New simulator will further strengthen the department’s residency program

A virtual reality-based simulator will provide additional training in knee and shoulder arthroscopy for orthopaedic residents

by Philipp Streubel, M.D., assistant professor of Orthopaedic Surgery and Rehabilitation

Orthopaedic resident education is facing challenging times. Work hour restrictions have reduced the amount of time available for surgical skill development. Furthermore, as our understanding of musculoskeletal pathology continues to evolve, subspecialty training has continued to refine surgical techniques. With a persistent evolution towards minimally invasive techniques, trainees are frequently faced with steep learning curves.

Surgical simulation has long been a part of education in orthopaedic surgery and continues to play a key role in providing a launching platform for training surgeons. For generations, orthopaedic surgeons have benefited from cadaver and synthetic bone labs to learn about fracture fixation and arthroplasty.

see SIMULATION pg 5

Dr. Paul Esposito appointed International Ambassador for the Bone and Joint Decade

In October, Dr. Paul Esposito was named as an international ambassador of the Bone and Joint Decade (BJD).

The ambassador’s role is to support the Bone and Joint Decade and work with the International Coordinating Council and with the National Action Network (NAN) of their country to achieve the vision and mission of the decade.

The mission of the BJD is to reduce the burden and cost of musculoskeletal disorders, as well as promote musculoskeletal

see ESPOSITO pg 8
Message from the chair

A year of change.

As we enter the new year, we are excited about the many changes that took place in 2014 on both a department and campus-wide level. Most visibly, you may have noticed that our UNMC logo has changed. UNMC has strengthened its alignment with our clinical and hospital partners, now known as Nebraska Medicine, which includes the entities previously known as The Nebraska Medical Center, Bellevue Medical Center and UNMC Physicians.

Although still two separate entities, UNMC and Nebraska Medicine now share one emblem designed to more closely unite the face of academics and medicine in Nebraska. This emblem symbolizes the longstanding commitment by UNMC and Nebraska Medicine to join forces and provide state-of-the-art patient care.

UNMC not only has a new look, but new leadership as well. Chancellor Jeffrey P. Gold, M.D., brings a rich history of leadership in academic medicine, is a board-certified thoracic surgeon, and also serves as chairman of the Nebraska Medicine Advisory Board. We welcome Dr. Gold and are very excited to have him as part of the UNMC and Nebraska Medicine team.

In 2014, the department also announced the ground-breaking of the Lauritzen Outpatient Center which, when completed in 2016, will bring the orthopaedic clinic, academic offices and research facilities together in one location for the first time in several years. This new space and cutting-edge technology will allow the department to continue to grow and realize our mission of outstanding research, education and patient care.

Alumni, please note that our annual alumni gathering will be held March 26th, during the 2015 AAOS annual meeting in Las Vegas. Detailed information is listed on the following page and formal invitations will be arriving soon.

Also, be sure to save the date for this year’s graduation ceremonies, which will be held June 12-13th. As always we hope that you can join us.

From everyone at the Department of Orthopaedic Surgery and Rehabilitation we wish you a new year filled with health and happiness.

Sincerely,

Kevin L. Garvin, M.D.
Professor and Chair
L. Thomas Hood, M.D., Professorship
Dr. Hani Haider honored by the International Standards Organization (ISO)

First Committee Chairman’s Award presented at the 2014 ISO annual meeting in South Korea

Hani Haider, Ph.D., professor in the Department of Orthopaedic Surgery and Rehabilitation and director of the Biomechanics and Advanced Surgical Technology Laboratory, was presented the International Standards Organization (ISO) Committee Chairman’s Award at the 2014 ISO Annual Meeting in Seoul, South Korea.

The award was presented by John Goode of the United States Food and Drug Administration (FDA), who chairs the International ISO TC 150 Committee which develops testing standards for all medical devices.

Dr. Haider was recognized as the award’s first recipient for his “personal contributions (to the committee) and international standards development.” He has previously been recognized internationally for his expertise in orthopaedic implant simulation and for developing testing standards through two awards from the American Society for Testing and Materials (ASTM) International in 2005 and 2010, and others for advanced surgical technology development.
Osvaldo Andres Barrera received Ph.D.

Osvaldo “Andres” Barrera graduated with a Ph.D. of Medical Sciences from the University of Nebraska Medical Center on December 19, 2014.

Dr. Barrera is a long-time employee of the orthopaedics biomechanics lab. We are honored to have played a role in the education of an exceptional researcher and esteemed colleague.

Dr. Barerra earned his bachelor degree from El Universidad Nacional de Entre Rios (Argentina) in 1999. He joined the department in 2001 as a research associate, working under Professor Hani Haider in the Orthopaedics Biomechanics and Advanced Surgical Technologies Laboratory. While working on the development of a computer-assisted orthopaedic surgery and free-hand navigation system in the lab, he pursued his M.S. degree in computer science at UNO, and graduated in December of 2003.

Dr. Barrera’s extensive work with Dr. Haider on the creation of the in-house, Nebraska-born navigated freehand bone cutting technology will change the way orthopaedic surgeons worldwide perform total joint arthroplasty (TJA), and has played a significant role in helping to elevate the department’s biomechanics lab into what is rapidly becoming one of the leading orthopaedic research centers in the world.

The computer-aided surgical technique and “smart” devices facilitate TJA with similar precision as manual alignment instruments (jigs) allow, but with much more utility. The software creates an accurate 3-D model of patients’ bones using computer tomography (CT) scans. From the computer, a surgeon can then plan a joint replacement procedure according to his/her operating preferences and a patient’s unique case.

In October 2013, after years of design, testing and refinement, Drs. Haider and Barrera received a United States Patent for “Method and Apparatus for Computer-Aided Surgery.” This international award-winning technology is now being configured and documented for submission for U.S. Food and Drug Administration (FDA) approval, clinical trials and commercialization through a Nebraska-based startup company.

After 13 years with the orthopaedic department, Dr. Barrera has moved on to pursue other interests. We expect many great things to come from Dr. Barrera in the future and are proud to have had him as a member of our team!
The acquisition of arthroscopic skills poses special challenges. The learning curve for even basic skills, such as triangulation and knot tying, can be time consuming and costly when only performed in the clinical setting. Over the past decade, several simulators have been developed for teaching basic arthroscopic skills, including knot tying boards and anatomy models.

However, even for basic diagnostic arthroscopy, cadaver-based simulation remains the mainstay for teaching, as they most closely reproduce the anatomic complexity found in the living patient. However, cadaver labs are expensive and require an extended infrastructure for specimen handling, equipment processing and management of regulatory issues.

Physical resources alone are insufficient to provide successful motor skills training. Successful training requires the existence of an educational curriculum that provides a structured roadmap on what skills should be acquired and how proficiency should be measured. Such a curriculum was established for arthroscopic surgery by a collaboration of the American Academy of Orthopaedic Surgeons (AAOS), the Arthroscopy Association of North America (AANA) and the American Board of Orthopaedic Surgery (ABOS) as part of the Fundamentals of Arthroscopic Surgery Training (FAST) Program.

The curriculum developed by this program established a step-wise approach in acquiring arthroscopic surgical skills which include:
1. Basic principles of arthroscopy,
2. Basic triangulation skills,
3. Basic interventional arthroscopy,
4. Biomaterials and anchor insertion,
5. Arthroscopic knot tying, and

Over the last decade, virtual reality-based simulation has come to the forefront of surgical training. Several surgical specialties, including orthopaedic surgery, general surgery, ophthalmology, gynecology and urology have incorporated this type of training as part of their formal training. Virtual reality-based simulation offers several advantages. It provides an ideal setting to establish a curriculum that is reproducible for all trainees. Furthermore, objective data can be recorded to reliably quantify proficiency and monitor skill improvement.

With last-generation simulators, arthroscopic training can progress from basic triangulation skills to complex meniscal or labral repairs, thereby providing a useful training tool to not only the novice resident but also the experienced arthroscopic surgeon.

In an effort to strengthen arthroscopic training for our residents, the department recently acquired a virtual reality-based simulator that will provide training in knee and shoulder arthroscopy.

This acquisition was made possible by a $1 million gift to the UNMC College of Medicine made by Dr. Wayne and Eileen Ryan, which over the last few years has allowed our institution to establish one of the leading clinical simulation centers in the nation. Dr. Wayne Ryan and his late wife, Eileen, have been outstanding supporters of UNMC and the Department of Orthopaedic Surgery and Rehabilitation.

The Ryan’s have made multiple generous donations in support of the department’s research activities and are listed on the department’s permanent Wall of Honor.

“The Clinical Simulation Lab comprises 7,500 square feet of educational simulation space, which includes 16 physician outpatient clinic rooms, two private hospital suite simulation rooms, an educational operating suite and a space dedicated for virtual reality surgical and educational trainers,” said Patricia Carstens, program manager of the Clinical Simulation Lab. By having the arthroscopic simulator housed in the simulation lab, trainees will have unrestricted access to the simulators 24 hours a day, maximizing exposure to this training tool.

Simulation will benefit our residents by educating them for the future of orthopaedics. Ongoing efforts in understanding the value of simulation in education will provide a research platform with great potential. While virtual reality-based simulation is presently focused on knee and shoulder arthroscopy, a great potential exists to participate in the development of new models, including the elbow, wrist, ankle and hip.
J. Tracy Watson, M.D., was the department’s featured guest speaker for the annual resident research event held Friday, November 21st

The 2014 Resident Research Forum was held on November 21st, featuring Dr. J. Tracy Watson as the guest speaker.

Dr. Watson was born and raised outside of Ten Sleep, Wyoming (pop. 314), graduated from the University of Wyoming with a degree in Zoology and Physiology, and was prepared to become a forest ranger, work in range management, or raise cattle!

However...he graduated from Creighton University School of Medicine in 1981 (M.D.) and went on to the Cleveland Clinic Foundation to complete his Orthopaedic Surgery Residency. Following residency, he completed an Orthopaedic Trauma fellowship at Parkland Hospital–Dallas. Following the Parkland fellowship he completed an additional A/O fellowship year, split between St. Gallen, Switzerland, with Professor Hardy Weber, and Munich, Germany, with Professor Berndt Claudi where distraction (Ilizarov) methodologies were first observed.

He returned to the Cleveland Clinic Foundation for four years as director of the Complex Fracture Service and began applying Ilizarov techniques to trauma and non-union cases. During this time (1989) he was fortunate enough to travel to Kurgan, Siberia, and spend six weeks with Professor Ilizarov.

He subsequently spent the next 12 years in Detroit, Michigan, at Henry Ford Hospital and then at Detroit Receiving Hospital with Wayne State University, serving as vice chief of Orthopaedics.

Dr. Watson has been active in academics and national trauma organizations for the last 25 years. He has published extensively on a wide variety of trauma-related topics, and lectures nationally and internationally on his clinical and basic science research interests in orthobiologics.

He is a recognized expert in the areas of severe bone loss, bone transport, peri-articular injuries, as well as deformity correction. He sits on the editorial boards of many trauma and orthopaedic-related journals and is a charter founding member of the Limb Lengthening and Reconstruction Society, as well as a founding board member of the Foundation for Orthopaedic Trauma and the National Trauma Institute. He is active in the Orthopaedic Trauma Association (OTA), heading the Fellowship and Career Choice committee for many years. He is also Past President of the OTA (2008-09).

Dr. Watson is currently professor of Orthopaedic Surgery, chief of the Orthopedic Trauma service and director of the Orthopaedic Traumatology fellowship at St. Louis University School of Medicine in St. Louis Missouri.
PRESENTATIONS GIVEN AT THE EVENT ARE LISTED BELOW:


Sayfe Jassim, M.D., HO II, “Hybrid Total Knee Arthroplasty - A Retrospective Outcomes Review”

Benjamin Ogden, M.D., HO II, “3-D Computed Tomography in the Evaluation of Elbow Fracture-Dislocations: A Study of Interobserver Reliability in Fracture Classification and Operative Management”

Noah Porter, M.D., HO II, “Five-year Outcome Follow-up of Glenoid Anchor Peg Component Fixation Utilizing Autologous Bone Graft in Total Shoulder Arthroplasty”

Eric Bonness, M.D., HO III: “A Fracture Boot Stress Model for the Determination of Ankle Stability In Patients with Isolated Fibular Fractures”

Courtney Grimsrud, M.D., HO III: “Long-term Outcomes and Satisfaction of Rotationplasty Patients in the Treatment of Lower Extremity Sarcomas”

Paul Johnson, M.D., HO III: Defining the Role of Head of Bed Angle in Cerebral Deoxygenation Events during Upper Extremity Surgery in the Beach Chair Position”

Andrew Kirkpatrick, M.D., HO III: “30-Day Readmission and Post-operative Complications Following Elective Primary Total Joint Arthroplasty in the Veteran’s Health Administration VISN 23 Network”

Paul Hong, M.D., HO IV: “Safety and Efficacy of Liposomal Bupivicaine (Exparel) in Lumbar Spine Surgery”

Kaitlin Neary, M.D., HO IV: “Orthogonal Radiographs versus CT Scan in the Evaluation of Midshaft Clavicle Fractures: A Prospective Radiographic Study”

Paul Nielsen, M.D., HO IV: “Prepping the External Fixator in situ During Two Stage Pilon Surgical Treatment: Postoperative Complications”

Scott Vincent, M.D., HO IV: “The Value of the On-Call Resident: A Multi-Center Prospective Evaluation of Resident Services and Billing”


Brent Hood, D.O., HO V: “Anterior Knee Pain after Intramedullary Nailing of Tibia Fractures via a Suprapatellar Approach”

Andrew Taiber, M.D., HO V: “Enhanced Detection of Staphylococcus aureus Colonization in Patients Undergoing Prosthetic Joint Implantation”

Visiting Professor: J. Tracy Watson, M.D.: “From Protractor Guesswork... To Digitally Assisted Correction... Deformity Assessment and Treatment with External Fixation”
The Department of Orthopaedic Surgery and Rehabilitation is extremely grateful for the continued support received from organizations and individuals each year. Some choose to support the department’s annual Development Fund, which is used primarily for resident education. Others prefer to put their contribution towards specific funds for scholarships, research, library resources, or laboratory equipment, for example.

The following honor roll lists the names of individuals and organizations that supported the department between July 1, 2013, and June 30, 2014.

$10,000 - $99,999
Dr. Chris A. Cornett
Dr. Miguel S. Daccarett
Dr. Mark E. Dietrich
Dr. and Mrs. Paul J. Duwelius
Dr. Paul W. Esposito
Dr. Kevin L. Garvin
Dr. and Mrs. Roy J. Guse
Dr. Curtis W. Hartman
Dr. Brian Hasley
Dr. M. Layne Jenson
Dr. Beau S. Konigsberg
Dr. Sean V. McGarry
Dr. Matthew A. Mormino
Dr. Lori K. Reed
Wayne L. Ryan, Ph.D.
Dr. Susan A. Scherl
Dr. Matthew J. Teusink

$1,000 - 4,999
Dr. & Mrs. Kirk D. Green
Dr. & Mrs. R. Michael Mendlick
Dr. & Mrs. Jeffrey S. Moore
Raymond James Charitable Endowment Fund
Dr. & Mrs. Michael J. Sicuranza
Robert J. Tait, M.D., M.P.C.
Dr. Robert J. Tait
Jeffrey & Nancy Tiedeman

$5,000 - $9,999
Harold & Marian Andersen
Bryan D. Bredthauer, M.D., and
Ms. Gertrude A. Bredthauer
Bryan D. Bredthauer, M.D., P.C.

$0 - 999
Dr. and Mrs. Jeffrey M. Farber
Dr. Annie Knierim
Mrs. Mary Oba
OSS Health
Dr. David A. & DuAnn Peterson

The above names are listed alphabetically within each category. If you have questions or corrections to this honor roll, please contact Meg Johnson with the University of Nebraska Foundation’s Omaha office at 2285 South 67th Street, Suite 200, Omaha, NE, 68106, or via phone at 402-502-4107.

ESPOSITO continued from pg 1

health and musculoskeletal science worldwide. In order to achieve their mission, musculoskeletal disorders and injuries must be among the leading healthcare concerns nationally and internationally. International ambassadors are called upon to support the BJD by helping to bring these topics to the forefront of international health agencies, governments, non-governmental organizations, medical and research communities, as well as the media and general public.

Dr. Esposito’s appointment is for three years.
Visiting speakers expand resident education

Providing a well-rounded educational experience for our residents means bringing in visiting speakers who can share their expertise on a variety of topics. Annual contributions to the department’s Development Fund allow us to continue to bring guest speakers who offer new and innovative ideas in surgical techniques, research topics and patient care.


<table>
<thead>
<tr>
<th>November 2014</th>
<th>January 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 RESIDENT RESEARCH SYMPOSIUM</td>
<td>12 “Concussions - Evaluation and Return to Play” (Rusty McKune, P.T., Sports Medicine Program)</td>
</tr>
<tr>
<td>“From Protractor Guesswork...To Digitally Assisted Correction...Deformity Assessment and Treatment with External Fixation” (J. Tracy Watson, M.D., Professor of Orthopaedic Traumatology, St. Louis University School of Medicine, St. Louis, MO)</td>
<td></td>
</tr>
<tr>
<td>26 “Stress in Medicine” (Steven Wengel, M.D., Department of Psychiatry)</td>
<td></td>
</tr>
</tbody>
</table>

Continuing Education and Grand Rounds

CME ACCREDITED • GRAND ROUNDS ARE HELD IN ROOM 1005 OF THE SORRELL CENTER

The following continuing education seminars and Grand Rounds presentations by department faculty, current residents, and guest speakers are open to any interested participants. For information on how to obtain CME credits for attending, or to obtain an updated schedule, please contact Geri Miller at (402) 559-2258 or gmiller@unmc.edu.

<table>
<thead>
<tr>
<th>February 2015</th>
<th>March 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 “Lisfranc Injuries” (Kaitlin Neary, M.D., HO IV)</td>
<td>2 “Evaluation of the Spine Injured Patient” (Scott Vincent, M.D., HO IV)</td>
</tr>
<tr>
<td>9 “Ankle MRI” (Kim Apker, M.D., Department of Radiology)</td>
<td>9 &quot;TBA&quot;</td>
</tr>
<tr>
<td>16 “TBA” (Brian Hasley, M.D.)</td>
<td>16 “TBA”</td>
</tr>
<tr>
<td>23 “Periprosthetic Hip Fractures” (Beau Konigsberg, M.D.)</td>
<td>23 “AAOS Presentations”</td>
</tr>
<tr>
<td>30 No Conference</td>
<td></td>
</tr>
</tbody>
</table>
“Orthopaedic surgery still often times has a reputation that it requires a big, strong person, often male, to go into the field, but that just simply is not true... It’s important that girls understand that there are no barriers as long as they are committed and willing to work hard.”

Lori Reed, M.D.
Foot and ankle surgeon
Associate professor, Orthopaedic Surgery

Perry Initiative proves truly engaging for young women interested in orthopaedic surgery and engineering

On November 15th, 2014, 40 young high school women gathered at the Michael F. Sorrell Center for Health Science Education, not knowing entirely what to expect. They donned their new scrubs and filed into the large conference room. It probably took them a minute to take in the scenery: model bones and spines, suture materials and pigs feet, saws, drills, and a variety of plates, nails and screws were laid out in perfect order on the tables.

Seventy-four young women applied for this opportunity, but only 40 are accepted for each event. Young women from 19 schools in Omaha and the surrounding areas attended the Omaha event; four came from as far as Norfolk.

Dr. Lori Reed, foot and ankle surgeon and associate professor of UNMC’s Department of Orthopaedic Surgery, helped organize the event. She had heard of the Perry Initiative during a meeting she had attended and thought it sounded like an impressive event. Because there is a very uneven distribution of women versus men in the field of orthopaedic surgery, she wanted to help reach women at a young age and generate interest in these careers, to hopefully help bridge that gap.

“If we can engage them by showing how exciting orthopaedic surgery can be, we will have a much better chance of bridging that gap,” Dr. Reed had said prior to the event... and engage them they did...

What took place the next few hours was simply amazing. All the students put away their cell phones and became truly engaged in everything they heard and took part in that day. When was last time you saw 40 high school students of any age or gender all paying absolute attention to what was taking place around them?
The Perry Initiative was founded in 2009 by Dr. Jenni Buckley (a mechanical engineer) and Dr. Lisa Lattanza (an orthopaedic surgeon), and was named in honor of Dr. Jacquelin Perry, who was one of the first 10 women orthopaedic surgeons in the country and a mentor to countless women and men in the field throughout her career. The program quickly expanded from 15 students at one site in 2009 to 950 students annually at 24 sites nationwide in 2013. At its current rate of expansion, the organization expects to have reached 50 sites by 2020.

The Perry Initiative is a non-profit organization that inspires young women to pursue careers in orthopaedics and engineering through day-long outreach programs for high school students. The organization holds over thirty outreach programs nationwide. The program is free for students and is supported through corporate sponsorship.

More information on The Perry Initiative can be found at www.perryinitiative.org.

“At really was an amazing day. We as instructors had fun, the girls had fun and I think things really clicked with a lot of them,” said Dr. Reed. “Orthopaedic surgery still often times has a reputation that it requires a big, strong person, often male, to go into the field, but that just simply is not true. And, we, as women, have to at least make sure that young women that are interested in medicine are aware of that. I don’t think it’s important that the numbers are equal. I just think that it’s important that girls understand that there are no barriers as long as they are committed and willing to work hard.”

The all-day outreach program included laboratory-based workshops designed to introduce students to surgical and engineering skills. They performed surgical simulations to correct scoliosis deformity, fix a broken leg, and repair knee ligaments. Throughout the day they received mentoring by prominent local female orthopaedic surgeons and engineers, and listened to presentations from each speaker regarding how they came to be in the field and what their career means to them. Speakers answered questions on the “how-tos” and “what ifs” that life can sometimes throw your way when choosing a career path.

Volunteers included event organizer Dr. Lori Reed; Dr. Susan Scherl (pediatric orthopaedic surgeon and professor, UNMC Orthopaedic Surgery); fellow local orthopaedic surgeons Drs. Kathleen Grier and Kimberly Turman (GIKK Ortho Specialists); engineer Brandy Olson (HDR); Dr. Courtney Grimsrud, HOIII (UNMC Orthopaedic Surgery resident); Chelsea Bruening, PA (Nebraska Medicine –Orthopaedic clinic); and Kate Englert, medical student (Creighton).

We would also like to thank organizers and volunteers from the Perry Initiative, Laurie Meszaros Dearolf, Jess Penman and Ana Ebrahimi.

At the end of the day, both attendees and volunteers commented on what a fun and fascinating experience it was. In fact, the event was such a success, Dr. Susan Scherl is hoping to host the event in Omaha again in 2015!
Publications, presentations & honors

Department faculty members present many lectures, seminars, and courses at local and regional, as well as national and international meetings. They also serve in leadership positions and offices for local, state, national and international organizations. Here are some of our faculty and staff’s presentations and publications, awards and achievements, offices held, and other professional activities from July-October 2014.

PUBLICATIONS (peer-reviewed):


BOOK CHAPTERS AND REVIEWS:


AWARDS AND ACHIEVEMENTS:


Haider, H.: Chairman’s Award, presented by the International Standards Organization (ISO) in recognition of his personal contributions to ISO TC150 implants for surgery and international standards development, 2014.

MEMBERSHIPS AND OFFICES HELD:
Chair, Research Committee, The Knee Society, March 2012-March 2015.
UNMC Physicians
• Finance Committee, 2012-present
• Executive Board, 2000-present

Member, Adult Reconstruction Hip Program Subcommittee, American Academy of Orthopaedic Surgeons, February 2012-March 2016.
Member, Board of Directors (2nd term), Omaha Sports Commission, January 2011-December 2014.
American Orthopaedic Association
• Chair, Membership Committee, American Orthopaedic Association, March 2014-March 2015
• Member, Executive Committee, American Orthopaedic Association, March 2014-March 2015

Member, Board of Trustees, University of South Dakota Foundation, 2006-present.
Editorial Board Member, Techniques in Knee Surgery, 2002-present.
Consultant Reviewer, European Journal of Epidemiology, 1995-present.
Consultant Reviewer, Clinical Orthopaedics and Related Research, 1991-present.
Consultant Reviewer, The Knee, 2014-present

Chairman, Pediatric Specialty Group, U.S. Bone and Joint Initiative, 2013-present.
Board of Directors, Physician Director, Children’s Specialty Physicians, February, 2012-2015.
Osteogenesis Imperfecta Foundation
• Medical Advisory Council, July 2011-2014
Children’s Hospital & Medical Center
• Board of Directors, Advisory Board 2010-present
• Quality and Patient Safety Committee, 2008-present
• Medical Staff Committees
  * Ethics Committee, Omaha, NE, Children’s Hospital, 2010-present
  * Clinical Service Chief, Orthopaedic Surgery 2009-present
  * Allied Health Committee, 2008-present
  * Bylaws Committee, 2008-present
  * Credentials Committee, 2008-present
  * Surgical Services Committee, 2008-present
  * Focused Peer Review Committee, 2008- present
  * Quality Safety Leadership Team, 2006-present
  * Physician’s Health Committee, 2004-present
Metro Omaha Medical Society Foundation, Member, Board of Directors, 2010-present.
Consultant Reviewer, PEDIATRICS, 2005-present.

Haider, H:
International Society of Technology in Arthroplasty
• Director, Scientific Review and Information Technology, September 2011-present
• Member, Board of Directors, 2005-present
Basic Science Education Committee (BSEC), The Orthopaedic Research Society, 2011-present.
Reviewer, Journal of Clinical Orthopaedics and Related Research (CORR), July 2010-present.
Appointed to the Editorial Board for the Journal Advances in Orthopaedics, June 2010-present.
Reviewer of abstracts (Re-appointment), Orthopaedic Research Society, August 2009-present.
Editorial Board Member, Journal of Engineering in Medicine, IMechE Part H, 2009-present.
International Standards Organization
• Coordinator/Liaison Officer, Working Group 2 (Implant Wear), ISO TC150 US/Tag, International Standards Organization, 2013-present
• Member, United States Delegation to Committee SC 150 (Medical Devices), 2002-present
American Society of Testing and Materials
• Co-Chair, Knee Wear Testing Standards Committee, ASTM International, 2002-present
• Chair, Ankle Replacement Testing Standards Committee, ASTM International, 2000-present
• Technical (Expert) contact, Friction of Hips Standard Writing Committee, Working Group/Item WK 28778, ASTM International, 2011-present

Hartman, C:
Member, Membership Committee, Metro Omaha Medical Society, April 2012-present.
UNMC
• Member, UNMC Graduate Faculty, May 2015-present

Hassley, B:
Medical Director of the Pediatric Orthopaedic Clinics of the Children's Specialty Physicians, Children's Hospital & Medical Center, Omaha, NE, May 2013-present.
Medical Staff Committee, Focused Peer Review, Children's Hospital & Medical Center, 2009-present.

Koënsberg, B:
Member, Ambulatory Clinic Implementation Workgroup, ONE-Team (TNMC/UNMC/UNMC-P), February 2014-present.
UNMC College of Medicine
• Member, Faculty Senate, College of Medicine, January 2014-present
• Member, Dissertation Thesis Committee, Krishna Sarma, Ph.D. student, Department of Genetics, Cell Biology and Anatomy, December 2013-present
• Member, Medical Student Admissions Committee, June 2011–December 2014
• Course Director, UNMC Orthopaedic Surgery Grand Rounds, October 2010-present
• Instructor, M1, M2 ICE Course, August 2010-present
• Instructor, 2nd Year Medical Students, August 2009-present
Consultant Reviewer, Orthopaedics, September 2013–present.
Member, Membership Committee, Metro Omaha Medical Society, April 2012-present.
Consultant Reviewer, Journal of the American Geriatrics Society, September 2010-present.
Section Chief, Orthopaedics, VA Medical Center, January 2009-present.

McGarry, S:
UNMC
• Faculty Senate, June 2013-2017
• Continuing Education Committee, Member, October 2012-present
• Tissue Bank Review Committee, Member, 2006-present
Musculoskeletal Transplant Foundation (MTF)
• Memberships/Nominations Committee Member, February 2012-present

Merino, M:
Member, Education Sub-committee, Orthopaedic Trauma Association, 2012-2015.
AO North America
• Fellowship Advisory Board, 2011-present
• Faculty, 1997-present

Reed, L:
Member, Public Relations Committee, Orthopaedic Trauma Association, 2009-present.

Schell, S:
Module Leader; Pediatrics Module. Orthopedic Trauma Association Residents Comprehensive Fracture Course 2.0, Tampa, FL, October 15-17, 2014.
Children’s Hospital & Medical Center
• Member, Omaha Emergency Department Interdisciplinary Committee, January 2013-present
• Member, Omaha Surgical Services Interdisciplinary Committee, January 2012-present
• Member, Executive Committee, 2012-present
• Member, Omaha Education Committee, January 2011-present
• Member, Omaha Transfusion Committee, January 2010-Present
• Member, Omaha Trauma Performance Improvement and Patient Safety Committee, 2009-present
Pediatric Orthopaedic Society of North America
• Program Committee, May 2013-present
• Advocacy Committee, May 2013-present
• Editorial Board, ‘Resident Review,’ June 2009-present
American Orthopaedic Association
• Member, Traveling Fellowship Committee, June 2012-present
• Chair, ASEAN Traveling Fellowship Subcommittee, June 2011-present

PRESENTATIONS, INTERNATIONAL AND NATIONAL:


PRESENTATIONS, REGIONAL AND LOCAL:


Employee Awards

Years of Service

Ronalee Vinsonhaler
Professional Coding Senior Associate

10 Years of Service - August 2014
Nebraska Medicine - Orthopaedics

Above: Chelsea Bruening, PA (Nebraska Medicine–Orthopaedic clinic) helps teach suturing techniques to young women who attended the Perry Initiative in November 2014.

Dr. Susan Scherl (pediatric orthopaedic surgeon and professor, UNMC Orthopaedic Surgery) offers attendees guidance during the complex fracture fixation lab which took place during the Perry Initiative event in November 2014.

Above: Attendees of The Perry Initiative event pose with the model spines on which they completed a surgical simulation to correct scoliosis. The Perry Initiative was held for the first time in Omaha on November 15th, 2014, in the Michael F. Sorrell Center for Health Science Education. The event was such a success, the department plans to host it again in 2015.
In this issue

1 Simulator strengthens residency program
The purchase of a new virtual-reality based simulator will provide additional training for orthopaedic residents in knee and shoulder arthroscopy.

3 Dr. Hani Haider honored by ISO
Dr. Hani Haider was presented the International Standards Organization (ISO) Committee Chairman's Award at the 2014 ISO Annual Meeting in Seoul, South Korea.

10 Perry Initiative event successful, engaging
Young women from 19 schools in Omaha and the surrounding areas attended the Omaha Perry Initiative event, designed to interest young women in the fields of orthopaedic surgery and engineering.
Periprosthetic Tibia Fractures
Miguel Daccarett, M.D., Assistant Professor
Orthopaedic Traumatology & Sports Medicine, Department of Orthopaedic Surgery and Rehabilitation

Case Report

Background:
Periprosthetic tibia fractures, although not as common as periprosthetic femur fractures, are a recognized complication after total knee arthroplasty with a prevalence of 0.4 to 1.7%.

The orthopaedic literature has focused on periprosthetic femur fractures. Little information is available regarding periprosthetic tibial fractures, or surgical techniques for the treatment of these types of injuries.

Periprosthetic tibia fractures may occur intraoperatively or postoperatively. Intraoperative fractures can occur during component removal or stem insertion, and also during trial reduction. Postoperative fractures are usually secondary to trauma, most commonly with ground level falls.

Associated risk factors that may predispose someone to this complication are preoperative neutral or valgus knee, local evidence of osteopenia, long stem component insertion, tibial tubercle osteotomy, malalignment, as well as knee instability and component loosening. The use of some components, like Geometric and Polycentric stems, has also been associated with periprosthetic fractures.

Classification and treatment of these fractures are based on three primary factors: the anatomic location of the fracture in reference to the tibial component; the time of occurrence (if fracture occurred during surgery or in the postoperative period); and whether the implanted prosthesis is well fixed on radiographic and CT examination.

Periprosthetic Tibial Fracture Classification:
(Felix et al.)

- **Type I** Fracture of the tibial plateau
- **Type II** Fracture adjacent to the tibial stem
- **Type III** Fracture to the tibial shaft, distal to the component
- **Type IV** Fracture to the tibial tubercle
- **Fracture types** were additionally classified by whether the prosthesis appeared to be radiographically well fixed (A) or loose (B) at the time of fracture, or whether the fracture occurred intraoperatively (C).

Treatment:
The treatment of periprosthetic tibia fractures is based on location of the fracture line and stability of the prosthetic components. Prosthetic loosening is best managed with component revision, usually using long stem prosthetic. Open reduction and internal fixation of additional fracture fragments is often necessary. In cases with a high degree of comminution, excision of fracture fragments and replacement with prosthetic augmentation or structural bone graft may be required.

In cases in which a fracture pattern is present but the prosthesis components are stable and well fixed, standard open reduction and internal fixation with plates (locking or recently variable angle), screws and cerclage wires are the treatment of choice.

Nonoperative treatment with casting or bracing is only indicated in nondisplaced fracture patterns with stable prosthesis.

Case presentation:
A 56-year-old female presented to the Nebraska Medicine-Orthopaedics clinic complaining of right knee pain five years after total knee replacement with two-stage revision surgery secondary to infection at an outside institution. After thorough evaluation, a diagnosis of early loosening of the tibial component was noted. The patient underwent revision surgery with a cemented stem in 2007 without any complications.

A year later in June 2008, the patient presented to the ER after a ground level fall when she accidentally tripped over her cat and fell on her right side presenting with a right tibia fracture, distal to the tibial stem. Her lower extremity was immobilized with a posterior splint.

After her preoperative workup, including plane radiographs and a CT scan of the tibia and knee, it was determined that the prosthetic components were stable, with a well-fixed stem and the periprosthetic fracture was classified as a Type IIIA (fracture distal to the stem with well-fixed components).

After the appropriate consent was obtained, the patient was brought to the operating room and underwent general endotracheal anesthesia without complication. Open reduction of the tibial shaft fracture was performed with initial fixation using a small one-third tubular plate and iliac crest bone graft, followed by a long titanium plate (LISS) with proximal anterior periprosthetic screws, cables and distal screw placement using a percutaneous technique. NOTE: Imaging showed periprosthetic screws anterior to the stem and proximal cables.

The patient completed three months of toe-touch weightbearing with a walker and physical therapy focused on muscle strengthening and Achilles stretching. When evidence of healing was noted on x-rays (at three months), the patient was advanced to partial and full weightbearing with a walker for balance.

The periprosthetic fracture healed without complications. The patient is currently full weightbearing and x-rays do not reveal any sign of stem loosening four years after fixation.
References: