

## **CURRICULUM VITAE**

**Kenneth A. Pettine, M.D.**  
**August 2009**

Date of Birth: March 22, 1954

Business: Rocky Mountain Associates in Orthopedic Medicine, P.C.  
3810 N. Grant Avenue  
Loveland, CO 80538  
970-669-8881  
970-669-4200 Colorado Fax

Medical Licensing: Colorado 1989, Wyoming 1991

Eagle Scout Award – 1968

### Past Appointments:

Staff Orthopedic Surgeon  
Eisenhower Army Medical Center  
Fort Gordon, Georgia

Chief of Sports Medicine, Shoulder and Foot Clinics  
Eisenhower Army Medical Center  
Fort Gordon, Georgia

Director of Resident Research  
Eisenhower Army Medical Center  
Fort Gordon, Georgia

Associate Clinical Professor  
Medical College of Georgia  
Augusta, Georgia

Visiting Consultant  
Veteran's Administration Hospital  
Augusta, Georgia

Clinical F.D.A. Investigator for the Monticelli-Spinelli  
External Fixator Systems

Orthopedic Consultant to the Federal Food and Drug Administration

Chief Clinical F.D.A. Investigator for Kineflex artificial cervical Disc verses anterior cervical fusion

### Current Appointments:

Chief Clinical F.D.A. Investigator for Maverick Lumbar artificial disc verses anterior lumbar interbody fusion.

Chief Clinical F.D.A. Investigator for Kineflex artificial lumbar disc verses Charite.

Clinical F.D.A. Co-Investigator for Kineflex artificial cervical disc verses anterior cervical fusion.

Chief Clinical F.D.A. Investigator for NeoDisc cervical artificial disc verses anterior cervical fusion.

Chief Clinical F.D.A. Investigator for Coflex interlaminar device verses lumbar fusion.

Chief Clinical F.D.A. Investigator for Charite lumbar artificial device verses Wallace device.

Chief Clinical F.D.A. Investigator for Hydraflex nucleus replacement.

Chief Clinical F.D.A Investigator for Discover cervical artificial device verses cervical fusion.

Chief Clinical F.D.A. Investigator for Acadia lumbar facet device verses lumbar fusion.

Chief Clinical F.D.A. Investigator for NUBAC lumbar disc arthroplasty verses ProDisc lumbar artificial disc.

Chief Clinical F.D.A. Investigator for Mesoblast lumbar interbody fusion verses lumbar fusion.

Chief Clinical F.D.A. Investigator for NuQu Injectable Adult Cell-Based therapy verses lumbar fusion.

Education:

- 1990 – 1991 Spine Fellowship at the Institute for Low Back Care  
Minneapolis, Minnesota
- 1981 – 1986 Resident. Orthopedic Surgery Mayo  
Graduate School of Medicine  
Mayo Clinic  
Rochester, Minnesota
- Masters Degree, Orthopedic Surgery  
Mayo Graduate School of Medicine  
University of Minnesota  
Minneapolis, Minnesota
- 1977 - 1981 University of Colorado School of Medicine  
Denver, Colorado  
M.D. – Spring 1981, Graduated with Honors
- 1972 – 1976 Colorado College  
Colorado Springs, Colorado  
B.A. (Biology) – Spring 1976, Graduated with Honors

## Professional Membership:

Alpha Omega Alpha Medical Honor Society  
American Medical Association  
American Academy of Orthopedic Surgeons  
North American Spine Society  
North American Cervicogenic Headache Society  
International Spinal Injection Society  
Spinal Arthroplasty Society  
Society for Nucleus Replacement

## Board Certification:

Board of Orthopedic Surgeons 1989  
Recertification 1999

## U.S. Patents:

1. Dynamic Achilles Tendon Rehabilitation Brace, Patent No. 4,955,370
2. Interspinous Lumbar Spine Fixation System, Patent No. 5,496,318
3. Artificial Disc Arthroplasty, Patent No. 5,258,031
4. Artificial Disc Arthroplasty, Patent No. 5,425,773
5. Artificial Disc Arthroplasty, Patent No. 5,562,738

## MEDICAL SCHOOL AND RESIDENCY AWARDS AND HONORS

1. Passed Written Orthopedic Examination, June 1986  
Passed Oral Orthopedic Examination, July 1989
2. Member of International Faculty: 11<sup>th</sup> International Conference on Hoffman External Fixation, Toronto, Canada, 1985 and 12<sup>th</sup> International Conference, Garmisch, Germany, 1986.
3. Master's Thesis: In-Vivo Analysis of External Fixator Pin-Bone Interface.
4. Elected to Alpha Omega Alpha Medical Honor Society, 1981.
5. Lange Award in Medicine for "Outstanding Performance in Medicine," 1981.
6. Presented AMA-ERF plaque at 1981 Carmel Conference for Meritorious Research, 1981.
7. Recipient of \$1,000 ARCS (Achievement Awards for College Scientists). Foundation Award based on performance in three years of medical school. Award presented by Jimmy Stewart at honors banquet, 1980.

8. Medical Auxiliary Award for Outstanding Performance during junior year, 1980.
9. Awarded Kroc Foundation Research Grant for senior year, 1980.
10. Cited for excellent academic achievement during junior year by Curriculum and Promotions Committee, 1978.
11. Presented AMA-ERF plaque at 1979 Carmel Conference for Meritorious Research, 1979.
12. Cited for excellent academic achievement during sophomore year by Curriculum and Promotions Committee, 1978.
13. Recipient of \$1,000 Alton R. Christensen Award for outstanding scholarship during sophomore year, 1979.
14. Cited for excellent academic achievement during freshman year by Curriculum and Promotions Committee, 1978.

## PUBLICATIONS AND RESEARCH

1. Pettine, Kenneth A., Klassen, Rudolph A., "Osteoid-Osteoma and Osteoblastoma of the Spine," JBJS, Vol. 68A, pp. 354-361, 1986.
2. Pettine, Kenneth A., Morrey, Bernard F., "Osteochondral Fracture of the Talus; Long-Term Follow-Up," JBJS, Vol. 69B, pp. 89-92, January 1987.
3. Pettine, Kenneth A., "A Previously Unreported Cause of Pain After Total Knee Arthroplasty," Journal of Arthroplasty, Vol. 1, No. 1, pp. 29-33, March 1986.
4. Pettine, Kenneth A., Sim, Franklin H., Beabout, John W., Soule, Edward H., "Pigmented Villonodular Synovitis," Orthopaedics, Vol. 6, No. 10, pp. 1349-1351, 1983.
5. Pettine, Kenneth A., Kelly Patrick I., Chao, Edmund, Y.S., Huskies, R., "Histologic and Biomechanical Analysis of Unilateral External Fixator Pin-Bone Interface," 3200 Annular ORS, Orthopaedic Transactions, February 17-20, 1986.
6. Pettine, Kenneth A., Cofield, Robert H., Johnson, Kenneth A., "Ingrown Toenail; Long-Term Results of Surgical Treatment," Journal of Foot and Ankle, Vol. 9, No. 3, pp. 130-134, December 1988.
7. Pettine, Kenneth A., Aamlid, Brian C., Cabanella, Miguel E., "Elective Total Hip Arthroplasty in Patients Over the Age of Eighty." Accepted for publication by C.O.R.R.

8. Pettine, Kenneth A, Kelly, Patrick I., Chao, Edmund Y.S., "In-Vivo Analysis of External Fixator Pin-Bone Interface." Accepted for publication by C.O.R.R.
9. Pettine, Kenneth A., Wedel, Denise I., Cabanella, Miguel E., Weeks, Janice L., "The Use of Epidural Bupivacaine Following Total Knee Arthroplasty," *Orthopaedic Review*, Vol. 18, No. 8, pp. 894-901, August 1989.
10. Pettine, Kenneth A., "Association of Anabolic Steroids and Avascular Necrosis of Femoral Heads," *American Journal of Sports Medicine*, Vol. 19, No. 1, pp. 96-98, 1991.
11. Pettine, Kenneth A. "Ingrown Toenail; Non-Surgical Treatment," lead article in *Journal of Musculoskeletal Medicine*, November 1990.
12. Pettine, Kenneth A., Stauffer, Richard, "Supracondylar Fractures of the Femur; Long-Term Follow-Up of Nonrigid Internal Fixation," *Contemporary Orthopaedics*, pp. 253-261, September 1990.
13. Pettine, Kenneth A., "Case Report: Internal Fixation of Four-Part Humeral Fractures," *Contemporary Orthopaedics*, pp. 49-54, July 1989.
14. Drakeford, Michael A., Pettine, Kenneth A., "A Comparative Study of Ultrasound and Arthrograms for Evaluation of Rotator Cuff Pathology." *Clinical Orthopaedics and Related Research*, No. 253, pp. 11-123, 1990.
15. Drakeford, Michael A., Pettine, Kenneth A., Eben F., Brookshire, L., "Spinal Narcotics for Postoperative Analgesia in Total Joint Arthroplasty: A Prospective Study: *JBJS*, pp. 424-428, March 1991.
16. Pettine, Kenneth A., Salib, Richard, "Modified Repair of Spondylolysis by Pedicle Screw, Segmental Wire Fixation and Bone Grafting," *Spine*, 1993.
17. Pettine, Kenneth A., Salib, Richard, "External Electrical Stimulation and Bracing Treatment of Spondylolysis: Case Report." *Spine*, 1993.
18. Pettine, Kenneth A., Salib, Richard, "Femoral Diaphyseal Allograft for Anterior Lumbar Interbody Fusion." Submitted to *JBJS*.
19. Pettine, Kenneth A., Salib, Richard, Akins, William, Wiltse, "Prospective Evaluation of Pedicle Screw Fixation," Submitted to *Spine*.
20. Herzwurm, Paul J., Walsh, John, Pettine, Kenneth A., Ebert, Frank R., "Prophylactic Cerclage: A Method of Preventing Femur Fracture in Uncemented Total Hip Arthroplasty," *Orthopedics*, Vol. 15, No. 2, pp. 143-146, February 1992.

21. Pettine, Kenneth A., "Prospective Multi-Center Evaluation of the Wiltse Pedicle Screw Fixation System for Lumbar Fusion." Orthopedic Transactions, JBJS, 1992.
22. Pettine, Kenneth A., Salib, Richard, "Prospective Evaluation of the Wiltse Pedicle Screw System," Orthopedics Today, p. 26, December 1991.

## PRESENTATIONS

1. Kenneth Pettine, M.D., Rudolph Klassen, M.D.: Osteoid Osteomas and Osteoblastomas of the Spine, Long-Teffil Follow-Up.  
PRESENTED: Society of Military Orthopaedic Surgeons, 1984  
American Academy of Orthopaedic Surgeons, 1984  
MidAmerica Orthopaedic Association, 1984  
AOA Residents Conference, 1984
2. Kenneth Pettine, M.D., Bernard MolTey, M.D.: Transchondral Fractures of the Talus, Long-Term Follow-Up  
PRESENTED: Society Of Military Orthopaedic Surgeons, 1984  
American Academy of Orthopedic Surgeons, 1985  
Mid American Orthopaedic Association, 1985
3. Kenneth Pettine, M.D., Bernard MolTey, M.D.: Occult Injury in the Sprained Ankle  
PRESENTED: Western Trauma Association, 1984  
Richard's Residents Conference, 1984
4. Kenneth Pettine, M.D., Richard Bryan, M.D.: A New Source of the Painful Total Knee Arthroplasty  
PRESENTED: Society of Military Orthopaedic Surgeons, 1985
5. Kenneth Pettine, M.D., Richard Stauffer, M.D.: Supracondylar Fractures of the Femur, Long-Term Follow-Up  
PRESENTED: Western Trauma Association, 1985  
AOA Residents Conference, 1985  
American Academy of Orthopaedic Surgeons, 1988
6. Kenneth Pettine, M.D., Patrick J. Kelly, M.D., Edmund Y.S. Chao, Ph.D.: In-Vivo Analysis of External Fixator Pin-Bone Interface  
PRESENTED: AOA Meeting, 1985
7. Kenneth Pettine, M.D., Edmund Y.S., Chao, Ph.D.: Relationships Between Interface Stresses and Bone Remodeling at Pin Tract in External Fixation  
PRESENTED: Internal Symposium of External Fixation, 1985

8. Kenneth Pettine, M.D., Patrick J. Kelly, M.D., Edmund Y.S. Chao, Ph.D.:  
Histologic and Biomechanical Analysis of Unilateral External Fixator Pin-Bone Interface  
PRESENTED: Orthopaedic Research Society, 1986
9. Kenneth Pettine, M.D., Miguel Cabanella, M.D.: Surgical Treatment in the Rheumatoid Cervical Spine  
PRESENTED: Society of Military Orthopaedic Surgeons, 1986
10. Kenneth Pettine, M.D., Denise Wedel, M.D., Miguel Cabanella, M.D.:  
Continuous Epidural Bupivacaine Following Total Knee Arthroplasty  
PRESENTED: Society of Military Orthopaedic Surgeons, 1987
11. Kenneth Pettine, M.D., Edmund Y.S. Chao, Ph.D., Patrick I. Kelly, M.D.:  
Comparison of Loosening Between Half-Pin and Full-Pin External Fixation  
PRESENTED: 12th International Conference on External Fixation
12. Kenneth Pettine, M.D., Kenneth A. Johnson, M.D., Robert Cofield, M.D.:  
Long- Term Follow-Up of Surgical Procedure for Ingrown Toenail  
PRESENTED: Society of Military Orthopaedic Surgeons Foot and Ankle Society Meeting, 1987
13. Kenneth Pettine, M.D.: Shoulder Arthroplasty, The EAMC Experience  
PRESENTED: Society of Military Orthopaedic Surgeons, 1988  
Hawaiian Orthopaedic Society Meeting, 1989
14. Kenneth Pettine, M.D.: Biomechanics of the Shoulder and Elbow  
PRESENTED: Biomechanics Symposium for MCG and EAMC, 1987, 1988, 1989
15. Kenneth Pettine, M.D.: Monticelli-Spinelli: Circular External Fixator for Leg Lengthening  
PRESENTED: Hawaiian Orthopaedic Society Meeting, 1989  
Pan Pacific Surgical Meeting, 1989, Newport Beach Introduction Meeting, 1990, East Rutherford, New Jersey Meeting, 1990  
Charleston Residents Research Meeting, 1990
16. Kenneth Pettine, M.D.: Circular Wire Fixation Applications in Trauma  
PRESENTED: Trauma Meeting in St. Louis, 1990  
Trauma Meeting in New Orleans, 1990
17. Kenneth Pettine, M.D.: Guest Consultation; Boston University, Department of Orthopaedics, August 1990

18. Kenneth Pettine, M.D.: Prospective Series of Wiltse Pedicle Screw Fixation  
PRESENTED: Minneapolis Spine Society Meeting, November 1990  
Keystone Spine Meeting, February 1991  
2nd Annual Colorado Spine Symposium, 1991
19. Kenneth Pettine, M.D.: Femoral Diaphyseal Allograft for Anterior Lumbar Interbody Fusion  
PRESENTED: Minneapolis Spine Society Meeting, November 1990  
Keystone Spine Meeting, February 1991
20. Kenneth Pettine, M.D.: Cadaveric Analysis of a New Pedicle Probe  
POSTER EXHIBIT: Advanced Pedicle Fixation Course, N.A.S.S., S.R.S., 1991
21. Kenneth Pettine, M.D.: Prospective Multi-Center Evaluation of Wiltse Pedicle Screw Fixation for Lumbar Fusion  
PRESENTED: Scientific Presentation MOS, Washington, D.C., 1992  
Wiltse Pedicle Screw Symposium, 1992
22. Kenneth Pettine, M.D.: Arthroscopic Bankart Repair of Shoulder  
PRESENTED: 2<sup>ND</sup> Annual Colorado Sports Medicine Meeting, 1991
23. Director of Symposium on Use of Thin Wire Fixation for Elective and Traumatic Orthopedics, February 8, 1992
24. Guest speaker at Texas Back Institute to present Artificial Disc Replacement, October 1993
25. Kenneth Pettine, M.D.: Interspinous Fixation for Lumbar Fusion  
PRESENTED: 411. Annual Colorado Spine Symposium, 1993
26. Kenneth Pettine, M.D.: Prospective Multi-Center Study of Wiltse Fixation System; Prospective Evaluation of Wiltse Fixation System  
PRESENTED: 611. International Meeting of Lumbar Fixation and Fusion, Canberra Australia, November 1993
27. Kenneth Pettine, M.D.: Follow-Up Study on Anterior Cervical Fusion  
PRESENTED: 511. Annual Colorado Spine Symposium, Denver, Colorado 1994  
2nd Annual Northern Colorado Spine Meeting, February 1995
28. Kenneth Pettine, M.D.: Treatment Outcomes of Lumbar Fusion with the E.B.I. Bone Growth Stimulator  
PRESENTED: Spine Surgeon's Forum, New Jersey, March 1995  
N.A.S.S. National Meeting, Washington, D.C., October 1995

29. Kenneth Pettine, M.D., E. Jeffrey Donner, M.D.: Comparison of the Synthes Plate to the Danek Plate for Anterior Cervical Fusion  
PRESENTED: 6th Annual Colorado Spine Symposium, Denver, October 1995
30. Kenneth Pettine, M.D., E. Jeffrey Donner, M.D.: Long-Term Follow-Up of Anterior Cervical Fusion for Neck Pain and Headaches  
PRESENTED: American Academy of Facial, Neck and Head Pain, Fort Worth, Texas, 1996  
4<sup>th</sup> Annual Northern Colorado Spine Symposium, March 1997
31. Kenneth Pettine, M.D.: Cost Efficacy of Anterior Cervical Plating  
PRESENTED: Danek Meeting on Anterior Cervical Fusion, Memphis, Tennessee, October 1996
32. Kenneth Pettine, M.D.: Can Laser Discectomy Prevent Lumbar Fusion?  
PRESENTED: International Spinal Injection Society, Naples, Florida, May 1997
33. Kenneth Pettine, M.D.: Interspinous Fixation for Lumbar Fusion  
POSTER EXHIBIT: Mid- American Orthopedic Association, Hilton Head, South Carolina, April 1997
34. Kenneth Pettine, M.D., E. Jeffrey Donner, M.D.: Maverick Lumbar Artificial Disc Replacement vs. A.L.I.F; Minimum three-year follow up study  
PRESENTED: S.A.S., Berlin, 2007  
World Spine Istanbul, 2007  
Eurospine, Brussels, 2007  
N.A.S.S., Austin, 2007
35. Kenneth Pettine, M.D., E. Jeffrey Donner, M.D.: Kineflex vs. Charite Lumbar Artificial Disc; Minimum two-year follow-up study  
PRESENTED: S.A.S., Berlin 2007  
World Spine Istanbul, 2007  
Eurospine, Brussels, 2007  
N.A.S.S., Austin, 2007
36. Kenneth Pettine, M.D., E. Jeffrey Donner, M.D.: Instrumented Spine Surgery Performed at an A.S.C. with Convalescent Center Outcome Study  
PRESENTED: A.S.C. National Meeting, Chicago, 2007  
S.A.S., Berlin, 2007  
A.S.C. National Meeting, San Antonio, 2008

37. Kenneth A. Pettine, M.D., E. Jeffrey Donner, M.D.: Why Do Lumbar Artificial Discs Fail?

PRESENTED: Eurospine, Geneva, Switzerland, 2008  
Poster Exhibit S.A.S., Miami, Florida, 2008  
N.A.S.S., Toronto, Ontario, 2008  
A.A.O.S., Las Vegas, Nevada, 2009  
Spinal Progress and Innovation of the Near East  
(S.P.I.N.E.) Beirut, Lebanon, 2009  
Preservation of Motion in the Spine,  
Duck Key, Florida 2009

POSTER EXHIBIT: S.A.S. Meeting, Miami, Florida, 2008  
I.S.S.L.S. Meeting, Miami, Florida, 2009

38. Kenneth A. Pettine, M.D., E. Jeffrey Donner, M.D.: Prospective Analysis of Three Lumbar Artificial Discs

PRESENTED: S.A.S. Meeting, Miami, Florida, 2008  
Eurospine Meeting, Geneva, Switzerland, 2008  
I.S.S.L.S. Meeting, Miami, Florida, 2009  
Spinal Progress and Innovation of the Near East  
(S.P.I.N.E.) Beirut, Lebanon, 2009

39. Kenneth A. Pettine, M.D., E. Jeffrey Donner, M.D.: Prospective Analysis of Coflex implant Interlaminar Device vs. Fusion

PRESENTED: S.A.S. Meeting, Miami, Florida, 2008  
I.S.S.L.S. Meeting, Miami, Florida, 2009  
Preservation of Motion in the Spine,  
Duck Key, Florida, 2009

40. Kenneth A. Pettine, M.D., E. Jeffrey Donner, M.D.: Prospective Analysis of NeoDisc Cervical Artificial Disc

PRESENTED: Eurospine, Geneva, Switzerland, 2008

41. Kenneth A. Pettine, M.D., WB Rodgers, M.D., R. Dryer, M.D., S. Kichel, M.D., JA Youssef, M.D.: Radiographic Outcomes of Cervical Arthroplasty with the Neo-Disc Cervical Disc Replacement Device out to 6 Months

PRESENTED: N.A.S.S., Toronto, Ontario 2008

42. Kenneth A. Pettine, M.D., R. Dryer, M.D., WB Rodgers, M.D., S. Kitchel, M.D. JA Youssef, M.D.: Cervical TDR with NeoDisc: Correlation between Disc Height Increase and Clinical and Radiographic Success

POSTER EXHIBIT: A.A.O.S., Las Vegas, Nevada, 2009

43. Kenneth A. Pettine, M.D.: Does Adjacent Abnormal Non-Concordant Discography Impact the Clinical Results of Lumbar Artificial Disc Replacement?

PRESENTED: I.S.S.L.S. Meeting, Miami, Florida, 2009  
Preservation of Motion in the Spine,

Duck Key, Florida, 2009  
S.A.S., London, England, 2009

44. Kenneth A. Pettine, M.D.: Evaluation of Cervical Artificial Discs – A Clinical View  
PRESENTED: Spinal Progress and Innovation of the Near East (S.P.I.N.E.) Beirut, Lebanon, 2009
45. Kenneth A. Pettine, M.D.: Spine Surgery Experience at Loveland Surgery Center  
PRESENTED: 7TH Annual Orthopedic, Spine and Pain Management – Driven ASC Conference, Chicago, Illinois 2009

### MEDICAL SCHOOL RESEARCH

1. Kenneth Pettine, M.D., Steve Oboler, M.D.: A Survey of Primary Care Physicians Concerning High Blood Pressure. Clinical Research, 1979
2. Kenneth Pettine, M.D., et al: Rhabdomyolysis, Electrolyte and Acid Base Abnormalities in High Altitude Marathon Runners. Clinical Research, 1981
3. Kenneth Pettine, M.D., et al: Metabolic and Biomechanical Changes in Marathon Runners. Annals of Internal Medicine, 1981
4. Kenneth Pettine, M.D.: Direct Thyroid Hormone Stimulation of Nak-AtPase Activity in Cultured Hepatocytes. Clinical Research, 1981