



**DEPARTMENT OF
ORTHOPAEDICS AND REHABILITATION
ANNUAL REPORT**

JULY 1, 2012 – JUNE 30, 2013

Robert C. Schenck, Jr., MD
Professor and Chairman

Vision

The vision of the Department of Orthopaedics and Rehabilitation in The University of New Mexico School of Medicine is our future as the premier provider of orthopaedic care in the southwest is linked to educational excellence and leadership, innovative research and sustainable growth.

Mission Statement

Our mission is to provide exceptional and accessible orthopaedic patient care to all, to improve the lives of our patients, and to advance tomorrow's care through education and research.

Objectives

The goals of the Department of Orthopaedics and Rehabilitation in The University of New Mexico School of Medicine are:

- To provide the highest quality of patient care and to improve patient outcomes
- To commit to educational and developmental excellence for students, residents, fellows and faculty and to public outreach to inform and educate patients and the public
- To invest in and support orthopaedic research with allocated resources and time
- To achieve sustainable expansion through fiscal prudence, operational efficiency and successful capital campaigns
- To elevate our image by informing local and national audiences of our accomplishments, progress and high standards

SIGNIFICANT ACHIEVEMENTS

Education:

- The department successfully graduated 5 Residents and 4 Fellows in Orthopaedic surgery.
- The department increased the Medical Students' participation in its research and educational efforts.
- Actively participated in the SOM teaching and tutoring programs.
- Successfully organized and conducted several workshops and conferences both for internal and external attendees.
- Graduated second group of DPT students successfully.

Research:

- Strengthening cross-campus research endeavors with faculty and students in Civil and Mechanical Engineering departments.
- Residents/Fellows/Graduate Students presented their research papers at the Carrie Tingley Conference in January and at the Annual Orthopaedic Alumni Conference in June.
- The department has both externally and internally funded research projects.
- Dr. Mercer obtained the department's first CTSA grant.
- Published the second Orthopaedic Research Journal.

Clinical:

- Clinical productivity was higher than last year on a year-over-year basis.
- Trauma care is continuing on its mission of providing timely care by efficient coverage and use of the Trauma room in the surgical suite at the Main Hospital.
- Six Physical Therapy Faculty have a clinical practice, ranging from 15-40% of their faculty effort. A formal proposal to begin a faculty clinical practice continues to be under review by the UNMMG.

Operations:

- Fiscal Operations continue to be streamlined allowing process and administrative changes to stimulate growth and improve efficiency
- The process of internally tracking OR schedules, releasing them within the department has increased OR utilization by 20% resulting in significant improvement in patient access and care and resulting increase in operational revenue.

HIGHLIGHTS

- The department has successfully recruited the following Faculty members:
David Chafey, MD – Trauma and Oncology
Brad Blankenhorn, MD – Foot & Ankle
John Austin, MD – Sports Medicine
Ali Zahrai, MD - Spine
- The Annual Alumni Conference, Carrie Tingley Hospital Winter Seminar, and Orthopaedics for the Primary Care Sports Medicine meetings were successfully conducted.
- Physical Therapy students graduated in May, 2013 with a Doctorate in Physical Therapy degree.
- The department published its second Orthopaedic Research Journal – the first research journal in the School of Medicine.
- The department has been integral part of offering clinical service at the newly opened Sandoval Regional Medical Center, since it opened its doors.

FINANCES

Fiscal year 2013 was a year of stable and sustained growth, despite multiple cuts in State Funding. Clinical collections were higher than the budget due to the improved process in OR utilization and increased on a year-over-year basis. wRVUs were also higher on a year-over-year basis with the addition of new faculty members.

The clinical revenues continue to contribute more to the faculty contract salaries & benefits, education program and the department's research and operations.

PATIENT CARE

The Department, in accordance with the HSC strategic plan has established a true academic type of practice, while maintaining the public mission of providing care to the uninsured. The volume of patients served and not covered by any insurance is at 26%. The department was also actively involved in the providing patient care at the Sandoval Regional Medical Center since its opening.

APPOINTMENT AND SEPARATION OF FACULTY AND STAFF

Faculty Appointments:

Brad Blankenhorn, MD – September 2012

David Chafey, MD – August 2012

Ali Zahrai, MD – October 2012

John Austin, MD – January 2013

Faculty Retirement:

None

Faculty Separation:

Ross Arena, PhD – June 2013

Ali Zahrai, MD – March 2013

Staff Appointments:

Sarah Melendez

Amy Dunlap

Staff Separation:

Naticia Tafoya

Staff Retirement:

Linda Rader
Darilyn Martinez

RESIDENCY PROGRAM

The Department has continued to promote excellence in the Orthopaedic Residency Program and associated Fellowships in Hand, Trauma, and Sports Medicine. Twenty-five residents are currently enrolled in the residency program. Five fellowships in Trauma (1) and Sports Medicine (2) and Hand (2) were approved by the ACGME in 2004. All fellowship positions are currently occupied.

The VAMC has seen growth in the Orthopaedic Department to the current level of 6 faculty members. The Orthopaedic Department at UNM has seen the addition of two new faculty members, one each in the specialty areas of Pediatrics and Adult Reconstruction and specialized in Hip Arthroscopy.

A new rotation schedule has transitioned the residents to a more specialty based experience in an effort to better focus educational objectives.

The residency program continues to adapt well to the 80-hour-maximum duty week and has remained in full compliance since the program's inception.

The residents are continuing to utilize the web-based electronic database of the ACGME to log operative cases. The residents are currently logging 1,500-2,000 operative cases prior to graduation.

Faculty, residents and fellows have continued to engage in scholarly activity through local, regional, and national presentations and publishable papers and book chapters. Throughout the program residents are exposed to both clinical and basic science research. Cooperation with faculty members and students from Mechanical and Civil Engineering departments at UNM has further enhanced the research experience.

The major emphasis of the residency program going forward will be to concentrate on optimum incorporation of the ACGME core competencies and improving methods for evaluation of these core competencies. A specific focus will be to continue to enhance the quality of scholarly activity. The recruitment of a research coordinator is aimed at creating the needed infrastructure for facilitating research activities.

CONTINUING EDUCATION

Annual Winter Pediatric Orthopaedic Seminar (Carrie Tingley Hospital Foundation): The 43rd Annual Winter Pediatric Orthopaedic Seminar (Carrie Tingley Hospital Foundation): The Carrie Tingley Winter conference in 2013 was titled “Sprains, Strains, Pills and Tears – A Review of Pediatric Sports and Injuries”. Visiting professors were Jay Albright, MD from the University of Colorado and Kelly Vanderhave, MD from Carolinas Medical Center, both nationally and internationally known experts in Pediatric Orthopaedics. The conference was well attended by local as well as visiting physicians and other medical professionals who were updated on pediatric sports injuries, as well as other timely issues in Pediatric Orthopaedics.

The objectives of the conference were for the participants to be able to:

- Explain the definition of sports related injury
- Understand when a consultation is needed
- Understand treatment of various sports injuries in the pediatric population
- Understand research advances at Carrie Tingley Hospital at UNM

Alumni Conference: The 32nd Annual Alumni Conference of the Department of Orthopaedics and Rehabilitation took place on June 7, 2013. The conference is traditionally designed to provide a review of current techniques in Orthopaedic Surgery, injuries, and reconstruction of the musculoskeletal system. The objectives of the conference this year were:

- To add to the participants’ knowledge of orthopaedic humanitarian and disaster relief efforts and requirements to participate,
- To add to the participants’ knowledge of ICD-10,
- To add to the participants’ knowledge of current healthcare reform,
- To review current trends in rotator cuff surgery,
- To add to the participants’ knowledge of current recommendations in treatment of gunshot wounds, and
- To add to the participants’ knowledge of rehabilitation of severe lower extremity injuries.

As always, the chief residents and fellows presented their research for the year, and the remainder of the day combined didactic style lectures as well as an emphasis on panel discussions with case presentations.

Guest speakers this year were LTC Joseph R. Hsu, M.D. from SAUSHEC San Antonio Military Medical Center at Brooke Army Medical Center and Bruce Reider, M.D. from the University of Chicago.

To keep up with current trends a mini practice management symposium was added to this year’s conference. The speakers included Margaret Skurka from Indiana University Northwest and Pat Hagan, former COO of Seattle Children’s Hospital.

Following is a list of the awards presented:

- Faculty Instructor Elizabeth Szalay, M.D.
- Resident Instructor Dustin Briggs, M.D.
- Academic Achievement Jenna Godfrey, M.D.
- Resident Research Award Aaron Dickens, M.D.
- Omer Student Research Award Lee Swiderek
- Most Helpful Chief Resident Aaron Dickens, M.D.

Practical Orthopaedics in Primary Care and Primary Care Sports Medicine: This course sponsored by the University of New Mexico School of Medicine, Department of Orthopaedics and Rehabilitation and the Office of Continuing Medical Education, are designed to provide a review of current management techniques for acute and chronic diseases and sports injuries of the musculoskeletal system. The emphasis of these courses is on problems encountered in the office or the emergency room by primary care physicians and other health care providers such as athletic trainers, physician assistants, physical therapists, nurses and nurse practitioners. Presentations by department faculty emphasize the initial evaluation and management of common problems along with appropriate criteria for referral to an orthopaedic surgeon or other specialty care. The courses feature traditional lectures combined with small group workshops. The most recent course - Primary Care Sports Medicine - took place in October 2012 and continues to be organized by Chris McGrew, MD.

RESEARCH

The major research and scholarly interests of departmental faculty are focused on the improvement of surgical techniques and the improvement of the teaching of these techniques to our medical students, graduate students, residents and fellows. Anatomical studies, mechanical evaluations, animal research projects and a multitude of clinical research projects are being performed presented and published.

Department research includes intra-mural and extra-mural funded research including the collaboration with other institutions and other departments. We are continuing to expand on Bio-Engineering and computer assisted modeling and simulation techniques, which places the department's interests on the cutting edge of national and international research trends in Orthopaedics. These collaborators and their graduate students have an ongoing series of funded projects that combine the basic science capability of engineering with the clinical expertise of Orthopedics.

Orthopedic faculty have also participated in and contributed to the educational programs of engineering in the form of lectures and thesis reviews and examinations. Below is a sample of the over 30 research projects that the department's faculty, Residents, Fellows and students are involved in.

Research Project Title:

Hand Dominance versus Stick Dominance in Youth Hockey

Principal Investigator: Eric Benson, MD

HRRC#: 12-464

Abstract:

The goal of this study is to determine if the hand dominance of a child playing hockey consistently translates into stick dominance. The hypothesis is that a right hand dominant child will have a greater ability to manipulate a hockey stick in the left stick position (the dominate hand at the end of the stick). We plan on administering self-reported questionnaires (i.e.- Modified Questionnaire for the Evaluation of Handedness, or the Modified Hand Dominance Questionnaire) to children who have never been exposed to a stick sport. We will then have the subjects use a neutral-grip hockey stick (no curve to the blade) to touch two targets placed equidistant in front and to the side of the test subject. The hockey stick blade and each of the two sensors will have a strip of red tape. We will then instruct the test subjects to touch the red strip on the hockey stick blade to the red strip on each of the targets in an alternating fashion as fast as possible. We propose that children who have not been exposed to stick-sports, but show a left or right hand preference will perform more side to side supination/pronation repetitions with a grip that favors their dominant hand at the end of a hockey stick than they will with a grip that involves their non-dominant hand at the end of the stick.

Research Project Title:

The Effect of Time Delay to Surgical Debridement of Open Tibia Shaft Fractures on Infection Rate and the Role of an Orthopaedic Trauma Room: A Retrospective Review

Principal Investigator: Rick Gehlert, MD

HRRC#: 08-588

Abstract:

Multiple institutions have recently implemented orthopaedic trauma operating rooms to expedite operative intervention in urgent and emergent cases. At the University of New Mexico, starting on December 1, 2009, the Orthopaedics Department gained access to such a room. To our knowledge, no study has been performed to evaluate the role of an orthopaedic trauma room to expedite the care of open fractures. We will review all patients that presented with an open tibia shaft fracture within ten years of the establishment of the trauma room from December 1, 1999 to November 30, 2009. We will then compare these results to the first two years of the trauma room from December 1, 2009 to November 30, 2011, including all patients with open fractures. Additionally, we will analyze those patients that presented with closed tibia fractures within one year (one year prior and one year post establishment) of the trauma room as a control group. The primary hypothesis is that there will be no difference in infection rates from those subjects taken to the operating room within 6 hours when compared to those greater than 6 hours from time of injury to operative irrigation and debridement. The secondary hypothesis is that the establishment of an orthopaedic trauma room will expedite the time to formal surgical intervention in our Level I trauma center.

Research Project Title:

Comparison of Tibial Tubercle-Trochlear Groove Distance in Skeletally Immature Individuals with and without Patellar Instability

Principal Investigator: Gehron Treme, MD

HRRC#: 12-198

Abstract:

Tibial tubercle-trochlear groove (TTTG) distance is a useful parameter in patients with recurrent patellar instability. The TTTG distance is calculated by measurements obtained directly from CT or MRI of the knee. Traditionally, a TTTG distance of greater than 20mm suggests that surgical reconstruction should include a distal realignment procedure. Most of the current literature pertaining to the usefulness of TTTG distance for determining surgical treatment is based on studies involving adult populations. To our knowledge, a comparison of TTTG distance in normal children/adolescents and those with patellar instability has yet to be done. This study's goal is to define a relative normal TTTG distance in the pediatric population and to compare TTTG distance in skeletally immature individuals with and without patellar instability. We will retrospectively review all MRI images obtained of children between ages 0 and 18 available in PACs between 2005 and 2012 and their clinical records. Using the data we will calculate TTTG distances for all included patients and define "normal" TTTG distances for this population of patients to determine whether there is a difference related to age and gender.

Research Project Title:

Mechanical Properties and Adjustability of a Novel Triangular External Fixator Configuration

Principal Investigator: Thomas DeCoster, MD

Dept #: 01-062010

Abstract:

Frame construction for tibia external fixators is an important determinant of outcome. When used for definitive fixation, reduction with less than 5mm translation and smaller gaps are associated with reduced healing time and can reduce nonunion. There is potential to improve on current frame design by applying bicycle frame design principles. A novel external fixator configuration developed at UNMH could allow a more stable construct, as well as easier application and adjustability when compared to current constructs. Our study will use composite synthetic tibiae which have been broken in a standardized manner and stabilized with various external fixators for comparison. The different external fixator designs which will be compared are 1) pin-clamp, 2) uniplanar pin-rod and 3) UNM multiplanar triangular designs. The designs will be loaded axially and measured for stiffness out of plane in an MTS device. The tibiae will be mounted to the setup by potting the ends with cement. Proximally, the end will be cemented into a total-knee component. Distally, the end will be potted into a universal joint to simulate the ankle. Stiffness will be measured both with the MTS machine itself and also by measuring distance of deflection out of plane using LVDT devices. The novel triangular UNMH configuration is 1) more stable, 2) more easily applied and 3) more easily adjusted than the comparison external fixator designs currently in common usage. If the novel triangular external fixator configuration is determined to be as stiff as or stiffer than other commonly used configurations, it would be useful since it is less expensive, as it uses only readily available parts and can be built with any brand's most basic components. A unique application is to third world

orthopaedics where only basic components are available and the ability to adjust the construct after placement is paramount as there is usually no intraoperative imaging.

Research Project Title:

Revisiting Brace Use Following Ponseti Treatment for Clubfoot

Principal Investigator: Elizabeth Szalay, MD

HRRC#: 12-118

Abstract:

In 2009, we published an article called “Effect of Cultural Factors on Outcome of Ponseti Treatment of Clubfeet in Rural America,” in which we observed that recurrence of the deformity was overall 26%, which is higher than other published series, and was, alarmingly, significantly higher in Native American patients. The most common factor that predisposes to recurrence of deformity is noncompliance with the bracing regimen. Following this report, the PI significantly changed her educational approach toward the parents, offering much more emphasis on the importance of the brace wear, and emphasizing positive reinforcement for families when the brace was used correctly. Charts, radiographs, and orthotic records for children whose clubfoot treatment was initiated between 2008 and 2010 will be reviewed. Primary information sought will be recurrences of deformity that required either reinstitution of cast treatment or surgical intervention. Brace compliance as documented in the records will be recorded. This information will be compared to data from the original article.

Research Project Title:

Investigation of Infections Occurring after Orthopaedic Surgery at an Academic Ambulatory Surgical Center

Principal Investigator: Robert Schenck, MD

HRRC#: 11-456

Abstract:

The surgical site infection rate at ASCs has been reported to be 0.3% but there are very few studies in the literature. Surgical site infection rates following orthopaedic arthroscopy have been reported between 0.1% and 0.48%. There is very limited information regarding infection outbreak investigations at ASCs and the resultant changes instituted. This is a retrospective case review of surgical site infections following arthroscopy that occurred at UNM OSIS and at the University of New Mexico Hospital between 2002 and 2010. The CMS case definitions of surgical site infections will be used to identify cases. Basic demographic information including age, site of surgery, type of procedure, date of procedure, days postoperatively the infection was diagnosed, diagnosis of the infection, culture results, antibiotic type given and duration will be reviewed on all patients. The outbreak investigation and the results will be described. Interventions which are currently employed to prevent future infections will be outlined and the number of infections related to arthroscopy after the interventions were put in place will be reported. The goal of this study is to retrospectively review a group of patients who had surgical site infections after orthopaedic arthroscopy at the University of New Mexico outpatient ambulatory surgical center (ASC), the subsequent outbreak inquiry and results, and interventions put in place to prevent further infections. We will also discuss new requirements by the Centers for Medicare and Medicaid Services (CMS) for surveillance of infections at ASCs and how they have been implemented at this ASC.

Research Project Title:

Biomechanical Analysis of Pinning Techniques for Pediatric Supracondylar Tibia Fractures

Principal Investigator: Antony Kallur, MD

Dept#: 12-0301

Abstract:

Closed reduction and percutaneous pin fixation is a known and accepted treatment of displaced distal 1/3 tibia shaft fractures in the skeletally immature. However, no studies exist that compare the biomechanical differences between different pin orientations. The purpose of this study was to develop a model of distal tibia fractures to evaluate torsional stability of crossed versus parallel (distal medial to proximal lateral) versus parallel (proximal medial to distal lateral) pin fixations. We would like to determine which construct is most stable. Similar studies have been done, but none specifically on distal tibia fractures. A similar study on pediatric supracondylar humerus fractures was performed at UNM and published in the Journal of Pediatric Orthopaedics. However, the pin configurations were different in that study compared to our study. This study does not apply to adults because the standard of care for adult distal tibia fractures does not involve pin fixation.

Research Project Title:

An Analysis of Orthopaedic and Anesthesia Residents' Accuracy in Assessing Intraoperative Blood Loss during the Immediate Postoperative Period

Principal Investigator: Richard Miller, MD

HRRC#: 12-396

Abstract:

Assessing the amount of blood loss that occurs during surgery is of critical importance. Knowing how much blood is lost allows for physicians to accurately assess a patient's condition. Without correct knowledge of the amount of blood lost during surgery, patient harm may result unnecessarily; therefore, knowing exactly how much blood was lost during surgery can help provide better patient outcomes. In this study, we hope to determine the ability of physicians to correctly assess intraoperative blood loss. We will also assess whether placing a towel or blanket on the floor to absorb blood helps assess blood loss compared to blood on the floor. Residents in the fields of orthopedic surgery and anesthesia will be asked to take part in the study. The principal investigator and other research assistants will set up various stations which simulate blood loss following an operation. No actual blood will be used, but instead corn syrup will be used. There will be a total of nine stations, with three 1). Blood on the floor, 2). Blood soaked white hospital towels, 3) blood soaked white hospital blankets. Each station will contain various amounts of simulated blood, amounts ranging from 50 cc to 1000 cc, which was premeasured in a beaker. Each resident will be asked to analyze the amount of simulated blood loss and record this information on a piece of paper. The data collected from the resident assessments will be used for analysis.

Research Project Title:

Incidence and Classification of Transitional Anatomy of the Lumbosacral Spine Based on Post-Mortem CT Scans

Principal Investigator: Andrew Paterson, MD

HRRC#: 12-241

Abstract:

Transitional anatomy of the lumbosacral spine is well-recognized and a common anomaly. It involves either lumbarization of sacral segments or sacralization of lumbar segments of the spine. Castellvi characterized this phenomenon in 1984 based on myelographic findings in patients with herniated discs. The clinical significance of transitional anatomy is a debated topic. While many authors associate it with low back pain, many have found no association. No study has specifically looked at the incidence of transitional anatomy in a general population. Potential benefits of this study will be to identify the true incidence of transitional anatomy of the lumbosacral spine. We also hope to be able to describe transitional anatomy of the lumbosacral spine in further detail. We plan to review post-mortem CT scans of those subjects undergoing whole body CT scans through the Office of the Medical Investigator. The CT scans will be reviewed by an attending radiologist as well as a fellowship trained orthopaedic surgeon to identify and classify transitional anatomy. Transitional anatomy will be classified by the system described by Castellvi. Subject with a fracture, tumor, or infection of the spine or pelvis that distorts the lumbosacral anatomy will be excluded.

Research Project Title:

Long Term Follow-Up of Hemi-Trapeziectomy with Palmaris Longus vs Local Soft Tissue Interposition for the Surgical Treatment of Basal Joint Arthritis

Principal Investigator: Moheb Moneim, MD

HRRC#: 10-563

Abstract:

Various techniques for the treatment of basal joint arthritis have been assessed in the literature. These include arthrodesis, various techniques of ligamentous interposition to reconstruct the carpometacarpal joint of the thumb and multiple prosthetic implants, including silicone hemiarthroplasty, as well as total joint arthroplasty. So far no study has looked at the long term outcome of the use of local soft tissue interposition and hemi-trapeziectomy in the treatment of thumb basal joint arthritis. The purpose of our study is to evaluate the results of this technique compared to the technique previously used by the principal investigator. This is a retrospective follow-up of patients who have undergone the techniques of hemi-trapeziectomy with palmaris longus interposition and hemi-trapeziectomy with local soft tissue interposition in the treatment of thumb basal joint arthritis. A comprehensive physical exam including grip strength, pinch strength, two point discrimination, and range of motion will be recorded and compared with pre-operative values for study participants. A DASH questionnaire comparing the preoperative and postoperative condition will then be filled out by the patient and a score will be determined.

Research Project Title:

Comparison of Techniques for Hip Spica Cast Application for Femoral Shaft Fractures in Children: Long-Term Follow-up

Principal Investigator: Selina Silva, MD

HRRC#: 12-365

Abstract:

Treatment of femoral shaft fractures in children is not clear cut and varies depending on the patient's age, fracture pattern, weight, and other medical problems. In children younger than one year of age, femoral shaft fractures have huge potential for remodeling and often a pavlik harness can be used. Once a child is near one year of age and up to 6 years of age the treatment of choice is a hip spica cast. The focus of this study will be on the use of a hip spica cast for treatment of femoral shaft fractures in children aged 1-6 years old. One of the CTH surgeons uses a specific technique for application of the hip spica cast that the other pediatric orthopaedic surgeons do not. We plan on evaluating the rates of malalignment, future limb length inequality problems, and other complications between the children treated by that one surgeon and the children treated by the other surgeons. Patients will be identified using CPT codes for hip spica cast placement. Charts will be reviewed to identify subjects meeting the inclusion criteria. Patients meeting the inclusion criteria will have their basic demographic information recorded, fracture type, shortening and angulation during their treatment period, complications, and any limb length discrepancy or malalignment. We will also record if the casts needed to be changed or wedged during their treatment for any reason. We will ask patients to return to CTH for a single radiograph (a joint survey) for final long term follow-up.

Research Project Title:

Clinical Outcomes of Bankart Repair in a Pediatric Population: Minimum 2 Year Follow-Up

Principal Investigator: Andrew Veitch, MD

HRRC#: 11-342

Abstract:

Shoulder instability and dislocations are common orthopaedic problems and are associated with significant morbidity, including pain, dysfunction, recurrent dislocations, and difficulty performing work-related tasks, activities of daily living, and athletic participation. Both operative and non-operative treatment options are available and commonly employed. There is variation among providers regarding which patients would benefit from surgical versus non-surgical treatment. Currently, there is not a universally agreed upon algorithm for treating patients with shoulder instability. The literature contains numerous studies on adult patients with shoulder instability but nearly none on those in a pediatric population. This is a prospective cohort study using four assessments of functional outcomes, a questionnaire, and possible clinical follow-up of pediatric patients who are treated for shoulder instability.

Research Project Title:

Clinical Outcomes of Knee Dislocation: 2-10 Year Follow-Up

Principal Investigator: Daniel Wascher, MD

HRRC#: 09-404

Abstract:

Traumatic knee (tibiofemoral joint) dislocation is an uncommon but potentially devastating orthopaedic injury. Although exceptions have been reported, the hallmark of this injury is rupture of both cruciate ligaments, usually associated with a collateral ligament tear. Popliteal artery disruption can occur in up to 32% of these injuries and can lead to the necessity of amputating the extremity. Associated meniscal tears, osteochondral fractures, and nerve injuries are common. Thus, treatment of the dislocated knee may be the greatest challenge knee surgeons

encounter. However, because of the low incidence of knee dislocations, there are very few studies addressing clinical outcome with an adequate number of patients and follow-up. We will collect information related to knee pain, function, and stability in patients who sustained a multiligamentous injury of the knee and were seen at UNMH between January 1, 1999 and December 31, 2006 and identify and compare factors that significantly impacts the clinical outcome of patients sustaining knee dislocations.

Research Project Title:

Radiographic Prevalence of Concomitant Scaphotrapezoidal and Thumb Basal Joint Osteoarthritis

Principal Investigator: Deana Mercer, MD

HRRC#: Submission Pending

Abstract:

Our purpose is to determine the radiographic prevalence of scaphotrapezoidal osteoarthritis occurring with thumb basal joint osteoarthritis as described in Eaton's 4-stage classification system for thumb basal joint osteoarthritis, since scaphotrapezoidal involvement could change the surgical treatment plan. Our hypothesis is that concomitant scaphotrapezoidal and thumb basal joint osteoarthritis is uncommon. Orthopedic hand attendings, hand fellows, and residents will review extant digital radiographs of the wrist and apply the Eaton classification, which includes noting if there is scaphotrapezoidal osteoarthritis with the thumb basal joint osteoarthritis

DIVISIONS

Division of Hand Surgery: Dr. Tahseen Cheema continued as the Chief of the Hand Division. Dr. Deana Mercer joined Dr. Moheb S. Moneim and Dr Elizabeth Mikola in the Division. Dr. Mikola and Dr. Mercer are responsible for the educational content & the assignments of the fellows and the residents rotating on the Hand service. All the faculty members have a very busy clinical practice.

Education:

The residents benefited greatly by having a dedicated rotation on the Hand Service during their PGY 2 and 4 years. A dedicated time in the microsurgery laboratory under the supervision of Robert Cipoletti continues to teach by Residents, Fellows and Faculty in the department the techniques of Microsurgery. The Fellowship program had a successful 2010 match and the two positions were filled.

The Division continues to provide the Fellows and the Residents with comprehensive educational experience in all aspects of Hand Surgery including replantation and free tissue transfer. The hand service covers the hand topics throughout the resident teaching curriculum and presents at Grand Rounds periodically.

Division of Pediatric Orthopaedics (Carrie Tingley Hospital): Three Orthopaedic residents rotate through the service, and we frequently host residents electively rotating from pediatric, family practice, and radiology services. Pediatric Orthopaedics is a popular rotation for medical students. Formal academic activities include Monday 7 a.m. post-op and pre-operative rounds with Pediatric Radiologist Dr. Susan Williamson, 6:45 a.m. Wednesday morning didactic, monthly pediatric fracture conference, and quarterly pediatric journal club. Residents are required to do a pediatric research project that will be presented at a Carrie Tingley Winter Conference and should be suitable for publication in a peer-reviewed journal.

Division of Sports Medicine: With Drs. Schenck, Wascher, Veitch, Treme, and McGrew, the division's clinical activity is solidly anchored around the Division's Lobo Sports Medicine Clinic (Lobocare) providing athletic care and treatment to all UNM athletic teams. The Division added Dr. John Austin to build the sports medicine program at Sandoval Regional Medical Center.

The Division of Sports Medicine graduated two sports medicine fellows. Research activities continue to grow with studies of knee dislocations and multiple ligamentous knee injuries, functional return after ankle reconstructions, and interdepartmental research projects with physical therapy and the athletic department at the University of New Mexico. The Division continues to fund travel and research for Orthopaedic residents, fellows, and students at the University of New Mexico.

Future goals of the division include continued growth of clinical and research activity with continued educational activities with orthopaedic residents and fellows.

Division of Spine Surgery: The Division of Spine Surgery with Dr. Andrew J. Paterson and Dr. Antony K. Antony has been providing excellent care to the patient population.

The division continues to be active in education and in patient care. Teaching occurs in our clinics and in the operating room, and includes the education of UNM medical students and residents, as well as rotating medical students from other institutions who are interested in Orthopaedic surgery. The Division actively participates in Friday morning conferences and in a number of other teaching conferences and, of course, Grand Rounds.

Division of Orthopaedic Trauma Surgery and Fellowship: The Orthopedic Trauma Fellowship continued in its seventh year. It is ACGME accredited and supported and has been successful at attracting excellent candidates and providing exceptional advanced training. All of our graduates are currently practicing orthopedics with an emphasis on trauma and one has returned to the region to practice. The fellowship was recently reviewed and re-accredited for the maximum five years. The fellows have been active in research and scholarly activity in addition to learning and providing clinical care as part of our very busy orthopedic trauma service at UNM. The division recruited Dr. David Chafey to join the group and is in the process of recruiting another trauma faculty member.

Physical Therapy Program:

Significant developments during the year

Currently, the program has 29 DPT students beginning the third year, 29 DPT students beginning the second year and 30 DPT students started the first year of the DPT curriculum on August 19, 2013. The third year group lost one student in the first year due to academic inadequacies. The second year group lost one student during the summer clinical rotation between the first and second year. All other students have succeeded academically over this last year. Therefore, of the 90 students who entered the program over the past three years, 88 are still progressing, passing all examinations and requirements, for a matriculation rate of 97.7%. The 26 students who graduated in 2013 took the PEAT comprehensive examination in May of 2013. Six of the 26 students were required to take the exam a second time (scores < 65% first attempt) for a first time pass rate of 77%. Five of these six passed on the second attempt, the sixth required a third attempt to pass. This exam is a preparatory exam for the National Licensure – NPTE. The NPTE passing score is 75%. However, we have found that scores in the 65% - 70% range are appropriate at the end of the third year of the program as a preparatory step in studying for the actual NPTE Exam after graduation.

Significant plans and recommendations for the near future

We will be actively seeking a full time Division Chief. We are actively seeking a full time open track position to teach gerontology, pharmacology, and differential diagnosis. We are up for accreditation. This is a 10 year cycle, and we are to start the “Self Study” in January of 2014.

PLANS FOR THE FUTURE

The department of Orthopaedics continues to grow with the recruitment of more faculty and expanding its services within all divisions in the department. The department is continuously working on ensuring our care is patient centered with shared decision-making, focusing on the needs of patients and the multiple cultures which exist in New Mexico and the Southwest. Utilizing the newly opened Sandoval Regional Medical Center our clinicians can treat patients effectively with this added UNM facility. Our clinicians provide compassionate care now at three main facilities allowing even greater access to care for our patients.

Patient care continues to drive the department and Orthopaedics is fortunate to have the opportunity to care for multiple patient populations locally and regionally. Our vision still involves the concept of a single-site Orthopaedic Center where all UNM Orthopaedic providers (Surgeons, Nurses, Physician Assistants, Nurse Practitioners, and Therapists) can work together eliminating patient inconvenience and significantly improving patient safety and outcomes. Regardless, we in Orthopaedics focus on the present and utilize the resources and facilities that are available today.

As Chairman of the Department, I continue to see excellence in our residency program. Our program director, Gehron Treme, MD, has instituted several changes both externally required through the ACGME (goal based education, for example) and internally through creative ideas from residents and faculty. Our focus is to continue to recruit talented medical students with diverse backgrounds to not only train as orthopaedic surgeons, but also show them the beauty of New Mexico and in turn, support their eventual practice in New Mexico. Remarkably, we have added a significant number of Orthopaedic Surgeons to the physician workforce in New Mexico. As Chairman, I continue to see the excellence of spirit and harmony of all of our faculty, residents, students, and staff. In my humble opinion, UNM Orthopaedics remains to be an outstanding place to work and learn, be it faculty, resident, mid-level, staff, or student.

Lastly, UNM Orthopaedics continues to grow in its production of quality research. We are product focused and continue to utilize the expertise of faculty and energy and intellect of the residents to build on UNM Orthopaedic Research. This process of creating a research day in our monthly education process has been a productive strategy for the research initiatives in the department. Furthermore, starting the resident earlier in her career at UNM Ortho has added to the overall growth in ideas and publications.

CONTRACTS & GRANTS

Szalay, E, Bracing in Adolescent (BrAIST), National Institutes of Health,

DeCoster, T, New approaches to assessing the risk for post-traumatic osteoarthritis, National Institutes of Health.

DeCoster, T, Allograft Study, Lovelace Clinic Foundation.

Dieruf, K. The Effect of the GivMohr Sling on Gait in Subjects with Hemiplegia.

Gurney, B. NIH ROI, Exercise interventions during voluntary weight loss in obese older adults.

Arena, R. Contract with Langford PT for clinical service by PT faculty.

Treme, G. Educational Grant from Synthes USA.

Treme, G. Educational Grant from Stryker/Liebinger, Inc.

Treme, G. Educational Grant, SWOTA.

Schenck, R.C. Jr. Sustain Level 1 Trauma Center, DOH State of New Mexico.

Wanta, P, Zuni Health Initiative - Exercise Intervention Study. \$5,248.00.

Wascher, D. Educational Grant for Endoscopy and Sports Medicine Fellowship, Orthopaedic Research & Education Foundation, \$26,400.00.

Wascher, D. Educational Grant for Endoscopy and Sports Medicine Fellowship, Smith and Nephew Inc., \$30,000.00

FACULTY COMMITTEE MEMBERSHIPS, PEER REVIEWS OR EDITORSHIPS

Andrews, Ron

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SOM Senate Graduate Committee, Member

Arena, Ross

UNMHSC Health and Wellness

UNM DPT Admissions, Curriculum and Accreditation

UNM HSC Sub committee for Master Planning

American College of Sports Medicine – Chair of Ethics and Conduct Committee

American Heart Association – Chair of Scientific Statement Writing, Chair of the Cardiac Rehab

Secondary Prevention and Exercise Committee

Clinical Cardiology Leadership Council

American Association of Cardiovascular and Pulmonary Rehabilitation

American Physical Therapy Association – Member of Research Intensive Physical Therapy Program Committee Consortium

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Orthopaedic Residency Reaccreditation Committee, Member

Residency Oversight Committee, Member
Southwest Orthopaedic Trauma Association, Member
Department of Orthopaedics Executive Committee, Member

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Department Admissions, Co-Chair
Department Convocation, Chair
Department Diagnostic and Therapeutic Sciences Committee, Chair

Dieruf, Kathryn, A.

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Other Rio Grande Division Ethics Committee, Member
Other Sandia Hospice, Albuquerque, NM, Member

Echols, Paul

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Department Resident Selection Committee, Member
HSC Clinical Care Committee, Member
HSC Medical Director, 3 - south
HSC Operating room workgroup, Member
HSC Trauma MDQI, Orthopaedic Surgery Representative, Member
HSC Tricare West Credentials Committee, Member
American Academy Orthopaedic Surgeons, Member
Greater Albuquerque Medical Association, Member
New Mexico Medical Society, Member
New Mexico Orthopaedic Assn., Board of Directors, Member
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National Athletics Trainers Association Educational/Curriculum Task Force, Member
SOM Advisor to Sports Medicine Interest Group, Member

SOM Teacher Development Task Force, Member

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Department Orthopaedic Residency Selection, Member
American Society for Surgery Of The Hand, Member

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HSC Physician Advisory Group, Member

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American Association of Physicians and Surgeons, Member
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NM Medical Society, Member
New Mexico Orthopaedic Association, Member
Southwest Orthopaedic Trauma Association, Member

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American Academy of Orthopaedic Surgeons, Member
ABJS Membership Committee, Member
American Society for Sports Medicine, Member
Arthroscopy Assoc of North America, Member
Magellan Society, Member
State of New Mexico Workers' Compensation Administration Advisory Committee, Member
SOM Committee of Chairs, Member
SOM Medical Executive Committee, Member

SOM OR Executive Committee, Member
SOM UNMMG Board Member

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HSC Dept of Orthopaedics Peer Review Liaison, Member
HSC Medical Records Committee, Member
Ruth Jackson Orthopaedic Society, Member
Alamo Orthopaedic Society, Member
American Academy of Orthopaedic Surgeons, Member
Greater Albuquerque Medical Group, Member
International Society for Clinical Densitometry, Member
New Mexico Medical Society, Member
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POSNA Public Education and Media Relations Committee, Member
Pediatric Orthopaedic Society of North America, Member
UNM SOM Science Advisory Council, Member

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American Academy of Orthopaedic Surgeons, Member
New Mexico Orthopaedics Association, Member
Traveling Fellowship Committee, Member
American Orthopaedic Society for Sports Medicine, Member
SOM Patient Education Committee, Member
SOM Patient Referral Guideline Committee, Member
SOM Residency Selection Committee, Member
Taos Orthopaedic Institute Research, Member

PUBLICATIONS

Lecker SH, Zavin A, Cao P, **Arena R**, et al. Expression of the irisin precursor FNDC5 in skeletal muscle correlates with aerobic exercise performance in patients with heart failure clinical perspective. *CircHeartFailure*. 2012;5(6):812-818.

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