The past year has been one of great change in the orthopaedic community at Wright State and in Dayton in general. The residency now has its full complement of residents with four per year as well as two research residents. This increase allows the residents to rotate on the major services both at a junior level and a senior level.

As our department has grown, the need for collaboration has grown as well. We see this in the clinical arena as hospitals align with each other as well as physicians. More and more orthopaedic surgeons in our area are now employed by hospitals. This certainly changes the dynamics of competition, but does allow the hospitals more leverage as they build service lines (joint replacement, spine, sports medicine) to appeal to the patient population areas. Though we are not employed by a hospital system, Wright State Orthopaedics has benefitted from the service line mentality and embraced it as our subspecialty-trained surgeons provide leadership in the service line development. This model allows our subspecialty-trained and certified sports medicine physicians—Dr. Ellis, Dr. Herbenick, Dr. Lawless, and Dr. Rubino—to serve as team physicians for both Wright State University and the University of Dayton. Drs. Lawless and Binski participate in the joint replacement service line at Miami Valley Hospital and Drs. Prayson and Binski provide leadership in the trauma service line. This service line mentality will be practiced in the new Wright State Physicians building.

Our research endeavors continue to expand. This year we hired Mary Blackmore, Ph.D., to head our tissue engineering program. This was made possible with collaboration between the Division of Plastic Surgery, Orthopaedic Surgery, and the Community Tissue Center. Dr. Blackmore has built a cell lab at the Community Tissue Center under the direction of Shawn Hunter, Ph.D., and has started a stem cell lab in the plastic surgery clinical office at Miami Valley Hospital. This is a new and exciting area for us and truly represents the future of medicine. This will not only be an area to compete for funded research, but will also provide ample opportunities and resources for medical students, residents, and graduate students to pursue high quality research. Dr. Blackmore has shown tremendous energy in building this program and I believe she will be a great asset to our department.

Our partnership with the Wright State University Department of Bioengineering continues to grow as well. Tarun Goswami, Ph.D., continues to grow his program in biomechanics and orthopaedic bioengineering. Thomas Hangartner, Ph.D., took over as chairman of the department this year. His considerable background in bone density and osteoporosis has been a great asset to our orthopaedic research endeavors. With his interests in the biomechanical fields, we will continue to develop our collaborative projects.

Our collaboration continues to grow as we open our clinical building on the Wright State University campus in the summer of 2012. This building is the product of eight years of planning and has evolved into a clinical building owned by Wright State Physicians. Orthopaedics will occupy the first floor and will provide comprehensive services including primary care sports medicine and orthopaedic surgery, physical therapy, and athletic training, as well as x-ray and advanced MRI imaging. Through collaborations with the Wright State University Athletic Training Program, we will develop our mutual interests in clinical care and research. We will use techniques and research to provide the most advanced care to the athlete, the community at Wright State, and the surrounding area as a whole.

Overall the future is bright for Wright State Orthopaedic Surgery, Sports Medicine, and Rehabilitation. We have many challenges in 2012 and look forward to tackling them.
Orthopaedic Surgery Residency Update

Happy 2012 to all of you in the Wright State family! My hope is that your 2011 was as good as the one we enjoyed in the Wright State Residency Program. Our program had another excellent class of graduating chief residents to send off to the world to take care of people. We graduated three residents this past June, two who are subspecializing in spine and one who took a position as a general orthopaedic surgeon. Both Kenny Edwards, M.D., and Brad Picha, M.D., ventured off to post-graduate fellowships in spine surgery. Kenny has accepted a fellowship position at Texas Back Institute and Brad a fellowship at OrthoIndy. Although we are always proud of our residents getting great fellowship positions such as these, it is equally satisfying to see graduates enter clinical practice after residency without one. Adam Hamilton, M.D., has taken a private practice position as a general orthopaedist in Minnesota and has hit the ground running in his practice. It gives us great satisfaction to hear back from Adam about how well prepared he feels in clinical practice without having done a fellowship.

Our expansion of the residency to four per year is complete and we are maintaining the two research residents. Our new challenge this year has been the implementation of the new ACGME work hour restrictions, which have had the biggest effects on the intern year. First-year residents no longer work any more than a 16-hour shift. This change has been adopted and actually seems to be working well with our orthopaedic interns. They still work 70-80 hours per week and have a higher level of supervision. The upper level residents are able to work 24-hour shifts, but have a shortened period for transition of duty. Our department has implemented these changes and the challenges they bring.

We were very fortunate in the NRMP match this past year and are proud to have matched with Matt Cavo, M.D., Joe Cox, M.D., Jake Deister, M.D., and Jed May, M.D. We welcome our new residents to the Wright State University Orthopaedic Surgery family. The residency continues to grow and flourish with quality graduates and an impressive complement of new residents.

As residency program rules continue to change, the department has been busy making adjustments to the educational process. We have responded to resident hour restrictions by enhancing our bio-skills and simulation surgery programs. We are dedicated to staying ahead of the educational curve by creating unique learning environments that improve the procedural skills and knowledge of our residents. We have partnered with the Wright State University College of Engineering to explore educational and research opportunities for the residency using simulation and learning models. This past year the residency program has produced 22 published works, presented 58 research projects at meetings, and are involved with numerous research projects.

Peggy Baldwin continues to serve as the educational coordinator for both the orthopaedic surgery residency and orthopaedic trauma fellowship. Her job continues to grow and she has handled the added responsibilities and requirements with grace. She has served on numerous committees and has been a leader in the Association of Residency Coordinators in Orthopaedic Surgery (ARCOS). She brings national recognition to our program and always comes back from her meetings with new ideas.

While we feel fortunate to have so much to be thankful for as a program, I believe there are even greater things to come in the future. As health care policy changes, resident demands increase, and work hours become more restricted, we are constantly looking for ways to optimize the educational process. We thank our dedicated alumni and clinical faculty for their support and hope that your contributions to the program continue to improve resident education and make this a special place to train.

—Michael A. Herbenick, M.D.

Orthopaedic Interest Group

The Wright State University Boonshoft School of Medicine’s Orthopaedic Interest Group continues to meet four times during the academic year with the purpose of sharing valuable information with those medical students interested in orthopaedics as a career choice. It provides the students access to orthopaedic faculty and residents on an informal basis and covers a wide variety of topics, including information on how to be a successful orthopaedic residency candidate, casting and splinting, and orthopaedic subspecialties.

This year’s group was led by fourth-year medical student, Andrew Burleson.

Resident Fund Contributions

Dr. Marcos E. and Mrs. Martha D. Amonger
Dr. Christopher Anderson and Ms. Johanna Moore
Dr. Gerard A. and Mrs. Marilyn J. Dehner
John W. Hamilton, D.D.S., PC
Dr. Brian K. and Mrs. Sandra C. Hutchinson
Innovative Medical Group LLC/Tom Conroy
Janssen Pharmaceuticals
Ohio State University Ortho-McNeil-Janssen Pharma, Inc.
Joan L. Picha
Teresa J. Purcell
Benjamin C. Roelle
Smith & Nephew Synthes
Orthopaedic Trauma Update

The orthopaedic trauma service at Miami Valley Hospital continues to flourish. The trauma admission pace is similar at this point to that of 2010. Over 90 percent of our trauma admissions occur through a blunt mechanism of injury. Falls and motor vehicle collisions remain the two most common mechanisms of injury. July and August of 2011 were our busiest months ever on record with 351 and 358 trauma admissions respectively.

Ten faculty members (both academic and clinical) contribute to the orthopaedic trauma coverage at the hospital. Additionally, the orthopaedic trauma fellow, three orthopaedic residents (chief, R-3, intern), Diane Kimpel, R.N., and an emergency medicine resident, provide daily coverage and support for the service.

The orthopaedic trauma fellowship remains strong with full accreditation through the Accreditation Council for Graduate Medical Education (ACGME) and solid support from Miami Valley Hospital. Last year’s graduate, Dr. K. Sunil Menon, is in private practice with an emphasis on fracture care in Coffeyville, Kansas. Our current fellow, Eric Verwiebe, M.D., will be assigned through his military commitment to a three-year term in Landstuhl Regional Medical Center in Germany. This is the only Level I Trauma Center accredited by the American College of Surgeons outside the United States. Next year Kim Pohadnianyk, D.O., will join the fellowship from Mt. Clemens Regional Medical Center in Clemens, Michigan. The match for the 2013-2014 fellowship position will be held again in March 2012.

After much negotiation, we began a participation in the C-Stars Program (Center for Sustainment of Trauma and Readiness Skills) with Wright-Patterson Air Force Base (WPAFB). This has been effectively used with the general surgeons and allows surgeons from WPAFB to do clinical work at Miami Valley Hospital to keep their trauma skills up to date. It also serves as a good refresher course for them before deployment. Brandon Horne, M.D., is our first participant. He did his orthopaedic training in San Antonio and has been a welcome addition to our team. Miami Valley Hospital and Wright State University have a long history of collaboration with WPAFB, and we look forward to this new relationship in orthopedics.

We look forward to another busy year in orthopaedic trauma at Miami Valley Hospital, providing crucial educational opportunities to our medical students, residents, and fellow.

– Michael Prayson, M.D.

Weddings

Matthew Ross and Mardi Mae Lu Joaquin
May 22, 2011

Michael Anderson and Krista Swenson
August 19, 2011

Jason Vourazeris and Amber Tudor
October 8, 2011

Michael Herbenick and Wendy Stamas
December 30, 2011

Births

Jackson Proctor Noyes
May 27, 2011
7lbs., 6 oz. • 21 in.
Matt and Elizabeth Noyes

John Steven Kleinhenz
September 8, 2011
8 lbs., 1 oz. • 22.5 in.
Ben and Julie Kleinhenz

Joseph Michael Deister
November 17, 2011
8 lbs., 13 oz. • 21.5 in.
Jacob and Brooke Deister

Savannah Faith Gayton
December 7, 2011
7lbs., 10oz. • 21 in.
Chris and Suzanne Gayton

New Residents and Fellows

Matthew Cavo, M.D.
The Ohio State University

Joe Cox, M.D.
University of Alabama 6-Year Research Track

Jacob Deister, M.D.
Wright State University Boonshoft School of Medicine

Jedediah May, M.D.
Texas Tech University School of Medicine 6-Year Research Track

Eric Verwiebe, M.D.
Orthopaedic Trauma Fellow
M.D. – Uniformed Services UHSC Residency – William Beaumont Army Medical Center
Joint Ventures

Visiting Professors

2010
John G. Birch, M.D.
Professor, Department of Orthopaedic Surgery, University of Texas Southwestern Medical Center.
Assistant Chief of Staff and Medical Director of Ambulatory Care, Texas Scottish Rite Hospital for Children.
March 30-31, 2010: History of the Ilizarov apparatus and use in a pediatric population; Classification and management of congenital fibular deficiency.

Jason H. Calhoun, M.D., F.A.C.S.
Professor and Chair, Department of Orthopaedics, The Ohio State University College of Medicine.
June 18-19, 2010 – Graduation Symposium: The history of military orthopaedic infections; Surgical site infections in orthopaedics.

Anthony A. Romeo, M.D.
Professor and Director, Section of Shoulder and Elbow, Department of Orthopaedic Surgery, Rush University Medical Center.
November 2-3, 2010: Biomechanical and biological augmentation of rotator cuff repairs; Surgical options for the management of arthritis in active patients.

2011
Aaron G. Rosenberg, M.D.
Professor of Orthopaedic Surgery, Rush Medical College.

Alexander R. Vaccaro, M.D., Ph.D.
Everett J. and Marion Gordon Professor of Orthopaedic Surgery, Professor of Neurosurgery, Jefferson Medical College.

James J. Hutson, Jr., M.D.
Associate Professor of Clinical Orthopaedic Surgery, Valley Hospital, Leonard M. Miller School of Medicine, University of Miami.
November 1-2, 2011: Tensioned wire assisted tibial nailing, supra patellar nailing, and the use of blocking screws to facilitate nailing of tibia fractures; A technique guide for orthopaedic trauma surgeons; The treatment of GIIIIB-C tibia fractures with circular tensioned wire external fixation.

Sixth Annual Scientific Symposium

Orthopaedic Surgery Residency Program
Wright State University Boonshoft School of Medicine
May 20, 2011
The sixth annual scientific symposium was held in May with Dr. Alexander R. Vaccaro, M.D., Ph.D., Everett J. and Marion Gordon Professor of Orthopaedic Surgery and Professor of Neurosurgery at Jefferson Medical College, serving as our visiting professor. Dr. Vaccaro presented “Evidence-Based Analysis of Surgery for Lumbar Disc Disease” to the members of the Dayton Orthopaedics Society at the Dayton Country Club the evening before he served as keynote speaker for the scientific symposium.

Alexander R. Vaccaro, M.D., Ph.D. (Visiting Professor)

SCI: An update on translation studies
Christopher B. Lyons, M.D. (R-3)
Mycobacterium avium complex infection of the lumbar spine
Michael D. Barnett Jr., M.D., chair of the Seventh Annual Clinical Applications of Prosthetics & Orthotics course held March 11, 2011, at Miami Valley Hospital. Invited speakers presented the following educational sessions:

Seventh Annual Prosthetics Course

Michael A. Herbenick, M.D.
Sports management
Richard T. Laughlin, M.D.
Lower limb amputations
Carrie Melton, C.P.O.
Postoperative management

Above knee prosthetics
Dana L. Duren, Ph.D.
Normal human locomotion
Nicolas E. Grisoni, M.D.
Cervical pathologies
James T. Lehner, M.D.
Pediatric management
Scoliosis
Mark Horwitz, C.P.O.
Extremity bracing
Michael D. Barnett Jr., M.D.
Pedorthic management
The Department of Community Health recently created the new Division of Morphological Sciences and Biostatistics. The Division was created within the Boonshoft School of Medicine, Wright State University in 2011 to unite scientists in the pursuit of excellence in biomedical research on the form and function of the human body. The primary mission of the Division is to:

- Conduct research within the morphological sciences and biostatistics relevant to public health.
- Disseminate knowledge in a timely and meaningful fashion to all those interested.
- Educate and train future leaders in the biomedical morphological sciences.
- Serve the community by providing a resource for knowledge and information.
- Serve as a model for scientific integrity.

Richard J. Sherwood, Ph.D. (Community Health and Pediatrics), serves as director and faculty along with Dana L. Duren, Ph.D. (Community Health and Orthopaedic Surgery), and Ramzi W. Nahhas, Ph.D. (Community Health). Affiliated WSU faculty include Richard T. Laughlin, M.D. (Orthopaedic Surgery), Thomas N. Hangartner, Ph.D. (Biomedical, Industrial, and Human Factors Engineering), and Drew Pringle, Ed.D. (Health, Physical Education, and Recreation and Orthopaedic Surgery).

Dr. Duren holds a joint appointment in Community Health and Orthopaedic Surgery, Sports Medicine & Rehabilitation. She is actively involved in many research projects with our department and serves on our department research committee.

38th Annual Graduation Ceremony
Dayton Country Club ■ June 18, 2011

Kenny B. Edwards, M.D.
M.D. – Wright State University
Boonshoft School of Medicine
Spine Fellowship – Texas Back Institute & Research Foundation

J. Adam Hamilton, M.D.
M.D. – Creighton University
Private Practice – Lake Region Healthcare, Fergus Falls, Minn.

Brad M. Picha, M.D.
M.D. – Case Western Reserve
Spine Fellowship – OrthoIndy

K. Sunil Menon, M.D. – Orthopaedic Trauma Fellow
M.B.B.S./M.D. – Thrissur Medical College, Kerala, India

First Place Basic Science –
Matthew P. Noyes, M.D., and Indresh Venkataryappa, M.D.

Dr. Edwards’ Mentor Award –
Richard T. Laughlin, M.D.

Dr. Hamilton’s Mentor Award –
Michael A. Herbenick, M.D.

Dr. Picha’s Mentor Award –
Michael J. Prayson, M.D.

Teaching Excellence Award –
James T. Lehner, M.D.
A new medical office and sports medicine building being constructed on the Wright State University campus will open ahead of schedule, with the first tenants taking residence in June, according to officials of Wright State Physicians (WSP), the region’s largest multi-specialty group. The facility will provide much-needed medical care for the residents of Clark, Montgomery, and Greene Counties.

“June 1 is the new date of occupancy for the building,” said WSP Chief Operating Officer Jocelyn Piccone, M.H.A., M.A., C.M.P.E. WSP corporate offices will be the first to occupy the facility, with clinical practices of the Departments of Dermatology, Family Medicine, Geriatrics, and Orthopaedic Surgery and Sports Medicine to follow, she said. Other early tenants will include CompuNet Clinical Laboratories and an MRI facility operated by Premier Health Partners, the Dayton region’s leading hospital system.

“The facility will also provide a conveniently located clinical site for the education of our medical students,” said Howard Part, M.D., dean of the WSU Boonshoft School of Medicine, “along with a clinical setting for our faculty to conduct translational research, which can move basic research from the lab to the bedside.”

The new facility will help further WSP’s mission to retain outstanding medical faculty and staff in support of the clinical, research, and community service activities of the university’s medical school. The Boonshoft School of Medicine and Wright State Physicians are partners in providing training to medical students and delivering health care to the region.

General contractor for the building, designed by Dayton architect Kenneth J. Seidl, is locally based Miller-Valentine Commercial Construction LLC.

Matthew J. DiPaola, M.D., was awarded a Mid-America Orthopaedic Association Traveling Fellowship. He plans to spend time observing advanced elbow surgical techniques at the Mayo Clinic. He achieved board certification in orthopaedic surgery with the American Board of Orthopaedic Surgery, and has been researching a minimally-invasive rotator cuff repair procedure that improves a patient’s recovery with less discomfort.

Michael A. Herbenick, M.D., will serve on the Nominating Committee for the Wright State University Boonshoft School of Medicine until June 2012.

L. Joseph Rubino, III, M.D., was certified by the American Board of Orthopaedic Surgery in the orthopaedic sports medicine subspecialty in February 2011. Dr. Rubino was appointed to serve on the Wright State Physicians Board of Directors until 2014 and also serves on the Management Committee as the Board of Directors’ At Large Representative.

Michael J. Prayson, M.D., was appointed to the Fellowship Committee of the Orthopaedic Trauma Association. His three-year term will begin in 2012.
Ohio Orthopaedic Research and Innovation Day

Foundation Meeting
June 2, 2011

According to the American Academy of Orthopaedic Surgeons, “More than 700,000 primary total hip and knee replacements are performed each year in the United States, and demand for the surgery is expected to double in the next 10 years. By 2030, there are expected to be 572,000 total hip replacements alone and 3.4 million total knee replacements.”

An open forum was held at Wright State University on June 2, 2011, to create strong academic and industry partnerships within the state and push the best ideas into the marketplace.

This ground-breaking event brought together engineers and orthopaedic clinicians and researchers, medical students, residents and fellows, biomedical engineering students of all levels, biomedical researchers, medical students, orthopaedic clinicians and brought together engineers and orthopaedic surgeons, “More than 700,000 primary total hip and knee replacements are performed each year in the United States, and demand for the surgery is expected to double in the next 10 years. By 2030, there are expected to be 572,000 total hip replacements alone and 3.4 million total knee replacements.”

Presenters were:

Amy Yousefi
Biomimetic Constructs for Cartilage Regeneration and Cartilage Replacement

Lei Kerr and Huiying Jia
Anodized TiO2 Nanotube Film for Controllable Drug Delivery in the Implant

Dishita Patel
Influence of Design Parameters on Cup-Stem Orientations for Impingement free RoM in Hip Implants

S. Hueston, I. Mabe, M. Makola
Morphometry Analysis and Kinematic Response of the Cervical Spine

Rinki Goswami
Characterizing the Effects of Bromelain on the Mechanical Properties of Bovine Articular Cartilage

Sasidhar Uppuganti
In-Vitro Biomechanical Stability of Trans-Sacral L5-S1 Fusion

Nagmesh Kumar
In-Vitro Biomechanical Analysis of Cervical Open Door Laminoplasty

Mary Beth Wade
Mechanically Enhanced, Peptide Cross-linked Poly(ester ureas) for Critical Bone Defect Repair

Samuel Dwomoh
Biomechanical Evaluation of Annular Closure with Polyisobutylene Cyanoacrylate

Kushal Shah
All-Epiphyseal ACL Reconstruction Improves Tibiofemoral Contact

Timothy Norman
In-Service Damage Accumulation and Mineralization Heterogeneity in Human Femoral Cortical Bone

Melinda S. Peiserich
Medical Polymers—Evolution and Future and Gender Specific Implants

Richard Laughlin, M.D., and Anil Krishnamurthy, M.D.
Case Studies in Orthopaedic Surgery

Mark A Snyder, M.D., Sambhu Choudhury, M.D., Kathryn Eten, BSN, CCM

David Kirschman, M.D.
In Vivo and In Vitro Biomechanical Performance of a Novel Pedicle Screw System: A Two-Year Retrospective Analysis

Michael Lawrenchuk
Innovations in Medical Image Processing for the Design of Custom Medical Devices and Implants

J. Adam Hamilton and John Dundon
The Cannulated Screw Core: Improving the Mechanical Properties of Cannulated Screws

John Cotton
Mechanical Modeling of the Porcine Temporomandibular Joint

Brian Yeakley
Increased Aircrew Helmet Protection

Archana Saranathan
A System for Characterization of In Vivo Patellofemoral Motion

Matthew Coombs
Spinal Hemiepiphysiodes Modify Growth

Greg Gould
Research at Wright State’s Biomechanical Lab

Bradley Elliott
Hip Implant Micromotion and Resulting Femoral Canal Damage for Several Implant Materials

Erik Kane
Three Dimensional Finite Element Analysis of Intramedullary Nails for Size

The graduation research symposium was held on Friday, June 17, 2011, to highlight this year’s resident research efforts.

Indresh Venkataryappa, M.D. (R-3)
Reuse of external fixation components – patient survey

J. Christopher Gayton, M.D. (R-2)
Rabbit fatty infiltration not caused by injury to motor endplate

Brad M. Picha, M.D. (R-5)
Scaphalunate dissociation reconsidered

J. Adam Hamilton, M.D. (R-5)
Scapula fractures following reverse shoulder arthroplasty – classification and treatment

Emmanuel K. Konstantakos, M.D. (R-4)
Misrepresentation of research activity of orthopaedic applicants

Kenny B. Edwards, M.D. (R-5)
Distal clavicle fixation: A biomechanical evaluation of fixation

Benjamin P. Kleinhenz, M.D. (R-4)
Functional and radiographic long-term outcomes of hemiarthroplasty for proximal humerus fractures

Michael J. Coffey, M.D. (R-3)
Treatment of glenohumeral sepsis with a commercially-produced antibiotic-impregnated cement spacer

J. Adam Hamilton and John Dundon
The Cannulated Screw Core: Improving the Mechanical Properties of Cannulated Screws

J. Christopher Gayton, M.D. (R-5)
Fatty infiltration following semitendinosus tendon harvest in rabbits

Mark H. Stouffer, M.D. (R-3)
Indirect femoral head impingement

Mark A Snyder, M.D., Sambhu Choudhury, M.D., Kathryn Eten, BSN, CCM

Rinki Goswami
Characterizing the Effects of Bromelain on the Mechanical Properties of Bovine Articular Cartilage

Sasidhar Uppuganti
In-Vitro Biomechanical Stability of Trans-Sacral L5-S1 Fusion

Nagmesh Kumar
In-Vitro Biomechanical Analysis of Cervical Open Door Laminoplasty

Mary Beth Wade
Mechanically Enhanced, Peptide Cross-linked Poly(ester ureas) for Critical Bone Defect Repair

Samuel Dwomoh
Biomechanical Evaluation of Annular Closure with Polyisobutylene Cyanoacrylate

Kushal Shah
All-Epiphyseal ACL Reconstruction Improves Tibiofemoral Contact

Timothy Norman
In-Service Damage Accumulation and Mineralization Heterogeneity in Human Femoral Cortical Bone

Melinda S. Peiserich
Medical Polymers—Evolution and Future and Gender Specific Implants

Richard Laughlin, M.D., and Anil Krishnamurthy, M.D.
Case Studies in Orthopaedic Surgery

Mark A Snyder, M.D., Sambhu Choudhury, M.D., Kathryn Eten, BSN, CCM

David Kirschman, M.D.
In Vivo and In Vitro Biomechanical Performance of a Novel Pedicle Screw System: A Two-Year Retrospective Analysis

Michael Lawrenchuk
Innovations in Medical Image Processing for the Design of Custom Medical Devices and Implants

J. Adam Hamilton and John Dundon
The Cannulated Screw Core: Improving the Mechanical Properties of Cannulated Screws

John Cotton
Mechanical Modeling of the Porcine Temporomandibular Joint

Brian Yeakley
Increased Aircrew Helmet Protection

Archana Saranathan
A System for Characterization of In Vivo Patellofemoral Motion

Matthew Coombs
Spinal Hemiepiphysiodes Modify Growth

Greg Gould
Research at Wright State’s Biomechanical Lab

Bradley Elliott
Hip Implant Micromotion and Resulting Femoral Canal Damage for Several Implant Materials

Erik Kane
Three Dimensional Finite Element Analysis of Intramedullary Nails for Size
The Division of Plastic Surgery continues to develop and evolve over time. We have recently achieved initial accreditation as a six-year fully integrated program. This is a change from the former three-plus-three combined program with general surgery. This change was mandated by the American Board of Plastic Surgery with all “combined” programs being eliminated as a pathway to board certification by 2015. The independent programs—after achieving board certification in general surgery, orthopaedics, neurosurgery, ENT, and oral surgery—still exist as a pathway in some institutions. The demand for these positions has decreased dramatically in recent years.

We have relocated the tissue engineering lab to the office in Suite 6257. We have a hood, microscopes, -80F freeze incubator, and flow cytometers as current lab equipment. We anticipate the proximity of the lab to the patient care area and to the residents will improve interest in translational research. We also continue to develop relationships with Shawn Hunter, Ph.D., at Community Tissue Services (CTS). Greg Gould is currently training to also provide technical support in the cell culture lab. Mary Blackmore, Ph.D., continues to direct and develop the research program both in our lab and at CTS.

Clinically, we continue to develop the microsurgical program and have initiated a microsurgical autogenous breast reconstruction program at Good Samaritan Hospital to complement the program at Miami Valley Hospital. Our former residents are doing well after completing training. Todd Hicks, M.D., is performing the majority of head and neck reconstruction at Kettering Medical Center with Chuck Zeller, D.O. Parvis Goshstaby, M.D., is in private practice in Orange County, California, and Salim Mancho, D.O., is completing his craniofacial fellowship at Children’s Hospital of Los Angeles.

Ben and Michelle Monson welcomed Nolan Jack to their family on October 17, 2011, and Colin and Anna Rymer welcomed Bryn Elizabeth to their young family on December 2, 2011.

At our awards banquet, Sunishka Wimalawansa, M.D., won the Academic Achievement Award. Matthew Fox, M.D., was awarded the Teacher of the Year honor. The Chief’s Award went to Tom Arquilla, J.D., and Ryan Shapiro.

Many thanks go out to Nancy Bates, Residency Program Coordinator, for her continued hard work. She continues to make a very difficult job look easy. The residents and program directors would also like to acknowledge the outstanding contributions of the voluntary faculty including:

Rannie Alsamkari, M.D. Atul N. Balwally, M.D. Peter S. Barre, M.D. Chris J. Danis, M.D. Matthew J. Fox, M.D. Todd L. Hicks, M.D. Reza Miremadi, M.D., D.D.S. William C. Rigano, M.D. Steve P. Schmidt, M.D. Ronald E. Warwar, M.D.

The program definitely would not be able to perform without the help of the clinical staff as well. We look forward to the 2012 match with a number of excellent applicants this year.

—R. Michael Johnson, M.D.

Dr. Blackmore Brings Tissue Engineering to Division

Mary E. Blackmore, Ph.D., joined the Division of Plastic Surgery in May as director of the Regenerative Medicine Collaboration Initiative. Since she arrived, Dr. Blackmore organized and launched the Tissue Engineering and Cellular Biology Lab, in collaboration with the Community Tissue Services Center for Tissue Innovation and Research in Dayton. The purpose of this lab is to conduct adipose stem cell research to develop various types of human tissues needed in wound healing and tissue regeneration. Dr. Blackmore runs this laboratory and its associated research projects.

Dr. Blackmore received her bachelor’s in mechanical engineering from the University of Dayton and launched the Tissue Engineering Collaboration Initiative. Since she arrived, Dr. Blackmore organized and launched the Tissue Engineering and Cellular Biology Lab, in collaboration with the Community Tissue Services Center for Tissue Innovation and Research in Dayton. The purpose of this lab is to conduct adipose stem cell research to develop various types of human tissues needed in wound healing and tissue regeneration. Dr. Blackmore runs this laboratory and its associated research projects.

In Dr. Blackmore’s role with plastic surgery and orthopaedic residents, she is training them on the fundamentals of tissue engineering. She is currently developing a website with training modules to assist residents in their learning experience.

New Plastic Surgery Residency Coordinator

This past June, the Division of Plastic Surgery welcomed Nancy L. Bates as the new residency coordinator. Nancy previously served as the medical education coordinator for the Wright State University Boonshoft School of Medicine Department of Family Medicine. Taunia Robinson, B.S./B.A., who joined Grandview Medical Center’s Medical Education Department, had worked for Dr. Johnson and the division for the past 10 years.

Taunia was honored at the June 2010 graduation ceremony with the Gregory E. Maupin Chief’s Award for Outstanding Contributions to Plastic Surgery. We wish Taunia well in her new endeavor as we welcome Nancy to the Division of Plastic Surgery.

Births

Nolan Jack
Ben and Michelle Monson
October 17, 2011

Bryn Elizabeth
Colin and Anna Rymer
December 2, 2011
Update from the Director of Tissue Engineering

Tissue Engineering and Cellular Biology Lab
The Community Tissue Services (CTS) Center for Tissue Innovation and Research has been making tremendous strides in advancing its participation in cutting edge research. The lab itself has state-of-the-art equipment and is second to none in terms of space and possibilities. We have an area dedicated solely to tissue processing and cell culturing. Additionally, we have a second, separate lab space dedicated to characterization and analysis. Shawn Hunter, Ph.D., is the director of the Research and Development Department at CTS. Dr. Hunter, along with Dr. Johnson, Dr. Laughlin, and Dr. Blackmore, see very favorable and productive future for Wright State Physicians, CTS, and Miami Valley Hospital. Through this unique collaboration, we will be able to interactively gain knowledge and experience associated with tissue engineering. This opens the door to understanding how engineers, physicians, residents, and scientists are all needed to successfully develop the strong and dependable tissue engineering research program that will benefit the entire Greater Dayton area.

Resident Training Website
As research director for Wright State Plastic Surgery and the Division of Plastic Surgery, the goal is to successfully teach both plastic surgery and orthopaedic residents about the fundamentals of tissue engineering. To make this a very efficient and valuable experience for the residents, a website is being developed, which will give them access to valuable resources and materials needed as they progress through the research program. Because the amount of material is quite vast and advanced, it has been broken down into manageable modules. The modules will be completed by the residents as they simultaneously work to design, carryout, and analyze their own unique experiments. This experience is not only meant to teach them about tissue engineering and working in the lab, but the outcome of their experience will provide knowledge they can take with them into their own practice, as well as a publishable paper. Some of the topics include basics of cellular biology, introduction to biomaterials, tissue/biomaterial interactions, basic tissue and cell culturing techniques, designing a successful experiment, tissue/cell characterization, and various methods for data analysis. Just as tissue engineering is a field requiring knowledge of several different disciplines (medicine, engineering, science, biology, and math), the residents will be introduced to the education and skills associated with these disciplines, making their future medical practices that much more valuable. The first “generation” of tissue engineering involved biomaterials and realms of knowledge that focused strictly on engineering practice. We have now entered tissue engineering’s second “generation,” an era in which interactive learning and the collaboration of several different disciplines remains in the forefront of the field’s success.

– Mary E. Blackmore, Ph.D.

Visiting Professors

January 19, 2010
William C. Rigano, M.D.
Advanced Breast & Cosmetic Surgery, Inc., Kettering
Clinical Assistant Professor, Division of Plastic Surgery, Wright State University Boonshoft School of Medicine.
Out of Africa, mission trip.

January 18, 2011
Navin K. Singh, M.D., M.B.A., M.S.
Assistant Professor of Plastic Surgery Johns Hopkins University School of Medicine.
Innovations in breast reconstruction and revision.

April 19, 2011
Michael W. Neumeister, M.D.
Chair & Program Director, Division of Plastic Surgery, Southern Illinois University School of Medicine.
Botox treatment for Raynaud’s and chronic pain.

July 19, 2011
Frank E. Barone, M.D.
Clinical Professor of Surgery, Section of Plastic Surgery, Medical College of Ohio.
Breast reconstruction.

October 18, 2011
David A. Billmire, M.D.
Professor of Clinical Surgery, Division of Plastic, Reconstructive and Hand Surgery, University of Cincinnati Medical Center, College of Medicine.
Craniofacial surgery.

Current Residents

Lindsay Abbott, M.D.
University of Kansas School of Medicine, Kansas City, Ks.

Maximilian Malotky, M.D.
University of Arkansas for Medical Sciences College of Medicine, Little Rock, Ar.

Benjamin Monson, M.D.
Uniformed Services University of Health Sciences, F. Edward Herbert School of Medicine, Bethesda, Md.

M. Colin Rymer, M.D.
West Virginia University School of Medicine, Morgantown, W. Va.

Graduation

Sycamore Creek Country Club
June 11, 2011

The Division of Plastic Surgery enjoyed a graduation celebration in honor of 2011 graduate Salim N. Mancho, D.O., who was awarded a craniofacial fellowship at LA Children’s. Dr. Mancho earned a bachelor’s in biology at Lebanon Valley College in Annville, Penn. before receiving his doctorate from the Ohio University College of Osteopathic Medicine. He started his general surgery residency at Medical College of Ohio, and completed his training at Medical University of Ohio, University of Toledo Medical Center, prior to joining our division in 2008.

Division of Plastic Surgery Awards

Outstanding Teaching Award –
Matthew J. Fox, M.D.

Academic Achievement Award –
Sunishka Wimalawansa, M.D.

Gregory E. Maupin Chief’s Award for Outstanding Contributions to Plastic Surgery – Thomas J. Arquilla, J.D., M.B.A.

Current Residents

Lindsay Abbott, M.D.
University of Kansas School of Medicine, Kansas City, Ks.

Maximilian Malotky, M.D.
University of Arkansas for Medical Sciences College of Medicine, Little Rock, Ar.

Benjamin Monson, M.D.
Uniformed Services University of Health Sciences, F. Edward Herbert School of Medicine, Bethesda, Md.

M. Colin Rymer, M.D.
West Virginia University School of Medicine, Morgantown, W. Va.

Francisco Sanchez-Navarro, M.D.
University of Iowa Roy J. & Lucille A. Carver College of Medicine, Iowa City, Iowa

Sunishka Wimalawansa, M.D.
Baylor College of Medicine
Houston, Texas
Scholarly Activity

Bolded names indicate current faculty, joint-appointed faculty, and residents.

Publications


Presented at the Resident Research Symposium, Department of Orthopaedic Surgery, Wright State University Boonshoft School of Medicine, Dayton, OH, June 2011.


• Presented at the Resident Research Symposium, Department of Orthopaedic Surgery, Wright State University Boonshoft School of Medicine, Dayton, OH, June 2011.


• Presented at the Residency Research Symposium, Department of Orthopaedic Surgery, Wright State University Boonshoft School of Medicine, Dayton, OH, May 2011.


Guirton TG, King D. Science of Variation Group Participants (includes Prayson MJ). Interobserver reliability of radial head fracture classification: two-dimensional vs. three-dimensional computed tomography.

• Presented at the Adrian E. Flatt Resident & Fellows Conference, Boston, MA, October 2010.

• Presented at the 65th Annual ASSH Meeting, Boston, MA, October 2010.

• Presented at the Dutch Orthopaedic Association Annual Meeting, Groningen, Netherlands, January 2011.


• Presented at the Ortho Ohio Orthopaedic Society, Columbus, OH, May 2011.

• Presented at the Resident Research Symposium, Department of Orthopaedic Surgery, Wright State University Boonshoft School of Medicine, Dayton, OH, June 2011.


Accepted for Publication


Peters PG, Laughlin RT, Markert RJ, Nelles D, Randall KT, Prayson MJ. Time of exposure to C-arm drape contamination. Accepted by Surgical Infections 2011.

Submitted for Publication


• Presented at the Mid-America Orthopaedic Association Annual Meetings. Poster presented at the 12th Annual Dayton Area Graduate Medical Education Community (DAGMEC) Resident Research Forum, Dayton, OH, April 2011.


Duren DL. Normal human locomotion. Presented at Clinical Applications of Prosthetics & Orthotics, Department of Orthopaedic Surgery, Wright State University Boonshoft School of Medicine, Dayton, OH, March 2011.

Edwards KB, Rubino LJ, Gould G, Herbenick MA, Goswami T. Distal clavicle fixation: a biomechanical evaluation of fixation. Presented at the Resident Research Symposium, Department of Orthopaedic...


• Presented at the Adrian E. Flatt Resident & Fellows Conference, Boston, MA, October 2010.

Presentations


Barnett MD. Pedorthic management. Symposium Chair. Presented at Clinical Applications of Prosthetics & Orthotics, Department of Orthopaedic Surgery, Wright State University Boonshoft School of Medicine, Dayton, OH, March 2011.


Binski JB. How do I correct the tibia? • Taylor Spatial Frame & trauma • Advanced deformity techniques, spatial fixators. Presented at the Extremity Reconstruction Deformity Course, Istanbul, Turkey, October 2011.


Binski JB. Why my computer-assisted device is better than yours • Taylor Spatial Frame: the ultimate tool for computer-assisted complex deformity correction • adult deformities • reconstruction of malunion, pseudarthrosis, infection and bone resection. Instructional Course Sessions presented at the 6th Annual International ASAMI Meeting, Barcelona, Spain, October 2010.


Delcamp J, LaFleur B. First Place Award/Highest Final Exam Score. Awarded at the Pathology/Tumor Course, Gainesville, FL, October 2011.

Di Paula MJ. Traveling Fellowship Grant. Awarded by the Mid-America Orthopaedic Association, August 2011.

Herbenick MA. Teaching Excellence Award. Presented by the graduating residents, Department of Orthopaedic Surgery, Wright State University Boonshoft School of Medicine, Dayton, OH, June 2011.


Grants and Research


Goshatsby AA, Dong G, Miller SE, Johnson RM, Tarpey TH. Computer assisted diagnosis of skin burn depth.


Laughlin RT. Allograft assisted orthopaedic tissue repair. Ohio Third Frontier Grant Program.

Wright State University Boonshoft School of Medicine.

Laughlin RT, Anderson M, Vourazeris J. Lateral entry retrograde reaming of the femur to obtain autogenous bone graft with the Reamer Irrigator Aspirator system. DAGMEC Grant.


Prayson MJ. Fluid lavage of open wounds (FLOW): a multi-center, blinded, factorial trial comparing alternative irrigating solutions and pressures in patients with open fractures. Greenville Hospital System.

UPCOMING EVENTS

ORTHOPAEDIC SURGERY

Visiting Professor
Dayton Orthopaedic Society Meeting
Dayton Country Club
Spring 2012

Charles A. Rockwood Jr., M.D.
Professor and Chairman Emeritus, Orthopaedic Surgery
University of Texas Health Science Center at San Antonio
Dayton Orthopaedic Society
Dayton Country Club
May 3, 2012, 6:30 p.m.

Graduation Scientific Symposium
May 4, 2012

Graduation Dinner and Ceremony
Dayton Country Club
June 8, 2012

Robert Bourne, M.D.
Professor of Surgery
University of Western Ontario
Dayton Orthopaedic Society
Dayton Country Club
September 25, 2012

Current Concepts in Musculoskeletal Care
Wright State Orthopaedic Surgery, Sports Medicine & Rehabilitation
Berry Room, Nutter Center, Wright State University
October 26, 2012

Holiday Party
Dayton Country Club
December 13, 2012

Orthopaedic Surgery Residency Interviews
Dayton, OH
January 2013

Orthopaedic Surgery Alumni Reception
AAOS Annual Meeting
Chicago, IL
March 22, 2013

PLASTIC SURGERY

Armand R. Lucas, M.D.
Department of Plastic Surgery
Cleveland Clinic
Dayton Plastic Surgery Society Meeting
Dayton Marriott
April 17, 2012

Plastic Surgery Graduation
Plastic Surgery Residency Program
Sycamore Country Club
June 16, 2012

Dayton Plastic Surgery Society Meeting
Dayton, OH
July 2012

Dayton Plastic Surgery Society Meeting
Dayton, OH
October 2012

American Society of Plastic Surgeons Annual Meeting
New Orleans, LA
October 26-30, 2012

Plastic Surgery Residency Interviews
Dayton, OH
December 2012/January 2013

Send your news to Julie Knauff
jrknauff@mvh.org:
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