To learn more, visit CarolinasHealthCare.org/OrthoSurgeryReport.
increasingly valuable, due to the advancement of more effective cancer treatments.

In trauma research, Michael Bosse, MD, director of orthopaedic trauma service and orthopaedic clinical research at Carolinas Medical Center, is the principle investigator (PI) for three studies focusing on infection prevention and treatment, bone defect reconstruction, and recovery following major limb trauma. Dr. Bosse is co-PI and clinical chair for the Major Extremity Trauma Research Consortium (METRC), which was established to address the immediate research needs of the military in the acute management and long-term outcomes of severe limb injuries. Dr. Bosse and METRC are working tirelessly to help establish treatment guidelines for the optimal care of injured service members.

At The Foot & Ankle Institute in Charlotte, NC, one of the leading foot and ankle centers in the country, Robert Anderson, MD, continues building upon the subspecialty that has become one of the cornerstones of the Department of Orthopaedic Surgery. Dr. Anderson, chief of the foot and ankle service and a founding physician of The Foot & Ankle Institute, is heavily involved in several active studies and publications. Two particular studies tracking surgical outcomes in foot and ankle joint replacement and Achilles heel repair epitomize the Institute’s results-oriented efforts.

LOOKING AHEAD
The near future for our own department holds some promising prospects. In research, Helen Gruber, PhD, director of biology research in orthopaedic surgery, recently received a $50,000 grant from the North American Spine Society to conduct research on disk degeneration and low back pain. We’re also excited about the arrival of three new pediatric orthopaedic surgeons (Brian Brighton, MD, MPH; Kelly VanderHave, MD; and Brian Scannell, MD) who have already made a huge impact on our department and will continue to elevate our level of pediatric care. David Mauerhan, MD, continues to spearhead efforts to standardize care, measure quality and minimize complications for total joint replacement procedures amidst a changing healthcare environment. You can read more about these developments by visiting us at CarolinasHealthCare.org/OrthoSurgeryReport.

A PARTING WORD
While some may be apprehensive about the impending changes in healthcare, we see limitless opportunities for growth and improvement. Maintaining the highest possible levels of expertise and care – while staying focused on our objectives – will be the key to success in 2014 and beyond.

Collaboration with fellow orthopaedic surgeons is critical, and we want this newsletter to be a useful resource. We welcome your feedback at OrthopaedicSurgery@CarolinasHealthCare.org.

I hope you enjoy our first issue of The Orthopaedic Surgery Report.

Sincerely,
Edward N. Hanley Jr., MD
A 59-year-old entrepreneur suffering from severe, unexplained neck and shoulder pain came to Carolinas HealthCare System in 2012 looking for help. When imaging scans and biopsies revealed stage 4 renal cell cancer that had metastasized to the cervical spine, Carolinas HealthCare System, which is just one of five locations nationwide with an orthopaedic surgeon trained in spine surgery and musculoskeletal oncology to treat spinal tumors, treated the most symptomatic lesion first: the spine tumor. The case was an ideal fit for Joshua Patt, MD, MPH, the aforementioned specialist, who worked with his team to successfully remove both the patient’s cervical spine lesion and a thoracic spine tumor that was later diagnosed.

The case also highlights how Levine Cancer Institute has developed a national referral base for stage 4 renal carcinomas.

While Charlotte has long had a robust spine surgery community, Dr. Patt’s contributions have added expertise in spine tumors that wasn’t previously present. “Dr. Patt is well received because he’s a known entity. He came here to develop this narrow niche in which we happen to have a high volume,” said orthopaedic surgeon Jeffrey Kneisl, MD, former president of Levine Cancer Institute. “Very few places in the country can do the spine work he does.”

A LEGACY OF EXCELLENCE

Even before Dr. Patt’s arrival, Carolinas HealthCare System and Levine Cancer Institute had built a national referral base for stage 4 kidney cancers, thanks in large part to the efforts of medical oncologist Asim Amin, MD, PhD, who is active in many clinical trials, and surgical oncologist Richard White, MD, who started Levine Cancer Institute’s immunotherapy program many years ago. “There’s a long, established history of taking care of these problems with active clinical trials and excellent patient care,” Dr. Patt said. “With the introduction of the Levine Cancer Institute infrastructure, our collaborative efforts have only improved.” Similarly, the arrival of Edward Hanley Jr., MD, at Carolinas Medical Center more than 25 years ago formalized the System’s orthopaedics training program and built a nationally revered education model that has incorporated both academic physicians and the local private orthopaedics community. Dr. Hanley also established a spine research lab that has amplified Carolinas Medical Center’s national reputation in orthopaedics.

DATA COLLECTION LEADS TO QUALITY BENCHMARKING IN SPINE CARE

On another front, Dr. Patt has been working with Anthony L. Asher, MD, FACS, a neurosurgeon and co-medical director of Carolinas HealthCare System Neurosciences Institute, and neurosurgeon Matthew McGirt, MD, to broaden the scope of the data collection efforts and benchmarking in spine surgery throughout Carolinas HealthCare System.

The National Neurosurgery Quality and Outcomes Database (N2QOD), co-developed and now co-directed by Drs. Asher and McGirt, is the largest cooperative spine registry in North America. By prospectively collecting data on patient-based outcomes in spine surgery in cooperation with the national database, surgeons at Carolinas HealthCare System will be able to drive change and advance quality in spine care delivery with reference to national benchmarks. Dr. Patt is leading efforts from the orthopaedic spine care community to make this a multi-disciplinary collaboration.

Dr. Asher says information available through the clinical registry will be “absolutely foundational” for advancing quality and value in neurosurgical care delivery.

FOR MORE INFORMATION
To learn more about the National Neurosurgery Quality and Outcomes Database, visit CarolinasHealthCare.org/OrthoSurgeryReport.
Leading Trauma Research

CAROLINAS MEDICAL CENTER IS THE LEAD ENROLLING SITE FOR METRC

The Department of Orthopaedic Surgery at Carolinas HealthCare System’s Carolinas Medical Center is a founding member of the Major Extremity Trauma Research Consortium (METRC), funded by the U.S. Department of Defense. The Consortium was established to address some of the immediate research needs of the military in the acute management and long-term outcomes of severe limb injuries. Michael Bosse, MD, director of orthopaedic trauma service and orthopaedic clinical research at Carolinas Medical Center, is the METRC co-principal investigator and clinical chair. Carolinas Medical Center is currently enrolling patients in eight of the active studies – focusing on infection prevention and treatment, bone defect reconstruction, and recovery following major limb trauma. Dr. Bosse is the principal investigator on three of these studies.

ESTABLISHING TREATMENT STANDARDS

One of the current studies is testing the effectiveness and implementation of the Trauma Survivors Network, a collaborative care, multi-modal intervention designed to improve acute and post-acute care following major orthopaedic trauma. This study builds on evidence that outcomes in complex medical conditions improve when “informed, activated” patients interact with “prepared, proactive practice teams.” Carolinas Medical Center serves as an intervention site in the effort to examine the impact of this innovative psychosocial intervention.

The overall goal of METRC is to produce the evidence needed to establish treatment guidelines for the optimal care of the injured service member and, ultimately, to improve the clinical, functional and quality of life outcomes of both service members and civilians who sustain high-energy trauma to the extremities. METRC consists of a network of clinical centers from across the United States, with the Johns Hopkins Bloomberg School of Public Health serving as the coordinating center. Carolinas Medical Center is one of 22 core civilian trauma centers, four military treatment centers and 30 associate Level I trauma centers that comprise the research group.

To date, METRC has enrolled more than 1,000 patients into the prospective studies, with Carolinas Medical Center the lead enrolling site. “The opportunity to work with the top trauma centers in the nation and to be associated with the lead military treatment facilities in a project of this magnitude really highlights the capacity and capabilities of Carolinas Medical Center,” Dr. Bosse said. “The project is currently funded with more than $80 million in Department of Defense and National Institutes of Health grants. The Consortium is historic in that orthopaedic surgery has never had so much funding allocated to one group in support of critical clinical research.”

ADDITIONAL READING

Visit CarolinasHealthCare.org/OrthoSurgeryReport to learn more about METRC and the Trauma Survivors Network or for periodic updates on the study.
In 1989, Robert Anderson, MD, had recently returned to Carolinas HealthCare System after a fellowship in foot and ankle orthopaedics when he was approached by Edward Hanley, MD.

Dr. Hanley, the chairman of Orthopaedic Surgery, asked him to consider starting a new rotation that would allow residents to immerse themselves further in orthopaedic surgery, a burgeoning field of medicine that had seen recent growth. Nearly 25 years later, it’s clear the initiative provided one of the cornerstones of the System’s leading role in training young doctors, while offering a highly regarded fellowship in foot and ankle care.

“For a long time, we were one of only a few residency programs in the country that offered a rotation or residency experience in foot and ankle,” said Dr. Anderson, a founding physician of The Foot & Ankle Institute, based at Carolinas Medical Center-Mercy. “We’re very proud of what’s been created here, and we’re considered one of the leading foot and ankle centers in the country. It’s been a team effort.”

Foot and ankle subspecialty training is a growing interest for new medical school graduates pursuing orthopaedic surgery. This shift in interest has fueled the orthopaedic surgery fellowship program, which selects three fellows each year from a field of about 45 applicants.

“Our fellowship and residency program is an organized and formalized learning experience because it includes experience seeing a wide variety of foot and ankle problems – not only experience in the OR, but also in an office setting,” said Dr. Anderson, who is also a past president of the American Orthopaedic Foot & Ankle Society. “It’s a very highly sought-after position around the country.”

RESEARCH AND PATIENT EDUCATION PRIORITIZED

In 2013, the foot and ankle team co-authored three published studies. One concluded that a minimally invasive tarsi approach was a valuable method for treating intra-articular calcaneal fractures, having comparable rates as an extensile approach, yet a significantly lower incidence of wound complications and secondary surgeries when compared to those treated with an extensile approach.

Another study investigating whether stereotypical patterns of gait initiation are altered in those with posttraumatic ankle osteoarthritis resulted in the suggestion that supraspinal motor control mechanisms may have changed in those with posttraumatic ankle osteoarthritis.

The final study concluded that temporary invasive distraction with use of intra-operative external fixation can be safely performed with minimal risk of increased morbidity and offers potential technical advantages during open osteochondral graft transfer procedures for treatment of lateral osteochondral lesions of the talus.

The foot and ankle program is actively working on 17 research studies this year, and will focus on two studies tracking surgical outcomes – in foot and ankle joint replacement and Achilles heel repair.

In addition to research, the program will focus on advances in patient education. “We’d like to continue adding more Internet-based options,” said Dr. Anderson. “Rather than dictating specific treatment options to the patient, we try to educate them enough that they can make an educated choice. Providing information to patients about their individual diagnosis, treatment and prognosis is critical in order for them to make an educated choice.”

FOR MORE INFORMATION

To learn more about The Foot & Ankle Institute or to read more about the program’s most recent publications, visit CarolinasHealthCare.org/OrthoSurgeryReport.
2013 Publications

In 2013, members of the Department of Orthopaedic Surgery published numerous peer-reviewed publications. Following is a list of these accomplishments. (Bold indicates Carolinas HealthCare System physician.)

ADULT RECONSTRUCTION/TOTAL JOINT REPLACEMENT


FOOT AND ANKLE


HAND AND WRIST


ONCOLOGY


Jackson, J.B., Kneisl, J.S. Parosteal Sarcoma of the 2nd Metatarsal—A Case Report and Review of


**PEDIATRICS**


**SHOULDER AND ELBOW**


CONTINUED FROM PAGE 7


**SPINE**


**SPORTS MEDICINE**


**TRAUMA**


Krueger, C.A., Wenke, J.C., Cho, M.S., Hsu, J.R. Common Factors and Outcome in Late Upper CONTINUOUS PLATFORM


CAROLINAS HEALTHCARE SYSTEM
AT A GLANCE

Carolinas Healthcare System is one of the nation’s leading and most innovative healthcare organizations. Our nationally recognized clinicians collaborate with teams across a system of approximately 900 care locations in three states, including more than 40 hospitals.

A part of Carolinas HealthCare System, the Department of Orthopaedic Surgery at Carolinas Medical Center is home to top orthopaedic surgeons in the nation. The department features specialists in 9 orthopaedic subspecialties and published 61 peer-reviewed articles in 2013.
Stay Connected With Carolinas HealthCare System

To read more about the following, please visit CarolinasHealthCare.org/OrthoSurgeryReport.

• As aging baby boomers drive increasing demand for total joint replacements of the hip and knee, the total joint program is working to standardize care, measure quality and minimize complications. Learn more from David Mauerhan, MD, about how patients at Carolinas HealthCare System stand to gain from these ongoing efforts.

• In response to growing need, Levine Children’s Hospital has employed three orthopaedic surgeons to offer around-the-clock orthopaedics coverage and help transform this pediatric subspecialty into one of the hospital’s keystone programs.

• Carolinas HealthCare System’s Director of Biology Research in Orthopaedic Surgery, Helen Gruber, PhD, recently received a $50,000 grant from the North American Spine Society to carry out research on disk degeneration and low back pain in the coming year. In collaboration with Edward N. Hanley Jr., MD, chairman of the Department of Orthopaedic Surgery at Carolinas HealthCare System, and Jim Norton, PhD, director of biostatistics, Dr. Gruber will examine nerve and disc cell biology.