

CURRICULUM VITAE

Jens-Peter Witt, M.D. Ph.D

Director, Spine Service
Associate Professor of Neurosurgery
University of Colorado School of Medicine
Anschutz Medical Campus
12631 E. 17th Ave., C307
Aurora, Co 80045

Education

- University of Hannover Medical School, Hannover/Germany, 1985-1992
- Topographical Engineer, Bundeswehr (mandatory), 1984-1985
- Kranich Gymnasium, Salzgitter/Germany, 1977-1984

Training

- Internship, Unfallchirurgie (Trauma/Orthopaedics), University of Hannover Medical School, Hannover/Germany, 1992-1993
- Junior Resident, Unfallchirurgie (Trauma/Orthopaedics), University of Hannover Medical School, Hannover/Germany, 1993-1994
- Internship, General Surgery, University of Colorado Health Sciences Center, Denver/Colorado, 1994-1995
- Resident, Neurosurgery, University of Colorado Health Sciences Center, Denver/Colorado, 1995-1999
- Chief Resident, Neurosurgery, University of Colorado Health Sciences Center, Denver/Colorado, 1999-2000
- Spinal Surgery Instrumentation, Comprehensive Course, Association for Osteosynthesis and Internal Fixation North America, November 1999
- Clinical Fellowship, Spine Surgery, Prof. Dr. Juergen Harms Klinikum Karlsbad-Langensteinbach, Karlsruhe/Germany, 2000
- Visiting Professor/Sabbatical, Trauma Hospital Murnau, Bavaria, Germany 2013

Academic Appointments

- Assistant Professor
University of Colorado Health Sciences Center 2002 - 2010
- Associate Professor
University of Colorado Health Sciences Center 2010 – present
- Director of Neuro Spine, University Spine Center 2003 – present
- Director of Neurosurgical Spine Fellowship (CAST) 2015 – present

Certifications

- Neurosurgery Board Certification 5/20/08
- Colorado Licensure 08/2000
- DEA Licensure 07/2000
- USMLE III 2000
- Neurosurgery Board Eligibility 1999
- USMLE I 1998
- USMLE II 1998
- German Medical Licensure 1992
M.D. (German)
- ECFMG Certification 1992
- Doctor Thesis 1993
Ph.D. (German)
- Educational Commission for Foreign Medical Graduates
FMGEMS Part I 1989
FMGEMS Part II 1991
- German Medical Boards
Part I 1987, Part II 1989, Part III 1991
- Abitur 1984

Professional Memberships

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| • Colorado Neurosurgical Society | 2001 – present |
| • North American Spine Society | 2004 – present |
| • AO Spine North America | 2004 – present |
| • American Association of Neurological Surgeons | 2004 – present |
| • American Academy of Spine Physicians | 2006 – present |
| • Council of State Neurosurgical Societies | 2008 – present |
| • Society for Minimal Invasive Spine Surgery (SMISS) | 2010 – present |
| • Minimal Invasive Neurosurgery (MINS) | 2010 – present |

Professional Experience

- 08/2000 – 09/2000 Fellow, Trauma Orthopaedic and Spine Surgery, Prof. Harms, Klinikum Karlsbad-Langensteinbach, Germany
- 06/2001 – 02/2003 Neurosurgery Attending, Department of Neurosurgery, University of Colorado Health Sciences Center, Veterans Administration Hospital & Denver Health Medical Center, Denver, Colorado. Assistant Professor of Neurosurgery at University of Colorado Health Sciences Center, Denver, Colorado.
- 02/2003 – 11/2003 Chief of Neurosurgery & Co-Director Spine Service, Denver, Health Medical Center. Neurosurgery Attending and Assistant Professor, University of Colorado Health Sciences Center. Neurosurgery Attending at Veterans Administration Hospital. Denver, Colorado
- 11/2003 – Present Director of Neuro Spine Service, Department of Neurosurgery, Associate Professor, University of Colorado Health Sciences Center. Neurosurgery Attending at Veterans Administration Hospital. Denver, Colorado
- 1/2013 – 7/2013 Visiting Professor, Department of Trauma Spine Surgery, Berufsgenossenschaftliche Unfallklinik Murnau, Bavaria, Germany

Awards

- 2013 "Best Doctor for Executives", Denver Business Journal
- 2009 Denver "5280 Top Doc" Award in Acute Spinal Cord Injury Medicine
- 2009 Appreciation Award for Contribution to the Teaching of Students University of Colorado Denver, Problem-based Learning Instructor
- 1993 Cum laude doctoral thesis
- 1992 Member of MENSA
- 1992 University of Pittsburgh Postgraduate Research Scholar
- 1991 DAAD (German Academic Exchange Program) stipend for U.S.A.
- 1988 Welcome Pharmaceutical Stipend for Medical clerkship in Great Britain
- 1985 Bundeswehr sponsorship for Medical School
- 1984 Summa cum laude graduate, Kranich Gymnasium

Research Experience

- 2018 –present Principal Investigator, COMIRB Protocol
Open-Label Study to Evaluate the Efficacy and Safety of Avatrombopag for the Treatment of Thrombocytopenia Scheduled for Surgical Procedure
Sponsor: Dova Pharmaceuticals, Inc.
- 2018—present Principal Investigator, COMIRB Protocol
Analysis of Stand Alone XLIF in Treatment of Degenerative Lumbar Disease
- 2018 – present Principal Investigator, COMIRB Protocol
Intraoperative Sodium Fluorescein for Tissue Biopsy and Resection of Spinal Cord Lesions
- 2017 – present Principal Investigator, COMIRB Protocol
Review of Octogenarian Spine Surgery Patients
- 2017 – present Principal Investigator, COMIRB Protocol
Endoscopic Spine Training for Neurosurgery Residents
- 2017 – present Principal Investigator, COMIRB Protocol
Discectomy Device Observation
Sponsor: DePuy Synthes, Inc
- 2014 – present Principal investigator, COMIRB Protocol
Endoscopic Lumbar Discectomy Outcomes
- 2012 – present High Reliability Teamwork through Redesign of the Surgical Debriefing Process, E3 Grant Application, Perioperative Services, University Hospital, University of Colorado Health
- 2010 – present Principal investigator, COMIRB Protocol 10-0279:
Comparison Of Anterior vs. Posterolateral Surgical Approach For Thoracic Disc
- 2007 – present Co-investigator, FDA IDE trial lumbar Disc Arthroplasty Aesculap Active-L ASC-01
- 06/1992 – 12/1992 Clinical Investigator: Department of Neurosurgery, University of Pittsburgh School of Medicine, Pennsylvania

- 1991-1992 Visiting Research Scholar with Dr. Howard Yonas and Dr. W.D. Obrist, Department of Neurosurgery, University of Pittsburgh Medical Center
 - Cerebral Blood Flow during balloon test occlusion
 - Effects of Calcium Channel Blockers on Transcranial Doppler Ultrasound assessment of vasospasm after SAH
 - ICP monitoring by parameters derived from TCD waveform
 - Course of CBF in head injured patients

- 1988-1992 Doctoral Thesis (Ph.D., Ger) under mentorship of Dr. H. Dietz and Dr. K. Holl Department of Neurosurgery, University of Hannover Medical School.
 - Stable Xenon CT Cerebral Blood Flow Measurement: Physiology, reliability and safety

- 1986 Research with Dr. E. Schwartz and Dr. E. Schmidt. Department of Epidemiology and Social Medicine. University of Hannover Medical School
 - Arteriosclerosis: theories for pathogenesis
 - Behavioral factors associated with CHD

Teaching Experience

- Since 2003 Director of the Neurosurgery Spine Program, Neurosurgery Residency Program, Director: Dr. Robert Breeze, University of Colorado Health Sciences Center
- 2015, July 1st Fellowship Director, Spinal Neurosurgery Fellowship, Committee on Advanced Subspecialty Training (CAST) Society of Neurological Surgeons
- 2016, July 1st Fellowship Director, Complex Spinal Neurosurgery Fellowship Non-GME, Industry-sponsored (NuVasive, K2M)

Course Faculty and Directorship

- 2003, Oct 18th Faculty, *"Peripheral Nerve Disorders: Diagnosis and Treatment"* CNS Annual meeting 2003, Denver, CO
- 2007, Sept. 3 Faculty, "Treatment Options for Fractures", New Perspectives on Spine Surgery, Aesculap Academy, Miami FL
- 2008, Sept 13th Faculty, *"Posterior Cervical Fixation Techniques Featuring The S4 Cervical System"* VISTA Labs, Baltimore, MD
- 2008, Oct 25th Chairman, *"Advanced Techniques in Thoracolumbar Spinal Surgery"*, at University of Colorado Minimally Invasive Surgery Center
- 2008-2009 Faculty, Problem-based Learning (PBL) module, Phase I Essential Core Curriculum, School of Medicine, University of Colorado Denver
- 2011, Apr 19th Faculty, *"Osteoporosis and Spinal Fusion Surgery"* Breakfast Seminar, AANS Annual Meeting 2011, Denver, CO
- 2012, Jan 12th Faculty, *"Osteoporosis and Spinal Fusion Surgery"* Breakfast Seminar, AANS Annual Meeting 2012, Miami, FL

- 2013, Feb 24th Co-Director and Host: "Percutaneous Endoscopic Surgery of the Lumbar and Thoracic Spine: A Hands-on Cadaver Workshop", Invited Chair: Dr. Luebbers, Meppen Germany, CIS University of Colorado Anschutz Medical Campus, Denver, CO
- 2013, Apr 1st Faculty, "Percutaneous Endoscopic Lumbar and Thoracic Spine Surgery" Hands-on Workshop with cadaver specimens, Tuebingen, Baden-Wuerttemberg, Germany
- 2013, Aug 9th-11th Course Director Endoscopic Lumbar Discectomy, MINS Minimal Invasive Neurosurgical Society: 4th Minimal Invasive Spine Cadaveric Workshop: Beaumont Hospital, Detroit Michigan.
- 2013, Dec 12th-14th Course Director Endoscopic Lumbar Discectomy, 7th Minimal Invasive Spine Surgery and Navigation: Hands-on Symposium: Weill Cornell Medical College New York
- 2014, Feb 22-23rd Co-Director and Host: 2nd Annual "Percutaneous Endoscopic Surgery of the Lumbar and Thoracic Spine: A Hands-on Cadaver Workshop", Invited Professor: Dr. O Gonschorek, Murnau Germany, CIS University of Colorado Anschutz Medical Campus, Denver, CO
- 2014, July 24-25th Course Director: Endoscopic Lumbar Discectomy, MINS Minimal Invasive Neurosurgical Society: 5th Minimal Invasive Spine Cadaveric Workshop: Beaumont Hospital. Detroit, Michigan
- 2014, Oct 14th Course Director: Thoracic and Cervical Spine Instrumentation: Cadaver Course for Residents, Center for Surgical Innovation (CSI) University of Colorado, Aurora, CO
- 2014, Dec 4th Course Director: Endoscopic Lumbar Discectomy, 8th Minimal Invasive Spine Surgery and Navigation: Hands-on Symposium: Weill Cornell Medical College New York
- 2015, Mar 6th Course Director and Host: 3rd Annual "Percutaneous Endoscopic Surgery of the Lumbar and Thoracic Spine: A Hands-on Cadaver Workshop", CIS University of Colorado Anschutz Medical Campus, Aurora, CO

- 2015, Nov 4th Faculty: Lumbar Endoscopic Discectomy: Hands-on cadaveric course, Society for Minimally Invasive Spinal Surgery SMISS Annual Forum, Las Vegas, Nevada
- 2016, May 1st Assistant Director: 024 Endoscopic Lumbar Spinal Surgery: 1st Cadaveric Hands-on Course, 84th AANS Annual Scientific Meeting, April 30th - May 4th, 2016, Chicago, Illinois
- 2016, July 29th Course Director and Host: 4th Annual "Full-endoscopic Spinal Surgery Course: A Hands-on Cadaver Workshop", CSI University of Colorado Anschutz Medical Campus, Aurora, CO
- 2016, Oct 13th Faculty: Lumbar Endoscopic Discectomy: Hands-on cadaveric course, Society for Minimally Invasive Spinal Surgery SMISS Annual Forum, Las Vegas, Nevada
- 2017, Jan 18th Faculty: 35th Annual Meeting of the International Society for Minimal Intervention in Spinal Surgery ISMISS Chicago, IL, Jan 18th-20th, 2017
- 2017, Apr 22nd Assistant Director: 024 Endoscopic Lumbar Spinal Surgery: 2nd Cadaveric Hands-on Course, 85th AANS Annual Scientific Meeting, April 22nd-26th, 2017, Los Angeles, California
- 2017, Sep 22nd Faculty: MIS, Endoscopic and Percutaneous New Technologies and Techniques, Navigation and Robotics Course ISASS Long Beach, CA Sep 22nd-23rd, 2017

Committees

- President, Colorado Neurosurgical Society 2016
- Vice-President, Colorado Neurosurgical Society 2012-2016
- Secretary/Treasurer, Colorado Neurosurgical Society 2010-2012

- NASS North American Spine Society Payor Policy Review Committee (PPRC) member 2016-present
- NASS Evidence-based Guideline Development Committee 2009-present

- Council of State Neurosurgical Societies Delegate Fall 2008-present
- Website Committee CSNS 2009
- Neurotrauma Committee CSNS 2008, 2009
- Membership Committee CSNS 2008

- Spine Strategic Planning Committee UCH/UCHSC 2009-present
- User Group Planning Committee UCH expansion project 2009-present
- New OR Planning Committee 2006
- OR Committee UCH since 2003

- Financial Review Committee, Department of Neurosurgery, University of Colorado, 2008-present
- Residency Program Oversight Committee, University of Colorado Health Sciences Center, Denver, Colorado. 2001-2002

Publications:

1. **Witt JP**, Kleinschmidt-Demasters BK, Lillehei KO: Tumors of peripheral nerves, in: Textbook of Neurological Surgery, ed. Batjer H., Loftus C. Lippincott, Williams & Wilkins, Marltton, 2002.
2. Nemati NM, Dietz H, Holl K, Gaab MR, Rzesacz E, **Witt JP**, Haubitz B, Becker H: Concomitant effect of acetazolamide and Xenon on cerebral blood flow, intracranial pressure, flow velocity, and electroencephalogram: possible risk for the patient? International Conference on Stable Xenon/CT CBF, Orlando, Florida (USA), Feb 8-11 1990, published in: Yonas, H., ed.: Cerebral blood flow measurement with Stable Xenon enhanced computed tomography. Raven Press, New York, 1992.
3. **Witt JP**, Holl K, Heissler HE, Ehrhardt K, Haubitz B, Becker H, Dietz H: Validierung der Xenon-CT-Durchblutungsmessung mit Transkranieller Dopplersonographie. Hirndurchblutung und zerebrovaskulare Reservekapazität, Symposium, Medizinische Hochschule Hannover, (Germany) Jun 9-10 1989. Published in: Hirndurchblutung und zerebrovaskulare Reservekapazität, Urban & Schwarzenberg Verlag, 1992.
4. **Witt JP**, Yonas H, Johnson DW: Internal carotid artery balloon test occlusion does require quantitative assessment of CBF International Symposium on Cerebro-vascular malformations, Verona, (Italy), July 1992 Published in: New Trends in Management of Cerebro-Vascular Malformations, Springer 1992.
5. **Witt JP**, Yonas H, Jungreis C: Cerebral Blood Flow Response Pattern during Balloon Test Occlusion of the Internal Carotid Artery. AJNR 1994 May; 15(5): 847-856
6. Yonas H, Linskey M, Johnson DW, Horton JA, Janecka IP, **Witt JP**, Jungries C, Hirsch WL, Sekhar LN: Internal Carotid Balloon Test Occlusion does require quantitative CBF ANJR 13: 1147-1152, 1992
7. **Witt JP**, Holl K, Heissler HE, Dietz H: Stable Xenon CT CBF: Effects of blood flow alterations on CBF calculations during inhalation of 33% Stable Xenon. ANJR 1991; 12: 973-975,

8. Rabb CH, Lopez J, Beauchamp K, **Witt JP**, Bolles G, Dwyer A: Unilateral Cervical Facet Fractures with Subluxation: Injury Patterns and Treatment. *Spinal Disord Tech* 2007; 20: 416-422
9. **Witt JP**, Gault J, Kleinschmidt-DeMasters B: 23-Year Old Hispanic Male with New Onset Seizures. *Brain Pathology* 2008; 18:594-596
10. Somerset H, **Witt JP**, Kleinschmidt-DeMasters BK: Hepatocellular Carcinoma Metastases to the Epidural Space. *Arch Pathol Lab Med.* 2009;133, 1975-1980.
11. Janik D, **Witt JP**: Surgery for Tethered Cord, in: *Monitoring the Nervous System for Anesthesiologists and Other Health Care Professionals*, ed. A Koht, TB Sloan, JR Toleikis, Springer, 2012
12. Paul Matz, M.D., R. J Meagher, MD; Tim Lamer, MD; William L. L Tontz, Jr, MD; Thiru M Annaswamy, MD, MA; R. C Cassidy, MD; Charles H Cho, MD, MBA; Paul Dougherty, DC; John E Easa, MD; Dennis E Enix, DC, MBA; Bryan A Gunnoe, MD; Jack Jallo, MD, PhD, FACS; Terrence D Julien, MD; Matthew B Maserati, MD; Robert C Nucci, MD; John E O'Toole, MD, MS; Karie Rosolowski, MPH; Jonathan N Sembrano, MD; Alan T Villavicencio, MD; **Jens-Peter Witt**, MD
Review Article: An evidence-based clinical guideline for the diagnosis and treatment of degenerative lumbar spondylolisthesis, *Spine J.* 2016 Mar;16(3):439-48
13. "Intraoperative sodium fluorescein for tissue biopsy and resection of spinal cord lesions" submitted to the journal *Operative Neurosurgery* 11/2017

Presentations:

1. **Witt JP:** Unruptured Intracranial Aneurysms: Advantages of Coiling Neurosurgery in the Rockies, March 1996.
2. **Witt JP, Yonas H:** TCD monitoring and clinical course in ruptured aneurysm with and without Nimodipine treatment. AANS, Orlando (Florida), Apr 22-27 1995.
3. **Witt JP:** CBF in intensive care for head trauma patients. First International Seminar on Trauma Intensive Care, Mexico City (Mexico), Sep. 2-6 1993.
4. **Witt JP:** Low Grade Glioma: Advantages of Surgical Resection Neurosurgery in the Rockies, March 2000.
5. **Witt JP:** Partington M: Neuroendoscopic Third Ventriculostomy for Treatment of Chiari Malformation with Hydrocephalus and Holocord Syringomyelia, AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting, Nov. 20-23, 1999.
6. **Witt JP:** Treatment of Craniopharyngiomas: Advantages of biopsy and radiation Neurosurgery in the Rockies, March 1999.
7. **Witt JP, Aggarwal S, Yonas H:** Transcranial Doppler Ultrasound waveform analysis for Noninvasive Intracranial Pressure Monitoring, AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting, Nov. 20-23, 1999.
8. **Witt JP:** Transsphenoidal Pituitary tumor resection, Neurosurgery in the Rockies, March 1998
9. **Witt JP:** Neurophysiologic monitoring in Spinal surgery, Neurosurgery in the Rockies, March 1997.
10. Aggarwal S, **Witt JP**, Kang Y, Yonas H, Kramer D, Martin M, Policare R, Lutz, J:
TCD Waveform may predict ICP in patients with fulminant hepatic failure. 7th International Symposium on Cerebral Hemodynamics, Lake Buena Vista, Florida (USA), Feb 6-10, 1993.

11. **Witt JP:** Hemorragia Sub-aracnoidea y TAC de Craneo (Subarachnoidal hemorrhage and Cranial Computer Assisted Tomography) Primer Curso Internacional de Terapia Intensiva, Zamora (Mexico), Nov. 13-14, 1992.
12. Rueckert N, Holl K, Haubitz B, **Witt JP**, Becker H, Dietz H: Does Brain Function depend on Cerebral Vasoreactivity? Second International Conference on Xe/CT CBF measurement, Fukuoka (Japan), Nov. 23-26 1992.
13. Holl K, **Witt JP**, Rzesacz E, Nemati NM: Die Xenon-CT-Hirndurchblutungsmessung beim Patienten unter Intensivtherapie-Physiologie. 2. Hannoversches Anasthesiesymposium: Anästhesie und Intensivmedizin bei diagnostischen Eingriffen, Hannover (Germany), May 24-25 1991
14. **Witt JP**, Heissler HE, Holl K, Nemati MN, Haubitz B, Becker H, Dietz H: Das Monitoring relativer intrakranieller Blutvolumenflussänderungen mit Transkranieller Dopplersonographie. Arbeitstagung der Deutschen Gesellschaft für Neurochirurgie, Essen-Duisburg (Germany), Oct 26-28 1989.
15. Johnson DW, **Witt JP**, Yonas H, Horton JA, Jungreis CA, Linskey ME: Quantitative CBF testing is necessary in carotid balloon test occlusion. 30th Annual meeting of American Society of Neuroradiology (ASNR), St. Louis, Missouri (USA), May 31 – June 5 1992.
16. **Witt JP**, Yonas H, Linskey ME, Johnson DW: Quantitative CBF testing is necessary in carotid balloon test occlusion. Second world congress of stroke, Washington, D.C. (USA), Sep 8-12 1992
17. **Witt JP:** Cervical Spine Trauma, Dispelling Common Fears, Colorado Chapter American Association of Critical Care Nurses, Denver 2004
18. **Witt JP:** MIS for Lumbar Spine: Discectomy and Decompression, The University of Colorado Orthopedic Minimally Invasive Surgery Symposium Keystone, Colorado 2005
19. **Witt JP:** Time is Brain! Management of Traumatic Brain Injury, Vail Valley Hospital 2005
20. **Witt JP:** Cervical Spine Trauma, Aspen Institute December 2006

21. **Witt JP:** Thoracolumbar Spine Trauma: Classification and Surgical Treatment. Aesculap Academy, Miami October 2007
22. **Witt JP:** Thoracic Disc Surgery, Neurosurgery in the Rockies 2010
23. **Witt JP:** Surgical Treatment in Osteoporotic Spine Trauma, *"Osteoporosis and Spinal Fusion Surgery"* Breakfast Seminar, AANS Annual Meeting 2011, Denver, CO
24. **Witt JP:** Thoracic Spinal Disorder and Treatments, Current Techniques in the Treatment of Cranial and Spinal Disorders, 8th Annual Symposium BNA, Broomfield, Colorado October 29th, 2011
25. **Witt JP:** Surgical Treatment in Osteoporotic Spine Trauma, *"Osteoporosis and Spinal Fusion Surgery"* Breakfast Seminar, AANS Annual Meeting 2012, Miami, Florida
26. **Witt JP:** Technique of percutaneous endoscopy of the lumbar and thoracic spine with SpineTIP, Neurosurgery in the Rockies, Beaver Creek, Colorado Feb 26th 2013
27. **Witt JP:** A Review of Percutaneous Full-endoscopic Lumbar Decompression: Lumbar Decompressive MIS Techniques, Breakout Session, SMISS Annual Meeting, Las Vegas, Nevada Nov 2nd 2013
28. **Witt JP:** The Technique of Full-endoscopic Lumbar and Thoracic Spinal Surgery, 5th Annual Meeting MINS Minimal Invasive Neurological Surgery, Detroit, July 27th 2014
29. **Witt JP:** "Endoscopic lumbar decompression" 8th Minimal Invasive Spine Surgery Symposium, Weill Cornell Medical College, New York, NY, December 7th 2014
30. **Witt JP:** "Full endoscopic spinal surgery" John McCulloch Memorial Winter Meeting, Breckenridge, February 27th 2016
31. **Witt JP:** "Global Spinal Alignment: the value of spinopelvic parameters" Grand Rounds Presentation, Resident Core Curriculum, Oct 18th 2016
32. **Witt JP:** "Full-endoscopic spinal lumbar surgery" Society for Minimally Invasive Spinal Surgery SMISS Annual Forum, Las Vegas, Nevada, Oct 15th 2016