RESEARCH
HIGHLIGHTS
FOR 2017

RESEARCH REPORT

UCSF Department of Orthopaedic Surgery

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Message from the Chairman of the Department of Orthopaedic Surgery
Thomas P. Vail, MD

Dear Colleagues and Friends,

Among its many other achievements during 2017, the Department of Orthopaedic Surgery ranked #1 in the nation by the National Institutes of Health (NIH) in funding for orthopaedic research (according to data compiled by the Blue Ridge Institute for Medical Research).

The Department received $7,852,165 in peer-reviewed NIH research grants in 2017, providing substantial fuel to our Department's research engine. This is in addition to many other sources of research support, both extramural and philanthropic, for which we remain very grateful.

At a time when research dollars are becoming increasingly scarce, the UCSF Department of Orthopaedic Surgery has increased its NIH funding by nearly 40 percent over the previous year. Moreover, since 2013, we have consistently ranked among the top five NIH-funded musculoskeletal research programs in the country.

As a Department, we are thrilled that the NIH, other funding agencies, industry partners, generous benefactors, and grateful patients have taken such a keen interest in our orthopaedic research endeavors. As a consequence, our teams of dedicated investigators will be able to continue devising and applying innovative new perspectives to solve fundamental problems afflicting the musculoskeletal system. To this end, we would always welcome more support and investment toward our efforts.

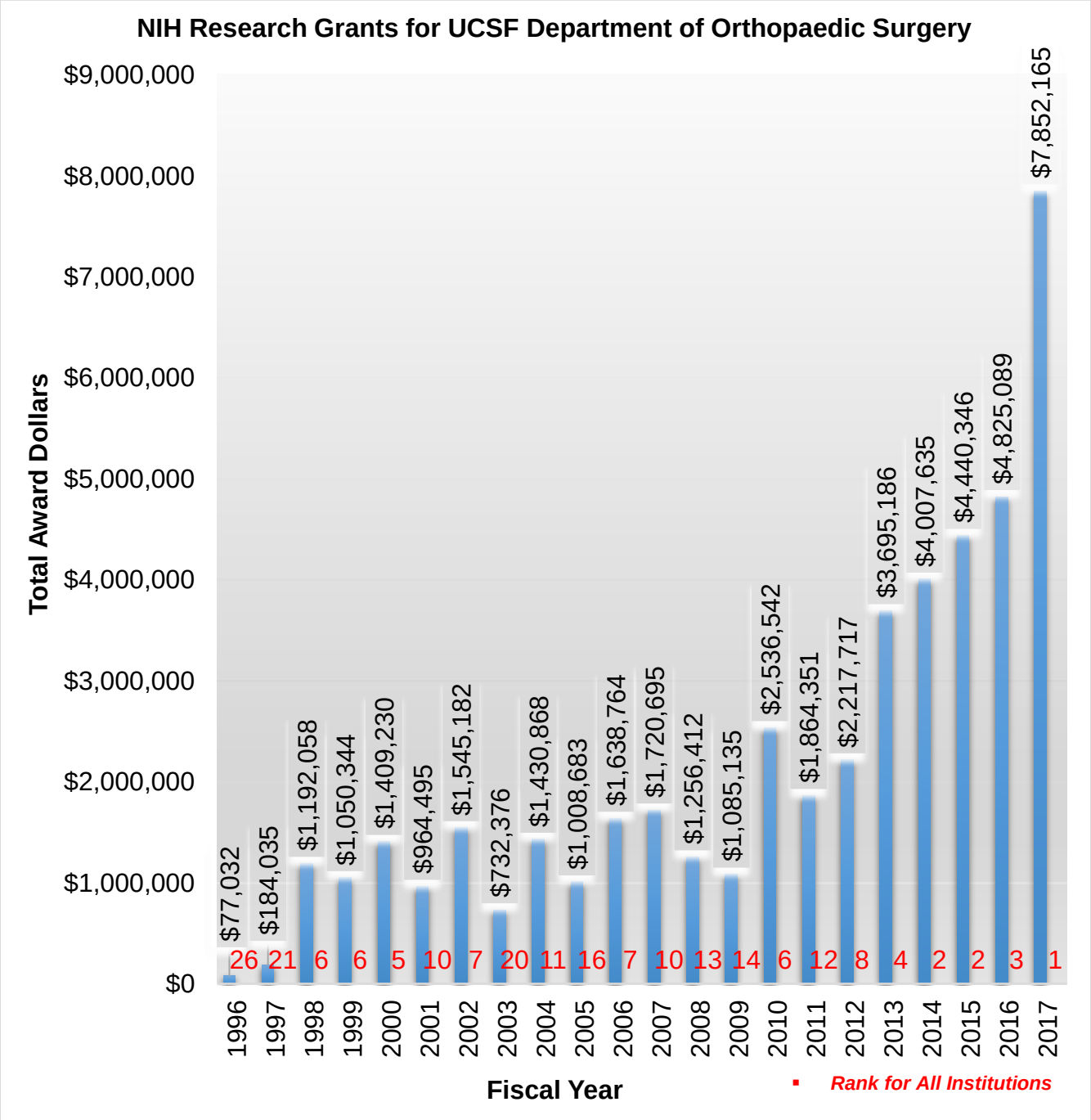
With such success in mind, this report highlights some of our many research accomplishments over the past year. What becomes clear by viewing one year's worth of research activities and products together in one place, is that our investigators are at the leading edge of understanding fundamental mechanisms in musculoskeletal biology and they are working hard to transform how we provide care to patients.

I look forward to watching our research enterprise grow throughout 2018!

Best wishes,

Thomas Parker Vail, MD
James L. Young Professor & Chairman
Department of Orthopaedic Surgery
University of California, San Francisco

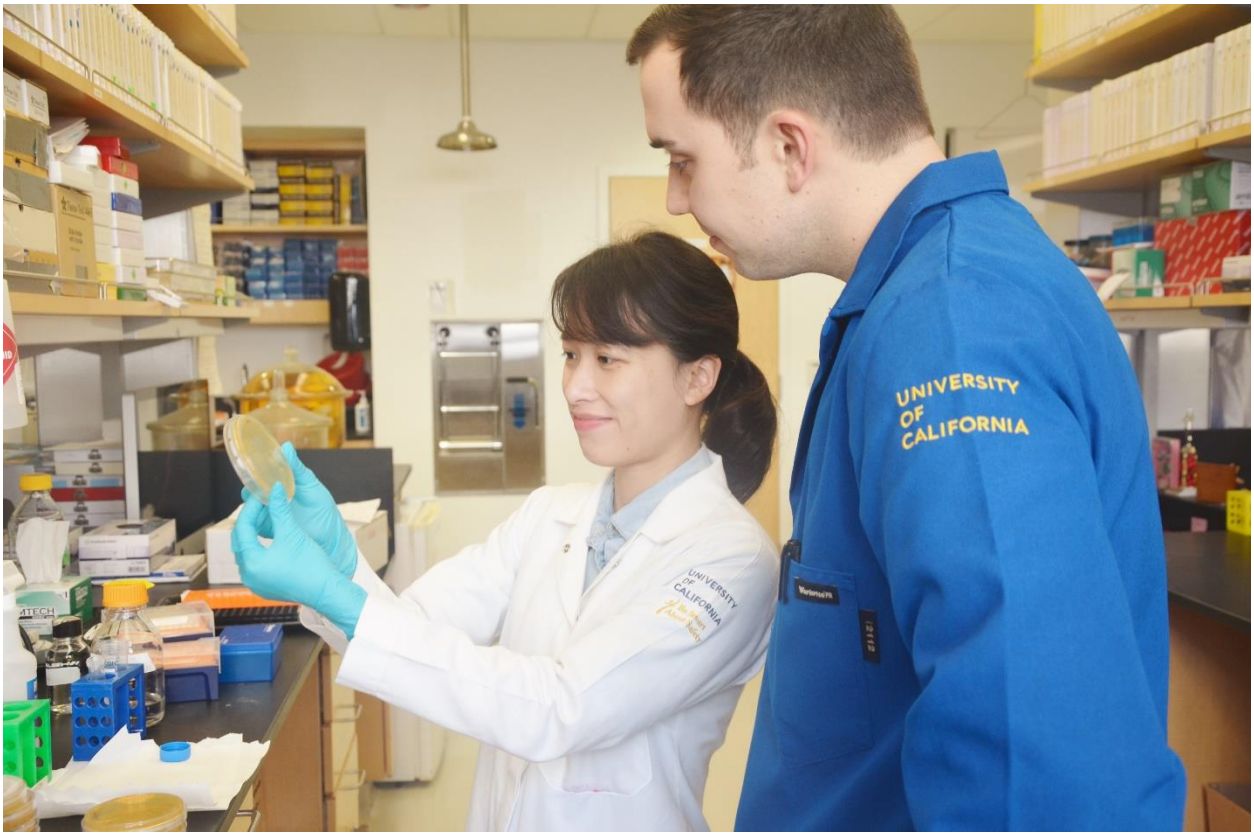
National Institutes of Health Ranking: UCSF Ranks No. 1 in NIH Funding



Source: Blue Ridge Institute for Medical Research

Our Mission

The Department of Orthopaedic Surgery is dedicated in providing the highest quality of patient care, conduct innovative clinical, basic science, and translational research, and train the next generation of global leaders in orthopaedic surgery.



Researchers in the Department of Orthopaedic Surgery conducts innovative clinical, basic science, and translational research in musculoskeletal biology to improve the delivery and outcomes of orthopaedic care.

Research Programs and Activities

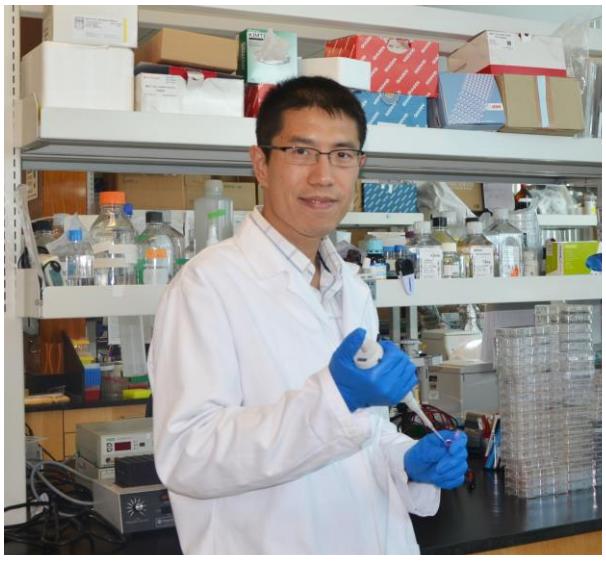
Basic, Translational and Clinical Research

The UCSF Department of Orthopaedic Surgery has a diverse and broad basic and translational research program in musculoskeletal biology. This is in addition to our clinical research program, which spans all orthopaedic subspecialties. Each of our various research programs are aimed at bringing new insights to our understanding of the musculoskeletal system. A major goal is to develop novel treatments for defects, diseases, conditions, and injuries that affect musculoskeletal function. We are driven by the desire to improve the delivery and outcomes of orthopaedic care.

Additionally, Department of Orthopaedic Surgery has a strong tradition in clinical research across all subspecialties. Over the past decade, clinical researchers have established a large collaborative network both within UCSF as well as with national and international clinical researchers that have improved the impact and depth of our clinical research.

Over the past year, clinical research has been published in all major orthopaedic surgery journals including JBJS, JSES, JOT, Spine, JPO, CORR, and

AJSM. Faculty, fellows, and residents presented at AAOS, ORS,AOSSM, ISAKOS, The Hip and Knee Society, and OTA, among other national and international meetings.



Researchers in the Department of Orthopaedic Surgery conducts innovative clinical, basic science, and translational research in musculoskeletal biology to improve the delivery and outcomes of orthopaedic care. Pictured here is Xuhui Liu, MD.

While the individual projects are too numerous to list in detail, there have been several highlights of collaborative research across spine surgery, 3D printing for improving surgical outcomes, shoulder arthroplasty and instability, imaging analysis using high resolution MRI and CT, global health through IGOT, pediatrics and pediatric sports medicine.

Orthopaedic Translational Research

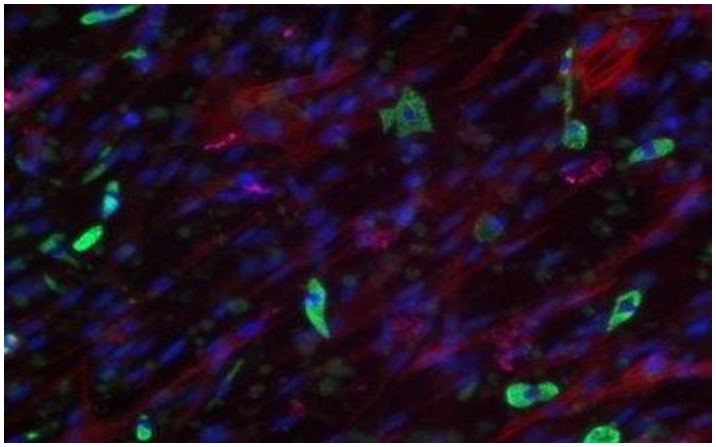
UCSF VA Health Center Research Facility at Mission Bay

The Laboratory for Orthopaedic Translational Research is directed by **Hubert Kim, MD, PhD** and **Alfred Kuo, MD, PhD** at the UCSF VA Research Facility at Mission Bay

The focus of the team's research efforts is to examine the molecular and cellular mechanisms responsible for secondary injury cascades that are set in motion after trauma. There is particular interest in tissues that have an extremely limited capacity for healing and regeneration, where preservation of existing cells and tissue may be of great clinical significance. The intention is to apply lessons learned in the laboratory to the design of better treatments for the patients.

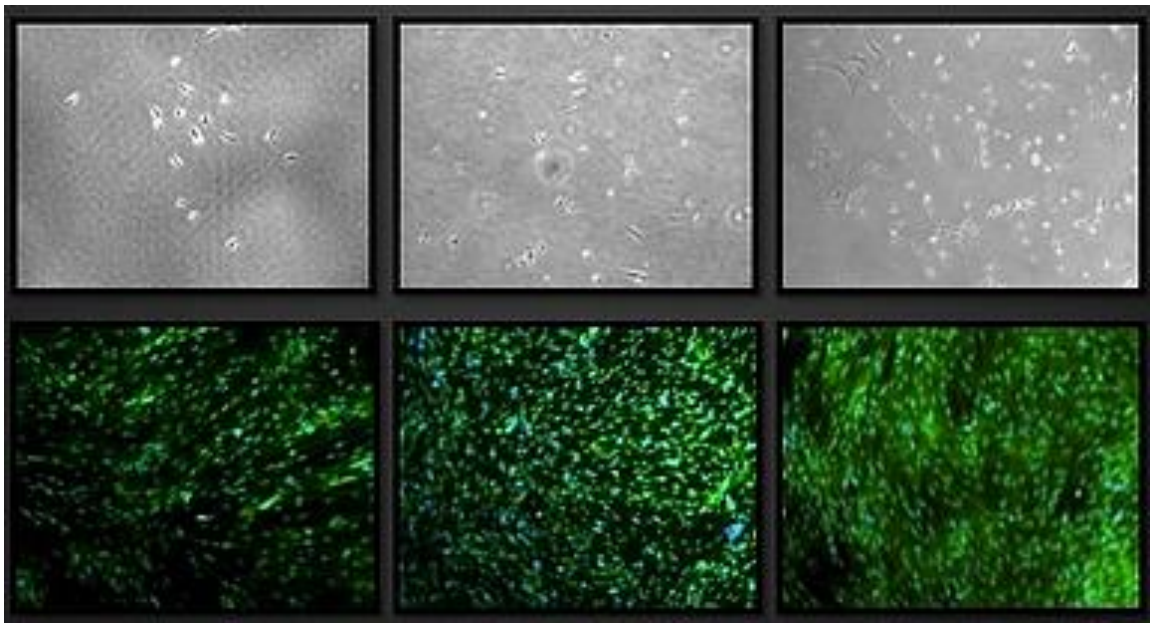
Brian Feeley, MD directs *the Laboratory for Stem Cell Regeneration and Translational Research*, located on the UCSF/VA Mission Bay campus focusing on muscle injury problems. **Brian Feely, MD** collaborates with **Xuhui Liu, MD** and researchers at UCSF on developing models to study the molecular mechanisms and cellular mechanisms that are responsible for the development of muscle atrophy and fatty infiltration after rotator cuff tears.

The focus of the research is to understand the cellular and molecular changes that occur within the muscle after different injuries, but particularly rotator cuff tears. They have developed novel injury and repair models to study the acute and chronic effects of rotator cuff injury on the important signal transduction pathways that govern muscle cell size and stem cell fate within the muscle. They also focus on understanding how muscle injury patterns affect the stem cell populations within the muscle (satellite cells, FAP cells) in an effort to determine treatment strategies that would improve muscle function after orthopedic injuries.



Stem cells found within rotator cuff muscle can be stimulated into fibrotic tissue (red) or fat tissue (green) dpending on the stimulus (Feeley Laboratory for Stem Cell Regeneration and Translational Research)

Within the SF VA, the Orthopaedic Rapid Intelligent Fabrication Group led by **Alan Dang, MD** and **Alexis Dang, MD** are focused on translating orthopaedic ideas into orthopaedic products. They maintain a 3-axis CNC mill as well as a small fleet of 3D printers with customized extruders, firmware, and other software optimizations. Active projects include the development of advanced surgical lighting technology as well as surgical instrumentation and implants.



Human muscle stem cells and regeneration (Brack Laboratory for Skeletal Muscle Regeneration and Aging)

Laboratory for Skeletal Muscle Regeneration and Aging

Eli and Edythe Broad Center of Regeneration Medicine and Stem Cell Research on Parnassus Heights

The Stem Cell Laboratory is directed by **Andrew Brack, PhD** and focuses on the molecular pathways that control cell fate decisions of the adult muscle stem cell (the satellite cell) to effectively regenerate adult skeletal muscle.

In uninjured muscle, the rare satellite cells are in a functionally dormant, quiescent state. Upon an injury stimulus, these cells proliferate and their progeny will either differentiate to form new muscle fibers or undergo self-renewal to replenish the stem cell pool.

The Brack lab believes that the temporally coordinated cell fate decisions of the stem cell and its progeny are reliant on communication between the local environment (the muscle stem cell niche) and the stem cell itself. They are using cre/lox gene recombination and genetic knock in technology to deconstruct the communication between the niche and the muscle stem cell to investigate the cell fate decision making process during regeneration.

In the future the Brack lab hopes this will lead to strategies that improve stem cell-based therapies targeting aging and muscle disease.

Andrew Brack, PhD has developed collaborations with several clinical faculty including the sports medicine group. Active projects include studies of quiescence and self-renewal, stem cell niche (the microenvironment that maintains ‘stemness’), satellite cell heterogeneity, aging, and human muscle stem cells and regeneration.

Synchrotron X-ray micro-CT rendering of a mouse cochlea - this image made the cover of the journal Bone.
(*Alliston Laboratory for Skeletal Cell Differentiation and Signaling)*

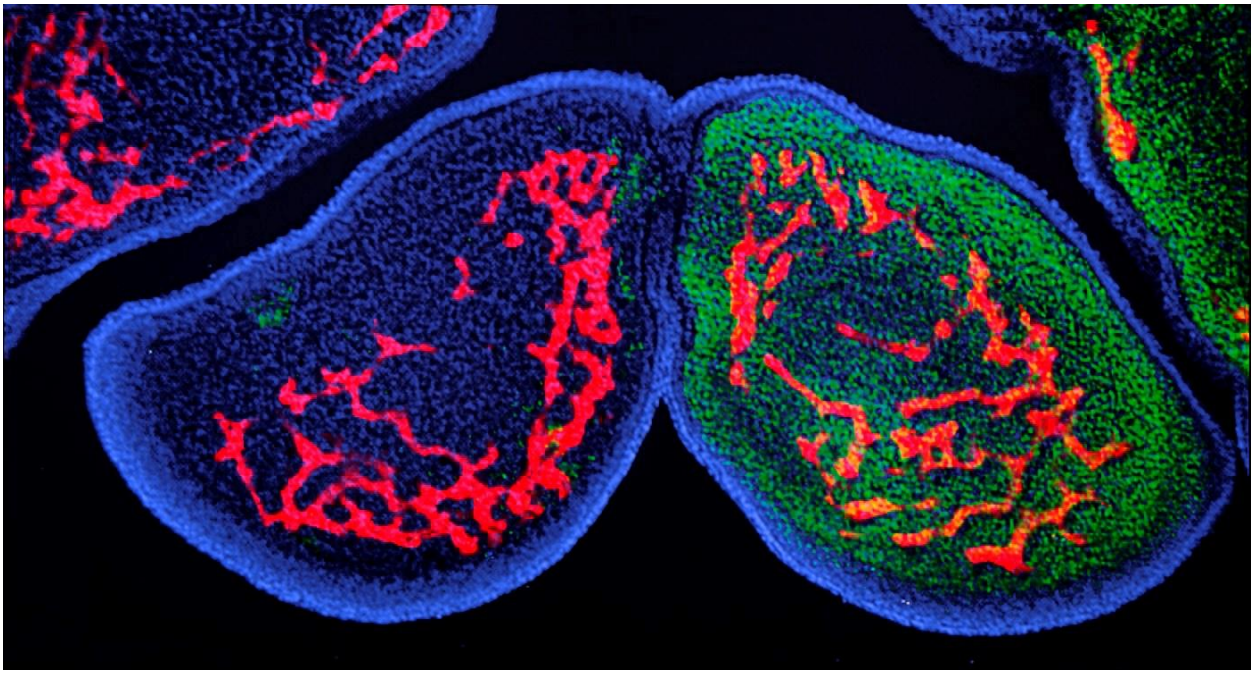
Laboratory for Skeletal Cell Signaling and Differentiation

UCSF Parnassus Heights

The Laboratory for Skeletal Cell Signaling and Differentiation is directed by **Tamara Alliston, PhD**.

The Alliston Laboratory is dedicated to understanding the mechanical and biochemical signals that direct stem cells to make bone and cartilage and using this information to prevent and cure degenerative skeletal diseases such as osteoarthritis and osteoporosis.

Specifically, the driving goal is to prevent and cure osteoarthritis and other degenerative skeletal diseases through the understanding of how stem cell differentiation is regulated in normal skeletal tissue as compared to degenerative skeletal disease.



Developing lower jaw of a chimeric “quck” embryo showing quail donor cells in green, duck host cells in blue, and duck host blood vessels in red *(Schneider Laboratory for Developmental and Evolutionary Skeletal Biology)*

Laboratory for Developmental and Evolutionary Skeletal Biology

UCSF Parnassus Heights

The Laboratory for Developmental and Evolutionary Skeletal Biology is directed by **Richard A. Schneider, PhD**.

Research is broadly aimed at understanding how the developing musculoskeletal system achieves its structural and functional integration.

To address this question, the lab has created a unique surgical transplantation system that involves embryos from two distinct types of birds (quail and duck), which differ considerably in their anatomy and growth rates.

Transplanting skeletal and other progenitor cells between them challenges the resulting chimeric “quck” and “duail” embryos to integrate two different species-specific developmental programs.

By focusing on donor- versus host-controlled changes to embryonic patterning and growth, this strategy has illuminated molecular and cellular mechanisms that regulate the musculoskeletal system and enable bones, cartilages, tendons, muscles, and other tissues to achieve their proper size, shape, orientation, and integration.

A goal is to devise novel molecular- and cell-based therapies for repairing and regenerating musculoskeletal tissues affected by birth defects, disease, and injury. Work from the Schneider Lab has also helped elucidate the role of development in evolution.

The Lotz Laboratory has pioneered biomechanical, anatomic, and imaging studies of the human disc/vertebra interface *(Lotz Laboratory for Orthopaedic Tissue Engineering and Regeneration)*

Laboratory for Orthopaedic Tissue Engineering and Regeneration

UCSF Parnassus Heights

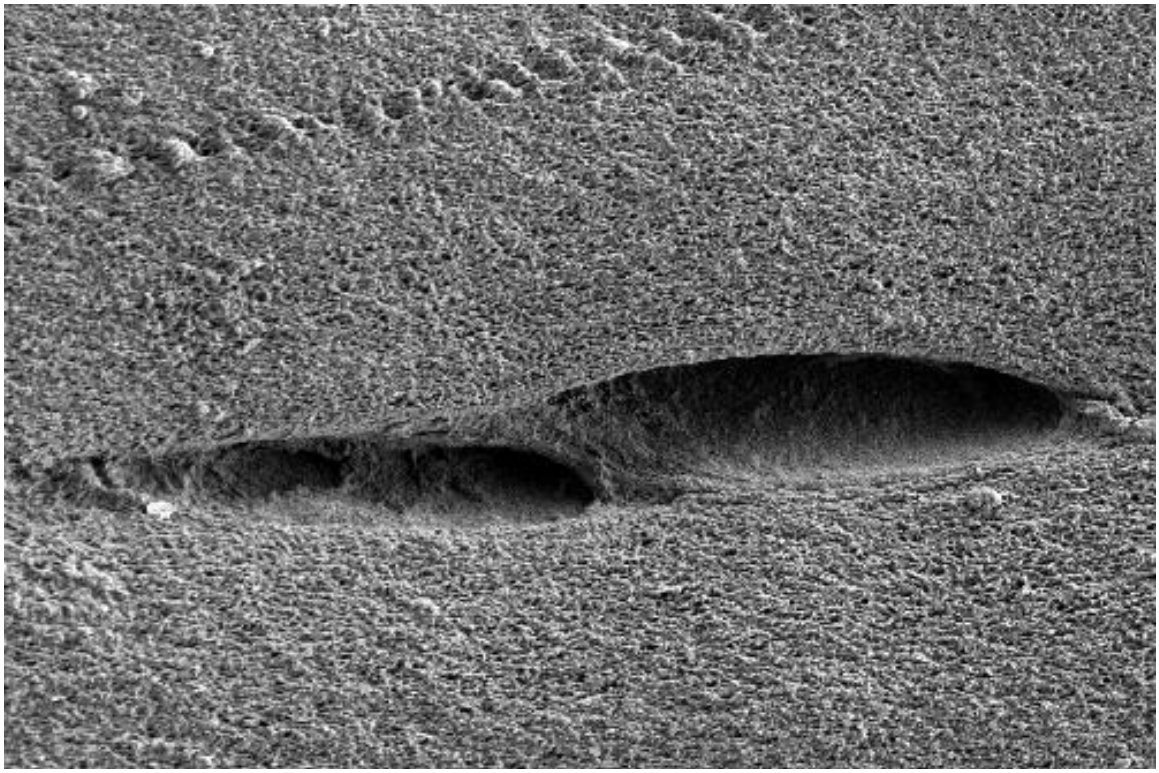
The Orthopaedic Tissue Engineering and Regeneration Laboratories are directed by **Jeffrey C. Lotz, PhD.**

The labs are devoted to conducting basic research in several areas of orthopaedics including biomechanics of the spine, knee, and hand. Biomechanical studies serve to investigate the physical properties of musculoskeletal (MSK) tissues, as well as functional performance of MSK patients.

The Lotz Laboratory is collaborating with UC Berkeley engineers to design and validate in-clinic tools and sensors that quantify patient movement and augment traditional physical tests and patient-reported data. Similar studies are being conducted with NASA astronauts to understand the adverse effects of microgravity, and to develop countermeasures to maintain astronaut health and safety on long-duration space flight, such as the planned Mars missions.

Additionally, they have focused on understanding the etiology of different diseases (e.g., disc degeneration, osteonecrosis) and comorbidities (disc degeneration and diabetes).

In the area of regenerative medicine, the Lotz labs are exploring various uses of mesenchymal stem cells for new therapies for disc, cartilage, and bone regeneration. The diverse research team includes bioengineers, biologists, biochemists, histologists, and orthopaedic surgeons.



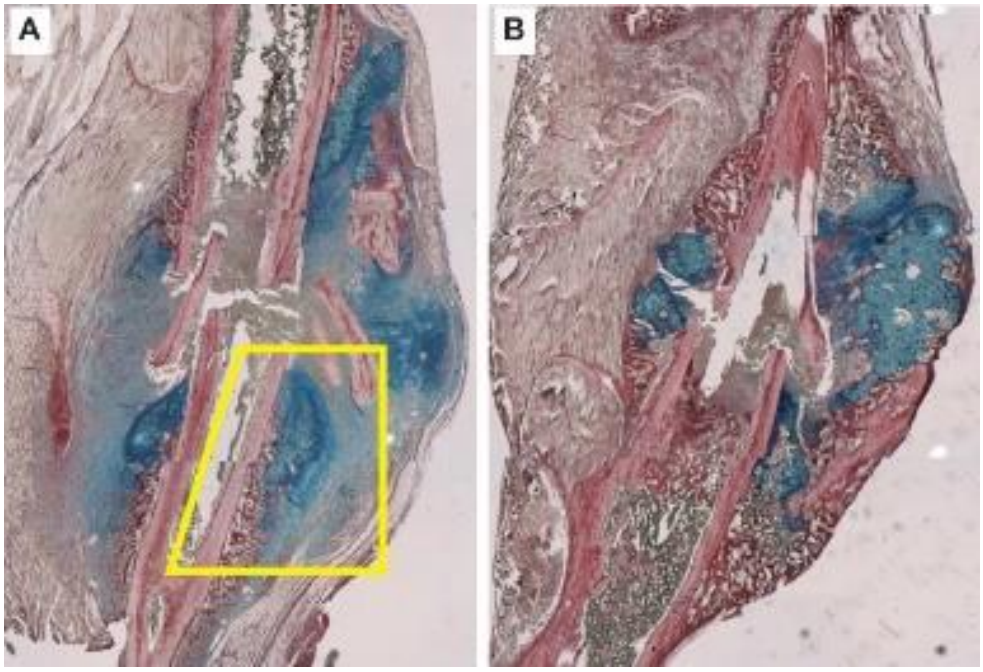
Research related to structure-function relationships in musculoskeletal tissues *(Fields Laboratory for Orthopaedic Biomechanics and Biotransport)*

Laboratory for Orthopaedic Biomechanics and Biotransport

UCSF Parnassus Heights

The Orthopaedic Biomechanics and Biotransport Laboratory is directed by **Aaron Fields, PhD.**

The broad research interests of the Fields Lab are related to structure-function relationships in musculoskeletal tissues, with a particular focus on the mechanisms of nutrient transport in bone and cartilage and harnessing nutrient transport for tissue repair and regeneration. The lab combines engineering and biology approaches for (1) understanding the effects of aging and disease on structure-transport relationships and (2) developing translatable diagnostic and therapeutic strategies. An overall theme of this research is the use of advanced experimental and computational tools to measure how tissue constituents at the nano- and microscales impact whole-organ behavior. The research involves close collaborations with clinicians including spine surgeons, physiatrists, and radiologists. Active projects include: 1) translational studies aimed at harnessing nutrient transport for disc repair and regeneration; 2) discovering the nanoscale and microscale contributions to diabetic skeletal fragility; 3) understanding the role of open muscle dissection in segmental kyphosis following adult spinal reconstruction in collaboration with **Lionel Metz, MD**.



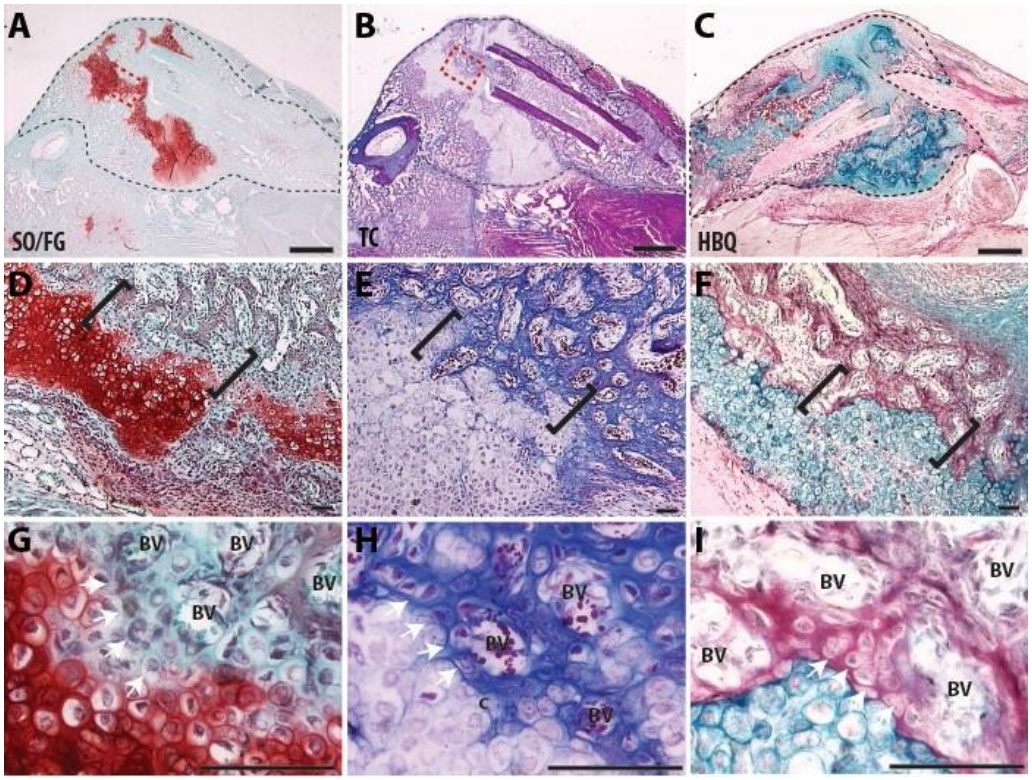
Sagittal sections through mouse tibia calluses that were stained for tissue, bone, and cartilage using Hall-Brunt Quadruple. (A) Mouse 1 on day-7; we decided to focus on the Target Region within yellow-boxed area. (B) Mouse 2 on day-10. *(Marcucio Laboratory for Molecular and Cellular Biology)*

Laboratory for Skeletal Regeneration / Molecular and Cellular Biology

Zuckerberg San Francisco General Hospital

The Molecular and Cellular Biology Laboratory is directed by **Ralph Marcucio, PhD**, and **Ted Miclau, MD.**

The major focus of the work performed in is to examine the processes that occur during bone regeneration after traumatic injury. Understanding the events that occur during fracture repair is essential for developing therapies to help people that exhibit difficulties in bone healing. For example, delayed or non-union afflict approximately 10% of all people undergoing fracture repair. By understanding how the body normally responds to orthopaedic trauma, they are laying the foundation for the development of new therapeutic regimens to treat a wide variety of skeletal pathologies. The research utilizes a murine tibia fracture model that was developed by members of the laboratory and is used in other laboratories throughout the national and international orthopaedic research community. Current areas of study include the role of muscle in bone healing, the role of inflammation in bone healing, the role of angiogenesis in bone healing, genotype-phenotype correlations during skeletal development, and the role of continuous phenotypic variation to disease production.



Visualization of the chondro-osseous transition zone in a fracture callus. (A-C) Low magnification of a murine fracture callus, outlined with black dashed line, stained with (A) Safranin-O/Fast Green (SO/FG), (B) Modified Milligan's Trichrome (TC) or (C) Hall and Brunt Quadruple Stain (HBQ). (D-F) A magnified region of cartilage and bone from the fracture callus, outlined with a red box (A-C), with the TZ indicated by black brackets. (G-I) High magnification images of the TZ show the invading vasculature and the chondro-osseous junction. *(Bahney Laboratory for Musculoskeletal Regeneration)*

Laboratory for Musculoskeletal Regeneration

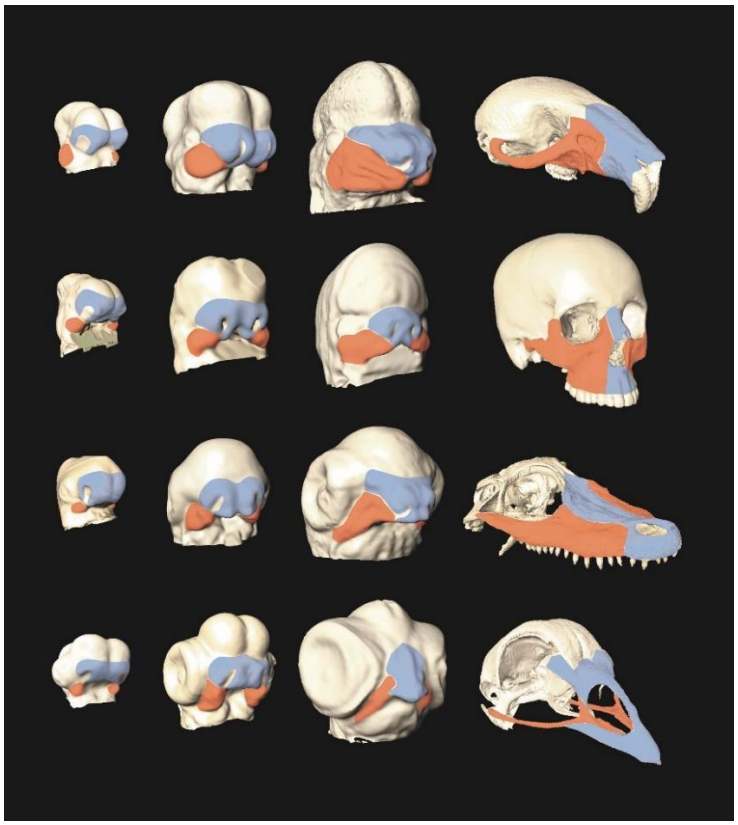
Zuckerberg San Francisco General Hospital

The Laboratory for Musculoskeletal Regeneration is directed by **Chelsea S. Bahney, PhD.**

The laboratory utilizes a developmental engineering approach to discover novel therapeutic targets for regenerative medicine by first studying the normal mechanisms of repair, then utilizing engineered biomaterials to deliver bioactive signals to promote improved regenerative outcomes.

Currently, the focus of the Bahney Lab is primarily on the process of cartilage turning into bone, either naturally during fracture repair, or in disease processes such as osteoarthritis.

A long-term research goal is to translate new biologics that change healthcare options in fracture healing and post-traumatic osteoarthritis.



Comparison of facial development from embryos to adults in mouse, human, alligator, and chicken *(Young Laboratory for Evolutionary Anatomy)*

Laboratory for Evolutionary Anatomy

Zuckerberg San Francisco General Hospital

The Laboratory for Evolutionary Anatomy is directed by **Nathan Young, PhD.**

The Young Laboratory addresses biomedical basic research through the lens of evolution, utilizing functional compromise and historical constraint as fundamental explanatory principles. When combined with mechanistic insights from experimental systems, this approach yields significant insights into the generation of individual phenotypes, both normal and abnormal.

The lab research program combines classical embryology, modern experimental and genetic tools, and advanced methods for quantifying and comparing phenotypes at a range of scales. This approach has significance for understanding not only the processes that contribute to and constrain evolutionary diversity, but also the individual phenotypic differences found within species and among individuals, including dysmorphologies associated with human disease states. Research includes the study of normal mechanisms of development as well as the etiology of congenital developmental defects, and is strongly relevant to longstanding goals of providing personalized and predictive medicine.

Testing facility, Herfat PhD, with fracture fixation and constructs *(Herfat Laboratory for Biomechanical Testing Facility)*

Biomechanical Testing Facility

Zuckerberg San Francisco General Hospital

Directed by **Safa Herfat, PhD,** the OTI Bioengineering Lab specializes in experimental biomechanical testing and finite element analysis of orthopaedic fracture fixation strategies, implants and prosthetics.

The lab collaborates with the OTI O&P clinic on prosthetic innovation projects incorporating 3D technologies and sensors into the clinical workflow. The lab collaborates with other UCSF and UC Berkeley labs on the development of an implantable sensor to monitor fracture healing.

The lab also provides engineering support for the clinical faculty, orthopaedic trauma fellows and residents for any technical projects related to orthopaedic trauma.

Saam Morshed, MD, PhD, MPH., with Andrew Figoni, MD *(Edge Innovations).*

Orthopaedic Edge Innovations Laboratory

Multi-Campus Laboratory

The Edge Innovations Lab is led by **Aenor Sawyer, MD**, **Alexis Dang, MD** and **Alan Dang, MD** and is focused on Engineering, Designing, and Growth Enabling digital and manufacturing technologies.

This group is responsible for clinical 3D printing across the many campuses of the Department including UCSF Parnassus Heights, The Orthopaedic Institute at Mission Bay, ZSFGH, SF VAHC, UCSF Benioff Children's Hospital Mission Bay, and UCSF Benioff Children's Hospital Oakland).

Currently the focus is on 3D printing of Precision Anatomic Models for surgical pre-operative planning and conducting the research to assess the efficacy and economics of the technology.

An Orthopaedic surgical team, from left, Bethany Allen, operating room RN, Rickard Branemark, MD, PhD, MS, visiting professor from Sweden, Richard O'Donnell, MD, professor of Orthopaedic Surgery, Dell McLaughlin, MD, a 5th-year resident, Rosanna Wustrack, MD, assistant professor of Clinical Orthopedic Surgery, and resident Lucas Seiler, MD, prepare a Reamer Spiral Rod used to hollow out "the medullary canal [the central cavity of the femur bone] to the appropriate size for the implant," in a first of its kind osseointegration surgery, at the UCSF Medical Center at Mission Bay.

Orthopaedic Oncology: Osseointegration

UCSF Mission Bay

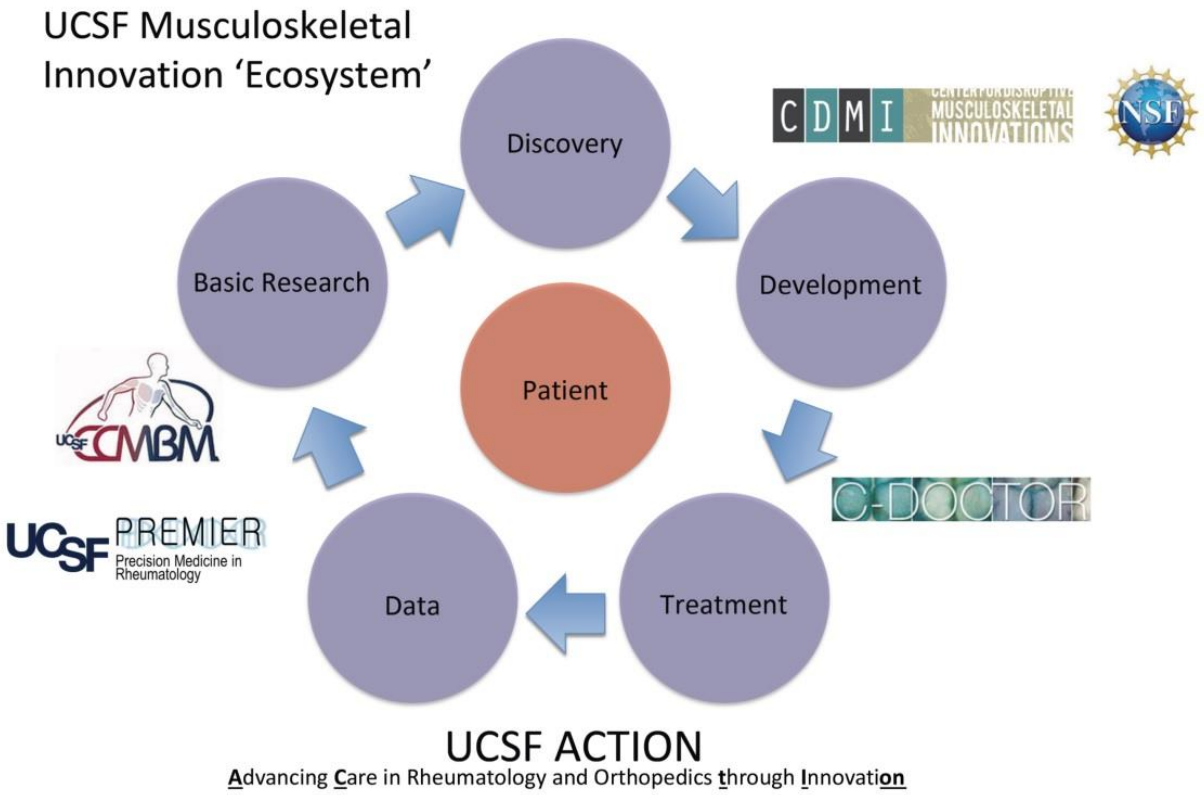
Leading studies on percutaneous titanium implants for amputee patients, **Richard J. O'Donnell, MD**, professor of clinical orthopaedic surgery and chief of the Orthopaedic Oncology Service, directs the UCSF international Center for Osseointegration Research, Education and Surgery (iCORES).

Offering the latest clinically available osseointegration treatment -- including Osseoanchored Prosthesis for the Rehabilitation of Amputees (OPRA) -- the center provides a research environment to further expand function in patients with limb loss.

As the first U.S. center to proceed with an OPRA program, the implant is an alternative to traditional sockets in that the external prosthesis is anchored directly to the patient's remaining bone through a permanently implanted titanium screw that comes through the skin. Therefore, the prosthesis always attaches correctly, remains firmly in place, and is free from pressure sores, pain, heat, chafing and general discomfort found with traditional solutions.

The center collaborates closely with physicians at the Walter Reed National Military Medical Center on osseointegration opportunities and with the Department of Defense Osseointegration Program to make the technology available not only to active duty military and veterans with combat-related injuries but also as to patients, who have limb loss secondary to tumors or civilian trauma.

MSK Innovation Centers

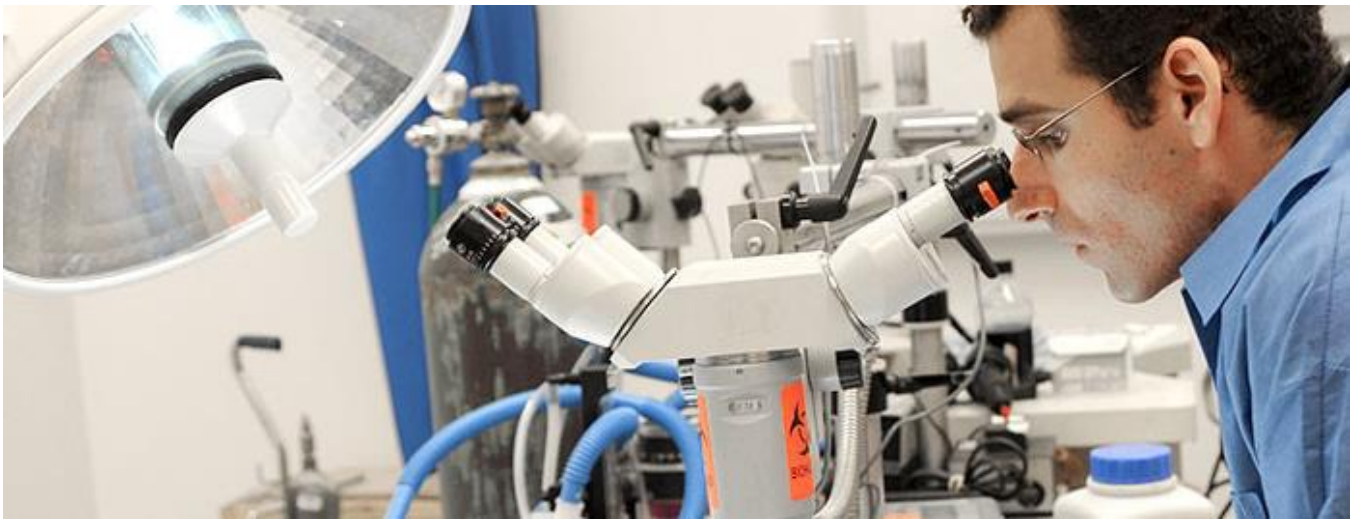


UCSF has a diverse and longstanding tradition in musculoskeletal research.

Our Core center's (CDMI and CCMBM) emphasis musculoskeletal-specific education and services that are critical to its members but not available elsewhere in the university system. C-Doctor represent a public-private partnership with the primary mission of providing comprehensive clinical, scientific, technical, regulatory, financial, and management resources to promote cost-effective transition and timely development of dental, oral, and craniofacial tissue engineering/regenerative medicine products.

CCMBM stimulates and supports transdisciplinary collaborations to accelerate translational research in the musculoskeletal field. A unique strength is the linkage formed between scientists who study disease biology, researchers who analyze vast archives of clinical data, and clinicians who have active clinical practices.

The Center for Disruptive Musculoskeletal Innovations (CDMI) represents an exciting and novel integration of healthcare economics, biomedical science, and clinical medicine. University faculty and industry partners are able to collaborate to target novel technologies that will decrease healthcare costs and improve the management and life of patients with musculoskeletal disease. These interactions create significant potential for new research collaborations that lead to clinically significant discoveries.



CCMBM member Aaron Fields, Ph.D., above, at his lab at UCSF's Parnassus campus.

Center Level Activities

Core-Center for Musculoskeletal Biology & Medicine (CCMBM)

The NIH-supported *Core Center for Musculoskeletal Biology & Medicine (CCMBM)* is one of five such centers nationally. The CCMBM goal is to stimulate and support UC San Francisco transdisciplinary collaborations to accelerate translational research in the musculoskeletal field via grants, mentorship, and networking.

The CCMBM has grown a diverse membership of over 120 faculty and trainees that span 3 Schools and 18 Departments. Over the last 4 years, the CCMBM has funded 30 pilot projects and technology development grants totaling close to $900M.

In addition, the CCMBM has hosted more than 25 seminars and workshops.

To learn more visit ccmbm.ucsf.edu.

CDMI Director Jeffrey Lotz, PhD, at left, presents findings with CDMI member Sigurd Berven, MD.

Center Level Activities

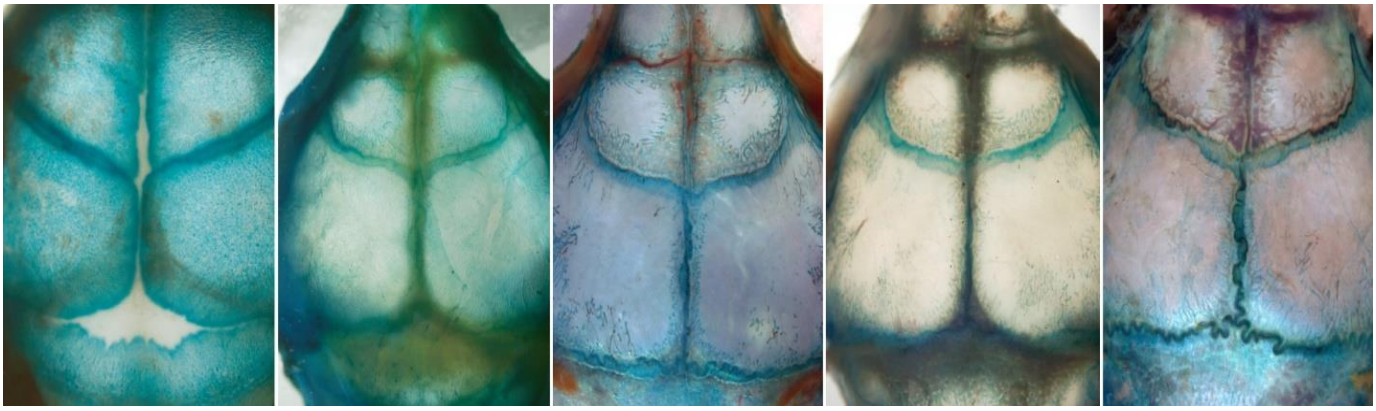
Core- Center for Disruptive Musculoskeletal Innovations (CDMI)

The Center for Disruptive Musculoskeletal Innovations (CDMI) is a National Science Foundation (NSF) funded Industry/University Cooperative Research Center. Representatives from the medical device field contribute to the center to support 'industry-inspired fundamental research' and support graduate training. Projects span a range of areas that include healthcare economics, biomedical science, and clinical medicine.

University faculty (from UC San Francisco, University of Toledo, The Ohio State University, and Northeastern University) and industry partners are collaborate to target novel technologies that will decrease healthcare costs and improve the management and life of patients with musculoskeletal disease. Partnerships with the FDA have initiated several programs in regulatory science related to medical implants and digital sensor technologies.

Over the last 4 years, the CDMI has awarded almost $1.5M to 43 projects and leveraged CDMI industry membership fees, on average, by about 7 fold yearly in cash support, campus cost-share, and in-kind contributions.

To learn more, visit nsfcdmi.org.



The vision for C-DOCTOR is to be a national resource for the clinical translation of innovative regenerative technologies to replace dental and craniofacial tissues and organs lost to congenital disorders, trauma, and disease.

Center Level Activities

Center for Dental, Oral, & Craniofacial Tissue & Organ Regeneration (C-DOCTOR)

The *Center for Dental, Oral, & Craniofacial Tissue & Organ Regeneration* (C-DOCTOR) is one of two national NIDCR-funded Tissue Regeneration Resource Centers. C-DOCTOR is a partnership among several California institutions to recruit, nature, and translate promising tissue regeneration technologies to human clinical trials.

Participating universities include: UC San Francisco, UC Berkeley, UC Davis, UC Los Angeles, USC and Stanford University.

C-DOCTOR has built an infrastructure to integrate a comprehensive and dynamic team of clinicians, research scientists, biostatisticians, regulatory scientists, and pre-clinical/clinical trial experts to enable the development and clinical implementation of innovative approaches for dental, oral, and craniofacial tissue regeneration. C-DOCTOR awarded nearly $900,000 in directs to eight interdisciplinary translational project (ITP) teams in its first year.

To learn more, visit c-doctor.org.

Athlete Kurt Wolfgang participates in a sleep study testing with Anthony Luke, MD, MPH at the Human Performance Center, Mission Bay.

Human Performance Center

The UCSF Orthopaedic Institute

The Human Performance Center is led by **Anthony Luke, MD, MPH**.

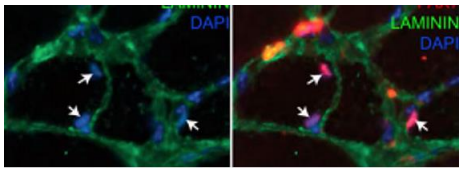
This center helps athletes of all levels better understand how they perform, how to prevent injuries, and how to optimize efficiency in sports.

The goal is to safely maximize function and performance so athletes can achieve their personal goals. The center's team of health professionals has a wide range of expertise in sports medicine and applies technology used in professional sports, such as biomechanical and physiological tools, to evaluate athletes, including those with injuries and chronic conditions such as arthritis.

Depending on the need, the center can provide a comprehensive evaluation or a specific recommendation for training and activity. To learn more, visit hpc.ucsf.edu.

News and Media

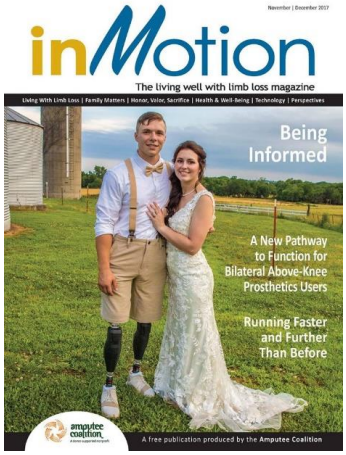
Brian Feeley, MD recently received a CCMBM Pilot/Feasibility grant



Brian Feeley, MD recently received a CCMBM Pilot/Feasibility grant to perform research on a common shoulder problem. He has collaborated with **Xuhui Liu, MD** (CCMBM member), **Hubert Kim, MD, PhD** and other researchers at UCSF on developing models to study the molecular mechanisms and cellular mechanisms that are responsible for the development of muscle atrophy after rotator cuff tears.

InMotion Magazine: Being Informed, A New Pathway to Function for Bilateral Above-Knee Prosthetics Users

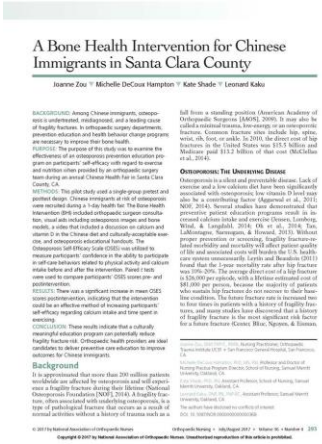
November 15, 2017



Aarti Deshpande, CPO, and colleague **Chrysta Irolla, MS, MSPO, CPO** wrote a published article in this months 'In Motion' magazine.

Bone Magazine: A Bone Health Intervention for Chinese Immigrants in Santa Clara County.

July/August 2017

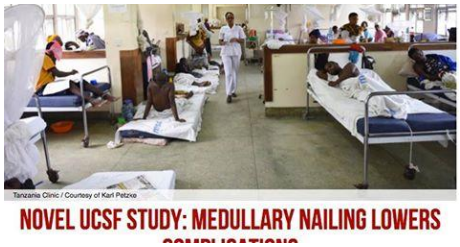

A Bone Health Intervention for Chinese Immigrants in Santa Clara County

Joanne Zou ▼ Michelle DeCoux Hampton ▼ Kate Shade ▼ Leonard Kaku

Joanne Zou, NP, has a paper published in Orthopaedic Nursing.
Interesting work that speaks to the importance of culturally competent care.

Novel UCSF Study: Medullary Nailing Lower Complications

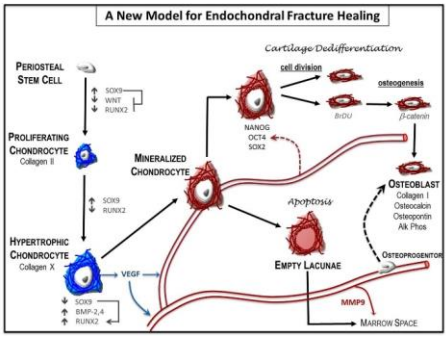
April 26th, 2017



Saam Morshed, M.D., Ph.D., MPH conducted a unique study that was recently published in the March 1, 2017 edition of The Journal of Bone & Joint Surgery. It was entitled, “Predictors of Reoperation for Adult Femoral Shaft Fractures Managed Operatively in a Sub-Saharan Country.”

Cartilage to bone transformation during fracture healing is coordinated by the invading vasculature and induction of the core pluripotency genes

January 19, 2017



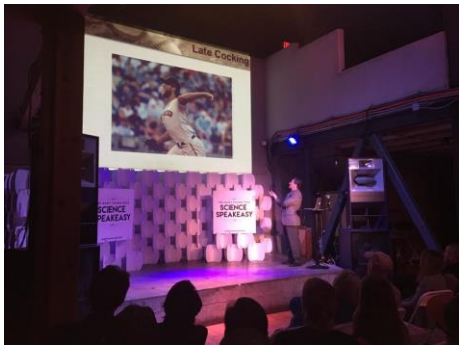
Authored by: Diane P. Hu, Federico Ferro, Frank Yang, Aaron J. Taylor, Wenhan Chang, **Theodore Miclau, MD, Ralph S. Marcucio, PhD, Chelsea S. Bahney, PhD**

Regeneration develops a new model for fracture healing that could change the way we treat fractures.

A Giant Advantage: Baseball in Our Bones

July 11, 2017

Nathan M. Young, PhD, featured speaker discusses how species develop and evolve their characteristic shape and size. He will look at limb proportions and relate human's unique athletic abilities, specifically pitching and throwing, within the sport of baseball to the actual evolution of our bodies.



The Spine Journal 2017 Outstanding Paper Awards

October 25, 2017

Lotz team, awarded 2017 best paper from The Spine Journal on back injury in astronauts exposed to 6-months of microgravity on the International Space Station.

Traveling to Mars Will Wreak Havoc on Our Bodies – Can We Prevent It?

July 21, 2017

To figure out why the back pain occurs after the exposure to low gravity, **Jeffrey Lotz, PhD**, the David Bradford Endowed Chair of Orthopedic Surgery at #UCSF, recently studied the spines of astronauts after their time in space.

UCSF to Lead Resource Team for Craniofacial, Oral and Dental Tissue Regeneration

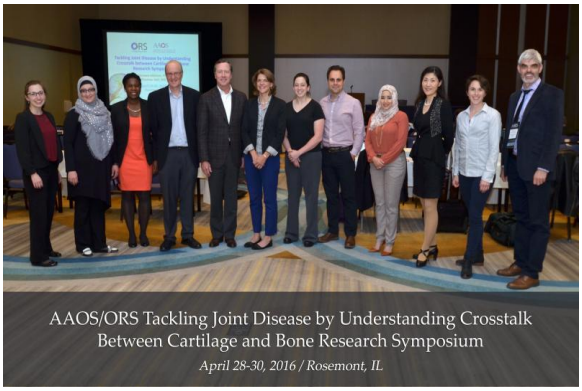
March 7, 2017

Technologies Will Help People with Congenital Disorders, Trauma and Diseases. UC San Francisco is the lead institution on a California-based, six-university consortium that was awarded $12 million by the National Institutes of Health's National Institute of Dental and Craniofacial Research to develop strategies for treating craniofacial and dental defects, which affect millions of Americans.

2017 in Pictures

Athlete Kurt Wolfgang participates in a sleep study testing with medical student, Cheri Mah and Anthony Luke, MD, MPH at the Human Performance Center.

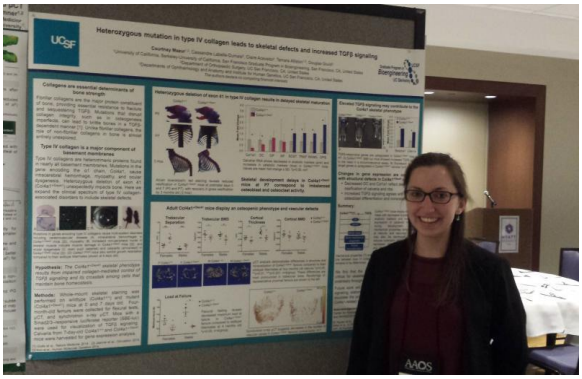
Jeffrey Lotz, PhD, left, and graduate student Devante Horne examine vertebra using a material testing system



Tamara Alliston, PhD co-chairs the AAOS/ORS Crosstalk Between Cartilage and Bone Research Symposium.

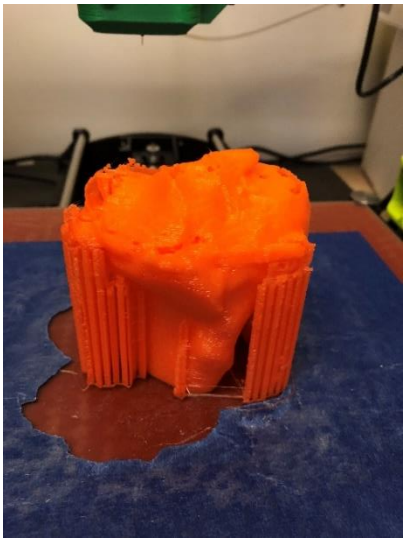
The Alliston Laboratory celebrates at the Ortho Surgery 2017 holiday party.

Parnassus Research Lab at spring social San Francisco Giants game.



AAOS/ORS Crosstalk Between Cartilage and Bone Research Symposium. Picture here is Courtney Mazur, a graduate student in the Alliston Lab.

NIH P30 Retreat 2017: Jeffrey Lotz, PhD, CCMBM Director; Tamara Alliston, PhD, Scientific Retreat Chair; Scott Parazynski, MD, keynote speaker.



3D print processed and printed by Alexis Dang, MD, at Edge Lab. The print is being used for pre-operative team surgical education.

NIH P30 Retreat 2017: Sarah Won, DDS, PhD gives slam talk to event attendees.

NIH P30 Retreat 2017: Poster session during scientific retreat.

UCSFs Sarah Wong, DDS, PhD gets trip to ISFR Japan 2018 for her winning research.

Alliston Lab group, April 2018 lab meeting

Grants and Fellowships

Tamara N. Alliston, PhD

- NIH NIDCR R01 DE019284
  The mechanistic control of bone extracellular matrix material properties by TGFβ
  8/1/2014-7/31/2019
  $2,165,754
- DOD US Army Med. Res. Acq. Activity, W81 A124197
  Preventing Cartilage Degeneration in Warfighters by Elucidating Novel Mechanisms Regulating Osteocyte-Mediated Perilacunar Bone Remodeling
  9/30/2014-9/29/2017
  $791,103
- NIH NIAMS R21 AR067439
  The Mechanobiology of TGFβ Signaling in Chondrocytes
  9/18/2014-8/31/2017
  $406,845
- Centro Investigacion Cientifica Ensenada
  Role of Osteocytes in the Development of Bone Metastases,
  7/1/2015-12/31/2017
  $8,470
- NSF 1636331
  Mechanoregulation of Growth Factor Receptor Assembly and Signaling
  9/1/2016-8/31/2020
  $400,000
- NIH NIAMS R21 AR070403
  miRNA Coordination of TGF-beta / Wnt Signaling in Osteocyte Mechanotransduction
  8/1/2017-7/31/2019
  $383,570

Chelsea S. Bahney, PhD

- AO Foundation S-14-1148
  Promoting Vascularized Bone Regeneration with Endochondral Cartilage Grafts
  6/1/2015-5/1/2018
  $132,348
- NOVA Department of Orthopaedic Surgery, UCSF
  Preclinical validation of collagen X bioassay to monitor fracture progression
  1/1/17-2/1/18
  $5,000

Sigurd H. Berven, MD

- AO Foundation
  Prospective Evaluation of Elderly Deformity Surgery: A Prospective Observational, Multicenter Study, Clinical Trial
  7/1/2014-12/31/2021
  $27,645
- Empirical Spine, Inc
  LSS17001
  A Concurrently Controlled Study of the LimiFlex" Paraspinous Tension Band in the Treatment of Lumbar Degenerative Spondylolisthesis with Spinal Stenosis, Clinical Trial
  9/26/2017-9/19/2022
  $334,393

Andrew S. Brack, PhD

- NIH NIAMS R01 AR060868
  Muscle Satellite Cell Pool During Aging
  8/1/2015-7/31/2017
  $390,799
- NIH NIAMS R01 AR061002
  Quiescence of Muscle Stem Cells During Growth and Repair,
  4/3/2015-3/31/2018
  $423,610
- CA Institute for Regenerative Medicine DISC1-08652
  Examining the Efficacy of GDF11 Antibody as a Rejuvenator of Aged Human Muscle Stem Cell Capacity and Muscle Repair
  7/1/2016-6/30/2017
  $180,000

Shane Burch, MD

- Integra LifeSciences Corporation 106548/COV-DRSS-0002
  DuraSeal Exact Spine Sealant System Post Approval Study, Clinical Trial
  2/27/2015-2/27/2020
  $48,580
- Misonix, Inc A127141
  Comparing Yield of Autologous Bone Graft using Ultrasonic Scalpel with Conventional Techniques, Clinical Trial
  3/10/2016-3/10/2019
  $14,169

Patrick F. Curran, MD

- OREF
  Intramedullary Kirschner Wire versus Flexible Nail Fixation for Pediatric Femur Fractures
  7/1/2017-6/30/2018
  $30,000

Sibel Demir-Deviren, MD

- Pfizer B3451002
  A Phase 2b, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Safety and Efficiency of Staphylococcus Aureus 4-Antigen Vaccine (SA4Ag) in Adults Undergoing Elective Posterior Instrumented Lumbar Spinal, Subcontract, Clinical Trial
  9/3/2015-9/3/2022
  $1,996,966
- Nocimed, LLC
  Clinical Development and Evaluation of the Nociscan" Virtual Discogram" Using Magnetic Resonance Spectroscopy for Identifying Painful and Non-Painful Intervertebral Discs of the Lumbar Spine, Clinical Trial
  8/24/2016-12/15/2022
  $1,125,112

Debbie Y. Dang, MD, PhD

- OREF
  Interactions between cadherin 11 and B-catenin during Fracture Healing
  7/1/2015-6/30/2017
  $19,000

Vedat Deviren, MD

- NuVasive, Inc.
  NuVasive Unrestrictive Grant Award
  4/29/2014-7/31/2017
  $10,000

Neha S. Dole, PhD

- OREF
  The Role of TGFB in Regulating Perilacunar Remodeling in Diabetes
  7/1/2017-6/30/2018
  $50,000

Susan T. Eliazer, PhD

- NIH NIAMS F32 AR067594
  Determining the Role of Notch Ligands in Regulating Adult Satellite Cell Fate
  8/15/2015-8/14/2018
  $173,186

Brian T. Feeley, MD

- OREF
  Defining the Role of Fibro/Adipocyte Precursor (FAP) cells in Rotator Cuff Muscle Fatty Infiltration and Fibrosis
  7/1/2015-6/30/2017
  $100,000
- Zimmer Biomet Holdings, Inc
  IDE 17069
  A Multicenter, Double-Blind, Randomized, Saline-Controlled Study of a Single, Intra- Articular Injection of Autologous Protein Solution in Patients with Knee Osteoarthritis, Clinical Trial
  10/5/2017-10/4/2022
  $253,581
- OMeGA Medical Grants Association
  Fellowship
  8/1/2017-7/31/2018
  $12,650
- OMeGA Medical Grants Association
  Fellowship
  8/1/2016-7/31/2017
  $22,500

Aaron J. Fields, PhD

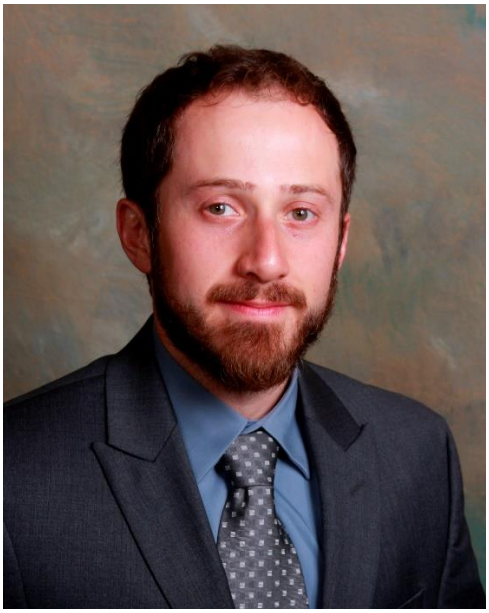
- North American Spine Society
  Does Cartilage Endplate Permeability Impact Nucleus Pulposus Cell Function?
  1/1/2017-12/31/2018
  $25,000
- NIH NIAMS R01 AR070198
  Role of the Cartilage Endplate in Spinal Disc Degeneration
  4/1/2017-1/31/2022
  $2,057,330

Tristan W. Fowler, PhD

- NIH Natl Cancer Institute
  F32 CA203402
  Role of Osteocyte BRII in Perilacunar Remodeling and Bone Metastases
  8/1/2016-7/31/2019
  $179,982

Erik N. Hansen, MD

- OREF
  Surgical Treatment of Chronic Periprosthetic Joint Infection: One-Stage vs. Two-Stage (STUDY), Subcontract, Clinical Trial
  11/1/2017-10/31/2018
  $26,000



Safa T. Herfat, PhD

- NSF 170 1701253
  Development of a Diagnostic Device for Monitoring Fracture Healing
  8/15/2017-1/31/2019
  $200,000

Igor Immerman, MD

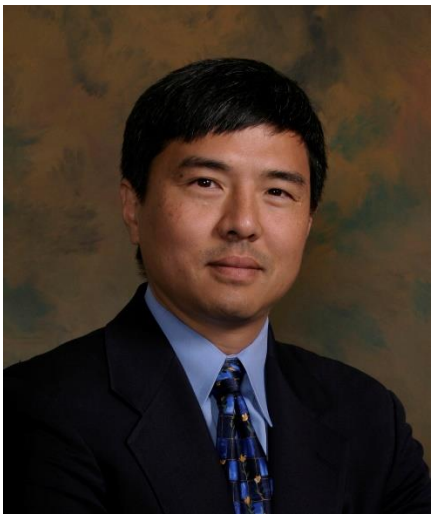
- NOVA Department of Orthopaedic Surgery, UCSF
  Patient Outcomes and Costs After Isolated Flexor Tendon Repairs of the Hand
  1/1/17-2/1/18
  $5,000

Ara B. Hwang, PhD

- HFSP LT000781
  Cell Non-autonomous Regulation of Muscle Stem Cell Fate through Metabolic Reprogramming
  5/1/2016-4/30/2019
  $160,980

Krishn Khanna, MD

- OREF
  The Delta Well-Leg Compartment Pressure
  2/1/2017- 1/31/2018
  $5,000



Hubert Kim, MD, PhD

- Depuy Synthes 266705 PS
  Tuition Travel Grant #1 - AO Basic Principles of Fracture Management
  1/17/2017-4/23/2017
  $4,000
- Depuy Synthes 268491 PS
  Tuition Travel Grant #2 - AO Basic Principles of Fracture Management
  2/10/2017-4/23/2017
  $2,000
- Depuy Synthes 287195 PS
  Tuition Travel Grant - AO Basic Principles of Fracture Management
  10/26/2017-10/29/2017
  $4,000

Gopal R. Lalchandani, MD

- American Foundation for Surgery of the Hand 1622
  Patient Outcomes and Costs after Isolated Flexor Tendon Repairs of the Hand
  1/1/2018-12/31/2018
  $5,000

Kristin Livingston, MD

- NOVA Department of Orthopaedic Surgery, UCSF
  Using Digital Tomosynthesis to Characterize Elbow Anatomy and Common Pediatric Elbow Fractures in Cadavers
  1/1/17-2/1/18
  $5,000

Jeffrey C. Lotz, PhD

- NIH NIAMS R01 AR063705
  Phenotypes of Pathologic Vertebral Endplate Degeneration
  6/1/2016-5/31/2018
  $1,358,994
- NIH NIAMS Bioniks LLC AR068202
  A Clinical 3D Movement Analysis System for Assessing Lower Extremity Injury Risk and Recovery in Athletes
  12/1/2016-1/31/2018
  $70,745
- NIH NIDCR U24 DE026914
  Center for Dental, Oral, and Craniofacial Tissue and Organ Regeneration (C-DOCTOR)
  3/1/2017-2/29/2020
  $11,961,481
- K2M, Inc
  Potential Mechanisms of Pain in the SI Joint
  11/9/2016-6/30/2018
  $59,672
- NASA Shared Services Center
  00011678
  Spinal Structure and Function after 90 Days Long Duration Simulated Space Flight and Recovery
  8/1/2014-7/31/2017
  $60,000
- NIH NIAMS P30 AR066262
  Core Center for Musculoskeletal Biology and Medicine
  7/1/2014-6/30/2019
  $3,323,946
- National Science Foundation
  IIP-1361975
  UCRC for Technology Innovation for Novel Cost-Reducing and Quality-Enhancing Musculoskeletal Therapies
  4/15/2014-3/31/2019
  $650,600
- NASA Shared Services Center
  NNX13AM89G
  Risk of Intervertebral Disc Damage after Prolonged Space Flight
  7/11/2013-7/10/2018
  $430,000

C. Benjamin Ma, MD

- Zimmer, Inc CIU2012-12E
  Multicenter Trial of the Sidus Stem-Free Shoulder Arthroplasty System, Clinical Trial
  4/21/2014-4/20/2020
  $170,066
- Arthroscopy Association of North America
  Synovial Fluid Profile and T1p in Predicting Cartilage Degeneration after Anterior Cruciate Ligament Injuries
  4/25/2015-4/24/2018
  $25,000
- Patient-Centered Outcomes Research Inst VUMC63087
  Operative versus Non-Operative Treatment for Atraumatic Rotator Cuff Tears: A Multicenter Randomized Controlled Pragmatic Trial, Subcontract, *Clinical Trial*
  6/1/2017-6/30/2023
  $532,904

Ralph S. Marcucio, PhD

- NIH NIAMS R01 AR066028
  Regulators of Ischemic Fracture Healing
  9/15/2015-7/31/2020
  $750,748
- NIH NIDCR R01 DE019638
  The Role of Continuous Phenotypic Variation in Structural Defects of the Face
  1/1/2016-12/31/2020
  $3,303,604
- NIH NIA R01 AG046282
  Effects of Aging on Macrophages and Bone Regeneration
  6/1/2016-5/31/2018
  $212,605
- NIH NIDCR R01 DE018234
  Molecular Basis of Tissue Interactions that Regulate Craniofacial Development
  7/1/2016-6/30/2018
  $997,275

Meir Marmor, MD

- Orthopaedic Trauma Association
  Bioelectrical Impedance in the Assessment of Fracture Healing
  1/1/2015-12/31/2017
  $20,000

Theodore Miclau, MD

- NIH NIAMS R21 AR066847
  A Murine Model of Polytrauma: Understanding the Molecular Basis of Accelerated Bone Repair with Concomitant Traumatic Brain Injury
  3/1/2015-12/31/2017
  $383,350
- NIH NIAMS AR064066
  Streamlining Trauma Research Evaluation with Advanced Measurement (STREAM Study)
  11/1/2013-8/31/2017
  $10,000
- DOD US Army Med. Res. Acq. Activity 2002015246
  METRC 2
  9/29/2012-9/28/2018
  $135,550

Saam Morshed, MD, PhD, MPH

- DOD US Army Med. Res. Acq. Activity 560142/3724801
  A Randomized, Double-blind, Placebo-controlled Clinical Trial of a Bismuth-Thiol Topical Anti-Infective Drug Treatment with Concomitant IV Antibiotic Administration in Subjects with Post-Surgical Orthopedic Infections, Clinical Trial
  9/30/2015-9/29/2016
  $50,270
- DOD US Army Med. Res. Acq. Activity W81XWH-14-1-0563
  Prosthetic Fit Assessment in Transtibial Amputees Secondary to Trauma (ProFit)
  9/30/2014-9/29/2017
  $628,030
- McMaster University
  *Fixation using Alternative Implants for the Treatment of Hip Fractures (FAITH-2), Clinical Tri*al
  3/1/2015-3/31/2023
  $1,172
- Microbion Corporation
  MBN-101-201: A Phase 2a Randomized, Single-Blind, Placebo-Controlled, 24-week Escalating Dose Study to Assess the Safety, Tolerability and Clinical Activity of 3 Concentrations of Locally Applied MBN-101 to Infected Osteosynthesis Site, Clinical Trial
  8/8/2016-8/8/2021
  $254,016

An Nguyen, PhD

- NIH NIDCR F30 DE027616
  Mesenchyme-Dependent Epithelial Signals that Promote Osteogenesis in The Jaw
  9/1/2017-8/31/2021
  $169,787

Richard J. O'Donnell, MD

- DOD Defense Advanced Res Projects Agency 5710004260
  An Osseointegrated Transfemoral Prosthesis Offering Long-Term Bi-Directional Efferent-Afferent Neural Transmission (MIT SubK DARPA)
  3/15/2017-3/14/2020
  $1,144,218
- DOD US Army Med. Res. Acq. Activity DHA CRADA 20170815
  Transfemoral Amputee Osseointegration Study (TFAOS)
  10/1/2017-9/30/2022
  $4,087,368

Joseph T. Patterson, MD

- OREF
  Implants, Morbidity, and Costs in AO/OTA 31-A2 Hip Fractures Among Veterans
  2/1/2017-1/31/2018
  $4,950

Austin A. Pitcher, MD

- OTA 254
  Biomechanical Evaluation of Augmentation Strategies for Fixation of Proximal Humerus Fractures Involving the Anatomic Neck in Osteoporotic Bone
  1/1/2016-12/31/2017
  $20,000
- OREF 16-025
  Biomechanical Evaluation of Augmentation Strategies for Fixation of Proximal Humerus Fractures in Osteoporotic Bone
  7/1/2016- 6/30/2017
  $5,000

Coleen S. Sabatini, MD, MPH

- Pediatric Orthopaedic Society of Northern America
  Post-Injection Injury in Ugandan Children: Prevalence, Risk Factors, Surgical Outcomes
  6/1/2016-12/31/2017
  $30,000

Aenor J. Sawyer, MD

- S.D. Bechtel, Jr. Foundation
  SH092116
  Pediatric Bone Health Consortium
  9/1/2016-8/31/2017
  $85,000

Richard A. Schneider, PhD

- NIH NIDCR
  R01 DE016402
  Mesenchymal Regulation of Osteogenesis
  7/1/2015-5/31/2020
  $2,072,560
- NIH Office of the Director
  S10 OD021664
  Macro Confocal Microscope System for Large-Scale Imaging in Basic and Translational Biology
  3/1/2016-2/28/2019
  $376,749
- NIH NIDCR
  R01 DE025668
  Mechanisms of Secondary Cartilage Induction and Maintenance in the Jaw
  7/5/2016-6/30/2021
  $1,981,250

Dora A. Storelli, MD

- Acumed, LLC
  The Use of Anatomic Landmarks to Serve as intra-operatie Guides to Correctly Choose Radial Head Arthroplasty Implant Width (17001)
  7/24/2017-7/24/2018
  $8,875

Jennifer Tangtiphaiboontana, MD

- OREF 16-028
  Effect of Ibuprofen on Post-operative Narcotic Consumption and Shoulder Functional Outcomes after Arthroscopic Rotator Cuff Repair
  7/1/2016-6/30/2017
  $5,000

Bobby Tay, MD

- NuVasive, Inc.
  NuVasive Fellowship Program in the Area of Spine Medicine
  7/1/2017-6/30/2018
  $40,000
- AOSpine North America, Inc.
  AOSpine North America Fellowship
  8/1/2015-7/31/2017
  $150,000
- NuVasive, Inc.
  NuVasive Fellowship Program in the Area of Spine Medicine
  8/1/2016-7/31/2017
  $40,000
- Globus Medical, Inc.
  Globus Medical Fellowship
  8/1/2016-7/31/2017
  $85,000
- AOSpine North America, Inc.
  AOSpine North America Fellowship Committee (AOSNAFC)
  8/1/2017-7/31/2019
  $150,000

Thomas P. Vail, MD

- HHS Ctrs for Medicare and Medicaid Svcs
  Patient Reported Outcome Based Performance Measures Following Total Hip and/or Knee Arthroplasty
  8/7/2014-9/27/2014
  $5,000

Rosanna L. Wustrack, MD

- Canadian Institutes of Health Research SITE 36
  Prophylactic Antibiotic Regimens in Tumor Surgery (PARITY),
  Subcontract, Clinical Trial,
  6/13/2016-3/31/2021,
  $7,805

Zachary M. Working, MD

- AO North America, Inc
  Validating a Novel Collagen X Bioassay for Accurate Diagnosis of Fracture Healing
  8/1/2018-7/31/2019
  $30,000

Nathan M. Young, PhD

- NSF 133873-5090398
  The Developmental Genetic Basis for Evolutionary Variation in the Hominin Shoulder
  8/1/2015-7/31/2018
  $56,345

Alan L. Zhang, MD

- American Orthopaedic Society for Sports Med YIG-2016-1
  Quantitative Magnetic Resonance Imaging for Femoroacetabular Impingement of the Hip
  4/1/2016-3/31/2018
  $50,000

Patricia Zheng, MD

- NOVA Department of Orthopaedic Surgery, UCSF
  Application to Track Longitudinal Outcomes After Spine Interventions (ATLAS)
  1/1/17-2/1/18
  $5,000

Research Publications

ACEVEDO C, S. M., SCHAIBLE E, GRAHAM JL, STANHOPE KL, METZ LN, GLUDOVATZ B, SCHWARTZ AV, RITCHIE RO, ALLISTON TN, HAVEL PJ, FIELDS AJ. (2017). CONTRIBUTIONS OF MATERIAL PROPERTIES AND STRUCTURE TO INCREASED BONE FRAGILITY FOR A GIVEN BONE MASS IN THE UCD-T2DM RAT MODEL OF TYPE 2 DIABETES. J BONE MINER RES, 10.1002/jbmr.3393.

ALEEM, A. W., FEELEY, B. T., AUSTIN, L. S., MA, C. B., KRUPP, R. J., RAMSEY, M. L., & GETZ, C. L. (2017). EFFECT OF HUMERAL COMPONENT VERSION ON OUTCOMES IN REVERSE SHOULDER ARTHROPLASTY. ORTHOPEDICS, 40(3), 179-186.

ALLEN, C. R., ANDERSON, A. F., COOPER, D. E., DEBERARDINO, T. M., DUNN, W. R., HAAS, A. K., . . . GRP, M. (2017). SURGICAL PREDICTORS OF CLINICAL OUTCOMES AFTER REVISION ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION. AMERICAN JOURNAL OF SPORTS MEDICINE, 45(11), 2586-2594.

ALLISTON, T., HERNANDEZ, C. J., FINDLAY, D. M., FELSON, D. T., & KENNEDY, O. D. (2017). BONE MARROW LESIONS IN OSTEOARTHRITIS: WHAT LIES BENEATH. J ORTHOP RES.

ALT, V., SIMPSON, H., & MICLAU, T. (2017). INTRAMEDULLARY NAILING-EVOLUTION OF TREATMENT. INJURY, 48 SUPPL 1, S1-S2.

ANDERSON, T. S., LO-CIGANIC, W. H., GELLAD, W. F., ZHANG, R., HUSKAMP, H. A., CHOUDHRY, N. K., . . . DONOHUE, J. M. (2017). PATTERNS AND PREDICTORS OF PHYSICIAN ADOPTION OF NEW CARDIOVASCULAR DRUGS. HEALTHC (AMST), s2213-0764(17)30066-0.

ARON, A. T., HEFFERN, M. C., LONERGAN, Z. R., VANDER WAL, M. N., BLANK, B. R., SPANGLER, B., . . . CHANG, C. J. (2017). IN VIVO BIOLUMINESCENCE IMAGING OF LABILE IRON ACCUMULATION IN A MURINE MODEL OF ACINETOBACTER BAUMANNII INFECTION. PROC NATL ACAD SCI U S A, 114(48), 12669-12674.

AZUS A, T. H., TUFTS L, WU D, MA CB, SOUZA RB, LI X. (2017). BIOMECHANICAL FACTORS ASSOCIATED WITH PAIN AND SYMPTOMS FOLLOWING ANTERIOR CRUCIATE LIGAMENT INJURY AND RECONSTRUCTION. PM R, 10(1):56-63

BAE, J., THEOLOGIS, A. A., JANG, J. S., LEE, S. H., & DEVIREN, V. (2017). IMPACT OF FATIGUE ON MAINTENANCE OF UPRIGHT POSTURE: DYNAMIC ASSESSMENT OF SAGITTAL SPINAL DEFORMITY PARAMETERS AFTER WALKING 10 MINUTES. SPINE (PHILA PA 1976), 42(10), 733-739.

BAE J, T. A., STROM R, TAY B, BURCH S, BERVEN S, MUMMANENI PV, CHOU D, AMES CP, DEVIREN V. (2017). COMPARATIVE ANALYSIS OF 3 SURGICAL STRATEGIES FOR ADULT SPINAL DEFORMITY WITH MILD TO MODERATE SAGITTAL IMBALANCE. J NEUROSURG SPINE, 28(1):40-49

BAILEY JF, M. S., KHIEU K, O'NEILL CW, HEALEY RM, COUGHLIN DG, SAYSON JV, CHANG DG, HARGENS AR, LOTZ JC. (2017). FROM THE INTERNATIONAL SPACE STATION TO THE CLINIC: HOW PROLONGED UNLOADING MAY DISRUPT LUMBAR SPINE STABILITY. SPINE J, 18(1):7-14

BARRY, J. J., SING, D. C., VAIL, T. P., & HANSEN, E. N. (2017). EARLY OUTCOMES OF PRIMARY TOTAL HIP ARTHROPLASTY AFTER PRIOR LUMBAR SPINAL FUSION. JOURNAL OF ARTHROPLASTY, 32(2), 470-474.

BARRY, J. J., THIELEN, Z., SING, D. C., YI, P. H., HANSEN, E. N., & RIES, M. (2017). LENGTH OF ENDOPROSTHETIC RECONSTRUCTION IN REVISION KNEE ARTHROPLASTY IS ASSOCIATED WITH COMPLICATIONS AND REOPERATIONS. CLIN ORTHOP RELAT RES, 475(1), 72-79.

BARRY, J. J., YUCEKUL, A., THEOLOGIS, A. A., HANSEN, E. N., AMES, C., & DEVIREN, V. (2017). SPINAL REALIGNMENT FOR ADULT DEFORMITY: THREE-COLUMN OSTEOTOMIES ALTER TOTAL HIP ACETABULAR COMPONENT POSITIONING. JOURNAL OF THE AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS, 25(2), 125-132.

Bauer AS, S. D., Sibbel SE, McCarroll HR, Lattanza LL. (2017). Preoperative computer simulation and patient-specific guides are safe and effective to correct forearm deformity in children. J Pediatr Orthop, 37(7):504-510

Berg-Johansen, B., Han, M., Fields, A. J., Liebenberg, E. C., Lim, B. J., Larson, P. E, Gunduz-Demir C., Kazakia, GJ., Krug, R. , Lotz, J. C. (2017). Cartilage endplate thickness variation measured by ultrashort echo-time MRI is associated with adjacent disc degeneration. Spine (phila pa 1976).

Berg-Johansen B, F. A., Liebenberg EC, Li A, Lotz JC. (2017). Structure-function relationships at the human spinal disc-vertebra interface. J Orthop Res, 36(1):192-201

Berven, S., & DiGiorgio, A. (2017). The case for deformity correction in the management of radiculopathy with concurrent spinal deformity. Neurosurg Clin N Am, 28(3), 341-347.

Berven, S., Jain, D., O'Neill, C., Selinger, A., & Mummaneni, P. (2017). Team approach: degenerative spinal deformitya. Jbjs Rev, 5(4).

Berven, S. H. (2017). Appropriate use criteria in adult scoliosis. Spine (phila pa 1976), 42 Suppl 7, S12-S13.

Berven, S. H., Kamper, S. J., Germscheid, N. M., Dahl, B., Shaffrey, C. I., Lenke, L. G., Lewis SJ., Cheung KM., Alanay A., Ito M., Polly DW., Qiu.Y., De Kleuver, M. (2017). An international consensus on the appropriate evaluation and treatment for adults with spinal deformity. Eur Spine J, 27(3):585-596

Biermann, J. S., Chow, W., Reed, D. R., Lucas, D., Adkins, D. R., Agulnik, M., Benjamin, RS., Brigman B., Budd GT., Curry WT., Didwania A., Fabbri N., Hornicek FJ., Kuechle JB., Lindskog D., Mayerson J., McGarry SV., Million L., Morris CD., Movva S., O'Donnell RJ., Randall RL., Rose P., Santana VM., Satcher RL., Schwartz H., Siegel HJ., Thornton K., Villalobos V., Bergman MA., Scavone, J. L. (2017). Nccn guidelines (r) insights bone cancer, version 2.2017 featured updates to the nccn guidelines. Journal of the National Comprehensive Cancer Network, 15(2), 155-167.

Bini, S. A., Cafri, G., & Khatod, M. (2017). Midterm-adjusted survival comparing the best performing unicompartmental and total knee arthroplasties in a registry. Journal of Arthroplasty, 32(11), 3352-3355.

Bini, S. A., & Mahajan, J. (2017). Clinical outcomes of remote asynchronous telerehabilitation are equivalent to traditional therapy following total knee arthroplasty: a randomized control study. J Telemed Telecare, 23(2), 239-247.

Borade, A., Kempegowda, H., Maniar, H. H., De Giacomo, A., Tornetta, P., 3rd, Bramlett, K., . . . Horwitz, D. S. (2017). External validation of the clinical indications of computed tomography (ct) of the head in patients with low-energy geriatric hip fractures. Injury, 48(7), 1594-1596.

Bosse, M. J., Teague, D., Reider, L., Gary, J. L., Morshed, S., Seymour, R. B., . . . Mackenzie, E. J. (2017). Outcomes after severe distal tibia, ankle, and/or foot trauma: comparison of limb salvage versus transtibial amputation (outlet). J Orthop Trauma, 31 Suppl 1, S48-S55.

Bosse MJ, M. S., Reider L, Ertl W, Toledano J, Firoozabadi R, Seymour RB, Carroll E, Scharfstein DO, Steverson B, Mackenzie EJ. (2017). Transtibial amputation outcomes study (taos): comparing transtibial amputation with and without a tibiofibular synostosis (ertl) procedure. J Orthop Trauma, 31 suppl 1:s63-s69

Cafri, G., Paxton, E. W., Chen, Y. X., Cheetham, C. T., Gould, M. K., Sluggett, J., . . . Khatod, M. (2017). Comparative effectiveness and safety of drug prophylaxis for prevention of venous thromboembolism after total knee arthroplasty. Journal of Arthroplasty, 32(11), 3524-+.

Cafri, G., Paxton, E. W., Love, R., Bini, S. A., & Kurtz, S. M. (2017). Is there a difference in revision risk between metal and ceramic heads on highly crosslinked polyethylene liners? Clin Orthop Relat Res, 475(5), 1349-1355.

Cazzell S, V. D., Pham H, Walters J, Reyzelman A, Samsell B, Dorsch K, Moore M. . (2017). A randomized clinical trial of a human acellular dermal matrix demonstrated superior healing rates for chronic diabetic foot ulcers over conventional care and an active acellular dermal matrix comparator. Wound Repair Regen, 25(3):483-497

Cb., M. (2017). Editorial commentary: biomechanics of cutting studies-knowledge and deficiencies: knee joint stability and the posterolateral corner. Arthroscopy, 33(10):1831

Cb., M. (2017). Editorial commentary: success of rotator cuff healing-do we need to improve on the strength anymore? Arthroscopy, 33(9):1659-1660

Cheah, J., Zhang, A. L., & Tay, B. (2017). Intraoperative use of neuromonitoring in multilevel thoracolumbar spine instrumentation and the effects on postoperative neurological injuries. Clin Spine Surg, 30(7), 321-327.

Cheah, J. W., Sing, D. C., Mclaughlin, D., Feeley, B. T., Ma, C. B., & Zhang, A. L. (2017). The perioperative effects of chronic preoperative opioid use on shoulder arthroplasty outcomes. J Shoulder Elbow Surg, 26(11), 1908-1914.

Chen, X. L., Cooke, D. L., Saloner, D., Nelson, J., Su, H., Lawton, M. T., . . . Kim, H. (2017). Higher flow is present in unruptured arteriovenous malformations with silent intralesional microhemorrhages. Stroke, 48(10), 2881-2884.

Chokotho, L., Mkandawire, N., Conway, D., Wu, H. H., Shearer, D. D., Hallan, G., . . . Lau, B. C. (2017). Validation and reliability of the Chichewa translation of the EQ-5D quality of life questionnaire in adults with orthopaedic injuries in Malawi. Malawi Med J, 29(2), 84-88.

Chomsky-Higgins, K., Miclau, T. A., Mackechnie, M. C., Aguilar, D., Avila, J. R., Dos Reis, F. B., . . . Miclau, T., 3rd. (2017). Barriers to clinical research in Latin America. Front Public Health, 5, 57.

Clark, D., Nakamura, M., Miclau, T., & Marcucio, R. (2017). Effects of aging on fracture healing. Curr Osteoporos Rep, 15(6), 601-608.

Clemente, F., Hakansson, B., Cipriani, C., Wessberg, J., Kulbacka-Ortiz, K., Branemark, R., . . . Ortiz-Catalan, M. (2017). Touch and hearing mediate osseoperception. Sci Rep, 28;7:45363

Coghlan, R. F., Oberdorf, J. A., Sienko, S., Aiona, M. D., Boston, B. A., Connelly, K. J., . . . Horton, W. A. (2017). A degradation fragment of type X collagen is a real-time marker for bone growth velocity. Sci Transl Med, 9(419).

Conway, D. J., Coughlin, R., Caldwell, A., & Shearer, D. (2017). The Institute for Global Orthopedics and Traumatology: A model for academic collaboration in orthopedic surgery. Front Public Health, 5, 146.

Cuevas-Ocampo, A. K., Raleigh, D., Wu, A., Tomlin, B., Menke, J., Reis, G., . . . Pekmezci, M. (2017). Loss of H3K27me3 is a poor prognostic factor for meningioma. Modern Pathology, 30, 430A-431A.

Cunningham, B. P., Brazina, S., Morshed, S., & Miclau, T., 3rd. (2017). Fracture healing: A review of clinical, imaging and laboratory diagnostic options. Injury, 48 Suppl 1, S69-S75.

D., J. (2017). On gender roles in spine surgery. Spine J, 17(11):1768-1769.

Davies, M., Ialenti, M., & Feeley, B. T. (2017). Adverse muscle changes and possible therapeutic targets for rotator cuff muscle atrophy and fatty infiltration. Techniques in Shoulder and Elbow Surgery, 18(3), 77-83.

Davies, M. R., Garcia, S., Tamaki, S., Liu, X., Lee, S., Jose, A., . . . Feeley, B. T. (2017). Muscle stem cell activation in a mouse model of rotator cuff injury. J Orthop Res.

Davies, M. R., Lee, L., Feeley, B. T., Kim, H. T., & Liu, X. H. (2017). Lysophosphatidic acid-induced RhoA signaling and prolonged macrophage infiltration worsens fibrosis and fatty infiltration following rotator cuff tears. Journal of orthopaedic research, 35(7), 1539-1547.

Dibbern, K., Kempton, L. B., Higgins, T. F., Morshed, S., Mckinley, T. O., Marsh, J. L., & Anderson, D. D. (2017). Fractures of the tibial plateau involve similar energies as the tibial pilon but greater articular surface involvement. Journal of orthopaedic research, 35(3), 618-624.

Ding, D. Y., Lamartina, J., Tai, C., & Pandya, N. K. (2017). Congenital pseudoarthrosis of the distal radius treated with physeal-sparing double-barrel vascularized free fibula transfer: a case report. Hand (N Y), 12(5), NP140-NP144.

Ding, D. Y., Zhang, A. L., Allen, C. R., Anderson, A. F., Cooper, D. E., Deberardino, T. M., . . . Grp, M. (2017). Subsequent surgery after revision anterior cruciate ligament reconstruction rates and risk factors from a multicenter cohort. American journal of sports medicine, 45(9), 2068-2076.

Dole, N. S., Mazur, C. M., Acevedo, C., Lopez, J. P., Monteiro, D. A., Fowler, T. W., . . . Alliston, T. (2017). Osteocyte-intrinsic TGF-beta signaling regulates bone quality through perilacunar/canalicular remodeling. Cell rep, 21(9), 2585-2596.

Dudli, S., Liebenberg, E., Magnitsky, S., Lu, B., Lauricella, M., & Lotz, J. C. (2017). Modic type 1 change is an autoimmune response that requires a proinflammatory milieu provided by the "modic disc". Spine J, s1529-9430(17)31212-3

Dudli, S., Miller, S., Demir-Deviren, S., & Lotz, J. C. (2017). Inflammatory response of disc cells against propionibacterium acnes depends on the presence of lumbar modic changes. Eur spine J.

Dudli, S., Sing, D. C., Hu, S. S., Berven, S. H., Burch, S., Deviren, V., . . . Lotz, J. C. (2017). Issls prize in basic science 2017: intervertebral disc/bone marrow cross-talk with modic changes. Eur spine J, 26(5), 1362-1373.

Dumas, R., Branemark, R., & Frossard, L. (2017). Gait analysis of transfemoral amputees: errors in inverse dynamics are substantial and depend on prosthetic design. Ieee transactions on neural systems and rehabilitation engineering, 25(6), 679-685.

Eastlack, R. K., Mundis, G. M., Jr., Wang, M., Mummaneni, P. V., Uribe, J., Okonkwo, D., . . . Deviren, V. (2017). Is there a patient profile that characterizes a patient with adult spinal deformity as a candidate for minimally invasive surgery? Global spine J, 7(7), 703-708.

Edmondson CP, S. E. (2017). Non-BMD DXA measurements of the hip. Bone, 104:73-83

Eliasberg, C. D., Dar, A., Jensen, A. R., Murray, I. R., Hardy, W. R., Kowalski, T. J., . . . Petrigliano, F. A. (2017). Perivascular stem cells diminish muscle atrophy following massive rotator cuff tears in a small animal model. Journal of bone and joint surgery-american volume, 99(4), 331-341.

Eliezer, E. N., Haonga, B. T., Morshed, S., & Shearer, D. W. (2017). Predictors of reoperation for adult femoral shaft fractures managed operatively in a sub-saharan country. J bone joint surg am, 99(5), 388-395.

Ersen, A., Pekmezci, M., Folpe, A. L., & Tihan, T. (2017). Comparision of new diagnostic tools for malignant peripheral nerve sheath tumors. Pathol oncol res, 23(2), 393-398.

Facchetti, L., Schwaiger, B. J., Gersing, A. S., Guimaraes, J. B., Nardo, L., Majumdar, S., . . . Consortium, A.-A. (2017). Cyclops lesions detected by MRI are frequent findings after ACL surgical reconstruction but do not impact clinical outcome over 2 years. Eur radiol, 27(8), 3499-3508.

Feeley, B. T., Schisel, J., & Agel, J. (2017). Pitch counts in youth baseball and softball: a historical review. Clin J Sport Med.

Firoozabadi, R., Thuillier, D., & Benirschke, S. (2017). Obtaining correct ankle alignment using intraoperative external fixation for ankle arthrodesis. J Foot Ankle Surg, 56(2), 242-246.

Fish, J. L., Albertson, C., Harris, M. P., Lozanoff, S., Marcucio, R. S., Richtsmeier, J. T., & Trainor, P. A. (2017). The Society for Craniofacial Genetics and Developmental Biology 39th annual meeting. Am J Med Genet A, 173(4), 985-1006.

Fish, J. L., Dolan, K., Green, R., Marcucio, R. S., & Hallgrimsson, B. (2017). Fgf8 dosage and tissue interactions contribute to jaw asymmetry in disease. Faseb Journal, 31 (1 supplement), 743.7-743.7,

Fowler, T. W., Acevedo, C., Mazur, C. M., Hall-Glenn, F., Fields, A. J., Bale, H. A., . . . Alliston, T. (2017). Glucocorticoid suppression of osteocyte perilacunar remodeling is associated with subchondral bone degeneration in osteonecrosis. Sci Rep, 7, 44618.

Frykberg RG, G. I., Reyzelman AM, Cazzell SM, Fitzgerald RH, Rothenberg GM, Bloom JD, Petersen BJ, Linders DR, Nouvong A, Najafi B. (2017). Feasibility and efficacy of a smart mat technology to predict development of diabetic plantar ulcers. Diabetes Care. 40(7):973-980.

Garcia GH, L. J., Sinatro A, Wu HH, Dines JS, Warren RF, Dines DM, Gulotta LV. (2017). High satisfaction and return to sports after total shoulder arthroplasty in patients aged 55 years and younger. Am J Sports Med, 45(7):1664-1669.

Garwood, E. R., Souza, R. B., Zhang, A., Zhang, A. L., Ma, C. B., Link, T. M., & Motamedi, D. (2017). Axial traction magnetic resonance imaging (MRI) of the glenohumeral joint in healthy volunteers: initial experience. Clinical Imaging, 42, 178-182.

Glassman, S. D., Berven, S. H., Shaffrey, C. I., Mummaneni, P. V., & Polly, D. W. (2017). Commentary: appropriate use criteria for lumbar degenerative scoliosis: developing evidence-based guidance for complex treatment decisions. Neurosurgery, 80(3), E205-E212.

Gornitzky AL, L. I., Carrigan RB. (2017). The diagnostic utility and clinical implications of wrist MRI in the pediatric population. Hand (N Y), 13(2):143-149.

Gornitzky AL, M. R., Atuahuene B, Storey EP, Ganley TJ. (2017). Osteochondritis dissecans lesions in family members: does a positive family history impact phenotypic potency? Clin Orthop Relat Res, 475(6):1573-1580.

Graves CE, H. S., Raff GW, Iqbal CW, Imamura-Ching J, Christensen D, Fechter R, Kwiat D, Harrison MR. . (2017). Magnetic mini-mover procedure for pectus excavatum IV: FDA sponsored multicenter trial. J Pediatr Surg, 52(6):913-919.

Green, R. M., Fish, J. L., Young, N. M., Smith, F. J., Roberts, B., Dolan, K., . . . Hallgrimsson, B. (2017). Developmental nonlinearity drives phenotypic robustness. Nat Commun, 8(1), 1970.

Green, R. M., Leach, C. L., Hoehn, N., Marcucio, R. S., & Hallgrimsson, B. (2017). Quantifying three-dimensional morphology and RNA from individual embryos. Dev Dyn, 246(5), 431-436.

Griffin, M. J., Olson, K., Heckmann, N., & Charlton, T. P. (2017). Realtime Achilles ultrasound thompson (RAUT) test for the evaluation and diagnosis of acute Achilles tendon ruptures. Foot & Ankle International, 38(1), 36-40.

Guimaraes, J. B., Facchetti, L., Schwaiger, B. J., Gersing, A. S., Majumdar, S., Ma, B. C., . . . Link, T. M. (2017). Evolution of intrameniscal signal-intensity alterations detected on MRI over 24 months in patients with traumatic anterior cruciate ligament tear. American Journal of Roentgenology, 208(2), 386-392.

Hamilton, d. K., buza, j. A., passias, p., jalai, c., kim, h. J., ailon, t., . . . Int spine study, g. (2017). The fate of patients with adult spinal deformity incurring rod fracture after thoracolumbar fusion. World neurosurg, 106, 905-911.

Hanke, a., baumlein, m., lang, s. M., gueorguiev, b., nerlich, m., perren, t., . . . Loibl, m. (2017). Long-term radiographic appearance of calcium-phosphate synthetic bone grafts after surgical treatment of tibial plateau fractures. Injury-international journal of the care of the injured, 48(12), 2807-2813.

Harris, a. H., kuo, a. C., bowe, t., gupta, s., nordin, d., & giori, n. J. (2017). Prediction models for 30-day mortality and complications after total knee and hip arthroplasties for veteran health administration patients with osteoarthritis. J arthroplasty.

Hart, r. A., hiratzka, j., kane, m. S., lafage, v., klineberg, e., ames, c. P., . . . Boachie-adjei, o. (2017). Stiffness after pan-lumbar arthrodesis for adult spinal deformity does not significantly impact patient functional status or satisfaction irrespective of proximal endpoint. Spine (phila pa 1976), 42(15), 1151-1157.

Heilmeier, u., amano, k., tanaka, m., schwaiger, b. J., huebner, j. L., stabler, t. V., . . . Li, x. (2017). Synovitis of knee joint fat pads is correlated with inflammatory synovial cytokine profile and may have a potential role in the development of posttraumatic oa following acl injury. Osteoarthritis and cartilage, 25, s41-s42.

Herber, c., krause, w., cain, c., wang, l. P., hsiao, e., nissenson, r., . . . Ingraham, h. (2017). Disrupting central estrogen receptor a signaling in the arcuate nucleus produces a dramatic increase in bone mass and strength. Journal of bone and mineral research, 32, s27-s28.

Hohn, e., & pandya, n. K. (2017). Does the utilization of allograft tissue in medial patellofemoral ligament reconstruction in pediatric and adolescent patients restore patellar stability? Clin orthop relat res, 475(6), 1563-1569.

Horne, d., jones, p., salgaonkar, v., adams, m., ozilgen, b. A., zahos, p., . . . Diederich, c. (2017). Low intensity pulsed ultrasound (lipus) for the treatment of intervertebral disc degeneration. In t. P. Ryan (ed.), energy-based treatment of tissue and assessment ix (vol. 10066).

Hu, d. P., ferro, f., yang, f., taylor, a. J., chang, w. H., miclau, t., . . . Bahney, c. S. (2017). Cartilage to bone transformation during fracture healing is coordinated by the invading vasculature and induction of the core pluripotency genes. Development, 144(2), 221-234.

Huang ji, p. B., bellevue k, lee n, smith s, herfat s. . (2017). Biomechanical assessment of the dorsal spanning bridge plate in distal radius fracture fixation: implications for immediate weight-bearing. Hand (n y).

Hughes aj, m. H., coyle mc, zhang j, laurie mt, chu d, vavruÅ¡ovÃ¡ z, schneider ra, klein od, gartner zj. (2017). Engineered tissue folding by mechanical compaction of the mesenchyme. Dev cell, 44(2):165-178.

Ialenti, m. N., mulvihill, j. D., feinstein, m., zhang, a. L., & feeley, b. T. (2017). Return to play following shoulder stabilization: a systematic review and meta-analysis. Orthop j sports med, 5(9), 2325967117726055.

Jain, d., bendich, i., nguyen, l. C. L., nguyen, l. L., lewis, c. G., huddleston, j. I., . . . Bozic, k. J. (2017). Do patient expectations influence patient-reported outcomes and satisfaction in total hip arthroplasty? A prospective, multicenter study. Journal of arthroplasty, 32(11), 3322-3327.

Jain, d., & berven, s. (2017). Commentary on development and assessment of a digital x-ray software tool to determine vertebral rotation in adolescent idiopathic scoliosis. Spine j, 17(2), 266-268.

Jain, d., nguyen, l. C. L., bendich, i., nguyen, l. L., lewis, c. G., huddleston, j. I., . . . Bozic, k. J. (2017). Higher patient expectations predict higher patient-reported outcomes, but not satisfaction, in total knee arthroplasty patients: a prospective multicenter study. Journal of arthroplasty, 32(9), s166-s170.

Kamara e, b. Z., hepinstall ms, cooper hj. . (2017). Pin site complications associated with computer-assisted navigation in hip and knee arthroplasty. J arthroplasty, 32(9):2842-2846.

Kandemir, u., herfat, s., herzog, m., viscogliosi, p., & pekmezci, m. (2017). Fatigue failure in extra-articular proximal tibia fractures: locking intramedullary nail versus double locking plates-a biomechanical study. J orthop trauma, 31(2), e49-e54.

Kao aw, m. A., singh pp, brunet a, huang ej. (2017). Progranulin, lysosomal regulation and neurodegenerative disease. Nat rev neurosci, 18(6):325-333.

Kato, s., fehlings, m. G., lewis, s. J., lenke, l. G., shaffrey, c. I., cheung, k. M. C., . . . Berven, s. H. (2017). An analysis of the incidence and outcomes of major vs. Minor neurological decline after complex adult spinal deformity surgery: a sub-analysis of scoli-risk-1 study. Spine (phila pa 1976).

Katzman, w. B., vittinghoff, e., lin, f., schafer, a., long, r. K., wong, s., . . . Lane, n. E. (2017). Targeted spine strengthening exercise and posture training program to reduce hyperkyphosis in older adults: results from the study of hyperkyphosis, exercise, and function (sheaf) randomized controlled trial. Osteoporos int, 28(10), 2831-2841.

Keefe, m. K., zygourakis, c. C., theologis, a. A., canepa, e., shaw, j. D., goldman, l. H., . . . Ames, c. P. (2017). Sexual function after cervical spine surgery: independent predictors of functional impairment. J clin neurosci, 36, 94-101.

Kelly, m. P., kim, h. J., ames, c. P., burton, d. C., carreon, l. Y., polly, d. W., jr., . . . Bess, s. (2017). Minimum detectable measurement difference (mdmd) for health related quality of life (hrql) measures varies according age and disability in adult spinal deformity (asd): implications for calculating minimal clinically important difference (mcid). Spine (phila pa 1976).

Khanna, k., & berven, s. H. (2017). Mesenteric ischemia following the correction of adult spinal deformity: case report. Journal of neurosurgery-spine, 26(4), 426-429.

Khanna, k., theologis, a. A., & tay, b. (2017). Autonomic dysreflexia caused by cervical stenosis. Spinal cord ser cases, 3, 17102.

Khanna, k., yi, p. H., sing, d. C., geiger, e., & metz, l. N. (2017). Hypoalbuminemia is associated with septic revisions after primary surgery and post operative infection after revision surgery. Spine (phila pa 1976).

Khanna k, p. E., zmistowski b, howley m, vema k. (2017). The drivers of medicare reimbursement for thoracolumbar fusion: an analysis of data from the centers for medicare and medicaid services. Spine (phila pa 1976), 42(21):1648-1656.

Khashan, m., camisa, w., berven, s., & leasure, j. (2017). Stand-alone anterior interbody fusion for substitution of iliac fixation in long spinal fixation constructs. Arch orthop trauma surg, 138(4):479-486.

Kim, h., kim, j. H., possin, k. L., winer, j., geschwind, m. D., xu, d., & hess, c. P. (2017). Surface-based morphometry reveals caudate subnuclear structural damage in patients with premotor huntington disease. Brain imaging behav, 11(5), 1365-1372.

Kim, t. Y., schwartz, a. V., li, x., xu, k., black, d. M., petrenko, d. M., . . . Schafer, a. L. (2017). Bone marrow fat changes after gastric bypass surgery are associated with loss of bone mass. J bone miner res, 32(11), 2239-2247.

Klein, a., ghosh, s. S., bao, f. S., giard, j., hame, y., stavsky, e., . . . Keshavan, a. (2017). Mindboggling morphometry of human brains. Plos comput biol, 13(2).

Kuo, a. C., & grotkopp, e. (2017). A simple method associated with reduced opioid consumption after total knee arthroplasty. J arthroplasty, 32(10), 3034-3037.

Lai wc, w. D., chen jb, vail j, rugg cm, hame sl. . (2017). Lower quarter y-balance test scores and lower extremity injury in ncaa division i athletes. Orthop j sports med, 5(8):2325967117723666.

Lainoff, a. J., young, n. M., hallgrimsson, b., & marcucio, r. S. (2017). Identifying sources of craniofacial phenotypic variation produced by small changes in sonic hedgehog (shh) signaling. Integr comp biol, 57, e319-e319.

Lansdown, d. A., lee, s., sam, c., krug, r., feeley, b. T., & ma, c. B. (2017). A prospective, quantitative evaluation of fatty infiltration before and after rotator cuff repair. Orthop j sports med, 5(7).

Lansdown, d. A., pea, v., zaid, m., amano, k., souza, r. B., li, x. J., & ma, c. B. (2017). Variations in knee kinematics after acl injury and after reconstruction are correlated with bone shape differences. Clin orthop relat res, 475(10), 2427-2435.

Lansdown, d. A., whitaker, a., wustrack, r., sawyer, a., & hansen, e. N. (2017). A resident-led initiative improves screening and treatment for vitamin d deficiency in patients with hip fractures. Clin orthop relat res, 475(1), 264-270.

Lansdown da, r. A., meadows m, yanke ab, bach br. . (2017). What factors influence the biomechanical properties of allograft tissue for acl reconstruction? A systematic review. Clin orthop relat res, 475(10):2412-2426.

Lau, b. C., conway, d., curran, p. F., feeley, b. T., & pandya, n. K. (2017). Bipolar bone loss in patients with anterior shoulder dislocation: a comparison of adolescents versus adult patients. Arthroscopy, 33(10), 1755-1761.

Lau, b. C., jagodzinski, j., & pandya, n. K. (2017). Incidence of symptomatic pulmonary embolus and deep vein thrombosis after knee arthroscopy in the pediatric and adolescent population. Clin j sport med.

Lau, b. C., & pandya, n. K. (2017). Radiographic comparison of adolescent athletes with elbow osteochondritis dissecans to ulnar collateral ligament injuries and controls. J shoulder elbow surg, 26(4), 589-595.

Lau, b. C., robertson, a., motamedi, d., & lee, n. (2017). The validity and reliability of a pocket-sized ultrasound to diagnose distal radius fracture and assess quality of closed reduction. J hand surg am, 42(6), 420-427.

Lee, j., sperling, j., salmeen, k., shoback, d., & block-kurbisch, i. (2017). A case of hypophosphatemic rickets in pregnancy. Journal of bone and mineral research, 32, s299-s299.

Lenneras, m., tsikandylakis, g., trobos, m., omar, o., vazirisani, f., palmquist, a., . . . Thomsen, p. (2017). The clinical, radiological, microbiological, and molecular profile of the skin-penetration site of transfemoral amputees treated with bone-anchored prostheses. Journal of biomedical materials research part a, 105(2), 578-589.

Leung, j. M., sands, l. P., chen, n. N., ames, c., berven, s., bozic, k., . . . Perioperative med res, g. (2017). Perioperative gabapentin does not reduce postoperative delirium in older surgical patients a randomized clinical trial. Anesthesiology, 127(4), 633-644.

Li, y., donohue, k. S., robbins, c. B., pennock, a. T., ellis, h. B., nepple, j. J., . . . Function adolescent, c. (2017). Reliability of radiographic assessments of adolescent midshaft clavicle fractures by the facts multicenter study group. J orthop trauma, 31(9), 479-484.

Li y, b. R. (2017). Osseointegrated prostheses for rehabilitation following amputation : the pioneering swedish model. Unfallchirurg, 120(4):285-292.

Lin, M. C., yang, F., herfat, S. T., bahney, C. S., marmor, M., & maharbiz, M. M. (2017). New opportunities for fracture healing detection: impedance spectroscopy measurements correlate to tissue composition in fractures. Journal of orthopaedic research, 35(12), 2620-2629.

Lin mc, h. D., yang f, herfat st, bahney cs, marmor m, maharbiz mm. (2017). Using impedance to track fracture healing rates in mice in vivo: a pilot study. Conf proc ieee eng med biol soc, 2017:1724-1727.

Liu, M. Y., lee, C., laron, D., zhang, N. L., waldorff, E. I., ryaby, J. T., . . . Liu, X. H. (2017). Role of pulsed electromagnetic fields (pemf) on tenocytes and myoblastspotential application for treating rotator cuff tears. Journal of orthopaedic research, 35(5), 956-964.

Liu, X., ravishankar, B., ning, A., liu, M., kim, H. T., & feeley, B. T. (2017). Knocking-out matrix metalloproteinase-13 exacerbates rotator cuff muscle fatty infiltration. Muscles ligaments tendons j, 7(2), 202-207.

Livingston, K. S., glotzbecker, M. P., & shore, B. J. (2017). Pediatric acute compartment syndrome. J am acad orthop surg, 25(5), 358-364.

Low, E. E., inkellis, E., & morshed, S. (2017). Complications and revision amputation following trauma-related lower limb loss. Injury, 48(2), 364-370.

Lu, M., & hansen, E. N. (2017). Hydrogen peroxide wound irrigation in orthopaedic surgery. J bone jt infect, 2(1), 3-9.

Lu, M., sing, D. C., kuo, A. C., & hansen, E. N. (2017). Preoperative anemia independently predicts 30-day complications after aseptic and septic revision total joint arthroplasty. Journal of arthroplasty, 32(9), s197-s201.

Magnitsky, S., dudli, S., tang, X., kaur, J., diaz, J., miller, S., & lotz, J. C. (2017). Quantification of propionic acid in the bovine spinal disk after infection of the tissue with p. Acnes bacteria. Spine (phila pa 1976).

Malmstroem, S., rejnmark, L., graf, J., imboden, J. B., lynch, K., & shoback, D. M. (2017). Association of total 25-hydroxyvitamin d levels with disease activity in a large patient cohort with rheumatoid arthritis. Journal of bone and mineral research, 32, s224-s224.

Malmstroem, S., rejnmark, L., imboden, J. B., shoback, D. M., & bikle, D. D. (2017). Current assays to determine free 25-hydroxyvitamin d in serum. J aoac int, 100(5), 1323-1327.

Manthiram, K., li, S. C., hausmann, J. S., amarilyo, G., barron, K., kim, H., . . . Childhood arthrit rheumatology, R. (2017). Physicians' perspectives on the diagnosis and management of periodic fever, aphthous stomatitis, pharyngitis, and cervical adenitis (pfapa) syndrome. Rheumatol int, 37(6), 883-889.

Marchand ls, r. A., working zm, jacobson lg, kubiak en, higgins tf, rothberg dl. (2017). Radiographic investigation of the distal extension of fractures into the articular surface of the tibia (the ridefast study). J orthop trauma, 31(12):668-674.

Marcucio, R. (2017). Shaping the sound of voice. Elife, 6.

Marcucio, R. S., qin, L., alsberg, E., & boerckel, J. D. (2017). Reverse engineering development: crosstalk opportunities between developmental biology and tissue engineering. J orthop res, 35(11), 2356-2368.

Marmor, M., amano, K., yamamoto, A., friedberg, D., mcdonald, E., & meinberg, E. (2017). Acute shortening versus bridging plate for highly comminuted olecranon fractures. Am j orthop (belle mead nj), 46(5), e330-e335.

Marmor, M., lee, M., friedberg, D., & mcdonald, E. (2017). Increasing bending stiffness of antibiotic-impregnated cement-covered rod constructs: a biomechanical study. Techniques in orthopaedics, 32(3), 187-190.

Matityahu, A., Duffy, R. K., Goldhahn, S., Joeris, A., Richter, P. H., & Gebhard, F. (2017). The great unknown-a systematic literature review about risk associated with intraoperative imaging during orthopaedic surgeries. Injury, 48(8), 1727-1734.

Meinberg E, A. J., Kellam JF, Roberts CS. (2017). The fracture and dislocation classification compendium 2017 - "nearing the finish line". Injury, 48(4):793-794.

Miclau KR, B. S., Bahney CS, Hankenson KD, Hunt TK, Marcucio RS, Miclau T. (2017). Stimulating fracture healing in ischemic environments: does oxygen direct stem cell fate during fracture healing? Front Cell Dev Biol, 5:45.

Millard, S. M., Wang, L. P., Wattanachanya, L., O'Carroll, D., Fields, A. J., Pang, J., . . . Nissenson, R. A. (2017). Role of osteoblast G(i) signaling in age-related bone loss in female mice. Endocrinology, 158(6), 1715-1726.

Mizutani, J., Verma, K., Endo, K., Ishii, K., Abumi, K., Yagi, M., . . . Ames, C. (2017). Global spinal alignment in cervical kyphotic deformity: the importance of head position and thoracolumbar alignment in the compensatory mechanism. Neurosurgery.

Mohan R, Y. P., Morshed S. . (2017). Readability of orthopedic trauma patient education materials on the internet. Am J Orthop (Belle Mead NJ), 46(3):e190-e194.

Morgan, T. A., Piper, S. L., Lattanza, L. L., Goldstein, R. B., Link, T., & Motamedi, D. (2017). Distal forearm fracture open reduction-internal fixation: sonographic detection of hardware malalignment and associated tendon injuries missed by radiography. Journal of ultrasound in medicine, 36(10), 2173-2177.

Morris, C. D., Wustrack, R. L., & Levin, A. S. (2017). Limb-salvage options in growing children with malignant bone tumors of the lower extremity: a critical analysis review. JBJS rev, 5(7), e7.

Morshed, S., & O'Toole, R. (2017). Open reduction and medullary nailing of closed tibial shaft fractures is not benign. J Orthop Trauma, 31(10), e356.

Mundis, G. M., Turner, J. D., Kabirian, N., Pawelek, J., Eastlack, R. K., Uribe, J., . . . Int Spine Study, G. (2017). Anterior column realignment has similar results to pedicle subtraction osteotomy in treating adults with sagittal plane deformity. World Neurosurg, 105, 249-256.

Mustafa Diab, M., Wu, H. H., Eliezer, E., Haonga, B., Morshed, S., & Shearer, D. W. (2017). The impact of antegrade intramedullary nailing start site using the SIGN nail in proximal femoral fractures: a prospective cohort study. Injury, 49(2):323-327

Newman ET, H. T., Attarian DE, Vail TP, Bolognesi MP, Wellman SS. (2017). Risk factors, outcomes, and timing of manipulation under anesthesia after total knee arthroplasty. J Arthroplasty, 33(1):245-249.

Nicholls, F. H., Bae, J., Theologis, A. A., Eksi, M. S., Ames, C. P., Berven, S. H., . . . Deviren, V. (2017). Factors associated with the development of and revision for proximal junctional kyphosis in 440 consecutive adult spinal deformity patients. Spine (Phila Pa 1976), 42(22), 1693-1698.

Nichols, J. K., Sena, M. P., Hu, J. L., O'Reilly, O. M., Feeley, B. T., & Lotz, J. C. (2017). A kinect-based movement assessment system: marker position comparison to vicon. Comput Methods Biomech Biomed Engin, 20(12), 1289-1298.

Nishio, S., Fukunishi, S., Yoshiya, S., Sing, D. C., Hansen, E. N., & Vail, T. P. (2017). Comparison of complications following revision of metal-on-metal versus metal-on-polyethylene total hip arthroplasty. Orthopedics, 40(1), e164-e169.

Obremskey, W. T., Schmidt, A. H., O'Toole, R. V., DeSanto, J., Morshed, S., Tornetta, P., . . . Metrc. (2017). A prospective randomized trial to assess oral versus intravenous antibiotics for the treatment of postoperative wound infection after extremity fractures (POVIV study). J Orthop Trauma, 31, s32-s38.

Ouyang, a., cerchiari, a. E., tang, x. Y., liebenberg, e., alliston, t., gartner, z. J., & lotz, j. C. (2017). Effects of cell type and configuration on anabolic and catabolic activity in 3d co-culture of mesenchymal stem cells and nucleus pulposus cells. Journal of orthopaedic research, 35(1), 61-73.

Oya, j., burke, j. F., vogel, t., tay, b., chou, d., & mummaneni, p. (2017). The accuracy of multimodality intraoperative neuromonitoring to predict postoperative neurologic deficits following cervical laminoplasty. World neurosurg, 106, 17-25.

Panwalkar, p., clark, j., ramaswamy, v., hawes, d., yang, f. S., dunham, c., . . . Venneti, s. (2017). Global reduction in h3k27me3 is a molecular surrogate for pediatric posterior fossa- group a ependymomas. Journal of neuropathology and experimental neurology, 76(6), 497-497.

Patterson, j. T., & morshed, s. (2017). Chemoprophylaxis for venous thromboembolism in operative treatment of fractures of the tibia and distal bones: a systematic review and meta-analysis. J orthop trauma, 31(9), 453-460.

Patterson, j. T., sing, d., hansen, e. N., tay, b., & zhang, a. L. (2017). The james a. Rand young investigator's award: administrative claims vs surgical registry: capturing outcomes in total joint arthroplasty. Journal of arthroplasty, 32(9), s11-s17.

Patterson, j. T., theologis, a. A., sing, d., & tay, b. (2017). Anterior versus posterior approaches for odontoid fracture stabilization in patients older than 65 years: 30-day morbidity and mortality in a national database. Clin spine surg, 30(8), e1033-e1038.

Peck, j. H., sing, d. C., nagaraja, s., peck, d. G., lotz, j. C., & dmitriev, a. E. (2017). Mechanical performance of cervical intervertebral body fusion devices: a systematic analysis of data submitted to the food and drug administration. J biomech, 54, 26-32.

Pea, v., su, f., amano, k., li, q., mcculloch, c. E., souza, r. B., . . . Li, x. J. (2017). Analysis of the articular cartilage t-1 and t-2 relaxation times changes after acl reconstruction in injured and contralateral knees and relationships with bone shape. Journal of orthopaedic research, 35(3), 707-717.

Pekmezci, m., cuevas-ocampo, a. K., perry, a., & horvai, a. E. (2017). Significance of h3k27me3 loss in the diagnosis of malignant peripheral nerve sheath tumors. Mod pathol, 30(12), 1710-1719.

Pekmezci, m., rice, t., molinaro, a. M., hansen, h. M., mccoy, l. S., tihan, t., . . . Wrensch, m. R. (2017). Adult infiltrating giomas with who 2016 integrated diagnosis: additional prognostic roles of atrx and tert. Neuro-oncology, 19, 15-15.

Pennock at, e. E., bae ds, kocher ms, li y, farley fa, ellis hb, wilson pl, nepple j, gordon je, willimon sc, busch mt, spence dd, kelly dm, pandya nk, sabatini cs, shea kg, heyworth be. (2017). Adolescent clavicle nonunions: potential risk factors and surgical management. J shoulder elbow surg, 27(1):29-35.

Percival, c. J., green, r., gatti, d. M., pomp, d., roseman, c. C., marcucio, r., & hallgrimsson, b. (2017). Qtl analysis of a trade-off in bone length within the mouse zygomatic arch. Faseb journal, 31.

Piper, s. L., lattanza, l. L., wall, l. B., & goldfarb, c. A. (2017). Response to "observation about 'open surgical release of posttraumatic elbow contracture in children and adolescents'". Journal of pediatric orthopaedics, 37(7), e450-e450.

Ramanan b, a. A., wu b, causey mw, gasper wj, vartanian sm, reyzelman am, hiramoto js, conte ms. . (2017). Determinants of midterm functional outcomes, wound healing, and resources used in a hospital-based limb preservation program. J vasc surg, 66(6):1765-1774.

Roddy, e., & diab, m. (2017). Rates and risk factors associated with unplanned hospital readmission after fusion for pediatric spinal deformity. Spine j, 17(3), 369-379.

SA., B. (2017). THE GENESIS OF AN IDEA: THE INTERNATIONAL COMMITTEE OF THE AMERICAN ASSOCIATION OF HIP AND KNEE SURGEONS. ARTHROPLAST TODAY, 3(3):141-143.

SAFAEE MM, O. J., VERMA K, BESS S, SHAFFREY CI, SMITH JS, HART R, DEVIREN V, AMES CP. (2017). PROXIMAL JUNCTIONAL KYPHOSIS PREVENTION STRATEGIES: A VIDEO TECHNIQUE GUIDE. OPER NEUROSURG (HAGERSTOWN), 13(5):581-585.

SAMAAN, M. A., PEA, V., ZHANG, A. L., GALLO, M. C., LINK, T. M., SOUZA, R. B., & MAJUMDAR, S. (2017). A NOVEL MR-BASED METHOD FOR DETECTION OF CARTILAGE DELAMINATION IN FEMOROACETABULAR IMPINGEMENT PATIENTS. J ORTHOP RES.

SAMAAN, M. A., SCHWAIGER, B. J., GALLO, M. C., LINK, T. M., ZHANG, A. L., MAJUMDAR, S., & SOUZA, R. B. (2017). ABNORMAL JOINT MOMENT DISTRIBUTIONS AND FUNCTIONAL PERFORMANCE DURING SIT-TO-STAND IN FEMOROACETABULAR IMPINGEMENT PATIENTS. PM R, 9(6), 563-570.

SAMAAN, M. A., SCHWAIGER, B. J., GALLO, M. C., SADA, K., LINK, T. M., ZHANG, A. L., . . . SOUZA, R. B. (2017). JOINT LOADING IN THE SAGITTAL PLANE DURING GAIT IS ASSOCIATED WITH HIP JOINT ABNORMALITIES IN PATIENTS WITH FEMOROACETABULAR IMPINGEMENT. AMERICAN JOURNAL OF SPORTS MEDICINE, 45(4), 810-818.

SAMAAN, M. A., ZHANG, A. L., GALLO, M. C., LINK, T. M., SOUZA, R. B., & MAJUMDAR, S. (2017). EARLY EFFECTS OF HIP ARTHROSCOPY ON ARTICULAR CARTILAGE COMPOSITION IN FEMOROACETABULAR IMPINGEMENT PATIENTS. OSTEOARTHRITIS AND CARTILAGE, 25, S255-S256.

SCHAFER, A. L., KAZAKIA, G. J., VITTINGHOFF, E., STEWART, L., ROGERS, S. J., KIM, T. Y., . . . BLACK, D. M. (2017). EFFECTS OF GASTRIC BYPASS SURGERY ON BONE MASS AND MICROARCHITECTURE OCCUR EARLY AND PARTICULARLY IMPACT POSTMENOPAUSAL WOMEN. J BONE MINER RES.

SCHEER, J. K., SETHI, R. K., HEY, L. A., LAGRONE, M. O., KEEFE, M., ARYAN, H. E., . . . COMM, S. R. S. A. S. D. (2017). RESULTS OF THE 2015 SCOLIOSIS RESEARCH SOCIETY SURVEY ON SINGLE VERSUS DUAL ATTENDING SURGEON APPROACH FOR ADULT SPINAL DEFORMITY SURGERY. SPINE (PHILA PA 1976), 42(12), 932-942.

SENCAN, S., OZCAN-EKSI, E. E., CIL, H., TAY, B., BERVEN, S., BURCH, S., . . . DEMIR-DEVIREN, S. (2017). THE EFFECT OF TRANSFORAMINAL EPIDURAL STEROID INJECTIONS IN PATIENTS WITH SPONDYLOLISTHESIS. J BACK MUSCULOSKELET REHABIL, 30(4), 841-846.

SHALABY NA, S. R., ZHANG Q, SCOGGIN S, ELIAZER S, ROTHENFLUH A, BUSZCZAK M. . (2017). SYSTEMATIC DISCOVERY OF GENETIC MODULATION BY JUMONJI HISTONE DEMETHYLASES IN DROSOPHILA. SCI REP, 7(1):5240.

SHAW, J. D., MILLER, S., PLOURDE, A., SHAW, D. L., WUSTRACK, R., & HANSEN, E. N. (2017). METHYLENE BLUE-GUIDED DEBRIDEMENT AS AN INTRAOPERATIVE ADJUNCT FOR THE SURGICAL TREATMENT OF PERIPROSTHETIC JOINT INFECTION. J ARTHROPLASTY, 32(12), 3718-3723.

SHENOI RP, A. S., RUBALCAVA DM, CAMP EA. (2017). THE PEDIATRIC SUBMERSION SCORE PREDICTS CHILDREN AT LOW RISK FOR INJURY FOLLOWING SUBMERSIONS. ACAD EMERG MED, 24(12):1491-1500.

SHERBORNE, A. L., LAVERGNE, V., YU, K., LEE, L., DAVIDSON, P. R., MAZOR, T., . . . NAKAMURA, J. L. (2017). SOMATIC AND GERMLINE TP53 ALTERATIONS IN SECOND MALIGNANT NEOPLASMS FROM PEDIATRIC CANCER SURVIVORS. CLIN CANCER RES, 23(7), 1852-1861.

SHOBACK, D. (2017). DOES PARATHYROID HORMONE CONTROL BONE QUALITY? ENDOCRINE, 56(1), 7-9.

SHUKLA DR, R. W., BARNES LA, KLION MJ, GLADSTONE JN, KIM JM, CLEEMAN E, FORSH DA, PARSONS BO. . (2017). THE INFLUENCE OF INCISION TYPE ON PATIENT SATISFACTION AFTER PLATE FIXATION OF CLAVICLE FRACTURES. ORTHOP J SPORTS MED, 5(6):2325967117712235.

SING, D. C., BERVEN, S. H., BURCH, S., & METZ, L. N. (2017). INCREASE IN SPINAL DEFORMITY SURGERY IN PATIENTS AGE 60 AND OLDER IS NOT ASSOCIATED WITH INCREASED COMPLICATIONS. SPINE J, 17(5), 627-635.

Sing, d. C., metz, l. N., & dudli, s. (2017). Machine learning-based classification of 38 years of spine-related literature into 100 research topics. Spine (phila pa 1976), 42(11), 863-870.

Sing dc, j. D., ouyang d. (2017). Gender trends in authorship of spine-related academic literature-a 39-year perspective. Spine j, 17(11):1749-1754.

Smith, j. S., line, b., bess, s., shaffrey, c. I., kim, h. J., mundis, g., . . . Int spine study, g. (2017). The health impact of adult cervical deformity in patients presenting for surgical treatment: comparison to united states population norms and chronic disease states based on the euroquol-5 dimensions questionnaire. Neurosurgery, 80(5), 716-724.

Smith, j. S., shaffrey, c. I., klineberg, e., lafage, v., schwab, f., lafage, r., . . . Int spine study, g. (2017). Complication rates associated with 3-column osteotomy in 82 adult spinal deformity patients: retrospective review of a prospectively collected multicenter consecutive series with 2-year follow-up. Journal of neurosurgery-spine, 27(4), 444-457.

Smith, j. S., shaffrey, c. I., lafage, r., lafage, v., schwab, f. J., kim, h. J., . . . Issg. (2017). Three-column osteotomy for correction of cervical and cervicothoracic deformities: alignment changes and early complications in a multicenter prospective series of 23 patients. European spine journal, 26(8), 2128-2137.

Spencer, c. H., rouster-stevens, k., gewanter, h., syverson, g., modica, r., schmidt, k., . . . Patwardhan, a. (2017). Biologic therapies for refractory juvenile dermatomyositis: five years of experience of the childhood arthritis and rheumatology research alliance in north america. Pediatr rheumatol online j, 15(1), 50.

Strickland, c. D., eberhardt, s. C., bartlett, m. R., nelson, j., kim, h., morrison, l. A., & hart, b. L. (2017). Familial cerebral cavernous malformations are associated with adrenal calcifications on ct scans: an imaging biomarker for a hereditary cerebrovascular condition. Radiology, 284(2), 443-450.

Tabaraee, e., mummaneni, p., abdul-jabbar, a., shearer, d., roy, e., amin, b., . . . Tay, b. K. (2017). Comparison of implants used in open-door laminoplasty structural rib allografts versus metallic miniplates. Clin spine surg, 30(5), e523-e529.

Tamrazi, b., pekmezci, m., aboian, m., tihan, t., & glastonbury, c. M. (2017). Apparent diffusion coefficient and pituitary macroadenomas: pre-operative assessment of tumor atypia. Pituitary, 20(2), 195-200.

Tang, a. T., hoi, j. P. C., kotzin, j. J., yang, y. Q., hong, c. C., hobson, n., . . . Kahn, m. L. (2017). Endothelial tlr4 and the microbiome drive cerebral cavernous malformations. Nature, 545(7654), 305-+.

Tang, x., alliston, t., coughlin, d., miller, s., zhang, n., waldorff, e. I., . . . Lotz, j. C. (2017). Dynamic imaging demonstrates that pulsed electromagnetic fields (pemf) suppress il-6 transcription in bovine nucleus pulposus cells. J orthop res, 36(2):778-787.

Theologis, a. A., bellevue, k. D., qamirani, e., ames, c. P., & deviren, v. (2017). Asymmetric c7 pedicle subtraction osteotomy for correction of rigid cervical coronal imbalance secondary to post-traumatic heterotopic ossification: a case report, description of a novel surgical technique, and literature review. Eur spine j, 26(suppl 1), 141-145.

Theologis, a. A., deviren, v., & tay, b. (2017). Temporary fusionless posterior occipitocervical fixation for a proximal junctional type ii odontoid fracture after previous c2-pelvis fusion: case report, description of a new surgical technique, and review of the literature. Eur spine j, 26(suppl 1), 243-248.

Theologis, a. A., jain, d., ames, c. P., & pekmezci, m. (2017). Circumferential fusion for degenerative lumbar spondylolisthesis complicated by distal junctional grade 4

SPONDYLOLISTHESIS IN THE SUB-ACUTE POST-OPERATIVE SETTING. EUR SPINE J, 26(12), 3075-3081.

THEOLOGIS, A. A., MUNDIS, G. M., NGUYEN, S., OKONKWO, D. O., MUMMANENI, P. V., SMITH, J. S., . . . INT SPINE STUDY, G. (2017). UTILITY OF MULTILEVEL LATERAL INTERBODY FUSION OF THE THORACOLUMBAR CORONAL CURVE APEX IN ADULT DEFORMITY SURGERY IN COMBINATION WITH OPEN POSTERIOR INSTRUMENTATION AND L5-S1 INTERBODY FUSION: A CASE-MATCHED EVALUATION OF 32 PATIENTS. JOURNAL OF NEUROSURGERY-SPINE, 26(2), 208-219.

THEOLOGIS, A. A., SAFAEE, M., SCHEER, J. K., LAFAGE, V., HOSTIN, R., HART, R. A., . . . ISSG. (2017). MAGNITUDE, LOCATION, AND FACTORS RELATED TO REGIONAL AND GLOBAL SAGITTAL ALIGNMENT CHANGE IN LONG ADULT DEFORMITY CONSTRUCTS REPORT OF 183 PATIENTS WITH 2-YEAR FOLLOW-UP. CLIN SPINE SURG, 30(7), E948-E953.

THEOLOGIS, A. A., SING, D. C., CHEKENI, F., & DIAB, M. (2017). NATIONAL TRENDS IN THE SURGICAL MANAGEMENT OF ADOLESCENT IDIOPATHIC SCOLIOSIS: ANALYSIS OF A NATIONAL ESTIMATE OF 60,108 CHILDREN FROM THE NATIONAL INPATIENT SAMPLE OVER A 13-YEAR TIME PERIOD IN THE UNITED STATES. SPINE DEFORM, 5(1), 56-65.

TILLANDER, J., HAGBERG, K., BERLIN, O., HAGBERG, L., & BRANEMARK, R. (2017). OSTEOMYELITIS RISK IN PATIENTS WITH TRANSFEMORAL AMPUTATIONS TREATED WITH OSSEOINTEGRATION PROSTHESES. CLIN ORTHOP RELAT RES, 475(12), 3100-3108.

TOOGOOD, P., & MICLAU, T. (2017). CRITICAL-SIZED BONE DEFECTS: SEQUENCE AND PLANNING. J ORTHOP TRAUMA, 31 SUPPL 5, S23-S26.

TORESDAHL, B. G., CHANG, C., CONFINO, J., & ASIF, I. M. (2017). CARDIOVASCULAR SCREENING PRACTICES IN US NATIONAL GOVERNING BODIES AND NATIONAL PARALYMPIC COMMITTEES. BR J SPORTS MED, 51(22), 1639-1640.

URIBE, J. S., BECKMAN, J., MUMMANENI, P. V., OKONKWO, D., NUNLEY, P., WANG, M. Y., . . . GRP, M.-I. (2017). DOES MIS SURGERY ALLOW FOR SHORTER CONSTRUCTS IN THE SURGICAL TREATMENT OF ADULT SPINAL DEFORMITY? NEUROSURGERY, 80(3), 489-497.

VAIL, T. P. (2017). CORR INSIGHTS(A (R)): THE JOHN CHARNLEY AWARD: REDEFINING THE NATURAL HISTORY OF OSTEOARTHRITIS IN PATIENTS WITH HIP DYSPLASIA AND IMPINGEMENT. CLIN ORTHOP RELAT RES, 475(2), 351-352.

VAIL, T. P. (2017). SAME-DAY VERSUS NEXT-DAY DISCHARGE INCREASED PAIN ON THE DAY AFTER, BUT NOT ON THE DAY OF OR FOUR WEEKS AFTER, TOTAL HIP ARTHROPLASTY. JOURNAL OF BONE AND JOINT SURGERY-AMERICAN VOLUME, 99(4), 352-352.

VASUDEVAN, H., BRAUNSTEIN, S., PHILLIPS, J. J., PEKMEZCI, M., WU, A., REIS, G., . . . RALEIGH, D. (2017). COMPREHENSIVE GENOMIC CHARACTERIZATION OF AGGRESSIVE MENINGIOMAS IDENTIFIES MOLECULAR SIGNATURES THAT PREDICT CLINICAL OUTCOMES. NEURO-ONCOLOGY, 19, 92-93.

VENNNETI, S., PANWALKAR, P., CLARK, J., RAMASWAMY, V., HAWES, D., YANG, F. S., . . . JUDKINS, A. (2017). GLOBAL REDUCTION IN H3K27ME3, SIMILAR TO H3K27M MUTANT GLIOMAS, IS A MOLECULAR SURROGATE FOR PEDIATRIC POSTERIOR FOSSA- GROUP A EPENDYMOMAS. NEURO-ONCOLOGY, 19, 200-201.

WANG, Y. M., TIAN, F. M., DANG, A., BUTTE, Z., CHEN, L., KANG, M. S., . . . BIKLE, D. (2017). THE DELETERIOUS EFFECTS OF IGF1 SIGNALING ON THE DEVELOPMENT OF POST-TRAUMATIC OSTEOARTHRITIS. JOURNAL OF BONE AND MINERAL RESEARCH, 32, S111-S111.

WEBER, M. H., FORTIN, M., SHEN, J., TAY, B., HU, S. S., BERVEN, S., . . . DEVIREN, V. (2017). GRAFT SUBSIDENCE AND REVISION RATES FOLLOWING ANTERIOR CERVICAL CORPECTOMY A CLINICAL STUDY COMPARING DIFFERENT INTERBODY CAGES. CLIN SPINE SURG, 30(9), E1239-E1245.

WESTRICK, E., HAMILTON, B., TOOGOOD, P., HENLEY, B., & FIROOZABADI, R. (2017). HUMERAL SHAFT FRACTURES: RESULTS OF OPERATIVE AND NON-OPERATIVE TREATMENT. INT ORTHOP, 41(2), 385-395.

Whitaker, A. T., Berthet, E., Cantu, A., Laird, D. J., & Alliston, T. (2017). Smad4 regulates growth plate matrix production and chondrocyte polarity. Biol open, 6(3), 358-364.

Winkler, E. A., Birk, H., Safaee, M., Yue, J. K., Burke, J. F., Viner, J. A., . . . Mcdermott, M. W. (2017). Erratum to: surgical resection of fourth ventricular ependymomas: case series and technical nuances. J neurooncol, 131(2), 423.

Wong K, Y. P., Mohan R, Choo KJ. (2017). Variability in conflict of interest disclosures by physicians presenting trauma research. World j orthop, 8(4):329-335.

Wong, S. E., Pitcher, A. A., Ding, D. Y., Cashman, N., Zhang, A. L., Ma, C. B., & Feeley, B. T. (2017). The effect of patient gender on outcomes after reverse total shoulder arthroplasty. J shoulder elbow surg, 26(11), 1889-1896.

Wu, C. C., Econs, M. J., Dimeglio, L. A., Insogna, K. L., Levine, M. A., Orchard, P. J., . . . Polgreen, L. E. (2017). Diagnosis and management of osteopetrosis: consensus guidelines from the osteopetrosis working group. J clin endocrinol metab, 102(9), 3111-3123.

Wu, H. H., Liu, M., Patel, K. R., Turner, W., Baltus, L., Caldwell, A. M., . . . Shearer, D. W. (2017). Impact of academic collaboration and quality of clinical orthopaedic research conducted in low- and middle-income countries. Sicot j, 3, 6.

Wysham, K. D., Shoback, D. M., Jafri, K., Patterson, S. L., Schmajuk, G., Imboden, J. B., & Katz, P. P. (2017). Association of anti-cyclic citrullinated peptide seropositivity and lean mass index with low bone mineral density in patients with rheumatoid arthritis. Arthritis & rheumatology, 69.

Xiao, Z., Pea, V., Li, A., Link, T., Sharmila, M., Ma, B., & Li, X. (2017). 3d correlation mapping between changes in cartilage t1 rho and thickness over 1-year after acl reconstruction using atlas-based methods. Osteoarthritis and cartilage, 25, s311-s311.

Young, N. M. (2017). Integrating "evo" and "devo": the limb as model structure. Integr comp biol, 57(6), 1293-1302.

Young, N. M., Linde-medina, M., Fondon, J. W., Hallgrimsson, B., & Marcucio, R. S. (2017). Craniofacial diversification in the domestic pigeon and the evolution of the avian skull. Nat ecol evol, 1(4), 95.

Young, N. M., Roach, N. T., Herfat, S., Rainbow, M., Marmor, M., Feeley, B., . . . Bey, M. (2017). Anatomical determinants of dysfunction inform the evolution of the human shoulder. American journal of physical anthropology, 162, 418-418.

Yuan, B. J., Shearer, D. W., Barei, D. P., & Nork, S. E. (2017). Intertrochanteric osteotomy for femoral neck nonunion: does "undercorrection" result in an acceptable rate of femoral neck union? J orthop trauma, 31(8), 420-426.

Yue, J. K., Sing, D. C., Sharma, S., Upadhyayula, P. S., Winkler, E. A., Shaw, J. D., & Metz, L. N. (2017). Spine deformity surgery in the elderly: risk factors and 30-day outcomes are comparable in posterior versus combined approaches. Neurol res, 39(12), 1066-1072.

Zaborowska, M., Tillander, J., Branemark, R., Hagberg, L., Thomsen, P., & Trobos, M. (2017). Biofilm formation and antimicrobial susceptibility of staphylococci and enterococci from osteomyelitis associated with percutaneous orthopaedic implants. Journal of biomedical materials research part b-applied biomaterials, 105(8), 2630-2640.

Zehra U, B. C., Lotz JC, Williams FMK, Rajasekaran S, Karppinen J, Luk KDK, C Battiê M, Samartzis D. . (2017). Structural vertebral endplate nomenclature and etiology: a study by the issls spinal phenotype focus group. Eur spine j, 27(1):2-12.

Zhong, Q., Pedoia, V., Tanaka, M., Ma, B., & Li, X. (2017). Bone shape changes from baseline to 6-month are associated with cartilage t1 rho & t2 and knee injury& osteoarthritis outcome score at 3-year after anterior cruciate ligament reconstruction. Osteoarthritis and cartilage, 25, s241-s242.

Zhong, z. M., deviren, v., tay, b., burch, s., & berven, s. H. (2017). Adjacent segment disease after instrumented fusion for adult lumbar spondylolisthesis: incidence and risk factors. Clin neurol neurosurg, 156, 29-34.

Zhu, v. W., hinduja, s., knezevich, s. R., silveira, w. R., & delozier, c. D. (2017). A rare case of choroid plexus carcinoma that led to the diagnosis of lynch syndrome (hereditary nonpolyposis colorectal cancer). Clin neurol neurosurg, 158, 46-48.

Zhuang, y., zhang, k., wang, h., wei, x., liu, p., wang, p. F., . . . Kandemir, u. (2017). A short buttress plate fixation of posterior column through single ilioinguinal approach for complex acetabular fractures. Int orthop, 41(1), 165-171.

Zimel mn, h. C., rajasekhar vk, christ ab, wei x, wu j, wojnarowicz pm, wang d, goldring sr, purdue pe, healey jh. . (2017). Hpma-copolymer nanocarrier targets tumor-associated macrophages in primary and metastatic breast cancer. Mol cancer ther, 16(12):2701-2710.

Zou, x. W., hart, b. L., mabray, m., bartlett, m. R., bian, w., nelson, j., . . . Kim, h. (2017). Automated algorithm for counting microbleeds in patients with familial cerebral cavernous malformations. Neuroradiology, 59(7), 685-690.

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