

CURRICULUM VITAE**A. Personal Information**

Name in Full	Carleton Thomas Vangsness, Jr., M.D.
Home Address	2759 Selby Ave Los Angeles, CA 90064
Business Address	Keck School of Medicine At the University of Southern California Department of Orthopaedic Surgery Healthcare Consultation Center 1520 San Pablo Street, Suite 2000 Los Angeles, CA 90033-4608
Business Phone	(323) 442-5860
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Place of Birth	St. Paul, Minnesota
Citizenship	USA
Email Address	vangsness@usc.edu

B. Education

High School	St. Paul Academy, St. Paul, MN, 1969
College	St. Olaf College, B.A., Chemistry and Asian Studies, 1973, Cum Laude, St. Paul, MN
Graduate School	School of Public Health, Department of Epidemiology, 1975-1976 Minneapolis, MN
Medical School	University of Minnesota School of Medicine, M.D., 1980, Minneapolis, MN
Internship	Hennepin County Medical Center, 1980 - 1981, General Surgery, Minneapolis, MN
Residency	Hospital for Joint Diseases, 1982 - 1986, Orthopaedic Institute, New York, NY
Fellowships	Bioengineering Fellowship, 1981 - 1982, Hospital for Joint Diseases, Orthopaedic Institute, New York, NY Sports Medicine Fellowship, 1986 - 1987, Kerlan-Jobe Orthopaedic Clinic, Inglewood, CA

Honors and Awards	Teacher of the Year Award, USC Department of Orthopaedic Surgery, 1994, 1999, 2008 Neer Award, for “The Effects of Laser Induced Collagen Shortening on the Biomechanical Properties of The Inferior Glenohumeral Ligament Complex”, 1997 Kerlan-Jobe Presentation Award, 2002 Named Lectureship – Walgreen Professor, Loyola University Stritch School of Medicine, May 4-5, 2011 Top Doctor, Pasadena Magazine, 2015
Licensure	New York, 1981 (147412) Minnesota, 1981 (26315) California, 1982 (G56949) Drug Enforcement Administration (BV0302670)
Board Certification Recertification	American Board of Orthopaedic Surgery, July 1989 American Board of Orthopaedic Surgery, December 31, 2019

C. **Professional Background**

Academic Appointments

- Visiting Assistant Professor of Clinical Orthopaedics
University of Southern California School of Medicine, 1987
- Assistant Professor of Clinical Orthopedics
University of Southern California School of Medicine, 1987
- Associate Professor of Orthopaedics
University of Southern California School of Medicine, 1995 – 2002
- Professor of Orthopaedics
University of Southern California School of Medicine, 2002 – Present

Specific Teaching Responsibilities

- Resident Education in Sports Medicine
Lecture; Surgery; Grand Rounds; Clinic
LAC/USC Medical Center, 1987 – Present
- Resident Education in Sports Medicine
Lecture; Surgery; Grand Rounds; Clinic
Rancho Los Amigos Medical Center, 1987 – 1995
- Orthopaedic Trauma Service
LAC/USC Medical Center, 1987 – 1991
- Orthopaedic Fracture Brace Clinic
LAC/USC Medical Center, 1987 – 1989
- Director of Medical Students
University of Southern California School of Medicine,
Department of Orthopaedics, 1990 – Present
- Coordinator, Year II Musculoskeletal Lecture Series

University of Southern California School of Medicine,
Department of Orthopaedics, 1990 – Present

Specific Administrative Departmental Responsibilities

- Chief, Sports Medicine Service, LAC/USC Medical Center, 1987 – Present
- Chief, Sports Medicine Service, Rancho Los Amigos Medical Center, 1987 – 1995
- Member, Year II Curriculum Committee, 1990 – Present
- Member, Year II Performance Committee, 1991 – Present
- Vice Chair, University Hospital Department of Orthopaedics, 1992 – Present
- Co-Chair, USC Curriculum Revision Committee, 2000 – present

Military Service

None

Other Employment or Activities

- Private Practice, USC Orthopaedic Medical Group, 1987 – 1991
- Director/Founder, Inner City High School Team Physicians, USC School of Medicine, Department of Orthopaedics, 1987 – 1992
- Co-Director, Center for Athletic Medicine, 1997 – Present
- Student Health, University of Southern California, 1990 – 1992
- Treasurer, Orthopaedic Laser Society of North America, 1991
- President, Hospital for Joint Diseases Alumni Association, 1991
- Team Physician, USC Department of Athletics, 1991 – Present
- Private Practice, USC Orthopaedic Surgery Associates, 1991 – Present
- Secretary, Orthopaedic Laser Society of North America, 1991 – 1992
- Vice President, Orthopaedic Laser Society of North America, 1992 – 1993
- President, Orthopaedic Laser Society of North America, 1993 – 1994
- Editorial Board, Journal of Arthroscopy, 2001 – Present
- Editorial Advisory Board, The Journal of Knee Surgery, 2003 – Present
- Guest Editor, Sports Medicine and Arthroscopy Review, 2005

D. Society Memberships

Local

- University of Southern California Graduate Orthopaedic Society, 1987 – Present
- California Orthopaedic Association, 1991 – Present
- Western Orthopaedic Association, 1994 – Present

National

- Hospital for Joint Diseases Alumni Association, 1986 – Present
- American Academy of Orthopaedic Surgeons, 1991 – Present
- Orthopaedic Laser Society of North America, 1991 – Present (Founding Member)
- Arthroscopy Association of North America, 1992 – Present
- Orthopaedic Research Society, 1992 – Present
- Biomedical Optics Society, 1992 – 1995
- American Orthopaedic Society for Sports Medicine, 1993 – Present
- American Shoulder and Elbow Surgeons, 1995 – Present

- The International Society of Orthopaedic Surgery and Traumatology, 1990 – Present
- International Cartilage Repair Society, 2002 – Present
- Wilson-Bost Interurban Orthopaedic Club, 2003 – Present

E. Consultantships

Local and National

State Panel QME certified

F. Research Activities

Complete Bibliography
Appended

Major Areas of Research Interest

- Meniscus Physiology
- Shoulder Biomechanics
- Ligament Biomechanics
- Allograft Transplantation
- Radiofrequency Energy Effects on Articular Cartilage, Meniscal Cartilage and Ligaments
- Molecular Biology and Sports Medicine
- Stem Cell/Regenerative Medicine

Research Grants

- The Effect of Low Level Laser Energy on Chondrocyte Transforming Growth 1998 \$15,000 FSMER
- Biomechanical Analysis of Rehabilitative Exercise Following Anterior Cruciate Ligament Repair: Influence of Different Surgical Interventions
Interdisciplinary Zumberge Research Grant 2004 \$44,785

Grants Submitted

- Auricular R-21 NIH Rotator Cuff Rat Stem Cell
- Cartilage Embryonic Stem Cell CIRM
- Ligament Physiology/ Medicines Tom Hedman and Tom Vangsness (NIH)
- SBIR 2011 Ligament Xenograft.

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Peer Review

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In vitro evaluation of the loosening characteristics of self-taped and non-self-taped cortical bone screws.
Clin Orthop 157: 279-286, 1981.
2. Parisien, J.S., and **Vangsness, C.T.**
Operative arthroscopy of the ankle: Three years' experience.
Clin Orthop 199: 46-53, 1985.
3. Parisien, J.S., and **Vangsness, C.T.**
Arthroscopy of the subtalar joint: An experimental approach.
J Arthroscopy 1(1): 53-57, 1985.
4. Parisien, J.S., and **Vangsness, C.T.**
Diagnostic and operative arthroscopy of the ankle: An experimental approach.
Clin Orthop 224: 228-236, 1987.
5. Sarmiento, A., Gersten, L.M., Sobol, P.A., Shankweiler, J.A., and **Vangsness, C.T.**
Tibial shaft fractures treated with functional braces.
J Bone Joint Surg 71-B: 602-609, 1989.
6. Smith, C.F., Johansen, W.E., **Vangsness, C.T.**, Sutter, L.V., and Marshall, G.J.
The carbon dioxide laser: A potential tool for orthopaedics.
Clin Orthop 242: 43-50, 1989.
7. Sarmiento, A., Horowitch, A., Aboulafia, A., and **Vangsness, C.T.**
Functional bracing of comminuted extra-articular fractures of the distal third of the humerus.
J Bone Joint Surg 72-B : 283-287, 1990.
8. **Vangsness, C.T.**, and Jobe, F.W.
Surgical results of medial epicondylitis.
J Bone Joint Surg 73-B : 409-411, 1991.
9. Kjellin, I., Ho, C.P., Cervilla, V., Haghighi, P., Kerr, R., **Vangsness, C.T.**, Friedman, R.J., Trudell, D., and Resnick, D.
Alterations in the supraspinatus tendon at MR imaging: Correlation with histopathologic findings in cadavers.
Radiology 181: 837-841, 1991.

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Meniscal injury with femur fractures: An arthroscopic evaluation.
J Bone Joint Surg [Br] 75B : 207-209, 1993.
11. **Vangsness, C.T.**, and Hunt, T.J.
A review of skeletal fixation sites.
Bull Hosp Jt Dis 52(2): 44-45, 1993.
12. **Vangsness, C.T.**, and Ghaderi, B.
Review of lasers and articular cartilage.
Orthopedics 16(5): 1-6, 1993.
13. **Vangsness, C.T.**, Carter, V., Hunt, T., Kerr, R., and Newton, E.
Radiographic diagnosis of ankle fractures: Are three views necessary?
Foot Ankle Int. 15(4): 172-174, 1994.
14. **Vangsness, C.T.**, Akl, Y., Subin, B., and Marshall, G.J.
The effects of the neodymium laser on meniscal repair in the avascular zone of the meniscus.
J Arthroscopy 10(2): 201-205, 1994.
15. **Vangsness, C.T.**, Ghaderi, B., Hohl, M., and Moore, T.
Arthroscopy of meniscal injuries with tibial plateau fractures.
J Bone Joint Surg [Br] 76-B : 488-90, 1994.
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Ipsilateral knee injury with femur fracture: Examination under anesthesia and arthroscopic evaluation.
Clin Orthop 300: 178-182, 1994.
17. Liu, S., Lunsford, T., and **Vangsness, C.T.**
Comparison of functional knee braces for control of anterior tibial displacement.
Clin Orthop 303: 203-210, 1994.
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Effects of gamma irradiation on the human immunodeficiency virus: A study in frozen human bone-
patellar ligament-bone grafts obtained from infected cadavers.
J Bone Joint Surg 76-A (7): 1032-1035, 1994.
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Survey of medical care in southern California's high school football players.
Am J Sports Med 22(5): 719-722, 1994.
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The origin of the long head of the biceps from the scapula and glenoid labrum: An anatomical study of
100 shoulders.
J Bone Joint Surg [Br] 76-B: 951-954, 1994.

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A disposable fiber optic arthroscope: A cadaver study.
Foot Ankle Int. 15(9): 502-504, 1994.
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The biological effects of carbon dioxide laser surgery on rabbit articular cartilage.
Clin Orthop 310: 48-51, 1995.
23. **Vangsness, C.T.**, Akl, Y., Nelson, S.J., Liaw, L.L., Smith, C.F., and Marshall, G.J.
In vitro analysis of laser meniscectomy.
Clin Orthop 310: 21-26, 1995.
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A spectrophotometer analysis of light absorption in the human meniscus.
Clin Orthop 310: 27-29, 1995.
25. **Vangsness, C.T.**, Watson, T.S., Saadatmanesh, V., and Moran, K.
Pulsed Ho: YAG laser Meniscectomy: Effect of pulse width on tissue penetration rate and lateral thermal damage.
Lasers Surg Med 16(1): 61-61, 1995.
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Neural anatomy of the glenohumeral ligaments, labrum, and sub acromial bursa.
Arthroscopy 11(2): 180-184, 1995.
27. Fideler, B.M., **Vangsness, C.T.**, Lu, B., Orlando, C., Moore, T., and McKellop, H.
Gamma irradiation effects on biomechanical properties of human bone-patellar tendon-bone allografts.
Am J Sports Med 23(5): 643-646, 1995.
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Arthroscopic shoulder surgery with three different laser systems: An evaluation of laser applications.
Arthroscopy 11(6): 696-700, 1995.
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Traumatic dislocation of the knee: A review of the literature.
Bull Hosp Jt Dis 54 (1): 19-24, 1995.
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Review of outcome instruments for anterior cruciate ligament reconstruction.
Bull Hosp Jt Dis 54(1): 25-29, 1995.
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Upper extremity blood flow in collegiate and high school baseball pitchers: A preliminary study.
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Clin Orthop 337: 267-271, 1997.
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Arthroscopy 13(2): 148-150, 1997.
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The effects of laser-induced collagen shortening on the biomechanical properties of the inferior glenohumeral ligament complex.
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Technical pitfalls of meniscal surgery.
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Cautious Surgery for Discoid Menisci
Am J Knee Surg 12:25-28, 1999
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Electrosurgical methods for arthroscopic meniscectomy: A review of the literature.
Arthroscopy 16(8): 813-821, 2000.
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Management of chronic deep infection following rotator cuff repair.
J Bone Joint Surg (Am) 82-A (8): 1115-1121, 2000.
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An anatomic study of the supraspinatus muscle and tendon.
Clin Orthop 384: 280-285, 2001.
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Radiofrequency thermal effects on the human meniscus: An in-vitro analysis.
J Arthroscopy 18(5): 492-495, 2002.
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Laser-Assisted Chondroplasty
Clin Sports Med 21 (4): 687-692, 2002.
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Electromagnetic surgical devices in orthopaedics. Lasers and radiofrequency.
J Bone Joint Surg (Am) 84-A (4): 675-81, 2002.
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Strengthening the supraspinatus: A clinical and biomechanical review.
Clin Orthop & Related Research 402: 292-8, 2002.
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The prevalence of soft tissue injuries in nonoperative tibial plateau fractures as determined by magnetic resonance imaging.
J Orthop Trauma 16(9): 628-31, 2002.

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Radiofrequency thermal effects on the human meniscus: An in-vitro comparison of monopolar vs. bipolar electrodes.
Am J Sports Med 31(2): 253-6, 2003.
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Allograft transplantation in the knee: Tissue regulation, procurement, processing, and sterilization.
Am J Sports Med 31(3): 474-481, 2003.
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Cultures of ligament fibroblasts in fibrin matrix gel.
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Nonsurgical Approaches to Pain Management for Osteoarthritis of the Knee
Am J Orthop 32(2S): 10-14, 2004.
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Restoring Articular Cartilage in the Knee
Am J Orthop 32(2S): 29-34, 2004.
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A Roundtable Discussion: New Therapeutic Options for Managing the Arthritic Knee
Am J Orthop 32(2S): 35-39, 2004.
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Overview of Allograft Soft Tissue Processing.
AAOS Bulletin 52(1):33-38, 2004.
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Custom-Fit Versus Premanufactured Braces
Orthopedics 27(3): 307-10, 2004.
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Thermal Profile of Radiofrequency Energy in the Inferior Glenohumeral Ligament.
Arthroscopy 20(6): 603-608, 2004
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Recent Advances in Glucosamine and Chondroitin Supplementation
J Knee Surg 17(4): 185-193, 2004
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Effects of radiofrequency energy on human articular cartilage: An analysis of five systems
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Radiofrequency Use on Articular Cartilage Lesions.
Orthop Clin North Am 36(4): 427-31, 2005.
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and Wang, J.C.
Biomechanical analysis of allograft bone treated with a novel tissue sterilization process.
Spine J 6(1): 34-9, 2006.
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Am J Sports Med 34(2):315-6, 2006.
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Soft-Tissue Allograft Processing Controversies
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Overview of Safety Issues Concerning the Preparation and Processing of Soft-Tissue
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The Current Status of Tissue Regulation, Procurement, Processing, and Sterilization.
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in persons with and without symptoms of shoulder impingement. Am J Sports Med. 2008 Jan; 37(1),
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Tissue Banking Issues for Soft Tissue Allografts. Clin Sports Med Apr;28(2):183-189, vii.
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Musculoskeletal Medicine, June, 2009, p.149

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Non-Peer Review.

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3. **Vangsness, C.T.**, Huang, J., and Smith, C.F.
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10. **Vangsness, C.T.**, Conference Chair
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11. **Vangsness, C.T.**, Mitchell, W., Saadat, V., and Nimni, M.
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12. Jacques, S.L., Schwartz, J., Gofstein, G., and **Vangsness, C.T.**
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16. Smith, C.F., and **Vangsness, C.T.**
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18. Smith, C.F., Johansen, E.L., **Vangsness, C.T.**, Marshall, G.J., Sutter, L.V., and Bonavalet, T.
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Abstracts Accepted

1. **Vangsness, C.T.**, and Ennis, M.
The neural anatomy of the glenoid labrum and shoulder ligaments.

2. Watson, T., **Vangness, C.T.**, Saadatmanesh, V., and Shinoda, J.
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3. A Review of Evidence Medicine for Glucosamine and Chondroitin Sulfate Use in Knee Osteoarthritis. **C. Thomas Vangness Jr. M.D.**, William Spiker, B.A., Juliana Erickson, B.A.
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2. "Lasers in Arthroscopic Surgery"
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3. "Laser Meniscectomy: Wavelength Analysis by the Spectrophotometer"
Arthroscopic Laser Surgery: Clinical Applications. By Allen T. Brillhart, M.D.
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4. "10.6 μm CO₂ Arthroscopic Laser Surgery: 1222 Cases"
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5. "Knee: Articular Cartilage Lesions and Osteochondritis Dissecans"
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6. "Medial Epicondylitis"
Current Therapy in Sports Medicine, Third Edition. By Joseph S. Torg, M.D., Roy J. Shephard, M.D.
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Miscellany

Poster Session

1. Smith, C.F., **Vangsness, C.T.**, Johansen, W.E., Sutter, L.V., and Marshall, G.J.
Meniscal repair utilizing a hand held carbon dioxide laser. American Academy of Orthopaedic Surgeons, 54th Annual Meeting, San Francisco, CA, 1987.
2. Smith, C.F., Johansen, W.E., Marshall G.J., and **Vangsness, C.T.**
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3. Sharpe, F., Dowd, J., **Vangsness, C.T.**, and Marshall, G.J.
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4. **Vangsness, C.T.**, Smith, C.F., Nelson, S., Akl, Y., and Marshall, G.J.
An in vitro analysis of partial human meniscectomy by five different laser systems. American Academy of Orthopaedic Surgeons, 58th Annual Meeting, poster# B3, Anaheim, CA, 1991.
5. **Vangsness, C.T.**
Partial human meniscectomy: An in vitro comparison of the tissue alteration of six laser systems, electrocautery and the scalpel. Orthopaedic Research Society, 58th Annual Meeting, Anaheim, CA, 1991.
6. **Vangsness, C.T.**, Huang, J., Boll, J., and Smith, C.F.
Light absorption characteristics of the human meniscus: Applications for laser ablation. American Academy of Orthopaedic Surgeons, 59th Annual Meeting, poster# C49, Washington, D.C., 1992.
7. Supik, L.F., Dew, D.K., and **Vangsness, C.T.**
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8. **Vangsness, C.T.**, Smith, C.F., Sweeney, J.R., and Johansen, W.E.
The biologic effects of CO₂ laser surgery on rabbit Articular cartilage. American Academy of Orthopaedic Surgeons, 59th Annual Meeting, poster# C31, Washington, D.C., 1992.
9. Liu, S.H., **Vangsness, C.T.**, and Lunsford, T.
A comparison of functional knee braces for control of anterior tibial displacement. American Academy of Orthopaedic Surgeons, 59th Annual Meeting, poster# D20, Washington, D.C., 1992.
10. Fideler, B.M., **Vangsness, C.T.**, Lu, B., Orlando, C., and Moore, T.
Effects of gamma irradiation on the biomechanical properties of the human bone-patellar tendon-bone allografts. American Academy of Orthopaedic Surgeons, 60th Annual Meeting, poster# A12, San Francisco, CA, 1993.

11. Fideler, B.M., **Vangness, C.T.**, Moore, T., Li, Z., Rasheed, S.
Effects of gamma irradiation on the human immunodeficiency virus in known infected human bone-patellar tendon-bone allografts. American Academy of Orthopaedic Surgeons, 60th Annual Meeting, poster# D48, San Francisco, CA, 1993.
12. **Vangness, C.T.**, Akl, Y., Marshall, G.J., Subin, W., and Smith, C.F.
The healing effect of the Nd: YAG laser on meniscal repairs in the avascular zone of the meniscus. American Academy of Orthopaedic Surgeons, 60th Annual Meeting, poster# E52, San Francisco, CA, 1993.
13. Jorgenson, S.S., **Vangness, C.T.**, Watson, T., and Johnson, D.L.
The anatomy and histology of the origin of the long head of the biceps brachii: A study 100 human cadaver. American Academy of Orthopaedic Surgeons, 60th Annual Meeting, poster# C38, San Francisco, CA, 1993.
14. **Vangness, C.T.**, and Smith, C.F.
Arthroscopic shoulder surgery with three different laser systems: An evaluation of laser applications. American Academy of Orthopaedic Surgeons, 60th Annual Meeting, poster# D39, San Francisco, CA, 1993.
15. **Vangness, C.T.**, Ghaderi, B., and Hohl, M.
Arthroscopic evaluation of meniscal injuries in tibial plateau fractures. American Academy of Orthopaedic Surgeons, 61st Annual Meeting, poster #A84, New Orleans, LA, 1994.
16. **Vangness, C.T.**, Schmotzer, H., and Fideler, B.M.
The evaluation of creep in human bone-patellar tendon-bone tendons for anterior cruciate ligament reconstruction. American Academy of Orthopaedic Surgeons, 61st Annual Meeting, poster #A65, New Orleans, LA, 1994.
17. **Vangness, C.T.**, Gibson, T.W., and Zigler, J.E.
Arthroscopic evaluation in the paralytic patient with shoulder pain. American Academy of Orthopaedic Surgeons, 61st Annual Meeting, poster #B101, New Orleans, LA, 1994.
18. **Vangness, C.T.**, Triffon, M.J., Joyce, M.J., and Moore, T.M.
A survey of American tissue banks for soft tissue allograft reconstruction of the human knee. American Academy of Orthopaedic Surgeons, 61st Annual Meeting, poster #D73, New Orleans, LA, 1994.
19. Abdollahi, K., **Vangness, C.T.**, Lee, J., and Shepherd, L.
Non-operative tibial plateau fractures: Prevalence of associated soft tissue injuries as determined by MRI. American Academy of Orthopaedic Surgeons, 62nd Annual Meeting, poster #C59, Orlando, FL, 1995.

20. **Vangsness, C.T.**, Mitchell, W., Sadaat, V., and Nimni, M.
Ligament shortening: An experimental approach. American Academy of Orthopaedic Surgeons, 62nd Annual Meeting, poster #A71, Orlando, FL, 1995.
21. **Vangsness, C.T.**
Isometry of the posterior cruciate ligament: Effects of functional load and muscle force application. American Academy of Orthopaedic Surgeons, 63rd Annual Meeting, poster E69, Atlanta, GA, 1996.
22. **Vangsness, C.T.**
The biomechanical effects of laser induced collagen shortening on the inferior glenohumeral ligament complex of the shoulder. American Academy of Orthopaedic Surgeons, 63rd Annual Meeting, poster E68, Atlanta, GA, 1996.
23. **Vangsness, C.T.**
Concentric and eccentric isokinetic strength training of the rotator cuff. American Academy of Orthopaedic Surgeons, 63rd Annual Meeting, poster E67, Atlanta, GA, 1996.
24. **Vangsness, C.T.**, Mikulak, S., Nimni, M.E., and Taylor, J.
Non-steroidal anti-inflammatory drug delivery to the shoulder: A comparison of oral and topical administration. American Association of Orthopaedic Surgeons, 63rd Annual Meeting, poster E26, Atlanta, GA, 1996.
25. **Vangsness, C.T.**
The effects of different laser energy levels of the human inferior glenohumeral ligament. American Academy of Orthopaedic Surgeons, 64th Annual Meeting, poster B015, San Francisco, CA, 1997.
26. **Vangsness, C.T.**
Acromial soft tissue origins: Histology and microanatomy of the deltoid, acromioclavicular capsule and coracoacromial ligament entheses. American Academy of Orthopaedic Surgeons, 65th Annual Meeting, poster A011, New Orleans, LA, 1998.
27. **Vangsness, C.T.**
A prospective evaluation of the diagnostic ability of intravenous gadolinium magnetic resonance imaging (MRI) in the shoulder. American Academy of Orthopaedic Surgeons, 65th Annual Meeting, poster C012, New Orleans, LA, 1998.
28. **Vangsness, C.T.**
Magnetic resonance imaging of tibiofibular syndesmosis injuries: An anatomic and clinical study of the interosseous ligament. American Academy of Orthopaedic Surgeons, 65th Annual Meeting, poster C014, New Orleans, LA, 1998.
29. Ferrera, A., Liao, W-L., **Vangsness, C.T., Jr.**, Yu, J., Itamura, J.M., Tibone, J.E., Hedman, T.
The biomechanical effects of radiofrequency induced collagen shortening on the inferior Glenohumeral ligament complex. American Academy of Orthopaedic Surgeons, 66th Annual Meeting, poster 395, Anaheim, CA, 1999.

30. **Vangness, C.T., Jr.**, Roy, R., Chun, J., Hall, F.L.
Isolation and expansion of stem cells from human anterior cruciate and meniscal ligaments with transforming growth factor-beta. American Academy of Orthopaedic Surgeons, 66th Annual Meeting, poster 395A, Anaheim, CA, 1999.
31. Liao, W-L., Hedman, T., Ferrera, A., **Vangness, C.T., Jr.**
Conduction of radiofrequency generated heat through the glenohumeral ligament. American Academy of Orthopaedic Surgeons, 66th Annual Meeting, poster 425, Anaheim, CA, 1999.
32. Mirzayan, R., Patzakis, M.J., **Vangness, C.T., Jr.**, Holtom, P., Sherman, R., Itamura, J.M.
Management of chronic postoperative shoulder infections. American Academy of Orthopaedic Surgeons, 66th Annual Meeting, poster 426, Anaheim, CA, 1999.
33. Soma, C., **Vangness, C.T., Jr.**, Marshall, G.J., Sharpe, F., Subin, W.
The effects of hyaluronic acid on the injured meniscus: An in vivo analysis of the healing response. American Academy of Orthopaedic Surgeons, 66th Annual Meeting, poster 497A, Anaheim, CA, 1999.
34. **Vangness, C.T., Jr.**, Polousky, J.D., Parkinson, A.B., Hedman, T.H. Radiofrequency thermal effects on the human meniscus: An in-vitro comparison of monopolar and bipolar electrodes. American Academy of Orthopaedic Surgeons, 69th Annual Meeting, poster P471, Dallas, TX, 2002.
35. **Vangness, C.T., Jr.**, Burke, P.T., D.P.T., M.S, O.C.S., MacPhee, Ph.D., Narvy, B.S. Human Knee Synovial Fluid Analysis. 6th ICRS Symposium, poster P2-52, San Diego, CA, 2006.
36. **Vangness, C.T., Jr.**, Fedenko, A.N., M.D., Ph.D., Burke, P.T., D.P.T., M.S, O.C.S., MacPhee, R.D., Ph.D., Narvy, S.J., B.S. Human Knee Synovial Fluid Cytokines Correlated with Grade of Knee Osteoarthritis. 2007 AAOS Annual Meeting poster P284, San Diego, CA, 2007.
37. **Vangness, C.T.**, Chung MH, Woodell-May JE. "Stimulation of ID-1ra Production From Platelet-Rich Plasma," 54th Annual Meeting of the Orthopedic Research Society, p. 488, March 2008, San Francisco, CA.
38. Mike Gerhardt, Kevin Johnson, **Vangness C.T.** Hip Neuroanatomy Poster
39. AOSSM – Abstract to AAOS/09 – Sports Medicine Specialty Day - A Knotless Dual Row Loop Rotator Cuff Repair: Does it Hold up to a Transosseous Equivalent Repair?
40. AOSSM – Abstract to AAOS/09 – Sports Medicine Specialty Day - A New Knotless Suture Staple Double Row Construct for Medial Repair of Rotator Cuff Tears: Does it Improve the Footprint Contact and Biomechanical Strength of the Repair Construct?

41. **Vangness, C.T.**, David Fox, M.D. David Dellaero, M.D. David Griffin, M.D. Jack Farr, M.D. Joel Boyd, M.D. John O'Donnell, M.D. A Randomized, Double-Blind, Controlled Study of Adult Human Mesenchymal Stem Cells Delivered Via Intra-Articular Injection to the Knee Joint Following Meniscectomy. 2012 AAOS Annual Meeting poster p439, San Francisco, CA, 2012
42. **Vangness, C.T.**, Betsy M. Nolan MD, Daniel C. Acevedo MD. Rotator Cuff Interval Slide: Arthroscopic Anatomy and Specific Relationships in Supracapular Nerve. 2012 AAOS Annual Meeting poster p309, San Francisco, CA, 2012.
43. Carter, S., Sinclair, M., **Vangness, C.T.**, A Biomechanical and In Vivo Evaluation of a Novel Cryopreserved Viable Meniscal Allograft. 2016 AAOS Annual Meeting poster p 404, Orlando, FL. March 2016.
44. Dunphy, T., Narvy, S., Gucev, G., **Vangness, C.T., Jr.** Efficacy of Continuous Interscalene Nerve Blocks in Outpatient Arthroscopic Shoulder Surgery. ORS 2016 Annual Meeting, Orlando, FL. March 2016.
45. Han, B., Tan, S.J., **Vangness, C.T.** Cartilage Repair Through Epigenetic Reprogramming and Scaffold Manipulation. ICRS Annual Meeting, Sorrento, Italy. September 2016
46. Tan, S.J., Orrego, F., **Vangness, C.T.**, Han, B. 3-D Model to Study the Effects of Microenvironmental Cues on Inflammatory Cytokine Expression. ICRS Annual Meeting, Sorrento, Italy. September 2016.
47. Heidari, K.S., Zimmerman, K., Pannell, W., Heckmann, N., McKnight, B., Hill, J.R., **Vangness, C.T.**, Hatch, G.F.R. High Tibial Osteotomy Survivorship: A Population-based Study. AANA Annual Meeting, Denver, CO. May 18-20, 2017.

Presentations

Regional

1. Arthroscopic Laser Surgery of the Ankle - A Cadaveric Experiment. International Society for Optical Engineering Conference, Los Angeles, California, 1986.
2. Surgical Treatment of Medial Epicondylitis. Kerlan-Jobe Orthopaedic Fellows Conference, Inglewood, California, 1987.
3. CO₂ Chondral Laser Surgery - An Experimental and Clinical Correlation. USC-GOS Annual Meeting, Los Angeles, California, 1987.
4. The Early Healing Response of Meniscal Tissue to Mechanical Injury: A Histologic and Scanning Electron Microscopy Evaluation. USC-GOS Annual Meeting, Los Angeles, California, 1990.

5. Light Absorption Characteristics of the Human Meniscus: Applications for Laser Ablation. International Society for Optical Engineering Conference, Los Angeles, California, 1991.
6. Optical Properties of the Human Meniscus: Applications for Laser Ablation. The Hospital for Joint Diseases, Orthopaedic Institute, New York City, New York, October, 1991.
7. The Healing Effect of the Nd: Yag Laser in the Avascular Zone of the Meniscus. The Hospital for Joint Diseases, Orthopaedic Institute, New York City, New York, October, 1991.
8. The Healing Effect of the Nd: Yag Laser in the Avascular Zone of the Meniscus. SPIE Conference 1643, Los Angeles, California, January 1992.
9. Rotator Interval Reconstruction. Presented at the USC/GOS Annual Meeting, Los Angeles, California, June 19-20, 1997.
10. Course Chairman; Seminar on Sports Injuries: Controversies in Training and Rehabilitation Techniques. Sponsored by the American Academy of Orthopaedic Surgeons in cooperation with the University of Southern California School of Medicine, Department of Orthopaedics, Los Angeles, CA, August 1992.
11. Biomechanics of Anterior Cruciate Ligament Allografts. International Sports Seminar. Sponsored by the Institute for Rehabilitation Services of Methodist Hospital, St. Louis Park, MN, September 1992.
12. The Anatomy and Histology of the Origin of the Long Head of the Biceps Brachii: A Study of 100 Human Cadavers. Alumni Association Hospital for Joint Diseases Orthopaedic Institute, New York, October 1992.
13. Ligament Shortening: An Experimental Approach - Laser Induced Shrinking of Collagen. USC-GOS Annual Meeting, Los Angeles, California, June 1994.
14. A Cadaveric Model to Evaluate the Kinematics of Passive Glenohumeral Motion Following Prosthetic Arthroplasty. USC-GOS Annual Meeting, Los Angeles, California, June 1994.
15. The Supraspinatus Muscle and its Anterior Myotendinous Extension: A Gross and Histomorphologic Study. USC-GOS Annual Meeting, Los Angeles, California, June 1994.
16. Assessment of Ligamentous Laxity in the Adolescent Knee. USC-GOS Annual Meeting, Los Angeles, California, June 1994.
17. Open Reconstruction for Traumatic Anterior Instability. Los Angeles County Chapter, Western Orthopaedic Association Meeting, Shoulder Instability Symposium, Los Angeles, California, June 1994.
18. Magnetic Resonance Imaging with or without Intravenous Gadolinium in the Evaluation of the Painful Shoulder. USC-GOS Annual Meeting, Los Angeles, California, June 1994.

19. Arthroscopic Evaluation in the Quadriplegic Patient with Shoulder Pain. Western Orthopaedic Association, 58th Annual Meeting, Long Beach, California, August 1994.
20. The Evaluation of Creep in Human Bone-Patellar Tendon-Bone Tendons for Anterior Cruciate Ligament Reconstruction. Western Orthopaedic Association, 58th Annual Meeting, Long Beach, California, August 1994.
21. A Comparison of Functional Knee Braces: Effects of Rate of Force Application and Custom Fit Versus off the Shelf Braces. Western Orthopaedic Association, 58th Annual Meeting, Long Beach, California, August 1994.
22. Controversies in Impingement Syndrome. First Annual UCLA Orthopaedic Alumni Meeting, Los Angeles, California, September 1994.
23. Orthopedic Ski Injuries. Encino Tarzana Regional Medical Center, Encino, California, December 1994.
24. Potential Turf Battles Involving Orthopaedics. California Orthopaedic Association, Annual Meeting, La Jolla, California, April 1995.
25. Prosthetic Replacement for Proximal Humeral Fractures. Total Knee, Hip and Shoulder Arthroplasty, Intermedics Orthopedics, Inc., Dana Point, California, June 1995
26. The In vitro Analysis of the Weight bearing Kinematics of the Intact and ACL Deficient Knee. Anterior Cruciate Ligament Study Group, Nevis, West Indies, May 1996.
27. Overview of Lasers in Arthroscopic Surgery. Kerlan Jobe Grand Rounds, Los Angeles, California, October 1996.
28. Rotator Interval Reconstruction. Presented at the USC/GOS Annual Meeting, Los Angeles, California, June 19-20, 1997
29. Transient Pattern of Temperature Changes in Radiofrequency Energy Induced Shortening of the Inferior Glenohumeral Ligament. USC-GOS Annual Meeting, Los Angeles, California, June 1999.
30. The Effects of Concentric versus Eccentric Isokinetic Strength Training of the Rotator Cuff in the Plane of the Scapula at Various Speeds. USC-GOS Annual Meeting, Los Angeles, California, June 1999.
31. A Histological Analysis of the Effect of Transforming Growth Factor Beta on Articular Cartilage Defects in the Rabbit Model. USC-GOS Annual Meeting, Los Angeles, California, June 1999.
32. In Search of the Perfect Swing: Analysis of the Biomechanics of Hitting. USC-GOS Annual Meeting, Los Angeles, California, June 1999.

33. The Relationship between Scapulohumeral Rhythm and Subacromial Impingement Syndrome. USC-GOS Annual Meeting, Los Angeles, California, June 1999.
34. A Histological Analysis of the Effect of Transforming Growth Factor Beta on Articular Cartilage Defects in the Rabbit Model. Tahoe Knee and Shoulder Update, Lake Tahoe, Nevada, November 1999.
35. Thermal Techniques for Shoulder Instability. 17th Annual Meeting of San Diego Shoulder, Arthroscopy Arthroplasty Fractures, San Diego, California, June, 2000.
36. Thermal Properties of Radiofrequency Devices for shoulder Instability Surgery. Presented at the USC/GOS Annual Meeting, Los Angeles, California, June 22-23, 2000
37. Current Issues in Total Knee Arthroplasty, An Interactive Forum: Alternatives to TKR for the Young Patient: Intro & Arthroscopic Treatment of DJD. USC Keck School of Medicine Postgraduate Program, Hotel Le Meridien, Beverly Hills, California, November, 2000.
38. The Influence of TGF Beta on Articular Cartilage. 5th Annual Tahoe Knee and Shoulder Update, Lake Tahoe, Nevada, December 2000.
39. Thermal Properties of Radiofrequency Devices for Shoulder Instability Surgery. Presented at the USC/GOS Annual meeting, Los Angeles, California, June 22-23, 2000
40. Knees and Shoulders. USC Keck School of Medicine, USC Family Medicine, Los Angeles, California, April 24, 2001.
41. Current Concepts: The Use of RF and Electro-Thermal Modalities in Orthopaedic Surgery. 6th Annual Tahoe Knee and Shoulder Update, Lake Tahoe, Nevada, December 2001.
42. Common Sports Medicine Injuries for the Primary Care Physician: Knee and Shoulder Injuries. Common Problems in Primary Care Course 2002, Los Angeles, California, February 2002
43. Knees and Shoulders. USC Keck School of Medicine, USC Family Medicine, Los Angeles, California, February 26, 2002
44. The Effects of Radiofrequency Energy on Human Articular Cartilage. ACL Study Group , Big Sky, Montana, March 2002
45. Effects of Radiofrequency Energy on Human Articular Cartilage: An Analysis of Five Systems. USC-GOS Annual Meeting, Los Angeles, California, June 2002
46. The Restore Orthobiologic Implant. 7th Annual Tahoe Knee & Shoulder Update, Lake Tahoe, Nevada, December 2002.

47. Mechanical Evaluation of Soft Tissue Treated Through a New Tissue Sterilization Process. AAOS 70th Annual Meeting, New Orleans, Louisiana, February 2003.
48. Common Sports Medicine Injuries for the Primary Care Physician. USC Keck School of Medicine, USC Family Medicine, Los Angeles, California, March 2003.
49. Thermal Treatment for Cartilage Repair / Debridement. Management of Arthritic Knee: Debating New Therapeutic Options Conference, Los Angeles, California, April 2003.
50. Radiofrequency and Arthroscopy: Do We Really Want to Perform Thermal Chondroplasty? Wilson-Bost Interurban Orthopaedic Club Meeting, Los Angeles, California, April 2003.
51. Musculoskeletal. ICM Musculoskeletal Examination I Workshop, USC Keck School of Medicine, Los Angeles, California, May 2003.
52. Orthopaedic Soft Tissue Injuries. ICM Musculoskeletal Examination II Workshop, USC Keck School of Medicine, Los Angeles, California, May 2003.
53. Biomechanical Evaluation of Bone and Soft Tissue Allograft Treated with a new Sterilization Process. USC – GOS Annual Meeting, Los Angeles, California, June 2003.
54. Biomechanical Evaluation of Soft Tissue Allograft Treated with a New Tissue Sterilization Process. 17th Annual Kerlan-Jobe Fellowship Alumni Research Conference, San Diego, California, July 2003.
55. Thermal/Radiofrequency Treatment of Chondral Injury. UCSF Comprehensive Knee Cartilage Symposium – State of the Art in 2003, San Francisco, California, November 2003.
56. An Overview of the Musculoskeletal System. ICM Musculoskeletal Examination I Workshop, USC Keck School of Medicine, Los Angeles, California, May 2004.
57. Orthopaedic Soft Tissue Injuries. ICM Musculoskeletal Examination II Workshop, USC Keck School of Medicine, Los Angeles, California, May 2004.
58. Soft Tissue Allografts in Orthopaedics: Science & Application. Team Surgical Meeting, Holiday Inn, Santa Ana, California, February 2005.
59. Biomaterials in Orthopaedic Surgery. Department of Material Science & Engineering Seminar, University of Southern California, Los Angeles, California, April 2005.
60. An Overview of the Musculoskeletal System. ICM Musculoskeletal Examination I Workshop, USC Keck School of Medicine, Los Angeles, California, May 2005.
61. Orthopaedic Soft Tissue Injuries: Sports Medicine. ICM Musculoskeletal Examination II Workshop, USC Keck School of Medicine, Los Angeles, California, May 2005.

62. Evaluation of BioCleanse BTB Allografts for the Reconstruction of Anterior Cruciate Ligaments: A Preliminary Report. USC – GOS Annual Meeting, Los Angeles, California, June 2005.
63. Radiofrequency and Articular Cartilage: Caveat Emptor. TRIA Orthopaedic Center Sports Fellowship Reunion, Minneapolis, MN, June 4, 2005.
64. Old Standards – New Frontiers in Treating Athletic Injuries of the Shoulder. Antelope Valley Hospital General Medical Staff Meeting, Lancaster, CA, February 14, 2006.
65. Human Knee Synovial Fluid Analysis with Osteoarthritis. USC-GOS Annual Meeting, Los Angeles, California, June 2006.
66. Platelet Rich Plasma (PRP) Biologic Healing. ASES Annual Meeting, Santa Barbara, California, September 4, 2008.
67. Stems Cells and Orthopaedic Surgery 2009 Update. Wilson Bost, April 2009, Los Angeles, CA
68. Sports Medicine Tissue Banking for the Orthopaedic Surgeon: Basic Science Issues and Clinical Allograft Use. Grand Rounds, Department of Orthopaedic Surgery, May 15, 2009
69. Grand Rounds presentation “PRP: Current Trends and Levels of Evidence.” LAC+USC, May 21, 2010.
70. Overuse Injuries. AAOS Board Maintenance of Certification Preparation and Review#3059- MOC West. Loews Hollywood, Ca. November 20-22, 2014.
71. Neurologic Injuries Related to Sports Participation. AAOS Board Maintenance of Certification Preparation and Review#3059- MOC West. Loews Hollywood, Ca. November 20-22, 2014.
72. Musculoskeletal Injuries in Young Athletes. AAOS Board Maintenance of Certification Preparation and Review#3059- MOC West. Loews Hollywood, Ca. November 20-22, 2014.
73. Cruciate and Collateral Ligament Injuries. AAOS Board Maintenance of Certification Preparation and Review#3059- MOC West. Loews Hollywood, Ca. November 20-22, 2014.
74. Meniscus Injuries. AAOS Board Maintenance of Certification Preparation and Review#3059- MOC West. Loews Hollywood, CA. November 20-22, 2014.
75. Panel: Case Presentations for Knee and Hip Arthroscopy. USC The Master Series: Techniques in Arthritis Surgery. Pasadena, CA. April 30-May 2, 2015.
76. Panel: Stem Cells/PRP Injections in Orthopaedics. USC The Master Series: Techniques in Arthritis Surgery. Pasadena, CA. April 30-May 2, 2015.

77. The History of Orthopaedic Surgery Residency at USC. The Interurban Orthopaedic Society. Santa Monica, CA. October 1 -4, 2015.
78. Grand Rounds Presentation: "Cartilage Repair and Stem Cells: Are They Ready for the Clinic?" Keck School of Medicine of USC, Los Angeles, CA, April 28, 2016.
79. Panel: PRP & Stem Cells. USC The Master Series: Techniques in Arthritis Surgery. Los Angeles, CA. April 28-30, 2016.
80. Panel: Before TKA. USC The Master Series: Techniques in Arthritis Surgery. Los Angeles, CA. April 28-30-2016.
81. Stem Cells for Cartilage Repair. USC The Master Series: Techniques in Arthritis Surgery. Los Angeles, CA. April 28-30, 2016.
82. Update on Orthobiologics and Regenerative Medicine in Sports Medicine. USC Orthopaedic Surgery-Sports Medicine Football Injury Symposium. Los Angeles, CA. August 27, 2016.
82. Stem Cells and Other Biologics: Update in 2016-PRP, Stem Cell, Adipose Derived Stem Cells. USC The Master Series: Innovative Techniques in Hip and Knee Arthroplasty. Los Angeles, CA. April 27-29, 2017.

National

1. The Clinical Results of Operative Arthroscopy of the Ankle-A Preliminary Report. The Hospital for Joint Diseases, Alumni Conference, New York City, NY, 1984.
2. The Clinical Results of Operative Arthroscopy of the Ankle-A Preliminary Report. The National Orthopaedic Residents Conference, New Orleans, LA, 1985.
3. Laser Surgery in Orthopaedics: Award winning videotape. American Academy of Orthopaedic Surgeons, 55th Annual Meeting, Atlanta, GA, 1988.
4. Current Concepts of Laser Arthroscopic Surgery. American Academy of Orthopaedic Surgeons, 56th Annual Meeting, paper# 3324, Las Vegas, NV, 1989.
5. The Early Healing Response of Meniscal Tissue to Mechanical Injury: A Histologic and Scanning Electron Microscopy Evaluation. Orthopaedic Research Society, 37th Annual Meeting Anaheim, CA, 1991.
6. An In Vitro Analysis of Partial Human Meniscectomy by Five Different Laser Systems. American Academy of Orthopaedic Surgeons, 58th Annual Meeting, paper #360, Anaheim, CA, 1991.

7. Meniscal Injuries Associated with Femur Fractures. Arthroscopy Association of North America, 10th Annual Meeting, San Diego, CA, 1991.
8. Partial Human Meniscectomy: An In Vitro Comparison of the Tissue Alteration of SSX Laser Systems, Electrocautery and the Scalpel. Orthopaedic Research Society, 37th Annual Meeting Anaheim, CA, 1991.
9. Neural Anatomy of the Human Glenoid Labrum and Shoulder Ligaments. American Academy of Orthopaedic Surgeons, 59th Annual Meeting, paper# 355, Washington D.C., 1992.
10. Radiographic Diagnosis of Ankle Fractures: Are Three Views Necessary? American Academy of Orthopaedic Surgeons, 59th Annual Meeting, paper# 57, Washington D.C., 1992.
11. Comparison of Functional Knee Braces for Control of Anterior Tibial Displacement. American Academy of Orthopaedic Surgeons, 59th Annual Meeting, paper# 83, Washington D.C., 1992.
12. Arthroscopic Shoulder Surgery with Three Different Laser Systems: An Evaluation of Laser Applications. Arthroscopy Association of North America, Boston, MA, April 1992.
13. Arthroscopic Evaluation of Meniscal Injuries in Tibial Plateau Fractures. Orthopaedic Trauma Association Annual Meeting, Minneapolis, MN, October 1992.
14. The Healing Effects of the Neodymium Laser in the Avascular Zone of the Meniscus. American Academy of Orthopaedic Surgeons, 60th Annual Meeting, paper# 147, San Francisco, CA, 1993.
15. Effects of Gamma Irradiation on the Biomechanical Properties of the Human Bone-Patellar Tendon-Bone Allografts. American Academy of Orthopaedic Surgeons, 60th Annual Meeting, paper# 437, San Francisco, CA, Feb, 1993.
16. Effects of Gamma Irradiation on the Human Immunodeficiency Virus in known Infected Human Bone-Patellar Tendon-Bone Allografts. American Academy of Orthopaedic Surgeons, 60th Annual Meeting, paper# 436, San Francisco, CA, Feb, 1993.
17. A Survey of American Tissue Banks for Soft Tissue Allograft Reconstruction of the Human Knee. American Academy of Orthopaedic Surgeons, 61st Annual Meeting, paper #433, New Orleans, LA, Feb, 1994.
18. Comparison of Concentric, Eccentric, or Combined Concentric and Eccentric Modes for Isokinetic Training of the Shoulder. American Physical Therapy Association (APTA) Combined Sections Meeting, Reno, NV, Jan 1995.
19. Evaluation of Creep in Human Bone-Patellar Tendon-Bone Tendons for Anterior Cruciate Ligament Reconstruction. American Academy of Orthopaedic Surgeons, 62nd Annual Meeting, paper #159, Orlando, FL, Feb, 1995.

20. Supraspinatus Muscle and Its Anterior Myotendinous Extension: A Gross and Histomorphologic Study. American Academy of Orthopaedic Surgeons, 62nd Annual Meeting, paper #272, Orlando, FL, Feb, 1995.
21. Functional Knee Braces: The Effects of Rate of Force Application on Anterior Tibial Translation in Custom-Fit Versus Premanufactured Braces. American Academy of Orthopaedic Surgeons, 62nd Annual Meeting, paper #432, Orlando, FL, Feb, 1995.
22. Cautious Surgery for Discoid Menisci. American Academy of Orthopaedic Surgeons, 62nd Annual Meeting, paper #550, Orlando, FL, Feb, 1995.
23. The Supraspinatus Muscle and its Anterior Myotendinous Extension: A Gross and Histomorphologic Study. The American Orthopaedic Society for Sports Medicine, Society's Specialty Day Meeting, Orlando, FL, 1995.
24. The Optical Properties of the Human Meniscus and the Development of Suitable Wave Lengths for Arthroscopic Surgery of the Knee. American Society for Laser Medicine and Surgery, Inc., 15th Annual Scientific Meeting and Industrial Exposition, San Diego, CA, Apr, 1995.
25. Isometry of the Posterior Cruciate Ligament: Effects of Functional Load and Muscle Force Application. Arthroscopy Association of North America, 14th Annual Meeting, San Francisco, CA, May 1995.
26. Kinematics of Glenohumeral Arthroplasty. American Academy of Orthopaedic Surgeons, 63rd Annual Meeting, paper 204, Atlanta, GA, Feb, 1996.
27. Cautious Surgery for Discoid Menisci. American Academy of Orthopaedic Surgeons, 63rd Annual Meeting, paper 320, Atlanta, GA, Feb 1996.
28. Non-Steroidal Anti-Inflammatory Drug Delivery to the Shoulder: A Comparison of Oral and Topical Administration. American Academy of Orthopaedic Surgeons, 63rd Annual Meeting, poster E26, Atlanta, GA, Feb, 1996.
29. Assorted Shoulder Problems. Arthroscopy Association of North America, 15th Annual Meeting, Course 202, Washington, D.C., Apr 1996.
30. The Effects of Laser Induced Collagen shortening on the Biomechanical Properties of the Inferior Glenohumeral Ligament Complex. American Shoulder and Elbow Surgeons, 13th Annual Meeting, Amelia Island, FL, Oct 1996.
31. Laser Shoulder Surgery: What It Can and Cannot Do. Arthroscopy Association of North America Fall Course, Palm Desert, CA, Nov 1996.
32. The Treatment of Isolated Articular Cartilage Defects in the Young Individual. American Academy of Orthopaedic Surgeons, 64th Annual Meeting, Course 329, San Francisco, CA, Feb, 1997.

33. The Effects of Laser Induced Collagen Shortening on the Biomechanical Properties of the Inferior Glenohumeral Ligament Complex. 10th Annual Meeting Specialty Day American Shoulder and Elbow Surgeons *Winner NEER Award 1997* – San Francisco, CA, Feb 1997.
34. A Prospective Evaluation of the Diagnostic Ability of Intravenous Gadolinium Magnetic Resonance Imaging in the Shoulder. American Academy of Orthopaedic Surgeons, 65th Annual Meeting, paper 108, New Orleans, LA, Mar, 1998.
35. Instructional Course: The Treatment of Isolated Articular Cartilage Lesions in the Young Individual. American Academy of Orthopaedic Surgeons, 65th Annual Meeting, Course 55, New Orleans, LA, Mar 1998.
36. Instructional Course: The Treatment of Isolated Articular Cartilage Defects in the Knee. American Academy of Orthopaedic Surgeons, 65th Annual Meeting, Course 146, New Orleans, LA, Mar 1998.
37. Instructional Course: Arthroscopic Evaluation and Treatment of Shoulder Instability. American Academy of Orthopaedic Surgeons, 65th Annual Meeting, Course 271, New Orleans, LA, Mar 1998.
38. The Biomechanical Effects of Radiofrequency Induced Collagen Shortening on the Inferior Glenohumeral Ligament Complex. American Academy of Orthopaedic Surgeons 66th Annual Meeting, Anaheim, CA, Feb 1999.
39. Magnetic Resonance Imaging of Tibiofibular Syndesmosis Injuries: An Anatomic and Prospective Clinical Study of the Interosseous Ligament. American Academy of Orthopaedic Surgeons 66th Annual Meeting, Anaheim, CA, Feb 1999.
40. Radiofrequency Thermal Effects on the Human Meniscus: An In Vitro Analysis. American Academy of Orthopaedic Surgeons 66th Annual Meeting, Anaheim, CA, Feb 1999.
41. Differences in Cellular Properties of Anterior Cruciate and Medial Collateral Ligament Fibroblasts Using an In-Vitro Fibroplasia Model. American Academy of Orthopaedic Surgeons 66th Annual Meeting, Anaheim, CA, Feb 1999.
42. Instructional Course: Arthroscopic Evaluation and Treatment of Shoulder Instability. American Academy of Orthopaedic Surgeons 67th Annual Meeting Course, Orlando, FL Mar 2000.
43. Temperature Energy Profile of Monopolar vs. Bipolar Radiofrequency Energy in the Shoulder. 24th Annual Meeting of the Arthroscopy Association of North America, Seattle, WA, Apr 2001.
44. Radiofrequency Thermal Effects on the Human Meniscus: An In-Vitro Comparison of Monopolar vs. Bipolar Electrodes. 24th Annual Meeting of the Arthroscopy Association of North America, Seattle, WA, Apr 2001.

45. Arthroscopic Surgery with Electromagnetic Surgical Devices: Complications, Efficacy, Cost Effectiveness and Future Possibilities. 114th Annual Meeting of the American Orthopaedic Association, Palm Beach, FL, Jun 2001.
46. The Effects of Shoulder Instability on Upper Extremity Blood Flow in Collegiate and Professional Baseball Pitchers: A Cause of Dead Arm Syndrome. ASES 2001 Closed Meeting, Napa, CA, Oct 2001.
47. Effects of Radiofrequency Energy on Human Articular Cartilage: An Analysis of Five Systems. American Academy of Orthopaedic Surgeons 69th Annual Meeting, Dallas, TX, Feb 2002
48. Caffey, S., Vangsness, C.T., Hedman, T.P.
Effects of radiofrequency energy on the human articular cartilage: an analysis of five systems
Podium Presentation at the 69th Annual Meeting of the American Association of Orthopaedic Surgeons, Dallas Texas, February 13-17, 2002.
49. Effects of radiofrequency energy on human articular cartilage: an analysis of five systems
Podium Presentation at the 69th Annual Meeting of the American Association of Orthopaedic Surgeons, Dallas Texas, February 13-17, 2002.
50. Thermal Treatment for Articular Cartilage. Arthroscopic Surgery 2004 - Robert W. Metcalf, M.D. Memorial, Sun Valley, Idaho, January 31-February 3, 2004.
51. IRAP Interleukin-1 Receptor Antigen Protein. Arthroscopic Surgery 2004 - Robert W. Metcalf, M.D. Memorial, Sun Valley, Idaho, January 31-February 3, 2004.
52. The Role of Hyaluronans in Orthopaedic Sports Medicine - What is the Role of Research? AOSSM Think Tank, Chicago, IL, November 2004.
53. Soft Tissue Allografts in Orthopaedics: Science and Application. AOSSM Allograft Workshop, Atlanta, GA, January 14-16, 2005.
54. Sports Medicine Allografts. AATB 9th Annual Spring Meeting, San Antonio, TX, March 6-8, 2005.
55. Allograft Safety in Sports Medicine. TRIA 8th Annual Spring Sports Medicine & Orthopaedic Conference, Minneapolis, MN, June 2-3, 2005.
56. Biology of Thermal Capsular Shrinkage. TRIA 8th Annual Spring Sports Medicine & Orthopaedic Conference, Minneapolis, MN, June 2-3, 2005.
57. Meniscal Regeneration. Stem Cell Day, USC, Keck School of Medicine, CA, September 12, 2005.
58. Compliance Testing Articular Cartilage. AOSSM Think Tank Conference on Articular Cartilage Repair, La Jolla, CA, January 8, 2006.

59. Human Knee Synovial Fluid Analysis. AOSSM Think Tank Conference on Articular Cartilage Repair, La Jolla, CA, January 8, 2006.
60. Allografts – Let’s Look at the Literature. AOSSM Allograft Roundtable Meeting, Park City, UT, February 13, 2006.
61. Old Standards – New Frontiers in Treating Athletic Injuries of the shoulder. Antelope Valley Hospital Meeting, Lancaster, CA, February 14, 2006.
62. Practical Experience with Stem Cell and Cartilage Repair. Stem Cell Summit, Chicago, IL, March 21, 2006.
63. Sterilization Effects on the Biomechanical Properties of Human Bone-Tendon-Bone Allografts. 2006 AAOS Annual Meeting, Chicago, IL, March 23, 2006.
64. Common Shoulder and Knee Injuries in the Workplace. Seminars at Farmers, Simi Valley, CA, April 18, 2006.
65. Future Horizons: Arthroscopy and Stem Cell. 2006 AANA Annual Meeting, Hollywood, FL, May 20, 2006.
66. Quantitative Assessments of Knee Articular Cartilage Correlated Over Time with Meniscus Volume and Intersegmental Limb Mechanics. AOSSM Articular Cartilage Regeneration and Repair: A Grant Workshop, Hershey, PA, June 28, 2006.
67. Chondrogen: Stem Cell Regeneration of Human Meniscus Tissue. 2nd Annual Stem Cell Summit, San Diego, CA, February 13, 2007.
68. Arthroscopic Debridement and Chondroplasty. AAOS Articular Cartilage Course. April 2009. Chicago, Ill.
69. Biologics and Shoulder Arthroscopy Update 2009. 8th Annual Course Advanced Shoulder Reconstruction, May, 2009. Chicago, IL.
70. Synovitis: A Growing Focus in Osteoarthritis Management Symposium, October, 2009, Philadelphia, CA
71. Conference: National Articular Cartilage Repair Course for Sports Medicine Fellows, Comprehensive Approaches to Articular Cartilage Repair and Management, “Stem Cells: Fact, Fiction and/or Opportunity,” January 15-17, 2010, Carlsbad, CA
72. Conference: PRP Update 2010, NBA Trainers Association, May 18, 2010, Sheraton Hotel, Chicago, Illinois.

73. Walgreen Foundation Lecture in Sports Medicine: Stem Cells in Orthopaedic Surgery: 2011 Update. Loyola University Stritch School of Medicine, Chicago, IL, May 4-5, 2011.
74. Walgreen Foundation Lecture in Sports Medicine: Allograft ACL Reconstruction: Tissue Processing, Sterilization and Clinical Results. Loyola University Stritch School of Medicine, Chicago, IL, May 4-5, 2011.
75. Distinguished Guest Lecture - New Frontiers in Orthopedics: Bioengineering/Robotics. 8th Annual DFW Sports Medicine Symposium, Fort Worth, TX, May 2011.
76. ACL Allograft Reconstruction of the Knee. 8th Annual DFW Sports Medicine Symposium, Fort Worth, TX, May 2011.
77. PRP Should Be Added to All Rotator Cuff Repairs: Pro Opinion. AANA Fall Course, Palm Desert California, November 2011.
78. A Randomized, Double-Blind, Controlled Study of Adult Human Mesenchymal Stem Cells Delivered Via Intra-Articular Injection to the Knee Joint Following Meniscectomy. American Academy Orthopaedic Surgeons Annual Meeting, paper#552, San Francisco, CA, February 2012.
79. Cartiform and PRP Preparations. Lifenet Health, Virginia, September 19-20, 2014
80. Point/Counterpoint: Autologous Stem Cells vs. Chondrocytes for Cartilage Regeneration. Lifenet Health, Virginia, September 19-20, 2014.
81. Barriers to Entry with Cell Therapy in Orthopaedic Surgery. The 58th Annual Edward T. Smith Orthopaedic Lectureship: Biologics for Orthopaedics-Where are We in 2014 and the Future? Hotel ZaZa, Houston, Texas. November 14, 2014.
82. PRP BMAC, Stem Cells: When Should We Use Them, and Do They Work for Knee Surgery. Orthopaedic Summit 2014: Evolving Techniques. Las Vegas, Nevada, December 2014.
83. Stem Cells for Meniscal Repair. International Cartilage Repair Society, Chicago, IL. May 8-11, 2015
84. Evolving Technique: Autologous Stem Cells and New Scaffolds. Orthopaedic Summit. Bellagio, Las Vegas. December 2-5, 2015.
85. Surgical Skin Antisepsis for the Eradication of Propionibacterium Acnes in Shoulder Surgery, 526-520. American Academy of Orthopaedic Surgeons 2016 Annual Meeting. Paper #538. Orlando, FL. March 3-5, 2016.
86. Direct Cost Analysis of Outpatient Arthroscopic Rotator Cuff Repair, 706-720. American Academy of Orthopaedic Surgeons 2016 Annual Meeting, Paper #718. Orlando, FL. March 3-5, 2016.

87. The 32-Year-Old Without Malalignment, Status Post Lateral Meniscectomy with Osteoarthritis: Is There a Role for Arthroscopic Debridement and/or Microfracture/Chondroplasty. AAOS Articular Cartilage Restoration Course. Rosemont, IL. March 31-April 2, 2016.
88. Reproducibility and Validity of Goniometric iPhone Applications for Shoulder Range Measurements in Elite Throwers. ASES Annual Meeting, Boston, MA. October 6- 9, 2016.
89. Stem Cells and New Scaffolds for the Future & Coding. Orthopaedic Summit. Las Vegas, NV. December 7-10, 2016.
90. Distal Femoral Osteotomy Survivorship: A Population-based Study. AANA Annual Meeting. Denver, CO. May 18-20, 2017.
91. Cell Therapy for Orthopaedic Surgery. Fischbone Society Annual Meeting. Traverse City, MI. August 10-11, 2017.
92. Stem Cells: Fact, Fiction, Evolving Concepts. AANA Advanced Decision-Making and Treatment of Articular Cartilage and Meniscus. Chicago, IL. August 18-20, 2017.

International

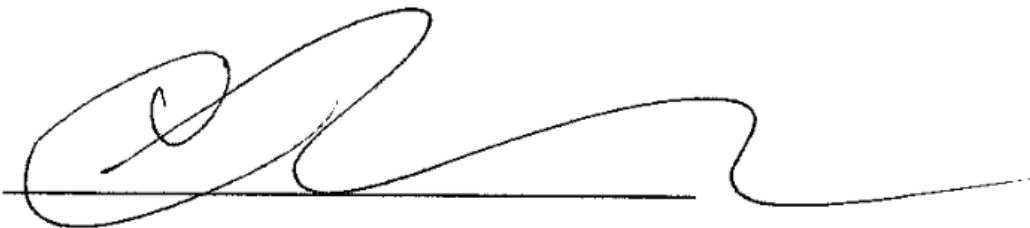
1. Optical Properties of the Human Meniscus and Application for Laser Ablation. International Society for Laser Surgery and Medicine. Los Angeles, CA, 1991.
2. Pulsed Ho: YAG Laser Meniscectomy. International Society for Laser Surgery and Medicine, Los Angeles, CA, 1991.
3. An In Vitro Analysis of Partial Human Meniscectomy by Five Different Laser Systems. Citizen Ambassador Program, Seoul, Korea, August 28, 1992.
4. Ligament Shortening: An Experimental Approach. 1st Annual Meeting of the International Musculoskeletal Laser Society IMLAS, Neuchatel, Switzerland, December 1994.
5. Do Fractures of the Femur and Tibia Impact the Knee? SICOT/SIROT Second Annual International Conference, Cairo, Egypt, September 2003.
6. Thermal Chondroplasty: Are We Helping or Hurting Our Patient? SICOT/SIROT Second Annual International Conference, Cairo, Egypt, September 2003.
7. Allograft Tissue Processing Controversies. Simposium Internacional de Traumatologia y Ortopedia, Madrid, Spain, November 2003.
8. Rotator Cuff Operative Techniques. Simposium Internacional de Traumatologia y Ortopedia, Madrid, Spain, November 2003.

9. The Restore Orthobiologic Implant. Simposium Internacional de Traumatologia y Ortopedia, Madrid, Spain, November 2003.
10. Thermal Techniques for Shoulder Instability. Simposium Internacional de Traumatologia y Ortopedia, Madrid, Spain, November 2003.
11. The OPES System for Arthroscopic Surgery of the Knee and Shoulder. Arthrex Worldwide Surgeon Instructors Meeting, Naples, Florida, January 8-10, 2004.
12. Do Fractures of the Femur and Tibia Impact the Knee? 1st Combined Meeting University of Southern California and University of Thessaly, Corfu and Santorini, Greece, May 17-20, 2004.
13. Allograft Safety in Sports Medicine Surgery. AOSSM 2004 Annual Meeting, Quebec City, Canada, June 24-27, 2004.
14. Do Fractures of the Femur and Tibia Impact the Knee? 3rd SICOT Annual International Meeting, Havana, Cuba, September 25-29, 2004.
15. Open vs. Arthroscopic Reconstruction for Shoulder Instability. III Simposium Internacional Clinica Centro, Madrid, Spain, December 1-3, 2004.
16. What's New in Shoulder Surgery 2004. III Simposium Internacional Clinica Centro, Madrid, Spain, December 1-3, 2004.
17. Radiofrequency and Articular Cartilage: Caveat Emptor. OASISCON 2005, Deemed University, Chennai, India, August 1-11, 2005.
18. Allograft Safety in Sports Medicine. OASISCON 2005, Deemed University, Chennai, India, August 1-11, 2005.
19. Anterior Cruciate Ligament. OASISCON 2005, Deemed University, Chennai, India, August 1-11, 2005.
20. Rotator Cuff Tears Diagnosis and Management 2005. OASISCON 2005, Deemed University, Chennai, India, August 1-11, 2005.
21. Biology of Thermal Capsular Shrinkage. OASISCON 2005, Deemed University, Chennai, India, August 1-11, 2005.
22. Human Knee Synovial Fluid Analysis. 4th SICOT/SIROT Annual International Conference, Buenos Aires, Argentina, August 23-26, 2006.
23. Scientific Basis for Clinical Treatment of Meniscal Pathology. SICOT 24th Triennial World Congress, Hong Kong. August 25-28, 2008.

24. Stem Cell Therapy for Treating Chondral Defects. SICOT 24th Triennial World Congress, Hong Kong. August 25-28, 2008.
25. A Prospective, Randomized Clinical Comparison Between Aseptically Processed and Chemically Sterilized BTB Allografts for Anterior Cruciate Ligament Reconstruction: Results from a 2 Year Follow-up. British Association for Surgery of the Knee Meeting, Cardiff, Wales. April 2011.
26. Post-op Instability – A Question of Balance? ICJR - International Congress for Joint Reconstruction, Dubai. March 2, 2012.
27. Cement less VS Cemented Total Shoulder Arthroplasty. ICJR - International Congress for Joint Reconstruction, Dubai. March 2, 2012.
28. Rotator Cuff Tear after Total Shoulder Arthroplasty. ICJR - International Congress for Joint Reconstruction, Dubai. March 2, 2012.
29. PRP in Muscle and Tendon Disease. Chilean Congress, Universidad de los Andes. Santiago, Chile. November 27, 2014.
30. Allogenic MSCs and Meniscal Repair. Chilean Congress, Universidad de los Andes. Santiago, Chile. November 28, 2014.
31. Summarizing Cell Therapy for Orthopaedic Surgeons. Chilean Congress, Universidad de los Andes. Santiago, Chile, November 28, 2014.
32. Myths and Facts in Stem Cell Therapy: Where Are We Now? Encuentro de Expertos Ortopedia Y Traumatologia. Universidad de los Andes. Santiago, Chile. May 13, 2016.
33. Cell Therapy for Clinicians: Where Are We Now? Encuentro de Expertos Ortopedia Y Traumatologia. Universidad de los Andes. Santiago, Chile. May 13, 2016.
34. Commercialization and Regulation of Biologics in Orthopaedics. International Cartilage Repair Society. Sorrento, Italy. September 26, 2016.
35. Unicompartamental Knee Arthritis in the Athletic Patient: Return to Sport. AOSSM Annual Meeting. Toronto, Canada. July 20-22, 2017.
36. Moderator: Module 2: Historical Look at Cartilage Repair. International Cartilage Repair Society Heritage Summit. Gothenburg, Sweden. June 28- July 1, 2017.

Internet Presentations

1. Arthroscopic Treatment of Osteoarthritis. Internet Videoconference to Deemed University, Chennai, India, December 15, 2003.
2. Overview of Orthopaedic Surgery and Stem Cell Biology. Internet Videoconference for the Forum on International Orthopaedic Education with the Annual Meeting of the Egyptian Orthopaedic Association in Cairo, Egypt; Queen's University, Kingston, Ontario, Canada; King Edward Medical University, Lahore, Pakistan; Higher Education Commission, Islamabad, Pakistan; HEJ Research Institute, University of Karachi, Karachi, Pakistan; REUNA's Office, Santiago, Chile; Escuela Superior Politecnica del Litoral University, Ecuador; Universidad Autonoma de Guadalajara, Guadalajara, Mexico; Universidad Nacional Mayor de San Marcos, Lima, Venezuela; Universidad Peruana Cayetano Heredia, Lima, Venezuela; Federal University of Rio de Janeiro, Janeiro, Rio; CUDI's Office, Mexico City, Mexico; John Hopkins Medical Institute, Baltimore, Maryland, USA; GDLN Videoconference Room at World Bank, Washington, DC, USA; and McCormick Center, Chicago, Illinois, USA, December 6, 2006.

A handwritten signature in black ink, consisting of a large, stylized initial 'C' followed by a long, sweeping horizontal line that ends in a small loop.

C. Thomas Vangsness, Jr., M.D.