Deer T, Accepted for publication in 2010 by Elsevier
2. Manchikanti L, **Schultz DM**, Singh V, Falco F: Thoracic facet joint interventions: intra-articular injections, medial branch blocks, and radiofrequency neurotomy. *Interventional Techniques in Chronic Spinal Pain - Book 1*, Edited by Manchikant L and Singh V. Published by ASIPP, September 2007
3. Manchikanti L, **Schultz DM**, Singh V, Falco F: Lumbar facet joint interventions: intra-articular injections medial branch blocks, and radiofrequency neurotomy. *Interventional Techniques in Chronic Spinal Pain - Book 1*, Edited by Manchikant L and Singh V. Published by ASIPP, September 2007
4. Manchikanti L, **Schultz DM**, Singh V, Falco F: Cervical facet joint interventions: intra-articular injections medial branch blocks, and radiofrequency neurotomy. *Interventional Techniques in Chronic Spinal Pain - Book 1*, Edited by Manchikant L and Singh V. Published by ASIPP, September 2007
5. **Schultz DM**: Spinal Anatomy for the Interventionalist. *Interventional Techniques in Chronic Spinal Pain- Book 1*, Edited by Manchikant L and Singh V. Published by ASIPP, September 2007

6. **Schultz DM:** Needle manipulation techniques. *Interventional Techniques in Chronic Spinal Pain - Book 1*, Edited by Manchikant L and Singh V. Published by ASIPP, September 2007
7. **Schultz DM:** Fluoroscopy in the interventional pain unit: A physician perspective. *Interventional Techniques in Chronic Spinal Pain- Book 1*, Edited by Manchikant L and Singh V. Published by ASIPP, September 2007
8. **Schultz DM, Manchikanti L, Racz GB:** Cervical transforaminal epidural injections. *Interventional Techniques in Chronic Spinal Pain- Book 1*, Edited by Manchikant L and Singh V. Published by ASIPP, September 2007
9. **Schultz DM:** Indications for Utilization of a Pain Clinic. *Management of Peripheral Nerve Problems*, 2nd Edition, Edited by Omer GE, Spinner M, and Van Beek AL. W.B. Saunders Publishing, 1998

Revised 9/10