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Department of
Orthopaedic Surgery



A Message from the Chair



Paul E. DiCesare, MD, FACS
Michael W. Chapman Chair

When reflecting on this past fiscal year, July 2008 – June 2009, the summation is two words; sustainable growth. We have expanded our specialty offerings, embarked on a new clinical research arm, engaged in development activities, and enhanced our training programs. Collectively, as one department composed of expert faculty, dedicated staff, and passionate, ambitious trainees, we have come together to focus our efforts on a common goal: building a first class Orthopaedic Department that has made great strides across all four missions: clinical care, community engagement, education, and research in 2008-2009. The following outlines a few highlights which we hope will result in sustainable growth for years to come.

We started the first quarter of the fiscal year by welcoming two new service chiefs for tumor/oncology, Rob Tamurian, MD and foot/ankle, Eric Giza, MD.

These new hires have improved the diversity of care we are able to provide to patients, offered residents a more well rounded training experience, and has brought enthusiasm to the department. In addition to these two clinicians, we have welcomed the expansion of faculty on our sports medicine, pediatrics, and spine service in the past two years. As a result of our growing faculty, it was apparent we had outgrown our internal OR block allocation. While the opening of the Same Day Surgery Center provided some relief, the need for inpatient operating room time remained a priority. In October, 2008, we expanded our operative locations to include Mercy San Juan Hospital. Adult Reconstruction, Foot, Sports Medicine, and Tumor providers utilize block allocation on a weekly basis. As a direct result of this expansion, our clinical productivity has increased when compared to prior years. Our primary clinic initiative this past year was to increase our presence in the primary care network locations. By having our faculty in neighborhood communities, specifically; Lincoln, Roseville, Folsom, and downtown Sacramento (J Street), we have improved the accessibility for patients to receive orthopaedic care closer to home.

Expanding the demographic of care reflects positively on our ability to be present in the community. Community engagement is crucial for sustainable growth of our department. We are appreciative of our long term donor relationships and are excited to develop relationships with new donors, too. This past year we had our first grateful patient campaign. We continue to be thankful for those who elect not only to support financially, but who also contribute personal time as volunteer clinical faculty members. These members sponsor journal clubs, see patients in clinic, and serve as members of our Lipscomb Society Board, where elected officers became a first this year. We have developed communication mediums this year that include our quarterly newsletter, the creation of a more user friendly website, and building an intranet website for faculty, staff, and trainees. By increasing our ability to reach out to the broader Orthopaedic community, and to improve communication pathways to our UCD team, we position ourselves to be reputable in the market and open ourselves to growth opportunities.

Growing our trainee offering has been extensive this past year. We increased our acting intern program by offering a larger number of specialty rotations to medical students. This past December we welcomed an ACGME site visit and I am pleased to state that we were accredited for the maximum reaccreditation period of five years. Our fellowship programs continue to expand as we were approved for a pediatric fellowship in 09-10 and a sports medicine fellowship in 10-11. Our trauma fellowship will increase from two to three in 10-11 and our spine fellowship from one to two in 10-11. We are not only growing in volume, but it stature as well. Our acting intern, residency and fellowship programs continue to be competitive at the national level.

Research sets us apart from competitor healthcare organizations in the Sacramento region. This past year we have enhanced our clinical research program by welcoming an epidemiologist in May. Sunny Kim, PhD, will be charged with developing a clinical outcomes registry. We have focused our administrative research efforts on improving the grant application process. Faculty and trainees have been given enhanced resources for submitting a grant application. As a result, the number of grants applied for has grown when compared to the prior year, especially for our clinical faculty, who collectively have become more engaged in research this past year.

Sustainable growth can bring growing pains; however, we continue to persevere during times of economic uncertainty and health care reform. As I look to the year ahead, I remain optimistic that the growth in which we have built this past year will sustain and serve as our foundation to grow upon in the coming year.

Regards,

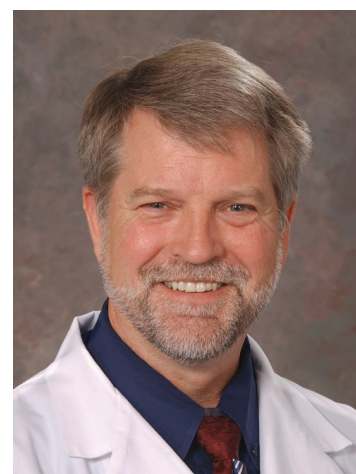


Paul Di Cesare, MD
Professor and Chair

A Message from the Lab Director

In the last research year, we have continued to search for new directions of research combined with our search for new faculty. The Doris Linn Chair remains open after the retirement of Dr. Martin, and we have three finalists for the position. The goal of this hire is to support new research ventures and also to meet the highest level of research quality.

Joining us in the last year were Sunny Kim, PhD, as Assistant Professor, Dominik Haudenschild, PhD as Assistant Professor in Residence and, recently approved, Jasper Yik, PhD as Adjunct Assistant Professor. Dr. Kim is expert in epidemiology and is working currently on a joint registry. She joins us from Florida International University. While in Florida, one project Sunny worked on was the epidemiology of knee replacement. When interviewed by Amednews.com, she said, "The demand is exploding. Are we ready as a nation? I don't think so." Her research here will aim at helping us prepare.



David P. Fyhie, PhD
David Linn Endowed Chair

Dr. Haudenschild is expert in musculoskeletal cell biology. He works with Drs. Di Cesare and Reddi on tissue regeneration projects, but his particular interest is the mechanobiology of cartilage. He is building specialized mechanical loading and imaging equipment to study simultaneously the mechanical deformation and physiological reaction of chondrocytes to mechanical loading. He started this portion of his research while in the Department of Molecular & Experimental Medicine at The Scripps Research Institute. Mechanobiology marries the mechanical and biological sciences in a fashion that strongly supports collaboration. As an example, this year's Dr. Denny and Mrs. Jeanene Dickenson Resident Research Fellow is working closely with Dr. Haudenschild on these projects.

Dr. Yik originally came to UCD Orthopaedics as a visiting postdoctoral scholar from UC Berkeley. He works directly with Dr. Di Cesare to understand the cell biology of the molecule COMP (cartilage oligomeric matrix protein) and its expression in health and arthritis. The goal is to determine the basic physiology of this important molecule (it is part of the system that forms the collagen fibers of cartilage) and also to determine whether changes in COMP expression affect the formation or degradation of cartilage during arthritis.

Other research faculty in the laboratory are Dr. Reddi and Dr. Fyhrie, who hold the Lawrence J Ellison and David Linn Endowed chairs, respectively. They continue their research programs, with five PhD students and multiple other students between them. Dr. Reddi jointly operates the Regeneration Lab with Dr. Di Cesare. Their goal is to discover the means to regrow cartilage lost to disease. Dr. Fyhrie works primarily on osteoporosis research, using his NIH funding to support PhD students who are studying the effect of aging on bone matrix strength.

Laboratory publications in the last year included thirty seven indexed peer-reviewed papers. These ranged in topic from, "Fracture of fully coated echelon femoral stems in revision total hip arthroplasty," to "Induction of chondrogenesis and expression of superficial zone protein (SZP)/lubricin by mesenchymal progenitors in the infrapatellar fat pad of the knee joint treated with TGF-beta1 and BMP-7." The laboratory is successful in research from the patient level to the molecular level. With the addition of three new faculty, further success can be expected.

A highlight of our research program is the Dr. Denny and Mrs. Jeanene Dickenson Resident Research Fellowship. Last year's fellow, Dr. Susan Tseng, worked closely with Dr. Mark Lee to improve the healing of long bone fractures. Using an animal fracture non-union model developed here in the Ellison Center, Drs. Tseng and Lee worked to improve the use of stem cells and implanted growth factors to heal these refractory fractures. This year's fellow, Dr. Derek Amanatullah is (as noted above) working closely with Dr. Dominik Haudenschild to build mechanical loading systems to stimulate living cartilage cells.

In the last year, our students and fellows were successful in obtaining three large (50%) salary fellowships and numerous small grants from the Orthopaedic Research and Education Foundation and other sources. Clinical biomechanical research was also successful in obtaining funding from corporate sources.

In the current economic climate, we continue to seek government funding, but also have increased our efforts seeking corporate connections. To further that aim, we have created a position and identified a PhD candidate who will focus on this area of funding. A successful completion of this plan should grow our grant portfolio and ameliorate some of our dependence on government funding.

At the time of this writing, our 2009 Research Symposium is two days away. The Distinguished Guest Speaker will be Mats Paullson, MD, PhD, Director of the Institute of Chemistry at the University of Cologne. Thirteen students, fellows and faculty from the research laboratory will present their work.



David P. Fyhrie, PhD
Professor and Director
Orthopaedic Research Lab

Selected Publications from the Ellison Laboratory for the Last Year

- 1: Dooley KA, McCormack J, Fyhrie DP, Morris MD. Stress mapping of undamaged, strained, and failed regions of bone using Raman spectroscopy. *J Biomed Opt.* 2009 Jul-Aug;14(4):044018. PubMed PMID: 19725729.
- 2: Bargar WL, Jamali AA, Nejad AH. Femoral Anteversion in THA and its Lack of Correlation with Native Acetabular Anteversion. *Clin Orthop Relat Res.* 2009 Aug 8. [Epub ahead of print] PubMed PMID: 19714389.
- 3: Lee SY, Nakagawa T, Reddi AH. Mesenchymal progenitor Cells Derived from Synovium and Infrapatellar Fat Pad as a Source for Superficial Zone Cartilage Tissue Engineering: Analysis of Superficial Zone Protein (SZP)/Lubricin Expression. *Tissue Eng Part A.* 2009 Aug 25. [Epub ahead of print] PubMed PMID: 19702511.
- 4: Haudenschild DR, Chen J, Steklov N, Lotz MK, D'Lima DD. Characterization of the chondrocyte actin cytoskeleton in living three-dimensional culture: response to anabolic and catabolic stimuli. *Mol Cell Biomech.* 2009. Sep;6(3):135-44. PubMed PMID: 19670824.

- 5: Tseng S, Reddi AH, Di Cesare PE. Cartilage Oligomeric Matrix Protein (COMP): A Biomarker of Arthritis. *Biomark Insights*. 2009 Feb 17;4:33-44. PubMed PMID: 19652761; PubMed Central PMCID: PMC2716683
- 6: Dunn W, DuRaine G, Reddi AH. Profiling microRNA expression in bovine articular cartilage and implications for mechanotransduction. *Arthritis Rheum*. 2009 Aug;60(8):2333-9. PubMed PMID: 19644847.
- 7: Ryan JA, Jamali AA, Bargar WL. Accuracy of Computer Navigation for Acetabular Component Placement in THA. *Clin Orthop Relat Res*. 2009 Jul 24. [Epub ahead of print] PubMed PMID: 19629609.
- 8: Creel JA, Stover SM, Martin RB, Fyhrie DP, Hazelwood SJ, Gibeling JC. Compliance calibration for fracture testing of anisotropic biological materials. *J Mech Behav Biomed Mater*. 2009 Oct;2(5):571-8. Epub 2008 Nov 28. PubMed PMID: 19627864.
- 9: Bigley RF, Gibeling JC, Stover SM, Hazelwood SJ, Fyhrie DP, Martin RB. Volume effects on yield strength of equine cortical bone. *J Mech Behav Biomed Mater*. 2008 Oct;1(4):295-302. Epub 2007 Nov 17. PubMed PMID: 19627794.
- 10: Ciarelli TE, Tjhia C, Rao DS, Qiu S, Parfitt AM, Fyhrie DP. Trabecular packet-level lamellar density patterns differ by fracture status and bone formation rate in white females. *Bone*. 2009 Jul 14. [Epub ahead of print] PubMed PMID: 19615479.
- 11: Neu CP, Arastu HF, Curtiss S, Reddi AH. Characterization of engineered tissue construct mechanical function by magnetic resonance imaging. *J Tissue Eng Regen Med*. 2009 Aug;3(6):477-85. PubMed PMID: 19530259.
- 12: Kishimoto KN, Oxford CL, Reddi AH. Stimulation of the side population fraction of ATDC5 chondroprogenitors by hypoxia. *Cell Biol Int*. 2009 Jun 12. [Epub ahead of print] PubMed PMID: 19524690.
- 13: Meehan JP, Khadder MA, Jamali AA, Trauner KB. Closing wedge retrotubercular tibial osteotomy and TKA for posttraumatic osteoarthritis with angular deformity. *Orthopedics*. 2009 May;32(5):360. PubMed PMID: 19472956.
- 14: Yeni YN, Dong XN, Zhang B, Gibson GJ, Fyhrie DP. Cancellous Bone Properties and Matrix Content of TGF-beta2 and IGF-I in Human Tibia: A Pilot Study. *Clin Orthop Relat Res*. 2009 May 27. [Epub ahead of print] PubMed PMID: 19472023.
- 15: Jamali AA. Digital templating and preoperative deformity analysis with standard imaging software. *Clin Orthop Relat Res*. 2009 Oct;467(10):2695-704. Epub 2009 May 15. PubMed PMID: 19444527.
- 16: Yoon DM, Curtis S, Reddi AH, Fisher JP. Addition of Hyaluronic Acid to Alginate Embedded Chondrocytes Interferes with IGF-1 Signaling In Vitro and In Vivo. *Tissue Eng Part A*. 2009 May 8. [Epub ahead of print] PubMed PMID: 19426107.
- 17: Khan SN, Hofer MA, Gupta MC. Lumbar degenerative scoliosis: outcomes of combined anterior and posterior pelvis surgery with minimum 2-year follow-up. *Orthopedics*. 2009 Apr;32(4). pii: orthosupersite.com/view.asp?rID=38060. PubMed PMID: 19388616.
- 18: Entwistle RC, Sammons SC, Bigley RF, Hazelwood SJ, Fyhrie DP, Gibeling JC, Stover SM. Material properties are related to stress fracture callus and porosity of cortical bone tissue at affected and unaffected sites. *J Orthop Res*. 2009 Apr 20;27(10):1272-1279. [Epub ahead of print] PubMed PMID: 19382182.
- 19: Jones CN, Tuleuova N, Lee JY, Ramanculov E, Reddi AH, Zern MA, Revzin A. Cultivating liver cells on printed arrays of hepatocyte growth factor. *Biomaterials*. 2009 Aug;30(22):3733-41. Epub 2009 Apr 17. PubMed PMID: 19375794.
- 20: Salgado CJ, Jamali AA, Ortiz JA, Cho JJ, Battista V, Mardini S, Chen HC, Gonzales R. Effects of hyperbaric oxygen on the replanted extremity subjected to prolonged warm ischaemia. *J Plast Reconstr Aesthet Surg*. 2009 Mar 23. [Epub ahead of print] PubMed PMID: 19321393.

- 21: Jamali AA, Scott RD, Rubash HE, Freiberg AA. Unicompartmental knee arthroplasty: past, present, and future. *Am J Orthop*. 2009 Jan;38(1):17-23. Review. PubMed PMID: 19238263.
- 22: Ryan JA, Eisner EA, DuRaine G, You Z, Reddi AH. Mechanical compression of articular cartilage induces chondrocyte proliferation and inhibits proteoglycan synthesis by activation of the ERK pathway: implications for tissue engineering and regenerative medicine. *J Tissue Eng Regen Med*. 2009 Feb;3(2):107-16. PubMed PMID: 19177463.
- 23: Landa J, Benke M, Dayan A, Pereira G, Di Cesare PE. Fracture of fully coated echelon femoral stems in revision total hip arthroplasty. *J Arthroplasty*. 2009 Feb;24(2):322.e13-8. PubMed PMID: 19159839.
- 24: June RK, Ly S, Fyhrie DP. Cartilage stress-relaxation proceeds slower at higher compressive strains. *Arch Biochem Biophys*. 2009 Mar 1;483(1):75-80. Epub 2008 Dec 24. PubMed PMID: 19111671.
- 25: Deuel CR, Jamali AA, Stover SM, Hazelwood SJ. Alterations in femoral strain following hip resurfacing and total hip replacement. *J Bone Joint Surg Br*. 2009 Jan;91(1):124-30. PubMed PMID: 19092017.
- 26: Kummer FJ, Strauss E, Wright K, Kubiak EN, Di Cesare PE. Mechanical evaluation of unipolar hip spacer constructs. *Am J Orthop*. 2008 Oct;37(10):517-8. PubMed PMID: 19081880.
- 27: June RK, Mejia KL, Barone JR, Fyhrie DP. Cartilage stress-relaxation is affected by both the charge concentration and valence of solution cations. *Osteoarthritis Cartilage*. 2009 May;17(5):669-76. Epub 2008 Oct 10. PubMed PMID: 19010694.
- 28: Ngaage DL, Jamali AA, Griffin S, Guvendik L, Cowen ME, Cale AR. Non-infective morbidity in diabetic patients undergoing coronary and heart valve surgery. *Eur J Cardiothorac Surg*. 2009 Feb;35(2):255-9. Epub 2008 Oct 2. PubMed PMID: 18835187.
- 29: June RK, Fyhrie DP. Molecular NMR T2 values can predict cartilage stress-relaxation parameters. *Biochem Biophys Res Commun*. 2008 Dec 5;377(1):57-61. Epub 2008 Sep 24. PubMed PMID: 18822272.
- 30: Lee SY, Nakagawa T, Reddi AH. Induction of chondrogenesis and expression of superficial zone protein (SZP)/lubricin by mesenchymal progenitors in the infrapatellar fat pad of the knee joint treated with TGF-beta1 and BMP-7. *Biochem Biophys Res Commun*. 2008 Nov 7;376(1):148-53. Epub 2008 Sep 5. PubMed PMID: 18774772.
- 31: DuRaine G, Neu CP, Chan SM, Komvopoulos K, June RK, Reddi AH. Regulation of the friction coefficient of articular cartilage by TGF-beta1 and IL-1beta. *J Orthop Res*. 2009 Feb;27(2):249-56. PubMed PMID: 18683879.
- 32: Lee SY, Niikura T, Reddi AH. Superficial zone protein (lubricin) in the different tissue compartments of the knee joint: modulation by transforming growth factor beta 1 and interleukin-1 beta. *Tissue Eng Part A*. 2008 Nov;14(11):1799-808. PubMed PMID: 18611149.
- 33: Wang X, Allen MR, Burr DB, Lavernia EJ, Jeremić B, Fyhrie DP. Identification of material parameters based on Mohr-Coulomb failure criterion for bisphosphonate treated canine vertebral cancellous bone. *Bone*. 2008 Oct;43(4):775-80. Epub 2008 Jun 10. PubMed PMID: 18599390; PubMed Central PMCID: PMC2622738.
- Alfonso DT, Howell RD, Caceres G, Kozlowski P, Di Cesare PE. Total hip arthroplasty in the underweight. *J Arthroplasty*. 2008 Oct;23(7):956-9. Epub 2008 Mar 4. PubMed PMID: 18534502.
- 35: Luan Y, Kong L, Howell DR, Ilalov K, Fajardo M, Bai XH, Di Cesare PE, Goldring MB, Abramson SB, Liu CJ. Inhibition of ADAMTS-7 and ADAMTS-12 degradation of cartilage oligomeric matrix protein by alpha-2-macroglobulin. *Osteoarthritis Cartilage*. 2008 Nov;16(11):1413-20. Epub 2008 May 15. PubMed PMID: 18485748; PubMed Central PMCID: PMC2574789.

CLINICAL SERVICE HIGHLIGHTS

We are pleased to announce our expansion to eight subspecialties, with the recent addition of the Foot and Ankle Service and the Oncology Service in summer 2008. Our faculty, students, and staff are dedicated to advancing orthopaedic medicine through clinical research, patient care, teaching and community engagement. Following are the achievement highlights from our subspecialties for the past fiscal year.

ADULT RECONSTRUCTIVE

- The Service (Dr. Amir Jamali and Dr. John Meehan) sponsored the Northern California Chapter of the Western Orthopaedic Association Annual meeting last November in Sonoma in which numerous members of the department were speakers.
- Dr. David Moehring has retired after 21 years of service to the department through the Primary Care Network.
- An Omega Grant for \$30,500 was presented to John Meehan, MD, to be used for the Adult Reconstructive Fellowship.
- Dr. Meehan was awarded a \$75,000 OREF Fellowship Grant.
- Dr. Meehan was also awarded a \$25,000 "Vision" Grant by the UC Davis Health System National Board of Advisors for his research project, "Assessing Patient Outcomes After Simultaneous Bilateral Total Knee Arthroplasty Versus Staged Bilateral Total Knee Arthroplasty."

FOOT AND ANKLE

- The Foot and Ankle Service has increased volume and patient care immensely over the past year since the arrival of the new service chief, Eric Giza, MD.

- Dr. Giza has focused on improving patient access for acute injuries, caring for lower extremity sports medicine injuries and balanced teaching of the orthopaedic residents.
- The Foot & Ankle service has one cadaver study underway at the musculoskeletal research lab and an IRB clinical study that is enrolling patients.
- Dr. Giza has also presented an original research study on the treatment of ankle cartilage injuries at the American Orthopaedic Foot & Ankle Society Annual Meeting in Vancouver, BC.

HAND, UPPER EXTREMITY AND MICROVASCULAR

- Dr. Robert Szabo was recognized as a Research Mentor for the Fourth Year Scholarly Project Program and Medical Student Research Forum Poster Day, Varun Gajendran, in March 2009.
- Dr. Szabo was honored as a visiting professor at the 19th Annual Resident Research Day at Wake Forest University, Winston-Salem, NC in April, 2009.
- Dr. Szabo received a Certificate of Appreciation for being an invited guest and lecturer at the 26th Annual Meeting of The Central Japan Society for Surgery of the Hand in Hamamatsu, Shizuoka, Japan in January 2009.

ONCOLOGY

- Dr. Robert Tamurian has successfully re-established UC Davis as a regional tertiary referral center for patients with bone and soft tissue tumors.
- He has treated patients throughout Northern California, Northeastern Nevada, Southern Oregon and as far reaching as Fairbanks, AK.
- Dr. Tamurian was again named as one of American's Top Orthopaedic Surgeons for 2009 and was awarded membership in the Musculoskeletal Tumor Society, while continuing to

provide expert musculoskeletal oncology care throughout the Sacramento and Sierra region.

- He has begun collaborative research with the UC Davis Stem Cell Institute, evaluating stem cell precursor aberrations in sarcoma patients.
- In conjunction with the UC Davis Cancer Center, Dr. Tamurian has enrolled the initial patients in Phase I/II clinical trial, evaluating combined neoadjuvant chemotherapy and radiation therapy for soft tissue sarcomas.
- Lastly, with the UC Davis Orthopaedic Research Laboratory, Dr. Tamurian has numerous biomechanical studies underway, evaluating optimal fixation and reconstructive techniques for bone voids that result after treatment of bone lesions. Dr. Tamurian has received funding from Synthes and Acumed to carry out his research.

PEDIATRICS

- UCD 3rd year medical student Lindsey Sheffler was awarded a T32 grant from the NIH, through the UCD CTSC, to work on her research project at Shriners Hospital for Children. She has chosen to study the etiology of elbow flexion contractures in children with brachial plexus birth palsy, in collaboration with the SHCNC Motion Analysis Lab staff and under the direction of Michelle James, MD.
- Through a conference grant, Shriners Hospital for Children sponsored a symposium of pediatric hand surgeons and basic and clinical scientists (including molecular biologists and molecular and clinical geneticists) in fall 2008 under the direction of Dr. James. The meeting resulted in a *Journal of Bone and Joint Surgery* supplement published in summer 2009 on Congenital Upper-Limb Malformations. The supplement takes a fresh look at the science and the surgery of upper limb

PEDIATRICS (CONTINUED)

- malformations, including a proposed overhaul of the classification system and updates on pre-natal diagnosis and treatment.
- SHCNC has extended its outreach efforts; in addition to a bimonthly clinic in Nogales, Arizona, staffed by Joel Lerman, MD, a new outreach clinic in Reno in partnership with Health Access Washoe County began in 2008, staffed by Dr. Joel Lerman and Dr. Jenny Boakes.
- Jenny Boakes, MD, is measuring the sarcomere length of muscles under various conditions, most recently before and after tendon transfers.
- Dr. Lerman is designing a multi-center study of bracing methods following Ponseti treatment for clubfeet.
- Michelle James, MD was appointed Deputy Editor of the *Journal of Hand Surgery* in 2009, and began her term as one of the American Board of Orthopaedic Surgery representatives to the Orthopaedic Residency Review Committee of the ACGME in 2008. Her funded research includes an ongoing multi-center comparison of tendon transfer surgery, botulinum toxin injections and therapy for upper extremity cerebral palsy.
- Debra Popejoy, MD, became a consultant reviewer for the *Journal of Bone and Joint Surgery* and the *Journal of the American Academy of Orthopaedic Surgeons*. She is studying the radiographic outcomes of extension spica casting for pediatric femur fractures. Most importantly, along with her husband and two daughters, she welcomed baby Avery in March.
- George Rab, MD, is building on his extensive work on motion analysis of the upper extremity by incorporating muscle architecture into his model.

SPINE

- We are pleased to demonstrate increased access to spine care through the use of our Fast Track (Open Access) program.

- Our service is showing increased patient visits from the prior year and enhanced patient satisfaction scores.
- We are enjoying continued successful recruitment of Spine fellows.
- We experienced a successful reduction of implant costs through establishment of the Spine Center Value Analysis Committee.
- Mushish Gupta, MD, service chief, was reappointed as vice chair for the department for a two-year term.

SPORTS MEDICINE

- During 2008-2009, Sports Medicine continued a strong clinical, teaching and service commitment and initiated new and basic science research studies.
- As in the past, our service ranked in the top quartile of patient care with high marks in patient satisfaction, helped by the recent, full-time position of James Van den Bogaerde, MD, who brings additional expertise in shoulder injuries.
- Under Drs. Lewis and Marder, in conjunction with their non-operative sports medicine associates, sports team coverage has expanded on the UC Davis campus, while our liaison with the Sacramento Kings and Monarchs has been solidified, approaching nearly a quarter century of continuous professional team coverage.
- Dr. Lewis has developed a highly appreciated resident operative teaching program, using a state of the art cadaver lab.
- Dr. Van den Bogaerde started a basic science biomechanics project studying distal biceps injuries at the elbow.
- Dr. Marder presented a paper at the AAOS annual meeting on calcific tendinitis of the shoulder and has initiated a prospective clinical study of accuracy of shoulder injections for rotator cuff tendinitis.
- Dr. Van den Bogaerde was

appointed president of the Lipscomb Alumni Society and is currently organizing quarterly CME lectures for local orthopaedics as part of an educational outreach program sponsored by the alumni society.

- Dr. Van den Bogaerde has developed a busy shoulder and elbow service at UC Davis, treating a wide variety of traumatic and degenerative conditions about the shoulder and elbow, including complex revision procedures and advanced arthroscopic techniques.
- Dr. Van den Bogaerde is also pursuing a cadaveric study on distal biceps tendon repair at the UC Davis Orthopaedic Research Lab.
- Dr. Van den Bogaerde is also providing medical coverage for US Alpine Ski Team events.

TRAUMA

- Philip Wolinsky, MD, service chief, has recently been reappointed as vice chair for the department for a two-year term.
- Tania Ferguson, MD was awarded \$34,000 from Stryker for "*Compare the strength of trans-sacral fixation with iliosacral fixation with/without anterior fixation in a vertically unstable pelvic ring fracture.*"
- Dr. Ferguson was also awarded \$12,000 by the committee on Research, to be used as seed funds for outside grant applications and support of new and ongoing research activities.
- Smith and Nephew awarded \$57,000 to Mark Lee, MD, for "*Biomechanical Comparison of VLP: Tubular Plates in Osteoporotic Fibula Fracture.*"
- Dr. Lee has been selected as a recipient for this year's UC Davis Academic Senate Distinguished Teaching Award in the Graduate/Professional Teaching category.
- Effective July 1, 2009, Mark Lee, MD, was promoted to Associate Professor, Clin X Series.

Portrait of a Grateful Patient

Dennis Gardemeyer

"I remember one doctor telling me that if I would just give up snow skiing, give up cycling, give up horseback riding... if I just made some minor changes in my life, I wouldn't be aggravating my back and then I'd be fine. So I asked the doctor, 'Do you horseback ride?' He said no. I said, 'Do you snow ski?' He said no. 'Do you play golf?' No. I said, 'Well, for you it would be minor – but for me, you're asking me to give up my life.' "

--Dennis Gardemeyer, UC Davis orthopedic patient

Dennis Gardemeyer is not a man to take things sitting down – or even to sit down – very often. The 60-year-old owner and/or CEO of multiple agricultural businesses is also a instrument-rated pilot who commutes to work in the Stockton delta area most days by plane. When not flying, he travels a week of every month to ski, boat and fish all over the world. And he cycles through Europe every year.

Hands-on and hard-working, Dennis has remained physically active throughout the years. However, the physically punishing work and play also took its toll. To relieve back pain, Dennis visited Stanford for Intradiscal Electrothermal Annuloplasty or IDET, a procedure that works by cauterizing nerve endings within the disc wall to block pain signals. While he continued to be active, pain also continued to be an active part of his life.



And then one routine day things became more severe. While preparing to fly a board member of one of his companies to San Jose, Dennis opened a hangar door and elongated his back. A compressed disc shoved into his spinal column and Dennis instantly developed dropped foot, a weakness or paralysis of the muscles that lift the front of the foot. Despite the pain, he kept his promise to complete the flight – although things got hairy on landing. "When I got there, it dawned on me that I don't have control of this foot and I'm landing an airplane," he said. "You use your feet for rudder control and your toes for braking."

The landing was successful, but Dennis realized he had a full-blown medical issue. He called doctors in New York, Chicago and England looking for top medical care as soon as possible. Then a surgeon friend told him there was a renowned doctor at UC Davis Health System – Dr. Rolando Roberto. Dr. Roberto saw Dennis immediately, scheduled tests and performed a very successful microdiscectomy the following day.

The procedure not only solved the dropped foot, but also some of the chronic lower back issues Dennis had dealt with for years. Now he is leaving soon for a trip to Africa. "I do everything I used to do when I was in my twenties," he says. "I'm not 100 percent pain free, but I'm pretty close to it."

Portrait of a Grateful Patient

Alice Tiffin

Alice Tiffin, 80, kept herself quite busy over the decades. Not much slowed down this energetic nurse, small business owner, mother of five and community volunteer.

As a Brownie, Girl Scout and 4-H leader, Tiffin was a constant at trips, parades, county fairs and summer camps. She chaperoned at proms and graduations. With her husband of 62 years, Bill, she opened and ran a small ice cream parlor which provided work experience for their three younger daughters and other local high schoolers. She volunteered extensively in a variety of other venues - so much so that she earned a write-up in the local newspaper and Lassen County's coveted "Old Timer of the Year" award.

Then an injury threatened to bring the activity to a halt. A fall damaged a knee that had already been troubling her from a chicken attack earlier in her life.

A chicken attack?



Alice and Bill Tiffin

"I was feeding the chickens when a rat jumped out of the feed," Tiffin recalls. "We had an enormous white rooster who tried to attack the rat. He mistakenly got me by the leg - dug his spurs in both sides of my knee, hung on and beat me with his wings before I could get away."

Those spurs can be up to two inches long, and they had managed to damage Alice's kneecap. Years later and in constant pain - she had trouble walking and couldn't climb steps - Alice's doctor referred her to UC Davis Health System's Department of Orthopaedic Surgery. She saw

Dr. Kenneth Trauner, who eventually performed a knee replacement procedure.

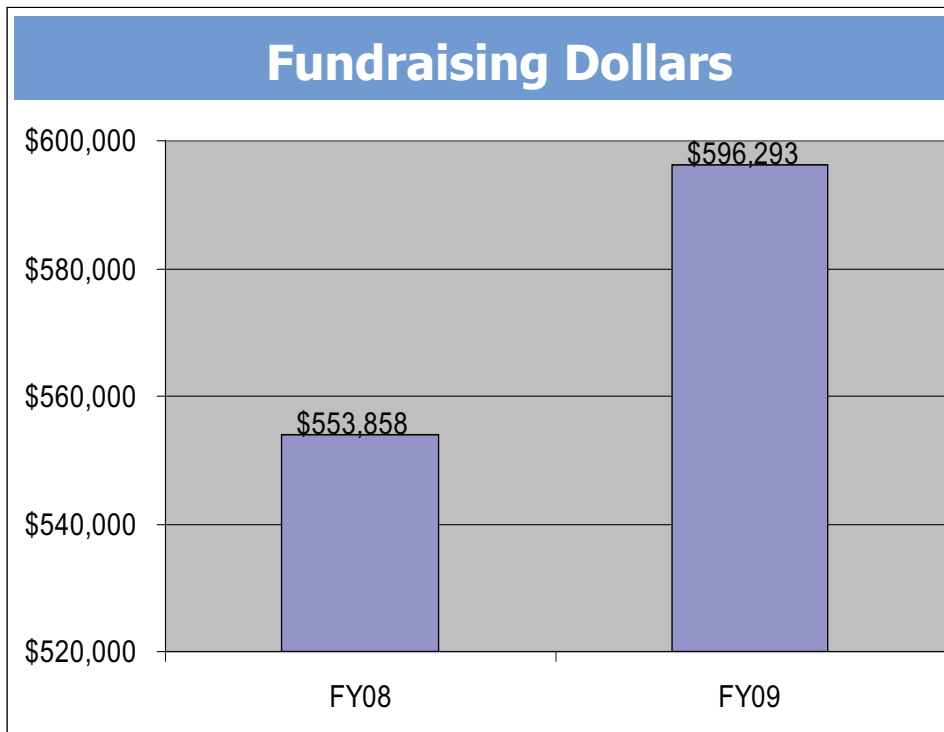
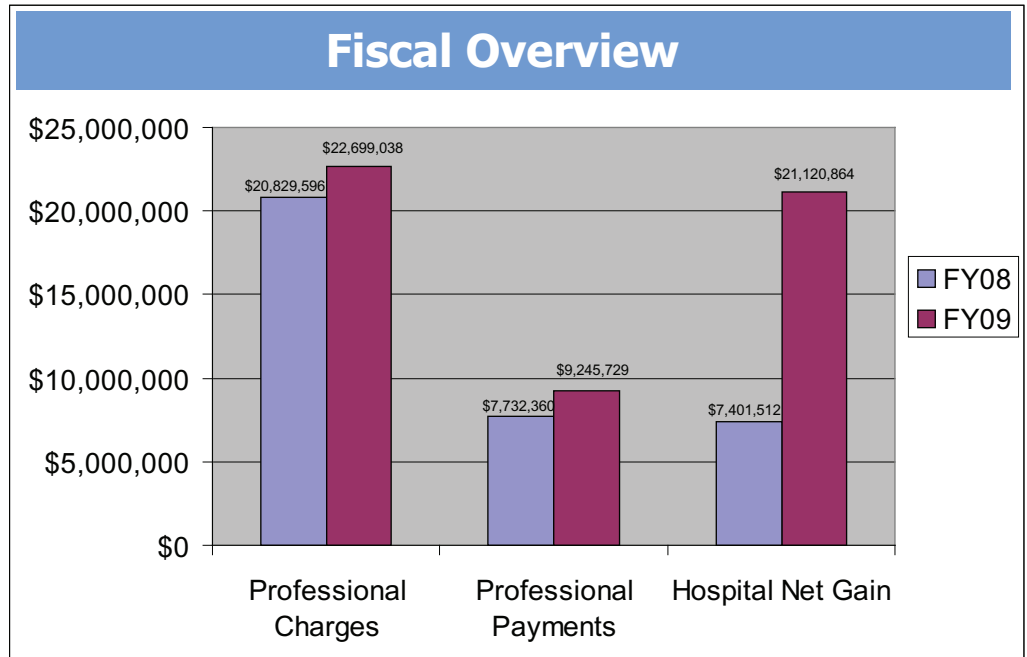
"He was absolutely wonderful, and it made such a difference in the activities in my life," Tiffin says. "I asked if I had to have another one of these replacements in a few years, and he said "Alice, it will probably out live you.""

Ten years after the surgery, Alice and Bill made a donation to the Department of Orthopaedic Surgery. "The care I received in Orthopaedic Surgery was wonderful," she says. "Everyone at the hospital is sympathetic - they seem to have real feelings for the people they are working with. The attention to follow-up care was just as detailed and caring. I feel like, if I had more money, that's where it would go."

Financial Snapshots

When comparing FY09 to FY08, professional charges increased 8.2 percent and professional payments increased 16.4 percent. The most notable increase was reflected by Orthopaedic's financial contribution to the Health System.

The department finished close of fiscal year 2009 with \$468,113,158 total charges and \$102,931,243 net income. The net gain reflected a 65 percent increase when compared to fiscal year 08.



New contributions to our development allocations include faculty direct deposit donations and our Grateful Patient Campaign.

Are you interested in becoming a donor?

please contact:
 Kathryn J. Keyes,
 Development Officer
 Surgical Specialties and
 Emergency Services
 Health Sciences
 Advancement
 UC Davis Health System
 4900 Broadway, Ste 1150
 Sacramento, CA 95820

Phone: 916.734.9673
 kathryn.keyes@ucdmc.
 ucdavis.edu

Clinical Productivity Snapshots

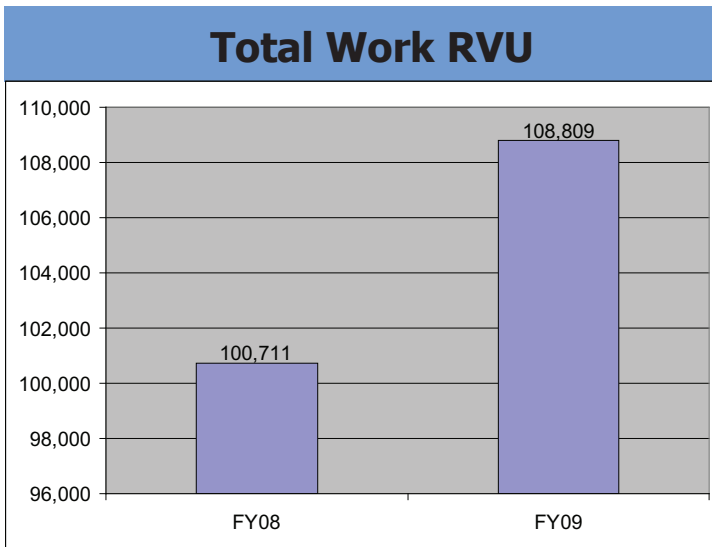


Figure 1

In FY09 we experienced a 7.4 percent growth in work RVUs compared to FY08. This was largely due to an improved internal release system for operative block and clinic room reallocation.

Our Ellison Ambulatory Clinic and Spine Center experienced at 14 percent growth in visits when compared to last fiscal year. Additional hospital based clinic locations include J Street in Sacramento and the Center for Placer Health. Our Sports Medicine and Joint physicians also have a presence at Folsom and Roseville Primary Care Network (PCN) locations. We are looking to expand to Elk Grove PCN location in fiscal year 2010.

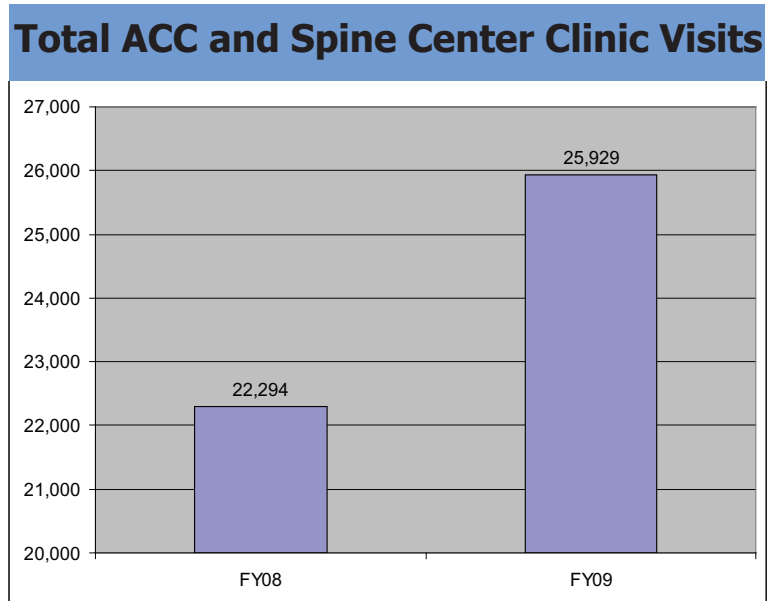
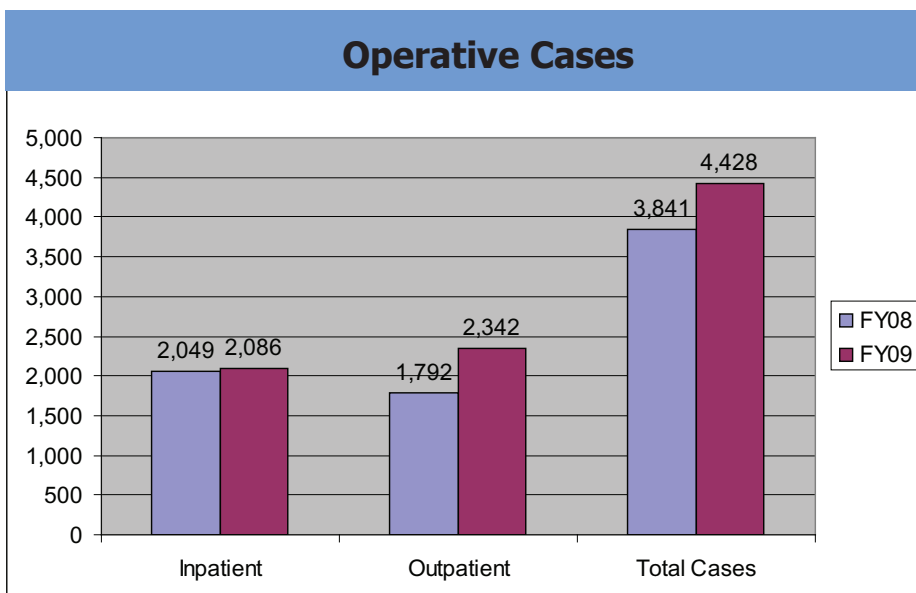


Figure 2

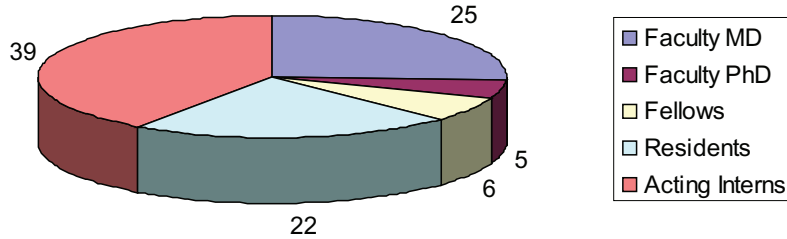


When comparing FY09 and FY08, Orthopaedics had a 13.3 percent growth in operative cases, most notably reflected by outpatient case volumes. This was the first full fiscal year that the Same Day Surgery Center was open for patient care.

Figure 3

Trainee Summary

FY 09 Faculty/Student Data Totaling 97



Meet our Trainees

Acting Intern to Resident

Sukanta Maitra, MD - Spine Service

10.27.08 - 11.21.08

Scott Porter, MD - Trauma Service

8.11.08 - 9.05.08

Thomas Powers, MD - Trauma Service

9.02.08 - 9.26.08

Scott Whitlow, MD - Sports Service

10.28.08 - 11.21.08

All of these Acting Interns started their Orthopaedic residencies with us in July 2009.

Residents PGY1

Raj Kullar
Lance Mitsunaga
Daemeon Nicolaou
Joel Williams

Residents PGY2

Derek Amanatullah
Tomasz Antkowiak
Christian Bromfield
Edward Shin

Research Fellow

Susan Tseng

Residents PGY3

Gaurav Abbi
Jonathan Eastman
Eddie Lo
Tyler Nathe

Residents PGY4

Randall Farac
Jaspaul Gogia
Safdar Khan
Christopher Kreulen
Kyle Mitsunaga

Residents PGY5 (graduated 6.19.09)

Cale Bonds
Gen Ortho - Travis AFB

Douglas Dennis
Gen Ortho - Solano
Regional Med Grp

William Page
Hand/Upper Extremity
Fellow - Indiana Hand Ctr.

Ravi Patel
Spine Fellow - Hospital
for Special Surgery

Fellows

(graduated 7.31.09)

Gene Choi, MD

Spine - Riverside Medical Center

Mohammed Khaddar, MBBS

Adult Reconstructive - Private Practice
in Jordan

George Myo, MD

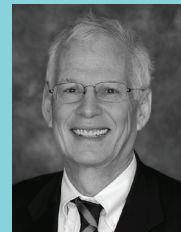
Hand/Upper Extremity -
Private Practice in Arizona

Michael Quackenbush, DO

Trauma - Dept of Orthopaedics,
Ohio State University

George K. VanOsten, III, MD

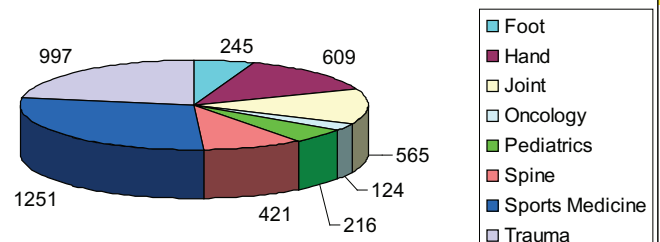
Trauma - N Mississippi Medical Center



Our distinguished guest professor for the June 2009 Graduate Research Symposium was Peter J. Stern, MD Hill Professor and Chair of the Department of Orthopaedics Surgery at the University of Cincinnati College of Medicine.

Residents are exposed to eight orthopaedic subspecialties during their training. In 2008-2009, resident rotations were enhanced with the addition of a tumor/research rotation and a foot rotation. Offsite rotations include Shriners Hospital and Kaiser South.

FY 09 Cases by Specialty Totaling 4428



Faculty Profiles



Robert H. Allen, MD
Associate Clinical Professor

Subspecialty: Hand and Upper Extremity

College: Stanford University

Medical School : Stanford University

Residency: Stanford University

Fellowship: Orthopaedic Hand Surgery at University of California, Davis

Clinical Interests: All aspects of hand, upper extremity and microvascular surgery

Research Interests: Nerve regeneration after trauma



Daniel R. Benson, MD
Professor

Subspecialty: Adult and Pediatric Spine

College: Miami University - Oxford, Ohio

Medical School : University of Illinois, Abraham Lincoln School of Medicine

Residency: University of California, Davis

Fellowship: John Hopkins Medical School - Baltimore, Maryland

Clinical Interests: Spinal deformity and biomechanics of spine injury, scoliosis in children and other spinal disorders, musculoskeletal pain related

to the spine and the history of medicine

Research Interests: Embryonic development of the spine and wound infection studies



Jennette L. Boakes, MD
Clinical Professor

Subspecialty: Pediatric Orthopaedics

College: University of California, Los Angeles, BS

University of California, Davis, MS

Medical School : University of California San Diego

Residency: University of Utah Medical Center, Salt Lake City

Fellowship: University of California, Davis, Pediatric Orthopaedic

Clinical Interests: Lower extremity deformity including equalization of limb length discrepancy, correction of malalignment, clubfoot and other foot disorders, hip dysplasia; also orthopaedic surgical treatment of deformity caused by muscle/tendon imbalance in cerebral palsy and other neuromuscular conditions; treatment of spinal deformity.

Research Interests: muscle physiology and adaptation; muscle structure/function relationships; spastic muscle; leg lengthening; in vivo sarcomere length measurement; biomechanical modeling; and gait analysis



Paul E. DiCesare, MD, FACS
Professor and Chair

Subspecialty: Adult Reconstructive

College: University of Southern California, Los Angeles

Medical School : University of Southern California School of Medicine

Residency: University of Southern California, Los Angeles

Fellowship: M. E. Muller Foundation, Berne, Switzerland

Clinical Interests: Adult reconstructive surgery on the hip and knee, complex primary and revision surgery, and treatment of periprosthetic infections

Research interests: Arthritis biomarkers, mechanisms for chondrocyte and bone differentiation from stem cells, infection biomarkers, and mechanisms of cartilage breakdown in arthritis



Tania A. Ferguson, MD
Assistant Professor

Subspecialty: Trauma

College: University of California, Santa Cruz

Medical School : UC San Francisco, School of Medicine

Residency: University of California, San Francisco, School of Medicine

Faculty Profiles

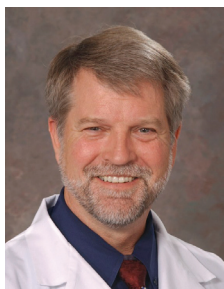
Tania Ferguson continued

Fellowships: Joel Matta, MD, Los Angeles - Hip and Pelvis

Jeff Mast, MD, Mammoth, California - Hip and Pelvis Reconstruction

Clinical Interests: Preservation of the hip in the young patient, either after fracture or secondary to congenital abnormality

Research Interests: Pelvic and acetabular fracture injury patterns, imaging, and biomechanics of injury and fixation; clinical outcomes of and surgical indication for pelvic and acetabular fracture surgery



David P. Fyhrie, PhD

Professor and Director,
Orthopaedic Research Lab

College: Gonzaga University, Spokane, Washington, B.S., Mechanical Engineering

Stanford University, M.S., Mechanical Engineering

Stanford University, PhD, Mechanical Engineering

Research Interests: Bone biomechanics, bone remodeling; cartilage mechanical properties; bone cell mechanobiology; fracture mechanics; and finite element remodeling



Eric Giza, MD

Assistant Professor and Chief, Foot and Ankle Service

College: Haverford College, Haverford, Pennsylvania

Medical School : Temple University School of Medicine

Residency: Harvard Combined Residency

Fellowships: Santa Monica Orthopaedics and Sports Medicine Group, Sports Medicine

St. Vincents and North Shore Private Hospital, Sydney Australia, Foot and Ankle

Clinical Interests: Reconstruction of the foot and ankle, arthroscopy, and knee and shoulder surgery

Research Interests: Cartilage transplantation; advances in achilles reconstruction



Munish C. Gupta, MD

Professor, Chief of Spinal Deformity Service, Adult and Pediatric Spine Surgery

College: Northwestern University, Chicago

Medical School: Northwestern University

Residency: Northwestern University

Fellowship: Kenton D. Leatherman Spine Center and University of Louisville

Clinical Interests: Spinal reconstructive surgery; treatment of pediatric and adult spinal deformities, including scoliosis and kyphosis; revision surgeries and severe spinal problems

Research interests: Stem cells for bone formation; investigation of the interplay of BMP and BMP antagonists during spinal fusion in an animal model of posterolateral lumbar fusion; disc degeneration model in animals



Dominik R. Haudenschild, PhD

Assistant Professor
Orthopaedics Research Lab

College: Boston University, B.A.

University of California, Davis, PhD

Research Interests: Dr. Haudenschild's research focus is in the interactions between the chondrocyte cytoskeleton and signal transduction events which lead to the regulation of gene expression and extracellular matrix synthesis required for the maintenance of health cartilage.

Contact us.....

Academic offices	916.734.5885
ACC Clinic	916.734.2700
Research Center	916.734.3311

www.ucdmc.ucdavis.edu/orthopaedics/

Faculty Profiles



Amir A. Jamali, MD

Associate Professor

Subspecialty: Adult Reconstructive Surgery

College: University of Virginia

Medical School: Medical College of Virginia

Residency: University of California, San Diego

Fellowships: Inselspital, University of Berne Switzerland - Hip Surgery

Massachusetts General Hospital/ Harvard School of Medicine - Adult Reconstruction

Clinical Interests: Total joint arthroplasty, articular cartilage restoration, arthritis surgery, hip dysplasia, osteotomies, cartilage resurfacing procedures and meniscal transplantation in adults

Research Interests: Cartilage biology and fresh osteochondral allografts, imaging



Michelle A. James, MD

Clinical Professor, Chief, Orthopaedic Pediatric Surgery

College: University of California, Berkeley

Medical School : University of California, San Diego School of Medicine

Residency: University of California, San Francisco

Fellowship: Indiana Hand Center Indianapolis - Hand and Microsurgery

Clinical Interests: Treatment of children with hand malformations, hand deformities from injuries, and problems with hand and arm function associated with neuromuscular conditions such as brachial plexus palsy, spinal cord injury and cerebral palsy.

Research Interests: Analysis of upper extremity function in children; funded studies of prosthesis use in children with below elbow deficiency and treatment of upper extremity cerebral palsy; motion analysis of the upper extremity in children and teenagers with brachial plexus birth palsy and spinal cord injury; outcomes of nerve reconstruction for infants with brachial plexus birth palsy; outcomes of elbow release and dorsal carpal wedge osteotomy in arthrogryposis; outcomes of pinch reconstruction in people with tetraplegia; comparison of children's self-assessment of function with their parents' assessment.



Sunny H. Kim, PhD

Assistant Professor, Orthopaedics Clinical Outcomes Research

Seoul National University, BS

University of Wyoming, MS

The Ohio State University, PhD

Research Interests: Health outcomes and health economics of chronic conditions, particularly diabetes and arthritis. Dr. Kim is currently developing an orthopaedic patient registry, which will follow patients from the date of implantation to monitor safety and quality of care. Kim has experience and expertise in probabilistic survey sampling, epidemiologic methods, clinical trials and health-outcomes studies



Eric O. Klineberg, MD

Assistant Professor and Fellowship Director, Spine Service

Subspecialty: Adult and Pediatric Spine Surgery

College: Rice University, Houston, TX

Medical School: University of Maryland, Baltimore

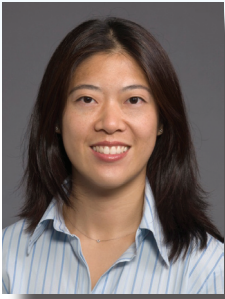
Residency: University of Washington, Seattle

Fellowship: Cleveland Clinic Foundation, Combined Orthopaedic and Neurosurgical Spine

Clinical Interests: All aspects of spinal degeneration, deformity, tumor and fracture. He has a particular interest in minimal access surgery and cervical compression and deformity.

Research Interests: Cartilage regeneration in degenerative disc disease as well as biomechanical models of spinal stability

Faculty Profiles



Cassandra A. Lee, MD

Assistant Professor

College: Boston University, BA

Medical School : Boston University

Residency: North Carolina Baptist Hospital, Wake Forest University, Winston-Salem, NC

Fellowship: Washington University, St. Louis, MO - Sports Medicine

Clinical Interests: Arthroscopy of the knee and shoulder, and shoulder reconstruction, autologous chondrocyte implantation (ACI) procedures

Research Interests: Basic science studies of cartilage regeneration and ligament biology and how these findings translate to clinical outcomes studies



Mark A. Lee, MD

Associate Professor and Fellowship Director, Trauma Service

College: Stanford University, Palo Alto

Medical School : University of California, San Francisco School of Medicine

Residency: University of California, San Francisco

Fellowship: University of California, Davis Medical Center, Orthopaedic Trauma

Clinical Interests: Periarticular fractures of the hip, knee and ankle, fractures of the shoulder girdle, pelvic and acetabular fractures, and minimally invasive fracture fixation techniques.

Research Interests: Fracture healing, including animal models of fracture nonunion, mesenchymal stem cell applications for fracture repair, and biomechanical evaluations of fracture implants



Joel A. Lerman, MD

Assistant Clinical Professor

Subspecialty: Pediatric Orthopaedics

College: Stanford University

Medical School: Stanford University School of Medicine

Residency: Maricopa Medical Center, Phoenix

Fellowship: Children's Hospital, Boston - Pediatric Orthopaedic Surgery

Clinical Interests: Clubfeet, limb deficiencies, spina bifida, general pediatric orthopaedics, and pediatric and adolescent spinal deformities

Research Interests: Function and clinical outcomes in patients with congenital lower extremity deficiencies, as well as orthopedic issues in spinal cord injured youths, spinal deformities, and clubfeet.



Kirk J. Lewis, MD

Associate Clinical Professor and Fellowship Director, Sports Medicine

Medical School : University of Michigan Medical School, Ann Arbor

Residency: University of California, Los Angeles

Fellowship: University of California, Los Angeles

Clinical Interests: Prevention, rehabilitation, and surgical treatment of injured competitive and recreational athletes. Since 1985, he has been the team physician for athletes at the professional, Division I collegiate and scholastic levels, and he's cared for amateur and professional dancers. He has experience and a strong interest in global health and medical volunteerism. rehabilitation, and surgical treatment



Richard A. Marder, MD

Clinical Professor and Chief of Sports Medicine

College: University of Southern California, Los Angeles

Medical School : University of California, Los Angeles

Residency: University of California, Los Angeles

Fellowship: Massachusetts General Hospital/Harvard School of Medicine

Faculty Profiles

Richard Marder continued

Clinical Interests: Arthroscopy and ligament reconstruction; Dr. Marder has been head team physician for Sacramento's professional men's basketball team since 1987. He works with Sacramento's professional soccer and women's basketball teams, as well as the Sacramento Ballet and UC Davis and American River College athletic teams.

Research interests: Kinematics of MCL reconstruction and impingement or primary tendonitis of the rotator cuff.



John P. Meehan, MD

Associate Clinical Professor, Chief and Fellowship Director, Adult Reconstructive Surgery

College: Stanford University, Palo Alto

Medical School : Boston University School of Medicine

Residency: University of California, Davis Medical Center

Fellowships: New England Baptist Hospital, Boston - Adult Reconstruction

S.O.A.R. Orthopaedic Group, Menlo Park, California - Sports Medicine

Clinical Interests: Arthroscopy, sports medicine and adult reconstructive surgery

Research Interests: Total hip arthroplasty and bioceramics in total hip arthroplasty, catastrophic wear associated with elevated-rim acetabular liners, and removal and reinsertion of the femoral component during isolated acetabular revision.



Debra J. Popejoy, MD

Assistant Professor

Subspecialty: Pediatric Orthopaedics

College: Stanford University

Medical School: University of California, San Diego

Residency: Fort Worth Affiliated Hospitals

Fellowship: Texas Scottish Rite Hospital for Children, Dallas - Dorothy & Bryant Edwards Fellowship in Pediatric Orthopedics and Scoliosis

Clinical Interests: Pediatric orthopaedics, including the areas of reconstruction, scoliosis, sports and trauma.

Research Interests: Scoliosis, gait analysis, and other orthopaedic topics.



George T. Rab, MD

Professor

Subspecialty: Pediatric Orthopaedics

College: University of Minnesota, Minneapolis, M.S.

Northwestern University, Evanston, Illinois, B.S.

Medical School: Northwestern University Medical School, Chicago

Residency: Gillette Children's Hospital St. Paul, Minnesota and Mayo Clinic, Rochester, Minnesota

Clinical Interests: Pediatric orthopaedic surgery and neuromuscular disorders. He sees patients with developmental hip dysplasia, clubfeet, slipped epiphyses, Perthes disease and a wide variety of other general pediatric orthopaedic problems.

Research interests: Gait analysis (kinematics), joint biomechanics and computer modeling



A. Hari Reddi, PhD

Distinguished Professor, Lawrence J. Ellison Chair of Molecular Biology

College: Annamalai University, Annamalai Nagar, India, B.S.

University of Delhi, India, PhD

Research Interests: Cellular and molecular basis of cartilage repair and osteoarthritis; the cellular and developmental biology of bone and osteoporosis; the tissue engineering of bone and cartilage based on biomaterials and biotechnology; the role of extracellular matrix and growth factors in cell differentiation and morphogenesis of bone and cartilage; and hormonal regulation of cartilage, bone and bone marrow development.

Faculty Profiles



Rolando F. Roberto, MD

Assistant Clinical Professor, Residency Director

Subspecialty: Adult and Pediatric Spine Surgery

College: University of California, Irvine

Medical School: University of California, Irvine School of Medicine

Residency: University of Illinois, Chicago

Clinical Interests: Adult and pediatric spine surgery; treatment of diseases of the spine, including scoliosis, lumbar spinal stenosis, herniated discs of the cervical and lumbar spine, in patients from birth through advanced age.

Research interests: Motion preserving technologies



Peter B. Salamon, MD

Clinical Professor

Subspecialty: Pediatric Orthopaedics

College: University of Michigan, Ann Arbor

Medical School: University of Michigan, Medical School, Ann Arbor

Residencies: University of Michigan
University of Wisconsin, Madison

Fellowship: The Hospital for Sick Children, London, England

Clinical Interests: Treatment of orthopaedic problems with the hips, lower and upper extremities; use of Ponseti method in treating club feet



Robert M. Szabo MD, MPH

Professor, Chief of Hand, Upper Extremity and Microvascular Surgery

College: New York University, Bronx

Medical School: State University of New York School of Medicine, Buffalo

Residency: Mount Sinai Medical Center New York City

Fellowships: University of California, San Diego - Hand, Microvascular and Upper Extremity Surgery

Ilizarov Surgery Fellowship Program, Lecco, Italy

Masters of Public Health in Epidemiology, University of California, Berkeley.

Clinical Interests: Hand and upper-extremity problems such as brachial plexus and peripheral nerve surgery; shoulder, elbow and wrist joint replacements; wrist reconstruction, including arthroscopy; congenital deformities, including Ilizarov reconstructions; tumors; and microvascular reconstructive free tissue transfers

Research Interests: Nerve compression lesions, nerve repair and regeneration biology, tendon healing and adhesion formation, and epidemiology of repetitive trauma and injury prevention



Robert M. Tamurian MD

Assistant Professor, Chief of Oncology

College: Bingham University Bingham, New York

Medical School: State University of New York, Upstate Medical Center, Syracuse

Residency: University of Michigan, Ann Arbor

Fellowship: University of Florida Gainesville, Orthopaedic Oncology

Clinical Interests: Bone and soft tissue tumors, while offering general arthroscopic and arthroplasty reconstructive services

Research Interests: Bone and soft tissue sarcomas, novel therapeutics for the treatment of osteosarcoma and ewing's sarcoma of bone, endoprosthetic reconstruction techniques and education delivery systems.



James M. Van den Bogaerde, MD

Assistant Clinical Professor

Subspecialty: Sports Medicine

College: University of California, Los Angeles

Faculty Profiles

James Van den Bogaerde continued

Medical School : University of Chicago
Pritzker School of Medicine

Residency: University of California, Davis

Fellowship: Steadman Hawkins Clinic
Spartanburg, South Carolina , Sports
Medicine

Clinical Interests: Sports Medicine,
Arthroscopic treatment of knee, shoulder
and elbow injuries and reconstructive
shoulder and elbow surgery.

Research Interests: Clinical outcome
studies regarding the efficacy of treating
shoulder and knee injuries



Philip R. Wolinsky, MD
Professor, Chief of Trauma Service

College: Columbia University, New
York City

Medical School : New York University
School of Medicine, New York City

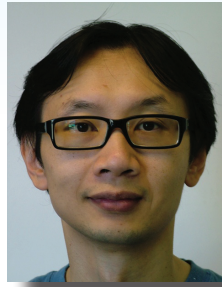
Residencies: New York University,
Bellevue Medical Center, New York City

Stony Brook Medical Center
Stony Brook, New York

Fellowship: Vanderbilt University
Medical Center. Nashville, Tennessee -
Orthopaedic Trauma

Clinical Interests: Long-bone fractures,
patients with multiple injuries, and
post-fracture reconstruction, bone loss
and osteomyelitis

Research Interests: Biomechanics of
internal and external fixation devices
and fat embolization.



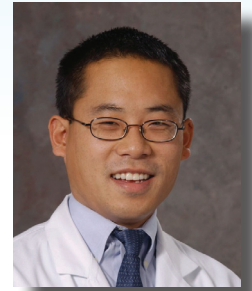
Jasper H. N. Yik, PhD
Adjunct Professor
Orthopaedics Research Lab

College: University of Central
Oklahoma, Edmond, OK, B.S.

Graduate School: University of
Oklahoma, Norman, OK, PhD

Post-doctoral Fellowship: University of
California, Berkeley

Research Interests: Regulation of gene
expression during chondrocyte
differentiation from stem cells.
Identification of novel transcription
factors important for chondrogenesis
and cartilage homeostasis.



Brad J. Yoo, MD
Assistant Clinical Professor

Subspecialty: Trauma Service

College: Cornell University, Ithaca,
New York

Medical School : New York Medical
College, Valhalla, New York

Residency: University of Maryland
Medical Center R. Adams Cowley Shock
Trauma Center, Baltimore, MD

Fellowship: Harborview Medical Center,
University of Washington, Seattle, WA,
Orthopaedic Trauma

Clinical Interests: Hindfoot and midfoot
fractures, articular fractures about the
ankle, long bone medullary nailing

Research Interests: Outcomes following
complex foot and ankle trauma, biome-
chanics of orthopaedic devices

Academic Personnel Actions

Effective 7/1/2008

David Fyhrie, PhD - Professor

Step 5 to Step 6

Kirk Lewis, MD - Health Sciences Associate Clinical Professor

Step 1 to Step 2

John Meehan, MD - Health Sciences Associate Clinical Professor

Step 2 to Step 3

Robert Szabo, MD - Professor

Step 5 to Step 6

Brad Yoo, MD - HS Assistant Clinical Professor

Step 2 to Step 3