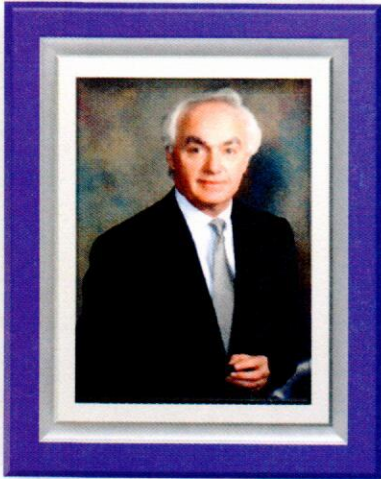




**DEPARTMENT OF ORTHOPAEDIC
SURGERY**

**12TH ANNUAL ROBERT D. D'AMBROSIA
LECTURESHIP AND RESEARCH DAY**

JUNE 19, 2015



Andrew G. King, MD
Robert D. D'Ambrosia Professor &
Department Head
Department of Orthopaedic Surgery

I believe it is appropriate that we combine research day and resident graduation on the same date.

I was disturbed to read statistics that up to 40 percent of mid-career orthopedic surgeons report feelings of "burnout". What are the causes? It is common to blame increasing paperwork, the EHR, and ICD10, but I think for many an important cause is that a successful practice comes down to a busy repetition of the same clinic and operative procedures. There is little time to think or speculate on anything beyond the problem at hand.

And yet, almost any patient's problem, when analyzed poses interesting and unanswered questions. The questions can span the cellular level (what are barriers to successful healing of this bone or tendon in this patient?) the practical level; (will open or arthroscopic treatment give the best results?) or the public level (does this procedure allow measurable improvement in quality of life that justifies the public expenditure?)

Many of these questions, especially those that require large patient numbers are better answered outside of the ivory towers of academe. Our residents rotate with surgeons in very busy private practices, who are still finding time to ask the questions like the ones I have posed. For example, Dr. Meier will present work from collaboration with Dr. Fields, a busy mid to late career sports medicine doctor in Baton Rouge. And Dr. Eiserloh, a mid-career spine surgeon from the same practice, who takes the time to have all his patients fill out quality of life questionnaires, which will allow future outcomes research.


So, I believe it is appropriate that we combine research day and resident graduation on the same day and my advice to our graduates is to find time to incorporate research into your practices. There are benefits beyond the intellectual satisfaction. Presenting your research at local, regional, or even international meetings allows you entrée into a "club" of other orthopedists who have similar interests. A lot of interesting ideas can come from chatting at a coffee break at a meeting! Research into product development may lead to speaking, consulting, and royalty arrangements. I am confident that each one of you has the abilities to accomplish these types of goals.

And the payoff may be practical. An enhanced reputation and more stars on healthgrades! You will be better informed of the latest ideas and procedures, which will benefit your patients. And you will avoid the misery of "burnout"!

Andrew G. King MD

Schedule of Events

- 7:30 am- 8:00 am Continental Breakfast**
- 8:00 am - 8:15 am **Vinod Dasa, MD**/ Director of Orthopaedic Research
Introduction
- 8:15 am - 8:30 am **Andrew G. King, MD**/ Department Chairman
Opening Remarks
- 8:30 am - 9:15 am **Jeffrey Gimble, MD, PhD** /LaCell, LLC
Stem Cells in Orthopaedics
- 9:15 am - 9:25 am* **Shaun Accardo, MD** / Chief Resident
Outcomes of the Quadriceps-sparing Lateral Approach to the Distal Femur for Tumor Resection and Endoprosthetic Reconstruction
- Fellowship: UCF and Moffitt Cancer Center
- Faculty Advisor: Douglas Letson, MD
- 9:30 am - 9:40 am* **Jared Braud, MD** /Chief Resident
Short vs Long Standing AP Radiographs for Determination of Limb Alignment in the Preoperative Evaluation for Total Knee Arthroplasty
- Fellowship: Cleveland Clinic
- Faculty Advisor: Vinod Dasa, MD
- 9:45 am - 9:55 am* **Sivashanmugam Raju, MD** / Fellow
Femoral Canal Isthmus Width in Children Under the Age of 6 Years-A radiological study
- Faculty Advisor: Michael Heffernan, MD
- 10:00 am - 10:15 am BREAK
- 10:15 am - 10:25 am* **Karim Meijer, MD** / Chief Resident
Does More Collagen in the Tunnels Matter? A modified Jobe technique using the standard 2-strand loop versus a "quad loop" graft for ulnar collateral ligament reconstruction of the elbow in high school and collegiate athletes
- Fellowship: Andrews Research and Education Institute
- Faculty Advisor: Mark Field, MD



10:30 am - 10:40 am*

Wame Wagenspack, MD / Chief Resident
*Reverse Shoulder Arthroplasty for Management of Post-Infectious
Arthropathy with Rotator Cuff Deficiency*

Fellowship: Fondren Orthopedic Group

Faculty Advisor: Brad Edwards, MD

10:45 am - 11:15 am

Eugene Dabezies, MD
Nostalgia



11:15 am - 11:30 am

Closing Remarks

*Denotes there will be 5 minutes of Q & A followed by the presenter's talk.

**Refreshments provided by:

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Zimmer



Guest Speaker

Jeffrey Gimble, MD/PhD

LaCell LLC

Tulane University Center for Stem Cell Research and Regenerative Medicine

Dr. Gimble has focused on the biology of stromal/stem cells isolated from bone and fat since 1987. He received his MD/PhD from Yale University and was an intern and resident in the Department of Internal Medicine at Barnes Hospital, Washington University in St. Louis before completing a Medical Staff Fellowship in the Immunogenetics Section of NIAID, NIH, Bethesda, MD. He began his academic career in the Immunobiology and Cancer Program at the Oklahoma Medical Research Foundation in 1987 before moving to the Department of Surgery at the University of Oklahoma Health Sciences Center in 1997. In 1999, he took his first step to the "dark side" when he joined Zen-Bio, Inc., as the Director of Tissue Engineering. In 2000, he



helped co-found Artecel Sciences, one of the first companies to explore the use of fat derived stromal/stem cells for regenerative medical applications. When Artecel closed its doors in 2003, he moved to Pennington Biomedical Research Center, a branch of the LSU System, to direct the Stem Cell Biology Laboratory. In light of his interests in bone biology, Dr. Gimble joined the LSUHSC-NO Department of Orthopaedic Surgery as an adjunct faculty. He has continued to

work closely with the Department's faculty and residents after moving to his new company, LaCell LLC, and the Tulane University Center for Stem Cell Research and Regenerative Medicine in 2013.

Outcomes of the Quadriceps-sparing Lateral Approach to the Distal Femur for Tumor Resection and Endoprosthetic Reconstruction

Shaun I. Accardo, M.D.; Scott Sabo, BS; Odion Binitie, M.D.
³David Cheong, M.D.; ³G. Douglas Letson, M.D.

Abstract

Background

The majority of malignant bone tumors occur in the distal femur. The most typically reported surgical approach for tumors in this location is the medial parapatellar approach. The lateral approach to the distal femur is a quadriceps-sparing technique, allowing for improved postoperative recovery without any compromise to implant function or longevity.

Questions/purposes

The purpose of this study is to review the surgical and functional results of patients treated with the quadriceps-sparing lateral approach to the distal femur.

Patients and Methods

One hundred and twenty-eight consecutive patients who underwent distal femoral resection and reconstruction between 2000 and 2012 at a single institution were reviewed. Of these, 52 patients had a primary procedure performed through the lateral approach and had greater than 6 months of follow-up. Demographic, surgical, and oncologic data were retrospectively reviewed on all patients. Functional outcomes were assessed by knee range of motion and the Musculoskeletal Tumor Society Lower Extremity Scoring System.

Results

The mean age of the patients was 45 years (range 14-82 years). There were 35 males and 17 females. Forty-three patients underwent distal femoral reconstruction due to primary tumors, while the other 9 patients had metastatic lesions. Mean estimated blood loss was 375 ml, mean operative time was 216 minutes and median length of hospital stay was 4 days. Follow-up was an average of 33 months (range 6-99). The average knee flexion was 107 degrees and average loss of knee extension was 3 degrees. There were a total of 14 failures: 5 due to infection (type IV), 4 due to tumor recurrence (type V), 3 due to aseptic loosening (type II), and 2 due to periprosthetic/prosthetic fracture (type III). Of the 14 failures, 10 had successful endoprosthesis revision. There were 4 amputations. The average time to failure was 18 months (range 2-62). At last follow-up, 39 patients were alive and the mean MSTS score was 24.4 (81.2%). Among the patients with primary sarcomas, overall survival was 79%.

Conclusions

The lateral approach to the distal femur for oncologic resection and reconstruction provides appropriate exposure utilizing a quadriceps-sparing technique. Postoperatively, patients have very good range of motion and functional outcome scores. Failure rates are comparable to previously reported series of distal femoral replacements. This approach also minimizes vascular exposure medially, allows for proximal extension to expose the entire femur if necessary, and potentially allows for faster functional recovery by sparing the quadriceps.

Level of Evidence

Level IV, Case series

AP Knee vs. Hip Knee Ankle Radiographs for Limb Alignment in the Evaluation for Total Knee Arthroplasty

Jared Braud MD

Background:

Currently, there is no literature evaluating the ability of limb alignment measurements on APK to precisely predict the measurement on the gold standard HKA radiograph. This study aims to determine the precision of limb alignment measurements on an APK radiograph compared to the “gold standard” hip to ankle radiograph. The hypothesis was that APK radiographs would not precisely predict limb alignment as measured on standing hip to ankle radiographs.

Methods:

The charts of 200 consecutive patients undergoing TKA were retrospectively reviewed. Inclusion and exclusion criteria were satisfied. Demographic and physical exam findings were recorded. Limb alignment measurements were then completed on APK and HKA. The measurements reviewed were FMAA, MAD on standing HKA radiographs, TFA at four locations above and below the medial joint line on HKA radiographs and tibiofemoral angle on standing APK radiographs. This data was recorded via excel spreadsheet and inverse regression calibration analysis was completed.

Results:

Twenty patients met inclusion criteria with HKA and APK radiographs on the same day. Sixteen were female and 4 male. Sixteen of the 20 had range of motion documented on the day of the radiographs. The mean BMI was 32.8[21-41], mean FM-AA was 5.08[4.1-6.2]. The hypothesis of agreement of the regression line with the line of identity for the TFA on APK radiographs was accepted by the simultaneous test of the slope and intercept. The 95% confidence interval for the predicted value was +/- 4.3 degrees. The hypotheses for agreement of regression lines for the secondary outcomes were rejected.

Conclusion:

There was agreement of the regression line of TFA measured on the APK radiographs with the identity line. However, the confidence interval was wider than clinically accepted values. We concluded that the TFA on APK radiographs do not precisely predict the limb alignment as measured on the gold standard radiographs.

Level of Evidence:

This is a retrospective review of data collected in preoperative evaluation for total knee arthroplasty. Level III diagnostic study.

Femoral Canal Isthmic Dimensions in Children: A Radiological Study

Sivashanmugam Raju MBBS MS, Akhil Andrews MBBS, Thomas Royals MD,
Michael Heffernan MD
LSUHSC/Children's Hospital, New Orleans, LA.

Background:

Treatment of pediatric femur fractures is currently guided by a chronologic algorithm. For school age children, flexible nailing is the treatment of choice. Spica casting is the mainstay for children between 6 months and 6 years. Complications associated with spica casting include compartment syndrome, skin irritation, and social issues such as transportation, return to day care, and parental missed work. Some authors have suggested flexible nailing as an option in this younger age group. The width of the isthmus determines the ability of the femur to accommodate intramedullary nails. The purpose of this study was to examine the anatomic feasibility of flexible nailing in children under the age of 6 years.

Methods:

We retrospectively reviewed 1000 femoral radiographs within our digital imaging system. Children ages 0 to 10 years with normal femur radiographs were included. We excluded all images with history of fracture, tumor, dysplasia, or surgery. A total of 230 radiographs were available for final analysis and we measured isthmus width in both AP and lateral views along with different other measurements. Mean and standard deviations were calculated for each age. ANOVA was used to compare isthmus diameter between the age groups and Pearson correlation was used to assess the relation between the variables.

Results:

The mean AP isthmus width was different between children ages 3- 6 years compared to children 6-8 years ($8.39 \pm 1.16\text{mm}$ vs. $9.22 \pm 1.24\text{mm}$, $P < 0.05$) But there was no statistically significant difference between 4 to 6 years and 6 to 8 years ($P > 0.05$). There was no statistical difference between isthmus diameter measured in AP view and lateral views. Age and femoral length positively correlated with isthmus width (Pearson coefficient was 0.640 and 0.738, respectively)

Conclusion:

Femoral isthmus width increases with age and femoral length. Isthmus diameter can be accurately measured in both AP and lateral views. Notably, the isthmus width was almost 8mm in children as young as 3 years, which is certainly sufficient to accommodate flexible nailing.

Significance:

Flexible nailing is anatomically feasible in preschool children.

Level of Evidence; Level III

“Quad Loop” versus Standard 2-Strand Loop for UCL Reconstructions of the Elbow Does More Collagen in the Tunnels Matter?

A modified Jobe technique using the standard 2-strand loop versus a “quad loop” graft for ulnar collateral ligament reconstruction of the elbow in high school and collegiate athletes

Karim Meijer, MD

Intro

The purpose of this study is to describe our results comparing a modified Jobe technique using the traditional 2-strand graft versus a 4-strand palmaris longus tendon graft or “quad loop” for ulnar collateral ligament (UCL) reconstruction of the elbow in high school and collegiate athletes.

Methods & Materials

We conducted a retrospective review of 65 high school and collegiate baseball players who had a reconstruction for ulnar collateral ligament insufficiency of the elbow using either the traditional 2-strand graft or a “quad loop” graft between 2004 and 2012 with a minimum 2-year follow-up. We used the Conway-Jobe criteria and time to return to play as our primary outcome measures. Secondary measures included complications, associated pathology, and difference in Conway-Jobe scores based on level of play.

Results

Fifty-seven of 65 patients (88%) were contacted at an average of 67.2 months post-reconstructive surgery (range, 24-113 months). Overall, 77.2% of our athletes returned to or exceeded their previous level of competition for at least 1 year, and the average time to return to game competition after reconstruction was 12.6 months (range, 7-31 months). Traditional 2-strand loops had 82% “excellent” versus 76% “excellent” in “quad loop” grafts ($p = 0.8238$). In stratifying patients by age, the high school athletes had 91% “excellent” scores versus 69% “excellent” in collegiate athletes ($p = 0.0803$).

Conclusions

The modified Jobe technique using either a standard 2-strand loop or “quad loop” graft for UCL reconstruction yields a successful return to play in high school and collegiate athletes. A trend toward better outcomes was seen in high school athletes compared to collegiate athletes regardless of graft type (2-strand loop or “quad loop”). Amateur baseball players, who had a “quad loop” graft with the modified Jobe technique, did not reproduce the outcomes reported in elite baseball players having a “quad loop” graft with the modified docking technique.

Keywords: elbow ulnar collateral ligament reconstruction; tommy john; high school and college athletes; modified Jobe technique; “quad loop”

Level of Evidence: Level 4 Case Series

Reverse Shoulder Arthroplasty for Management of Post-Infectious Arthropathy with Rotator Cuff Deficiency

Author: Wame N. Waggenpack, Jr MD

Faculty Advisor: T. Bradley Edwards, MD

Additional Authors: Brent J. Morris, MD, Gary M. Gartsman, MD, Hussein A. Elkousy, MD

Abstract

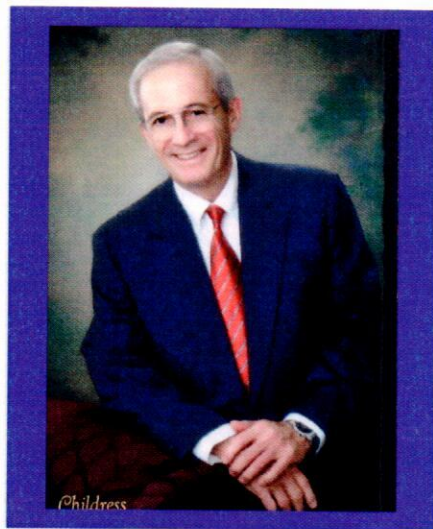
Treatment of patients with rotator cuff deficiency and arthritis in the setting of a prior glenohumeral infection (post-infectious arthropathy) is complex with little evidence to guide treatment. We present our approach to management of these patients and clinical outcomes after reverse shoulder arthroplasty (RSA). All primary RSAs performed for post-infectious arthropathy and rotator cuff deficiency with native glenohumeral joints were identified in a prospective shoulder arthroplasty registry.

Seven patients with minimum two-year follow-up and two patients with one-year follow-up were included in the analysis. Clinical outcomes including the Constant score, the American Shoulder and Elbow Surgeons (ASES) score, the Western Ontario Osteoarthritis Shoulder (WOOS) index, the Single Assessment Numeric Evaluation (SANE), and range of motion measurements were assessed preoperatively and at final follow-up. At an average follow-up of 3.9 years, no patient had a recurrence of infection. Significant improvements were noted in all outcome scores from preoperative evaluation to final follow-up after RSA including Constant score ($p<0.001$), ASES score ($p<0.001$), WOOS index ($p<0.001$), Single Assessment Numeric Evaluation (SANE) ($p=0.024$), forward flexion ($p<0.001$), abduction ($p<0.001$), and external rotation ($p=0.024$). Eight of nine patients reported they were “satisfied” or “very satisfied” at the time of final follow-up.

Reverse shoulder arthroplasty can be performed in the setting of post-infectious arthropathy and rotator cuff deficiency with a low risk of recurrence of infection and significant clinical improvements were noted at short-term follow-up.

Guest Speaker

**Eugene Dabezies MD
Professor Emeritus
Department of Orthopedics
Texas Tech University**



Dr. Eugene Dabezies is a native of New Orleans and completed medical school and residency at Tulane University School of Medicine. He completed residency training at Rancho Los Amigos in Downey, CA and with Dr. Daniel Riordan in New Orleans. His special interests are in Hand Surgery, Pediatric Orthopaedic Surgery, Trauma Surgery, and Joint Replacement Surgery.

Presently, he is Professor Emeritus at Texas Tech University Health Sciences Center Department of Orthopedic Surgery. Dr. Dabezies also serves on several hospital committees at University Medical Center in Lubbock, TX.

He has presented at numerous professional meetings and has been published in dozens of journals and text books.

Dr. Dabezies is no stranger to LSUHSC having served as Professor and Director of Resident Education for several years.



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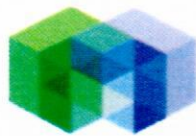
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