

Aspire to Inspire

**SIU School Of Medicine
Division of Orthopaedic Surgery
Annual Research Report**

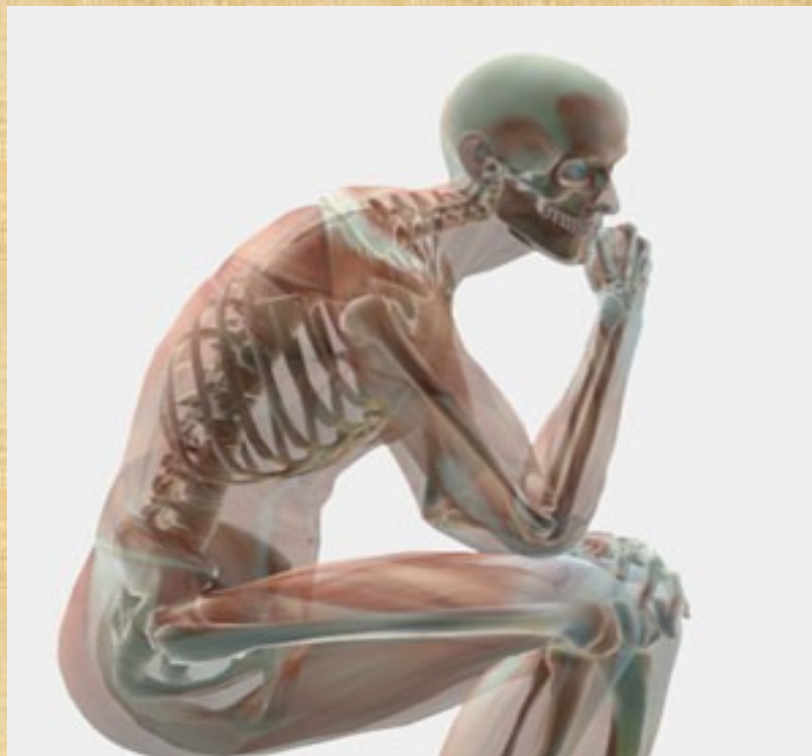


Table of Contents

Three Trends in Healthcare Today	3
Orthopaedic Research Executive Committee	3
Serum Titanium and Niobium Levels Following Flexible Intramedullary Nail Insertion in Pediatric Population	4
Pain Management after Total Joint Arthroplasty: A Multi-Modal Approach	4
Does Insurance Equal Access to Care?	4
Grants and Awards Received	5
Fast Fun Facts	5
Goodbye and Hello	5
The Quest for Quality: Putting Patients First	6
Quality Quips: The Future of Quality in Health Care	6
Quality Quench: Increasing Patient Satisfaction	7
Quality Quakes: The Orthopaedic Quality Improvement Committee	7
Quantifying Quality: Creating Additional Access and Gaining Market Share	8
2010-2011 Residents	9
Faculty Research Achievements	10
Research Fellows and Staff	10
Resident, Faculty, and Staff Presentations	11-12
Resident, Faculty and Staff Publications	13

Three Trends in Healthcare Today

Although healthcare is a widely discussed topic in today's society, three current healthcare trends exist that focus on patient satisfaction and overall quality of care as compared to the past. The three current healthcare trends are evidence based medicine (EBM), comparative effectiveness, and patient-centered care. EBM is the "conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients" (Sackett et al., 1996, BMJ). Further, evidence based practice is the integration of the best evidence from research with clinical expertise and patient values (Henley et al., 2008, JBJS). EBM is becoming more evident with the pay-for-performance attitude of the new health care initiatives. The Division of Orthopaedic Surgery has become increasingly involved in evidence based medicine with research. For example, Dr. Evan Armington (PGY3) is working on a project entitled "Serum Titanium and Niobium Levels following Flexible Intramedullary Nail Insertion in Pediatric Population."

The second trend, comparative effectiveness, is the ability of clinicians and patients to make informed decisions about the health care based on research that proves which treatments work and for which type of patients (www.hhs.gov/recovery). Comparative effectiveness, often called patient-centered health research, compares the pros and cons of various healthcare strategies to help prevent, diagnose and treat health conditions (www.hhs.gov/recovery). The Division of Orthopaedic Surgery strives to focus on comparative effective research in order to improve patient satisfaction. As such, a current resident research project being completed by Dr. Kevin Sharif (PGY1) is entitled "Pain Management after Total Joint Arthroplasty: A Multi-Modal Approach."



Finally, the third healthcare trend is patient-centered care. According to the Institute of Medicine, patient centered care is the respectful healthcare relationship between physicians and individual patients to ensure that patient values guide all clinical decisions. The aspects of patient-centered care involve education prior to treatment, a comfortable wellness environment for patients and family, during inpatient care, management of pain and nausea, flexible and streamlined discharge, and patient engagement programs to help patients celebrate their journey to wellness (2011 AADS Annual Meeting Instructional Course Lecture). Several Division of Orthopaedic Surgery residents have worked on projects that focus on patient satisfaction and overall quality of care. For example, a current resident research project being completed by Dr. John Froelich (PGY5) is entitled "Does Insurance Equal Access to Care?" For more details about the resident projects mentioned, see page 2.

"The conduct of research is critically important to the mission of SIU SOM and the Division of Orthopaedic Surgery. Research activities within the Division support the delivery of high quality care and provide patients with alternative treatment options not widely available."

**— Dr. Khaled J Saleh,
Professor and Chair,
Division of Orthopaedics &
Rehabilitation,
Director of Clinical and Translational Research**

Orthopaedic Executive Research Committee

The Division of Orthopaedic Surgery has invested significantly in its research infrastructure in the past 12 months. Besides recruiting new faculty and staff, the Division has created an Orthopaedic Research Executive Committee (OREC) that meets monthly. The OREC meetings, which are comprised of core faculty members and research staff, allow for new and existing research projects to be discussed in a supportive and encouraging environment.

Before a resident can begin a research project, OREC must approve it. With the approval, OREC members are agreeing to further support the research project by providing guidance and necessary resources. In

accordance with OREC, the Division's Research team has created a Research Activity Progress and Information Database (RAPID) that allows OREC members to see which projects are ongoing and where they could potentially help improve the success of projects.

Since the inception of OREC, in August 2010, Orthopaedic Surgery staff and faculty feel that there is more fluid and open communication about research projects, while the residents feel that they can easily turn to their peers or mentors for help in the research process. OREC attendees come from a diverse background: orthopaedic surgery, plastic surgery, endocrinology,

radiology, overall operations of Memorial Health System, and the Center for Clinical Research. Thus, OREC has allowed the Division of Orthopaedic Surgery to go beyond the minimum research requirement for residents and enable them to succeed!!



**To desire is to obtain;
To aspire is to achieve**

-James Allen

Newer titanium nails alloyed with niobium have a lower incident of corrosion and thus are often used.

Serum Titanium and Niobium Levels Following Flexible Intramedullary Nail Insertion in Pediatric Population

During the last decade, dramatic increases in the use of metallic implants have fueled concern for metal ion release and what, if any, systemic complications arise. Long bone fractures in children are often treated with flexible intramedullary (IM) nailing, made of either stainless steel or titanium. Newer titanium nails alloyed with niobium have a lower incident of corrosion and thus are often used. Armington et al.'s study is in the preliminary stages of research, as they were anxiously awaiting the grant from the Department of Surgery (see page 3).

This study will determine if serum titanium and/or niobium concentrations are elevated in pediatric patients who undergo flexed IM nailing of long bones. Using a control and experimental group, Armington et al. will draw blood from patients who are undergoing scheduled hardware removal. The preliminary study, with the current funding that they have, will consist of a pilot study using 13 patients. The blood samples will be evaluated at an overseas lab and the results will be statistically evaluated. Dr. Armington has also applied for additional funding for this study, which would allow for the use of

patients as their own control by drawing blood at time of insertion and removal of flexible IM nails.

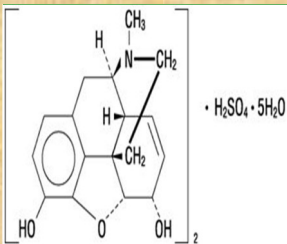
Pain Management after Total Joint Arthroplasty: A Multi-Modal Approach

With every surgery comes the issue of patient pain management and satisfaction. Due to the healthcare reform, insurance payers are going to look at indicators of quality of care, such as patient satisfaction, for physician reimbursement. By failing to adequately manage pain, the patient may not participate in physical therapy in a timely manner, may have a prolonged hospital length of stay, and may have an increased risk of nosocomial infections.

While there are various methods to control pain, such as general systemic opioids and regional blockades, this study looked at various medical record variables, such as type of anesthesia and its route, total opioid consumption and patient-reported pain rating, and hospital length of stay in order to determine which method of anesthesia provided better post-operative pain control management.

plasty in a month period. Sharif et al. found that intra-operative intrathecal morphine sulfate decreases early and last post-operative patient reported pain scores. In the future, Sharif et al. hope that their study helps to standardize pain management and improve patient satisfaction.

After reviewing 693 charts of those who underwent total joint arthro-



Does Health Insurance Equal Access to Care?

Due to the changing landscape of medicine, new questions have arisen regarding patient access to care. Froelich et al. evaluated the influence of patients' insurance provider on their ability to gain access to orthopaedic care based on the distance traveled to be seen. They found that patients with Medicaid, followed by Medicare traveled a longer distance to see an orthopaedist when compared to Medicare, private pay, and commercial payer

type. After reviewing all new patient encounters at a general and upper extremity orthopaedist for a six-month period at an academic tertiary referral clinic. Froelich et al. found a significant difference in the distance traveled by patient to access orthopaedic care in central Illinois, dependent on their insurance provider. Thus, having insurance doesn't always equal access to care; rather, the type of insurance impacts access to care. Froelich et

al. believe that future studies should focus on patients' burdens due to their insurance status in order to understand and improve the relationship between having insurance and gaining access to care.



Grants and Awards Received for Research Projects

The Division of Orthopaedic Surgery received three grants to further support and enhance the education and success of SIU SOM fellows, residents, faculty and staff for the next academic year.

On February 15, 2011, the Division received a \$75,000 grant from the Orthopaedic Research and Education Foundation (OREF) for Graduate Medical Education Spine Care Fellowship. This grant will allow the Division to have a spine fellow for one year. The Division also received a \$5,000 grant from OREF for Residency Enhancement, Visiting Professor(s). This grant will allow the

Division to enhance participation and learning by the residents and faculty through direct interaction with leaders in the Orthopaedic field. Finally, Dr. Evan Armington received a \$2,500 grant from the Department of Surgery. This grant will allow Dr. Armington to complete the pilot study for his project entitled "Serum Titanium and Niobium Levels in Pediatric Patients Following Flexible IM Nailing."

Further, three residents received awards at regional/local conferences for their outstanding research. Dr. Kevin Sharif (PGY1) received the 2nd place prize at the

OREF Resident Research Symposium in March 2011 for his project entitled "Pain Management after Total Joint Arthroplasty: A Multi-Modal Approach." Dr. John Froelich (PGY5) received best poster at the 10th Annual Department of Surgery Resident Research Day for his project entitled "Does Insurance Equal Access to Care?" Dr. Jacob Sams (PGY3) received the 3rd place prize at the SIU SOM 21st Annual Research Symposium for his project entitled "Redefining Revision Total Hip Arthroplasty Based on Hospital Admission Status."



Fast Fun Facts about Orthopaedic Surgery Research

The 2010-2011 academic year has been successful for the Division of Orthopaedic Surgery residents, faculty, and staff. The Division has had:

- **3** grants for continued support and education for 2011-2012;
- **12** manuscripts accepted or published in reputable orthopaedic journals;

- **13** local and national meetings that abstracts were accepted and presented at;
- **17** residents involved in research ;
- **48** presentations given at local and national meetings;
- **61** people collaborated on research projects;
- **31,220** miles were traveled to present research;
- **\$82,500** received in grants



In the 2010-2011 academic year, SIU SOM residents and faculty gave 48 research presentations at local or national meetings

Goodbye and Hello

The Division of Orthopaedic Surgery extends a warm goodbye and good luck to the four PGY5 residents. Drs. John Froelich, Roxanne Keene, Matt Mai, and Aaron Pemberton have worked tirelessly to not only become excellent orthopaedic surgeons but also inspirational leaders amongst their peers.

Dr. Froelich will be completing a one year hand fellowship at Mayo Clinic. Dr. Keene will be moving back to her home town in North Dakota and working in private practice. Dr. Mai will be an attending orthopaedic surgeon in Fort Walton Beach, Florida. Dr. Pemberton will be completing a one year traumatology fellowship at Case Western.

Starting July 1, 2011, Drs. Ryan Beck, Kaya Jackson, and David Pope will begin their 5 year residency at SIU SOM Division of Orthopaedic Surgery. The Division of Orthopaedic Surgery extends a friendly hello to these three incoming PGY1 residents.



Quality Rising Above the Quo

Defining the Standards of Excellence

The Quest for Quality

Putting Patients First

Recently, quality has become a popular term in the health care industry. Everyone is talking about quality improvement, quality control, and how to make a quality experience for patients. The term quality is defined by Merriam-Webster's dictionary as a degree of excellence. However, the definition of quality, in terms of health care, is more complex. The Institute of Medicine defines quality as "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." In simpler terms, quality in health care is the degree to which medical professionals and supporting teams provide the patient with safe treatment. This treatment should be in a timely manner, in a comfortable environment, and the provider should be using the best education and technology available.

In the Division of Orthopaedic Surgery at Southern Illinois University School of Medicine, quality is very important and a top priority. Each day, the Southern Illinois University School of Medicine Division of Orthopaedic Surgery (SIU Orthopaedics) clinic and medical teams strive to give patients and their families superior care. Patient-centered care is a new term in the field of health care, yet it is not a new idea or process.

Patient-centered care is a new term relative to quality in health care. Patient-centered care is defined by the American Academy of Orthopaedic Surgeons (AAOS) as "the provision of safe, effective, and timely musculoskeletal care achieved through cooperation between the orthopaedic surgeon; an informed, respected patient (and family);



and a coordinated health care team." Patient-centered care is a shift from disease-centered care, which is the method that most practices utilize. These practices treat the disease or ailment of a patient by using the treatment or method the provider deems appropriate with little or no collaboration between his or herself, the patient and his or her family, and the medical staff. With patient-centered care, the provider includes the patient in the decision making process with regards to the patient's method of treatment. The provider solicits the patient's opinion, takes into account the activities or lifestyle of the patient, and provides education and options regarding the different,

available methods. The medical staff is also heavily involved in the patient's care by using a team-based approach to supply care. When the patient is profoundly involved in the care, this allows him or her to seek opinions from family and friends in order to choose the best route for the individual patient.

"Each day our clinic and medical teams strive to give our patients and their families superior care."

Trying to find the balance between providing individualized care, while still using standardized process and procedures is one goal of SIU Orthopaedics and practices across the nation. Patient-centered care is not something that will magically happen overnight. SIU Orthopaedics is going to continue working on providing effective and safe care, using a team-based approach. Unfortunately, patient-centered care cannot be described quantitatively to track progress. However, other mediums such as patient-satisfaction scores, cycle-time studies, and other various surveys can provide evidence-based quantitative results. SIU Orthopaedics expects to see an increase in patient satisfaction scores, shorter wait times, and less patient complaint volume as direct results of implementing patient-centered care. SIU Orthopaedics looks to make incredible strides over the coming months in patient-centered care.

Quality Quips

The Future of Quality in Health Care

Quality has become a hot topic amongst several groups in the health care industry. Government bodies, patient advocacy groups, and insurance companies have all developed an interest in quality. Their interests include cost-saving measures, creating safer care environments, and increasing access to information and education. In March 2011, the United States Department of Health and Human Services released the *National Strategy for Quality Improvement in Health Care* as a result of the Affordable Care Act. The purpose of the Affordable Care Act is to increase access to high-quality, cost-effective health care to the nation. The strategic plan established national aims and priorities to guide this effort. In order to meet these goals and expectations, the National Quality Strategy selected six priorities to focus on initially.

These priorities are:

- Safer care by reducing errors caused by medical staffs
- Each person and family work together collaboratively to ensure quality care
- Better communication and coordination of care
- Researching and using the most effective treatments for the causes of mortality (the first to be focused on is cardiovascular disease)
- More partnerships and relationships with the community to create a healthier environment
- More affordable care by standardizing and creating new methods and models of care

The Division of Orthopaedics has not yet created a formal strategic plan to address these national aims, although the division is moving towards a more team-based nursing approach. Collaboration and communication continue to be a work-in-progress across SIU School of Medicine and SIU HealthCare. The research-based mission allows the providers to provide patients with innovative treatment and procedures. In addition to these goals, SIU Orthopaedics has become rather active in the community with events directed towards the public on topics of arthritis, as well as sponsoring a triathlon event in July 2011.

While SIU Orthopaedics continues to provide our community with the best, safest, and most effective care possible, a goal for fiscal year 2012 will be addressing these national efforts in the near future.

Quality Quench

Increasing Patient Satisfaction

As a whole, SIU HealthCare measures patient satisfaction twice a year. The Department of Surgery has elected to also conduct a patient satisfaction survey twice a year. Therefore, surgery patients are filling out patient satisfaction surveys every three months. In the Division of Orthopaedic Surgery, patient satisfaction is a top priority, not just as a quality measure, but as a means to evaluate the care that the providers give to patients.

Since 2010, SIU Orthopaedics has increased many of the measures concerning patient satisfaction. Orthopaedics established a benchmark of a 90% patient satisfaction rate or a score of 4.5 out of 5. The graph shows improvement is apparent from 2010 to 2011 with Staff Friendliness and Provider Friendliness increasing drastically and surpassing the benchmark. In addition, there are other measures that SIU Orthopaedics continues to work on in order to meet, and eventually exceed, the benchmark in categories such as Ease of Appointment, Ease of Phone Advice, and Satisfaction with Wait Time.

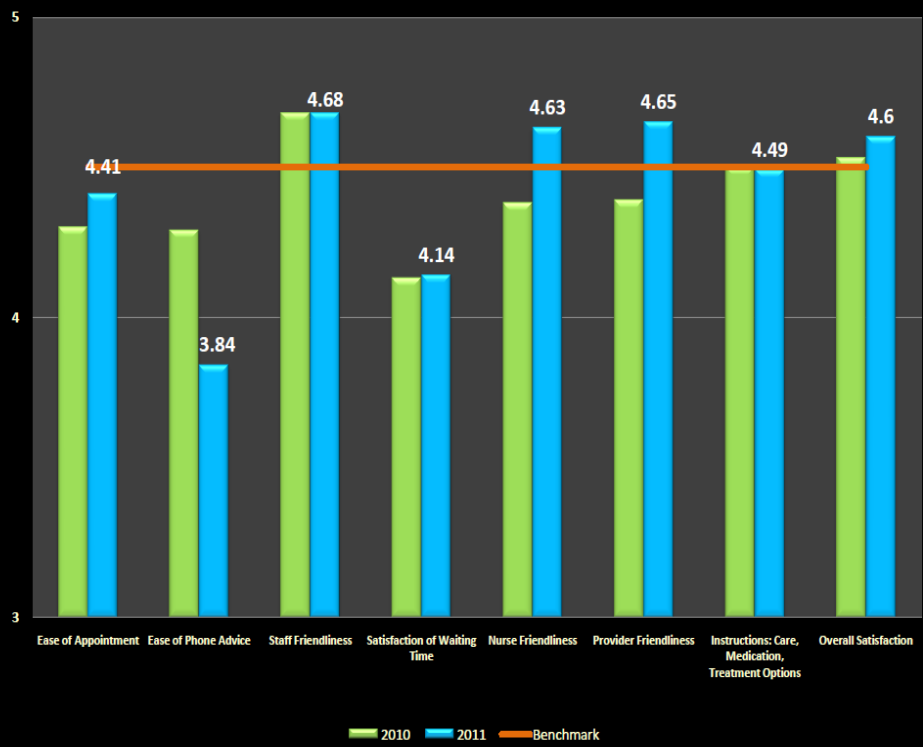
In reviewing the graph, the only category that did not increase from 2010 to 2011 was Ease of Phone Advice, which is directly related to staffing issues SIU Orthopaedics has faced. The departing of a triage nurse and turnover of medical assistants and nurses has proven to create coverage challenges and a decrease in administrative time. Other issues that affect Ease of Phone Advice include setbacks with the call center, prescription refill policies, and getting after hours advice. Some of these issues are beyond the scope of SIU Orthopaedics. However, some are controllable and will be worked on during the new upcoming fiscal year in the Orthopaedic Quality Improvement Committee and various sub-committees.

"In the Division of orthopaedics Surgery, patient satisfaction is a top priority..."

On the other hand, every other item increased from 2010. Nurse Friendliness and Provider Friendliness are now comparable to Staff Friendliness. Categories such as Satisfaction with Wait Time and Instructions of Care show slight increases. However, Ease of Appointment increased significantly. This is a result of the additional access our Physician Assistants and Nurse Practitioners offer which is discussed in further detail in the article titled "Quantifying Quality."

Furthermore, SIU Orthopaedic Overall Satisfaction has increased. With sincere gratitude, congratulations and genuine thanks is offered to the clinical, secretarial, research, and support staff who work with the patients every day. These employees directly impact patient satisfaction and by looking at the results, the staff is doing great work and SIU Orthopaedics looks forward to increasing these satisfaction results in the upcoming surveys.

Patient Satisfaction - Division Average



Quality Quakes

The Orthopaedic Quality Improvement Committee

Upon Dr. Saleh's arrival to SIU Orthopaedics in July 2009, he became aware of the flagging system issues within the current General Electric's Centricity Electronic Health Record program. As such, he suggested creating a committee focused on improving the quality of SIU SOM services. Thus, the Orthopaedic Quality Improvement Committee (OQI) was started.

Beginning with the task of reducing the flags to the triage nurse and the providers, members representing many facets of Southern Illinois University (SIU) School of Medicine and SIU HealthCare convened to create the OQI Committee. The members represent many areas, including the Call Center management staff, ACA (ambulatory care aide) staff, Information Technology and Information Resources, physicians and surgeons from various clinics, SIU HealthCare Administration, Department of Surgery Administration, Division of Orthopaedics Administrator and clerical staff, and finally various nurses and medical assistants.

Today, the OQI Committee continues to grow within the Division of Orthopaedics and has significantly improved the overall quality of the division. Currently, OQI is refining its goals and strategies for fiscal year 2012. The major issues that OQI faces are the complications with EHR and dictations. The providers' dictations are being lost inside Centricity due to some of the settings on the Dictaphone being wrong, not dictating all the needed information, and the residents not

changing their attending status. This is a major issue that affects the majority of SIU HealthCare, as more and more divisions become paperless and rely on EHR.

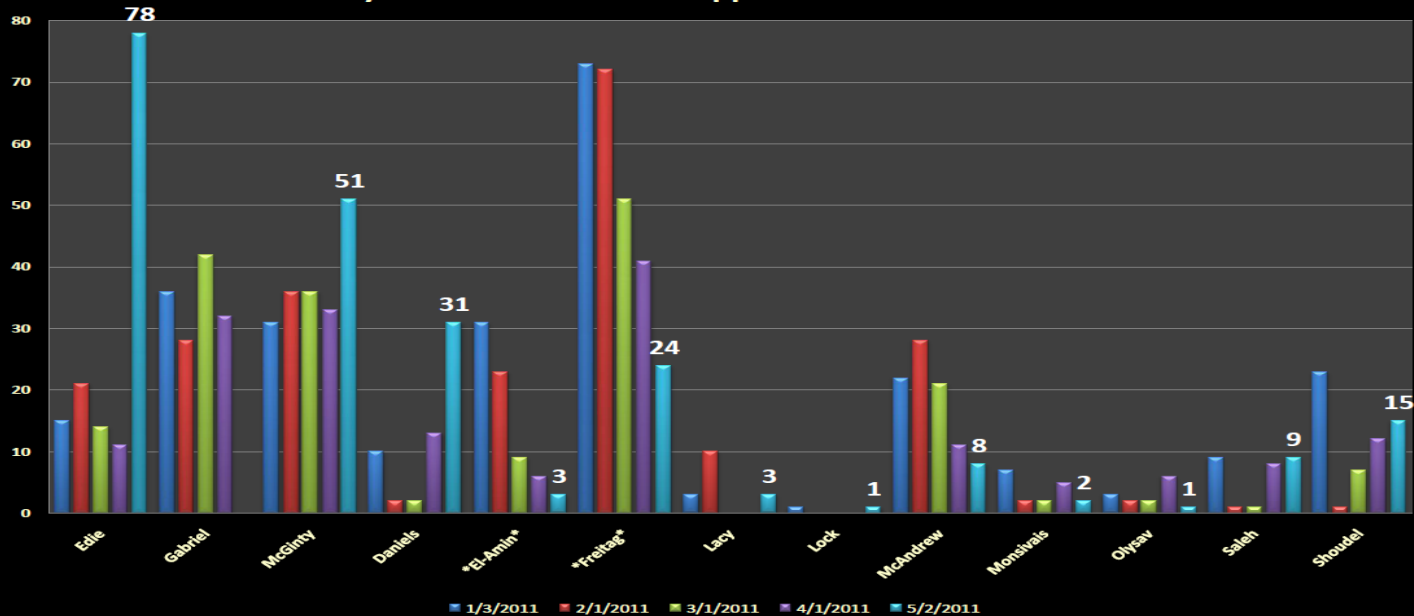
SIU Orthopaedics continues to work with Information Resources and Information Technology, as well as GE, to help solve these problems. Some of the broader goals for OQI in the coming fiscal year include becoming more transparent, increasing patient volume and patient satisfaction, and creating more access for patients. OQI has and continues to grow the quality of SIU Orthopaedics.



Quantifying Quality

Creating Additional Access and Gaining Market Share

Days Until the Third Next Appointment - New Patients



Please note: The Orthopaedic Pediatric providers' 3rd next will be skewed due to Dr. Gabriel's leave of absence.

Access is imperative in health care. If patients can't get to you, they won't come to you. Increasing access is a main concern for SIU Orthopaedics. The division has made significant progress regarding our access, particularly due to the inception of our mid-level providers, the Physician Assistants and Nurse Practitioners.

In the beginning of Fiscal Year 2010, SIU Orthopaedics only had Nurse Practitioner, Wendy Edie, in Pediatric Orthopaedics. Wendy Edie was able to triage new patients to the pediatric orthopaedic surgeons and take care of non-surgical patients. Due to the new patient volume in the adult orthopaedics, the Adult SIU Orthopaedics clinic needed to pursue the same mid-level provider model. Thus the division acquired Physician Assistants Patty Lacy and Jacob Monsivais, as well as Nurse Practitioner, Erin Lock. Our mid-level providers are a crucial part of our clinic, providing a pathway for new patients by filtering surgical patients to the orthopaedic surgeons and providing vital care to non-surgical patients.

Due to the addition of these mid-level providers, SIU Orthopaedics' days until the third next available appointment have decreased. The third next available appointment can be described as the number of days between the day a patient makes a request for an appointment and the third available appointment for a new patient visit. The third next available appointment is used instead of the next available appointment because it lowers the chances of cancellations or other unexpected events affecting the appointment date. The third next available appoint-

ment changes very frequently due to making new appointments, rescheduling, or cancelling, so it should not be used as a concrete number, but rather a sense of where one stands with appointment access.

The most notable decrease was in Dr. Per Freitag's clinic. With the addition of Physician Assistant, Jacob Monsivais, Dr. Freitag's clinic is more accessible now than it ever has been. Mr. Monsivais is able to see all new spine patients and only refers surgical patients to Dr. Freitag's clinic. Although there can be criticism from patients regarding seeing a mid-level provider as opposed to seeing the surgeon, this method works well for the Division of Orthopaedics and most patients would rather see Jacob today than wait a month to see Dr. Freitag. The same model is executed in our Sports Medicine practice with Patty Lacy, PA, Dr. James Daniels (Family and Community Medicine), and Dr. Saadiq El-Amin.

Another way our mid-level providers are increasing access is the initiation of our Urgent Ortho program. Erin Lock's (Nurse Practitioner) clinic is designed to accompany urgent patients that need to be seen same day. The Urgent Ortho paradigm allows SIU

Orthopaedics to see patients immediately if an accident occurs or if there is a patient experiencing complications post follow-up.

Another way SIU Orthopaedics has increased access is opening new clinic locations in the surrounding areas of Springfield, IL. Recently, Dr. Khal Saleh and Erin Lock, NP will be conducting an orthopaedic clinic in Chatham, IL just south of Springfield. This clinic will open new avenues for patients in the southwest region. We are also looking

to place SIU Orthopaedic practices in areas like Decatur, IL and Quincy, IL where SIU already has Family and Community Medicine locations, but lacking orthopaedic specialists.

In Fiscal Year 2012, SIU Orthopaedics looks to gain market share outside of Springfield, IL with outlying orthopaedic clinics in surrounding areas. We are also continually working on decreasing our third next available appointments to increase access for our patients, and finally, creating new avenues for patients by improving access with mid-level providers.

"If patients can't get to you, they won't come to you."

2010-2011 Orthopaedic Residents

PGY5



John M. Froelich, MD

- Hometown: Goreville, IL
- Med School: Southern Illinois University School of Medicine



Roxanne R Keene, MD

- Hometown: Ray, ND
- Med School: University of North Dakota



Matthew C Mai, MD

- Hometown: Le Mars, IA
- Med School: Loyola University Chicago Stritch School of Medicine



Aaron Pemberton, MD

- Hometown: Rockwood, TN
- Med School: University of Tennessee

PGY4



Brad Dyrstad, MD

- Hometown: Elgin, IL
- Med School: Southern Illinois University School of Medicine



Kyle Siewert, MD

- Hometown: Springport, IN
- Med School: Indiana University School of Medicine



Mick Sullivan, MD

- Hometown: Hammond, IN
- Med School: Southern Illinois University School of Medicine

PGY3



Evan Armington, MD

- Hometown: Carmel, IN
- Med School: Southern Illinois University School of Medicine



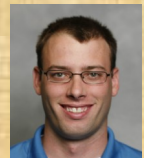
Adam Hall, MD

- Hometown: New Canton, IL
- Med School: Southern Illinois University School of Medicine



Matt Lovell, MD

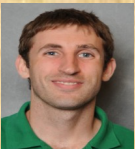
- Hometown: Pekin, IL
- Med School: Roy J. and Lucille A. Carver College of Medicine



Jacob D Sams, MD

- Hometown: Mt. Zion, IL
- Med School: Southern Illinois University School of Medicine

PGY2



Stuart Blankenship, MD

- Hometown: Inez, KY
- Med School: University of Kentucky



Ryan Dabbs, MD

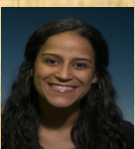
- Hometown: Knoxville, TN
- Med School: East Tennessee State University Quillen College of Medicine



Brian Dahl, MD

- Hometown: Bismarck, ND
- Med School: University of North Dakota

PGY1



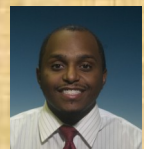
Jacqueline Corona, MD

- Hometown: New York, NY
- Med School: Mount Sinai School of



Mark Eilers, MD

- Hometown: Pacific, MO
- Med School: Louisiana State University HSC



Kevin R Sharif, MD

- Hometown: Elkhart, IN
- Med School: University of Cincinnati

2010-2011 Faculty Achievements



Khaled J. Saleh, BSc, MD, MSc, FRCS(C), MHCM

Visiting professor at the University of California, Irvine
Part II Oral Examiner 2011 for the American Board of Orthopaedic Surgeons
Chair of the Midwest Orthopaedic Research and Education Foundation resident course



David J Olysv, MD

Reappointed to the AACS Adult Reconstruction Knee Program Subcommittee
Appointed to the Illinois State Board of Regulation/Licensing for Orthotics and Prosthetics
Grant forms submitted to Zimmer for trabecular metal implant to be used as osseous integration
For amputees



John A Shoude, DPM

Department Chair for Podiatry at St. Johns Hospital
Member of the American Podiatric Medical Association
Member of the Illinois Podiatric Medical Association



Erin Lock, ACNP-BC

Graduated in August 2010 from Vanderbilt as Acute Care Nurse Practitioner
Certified as a Trauma Nurse Specialist
Member of Sigma Theta Tau National Honor Society for Nursing



Mark P McAndrew, MD

Member of Trauma Quality Improvement Committee, Southern Illinois Trauma Center
Member of Physician Information System Advisory Group, MMC
Member of Trauma Multidisciplinary Committee, Southern Illinois Trauma Center



Keith R Gabriel, MD

Medical Advisory Board, Division of Specialized Care for Children, IL
Presented "Office Orthopaedic Exam" Workshop at AAP
Presented "Casting and Splinting Techniques" Workshop at AAP



Joylene WL Thomas, MD

Working on regeneration of bone in laboratory
Working on regeneration of cartilage in laboratory



Jasmin L McGinty, MD

Member of the Association of Women Surgeons
Member of the Orthopaedic Research and Education Foundation
Member of the National Medical Association



Patty Lacy, MSPA-C

Member of the National Athletic Trainer's Association
Team Provider for the National Allstar Champs Midwest Rugby Union
Team Provider for the USA Women's National Rugby Team Camp and
Can-Am tour versus Canada



Per Freitag, MD, PhD, FACS

Program Director—E. Shannon Stauffer Spine Fellowship Program
Co-Director, Illinois Center for Bloodless Medicine and Surgery
Author of "Lumbrosacral Spine in Common MSK Problems, a Handbook"



Jacob Monsivais, MPAS-C, ATC

Member of the Physician Assistants in Orthopaedic Surgery
Member of the American Academy of Physician Assistants
Graduated in August 2010 with Masters Degree in Physician Assistant Studies



Saadiq F El-Amin III, MD, PhD

Member of Steering Committee, AAAT Course 2011
Moderator for TERMIS Bone Tissue Engineering and Regeneration Workshop
Primary author "The Indications and Use of Bone Morphogenetic Proteins in Foot,
Ankle, and Tibia Surgery, Foot and Ankle Clinics



James M Daniels II, MD, MPH

Consultant to the Federal Motor Carrier Safety Administration
Author of "Extensor Mechanism" in Encyclopedia of Sports Medicine, 2011
Midwest Region chair, Creation of 2011 Sports Medicine In-Training Exam



Wendy D Edie, APN, FNP-BC

Member of Illinois Society for Advanced Practice Nursing
Member of Illinois Nurses Association
Member of Sigma Theta Tau National Honor Society for Nursing

2010-2011 Research Fellows and Staff



Devraj Banerjee, MBBS, DNB

SIU Research Fellow
Research Interests:
Lower Extremity, Spine Arthritis,
Tumors, Trauma



Ryan T Beck, MD

SIU Research Fellow
Research Interests:
Adult Reconstruction, Spine,
Trauma



Nitin Kukkar, MBBS, MS

SIU E. Shannon Stauffer Spine Fellow
Research Interests:
MSK Oncology, Metastatic Spine Tumors
Minimally Invasive Spine Surgery



Wendy M Novicoff, PhD

SIU Orthopaedics Research and Quality Consultant
Research Interests:
Health Services, Outcomes Evaluation,
Hospital/Health System Data Quality and Integrity



Gabriella Broccardo, BS

Quality Researcher
Research Interests:
Quality Outcomes



Ashim Gupta

PhD student in Dr. El-Amin's lab
Research Interests:
Tissue Engineering, advanced biomaterials



Brooke S Robinson, MPH

Clinical Research Specialist
Research Interests:
Health Services, Outcomes



Mia D Woods, MS

Research Associate in Dr. El-Amin's lab
Research Interests:
Polymer Chemistry, Nanofiber Electrospinning
in relation to tissue engineering and regenerative medicine

2010-2011 Presentations

- 12th Annual Meeting of the Combined Orthopaedic Associations – September 2010
 - 1 abstract selected for poster presentation
 - Novicoff WM, Swiontkowski M, Wright J, Bozic K, **Froelich JM**, Graham D, Shah S, Saleh KJ. Symposium: Incorporating a Culture for Improving Quality and Patient Safety Through Education and a Paradigm Shift
- American Academy of Pediatrics – October 2-5, 2010
 - 2 lectures given
 - Gabriel KR. Pediatric Orthopaedic Physical Examination
 - Gabriel KR. Casting and Splinting Workshop for Pediatricians
- AAHKS – November 7-9, 2010
 - 1 abstract selected for poster presentation
 - Novicoff WM, Mihalko WM, Saleh KJ. The Impact of Baseline Mental Health Status on Outcomes for Primary Knee Replacement
- Society for Minimally Invasive Spine Surgery – November 2010
 - 2 abstracts selected for poster presentation
 - **Mai MC, Froelich JM**, Milbrandt JC, Freitag P. Sagittal Alignment Following Single and Multi-Level Axial Lumbar Interbody Fusion
 - Kukkar N, Beck RT, **Mai MC, Sullivan DN**, Milbrandt JC, Freitag P. Alterations in Disc Height, Foraminal Height, and Foraminal Width Following One and Two Level AxialLIF: A Radiological Analysis
- Society of Military Orthopaedic Surgeons – December 2010
 - 2 abstracts selected for podium presentation
 - **Mai MC**, Bulkley A, Milbrandt JC, Freitag P. Chronic Axial Skeletal Pain: Evaluation of a Single Institution's Referral Patterns
 - **Mai MC**, Beck RT, Kukkar N, **Sullivan DN**, Freitag P. Radiological Changes of Decompression in Axial Lumbar Interbody Fusion
- AADS – February 15-19, 2011
 - 2 abstracts accepted for poster presentation
 - Novicoff WM, Olysv DJ, Freitag P, Gabriel KR, McAndrew MP, Idusuyi OB, Saleh KJ. Effective Quality Improvement in Orthopaedic Surgery: Using Lean Six Sigma to Get Results
 - **Stulberg BN**, Zadzilka JD, Milbrandt JC, Helmy HF, Jacobs MC, Kennedy WR, Allan DG. Whole Blood Multicenter Study Cobalt and Chromium Levels in Patients with a Metal-on-Metal Resurfacing Hip Prosthesis
- OREF/ORS – March 18, 2011
 - 9 abstracts accepted for presentation
 - Kukkar N, Banerjee D, Beck RT, Freitag P. Minimally Invasive TLIF vs. AxialLIF: Comparison of Radiographic Outcome and Operative Data
 - **Sams J**, Francis ML, Scaife SL, Robinson BS, Novicoff WM, Saleh KJ. Redefining Revision Total Hip Arthroplasty Based on Hospital Admission Status
 - **Sullivan DN**, Varboncoeur E, Milbrandt JC, Burdette S, O'Keefe D, DeLaCruz J, Duong M, Saleh KJ. Conscious Sedation for Total Hip Arthroplasty Dislocation
 - **Froelich JM**, Beck RT, Michelson A, Novicoff WM, Saleh KJ. Does Insurance Equal Access to Care?
 - **Sharif KR**, Robinson BS, Novicoff WM, Kuegler N, Perkins J, Allan DG, Saleh KJ. Pain Management after Total Joint Arthroplasty: A Multi-Modal Approach
 - Patel P, Robinson BS, Novicoff WM, Dunnington GL, Brenner MJ, Saleh KJ. Disruptive Orthopaedic Surgeon: Implications for Patient Safety and Malpractice Liability
 - Banerjee D, Novicoff WM, Scaife SL, Saleh KJ. Rural vs. Urban Utilization of Total Joint Arthroplasty: The Effect of Payer Type Based on National Inpatient Sample Database
 - **Mai MC, Blankenship JS**, Beck RT, El-Amin SF. The Relationship of the Coracoid to the Glenoid and Humerus: An MRI Study
 - **Eilers M**, Banerjee D, Beck RT, Freitag P, Saleh KJ. Percutaneous Acetabuloplasty: A Cadaveric Study
- Department of Surgery Resident Research Day – March 31, 2011
 - 5 abstracts accepted for podium presentation
 - **Mai MC, Blankenship JS**, Beck RT, El-Amin SF. The Relationship of the Coracoid to the Glenoid and Humerus: An MRI Study
 - **Sams J**, Francis ML, Scaife SL, Robinson BS, Novicoff WM, Saleh KJ. Redefining Revision Total Hip Arthroplasty Based on Hospital Admission Status
 - Kukkar N, Banerjee D, Beck RT, Freitag P. Minimally Invasive TLIF vs. AxialLIF: Comparison of Radiographic Outcome and Operative Data
 - **Sullivan DN**, Varboncoeur E, Milbrandt JC, Burdette S, O'Keefe D, DeLaCruz J, Duong M, Saleh KJ. Conscious Sedation for Total Hip Arthroplasty Dislocation
 - **Keene RR, Lovell M**, Beck RT, Gabriel KR. Comparison of Time to Proximal Femoral Physeal Closure in Pinned SCFE Hips versus Pinned Contralateral Hips



WE ARE ON THE WEB!!

http://www.siumed.edu/surgery/orthopaedics/ortho_research.html

2010-2011 Presentations

6 abstracts accepted for poster presentation

- **Pemberton A.** Beck RT, McAndrew M, Wohltmann C, Cetindag B. Using Ultrasound to Measure External Fixation Screw Penetration
- **Froelich JM.** Beck RT, Mitchelson A, Novicoff WM, Saleh KJ. Does Insurance Equal Access to Care?
- **Sharif KR,** Robinson BS, Novicoff WM, Perkins J, Allan DG, Saleh KJ. Pain Management after Total Joint Arthroplasty: A Multi-Modal Approach
- **Eilers M,** Banerjee D, Beck RT, Freitag P, Saleh KJ. Percutaneous Acetabuloplasty: A Cadaveric Study
- **Kukkar N,** Amin DV, Beck RT, Freitag P. Cervicomedullary Compression at the Craniovertebral Junction By Clivus Hyperplasia
- **Patel P,** Robinson BS, Novicoff WM, Dunnington GL, Brenner MJ, Saleh KJ. Disruptive Orthopaedic Surgeon: Implications for Patient Safety and Malpractice Liability



● Mid-America Orthopaedic Association – April 6-10, 2011

3 abstracts selected for podium presentation

- **Mai MC,** Beck RT, Freitag P. Does Placing Pedicle Screws Prior to Axial Lumbar Interbody Fusion Alter the Sagittal Alignment?
- **Mai MC,** Beck RT, Kukkar N, **Sullivan DN,** Freitag P. Indirect Decompression of Lumbar Nerve Roots with Percutaneous Pedicle Screws
- **Mai MC,** Beck RT, Kukkar N, Freitag P. Disc Height Following Single Level Axial Lumbar Interbody Fusion

1 abstract selected for poster presentation

- **Mai MC,** Bulkeley A, Milbrandt JC, Freitag P. Chronic Axial Skeletal Pain: Evaluation of a Single Institution's Referral Patterns

● SAS Annual Meeting – April 26-29, 2011

1 abstract selected for poster presentation

- **Kukkar N,** Beck RT, **Mai MC,** **Sullivan DN,** Milbrandt JC, Freitag P. Alterations in Disc Height, Foraminal Height and Foraminal Width Following One and Two Level AxialLIF: A Radiological Analysis

● 21st Annual Trainee Research Symposium – April 27, 2011

5 abstracts selected for podium presentation

- **Sharif KR,** Robinson BS, Novicoff WM, Perkins J, Allan DG, Saleh KJ. Pain Management after Total Joint Arthroplasty: A Multi-Modal Approach
- **Eilers M,** Banerjee D, Beck RT, Freitag P, Saleh KJ. Percutaneous Acetabuloplasty: A Cadaveric Study
- **Sullivan DN,** Varboncoeur E, Milbrandt JC, Burdette S, O'Keefe D, DeLaCruz J, Duong M, Saleh KJ. Conscious Sedation for Total Hip Arthroplasty Dislocation
- **Patel P,** Robinson BS, Novicoff WM, Dunnington GL, Brenner MJ, Saleh KJ. Disruptive Orthopaedic Surgeon: Implications for Patient Safety and Malpractice Liability
- **Sams J,** Francis ML, Scaife SL, Robinson BS, Novicoff WM, Saleh KJ. Redefining Revision Total Hip Arthroplasty Based on Hospital Admission Status

1 abstract selected for poster presentation

- **Kukkar N,** Banerjee D, Beck RT, Freitag P. Minimally Invasive TLIF vs. AxialLIF: Comparison of Radiographic Outcome and Operative Data

● Lumbar Spine Research Society's 4th Annual Meeting – May 4-5, 2011

1 abstract selected for poster presentation

- **Kukkar N,** Banerjee D, Beck RT, Freitag P. MIS TLIF vs AxialLIF: Comparison of Radiographic Outcome and Operative Data

● AOA Annual Meeting – June 22-25, 2011

6 abstracts selected for poster presentation

- **Dyrstad BW,** Pope DJ, Milbrandt JC, Beck RT, Weinhoefl AI, Idusuyi OB. Predictive Measures of a Resident's Performance on Written Orthopaedic Board Scores
- **Froelich JM,** Milbrandt JC, Novicoff WM, McLafferty RB, Williams RG, Saleh KJ. Influence of Patient Clinic Experiences on Recommending Their Provider to Family or Friends
- **Keene RR,** Hillard-Sembell DC, Robinson BS, Beck RT, Novicoff WM, Saleh KJ. Occupational Hazards to the Pregnant Orthopaedic Surgeon
- **Novicoff WM,** Olysav DJ, Freitag P, Gabriel KR, McAndrew MP, Idusuyi OB, Saleh KJ. Effective Quality Improvement in Orthopaedic Surgery: Using Lean Six Sigma to Get Results
- **Mai MC,** Bulkeley A, Milbrandt JC, Freitag P. Chronic Axial Skeletal Pain: Evaluation of a Single Institutions Referral Patterns
- **Corona J.** Finding the Tipping Point: When Should Surgery be Performed in Children with Early Onset Idiopathic Scoliosis?



2010-2011 Publications

- Published

Total of 9

- **Rylander LS, Armington ER**, Milbrandt JC, Wilson MW, Olysv D. Trace Metal Analysis Following Locked Volar Plating for Unstable Fractures of the Distal Radius. *Iowa Orthop J*. 2010; 30:89-93.
- **Keene RR, Froelich JM**, Milbrandt JC, Idusuyi OB. Bilateral Gluteal Compartment Syndrome Following Robotic-Assisted Prostatectomy: A Case Report. *Orthopaedics (Blue Journal)*. 2010 November; 33(11):852.
- **Rylander LS**, Milbrandt JC, Wallace AB, Allan DG. Radiographic Evaluation of Midterm Failure Rates Following Metal-on-Metal Hip Resurfacing. *Journal of Arthroplasty*; 2010 Dec 3. [epub ahead of print].
- **Froelich JM**, Idusuyi OB, Clark D, Kogler GF, Paliwal M, Dyrstad BW, Milbrandt JC. Torsional Stiffness of an Intramedullary Nail vs Blade Plate Fixation for Tibiotalocalcaneal Arthrodesis: A Biomechanical Study. *J Surg Ortho Adv*. Summer 2010; 19(2):109-13.
- Bjorgul K, Novicoff WM, Saleh KJ. Evaluating Comorbidities in Total Hip and Knee Arthroplasty: Available Instruments. *Journal of Orthop and Trauma*. Epub ahead of print 2010 Nov 13.
- Novicoff WM, Saleh KJ. Six Sigma in Healthcare. *Cyberounds: Public Health*. <http://www.cyberounds.com/cmecontent/art477.html>. 2010 Aug.
- Novicoff WM, Saleh KJ. Examining Sex and Gender Disparities in total joint arthroplasty. *Clinical Orthopaedics and Related Research Journal*. Epub ahead of print: 2011 January 7.
- **Corona J**, Matsumoto H, Roye DP, Vitale MG. Measuring Quality of Life in Children with Early Onset Scoliosis: Development and Initial Validation of the Early Onset Scoliosis Questionnaire. *Journal of Pediatric Orthopaedics*. 2011 March; 31(2): 180-5.
- **Mai MC**, Beck RT, Gabriel KR, Singh KA. Posterior Arm Compartment Syndrome Following a Combined Supracondylar Humerus and Capitellar Fracture in an Adolescent: A Case Report. *Journal of Pediatric Orthopaedics*. 2011 Apr-May; 31(3): e16-9.

- Provisionally Accepted

Total of 3

- Kukkar N, Amin DV, Beck RT, Bedi N, Freitag P. Craniovertebral Junction Cervicomedullary Compression by Clivus Hyperplasia. *Journal of Bone and Joint Surgery*.
- Patel P, Robinson BS, Novicoff WM, Dunnington GL, Brenner MJ, Saleh KJ. The Disruptive Orthopaedic Surgeon: Implications for Patient Safety and Malpractice Liability. *Journal of Bone and Joint Surgery*.
- **Keene RR**, Hillard-Sembell D, Robinson BS, Novicoff WM, Saleh KJ. Occupational Hazards of the Pregnant Orthopaedic Surgeon. *Journal of Bone and Joint Surgery*.

Bolded Names are Residents



For more information,
please contact
Brooke Robinson at
brobinson@siumed.edu
or 217-545-1387

Aspire to Inspire

**SIU School Of Medicine
Division of Orthopaedic Surgery**

If we knew what it was we were doing, it would not be called research, would it?

- Albert Einstein