



International Society for Technology in Arthroplasty

34th ISTA Congress

*Emerging Technologies in Arthroplasty:
“Innovation and Entrepreneurship”*

September 27-30, 2023

Sheraton New York Times Square Hotel
New York City, NY

PROGRAM BOOK

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For the Mako Total Hip and Partial Knee applications, "cut less" refers to greater bone preservation as compared to manual surgery.^{4,7}

1. Bell SW, Anthony I, Jones B, MacLean A, Rowe P, Blyth M. Improved accuracy of component positioning with robotic-assisted unicompartamental knee arthroplasty: data from a prospective, randomized controlled study. *J Bone Joint Surg Am.* 2016;98(8):627-635. doi:10.2106/JBJS.15.00664
2. Illgen RL, Bukowski BR, Abiola R, et al. Robotic-assisted total hip arthroplasty: Outcomes at minimum two year follow up. *Surg Technol Int.* 2017;30:365-372.
3. Mahoney O, Kinsey T, Mont M, Hozack W, Orozco F, Chen A. Can computer generated 3D bone models improve the accuracy of total knee component placement compared to manual instrumentation? A prospective multi-center evaluation. Presented at: 32nd Annual Congress of the International Society for Technology in Arthroplasty (ISTA); October 2-5, 2019; Toronto, Canada.
4. Suarez-Ahedo C, Gui C, Martin TJ, Chandrasekaran S, Lodhia P, Domb BG. Robotic-arm assisted total hip arthroplasty results in smaller acetabular cup size in relation to the femoral head size: a matched-pair controlled study. *Hip Int.* 2017;27(2):147-152. doi:10.5301/hipint.5000418
5. Kayani B, Konan S, Pietrzak JRT, Haddad FS. Iatrogenic bone and soft tissue trauma in robotic-arm assisted total knee arthroplasty compared with conventional jig-based total knee arthroplasty: a prospective cohort study and validation of a new classification system. *J Arthroplasty.* 2018;33(8):2496-2501. doi:10.1016/j.arth.2018.03.042
6. Hozack WJ. Multicentre analysis of outcomes after robotic-arm assisted total knee arthroplasty. *Bone Joint J: Orthop Proc.* 2018;100-B(Supp_12):38.
7. Banks SA. Haptic robotics enable a systems approach to design of a minimally invasive modular knee arthroplasty. *Am J Orthop (Belle Mead NJ).* 2009;38(2 Suppl):23-27.
8. Data on file. Stryker's internal sales data, 2022.

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International Society for Technology in Arthroplasty

Dear Esteemed Colleagues and Distinguished Participants,

Welcome to the 34th Annual International Society for Technology in Arthroplasty (ISTA) Meeting in the vibrant city of New York!

It is our privilege to host you at this prestigious event, where we bring together pioneers and thought leaders in the field of arthroplasty. This year's collaboration between the two esteemed NY institutions: NYU Langone Orthopedic Hospital and Hospital for Special Surgery (HSS), exemplifies our unwavering commitment to excellence in arthroplasty and underscores the importance of collaboration across leading institutions.

We have meticulously crafted a program that seamlessly merges tradition with innovation, introducing new features that promise to elevate your experience:

Innovation Symposiums: Our dedication to pushing the boundaries of knowledge and innovation has never been more steadfast. We are thrilled to present a series of Innovation Symposiums that delve into the latest breakthroughs and trends at the intersection of technology and arthroplasty. These symposiums will bring together leading experts, researchers, and practitioners to discuss pioneering concepts and share invaluable insights into how technology is reshaping our field.

Breakfast and Lunch Symposiums: In addition to our traditional lectures and presentations, we are expanding our Breakfast and Lunch Symposiums. These sessions offer a platform for in-depth discussions and interactive learning. We firmly believe that these symposiums will foster collaborative dialogues and facilitate the exchange of ideas among our participants.

Short Talk Sessions: Our poster sessions have evolved into Short Talk Sessions, providing an extended canvas to showcase cutting-edge research and advancements in the field. It provides a platform for researchers to deliver their presentations on focused topics.

Shark Tank Competition: Innovators and entrepreneurs will have the opportunity to pitch their groundbreaking ideas and technologies to a panel of prestigious judges. This session promises to be a thrilling showcase of innovation and creativity, and it's just one more way we are pushing the envelope at ISTA.

We are delighted to announce that this year's annual ISTA Lifetime Achievement Award is granted to Dr. Timothy Wright from Hospital for Special Surgery. Dr. Wright's pioneering contributions to our field have been nothing short of exceptional, and his dedication to advancing the boundaries of technology in arthroplasty is an inspiration to us all.

Our heartfelt appreciation extends to our sponsors, speakers, organizing committee, reviewers, and all participants for their unwavering support in making this event possible. We eagerly anticipate the rich exchange of ideas, profound learning, and collective shaping of the future of arthroplasty through technology.

As we convene in the heart of one of the world's most iconic cities, we encourage you to make the most of your time in New York. We hope you'll seize the opportunity to explore its cultural treasures, savor its world-class dining, and take in its breathtaking sights.

Regards,

morteza meftah

Morteza Meftah, MD
President and Co-Chair

douglas padgett

Douglas Padgett, MD
Co-Chair

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LIFETIME ACHIEVEMENT AWARD

This award recognizes a lifelong contribution to advancing the state of the art in joint reconstruction that has changed the landscape of arthroplasty. Each year, the ISTA Board determines the recipient of this most prestigious award and, this year, is honored and delighted to acknowledge the lifetime achievements of **Timothy Wright, PhD**. Dr. Wright will present “Arthroplasty in 2023 – The View of a Lifetime” on Thursday, September 28th at 3:30pm.

AWARDS COMMITTEE

Nico Verdonschot, PhD - *Co-Chair*
Scott Banks, PhD - *Co-Chair*

HAP PAUL AWARD

sponsored by Canary Medical

The award is given in honor of Howard A. “HAP” Paul, DVM, who was one of the charter members of ISTA and a tireless clinician-researcher pioneering advances in arthroplasty and surgical robotics.

This year, **Prof. Justin Cobb** and co-authors have been selected to receive this prestigious award for their paper titled, “H1, a Cementless Ceramic Anatomic Hip Resurfacing: The Results of a 250pt Study at 1-5 Yrs.”, which will be presented on Thursday, September 28th at 10:30am.

Reviewers

Bernardo Innocenti, PhD
Dennis Janssen, PhD
Jonathan Jeffers, PhD
Tony Miles, PhD
Richard Van Arkel, PhD
Catherine Van Der Straeten, MD, PhD
Bill Walter, MBBS, PhD

EARLY CAREER INVESTIGATOR AWARD

This award is presented to the best paper submitted by an early career investigator on research related to the field of arthroplasty.

This year, **Periklis Tzanetis** has been selected to receive this award for his exceptional paper titled, “Toward Functional Reconstruction of the Pre-Diseased State in Robotic-Assisted Total Knee Arthroplasty”, which will be presented on Thursday, September 28th at 10:45am.

Reviewers

Martin Browne, PhD
Hani Haider, PhD
Seung-Beom Han, MD
Jih-Yang Ko, MD
Arun Mullaji, FRCSEd, MCh Orth, MS Orth
Vani Sabesan, MD
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SHORT TALK KIOSKS - LOWER LEVEL ROOM ASSIGNMENTS

WEDNESDAY, SEPTEMBER 27, 2023

4:00 PM - 5:00 PM

KIOSK 1
Sugar Hill

KIOSK 2
Chelsea

KIOSK 3
Bryant Park

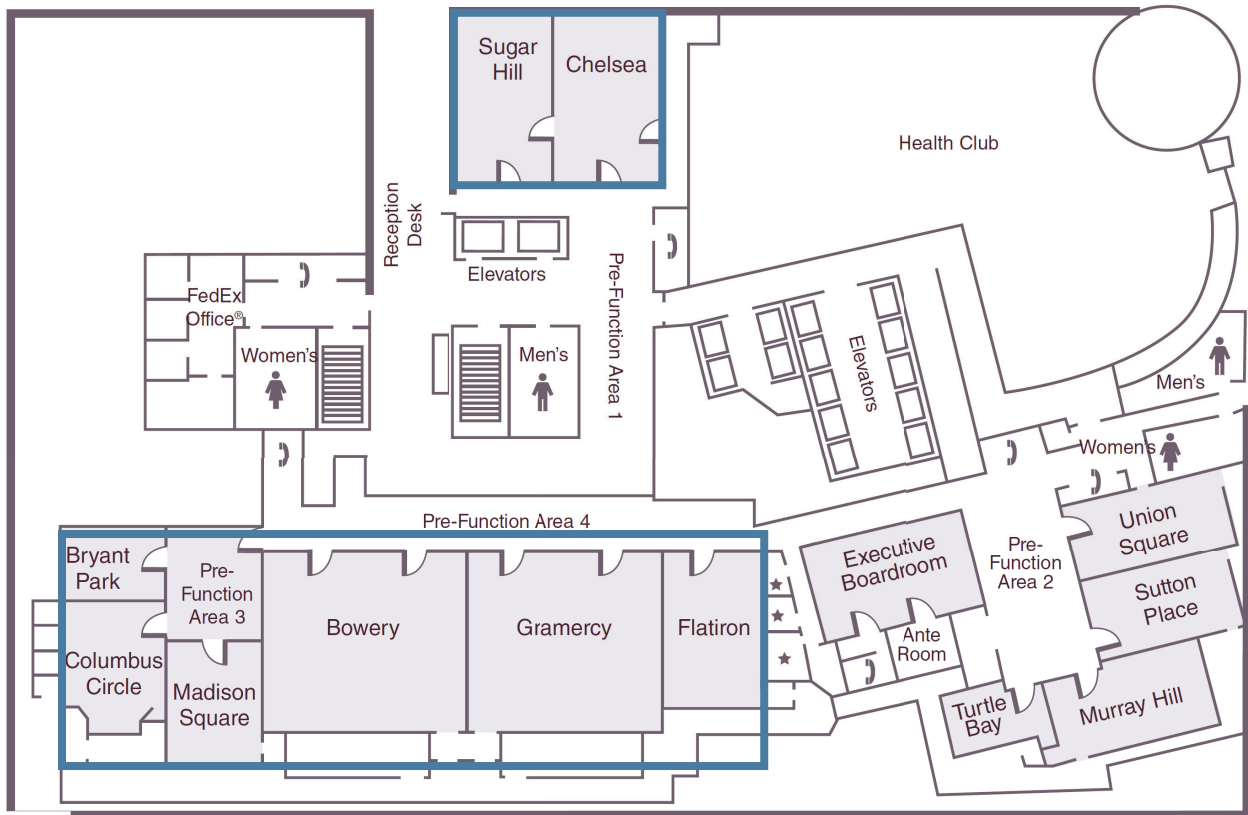
KIOSK 4
Columbus Circle

KIOSK 5
Madison Square

KIOSKS 6 - 7
Bowery

KIOSKS 8 - 9
Gramercy

KIOSK 10
Flatiron



EARLY CAREER ROUNDTABLES

Moderator: A. Seth Greenwald

Philip Noble

WEDNESDAY, SEPTEMBER 27, 2023

LENOX (2nd Floor), 5:00 PM - 6:30 PM

Please join us for the annual ISTA Early Career Roundtables! At this social event, small groups of Early Career attendees will meet prominent figures from the world of arthroplasty and participate in roundtable discussions on contemporary topics in our field. This year, the topics are: **Commercializing Your Research, Artificial Intelligence, Knee Arthroplasty Debates, Hip Arthroplasty Debates, Robotic & Smart Instrumentation, Computational & Experimental Modeling, and Data Science & Wearables.**

The format will be 3 discussion sessions of 30 minutes at tables of 12 participants - come early to claim your seat.

Sponsored by Intellijoint Surgical

WELCOME RECEPTION

WEDNESDAY, SEPTEMBER 27, 2023

CENTRAL PARK EAST/METROPOLITAN WEST (2nd Floor), 6:30 PM - 8:30 PM

Biomaterials 1**Moderators: Rafael Trommer, Edward Ebramzadeh**

4:00 pm

Incidence of Ceramic-on-Ceramic Bearing Fractures in Total Hip Arthroplasty: A 26-Year Single Tertiary Referral Center Study
HONG SEOK Kim; Young-Seung Ko; Jeong Joon Yoo

4:06 pm

TiN, TiNbN, ZrN Coated Joint Replacements Past, Present, and Future of Ceramic Coatings
Antonio Santana; Susann Schmidt

4:12 pm

Magnetic Resonance Safety Evaluation of a Novel AMC Ceramic TKA and Comparison of MR Image Artifacts to a CoCr TKA of Analogous Design
Alessandro Alan Porporati; Yvonne Moedinger; Eric D. Anttila; Grant M. Baker; David C. Gross

4:18 pm

Pyrocarbon Interposition Shoulder Arthroplasty: Analysis of Tissue Remodeling in Human and Sheep Model
Ghassene Ouenerfi; Michel Hassler; Ana-Maria Sfarghiu; Nina Attik; Remy Gauthier; Helene Follet; Jean Paul Roux; Etienne Massardier; Imbert De Gaudemaris

4:24 pm

Analgesic Doped UHMWPE for Therapeutic Implant Materials in Total Joint Arthroplasty
Nicoletta Inverardi; Sashank Lekkala; Keith Wannomae; Brad Micheli; Hany Bedair; Orhun Muratoglu; Ebru Oral

4:30 pm

Rifampin Loaded Antibiotic Cement Maintains Structural Integrity While Inhibiting Bacterial Growth
Jacob Laperche; Caitlin Barrett; Dioscaris Garcia; Valentin Antoci; Drew Clippert; Abigail Boduch; Jillian Glasser

4:36 pm

Osseointegration of Antimicrobial Iodine Surface-Treated Implants in an Ovine Model
Devendra Gorhe; Lucia Pontiroli; Imran Khan

4:42 pm

The Immune Response Against Staphylococcus Aureus in a Rat Subcutaneous Model
Yingfang Fan; Madeline McCanne; Jean Yuh; Sashank Lekkala; Amita Sekar; Ebru Oral

Computer Modeling**Moderators: Fernando Quevedo Gonzalez, Peter Walker**

4:00 pm

In Silico Clinical Trials: Our Learnings
Philippe Favre; Jeffrey Bischoff; Christine Mueri; Adam Henderson; Lukas Connolly; Hadi SeyedHosseini; Ghislain Maquer

4:06 pm

Evaluating the Varus-Valgus and Internal-External Constraint Level of a Mid-Level Constraint Total Knee System Using Finite Element Analysis
Yupin Shi; Joseph Lipman; Fernando Quevedo Gonzalez; Peter Sculco

4:12 pm

Evaluation of an Anatomically Shaped Lateral Meniscus Prosthesis Using Finite Element Analysis
Thom Bitter; Branco van Minnen; Albert van der Veen; Tony van Tienen; Dennis Janssen

4:18 pm

Femoral and Tibial Trabecular Bone Shows Up to 82% Stress Relaxation Which Could Affect the Simulated Initial Stability of Cementless Implants
Thomas Gersie; Thom Bitter; David Wolfson; Robert Freeman; Nico Verdonschot; Dennis Janssen

4:24 pm

Effect of Foot Position on Total Knee Arthroplasty in the Golfing Patient: A Video Fluoroscopic and Advanced Modelling Study
Nils Horn; Renate List; Pascal Schuetz; William Taylor; Stefan Preiss; Hamed Hosseini

4:30 pm

Stability of Glenoid Baseplate in Reverse Shoulder Arthroplasty: Use of a Finite Element Model to Predict Micromotion Measured Using an in Vitro Motion Capture Approach
Thomas Ferro; Andrea Fattori; Michele Pressacco

4:36 pm

Comparative Study of a Novel Cannulated Screw and Locking Neutralization Plate Construct Versus Tension Band Wiring for Patella Fractures: Experimental and Finite Element Analysis
Sunjung Kim; Rohan Wangikar; Farid Amirouche

4:42 pm

Credibility Assessment of Computational Models for Modular Junction Dissociation
Mehul Dharia; Maged Awadalla; Saandeep Mani; Kimberly Mimnaugh; Philippe Favre; Jeffrey Bischoff

4:48 pm

Locking Strength of Variable Angle Adapter: Is It Comparable to Morse Taper?
Maged Awadalla; Mehul Dharia; Saandeep Mani; Kimberly Mimnaugh; Philippe Favre; Jeffrey Bischoff

WEDNESDAY, SEPTEMBER 27, 2023

4:00 pm - 5:00 pm

Bryant Park

KIOSK 3

TKA Kinematics 1

Moderators: Scott Banks, John Blaha

4:00 pm

Effect of Mobile and Fixed-Bearing Knee Arthroplasty Design on Kinematics in Golf
Nils Horn; Renate List; Pascal Schuetz; Stefan Preiss; Tomas Drobny

4:06 pm

Knee Pivot Motion During Weight-Bearing Activity in a Large Cohort of Healthy Asymptomatic Individuals
Alix Cagnin; Rémi Courteille; Nicola Hagemeister; Laurence CHEZE; Alex Fuentes; Pascal-Andre Vendittoli

4:12 pm

Knee Pivot Motion Pattern During Weight-Bearing Activity May Be Associated With Patient Outcomes After Total Knee Arthroplasty
Alix Cagnin; Rémi Courteille; Alex Fuentes; Pierre Ranger; Laurence CHEZE; Nicola Hagemeister

4:18 pm

Kinematic Comparison of Cruciate Retaining Total Knee Arthroplasty With Physiological Articular Surface
Teruya Ishibashi

4:24 pm

Knee Joint Kinematic, Kinetic, and Musculoskeletal Associations With Medial Knee Osteophyte Size in Patients With Severe Knee Osteoarthritis
Annemarie Laudanski; Nadim Ammoury; Glen Richardson; Michael Dunbar; Cheryl Hubble-Kozey; Janie Wilson

4:30 pm

An Automated Approach for 3D-to-2D Registration of Total Knee Arthroplasty Fluoroscopy Using a Single Deep Learning Neural Network and Hybrid Optimization
Viet-Dung Nguyen; Michael LaCour; Richard Komistek

4:36 pm

In Vivo Knee Kinematics: Does Anterior Stabilization in a TKA Make a Difference?
Lauren Smith; Richard Komistek; Michael LaCour

4:42 pm

Serial Release of the PCL Fibers Does Not Guarantee a Uniform Reduction in Femoral Rollback in Cruciate-Retaining TKA: A Computational Study
Cynthia Kahlenberg; Brian Chalmers; William Long; Timothy Wright; Geoffrey H Westrich; David J. Mayman; Carl Imhauser; Peter K. Sculco; Reza Pourmodheji

4:48 pm

Relating Functional Kinematics to Implant Design in Total Knee Arthroplasty Based on the Location of Standardised Joint Segment Frames: An Application of REFRAME
Michael Utz; Ariana Ortigas Vasquez; Adrian Sauer; Allan Maas; William Taylor; Thomas M. Grupp; Matthias Woiczinski

4:54 pm

Kinematic Outcomes of a Bi-Cruciate Stabilized (BCS) TKA Implanted by Multiple Surgeons: Assessing Surgeon Variability
Lauren Smith; Richard Komistek; Michael LaCour; Steven Haas; Harold Cates; Jan Victor; Manuel Vieira da Silva

WEDNESDAY, SEPTEMBER 27, 2023

4:00 pm - 5:00 pm

Columbus Circle

KIOSK 4

Tribology

Moderators: Markus Wimmer, Deborah Hall

4:00 pm

Bearing Science (Non-)Friction: Effects of Stress and Speed on Friction Coefficients
Alexander Eischeid; Joel Weisenburger; Hani Haider

4:06 pm

Metal Damage Mechanisms of Total Ankle Replacements
Shona Haston; David Langton; David Townshend; Rohan Bhalekar; Thomas Joyce

4:12 pm

Differences in Wear Modes, Debris Type, and Tissue Response Between Anatomic and Reverse Shoulder Arthroplasties
Deborah Hall; Stanley Liu; Niraj Lawande; Gregory Nicholson; Grant Garrigues; Robin Pourzal

4:18 pm

The Effects of Third Body Debris on an Alternative Implant Material in Total Knee Arthroplasty
Isadora Guarino; Thomas Cisneros; Afton Limberg; Rebecca Thomson; Douglas Van Citters

4:24 pm

In Vitro Wear Behavior of Knee Implants at Different Load Levels: The Impact of the Test Fluid
Stefan Schroeder; Maximilian Uhler; Mareike Schonhoff; Timo Albert Nees; Tanja Wonerow; Jens Nuppnau; Frank Mantwill; Philippe Kretzer

4:30 pm

Fretting/Corrosion of Titanium Alloy Dual Mobility Insert Taper With and Without IBED TiN Coating
Chris Weaver; Dermott McHugh; Eric Ouellette; Tom Collier

4:36 pm

Understanding the Tribology of an All-Polymer Total Knee Replacement
Raelene Cowie; Adam Briscoe; Louise M. Jennings

4:42 pm

Bearing Science (Non-)Friction: How Bovine Serum and Its Concentrations Compare to Friction With Human Synovial Fluid
Alexander Eischeid; Joel Weisenburger; Hani Haider

4:48 pm

Performance of an ADLC-on-Titanium Femur Under Abrasive Preclinical Testing Conditions
Ryan Siskey; Alex Avendano; Lisa Lallo; Ruth Heckler; Kapil Raghuraman; John Vinciguerra

4:54 pm

In Vivo Hip Separation and Edge Loading for Novel Neutral and Lipped Liner Types
Michael LaCour; Garrett Dessinger; Jarrod Nachtrab; Thang Nguyen; Manh Ta; Richard Komistek

Shoulder Arthroplasty: Biomechanics
Moderators: Christopher Roche, Ulrich Hansen

4:00 pm

Stress Shielding in Total Shoulder Arthroplasty: An Automatic Analysis of 3D Volumetric Filling Ratio on a Novel 3D-Printed Humeral Short Stem With an Open Design

Andrea Fattori; Axel Pavan; Cristiano Pizzamiglio; Michele Pressacco

4:06 pm

The Effects of Glenoid Baseplate Peripheral Screw Number on Micromotion in Reverse Total Shoulder Arthroplasty

Elise Martin; Thomas Duquin; Mark Ehrensberger

4:12 pm

Inferior Glenoid Component Inclination Can Reduce Shear Forces in Total Shoulder Arthroplasty

Jonathan Glenday; David Dines; Joshua S Dines; Samuel Taylor; Lawrence Gulotta; Andreas Kontaxis

4:18 pm

Humeral Neck Bone Mineral Density Is Systematically Affected by the Resection Height

Ingmar Fleps; Mirella Lopez Picazo; Ghislain Maquer; Christine Mueri; Taku Hatta; Ludovic Humbert; Jeffrey Bischoff; Philippe Favre

4:24 pm

Sensitivity Analysis of the Volume of Interest When Measuring Bone Mineral Density for Stemless Shoulder Arthroplasty

Ingmar Fleps; Mirella Lopez Picazo; Ghislain Maquer; Christine Mueri; Taku Hatta; Ludovic Humbert; Jeffrey Bischoff; Philippe Favre

4:30 pm

Glenoid Components Peg's Perforation and Primary Stability in Reverse Shoulder Arthroplasty: A Morphological-Based Optimization of a Glenoid Baseplate's Peg Design

Nicola Del Negro; Andrea Fattori; Cristiano Pizzamiglio; Michele Pressacco

4:36 pm

Evaluating the Modular Connection Performance of Anatomic Shoulder Replacement System

Ravikumar Varadarajan; Jeffrey Bischoff

4:42 pm

Comparative Analysis of Loosening of Two Humeral Stems Using an in Silico Clinical Trial

Ghislain Maquer; Christine Mueri; Adam Henderson; Lukas Connolly; Jeffrey Bischoff; Philippe Favre

Implant Testing

Moderators: Jonathan Jeffers, Shuyang Han

4:00 pm

Comparisons Between in-Situ Corrosion Rates of Modular Hip Replacement Tapers Under ASTM F1875, ISO 14242, and Physiological Profiles

Samuel Perry; Gregory Pryce; Michael Bryant; Richard Hall; Gregory deBoer; Rob Beadling

4:06 pm

Benchmarking Mechanical Performance of 3D-Printed Silicon Nitride-PEEK Spinal Fusion Devices

Ryan Bock; Cemile Basgul; Paul DeSantis; Tabitha Derr; Hannah Spece; Douglas Hoxworth; Aliza Rabinowitz; Noreen J Hickok; Steven M. Kurtz

4:12 pm

Porcine Femurs as Surrogate for in-Vitro Testing of Uncemented Hip Revision Stems

Julius Böttcher; Kay Sellenschloh; Gerd Huber; Benjamin Ondruschka; Michael Morlock

4:18 pm

Utilizing Phase-Stepping to Expand DIC Capabilities: Femoral Components and Tibial Trays

Gregory Pepe; Akeem Downer; Ananthkrishnan Gopalakrishnan; Paul Andreasen

4:24 pm

How Does Design and Tray Size Affect Cementless Tibia Stability?

John Kyle Mueller; Charles Lawrie; Charlie Parduhn; Jeffrey Bischoff; Cory Trischler; Marc Bandi; Eik Siggelkow

4:30 pm

Pre-Clinical Edge Loading Testing of Hip Replacements: Do We Need to Incorporate Cup Version?

Lee Etchels; Nicholas Cooper; Ruth Wilcox; Alison Jones

4:36 pm

Evaluation of the Interlocking Mechanism Between Insert And Tibial Component of Fixed Bearing Total Knee Replacements

Kim Haeussler; Anne Gebert de Uhlenbrock; Markus Flohr; Alessandro Alan Porporati

4:42 pm

Hip Stem Micromotion Monitoring Using a Hybrid RF-Optical Measurement System

Souptick Chanda; Saurav Kumar Roy; Rik Chattopadhyay; Debasis Mitra

4:48 pm

Characterization of Acoustic Emissions Resulting From Friction of Different Bone Tissue Against Implant Material: A New Approach for Implant Loosening Detection

Magnus Reulbach; Longwei Cong; Tim Kobelt; Stefan Zimmermann; Bernd-Arno Behrens; Eike Jakobowitz

4:54 pm

Frictional Sensitivity Assessment During a Passive Knee Drop Test in a Surrogate Total Knee Model

Kevin Abbruzzese; Andre Freligh; Scott Logan; Sally LiArno

Metal Ions & Adverse Tissue Reactions
Moderators: Brian Chalmers, Amandine Impergre

4:00 pm
Should Lymphocyte Transformation Testing Be Done in Patients With Multiple Allergies?
Gerhard Maale

4:06 pm
Multi-Directional Instability and Arthrofibrosis Associated With Metal Ion Allergies Mimicking Infections
Gerhard Maale

4:12 pm
The Rate of Decline in Renal Function After Metal-on-Metal THA Is Improved by Revision Surgery for the Treatment of Adverse Reactions to Metal Debris
Masahiko Haneda; Naoko Shima

4:18 pm
The Incidence of ARMD and Revision Rate After Metal-on-Metal THA With a Large-Diameter Femoral Head
Naoko Shima; Masahiko Haneda

4:24 pm
In Vitro Effects of Lymphocytes and Macrophages on CoCrMo and TiAlV Alloys
 Lisa Phan; William Mihalko; Madison Brown; Richard Smith; Brian Morrow

4:30 pm
Failure of a Femoral Revision Knee Component With Chemical Corrosion and Elevated Metal Ions: A Case Report
Aarti Shenoy; Christopher Holland; Paul F Lachiewicz

4:36 pm
Electrochemical Properties of Synovial Fluid and Their Correlation to Patient Reported Outcomes
Madison Brown; Lisa Phan; Jordan Justice; Chandler Sears; Marcus Ford; John Crockarell; James Harkess; James Guyton; Marc Mihalko; William Mihalko

4:42 pm
Comparison of Tribo-Corrosion Behaviours of Selective Laser Melted CoCrMo and Wrought CoCrMo
Edona Hyla; Qingyue Shi; Rob Beadling; Gregory deBoer; Richard Hall; Connor Myant; Michael Bryant

4:48 pm
Real-Time AFM-Based Nanoscale Tribocorrosion Analysis - Tribogram: A New Analysis Approach
Hwaran Lee; Jeremy Gilbert

4:54 pm
Metal Allergy in Knee Arthroplasty: Current Evidence and Future Trends in Better Detection
Ram Venkatesh; Hemant Pandit

Implant Retrievals
Moderators: William Mihalko, Sabir Ismaily

4:00 pm
Retrieval Analysis of Universal II and Remotion Wrists
Goksu Kandemir; Thomas Joyce

4:06 pm
Third Body Wear in-Vivo: An Analysis of 18 Retrieved Femoral THA Components
Ilya Borukhoy; Sally LiArno

4:12 pm
Corrosion in Modular Dual Mobility Acetabular Components: A Retrieval Analysis Study
Aarti Shenoy; Ashley Pekmezian; Timothy Wright; Douglas E Padgett

4:18 pm
Arthroplasty Reasons for Retrieval Follow Innovation Over Time and Can Guide Us About the Future
Rebecca Thomson; Kori Jevsevar; Afton Limberg; Zachary Currier; Alexander Orem; Douglas Van Citters

4:24 pm
Reasons for Retrieval in Community Hospitals Compared to an Academic Medical Center
Rebecca Thomson; Kori Jevsevar; Peder Solberg; Zachary Currier; Alexander Orem; Douglas Van Citters

4:30 pm
First Report of Clinical Information and Characteristics of Hip Arthroplasty Explants Collected at a Brazilian Retrieval Analysis Center
 Renir Reis Damasceno Neto; Carlos Rodrigo De Mello Roesler; Matheus Henrique Linhares da Silva; Joao Antonio Matheus Guimaraes; Lourenco Pinto Peixoto; Marina Dias Rosa; Patricia Ortega Cubillos

4:36 pm
Results of a Zirconium Ceramicized Femoral Component in Total Knee Arthroplasty: A Retrieval Study
Afton Limberg; Zachary Currier; Kori Jevsevar; Matthew Abdel; Alexander Orem; Douglas Van Citters

4:42 pm
Damage Assessment of Primary Tibial Inserts Retrieved Up to 5 Years
 Antonio Fernandes; Alan De Paula Mozella; Enrico Fava; Gean Vitor Salmoria; Carlos Rodrigo De Mello Roesler; Patricia Ortega Cubillos

4:48 pm
Retrieval Analysis of Titanium Nitride-Coated Orthopaedic Implants
Cemile Basgul; Daniel MacDonald; Greg Klein; Nicolas Piuzzi; Steven M. Kurtz

4:54 pm
In Vivo Wear and Oxidation Analysis of Retrieved Temporal Mandibular Joint Replacement Prostheses of One Design
 Catherine Yuh; Deborah Hall; Louis G. Mercuri; Kevin E. Cordero; Robin Pourzal

THA: Implant & Instrument Design
Moderators: Scott Reese, Joseph Lipman

4:00 pm
Cup Design in Total Hip Arthroplasty With Regard to Acetabular Bone Viscoelasticity
 Miriam Ruhr; Gerd Huber; Michael Morlock

4:06 pm
Radiographic Fit and Fill Analysis of a Metaphyseal Filling Collared Stem Designed Using a Large CT Database
Joshua Rainey; Ahmad Faizan; Joshua Peterson; Manoshi Bhowmik-Stoker; Bryan D. Springer; Jeremy Gililland

4:12 pm
A Novel Evaluation Method for Primary Stability of Artificial Acetabular Shells Considering Vertical Load During Level Walking
Kazuhiro Yoshida; Kensuke Fukushima; Rina Sakai; Katsufumi Uchiyama; Naonobu Takahira; Masanobu Ujihira

4:18 pm
Determination of Mechanics and Component Positioning and in Vivo Mechanics for a Novel Compaction Broach THA Stem and a Proximal Press Fit Blade THA Using a Validated Mathematical Model

Michael LaCour; Thang Nguyen; Jarrod Nachtrab; Michel Bonnin; Richard Komistek

4:24 pm
Is Vibratory Implant Insertion a Promising Technique for Press-Fit Acetabular Cups?
Yasaman Niki; Michael Morlock; Gerd Huber; Kambiz Behzadi

4:30 pm
Non-Carbon, Ordinary Traction Table Do Not Obstruct Fluoroscopic Assistance for Total Hip Arthroplasty via Direct Anterior Approach
Seiya Ishii; Osamu Mutou; Yasuhiro Homma; Tomonori Baba; Muneaki Ishijima; Koju Hayashi

4:36 pm
Decrease in Broaching Time Using Automated Broaching in DATHA
Vibhu Banala; Eli Kamara; Zeynep Seref-Ferlengez; Yoav Zvi; Shoran Tamura

4:42 pm
Assessing Anatomical Version Angles in THA: Is There a Difference With Regard to Compaction Broach vs Blade Stems?
 Thang Nguyen; Andrew Jacobs; Thang Nguyen; Jarrod Nachtrab; Richard Komistek; Michael LaCour

4:48 pm
Determining the Optimum Dimensions of 3D-Printed Cutting Jigs for Use in Orthopaedic Surgery: A Biomechanical Study
Dean Owyang; Yiu Hin Kwan; Wei Loong Sean Ho; Gui Jie Michael Yam

THA: Alignment & Fixation
Moderators: Sophia Sangiorgio, Richard van Arkel

4:00 pm
Using Technology to Measure and Minimize Torques in Hip Arthroplasty
Rima Nasser; Justin Cobb; Jonathan Jeffers; Kabelan Karunaseelan; Takuro Ueno

4:06 pm
Increase in Femoral Offset Leads to Changes in Muscle Lengths Throughout Range of Motion
James Germano; David Liu; Duncan Bakke; Marco Schneider; Thor Besier

4:12 pm
Measuring Intra-Operative Femoral Version With Fluoroscopy in Direct Anterior Total Hip Arthroplasty
Jhase Sniderman; Michael Kain

4:18 pm
Dynamics of Intraoperative Pelvic Alignment During Total Hip Arthroplasty in the Supine Position
 Tristan Jones; Eric M Slotkin; Stefan Kreuzer; Alejandro Gonzalez Della Valle

4:24 pm
Pelvic Kinematics During Operative Motions in Direct Anterior Total Hip Arthroplasty on an Orthopedic Table
Kathryn Colone; Yashar Behnam; Daniele Marras; Casey Myers; Chadd Clary; Jacqueline Lamb

4:30 pm
Innominate Bone Rearrangement Following Large Acetabular Reconstruction
 Angelika Ramesh; Johann Henckel; Alister Hart; Sara De Angelis; Anna Di Laura; Harry Hothi

4:36 pm
Total Hip Arthroplasty With Extra-Small Femoral Stem in Hypoplastic Femurs: A Case-Series Study
 HONG SEOK Kim; Young-Seung Ko; Jeong Joon Yoo

4:42 pm
Evaluation of Three Hip Implants Across the Three Dorr Canal Types
Jarrod Nachtrab; Thang Nguyen; Michael LaCour; Richard Komistek

NOTES:

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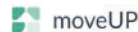
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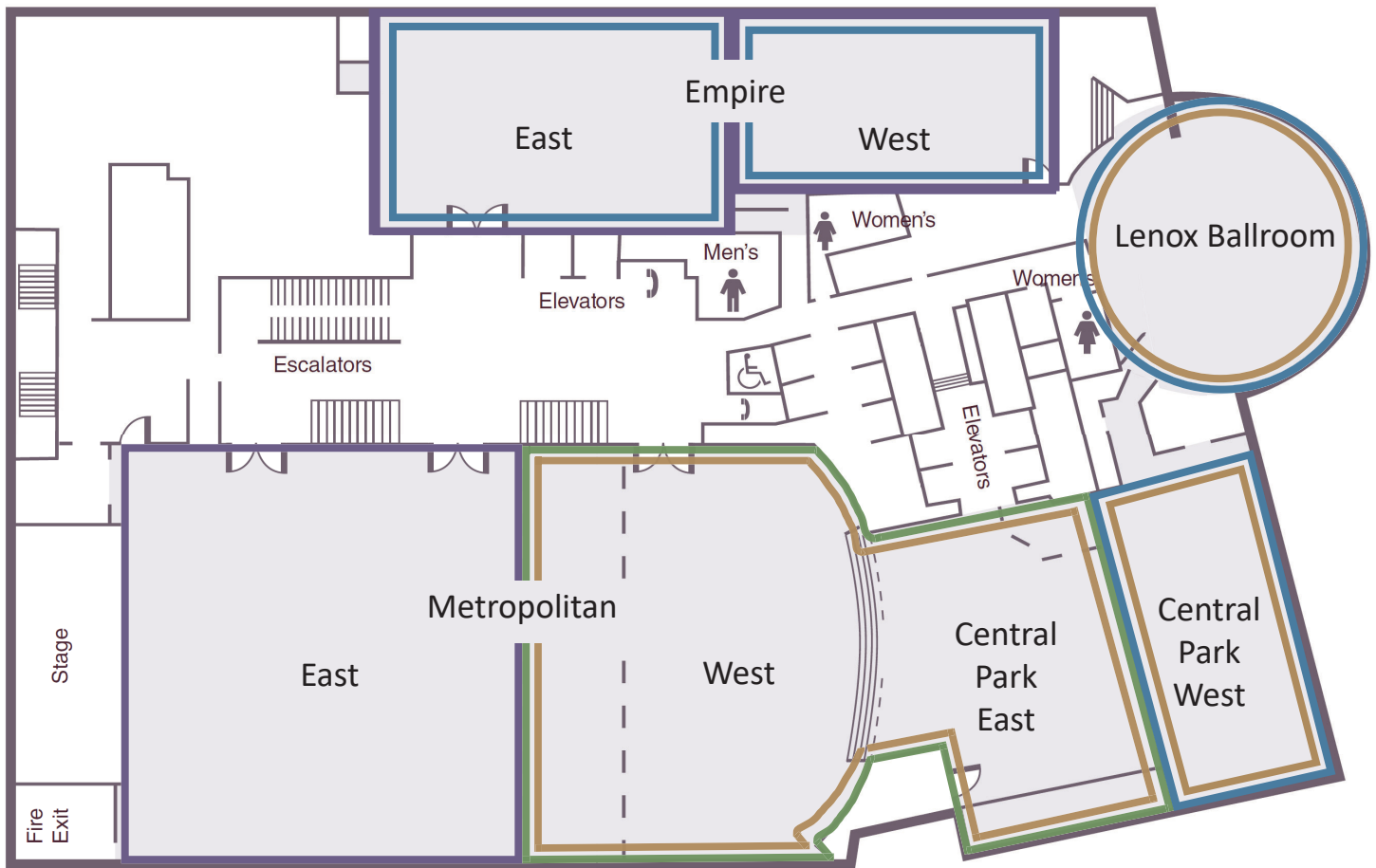
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2nd FLOOR ROOM ASSIGNMENTS
THURSDAY - SATURDAY



Podium Talks

Metropolitan East, Empire East and Empire West

E-Posters & Exhibits

Metropolitan West and Central Park East

Short Talks

Empire East, Empire West, Central Park West and Lenox

Food & Breaks

Metropolitan West, Central Park East, Central Park West and Lenox

SHORT TALK KIOSKS - 2nd FLOOR ROOM ASSIGNMENTS
THURSDAY - SATURDAY

KIOSKS 1 - 4
Lenox

KIOSKS 5 - 6
Empire East

KIOSKS 7 - 8
Empire West

KIOSKS 9 - 10
Central Park West

7:00 AM 7:30 AM 8:00 AM 8:30 AM 9:00 AM 9:30 AM 10:00 AM 10:30 AM 11:00 AM 11:30 AM 12:00 PM 12:30 PM 1:00 PM

Thursday, September 28, 2023	Metropolitan East		TKA: Robotic Surgery 1	THA: Robotic Surgery		HAP/EC	Presidential Guest Speaker	
	Empire East		AI: Hip	AI: Knee				
	Empire West		Infection	Anti-Infective Biomaterials				
	Lenox	Breakfast						Stryker
	Central Park West	Zimmer Biomet						Materialise
	Central Park East & Metropolitan West	Breakfast				Break		Lunch
Friday, September 29, 2023	Metropolitan East		Invention in Orthopedics	Approach to Funding	IP & Regulatory		Innovation Keynote	
	Empire East		TKA: Robotic Surgery 2	Imaging	TKA Bio-mechanics			
	Empire West		THA Bio-mechanics 1	THA Bio-mechanics 2	Computer Modeling			
	Lenox	Breakfast						Smith & Nephew
	Central Park West	Breakfast						Peptilogics
	Central Park East & Metropolitan West	Breakfast				Break		Lunch
Saturday, September 30, 2023	Metropolitan East		TKA: Kinematics	Knee Laxity		Alignment in TKA	TKA: Outcomes	
	Empire East		Spinopelvic Debate in THA	Hip Resurfacing		Smart Instruments	Imaging & Measurements 2	
	Empire West		Patient-Specific	Hand & Wrist Foot & Ankle		Implant Design 1	Implant Design 2	Short Talks
	Lenox							
	Central Park West	JointMedica						
	Central Park East & Metropolitan West	Breakfast				Break		

Food & Breaks

Podium Talks

Short Talks

E-Posters & Exhibits

1:00 PM
1:30 PM
2:00 PM
2:30 PM
3:00 PM
3:30 PM
4:00 PM
4:30 PM
5:00 PM
5:30 PM
6:00 PM

The Modern Implant	The Modern Knee		LTA	The Modern Hip		Metropolitan East	Thursday, September 28, 2023
Biomaterials 1	Biomaterials 2			Corrosion & Wear		Empire East	
Shoulder 1	Shoulder 2			Implant Testing		Empire West	
					Short Talks	Lenox	
						Central Park West	
		Break				Central Park East & Metropolitan West	
Strategic M&A	Success Stories		Shark Tank Finalists			Metropolitan East	Friday, September 29, 2023
Wearables & Sensors 1	Wearables & Sensors 2		Imaging & Measurements 1			Empire East	
Clinical Management	Practice Management		THA Outcomes		Short Talks	Empire West	
						Lenox	
						Central Park West	
		Break				Central Park East & Metropolitan West	
						Metropolitan East	Saturday, September 30, 2023
						Empire East	
						Empire West	
Short Talks						Lenox	
						Central Park West	
						Central Park East & Metropolitan West	

Food & Breaks

Podium Talks

Short Talks

E-Posters & Exhibits

30-Years-Outcome Following Limb Salvage With Endoprosthetic Reconstruction in a Ewing Sarcoma of the Lower Limb Involving Multiple Revisions and Complications

Laszlo Toth; Andrej Nowakowski

The Necessity of Interdisciplinary Approaches as Well as Thorough Diagnostic Evaluation in the Aging Population

Michael Robert Klauser; Debora Nowakowski; Andrej Nowakowski

Enhanced Mid-Resection Workflow Technique for Severe Varus Deformity Correction Using Robotic-Arm Assisted Total Knee Arthroplasty

Suhas Masilamani AB

15-Year Follow-Up of Metal-on-Metal Hip Replacements in Young Patients

Ahmed Abohassan; Syam Morapudi; Muhammed Umar; Steven Kershaw; Michael Flatman; Raviprasad Kattimani

Clinical Experience Using Patient-Specific 3D CT-Based Surgical Planning and Cutting Guides in High Tibial Osteotomy

Kelly Mills; Petra Heesterbeek; José Smolders

Accuracy of Additional Bone Resection for Severe Varus Knee Deformity With Tibial Bone Defect in Robotic Total Knee Arthroplasty

Yasushi Oshima; Norishige Iizawa; Tokifumi Majima

Data Collection by Digital Patient Engagement App

Maarten-Paul Van de Kerkhove; Anne Karelse

A Novel Mesh-Free Model for Accurately Simulating Material Damage During Orthopaedic Screw Pull-Out Per the ASTM F543-17 A3 Standard

Sloan Kulper; Janice Oentaryo; Rezaul Tharim; Erica Ueda

Patient-Specific Remote Pain Monitoring: Case-Report of a Patient With an Infected Wound

Ricardo Antunes; Emily Hampp; Paul Jacob; T. Elaine Justice, MSN, RN; Matthias Verstraete

Medialisation of the Acetabular Cup Impacts Hip Abductor Function

Atul Kamath; David Liu; Duncan Bakke; Marco Schneider; Thor Besier

Hip Resurfacing Indicates More Favorable Gait Parameters Post-Operatively as Compared to Total Hip Arthroplasty: A Systematic Review

Benjamin Domb; Ali P. Parsa; Tracy George; Rachel E. Bruning; Paulo P. Padilla; Mark F. Schinsky

MRI Indications for Total Hip Arthroplasty in Patients Without Advanced Osteoarthritis

Benjamin Domb; Zayd Chishti; Saiswarnesh Padmanabhan; Andrew J. Curley; Mark F. Schinsky

Learning Curve for Acetabular Registration in a Novel, Miniaturized, CT-Based Navigation Technology for THA

Tristan Jones; Eric M Slotkin; Stefan Kreuzer; Alejandro Gonzalez Della Valle; Justin Ong

Dynamics of Intraoperative Pelvic Alignment During Total Hip Arthroplasty in the Lateral Decubitus Position

Eric M Slotkin; Stefan Kreuzer; Tristan Jones; Alejandro Gonzalez Della Valle; Justin Ong

NOTES:

Is Pyrocarbon Material Inducing Articular Cartilage Regeneration ? : In Vitro Study

Michel Hassler; Imbert De Gaudemaris; Nina Attik; Remy Gauthier; Ana-Maria Sfarghiu; Amanda Lo Van

High Accuracy of a New Augmented Reality Assisted Technique for Total Knee Arthroplasty: An in Vivo Study

Philippe Van Overschelde

Scoping Literature Review of Health Economic Evaluations of Implant Materials

Ruben Mujica-Mota; Yuanyuan Wang

Assessing the Impact of Conformity Index in Post-Stabilized Knee Prostheses on Polyethylene Tibial Post Contact Stress

José Luís Medeiros Thiesen; Carlos Rodrigo De Mello Roesler; Eduardo Alberto Fancello; Amaury Sousa Sá; Caio Morgado

A Computer Vision System for Fully Automatic Tracking of Patient-Specific Native Knee Kinematics in Stereo-Radiography Sequences

William Burton; Landon Hamilton; Casey Myers; Kevin Shelburne; Paul Rullkoetter

Perioperative Outcomes in Total Knee Arthroplasty Following Preoperative Usage of a Novel Knee Bracer

Spencer Ward; Morteza Meftah; Ran Schwarzkopf; Theodore Di Pauli Von Treuheim; Hayley Raymond

Knee Stability and Patient Satisfaction in Cruciate-Retaining Total Knee Arthroplasty

Shuichi Matsuda; Shinichi Kuriyama

Is the Subluxation Percentage of the Crowe Classification a Useful Treatment Strategy for Total Hip Arthroplasty?

Keiji Otaka; Yasuhiko Takegami; Yusuke Osawa; Hiroki Iida; Yuto Ozawa; Hiroto Funahashi; Hiroaki Ido; Takamune Asamoto; Shinya Tanaka

Does Proximity to Surgeons' Office Impact Utilization of Telemedicine Visits in Total Joint Arthroplasty?

Vinaya Rajahraman; Elizabeth Stiles; Jonathan Katzman; Muhammad Haider; Roy Davidovitch; Ran Schwarzkopf; Joshua Rozell; Casey Cardillo

Identifying Sources of Error in Computer Navigated Total Knee Arthroplasties Using a Metric on SE(3) and Sensitivity Analyses

Nicole Martensson; Delaney Stevens; Kellee Stephens; Kenneth McIsaac; Brent Lanting

Treatment of the Disruption of Knee Extension Mechanism After Total Knee Arthroplasty

Toshihiro Seki; Kazushige Seki; Takashi Imagama; Takashi Sakai

NOTES:

TKA: Robotic Surgery 1

Moderators: Philip Winnock De Grave, Martin Roche

8:00 am - **Moderator Introduction**

8:04 am

Enhancing Precision in Total Knee Arthroplasty: A Novel Classification for Assessing Bone Resection Accuracy of Image-Based Robotic-Assisted Surgery Compared to Conventional Techniques

Cecile Batailler; Sebastien Lustig

8:10 am

Intraoperative Dynamic Planning With Robotics Improves Patellar Tilt Following Primary Total Knee Arthroplasty

Travis Weiner; Mouhanad El-Othmani; Alexander Neuwirth; Jeffrey Geller; Roshan Shah; John Cooper

8:16 am - **Discussion**

8:20 am

Use of Thinner Polyethylene Liners Associated With Robotic-Assisted Total Knee Arthroplasty Compared to Navigation-Guided and Manual Techniques

Tony Shen; Ryan Cheng; Mark P. Figgie; Geoffrey H Westrich

8:26 am

In-Vivo Accuracy of a New Robotically-Assisted System for Total Knee Arthroplasty: A Prospective Cohort Study

Faseeh Zaidi; Connor Fitz-Gerald; Scott Bolam; Michael M Hanlon; Jacob T Munro; Thor Besier; Andrew Paul Monk; Craig Michael Goplen

8:32 am - **Discussion**

8:36 am

Posterior Stabilizing Implant Kinematics Following Robotic Arm-Assisted Total Knee Arthroplasty
Sean Higinbotham; Azhar Ali; Xiangyi (Cheryl) Liu; Cheryl Blackwood; C. Brian Blackwood; Kevin Shelburne

8:42 am

Noise Related Injury During Robotic Total Knee Arthroplasty Compared to Manual Total Knee Arthroplasty

Dianne Pagan; Michele D'Apuzzo; Victor Hernandez; Jamie Carvajal

8:48 am - **Discussion**

8:52 am

Panel Discussion: Utility of Robotic Assisted TKA

Panelists: Fares Haddad; Arun Mullaji

Artificial Intelligence: Hip

Moderators: Stefano Bini, Scott Banks

8:00 am - **Moderator Introduction**

8:06 am

Hip-Spine Classification Automation and Population Analysis Using Deep Learning

Robert Ricotti; Seong Jun Jang; Theofilos Karasavvidis; Cale Pagan; Jonathan Vigdorichik; Peter K. Sculco; David J. Mayman; Seth A. Jerabek

8:12 am

Prediction of Pelvic Tilt on Anteroposterior Pelvic Radiographs: A Deep Learning-Enabled Analysis

Cale Pagan; Seong Jun Jang; Theofilos Karasavvidis; Peter Sculco; David J. Mayman; Jonathan Vigdorichik; Seth A. Jerabek

8:18 am - **Discussion**

8:23 am

Fully Automated AI-Based CT Analysis in Total Hip Arthroplasty

Hassan Mashad Nemati; Andreas Pettersson; Linus Bystrom

8:29 am

Automated Landmark Detection in Functional Lateral Radiographs Using Deep Learning

Gerard Smith; Edgar Wakelin; Sanjeev Gupta; Christopher Plaskos; Jim Pierrepont

8:35 am - **Discussion**

8:40 am

Automation of Segmentation Using Computer Vision and Deep Learning Algorithms

Raquel Rodriguez Martin; Laura Yanoso-Scholl; Matthew Thompson; Kevin de Souza

8:46 am - **Discussion**

8:49 am

Machine Learning Analysis of Radiographs Can Predict Failing Total Hip Replacements Before They Become Symptomatic

Vipin Asopa; Andrew Womersley; Jad Wehbe; Peter Harris; David Sochart; Keith Tucker; Richard Field

8:55 am - **Discussion**

Infection: Diagnosis & Treatment
Moderators: Vinod Dasa, Catherine Van Der Straeten

8:00 am - **Moderator Introduction**

8:05 am

A Phase 1b Open-Label, Dose-Escalating Study to Evaluate the Safety and Tolerability of PLG0206, in Patients Undergoing DAIR for Treatment of PJI Occurring After TKA: Interim Analysis

Atul Deshpande; David Huang; Nicolas Piuze; Antonia Chen; Christopher Pelt; Barbara Trautner; Despina Dobbins; Matthew Dietz; Nick Pachuda

8:11 am - **Discussion**

8:14 am

The Results of 16S DNA-NexGen Sequencing (NGS) in Culture-Negative Periprosthetic Joint Infections

Gerhard Maale

8:20 am - **Discussion**

8:23 am

Intraosseous Vancomycin in Tourniquetless Primary Total Knee Arthroplasty

Timothy Brown; Thomas Sullivan; Francesca Taraballi; Stefano Serpelloni; Pradyumna Gurusamy; Kwan Park

8:29 am

High-Concentration Continuous Local Antibacterial Perfusion Therapy for Periprosthetic Knee Joint Infection

Yuki Suzuki; Koji Iwasaki; Joutoku Zenta; Tomohiro Onodera; Masatake Matsuoka; Ryosuke Hishimura; Masanari Hamasaki; Eiji Kondo; Norimasa Iwasaki

8:35 am - **Discussion**

8:40 am

Operating Room Airborne Microbial Load; Non-Scrubbed Staff Apparel Matters

Sabir K. Ismail; David Rodriguez; Hugh Jones; Andrey Zuskov; Brian Crowley; Kartik I. Reddy; Humberto Aparicio

8:46 am - **Discussion**

8:49 am

X-Ray Visualized Biosensors for Implant Infection

John DesJardins; Jeffery Anker; Caleb Behrend; Lindsey Calcutt; Rong Wang; Josh Finkel

8:55 am - **Discussion**

NOTES:

THURSDAY, SEPTEMBER 28, 2023

9:00 am - 10:00 am Metropolitan East

THA: Robotic Surgery**Moderators: Morteza Meftah, Patrick A. Meere**9:00 am - **Moderator Introduction**

9:03 am

Robotic Surgery With Functional Evaluation 3D Software for Total Hip Replacement Mitigate Spinopelvic Mobility Effect on Impingement
Andrea Marcovigi; [Fabio Catani](#); Francesco Zambianchi; Filippo Selleri

9:09 am

Automated Digital Templating of Component Sizing Is Accurate in Robotic Total Hip Arthroplasty When Compared to Predicate Software
[Graham Buchan](#); Christian Hecht; Sebastian Rodriguez-Elizalde; Tamon Kabata; Atul Kamath

9:15 am - **Discussion**

9:19 am

Accuracy of Implant Placement for Robotic Assisted THA Based on a Multi-Center Cohort

Ajay Lall; Jonathan Vigdorichik; [Robert Marchand](#); Matthew Thompson; Seth A. Jerabek; Benjamin Domb; Laura Yanoso-Scholl; Geoffrey H Westrich

9:25 am

Predictability of Implant Templating and Positioning With a Robotic-Assisted Direct Anterior Approach

Joseph Nessler; [Laura Yanoso-Scholl](#)

9:31 am

Comparison of Computerised Tomography Based Planning of Conventional Total Hip Arthroplasty Versus Robotic-Arm Assisted Total Hip Arthroplasty: A Prospective Randomised Controlled Trial

[Andreas Fontalis](#); Babar Kayani; Dia Eldean Giebaly; Jenni Tahmassebi; Alastair Chambers; Fares Haddad; Ricci Plastow

9:37 am - **Discussion**

9:43 am

Postoperative Complications and Readmission Rates in Robotic-Assisted and Manual Total Hip Arthroplasty
[Cole Howell](#); Antonia Chen; Sietske Witvoet; Manoshi Bhowmik-Stoker; Andrea Coppolecchia

9:49 am - **Discussion**

9:51 am

Panel Discussion: Utility of Robotic THA

Panelists: [Matthew Hepinstall](#); [Doug Padgett](#)

THURSDAY, SEPTEMBER 28, 2023

9:00 am - 10:00 am Empire East

Artificial Intelligence: Knee**Moderators: Stefano Bini, Johan Bellemans**9:00 am - **Moderator Introduction**

9:04 am

In Vivo Three-Dimensional Weight Bearing Knee Kinematics Derived Using an Innovative and Automated Deep Learning Approach
[Viet-Dung Nguyen](#); Michael LaCour; Richard Komistek

9:10 am

Clinical Evaluation of an AI-Based 2D-to-3D Knee Bone Reconstruction for Patient-Specific Instrumentation in Total Knee Arthroplasty
[Hassan Mashad Nemat](#); Andreas Pettersson; Linus Bystrom

9:16 am - **Discussion**

9:20 am

Using Patient Anatomy, Demographics and Machine Learning Algorithm to Predict Bone Mineral Density for Cementless Application
[Amit Mane](#); Chase Maag

9:26 am

Is Patient Data Needed When Creating Machine Learning Algorithms for Classifying Activities During TKA Recovery?

[Andrew Meyer](#); Matthias Verstraete; Christopher DiCesare; Scott McLean

9:32 am

Detection of Knee Range of Motion From Images Using Artificial Intelligence

Ishaan Jagota; Joshua Twiggs; Brad Miles; Justin Roe; Andrew Shimmin; Jonathan Bare; Chloe Franken; [Qipeng Shen](#)

9:38 am - **Discussion**

9:44 am

Real-Time AI Surrogate Simulation Model for Enhanced TKA Outcomes: Validation and Applications in the Operating Theatre

Ishaan Jagota; Joshua Twiggs; Justin Roe; Brad Miles; David Liu; Andrew Shimmin; Jonathan Bare; [Qipeng Shen](#)

9:50 am

A Clustering Algorithm to Support Intraoperative Planning During Robotic-Assisted Total Knee Arthroplasty

[Nathan Netravali](#); Steve Yurick; Steven Nishiyama; Thorsten M. Seyler

9:56 am - **Discussion**

Anti-Infective Biomaterials**Moderators: Ebru Oral, Orhun Muratoglu**9:00 am - **Moderator Introduction**

9:04 am

Cement Loaded With High-Dose Gentamicin and Clindamycin Does Not Reduce the Risk of Subsequent Infection After Aseptic Total Hip or Knee Revision Arthroplasty: A Preliminary Study

Jean-Yves Jenny; Ceyran Hamoudi

9:10 am

Efficacy of a Vancomycin/Tobramycin-Doped Polyphosphate Dicalcium Phosphate Dehydrate (VAN/TOB-PDCPD) Composite in a Mouse Infection Model With 3D-Printed Porous Titanium Cylinders

David Markel; Therese Bou-Akl; Paula Dietz; Bin Wu; Weiping Ren

9:16 am - **Discussion**

9:20 am

Microfluidic Synthesis of Gentamicin Sulfate Loaded PLGA Microparticles

Mehmet Asik; Aybike Reyhanli; Ebru Oral; Orhun Muratoglu

9:26 am

Therapeutic Efficacy of an Erythromycin-Loaded Coaxial Nanofiber Coating in a Rat Model of Periprosthetic Joint Infection

David Markel; Dexter Powell; Bin Wu; Paula Dietz; Therese Bou-Akl; Liang Chen; Tong Shi; Weiping Ren

9:32 am - **Discussion**

9:36 am

Simultaneous Delivery of Antibiotic and Analgesic Drugs From UHMWPE for Joint Implants

Nicoletta Inverardi; Keita Fujino; Anthony Marzouca; Amita Sekar; Jean Yuh; Eileen Walsh-Rock; Mehmet Asik; Orhun Muratoglu; Ebru Oral

9:42 am

A Novel Method to Determine the Longitudinal Antibacterial Activity of Drug-Eluting UHMWPE

Amita Sekar; Sashank Lekkala; Ebru Oral; Orhun Muratoglu

9:48 am

3D-Printed Silicon Nitride-PEEK Composite Demonstrates Antimicrobial Effect in Vitro

Paul DeSantis; Ryan Bock; Noreen J Hickok; Steven Kurtz

9:54 am - **Discussion****NOTES:**

ISTA HAP Paul Award and Early Career Investigator Award
Moderators: Nico Verdonschot, Scott Banks

10:30 am
HAP Paul Award
sponsored by Canary Medical

H1, a Cementless Ceramic Anatomic Hip Resurfacing: The Results of a 250pt Study at 1-5 Yrs.

Justin Cobb; Susannah Clarke; Camilla Halewood; Robert Wozencroft; Jonathan Jeffers; Amy Maslivec

10:40 am - **Discussion**

10:45 am
Early Career Investigator Award

Toward Functional Reconstruction of the Pre-Diseased State in Robotic-Assisted Total Knee Arthroplasty

Periklis Tzanetis; Rene' Fluit; Kevin de Souza; Seonaid Robertson; Bart Koopman; Nico Verdonschot

10:55 am - **Discussion**

NOTES:

THURSDAY, SEPTEMBER 28, 2023

11:00 am - 12:00 pm Metropolitan East

THURSDAY, SEPTEMBER 28, 2023

Presidential Guest Speaker
Moderator: Morteza Meftah

11:00 am

**A Conversation with Mr. Kenneth
Langone - Entrepreneur, Philanthropist
and a Great American**

Mr. Kenneth Langone and Dr. Joseph
Zuckerman

NOTES:

THURSDAY, SEPTEMBER 28, 2023 1:00 pm - 2:00 pm Metropolitan East

The Modern Implant Designs
Moderator: Nico Verdonschot

1:00 pm
Introduction: Aims for Modern Implant Design
Nico Verdonschot

1:05 pm
Implant Design Matters
Scott Banks

1:13 pm
Current Concepts in Implant Testing
Jeffrey Bischoff

1:21 pm
New Coatings and Materials in Modern Implant Design
Steven Kurtz

1:29 pm
Additive Manufacturing: Technical Possibilities and Challenges
Timothy Wright

1:37 pm
Additive Manufacturing: Clinical Opportunities and Challenges
Joseph Lipman

1:45 pm - **Panel Discussion**

THURSDAY, SEPTEMBER 28, 2023 1:00 pm - 2:00 pm Empire East

Biomaterials 1
Moderators: Orhun Muratoglu, Steven Kurtz

1:00 pm - **Moderator Introduction**

1:06 pm
Surface Damage and Oxidation of Highly Crosslinked Polyethylene Knee Inserts Implanted More Than 10 Years
Tabitha Derr; Shabnam Aslani; Daniel MacDonald; Greg Klein; Nicolas Piuze; Steven M. Kurtz

1:12 pm
Effect of Storage Method on Oxidation Rate of UHMWPE
Zachary Currier; Barbara Currier; Taylor J Floyd; Kori Jevsevar; Douglas Van Citters

1:18 pm - **Discussion**

1:24 pm
Oxidative Degradation Profile of Retrieved UHMWPE Prosthetic Knee Liner: A Spectroscopic Analysis
Songyun Liu; Douglas Van Citters; Joshua Jacobs; Robin Pourzal

1:30 pm
Femoral Head Penetration Rates and Oxidation of Highly Crosslinked Polyethylene Hip Liners Implanted More Than 10 Years
Tabitha Derr; Josh Thekkumthala; Daniel MacDonald; Greg Klein; Arthur L Malkani; Steven M. Kurtz

1:36 pm - **Discussion**

1:42 pm
Determination of Particle Induced Osteolysis in THA With Highly Crosslinked Polyethylene Liners
Songyun Liu; Deborah Hall; Corina Dommann-Scherrer; Peter Wahl; Robin Pourzal

1:48 pm - **Discussion**

1:51 pm
Influence of Ageing in a Wet in-Vitro Environment on the Thermomechanical Properties of PMMA-Based Bone Cement
Magnus Reulbach; Crystal Emonde; Patrick Evers; Hannah Behnsen; Florian Nuernberger; Henning Windhagen; Eike Jakubowitz

1:57 pm - **Discussion**

Shoulder 1**Moderators: Ulrich Hansen, Christopher Roche**1:00 pm - **Moderator Introduction**

1:05 pm

Scapular Morphology Variation and Surgical Placement of Glenosphere Component Affects RTSA Biomechanics. a Controlled Predictive Simulation Study.

Pavlos Silvestros; George Athwal;
Joshua W Giles

1:11 pm - **Discussion**

1:14 pm

Assessing Variability in Glenoid Version and Inclination Measurements: Implications for Total Shoulder Arthroplasty

Estelle Wigmore; Benjamin East; Joshua
Twiggs; Brad Miles

1:20 pm

An in Vitro Mechanical Analysis of Glenoid Peg-Cement Interfacial Behaviour Through Neural Network-Based Segmentation and Digital Volume Correlation

Jakub Targosinski; Louis Ferreira; Jonathan
Kusins; Andrew Nelson; George Athwal

1:26 pm - **Discussion**

1:31 pm

Beyond the Glenoid: Importance of Humeral Component Orientation in Total Shoulder Arthroplasty

Estelle Wigmore; Joshua Twiggs; Brad
Miles; Benjamin East

1:37 pm - **Discussion**

1:40 pm

Influence of Surgical Variability on Humeral Stress Shielding

Christine Mueri; Adam Henderson;
Jeffrey Bischoff; Ghislain Maquer;
Philippe Favre

1:46 pm - **Discussion**

1:51 pm

The Effect of Neck Shaft Angle on Stemless Reverse Humeral Component Fixation

David Cunningham; Gregory
Spangenberg; G. Daniel G. Langohr;
George Athwal; James Johnson

1:57 pm - **Discussion****NOTES:**

THURSDAY, SEPTEMBER 28, 2023 2:00 pm - 3:00 pm Metropolitan East

The Modern Knee
Moderator: Morteza Meftah

2:00 pm
Navigated Restricted Medial Pivot KA
Morteza Meftah

2:08 pm
Robotic TKA: 3D Planning Prior to Cuts
Martin Roche

2:16 pm
Restricted Kinematic: Start with Tibia
Philip Winnock De Grave

2:24 pm
Mitigating the Post-op TKA Tsunami
Andrew Wickline

2:32 pm
Optimization of TKA Outcomes with AI
Stefano Bini

2:40 pm - **Panel Discussion**

THURSDAY, SEPTEMBER 28, 2023 2:00 pm - 3:00 pm Empire East

Biomaterials 2
Moderators: Jonathan Jeffers, Timothy Wright

<p>2:00 pm - Moderator Introduction</p> <p>2:05 pm Retrieval Analysis of Femoral and Tibial Metal Augments in Total Knee Arthroplasty <u>Hannah Spece</u>; Caroline Ries; Paul DeSantis; Greg Klein; Nicolas Piuze; Matthew Kraay; Clare Rimnac; Steven Kurtz</p> <p>2:11 pm - Discussion</p> <p>2:14 pm Bio-Inert to Bioactive: Improving the Biological Response of Ti-6Al-4V via Silicon Nitride and Aqueous PEKK Solutions <u>Jackson Hendry</u>; Tony Decarmine; Douglas Hoxworth; James Porteus; Sonny Bal; Thomas Webster; Ryan Bock</p> <p>2:20 pm - Discussion</p>	<p>2:23 pm Excellent Results of Large-Diameter Ceramic-on-Ceramic Bearing in Total Hip Arthroplasty at Minimum Ten Years Follow-Up <u>Gautier Beckers</u>; Martin Lavigne; Vincent Masse; Mina Wahba Morcos; Pascal-Andre Vendittoli</p> <p>2:29 pm - Discussion</p> <p>2:32 pm How Well Do Oxinium Femoral Heads Perform Compared to Ceramic and CoCrMo? - a Retrieval Perspective <u>Carlo Maria Canossi</u>; Deborah Hall; Bianca Romy; Jennifer Wright; Stephanie McCarthy; Michael Godoy; Robin Pourzal</p> <p>2:38 pm - Discussion</p>	<p>2:41 pm Synovial Fluid May Affect Ti-6Al-4V and CoCrMo Ion Release <u>Madison Brown</u>; Michael Kurtz; Lisa Phan; Hwaran Lee; Charley Goodwin; Lilliana Taylor; Jeremy Gilbert; William Mihalko</p> <p>2:47 pm - Discussion</p> <p>2:50 pm Electrosurgery Induced Damage to Ti-6Al-4V Implant Alloy Surfaces <u>Mohsen Karshenas</u>; Jeremy Gilbert</p> <p>2:56 pm - Discussion</p>
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Shoulder 2**Moderators: Christopher Roche, Ulrich Hansen**2:00 pm - **Moderator Introduction**

2:03 pm

A New Standard Test Method for Testing Reverse Total Shoulder Replacements
Hani Haider; Joel Weisenburger; Ryan Siskey; Ruth Heckler; Nichole Plata

2:09 pm - **Discussion**

2:12 pm

Validation of Reverse Shoulder Scapular Notching Risk for an in Silico Clinical Trial
Rodney Summers; Jeffrey Bischoff; Adam Henderson

2:18 pm

Navigation in Reverse Shoulder Arthroplasty: How the Lateralization of Glenosphere Can Affect the Clinical Outcome
Luigi Tarallo; Fabio Catani; Alessandro Dona; Marta Montanari

2:24 pm - **Discussion**

2:28 pm

Outcomes of Augmented vs Standard Baseplates in Reverse Shoulder Arthroplasty

Carlos Fernandez; Vani Sabesan; Sarah Girshfeld; Brandon Macknofsky; Clyde Fomunung; Howard Routman; Ali Mohamed; Garrett Jackson

2:34 pm

Evaluating the Effect of Simulating Extreme Physiological Loads on Interface Fixation of Stemless Reverse Humeral Component Fixation

David Cunningham; G. Daniel G. Langohr; George Athwal; James Johnson

2:40 pm - **Discussion**

2:44 pm

Automated Bicipital Groove Detection in 3D Humerus Models Using Computer Vision

Gregory Spangenberg; Fares Uddin; Kenneth J. Faber; G. Daniel G. Langohr

2:50 pm

Association of C. Acnes With Histopathologic and Tribological Characteristics of Retrieved Shoulder Arthroplasties

Deborah Hall; Alexander L. Hornung; Niraj Lawande; Stanley Liu; Gregory Nicholson; Robin Pourzal; Grant Garrigues

2:56 pm - **Discussion****NOTES:**

THURSDAY, SEPTEMBER 28, 2023

3:30 pm - 4:00 pm

Metropolitan East

THURSDAY, SEPTEMBER 28, 2023

Lifetime Achievement Award
Moderator: Morteza Meftah

3:30 pm

**Arthroplasty in 2023 – The View of a
Lifetime**

Timothy Wright, PhD

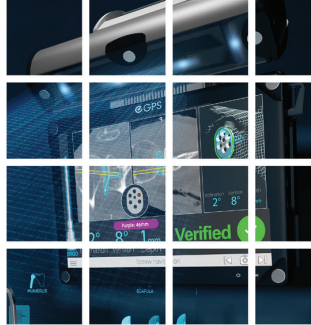
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NOTES:

THURSDAY, SEPTEMBER 28, 2023 4:00 pm - 5:00 pm Metropolitan East

The Modern Hip
Moderator: Fares Haddad

4:00 pm
Sides Matter: Preoperative Dynamic Spinopelvic Assessment Techniques
Russell Bodner

4:08 pm
Robotic THA: The Power of 3D Planning
Fares Haddad

4:16 pm
Fixation Challenges in Post Traumatic and Revision Hip Arthroplasty
David Rodriguez

4:24 pm
Augmented Reality in THA
Stephen Murphy

4:32 pm
Resurfacing is Back
Justin Cobb

4:40 pm - **Panel Discussion**

THURSDAY, SEPTEMBER 28, 2023 4:00 pm - 5:00pm Empire East

Corrosion & Wear
Moderators: Markus Wimmer, A. Seth Greenwald

4:00 pm - **Moderator Introduction**

4:06 pm
Wear Simulation of Metal-on-Polyethylene Total Hip Arthroplasty Under Varying Third-Body Conditions
Ilya Borukhov; Rafael Baez; Sally LiArno

4:12 pm - **Discussion**

4:15 pm
Wear, Corrosion, and Adverse Tissue Response in 2nd Generation Small-Diameter Metal-on-Metal Total Hip Arthroplasties
Stephanie McCarthy; Peter Wahl; Deborah Hall; William Elzemeyer; Pat Campbell; Sophia Sangiorgio; Edward Ebrahimzadeh; Douglas Van Citters; Joshua Jacobs; Robin Pourzal

4:21 pm
Additively Manufactured Ti-6Al-4V Oxide Degradation Precipitates Pit Nucleation
Michael Kurtz; Kazzandra Alaniz; Jeremy Gilbert

4:27 pm - **Discussion**

4:33 pm
The Effect on Fretting Corrosion of Four Taper Design Parameters Using Design of Experiments Principles and a Novel in-Vitro Fretting Current Test Method
Adam Shallenberg; Eric Ouellette

4:39 pm - **Discussion**

4:42 pm
Failure Following Revision Total Hip Arthroplasty After Cobalt-Chrome Femoral Heads Are Placed on a Retained Femoral Stem
Gloria Coden; Nicholas Pagani; David M. Ramsden; Thomas Zink; Daniel Ward; James V Bono; Carl Talmo

4:48 pm - **Discussion**

4:51 pm
Selective Dissolution of Additively Manufactured Ti-6Al-4V
Michael Kurtz; Peter Kurtz; Audrey Wessinger; Aldo Moreno-Reyes; Jeremy Gilbert

4:57 pm - **Discussion**

Implant Testing**Moderators: Hani Haider, Jeffrey Bischoff**4:00 pm - **Moderator Introduction**

4:06 pm

Inducible Displacement of Cementless Femoral and Tibial Components at Multiple Squat PositionsRebecca Hext; Jordan Broberg; Brent Lanting; Matthew Teeter; James Howard

4:12 pm

Tibial Baseplate Migration Two Years After Unrestricted Kinematically Aligned Total Knee Arthroplasty Indicates Low Risk of Baseplate Loosening in Individual PatientsAbigail Niesen; Pranav Tirumalai; Stephen Howell; Maury Hull4:18 pm - **Discussion**

4:24 pm

Preclinical Testing of Stemless Shoulder Implant StabilityKyle Snethen; Yang Son; Christine Mueri; Marc Bandi; Jeffrey Bischoff4:30 pm - **Discussion**

4:33 pm

Comparing the Kinematics of TKA During Quadriceps-Controlled Squat Simulations Versus Directly Controlled Flexion With Superimposed Quadriceps ForcesAlexandre Galley; Ilya Borukhov; Brent Lanting; Ryan Willing4:39 pm - **Discussion**

4:42 pm

In-Vitro Comparison of Glenoid Cartilage Wear on Metal and Ceramic in Shoulder HemiarthroplastyHazimah Mahmud; Dong Wang; Anthony Bull; Roger JH Emery; Andrew Amis; Peter Reilly; Ulrich Hansen4:48 pm - **Discussion**

4:51 pm

Primary Stability of a New TendoClip Fixation Procedure for Tuberosity Reattachment on Total Shoulder EndoprosthesisMaximilian Uhler; Thilo Patzer; Joerg Fleischer; Daniel Knopp; Philippe Kretzer4:57 pm - **Discussion****NOTES:**

THURSDAY, SEPTEMBER 28, 2023

5:00 pm - 6:00 pm Lenox

KIOSK 1

Artificial Intelligence**Moderators: Stefano Bini, Matthias Verstraete**

5:00 pm

Fast and Accurate Automated Segmentation of Pelvis and Femur Bones From CT Scans Is Robust to Sex, Age, and Ethnicity, and Enables 3D Preoperative Planning of THA SurgeryMarco Schneider; Lilian Lim; Chris Rapson; Alex Carleton; Ravik Hira; Thor Besier; Ju Zhang

5:06 pm

Improving Care Efficiency in Adult Reconstruction Clinics: Validation of a 9-Question Survey for Diagnosing Hip OsteoarthritisDrew Clippert; Caitlin Barrett; Valentin Antoci; Jacob Laperche

5:12 pm

Radiographic Findings Associated With Mild Hip Dysplasia in 3,869 Patients Using With a Deep Learning Measurement ToolSeong Jun Jang; Daniel Driscoll; Christopher G. Anderson; Ruba Sokrab; Dimitrios Flevas; David J. Mayman; Jonathan Vigdorich; Seth A. Jerabek; Peter K. Sculco

5:18 pm

Automated Landmark Detection and Derivation of Anatomic Measurements in Pelvic Anteroposterior RadiographsGerard Smith; Edgar Wakelin; David Dewar; Ellie Hobba; Christopher Plaskos; Jim Pierrepont

5:24 pm

Autonomous Extraction of Stifle Joint Kinematics From Single-Plane Fluoroscopic ImagesSasank Desraj; Andrew Jensen; Scott Banks; Selena Tinga; Stephen Jones

5:30 pm

An Artificial Intelligence Chatbot Is an Accurate and Useful Online Patient Resource Prior to Total Knee ArthroplastyWalter Taylor; Ryan Cheng; Aaron Weinblatt; William Long

5:36 pm

AI Detection of Pain From Facial Expression – the New PROMS?Ishaan Jagota; Joshua Twigg; Brad Miles; Justin Roe; Frances Yu; Qipeng Shen

5:42 pm

Improving Care Efficiency in Adult Reconstruction Clinics: Validation of a 9-Question Survey for Diagnosing Knee OsteoarthritisDrew Clippert; Caitlin Barrett; Valentin Antoci; Jacob Laperche

5:48 pm

Assessing Ability for ChatGPT to Answer Total Knee Arthroplasty-Related QuestionsMatthew Magruder; Ariel Rodriguez; Orry Erez; Che Hang Jason Wong; Nicolas Piuze; Peter Sculco; Michael Mont

THURSDAY, SEPTEMBER 28, 2023

5:00 pm - 6:00 pm Lenox

KIOSK 2

Imaging**Moderators: Matthew Teeter, Nobuhiko Sugano**

5:00 pm

Evaluating Pelvic Parameters Before and After the Medial Open Wedge High Tibial Osteotomy Using EOS SystemByung Hak Oh

5:06 pm

Phantomless Density Calibration Compared Against Mindways Model 3Nathan Pyle; Carla Winsor; Bryan Kirking; Perry J Pickhardt

5:12 pm

Impact of Radiographic Projection on Assessment of Internal Femoral Geometry and Templating Stem SizeOscar Denton; Alex Lennon; David Beverland; Janet Hill; Nicholas Dunne

5:18 pm

Determining Axial Rotation of the Pelvis at the Time of an AP Radiograph: A Novel APP Based AlgorithmFriedrich Boettner; Ajay Premkumar; Lyubomir Haralambiev

5:24 pm

Validation of a Medical Device for Varus/Valgus Stress Radiographs of the Arthritic KneeThomas Hamilton; Stephen Mellon; David Murray

5:30 pm

NextAR TKA: Intraoperative, 3-Dimensional, Dynamic Ligament Assessment to Achieve Optimal Balance of the KneeDaniele Ascani; John Mercuri; Massimiliano Bernardoni

5:36 pm

Comparison of 3D Bone Models of the Knee From MDCT and CBCT ImagingStuti Singh; Philippe Van Overschelde; Conrad Ivie; Yu Peng

5:42 pm

Characterization of Proximal Tibia Bone Density in Patients Undergoing Primary Total Knee ArthroplastyFernando Quevedo Gonzalez; Tracy Borsinger; Joseph Lipman; Cale Pagan; Theofilos Karasavvidis; Peter Sculco; Cynthia Kahlenberg; Eytan Debbi; Timothy Wright; David J. Mayman; Jonathan Vigdorich

5:48 pm

Clinically Meaningful Changes in Cup Anteversion and Inclination Angles Are Observed on Anteroposterior X-Rays Due to Parallax DistortionEmily McIntosh; Kieran Eveleigh

5:54 pm

Material Mapping Agnostic Partial Volume Artifact Correction for CT ImagesAren Beagley; Joshua W Giles

Economics

Moderators: S. David Stulberg, Yifei Dai

5:00 pm
Factors That Influence Resource Utilization Following Primary Lower Extremity Total Joint Arthroplasty

Jimmy Daher; Bhumit Desai; Willard Moore III; Cruz Velasco-Gonzalez; George Chimento

5:06 pm
Assessing the Effect Covid Protocols on the Timing of Orthopedic Operating Room Events and Efficiency

Jacob Laperche; Valentin Antoci; Drew Clippert

5:12 pm
The Removal of TKA From the CMS Inpatient Only List: What Was the Immediate Impact?

Jacob Laperche; Caitlin Barrett; Drew Clippert; Dioscaris Garcia; Valentin Antoci

5:18 pm
Out-Patient Total Hip and Knee Arthroplasty Exchange. a Feasibility Study
Jean-Yves Jenny

5:24 pm
Can Modifiable Lifestyle Risk Factors Impact Healthcare Resource Utilization and Costs After Shoulder Arthroplasty?

Carlos Fernandez; Vani Sabesan; Anna Redden; Clyde Fomunung; Howard Routman

5:30 pm
Trends in Revenue, Cost, and Contribution Margin of Patients With a High Comorbidity Burden Undergoing Total Hip Arthroplasty From 2013 to 2021

Itay Ashkenazi; Jonathan Katzman; Jeremiah Thomas; Muhammad Haider; Casey Cardillo; Roy Davidovitch; Morteza Meftah; Ran Schwarzkopf; Patrick Connolly

5:36 pm
Reduction in Rate of Implant Waste Associated With Robotic-Assisted Total Hip Arthroplasty

Tony Shen; Ryan Cheng; Yu-Fen Chiu; Mark P. Figgie; Geoffrey H Westrich

5:42 pm
Market Resilience of Orthopaedic Hip/Knee Arthroplasty Sales During COVID-19

Mitchell Ng; Ahmed Emara; Matthew Magruder; Aaron Lam; Afshin Razi; Che Hang Jason Wong; Michael Mont; Nicolas Piuze

5:48 pm
TKA Instrument Tray Reduction: Ambulatory Surgical Center Costs and Safety

Robert Eberle; Greg Daubs, MD; Chad Hanson

5:54 pm
Optimizing Technology for Efficiency Across the Surgical Episode of Care

Danielle Edwards; Kelly Gritschke

Function & Imaging

Moderators: Richard van Arkel, Douglas E Padgett

5:00 pm
Investigating Knee Motion Symmetry in Total Knee Arthroplasty Patients Receiving Different Implant Designs

Nicholas Ryan; Eric Darmon; Mario Lamontagne; Geoffrey F Dervin

5:06 pm
Single Leg Stance and Timed Up and Go Tests Are Correlated With Objective Mobility Measures Following Arthroplasty

Roberta Redfern; Mike Anderson; Jason Cholewa; Dave Van An del

5:12 pm
Correlation Between Coronal Alignment and Early Postoperative Walking Ability After Bilateral TKA

Takaaki Nakai; Kousuke Sakata; Yuto Nishioka; Atsunori Ohnishi; Tsuyoshi Nakai

5:18 pm
Robotic-Assisted Total Knee Arthroplasty Is Associated With Earlier Return of Symmetrical Limb Function Compared to Conventional Total Knee Arthroplasty: A Prospective Cohort Study

Faseeh Zaidi; Scott Bolam; Michael Goplen; Ted Yeung; Jacob T Munro; Michael M Hanlon; Thor Besier; Andrew Paul Monk; Craig Michael Goplen

5:24 pm
Does the Knee Adduction Moment Measured From Static Radiographs Correlate With Dynamic Moments Measured During Gait?

Fernando Quevedo Gonzalez; David J. Mayman; Theofilos Karasavvidis; Cale Pagan; Joseph Lipman; Timothy Wright; Peter K. Sculco; Cynthia Kahlenberg; Jonathan Vigdorchik; Eytan Debbi

5:30 pm
Determination of Knee-Specific Movement Capacity From Articular Contact Geometry

Ahmet Erdemir; Neda Abdollahi; Snehal Chokhandre

5:36 pm
Impact of Intra-Articular and Extra-Articular Deformity on the Femoral Trans-Epicondylar Axis

Arun Mullaji

5:42 pm
Patient Factors Impacting the Localization of the Popliteal Artery Before TKA as Assessed by MRI

Yoshinori Ishii; Hideo Noguchi; Junko Sato; Ikuko Takahashi; Kai Ishii; Yasumitsu Toribatake

THURSDAY, SEPTEMBER 28, 2023

5:00 pm - 6:00 pm

Empire East

KIOSK 5

TKA Kinematics 2

Moderators: Peter Walker, Philip Noble

5:00 pm

Condylar Motion of Human Cadaveric Knees Before and After Sacrificing Both Cruciate Ligaments

Saskia Anna Brendle; Sven Krueger; Joachim Grifka; Peter E. Mueller; Thomas M. Grupp

5:06 pm

Evaluation of the Kinematic Pattern of a Modern Posterior-Stabilized Implant Design Utilising Robotic-Arm Assistance

Fabio Mancino; Andreas Fontalis; Ricci Plastow; Ahmed Magan; Fares Haddad

5:12 pm

Differences in Tibiofemoral Contact Locations Between Bicruciate-Retaining and Posterior Cruciate-Retaining TKA

Kelly Mills; Bart Kaptein; Simon Van Laarhoven; Petra Heesterbeek

5:18 pm

DRR Acceleration Using Inexpensive GPUs for Model-Image Registration Based Joint Kinematic Measurements

Satoru Ikebe; Takeshi Shimoto; Hidehiko Higaki; Scott Banks

5:24 pm

Achieving High Weight-Bearing Flexion With an ACL Retaining TKA: Is Surgeon an Even Larger Difference Maker?

Lauren Smith; Richard Komistek; Michael LaCour; Michael Ries; Jan Victor; Mark Freeman

5:30 pm

Early Safety and Performance Data on the Novel PEEK-Optima Metal Free TKA System

Frederique Vanermen; Willem Geuskens; Peter Verdonk

5:36 pm

Novel Polymer Femoral Component as a Metal-Free Alternative for TKA

Asit Shah; Shaan Sadhwani; Robert Eberle

5:42 pm

Good Fit of Modern Symmetric Tibia Component Designs on Asian and Caucasian Statistical Shape Models

Ingrid Dupraz; Philipp Hauff; Brigitte Altermann; Yukihide Minoda; Nikolai Kornilov; Thomas M. Grupp

5:48 pm

Role of FEA and Experimental Data in Validation of Contact Pressures and Pressure Distribution in Knee Joints With Chondral Defects of Varying Sizes

Sunjung Kim; Farid Amirouche

THURSDAY, SEPTEMBER 28, 2023

5:00 pm - 6:00 pm

Empire East

KIOSK 6

Robotic-Assisted TKA: Laxity & Alignment

Moderators: Patrick A. Meere, Fares Haddad

5:00 pm

Validation of Flexion Gap Evaluation Tool for Robot-Assisted TKA

Ryuichi Gejo; Makiko Nogami; Hayato Mine; Takashi Tamura; Yoshiharu Kawaguchi

5:06 pm

Evaluating Joint Laxity in Robotic-Assisted and Conventional Total Knee Arthroplasty and Intact Knees

Emma Donnelly; Brent Lanting; Ryan Willing; Samira Vakili; Steven MacDonald; Megan Richards

5:12 pm

Ligament Balance in Image-Based Robotic-Assisted TKA With Functional Positioning: An Objective Assessment Using Intraoperative Sensor Technology

Cecile Batailler; Sebastien Lustig; Julien Erard

5:18 pm

Robotic-Assisted Total Knee Arthroplasty Can Increase Frequency of Achieving Target Limb Alignment in Primary Total Knee Arthroplasty

Bradley Lambert; Austin Winger; Thomas Sullivan; Timothy Brown; Stephen Incavo; Kwan Park

5:24 pm

Robotic Total Knee Arthroplasty Is Associated With Earlier Return of Postoperative Range of Motion

Travis Weiner; Emily Ferreri; Nana Sarpong; Roshan Shah; John Cooper

5:30 pm

Early Results for Robotic TKA in Patients in 7th Decade With High BMI and Valgus Alignment

Shantanu Patil; Ashok Kumar P. S.; Pichai Suryanarayan; Vijay C Bose; Kalaivanan Kannian; Siddharth Karthic; Arul Prasanna

5:36 pm

The Learning Curve Associated With a New Robotic Total Knee Arthroplasty System

John Cooper; Travis Weiner; Alirio J deMeireles; Xavier Ferrer; Roshan Shah

5:42 pm

The Utilization of Robotic Technology to Restore Knee Alignment Based on CPAK Classification in Varus Knees Following Total Knee Arthroplasty

Weston Buehring; Vishavpreet Singh; Patrick Meere; Matthew Hepinstall; Morteza Meftah; Catherine Di Gangi

5:48 pm

Can Imageless Navigation Accurately Determine CPAK in Total Knee Arthroplasty?

Adam Edelstein; Linda Suleiman; Simon Coffey; Christopher Plaskos; Alexander Orsi

5:54 pm

Quantifying Balance Intra-Operatively With a Robotic Surgical Assistant in Total Knee Arthroplasty

Mike Anderson; Joseph Brook; Karl Surmacz; Adam Henderson

THURSDAY, SEPTEMBER 28, 2023

5:00 pm - 6:00 pm

Empire West

KIOSK 7

Knee Alignment

Moderators: Philip Winnock De Grave, Jan Victor

5:00 pm

Multi-Modality Comparison of CPAK Measurements for TKA Planning
Stuti Singh; Yu Peng; [Philippe Van Overschelde](#)

5:06 pm

The Coronal Plane Alignment of the Knee Classification Does Not Correlate With the Lower Limb Phenotype
[Jean-Yves Jenny](#); Florent Baldaïron

5:12 pm

Ethnic Differences in CPAK Distribution Using 3d Segmented Bones
[Adam Henderson](#); Mike Anderson; Jeffrey Bischoff

5:18 pm

Implant Sensitivity Assessment During a Passive Knee Drop Test in a Surrogate Total Knee Model
[Kevin Abbruzzese](#); Andre Freligh; Scott Logan; Sally LiArno; Stefano Bini; Jared Weir

5:24 pm

Surgical Trends for Managing Knee Osteonecrosis: A 2010 to 2020 United States Nationwide Study
Mitchell Ng; Adam Gordon; Aaron Lam; Matthew Magruder; Nikhil Vasireddi; Nicolas PiuZZi; Afshin Razi; Orry Erez; Giles Scuderi; Michael Mont; [Ariel Rodriguez](#)

5:30 pm

Collecting Long-Term (5 to 10-Years) Patient-Reported Outcome Measures May Be Unnecessary for Total Knee Arthroplasties
Pedro Rullan; Ignacio Pasqualini; Alison Klika; Jianhua Shen; Manoshi Bhowmik-Stoker; [Emily Hampp](#); Nicolas PiuZZi

5:36 pm

Reconstruction of Large Tibial Bone Defects With Cement in Revision Total Knee Arthroplasty
[Tae Jung Kim](#); Jisu Park; MinKi Kim; Tae Woo Kim; Moon Jong Chang; Chong Bum Chang; Seung-Baik Kang

5:42 pm

Accuracy of Surgeon-Derived Versus CT-Based Bony Landmark Registration During Robotic-Assisted TKA: A Comparative Clinical Study
[Suhas Masilamani AB](#)

5:48 pm

Construct Stability of Revision Total Knee Arthroplasty With Tibial Cones: Preliminary Results of a Radiostereometric Analysis (RSA)
[Kelly Mills](#); Maartje Belt; Gijs Van Hellemond; Petra Heesterbeek

THURSDAY, SEPTEMBER 28, 2023

5:00 pm - 6:00 pm

Empire West

KIOSK 8

Medical Management

Moderators: Ira Kirschenbaum, David Rodriguez

5:00 pm

Surgeon Delay in Geriatric Hip Fractures: Overall Time to Surgery Matters, but Not Time From Optimization to Surgery
Mitchell Ng; Matthew Magruder; Ivan Golub; Kevin Kang; Lucas Voyvodic; [Ameer Tabbaa](#)

5:06 pm

Association of Serum Ferritin With Bone Turnover Markers and Bone Mineral Density in Children and Adolescents: Results From NHANES 1999-2002
[Zhi Chen](#)

5:12 pm

Significant Analgesic Benefits of Perioperative Duloxetine in Patients Who Have Depressive Symptoms Undergoing Total Hip Arthroplasty: A Randomized Controlled Trial
[Zi-Chuan Ding](#); Zongke Zhou; Weinan Zeng

5:18 pm

Preoperative Celecoxib Use Does Not Increase Risk of Myocardial Infarction and May Be Protective Against Thromboembolic Complications Following Total Joint Arthroplasty
[Matthew Magruder](#); Vincent Yao; Ariel Rodriguez; Mitchell Ng; Che Hang Jason Wong

5:24 pm

Association Between Serum Cotinine and Muscle Mass: Results From NHANES 2011-2018
[Zhi Chen](#)

5:30 pm

Effects of Multiple IV Dexamethasone on Clinical Symptoms After TKA
Jisu Park; MinKi Kim; [Tae Jung Kim](#); Tae Woo Kim; Moon Jong Chang; Chong Bum Chang; Seung-Baik Kang

5:36 pm

Crohns Disease Is Associated With Higher Rates of Implant-Related Complications Following Primary Total Knee Arthroplasty
Ariel Rodriguez; Radha Pandya; Vanathi Ganesan; Matthew Magruder; Che Hang Jason Wong; Afshin Razi; Jack Choueka; [Gabriel Lama](#)

5:42 pm

Smoking Cessation and Relapse Effects on Patient-Reported Outcomes Following Total Knee Arthroplasty
Christian Roberts; Andrew Couture; [William Mihalko](#); Marcus Ford; John Crockarell; Karen Derefinko; James Guyton; James Harkess

5:48 pm

Spinal Versus General Anesthesia for Outpatient Total Hip and Knee Arthroplasty in the Ambulatory Surgery Center: A Matched-Cohort Study
Tyler Calkins; Evan Johnson; Renn Eason; [William Mihalko](#); Marcus Ford

THURSDAY, SEPTEMBER 28, 2023

THURSDAY, SEPTEMBER 28, 2023

5:00 pm - 6:00 pm

Central Park West

KIOSK 9

Addressing Pain after Arthroplasty
Moderators: Andrew Wickline, Vinay Aggarwal

5:00 pm

Liposomal Bupivacaine Does Not Decrease Post-Operative Pain in Patients With Intracapsular Femoral Neck Fracture Treated With Arthroplasty: A Double-Blinded Randomized, Controlled Trial
Mitchell Ng; Lucas Voyvodic; Matthew Magruder; Ivan Golub; Afshin Razi; Kevin Kang

5:06 pm

Failure of Liposomal Bupivacaine in Managing Postoperative Pain Following Shoulder Surgery
 Carlos Fernandez; Vani Sabesan; Clyde Fomunung; Ajay Desai; Alessia Lavin; Juan Lozano; William Srouj; Garrett Jackson

5:12 pm

Liposomal Bupivacaine Does Not Decrease Post-Operative Pain in Patients With Intracapsular Femoral Neck Fracture Treated With Hemiarthroplasty: A Double-Blinded Randomized, Controlled Trial
Mitchell Ng; Lucas Voyvodic; Matthew Magruder; Afshin Razi; Kevin Kang; Ivan Golub

5:18 pm

Impact of Chronic Opioid Use Prior to Arthroplasty on Mobility Recovery: A Propensity Matched Study
 Roberta Redfern; Mike Anderson; Jason Cholewa; Dave Van Andel

5:24 pm

Improved Perioperative Narcotic Usage Patterns in Patients Treated With a Fluoroscopy-Based Robotically-Assisted THA Platform When Compared to Manual Technique
Graham Buchan; Zachary Bernhard; Christian Hecht; Atul Kamath

5:30 pm

Computer Assisted Cryotherapy (CAC) Reduce Opioids Use After Total Knee Arthroplasty (TKA): A Safe Postoperative Pain Management
 Veronica Giuliani; Raffaella Alonzo; Alessandro Carcangiu; Mattia Fabbri; Stefania De Santis; Ferdinando Iannotti; Andrea Gattelli; Giuseppe La Cava; Giorgio Bruni; Carmelo D'Arrigo

5:36 pm

Impact of Chronic Pre-Operative Opioid Use on Post-Operative Patient Reported Outcomes: A Propensity Matched Study
 Roberta Redfern; Mike Anderson; Jason Cholewa; Dave Van Andel

5:42 pm

Subacromial Injection: Effect on Preoperative Pain and Function in Arthroscopic Rotator Cuff Repair
 Carlos Fernandez; Vani Sabesan; Sarah Girshfeld; Clyde Fomunung; Gabriel Lama; Ali Mohamed; Howard Routman; Garrett Jackson

THURSDAY, SEPTEMBER 28, 2023

5:00 pm - 6:00 pm

Central Park West

KIOSK 10

Unicompartmental Knee Arthroplasty 1
Moderators: Justin Cobb, Petra Heesterbeek

5:00 pm

Knee Pivot Motion After Unicompartmental Arthroplasty May Impact Clinical Outcomes
 Rémi Courteille; Laurence CHEZE; Cecile Batailler; Sebastien Lustig; NICOLA HAGEMEISTER; Alex Fuentes

5:06 pm

Robot-Assisted Partial Knee Replacement Versus Standard Total Knee Replacement (RoboKnees): Design and Rationale for a Pilot Randomized Controlled Trial
Kim Madden; Breanne Flood; Monica Malek; Janie Astephen Wilson; Jean-Eric Tarride; Vickas Khanna; Anthony Adili

5:12 pm

Pre- and Postoperative Knee Phenotype Distribution Following Robot-Arm Assisted Lateral Unicompartmental Knee Arthroplasty: A Retrospective Study of 305 Patients
Roderick Vossen; Lindsey Ruderman; Tarik Bayoumi; Hendrik Zuiderbaan; Andrew Pearle; G.M.M.J. Kerkhoffs

5:18 pm

Novel Technique for Accurate Placement of Components in Resurfacing UKA
 Robert Eberle; Daniel Hatz, MD; Martin Redish, MD

5:24 pm

Change in Fixed Flexion Deformity With Medial Unicompartmental Knee Arthroplasty: Does This Prompt Review of Existing Clinical Criteria?
Warran Wignadasan; Babar Kayani; Andreas Fontalis; Ahmed Magan; Alastair Chambers; Fares Haddad

5:30 pm

Outcomes of Image-Based Robotically Assisted Revision From Unicompartmental to Total Knee Arthroplasty
Fabio Mancino; Andreas Fontalis; Ahmed Magan; Ricci Plastow; Fares Haddad

5:36 pm

Length of Stay and Discharge Dispositions in Total Knee Arthroplasty and Unicompartmental Knee Arthroplasty: A Comparison of Robotic-Arm Assistance and Conventional Techniques
Andreas Fontalis; Isabella Catrina Haddad; Christian Donovan; Rhody David Raj; Ricci Plastow; Sam Oussedik; Ayman Gabr; Fares Haddad

NOTES:

FRIDAY, SEPTEMBER 29, 2023

7:45 am - 8:40 am

Metropolitan East

Introduction of Invention in Orthopedics

Moderator: Morteza Meftah

7:45 am

**Introduction: Techniques of Invention
Discovery**

Morteza Meftah

7:55 am

Minimal Vable Product

Ashvin Dewan

8:05 am

**Commercializing Your Great
Orthopedic Product Idea**

Dan Justin

8:15 am

**With Whom Should I Spin Out? The
Importance of the Cap Table for
Investors**

Jonathan Jeffers

8:25 am - **Panel Discussion**

FRIDAY, SEPTEMBER 29, 2023

7:45 am - 8:40 am

Empire East

TKA: Robotic Surgery 2

Moderators: Matthew Hepinstall, Fares Haddad

7:45 am - **Moderator Introduction**

7:50 am

**Robotically-Assisted Total Knee
Arthroplasty Leads to Improved Early
Recovery Over Manual Total Knee
Arthroplasty: A Comparative Study
Utilizing Daily Remote Monitoring**

Charles Hannon; Maria Schwabe;
Jacqueline King; Venessa Riegler; Ryan
Nunley; Robert Barrack

7:56 am

**Cementless TKA With Robotic
Technology Shows Excellent One-Year
Outcomes in Young, Obese Patients**

Melanie Caba; Christina O'Neill; Kelly
Taylor; Zachary Guerrieo; Emily Hamp; Kevin
Marchand; Robert Marchand

8:02 am - **Discussion**

8:08 am

**Robotic Assisted Total Knee Arthroplasty
Results in Smaller Femoral Components
and Larger Tibial Baseplates Than
Manual Replacement**

Neelaab Nasraty; Ran Schwarzkopf;
Matthew Hepinstall; Claire Donnelley;
Vinaya Rajahraman; Daniel Waren;
Stephanie Frezzo; Jenna Bernstein; Daniel
Wiznia

8:14 am

**Robotic Total Knee Arthroplasty Is
Associated With Thinner and Less
Constrained Polyethylene Inserts**

Travis Weiner; William Crockatt; Roshan
Shah; Jeffrey Geller; Alexander Neuwirth;
John Cooper

8:20 am - **Discussion**

8:26 am

**Novel Robotic Technique to Investigate
TKR Stability**

Sander Holthof; Andrew Amis; Richard
van Arkel; Michael Rock

8:32 am - **Discussion**

FRIDAY, SEPTEMBER 29, 2023

THA Biomechanics 1**Moderators: Philip Noble, Richard van Arkel**7:45 am - **Moderator Introduction**

7:49 am

Clinical Translation of Statistical Shape Modelling in Hip Revision SurgerySara De Angelis; Anna Di Laura; Alister Hart; Johann Henckel; Harry Hothi; Angelika Ramesh

7:55 am

Prediction and Validation of Cortical Bone Contact in Cementless Femoral StemsLilian Lim; Nynke Rooks; Bogdan Solomon; Stuart Callary; Egon Perilli; Marco Schneider; Thor Besier8:01 am - **Discussion**

8:06 am

Anteversion vs. Medialisation: Comparing Strategies to Mitigate Iliopsoas Impingement in Total Hip ArthroplastyJoshua Twiggs; Brad Miles; Max Hardwick-Morris; William Walter; Tyson Doneley; Kaushik Hazratwala

8:12 am

Contribution of the Medial Iliofemoral Ligament to Hip Stability After Total Hip Arthroplasty Through Direct Anterior ApproachJennifer Bido; Jose Rodriguez; Fernando Quevedo Gonzalez; Kate Meyers8:18 am - **Discussion**

8:23 am

Iliopsoas Tendonitis After Total Hip Arthroplasty: Development of an Instantaneous Risk Prediction SimulationJoshua Twiggs; Max Hardwick-Morris; Brad Miles; Kaushik Hazratwala; Tyson Doneley; William Walter

8:29 am

Impingement During Dislocation Prone Activities of Daily Living in Dual Mobility and Standard Acetabular Cups: A Geometric ModelMackenzie Smeeton; Simon Williams; Graham Isaac; James Anderson; Tim Board; Ruth Wilcox; Sophie Williams8:35 am - **Discussion****NOTES:**

FRIDAY, SEPTEMBER 29, 2023

8:40 am - 9:35 am

Metropolitan East

Innovation Symposium: Approach to Funding

Moderator: Nick Pachuda

8:40 am

Medtech Innovation Accelerator: Early Development Milestones that Increase Your Chance of Success

Brittney Martinez

8:50 am

Pitching Strategics

Kristine Ilaria

9:00 am

Venture Investor: Venture Funding in 2023; What are we Looking for?

Matt Harbaugh

9:10 am - **Panel Discussion**

FRIDAY, SEPTEMBER 29, 2023

FRIDAY, SEPTEMBER 29, 2023

8:40 am - 9:35 am

Empire East

Imaging

Moderators: Matthew Teeter, Joshua Rozell

8:40 am - **Moderator Introduction**

8:45 am

An Automated Real-Time Approach for Image Processing and Segmentation of Fluoroscopic Images and Videos Using a Single Deep Learning Network

Viet-Dung Nguyen; Michael LaCour;

Richard Komistek

8:51 am - **Discussion**

8:54 am

Toward Overcoming Single-Plane Limitations in Total Knee Arthroplasty Kinematics Measurements

Andrew Jensen; Scott Banks

9:00 am - **Discussion**

9:03 am

Does CT Imaging Improve Tibial Defect Prediction for Zonal Fixation?

Marco Brenneis; Friedrich Boettner; Sebastian Braun; Fernando Quevedo Gonzalez; Peter K. Sculco; Dimitrios Flevas

9:09 am

Registration of Knee Articulating Surface Utilizing a Portable Handheld Laser Scanner: A Cadaveric Study

Akram Habibi; Morteza Meftah; Gordon Goodchild

9:15 am - **Discussion**

9:19 am

Functional PET/MRI of Knee Synovial Macrophage Activity Before and After Total Knee Arthroplasty

Zachary Koudys; Matthew Teeter; Brent Lanting; Tom Appleton; Jonathan Thiessen

9:25 am

Surgical Bootcamps With Virtual Reality Deliver Technical Skills and Trainee Confidence: A Randomised Controlled Trial

Ria Varma; Monil Karia; Sachit Mehta; Thomas Edwards; Justin Cobb; Gareth Jones; Kartik Logishetty

9:31 am - **Discussion**

THA Biomechanics 2**Moderators: Timothy Wright, Nobuhiko Sugano**8:40 am - **Moderator Introduction**

8:43 am

Periprosthetic Fracture Rates Using Collared Stems in Uncemented Primary Total Hip Arthroplasty With a Posterior ApproachRobert Ricotti; Dimitrios Flevas; Ruba Sokrab; Jonathan Vigdorchik; David J. Mayman; Seth A. Jerabek; Thomas Sculco; Peter K. Sculco; [Nicholas Schiller](#)

8:49 am

How Does a Collar Impact the Risk of Periprosthetic Femoral Fracture for Two Distinct Patient Types?[Ryan Helbock](#); Fernando Quevedo Gonzalez; Joseph Lipman; Simarjeet Puri; Timothy Wright; Jonathan Vigdorchik; Elizabeth B. Gausden; Peter Sculco8:55 am - **Discussion**

9:00 am

Effect of Bearing Size and Concavity on Outer Articulation Wear of a Dual Mobility Construct as Compared to Fixed BearingsIlya Borukhov; [Sally LiArno](#); Rafael Baez; Tomasz Bazel9:06 am - **Discussion**

9:09 am

Monitoring of in Vitro Motion of Unconstrained Dual Mobility Polyethylene Liners for Total Hip Replacement Under Different Kinematic Conditions[Mackenzie Smeeton](#); Matthew Shuttleworth; James Anderson; Graham Isaac; Tim Board; Ruth Wilcox; Robert Kay; Sophie Williams9:15 am - **Discussion**

9:18 am

Are Bone Sparing Stems Truly Bone Sparing?[Jarrod Nachtrab](#); Thang Nguyen; Michael LaCour; Richard Komistek

9:24 am

Measured Impaction Forces During Implantation Are Affected by the Sensor Position and the Implant Mounting[Peter J Schlieker](#); Michael Morlock; Gerd Huber9:30 am - **Discussion****NOTES:**

FRIDAY, SEPTEMBER 29, 2023

9:35 am - 10:30 am Metropolitan East

Innovation Symposium: Intellectual Property & Regulatory Pathways

Moderator: William Brogan

9:35 am

Introduction to Intellectual Property

William Brogan

9:45 am

Innovation in Academia

Orhun Muratoglu

9:55 am

Negotiating with Strategics: How Much Disclosure is Okay and How to Know

When to Stop

Addie Harris

10:05 am

How to Successfully Interact with FDA

Holly Rhodes

10:15 am - **Panel Discussion**

FRIDAY, SEPTEMBER 29, 2023

FRIDAY, SEPTEMBER 29, 2023

9:35 am - 10:30 am Empire East

TKA Biomechanics

Moderators: Jan Victor, Peter Walker

9:35 am - **Moderator Introduction**

9:39 am

The Effect of Inter-Subject Variability in TKA Joint Mechanics During Gait on Implant Fixation: A Holistic Evaluation of TKA Biomechanics With a Subject-Specific Computational Workflow

Jonathan Glenday; Peter Sculco; Jonathan Vigdorich; Cynthia Kahlenberg; David J. Mayman; Eytan Debbi; Joseph Lipman; Timothy Wright; Fernando Quevedo Gonzalez

9:45 am

Differences in Neuromuscular Activation Before and After Surgery Based on Gait Biomechanics Phenotypes Among Total Knee Arthroplasty Recipients

Annemarie Laudanski; Kathryn Young-Shand; Cheryl Hubley-Kozey; Syed S. R. Abidi; Michael Dunbar; Glen Richardson; Janie Wilson

9:51 am - **Discussion**

9:56 am

Impact of PCL Resection on Coronal and Sagittal Joint Balance in TKA

Edgar Wakelin; Adam Edelstein; Christopher Plaskos; Linda Suleiman

10:02 am

Role of the Posterior Cruciate Ligament in Femoral Rollback in Medial Congruent Total Knee Arthroplasty: A Computational Study

Reza Pourmodheji; Jacob M. Hirth; Brian Chalmers; Cynthia Kahlenberg; William Long; Timothy Wright; Geoffrey H Westrich; David J. Mayman; Carl Imhauser; Peter Sculco

10:08 am - **Discussion**

10:13 am

Posterior Stabilized Implants Require Greater Hamstrings Activity Compared to Medial Ball-and-Socket Implants During Stair Descent

Erik Kowalski; Alexandre Pelegrinelli; Nicholas Ryan; Geoffrey Dervin; Mario Lamontagne

10:19 am

Patellar Mechanics of a Novel Hinge Knee System: A Finite Element Analysis

Azhar Ali; Kenneth Pascale; Xiangyi (Cheryl) Liu; Viktor Erik Krebs

10:25 am - **Discussion**

Computer Modeling**Moderators: Fernando Quevedo Gonzalez, Jeffrey Bischoff**9:35 am - **Moderator Introduction**

9:39 am

KneeHub - Engaging the Arthroplasty Community to Develop Credible Simulations of the KneeJason Halloran; Thor Andreassen; Thor Besier; Snehal Chokhandre; Shady Elmasry; Carl Imhauser; Peter J. Laz; Nynke Rooks; Marco Schneider; Kevin Shelburne; Ahmet Erdemir

9:45 am

Open Wedge High Tibial Osteotomy Alters Patellofemoral Joint Kinematics of the Knee: A Multibody Simulation StudyLennart Schroeder; Sonja Grothues; Josef Brunner; Klaus Radermacher; Boris M. Holzapfel; Maximilian Joergens; Julian Fuermetz9:51 am - **Discussion**

9:56 am

Finite Element Modeling of Patient-Specific Total Shoulder ArthroplastyIgnacio Rivero Crespo; Kevin Shelburne; Casey Myers; Thor Andreassen; David Weinstein; Peter Laz

10:02 am

Including Muscle and Ligament Forces in a Patient-Specific Finite Element Model of Reverse Shoulder Arthroplasty Affects Glenoid MicromotionJonathan Glenday; Andreas Kontaxis; Benjamin Johnston; Fernando Quevedo Gonzalez;10:08 am - **Discussion**

10:13 am

Knee Functional Positioning Sensitivity Study Using Finite Element AnalysisAzhar Ali; Jerry D'Alessio; Xiangyi (Cheryl) Liu; Seth A. Jerabek; David J. Mayman

10:19 am

Up to 69% Stress Relaxation in Bovine Trabecular Bone in 24 Hours: The Potential to Improve Models of Primary Fixation of Press-Fit ImplantsThomas Gersie; Thom Bitter; David Wolfson; Robert Freeman; Nico Verdonshot; Dennis Jansen10:25 am - **Discussion****NOTES:**

FRIDAY, SEPTEMBER 29, 2023

11:00 am - 12:00 pm Metropolitan East

Innovation Keynote Speaker
Moderator: Morteza Meftah

11:00 am
**"Inside the Box" A Systematic
Approach to Breakthrough Thinking**
Drew Boyd

11:30 am - Q&A

FRIDAY, SEPTEMBER 29, 2023

NOTES:



INVIBIO BIOMATERIAL SOLUTIONS

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NOTES:

FRIDAY, SEPTEMBER 29, 2023 1:00 pm - 2:00 pm Metropolitan East

Innovation Symposium: Strategic M&A
Moderator: Simran Sabharwal

1:00 pm
What Do Strategics Look for When Assessing a Start Up
Kristine Ilaria

1:10 pm
Acquisition Watch Outs - Headwinds and Tailwinds
Robert Cohen

1:20 pm
Accelerating Innovation Through Acquisitions, How R&D & M&A Need to Work Hand in Hand
Stephen White

1:30 pm
Dealing in the Post COVID Era - A Change in Market Outlook
Simran Sabharwal

1:40 pm - **Panel Discussion**

FRIDAY, SEPTEMBER 29, 2023 1:00 pm - 2:00 pm Empire East

Wearables & Sensors 1
Moderators: David Markel, Catherine Van Der Straeten

<p>1:00 pm - Moderator Introduction</p> <p>1:06 pm Completion of Patient Reported Outcomes Measures Improved With Use of an Arthroplasty-Specific Mobile Application Results From a Randomized Controlled Trial <u>Matthew Miller</u>; Roberta Redfern; Mike Anderson; Scott Abshagen; Dave Van Andel; Jess Lonner</p> <p>1:12 pm - Discussion</p> <p>1:15 pm Characterizing the Trajectory of Patient Recovery Following Total Knee Arthroplasty Using Implanted Sensors Fred Cushner; Jeff Yergler; Barbara Elashoff; Giles Scuderi; <u>Patrick Aubin</u>; Genne' DeHenau McDonald PT; Patrick Verta</p> <p>1:21 pm - Discussion</p>	<p>1:24 pm Real-Time Patient Recovery Tracking Using Wearable Technology Following Total Knee Arthroplasty <u>Rohan Mangal</u>; Andrew Pierce; Danielle Marshall; Richard Bolander</p> <p>1:30 pm - Discussion</p> <p>1:33 pm Smartphone-Based Step-Count Measures Correlate With H/KOOS12-Function and UCLA Activity PROMs During Early THA and TKA Recovery Eric M Slotkin; Alexander Orsi; <u>Christopher Plaskos</u>; Stephen McMahon; Edgar Wakelin; Corey E. Ponder; Jeffrey Lawrence; John Keggi; Simon Coffey; Paramjeet Gill</p> <p>1:39 pm - Discussion</p>	<p>1:42 pm Do Pain and Patient Reported Outcome Measures Vary by Patient Pre-Operative Physical Activity Levels in Total Knee Arthroplasty Patients? Roberta Redfern; Mike Anderson; Jason Cholewa; <u>Dave Van Andel</u></p> <p>1:48 pm - Discussion</p> <p>1:51 pm Assessing Interface Strength of Conductive Polymeric Composite Electrodes Toward Orthopedic Bearing-Embeddable Load Sensors <u>Peder Solberg</u>; Zhe Xu; John Zhang; Douglas Van Citters</p> <p>1:57 pm - Discussion</p>
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Clinical Management

Moderators: William Mihalko, Gareth Jones

1:00 pm - **Moderator Introduction**

1:06 pm

Does Semaglutide Use Decrease Complications and Costs Following Total Knee Arthroplasty?

Matthew Magruder; Vincent Yao; Ariel Rodriguez; Mitchell Ng; Orry Erez

1:12 pm - **Discussion**

1:15 pm

Post-Operative Complications, Readmissions, Lengths of Stay and Cost Analysis of Patients With Atrial Septal Defects Undergoing Total Joint Arthroplasty

Matthew Magruder; Adam Gordon; Mitchell Ng; Salvatore Capotsoto; Che Hang Jason Wong; Peter Sculco; Gabriel Lama

1:21 pm - **Discussion**

1:24 pm

Influence of Patient Age on Revision and Mortality Rates in Elective THA Procedures Differentiated by Stem Type and Stem Fixation

Michael Morlock; Oliver Melsheimer

1:30 pm - **Discussion**

1:33 pm

Effects of Perioperative Intravenous Dexamethasone on the Severity of Persistent Postsurgical Pain After Total Knee Arthroplasty: A Prospective, Randomized, Double-Blind, Placebo-Controlled Trial

Nitchanant Kitcharanant; Warakorn Jingjit; Prangmalee Leurcharusmee

1:39 pm - **Discussion**

1:42 pm

History of Diabetic Foot Ulcer Is Associated With Increased Risk Prosthetic Joint Infection and Sepsis After Total Joint Arthroplasty

Matthew Magruder; Vincent Yao; Ariel Rodriguez; Mitchell Ng; Che Hang Jason Wong; Michael Mont

1:48 pm - **Discussion**

1:51 pm

Inflammatory Bowel Disease Patients Undergoing Total Hip Arthroplasty Have Higher Risk of Implant-Related Complications

Matthew Magruder; Shabnam Parsa; Adam Gordon; Mitchell Ng; Che Hang Jason Wong; Gabriel Lama

1:57 pm - **Discussion**

NOTES:

FRIDAY, SEPTEMBER 29, 2023

2:00 pm - 3:00 pm

Metropolitan East

Innovation Symposium: Success Stories

Moderator: Morteza Meftah

2:00 pm

The Innovation Journey of an Orthopedic Surgeon: Dimer, Infection, and NASA

Arthur Kreitenberg

2:10 pm

Successful Haventure Startups in Surgical Robotics: A Few Tips & Tricks

Stephane Lavallee

2:20 pm

Innovation in Publication: Time for a Change!

Ira Kirschenbaum

2:30 pm

H1: Years in the Making

Susannah Clarke

2:40 pm

The Integration of Robotics, Sensors, and Data into the Digital Ecosystem

Martin Roche

2:50 pm - Panel Discussion

FRIDAY, SEPTEMBER 29, 2023

2:00 pm - 3:00 pm

Empire East

Wearables & Sensors 2

Moderators: Patrick A. Meere, Arun Mullaji

2:00 pm - Moderator Introduction

2:02 pm

Tracking Functional Recovery After Total Knee Arthroplasty: A Case for Wearable Activity Monitors

Danielle Marshall; Andrew Pierce; Dianne Pagan; Victor Hernandez; Richard Bolander; Rohan Mangal

2:08 pm

Comparing Commercially Available Wearable Motion Sensors to Optical Motion Capture Measuring Knee Range of Motion Before and After TKA

Skye Richards; Robert Marchand; Ryan Chapman

2:14 pm - Discussion

2:18 pm

The Relationship Between Cadence and Total Daily Step Counts in Patients Following Total Knee Arthroplasty

Richard Bolander; S. David Stulberg; Ralph Mobbs

2:24 pm

The Sensor Enabled TKA - a Novel Approach to Pre- & Post-Op Gait Analysis

Kevin Gemmell; Heidi Sharipov; Patrick Aubin; Peter Schiller; Jeff Gross; William Hunter; Fred Cushner

2:30 pm - Discussion

2:34 pm

Wearable Sensor Data as a Digital Biomarker for Patients Requiring a Manipulation After TKA: a Novel Concept Illustrated Using a Prospective Pilot Study

Matthias Verstraete; Ricardo Antunes; Emily Hampp; Paul Jacob; Robert Marchand

2:40 pm

Effects of Real-Time Biofeedback Using Instrumented Insoles on Recovery After Total Knee Arthroplasty

Victor Cheuy; Jennifer Stevens-Lapsley; Cory Christiansen; Meghan Connors; Amy Peters; Ryan Koonce; Craig Hogan; Michael Bade

2:46 pm - Discussion

2:50 pm

Panel Discussion: Are Wearables and Sensors Worth the Added Cost?

Panelists: Jonathan Jeffers; S. David Stulberg

FRIDAY, SEPTEMBER 29, 2023

Practice Management**Moderators: Andrew Wickline, Eytan Debbi**2:00 pm - **Moderator Introduction**

2:06 pm

The Financial Impact of Patient Comorbidities on Total Hip Arthroplasty Procedures - a Matched Cohort Analysis of Patients With and Without High Comorbidity Burden

Itay Ashkenazi; Jeremiah Thomas; Jonathan Katzman; Muhammad Haider; Morteza Meftah; Roy Davidovitch; Ran Schwarzkopf

2:12 pm

A Decade of Risk Reduction Following Total Knee Arthroplasty? Consecutively Evaluating the Relative Risk of Patient Factors and Postoperative Complications From 2012 to 2022

Kyle Lawrence; Itay Ashkenazi; Jonathan Katzman; Sam Barzideh; Claudette Lajam; Morteza Meftah; Ran Schwarzkopf

2:18 pm - **Discussion**

2:24 pm

Complication Rate Is Not Increased After Ambulatory Total Hip Arthroplasty in Comparison to Fast-Track Total Hip Arthroplasty. a Propensity-Matched Prospective Comparative Study.

Jean-Yves Jenny; Aymard De Ladoucette

2:30 pm

Surgical Risk Stratification by Using Machine Learning in Ambulatory Surgical Centers

Amir Pourmoghaddam; David Balderree; Stefan Kreuzer

2:36 pm

Development and Validation of a Novel Risk Assessment Instrument to Assess Candidacy for Ambulatory Hip or Knee Arthroplasty Based on Machine Learning Techniques

Matthew Wickersham; Nicholas Bartelo; Scott LaValva; Edwin Su; Mathais Bostrum; Michael Ast; Olivier Elemento; Tony Shen

2:42 pm - **Discussion**

2:51 pm

The Value of a Total Joint Hotline for Triage Post-Operative Patients in an Effort to Decrease Unnecessary Emergency Department Visits

Jimmy Daher; Bhumit Desai; Willard Moore III; Cruz Velasco-Gonzalez; George Chimento

2:57 pm - **Discussion****NOTES:**

FRIDAY, SEPTEMBER 29, 2023

3:30 pm - 4:30 pm

Metropolitan East

Shark Tank Finalists

3:30 pm

Finalist Competition

4:00 pm

Shark Tank Judges: Jaji Gill, Simran Sabharwal, Robert Cohen, Steve White, Nick Pachuda

FRIDAY, SEPTEMBER 29, 2023

FRIDAY, SEPTEMBER 29, 2023

3:30 pm - 4:30 pm

Empire East

Imaging & Measurements 1

Moderators: Matthew Teeter, Joshua Rozell

3:30 pm - **Moderator Introduction**

3:36 pm

Utilization of Preoperative EOS Imaging to Prevent Adverse Events Following Total Hip Arthroplasty

Weston Buehring; Itay Ashkenazi; Benjamin Schaffler; Morteza Meftah; Matthew Hepinstall; Ran Schwarzkopf; Alana Prinos

3:42 pm

Plain Long-Leg Radiographs Versus Computerised Tomography in Planning for Robotic-Arm Assisted Total Knee Arthroplasty: A Multicentre Cohort Study

Andreas Fontalis; Thomas Luyckx; Thomas Vanspauwen; Robin Moreels; Rhody David Raj; Fabio Mancino; Philip Winnock De Grave; Ricci Plastow; Fares Haddad; Pit Putzeys

3:48 pm - **Discussion**

3:54 pm

Fluoroscopy Versus Imageless Optical Navigation in Direct Anterior Approach Total Hip Arthroplasty

Marc Anthony Manzo; Johnathan Lex; Sebastian Rodriguez-Elizalde; Ryan Perlus; Barry Cayen; Justin Chang

4:00 pm

Efficacy of a Novel, Fluoroscopy-Based Robotic-Assisted Total Hip Arthroplasty System in Restoring Limb Length and Offset

Graham Buchan; Christian Hecht; Atul Kamath

4:06 pm - **Discussion**

4:12 pm

In Vitro Wear of a Novel Vitamin E Crosslinked Polyethylene Lumbar Total Joint Replacement

Steven Kurtz; Ryan Siskey; Ron Yarbrough; Scott Hodges; Steven Humphreys

4:18 pm

Early Acetabular Cup Migration May Be a Source of Error in Assessment of Intra-Operative Placement Accuracy.

Shahnaz Taleb; Jennifer Polus; Brent Lanting; Matthew Teeter

4:24 pm - **Discussion**

THA Outcomes

Moderators: Russell Bodner, Philip Noble

3:30 pm - **Moderator Introduction**

3:34 pm

Does Quality of Life Improve in Patients With Significant Comorbidities Following Total Hip Arthroplasty?

Roberta Redfern; Dave Van Andel; Mike Anderson; Jason Cholewa

3:40 pm

Patient Characteristics Associated With Discordance in Patient Reported Outcome Measures Following Primary Total Hip Arthroplasty

Natalie Pahapill; Daniel Driscoll; Vanessa Ruiz; Mihir Dekhne; Catherine MacLean; Alexander Mclawhorn

3:46 pm - **Discussion**

3:50 pm

Surgical Approach and Functional Recovery Outcomes After Primary Total Hip Arthroplasty in the Early Postoperative Period

David Fawley; Thierry Bernard; Rodrigo Diaz; clay thomason; Brian Gladnick; John Redmond; craig morrison; René ten Broeke; Kory Johnson ; Luigi Zagra; Mohammad Burney; Eric Matthew Heinrich; Michael Alexiades

3:56 pm

Sex Specific Post-Operative Outcomes of Primary Total Hip Arthroplasty: The Performance of Total Hip Arthroplasty Procedures Leads to Worse Outcomes in Men

Mitchell Ng; Zhongming Chen; Matthew Magruder; Andriy Kobryn; Nikhil Vasireddi; Jeremy Dubin; Afshin Razi; Che Hang Jason Wong; Michael Mont

4:02 pm - **Discussion**

4:06 pm

The Impact of Obesity on Total Hip Arthroplasty Outcomes When Performed by High Volume Surgeons – a Propensity

Matched Analysis From a High-Volume Urban Center

Jeremiah Thomas; Itay Ashkenazi; Kyle Lawrence; Joshua Rozell; Morteza Meftah; Ran Schwarzkopf; Muhammad Haider; Alana Prinos; Hayley Raymond

4:12 pm

Robot-Assisted Surgery Provides Greater Improvement in Patient-Reported Outcome Measures Following Total Hip Arthroplasty

Weston Buehring; Emily Ronan; Omid Barzideh; Patrick Meere; Matthew Hepinstall; Morteza Meftah

4:18 pm

Patient Satisfaction and Patient-Reported Outcomes Do Not Vary by BMI Class in Total Hip Arthroplasty

Nicolas Piuizzi; Trevor Murray; Matthew Deren; Roberta Redfern; Dave Van Andel; Craig L Israelite; Charles Nelson

4:24 pm - **Discussion**

NOTES:

FRIDAY, SEPTEMBER 29, 2023

4:30 pm - 5:30 pm Lenox

KIOSK 1

Unicompartmental Knee Arthroplasty 2

Moderators: Peter Walker, Richard Komistek

4:30 pm
Analyzing the Effects of Cruciate Ligaments in UKA Subjects Using a Forward Mathematical Model of the Knee
Seth Coomer; Richard Komistek; Michael LaCour; Bradley Meccia

4:36 pm
Interference and Keel Size Influence Micromotion in Cementless Unicompartmental Knee Replacement (UKR): Mechanical Analysis Using a High-Accuracy Micromotion Measurement Setup
Azmi Rahman; David Heath; Stephen Mellon; David Murray

4:42 pm
Factors Affecting Correction of Coronal Alignment and Its Prediction After Oxford UKA
Arun Mullaji

4:48 pm
Clinically Important Differences Are Often Not Achieved in Patient-Reported Outcomes for Robot-Assisted and Navigated Unicompartmental Total Knee Arthroplasty: A Systematic Review

Vinaya Rajahraman; Kyle Lawrence; David Bloom; Alana Prinios; Muhammad Haider; Joshua Rozell; Ran Schwarzkopf; Muhammad Haider; Armin Arshi

4:54 pm
Do Pain and Patient Reported Outcome Measures Vary by Patient Pre-Operative Physical Activity Levels in Partial Knee Arthroplasty Patients?
 Roberta Redfern; Mike Anderson; Dave Van Andel; Jason Cholewa

5:00 pm
Outcomes of Patellofemoral Arthroplasty: Robotic-Assistance Produces Superior Mid-Term Outcomes
Jonathan Katzman; Weston Buehring; Patrick Connolly; Ran Schwarzkopf; Ivan Fernandez-Madrid

5:06 pm
Analyzing UKA Mechanics Using a Forward Solution Mathematical Model of the Knee
Seth Coomer; Richard Komistek; Michael LaCour; Bradley Meccia

5:12 pm
Effect of Component Positioning on Bearing Overhang in Mobile Bearing UKA
Eik Siggelkow; Marc Bandi; Iris Blatter

5:18 pm
Robotic-Arm Assisted Lateral Unicompartmental Knee Arthroplasty: Case Series With Minimum 5-Year Follow-Up
 Kevin Mekkawy; Hugo Rodriguez; Rushabh Vakharia; Tsun Yee Law; Martin Roche

5:24 pm
Robotic Arm-Assisted Lateral Unicompartmental Knee Arthroplasty: Outcomes at Short Term Follow Up
Warran Wignadasan; Justin Chang; Andreas Fontalis; Ricci Plastow; Fares Haddad

FRIDAY, SEPTEMBER 29, 2023

4:30 pm - 5:30 pm Lenox

KIOSK 2

Wearables & Sensors 1

Moderators: S. David Stulberg, Mario Lamontagne

4:30 pm
Durability Enhancement of a Triboelectric Energy Harvester for Load Monitoring in Total Knee Replacement
mahmood chahari; Emre Salman; Milutin Stanacevic; Ryan Willing; Shahrzad Towfighian

4:36 pm
Patient Compliance at One Year Following Sensor Enabled Total Knee Arthroplasty Procedures
 Patrick Verta; Patrick Aubin; Genne' DeHenau McDonald PT; Fred Cushner

4:42 pm
Objective Tracking of Physical Activity in Knee Osteoarthritis Patients Awaiting Joint Arthroplasty
Kaitlin Genge; Annemarie Laudanski; Glen Richardson; Michael Dunbar; Janie Wilson

4:48 pm
Joint-Specific Patient-Reported Outcome Measures Demonstrate High Reliability When Completed by Electronic Methods

Jess Lonner; Roberta Redfern; Anna Ren; Scott Abshagen; Robert E Neher; Mike Anderson; Dave Van Andel; Matthew Miller

4:54 pm
Validation of the MotionSense Wearable Device for Measuring Knee Flexion During Treadmill Walking
Alexandra Ligeti; Lauren Forsyth; Mark Blyth; Philip Riches

5:00 pm
A Proposed Method to Objectively Track Recovery Rates of Patients Following Total Knee Arthroplasty
Richard Bolander; S. David Stulberg; Danielle Marshall; Victor Hernandez

5:06 pm
Characterization of the Relative Change in Objective and Subjective Metrics by Baseline Patients With Wearable Technology Prior to Total Knee Arthroplasty
Richard Bolander; Sarah Bolander; S. David Stulberg; Danielle Marshall; Victor Hernandez

5:12 pm
Assessment of Color Sensor Technologies for Telehealth Applications
 Kevin Abbruzzese; Vincent Alipit; Andre Freligh

5:18 pm
An Optoelectronic Motion Capture Protocol for in Clinic Orthopaedic Gait Analysis
Monica Malek; Kim Madden; Vickas Khanna; Anthony Adili; Habeeb Khan; Janie Wilson

5:24 pm
Assessing Knee Range of Motion Using the MotionSense Wearable Device in Total Knee Arthroplasty Patients During Treadmill and Stair Walking: A Case Study
Alexandra Ligeti; Lauren Forsyth; Mark Blyth; Philip Riches

FRIDAY, SEPTEMBER 29, 2023

4:30 pm - 5:30 pm Lenox

KIOSK 3

Periprosthetic Fractures

Moderators: David Rodriguez, Patrick A. Meere

4:30 pm
Comparison of Osteosynthesis With and Without Additional Plate for Vancouver Type B1 and Type C Periprosthetic Fractures of Femur

JI WAN KIM; [Keun-Ho Kim](#)

4:36 pm
Biomechanical Evaluation of a Cerclage Suture System for Fixation of Femoral Fracture Fragments in Revision THA

[Shuyang Han](#); Robert Frangie; Nicholas D. Lanfermeijer; Jonathan E. Gold; Sabir K. Ismaily; Andrew Yoo; Philip Noble; David Rodriguez

4:42 pm
Non-Metallic Cerclage Fixation Methods for Periprosthetic Hip Fractures Offer Promising Outcomes: A Systematic Review

Benjamin Domb; Ali P. Parsa; Zayd Chishti; Sheema K. Saeed; Andrew D. Carbone; Julio Nerys-Figueroa; Mark F. Schinsky; [Ady Kahana Rojkind](#)

4:48 pm
Effectiveness of Prophylactic Cerclage Fixation for Prevention of Femoral Fracture Propagation

Kartik I. Reddy; Nicholas D. Lanfermeijer; Jonathan E. Gold; Sabir K. Ismaily; Philip Noble; David Rodriguez; [Shuyang Han](#)

4:54 pm
Treatment of Osteoporosis After Femoral Neck Fracture Improves Survival After Periprosthetic Femoral Fracture

[Yasuhiko Takegami](#); Yusuke Osawa; Hiroki Iida; Yuto Ozawa; Hiroto Funahashi; Takamune Asamoto; Hiroaki Ido; Shinya Tanaka; Keiji Otaka

5:00 pm
Midterm Clinical Performance of a Tapered Wedge Femoral Stem

Yogesh Mittal; [Ahmad Faizan](#); Manoshi Bhowmik-Stoker; Jianhua Shen

5:06 pm
Cementless Hemi-Arthroplasty in a Centenarian (103 Years Old): High Risk for Periprosthetic Fracture?

[Georg-Antonio Bernecker](#); Andrej Nowakowski

5:12 pm
Analysis of Incidence and Risk Factor for Periprosthetic Fracture After Total Knee Arthroplasty in Korea Between 2010 and 2020 Based on National Registry

[MinKi Kim](#); Jisu Park; Tae Jung Kim; Tae Woo Kim; Moon Jong Chang; Chong Bum Chang; Seung-Baik Kang

5:18 pm
Collared Stems Can Reduce Early Subsidence in Primary Total Hip Arthroplasty: A Systematic Review on Randomized Clinical Trials

Benjamin Domb; Julio Nerys-Figueroa; [Ali P. Parsa](#); Andrew J. Curley; Sam Charif; Mark F. Schinsky

FRIDAY, SEPTEMBER 29, 2023

4:30 pm - 5:30 pm Lenox

KIOSK 4

THA: Pre-Operative Planning & Outcomes

Moderators: Russell Bodner, Douglas E Padgett

4:30 pm
Evaluation of Femoral Morphological Parameters Used in Pre-Operative Planning

[Jarrod Nachtrab](#); Thang Nguyen; Michael LaCour; Richard Komistek

4:36 pm
Predictability of Implant Templating and Positioning With a Robotic-Assisted Direct Anterior Approach

Joseph Nessler; [Laura Yanoso-Scholl](#)

4:42 pm
Stricter Correction of Lower Extremity Length Is Required During Total Hip Arthroplasty in Patients With Ankylosing Spondylitis

[Chan Jin Park](#); TAEK-RIM YOON

4:48 pm
Statistical Shape Model Enabled Pre-Operative Templating Can Improve Femoral Offset and Neck-Shaft Angle Measurement From Standard Radiographs

[Oscar Denton](#); Alex Lennon; David Beverland; Janet Hill; Nicholas Dunne

4:54 pm
Development of a 3D Planner for Personalized Periacetabular Osteotomy in Patients With Hip Dysplasia

[Kartik Logishetty](#); Simon Harris; Justin Cobb

5:00 pm
Effects of Different Surgeon Preferences With Stem Head Sizes in Total Hip Arthroplasty

[Thang Nguyen](#); Jarrod Nachtrab; Garrett Dessinger; Richard Komistek; Michael LaCour

5:06 pm
Biomechanical Analysis of Fixation Implant Options for Intertrochanteric Femur Fractures

[Wei Zeng](#); Kidar Arjune; Jericho Lee

5:12 pm
Workers Compensation Patients Showed Improvement After Primary Total Hip Arthroplasty

Benjamin Domb; Saiswarnesh Padmanabhan; Omkar Prabhavalkar; Paulo P. Padilla; [Ali P. Parsa](#); Mark F. Schinsky

5:18 pm
High Risk of Dislocation After Total Hip Arthroplasty in Patients With Crowe Type IV Developmental Dysplasia of the Hip

[Zi-Chuan Ding](#); Zongke Zhou; Weinan Zeng

5:24 pm
Patient-Specific THA in Young Patients Require Extra-Small Hip Stems

[Ritvik Sarkar](#); Joseph Lipman; Timothy Wright; David J. Mayman; Mark P. Figgie

FRIDAY, SEPTEMBER 29, 2023

FRIDAY, SEPTEMBER 29, 2023

4:30 pm - 5:30 pm Empire East

KIOSK 5

Navigation**Moderators: Nobuhiko Sugano, Philip Noble**

4:30 pm

Assessing the Feasibility of Mixed Reality Navigation for Intraoperative Guidance in Total Hip ArthroplastyJoshua Twiggs; Brad Miles; Alana Sylvester; William Walter; Tyson Doneley; Kaushik Hazratwala

4:36 pm

Accuracy of Acetabular Cup Positioning Using Patient-Specific Augmented Reality GuidanceDan Sun; William Murphy; Patrick Lane; Stephen Murphy

4:42 pm

Handheld Infrared Stereo Camera vs. Augmented Reality-Based Navigation System: A Comparison Study in Total Hip ArthroplastyShinya Tanaka; Yasuhiko Takegami; Keiji Otaka

4:48 pm

Accuracy of Acetabular Cup Placement in DA THA: A Handheld Portable Image-Based Navigation System May Outperform a Robotic PlatformEric M Slotkin; Stefan Kreuzer; Alejandro Gonzalez Della Valle

4:54 pm

Obesity Is Not Associated With the Accuracy of Registration of Cup Placement in Muscle-Sparing Total Hip Arthroplasty Using CT-Based NavigationHiroshi Watanabe; Mari Yokouchi; Yuta Mouri; Takuya Uematsu; Tokifumi Majima

5:00 pm

Cup Positioning Accuracy of Direct Anterior Approach Using a Non-Invasive, Image-Based Software Navigation System in Primary Total Hip ArthroplastyDavid Fawley; Thierry Bernard; J. Craig Morrison; John Redmond

5:06 pm

Accuracy of Planned Femoral Neck Cut in Total Hip Arthroplasty Using Robotic-Arm Assisted With Navigation GuidanceBenjamin Domb; Paulo P. Padilla; Saiswarnesh Padmanabhan; Julio Nerys-Figueroa; Mark F. Schinsky; Mark Schinsky; Mark F. Schinsky

5:12 pm

The Learning Curve Associated With Conversion From Fluoroscopic Direct Anterior Hip Arthroplasty to Robotic-Assisted Direct Anterior Hip ArthroplastyMichael Masini; Kara Sawaya; Amy J. Harshberger

5:18 pm

The Use of Robotic-Arm-Assistance to Achieve Functional Cup Positioning in THAAhmed Magan; Andreas Fontalis; Fares Haddad; Fabrice Glod; Pit Putzeys

5:24 pm

Improved Accuracy of a Novel Fluoroscopy-Based Robotically Assisted THA System Compared to Manual THAGraham Buchan; Christian Hecht; David Liu; Lipalo Mokete; Daniel Kendoff; Atul Kamath

FRIDAY, SEPTEMBER 29, 2023

4:30 pm - 5:30 pm Empire East

KIOSK 6

Infection**Moderators: Jean-Yves Jenny, Vinay Aggarwal**

4:30 pm

Synovial White Blood Cell Count and Differential to Predict Successful Management of Acute Periprosthetic Joint Infection With Debridement Antibiotics, and Implant RetentionItay Ashkenazi; Jeremiah Thomas; Akram Habibi; Theodore Di Pauli Von Treuheim; Jonathan Katzman; Claudette Lajam; Vinay Aggarwal; Ran Schwarzkopf; Benjamin Schaffler

4:36 pm

Treatment Failure or New Infection? Persistent Infection After One-Stage Exchange for Hip and Knee Periprosthetic Joint InfectionJean-Yves Jenny

4:42 pm

Surgical Vest Decreases Contamination With Sterile Surgical Helmet SystemsSabir K. Ismaily; Andrew Konopitski; Hugh Jones; Kenneth Mathis; David Rodriguez

4:48 pm

Differences in Infections Between Total Hip Arthroplasty in Outpatient vs Inpatient FacilitiesLucas Voyvodic; Ariel Rodriguez; Judy Lee; Matthew Magruder; Alejandra Moncayo; Nicole Ackerman; Jack Choekua; Orry Erez; Gabriel Lama

4:54 pm

Effectiveness of Combined Adipose-Derived Mesenchymal Stem Cell and Antibiotic Therapy in Rat Model of Periprosthetic Joint InfectionYuki Yamamuro; Tamon Kabata; Katsuhiro Hayashi; Yoshitomo Kajino; Daisuke Inoue; Takaaki Ohmori; Junya Yoshitani; Takuro Ueno; Ken Ueoka; Atsushi Taninaka; Tomoyuki Kataoka; Yoshitomo Saiki; Yu Yanagi; Hiroyuki Tsuchiya

5:00 pm

Symptomatic Benign Prostatic Hyperplasia: An Optimizable Risk Factor for Periprosthetic Joint Infection After Elective Primary Total Knee ArthroplastyBoyi Jiang; Zongke Zhou

5:06 pm

Efficacy of Commercially Available Irrigation Solutions on Removal of Staphylococcus Aureus Infected Porous Titanium Implants- an in-Vitro StudyJoseph Seta; Paula Dietz; Fadi Aboona; Martin Weaver; Therese Bou-Akl; Weiping Ren; David Markel

5:12 pm

Metal-Ion Allergies Associated With Higher Risk of Infection After Total Knee ArthroplastyGerhard Maale

FRIDAY, SEPTEMBER 29, 2023

4:30 pm - 5:30 pm

Empire West

KIOSK 7

TKA: Laxity & Joint Balancing
Moderators: William Colyn, Nicholas Dunbar

4:30 pm

Do Older Patients Benefit From Medially Tighter Flexion/Extension Gaps in TKA? an Analysis of 1-Year Functional Outcomes Stratified by Age

Matthew Hickey; Antony Hodgson; Carolyn Anglin; Bassam Masri; Frederic Picard

4:36 pm

Preoperative Medial Laxity Correlates With Poorer and Postoperative Lateral Laxity Correlates With Improved PROMs Scores

Eric M Slotkin; Alexander Orsi; Corey E. Ponder; John Keggi; Jeffrey Lawrence; Stephen McMahon; Simon Coffey; Edgar Wakelin; Christopher Plaskos; Paramjeet Gill

4:42 pm

Intraoperative Gap Assessment Including Mid-Flexion in Total Knee Arthroplasty Using Navigation With Joint Stability Graphs

Sang Jun Song; Cheol Hee Park; Hyun Woo Lee

4:48 pm

Knee Stiffness Evaluations Using an Advanced Total Knee Arthroplasty Simulator Model for Loaded Ligament Assessments

Kevin Abbruzzese; Azhar Ali; Andre Freligh; Scott Logan; Stefano Bini; Jared Weir; Michael Mont

4:54 pm

Comparison of Two Methods Used to Assess Gaps in Total Knee Arthroplasty

Saskia Anna Brendle; Ingrid Dupraz; Sven Krueger; Joachim Grifka; Peter E. Mueller; Thomas M. Grupp

5:00 pm

Influence of PCL Retention and Sacrifice on Knee Balance and Bony Resection With Functional Alignment During Robot-Assisted Total Knee Arthroplasty

Suhas Masilamani AB

5:06 pm

Functional Laxity of Total Knee Arthroplasty Implants Measured During Simulated Squat Motions

Alexandre Galley; Ilya Borukhov; Brent Lanting; Ryan Willing

5:12 pm

Soft Tissue Laxity Is Highly Variable in Patients Undergoing Total Knee Arthroplasty

Travis Weiner; Roshan Shah; Alexander Neuwirth; Jeffrey Geller; John Cooper

5:18 pm

Manual Surgeon-Applied Stress and a Ligament Tensor Instrument Provide a Similar Assessment of Pre-Resection Flexion Laxity During Robotic Total Knee Arthroplasty

Travis Weiner; John Cooper

5:24 pm

Efficacy of a Novel, Fully-Integrated Tensioning Device for the Evaluation of Joint Laxity During Total Knee Arthroplasty

Steven Haas; Jimmy Chow; Steve Yurick; Kenneth Urish; Joseph Signorelli; Michael Ast

FRIDAY, SEPTEMBER 29, 2023

4:30 pm - 5:30 pm

Empire West

KIOSK 8

THA: Stability & Range of Motion
Moderators: Stephen Murphy, Timothy Wright

4:30 pm

Cup Safe Zone and Optimal Stem Anteversion in Total Hip Arthroplasty for Patients With Highly Required Range of Motion

Yukihiro Habe; Hidetoshi Hamada; Keisuke Uemura; Kazuma Takashima; Nobuhiko Sugano

4:36 pm

Femoral Neck Resection Height Influences Hip Internal Rotation Range of Motion

Lilian Lim; Nicholas John Giori; David Liu; Alex Carleton; Duncan Bakke; Marco Schneider; Thor Besier

4:42 pm

Some Offset Restoration Options Can Paradoxically Lead to Decreased Range of Motion in Primary Total Hip Arthroplasty: A 3D Computer Simulation Study

Aidin Eslam Pour; Daniel Wiznia; Steven Tommasini; Claire Donnelly; Wei Shao Tung

4:48 pm

Which Short External Rotator Muscles Should Be Preserved to Prevent Dislocation After Total Hip Arthroplasty?

Yoshiaki Ito; Daisuke Suzuki; Fumiya Kizawa; Arata Kanaizumi; Toshihito Hiraiwa; Satoshi Nagoya

4:54 pm

Validation of a Novel RSA-Based Impingement Metric to Assess Component-on-Component Impingement Risk in Vivo

Shahnaz Taleb; Jordan Broberg; Matthew Teeter

5:00 pm

Utilizing a Dual Modular Retroversion Neck Can Provide the Impingement-Free Safe Zone of the Cup Alignment for Patients With a High Femoral Anteversion

Yukihiro Habe; Hidetoshi Hamada; Keisuke Uemura; Kazuma Takashima; Nobuhiko Sugano

5:06 pm

Impingement Evaluation of Dual Mobility Total Hip Replacement Constructs

Ioan Cracaoanu; Elizabeth Hippensteel; Robert Wright; Danielle Gehron; Anne Osantowski

5:12 pm

Impingement in Dual Mobility Hip Joint Replacement Under Adverse Conditions According to ASTM F2582:2020

Mazen Al-Hajjar; Oscar O'Dwyer Lancaster-Jones; Ioan Cracaoanu; Megan Hadley

5:18 pm

Prevalence of Dual Mobility Usage in Patients at Risk of Adverse Spinopelvic Mobility

Edgar Wakelin; Gerard Smith; Christopher Plaskos; Michael O'Sullivan; Andrew Shimmin; Jim Pierrepont

5:24 pm

In-Vitro Wear of Dual Mobility Total Hip Replacements With Artificially Aged Antioxidant Polyethylene Bearings

Megan Hadley; Elizabeth Hippensteel; Corey Laukhuf; Clive Wilson

FRIDAY, SEPTEMBER 29, 2023

FRIDAY, SEPTEMBER 29, 2023

4:30 pm - 5:30 pm

Central Park West

KIOSK 9

TKA: Surgical Techniques

Moderators: Arun Mullaji, William Mihalko

4:30 pm

Valgus Knee Osteoarthritis Treated With Unrestricted Kinematically Aligned TKA Is Efficient and Leads to Results Comparable to Varus Osteoarthritis

Anand Dhaliwal; Alexander Nedopil; Stephen Howell; Maury Hull

4:36 pm

Emerging Utilization of Cementless Total Knee Arthroplasty: A Nationwide Analysis From 2015 to 2021

Anthony S Unger; Amil R. Agarwala; Emile-Victor Kuyila; Alex Gua; Gregory Golladay; Savvasachi C. Thakkar; Gautam Siram; Sandesh Rao

4:42 pm

A Comparison of Outcomes With and Without a Tourniquet in Cementless Total Knee Arthroplasty: A Systematic Review

Benjamin Domb; Ali P. Parsa; Saiswarnesh Padmanabhan; Tracy George; Paulo P. Padilla; Mark F. Schinsky

4:48 pm

Modular Tibial Stems in Primary Total Knee Arthroplasty, a High-Volume Arthroplasty Institution'S Protocol

Mohamed Elkabbani; Amr Osman; Ehab Elbaz; Mohamed ADI; Samih Tarabichi; Diego Zamagni

4:54 pm

FE Study on the Influence of Patient-Related Factors on the Primary Fixation of a Cementless PEEK Tibial Component

Corine Post; Thom Bitter; Adam Briscoe; Nico Verdonshot; Dennis Janssen

5:00 pm

Monocryl Sutures Lead to Less Wound Drainage Following Total Knee Arthroplasty: A Cadaveric Study

Lucas Voyvodic; Ariel Rodriguez; Ivan Golub; Chaim Miller; Che Hang Jason Wong

5:06 pm

Development and Validation of a Mechanically Fidelity Knee Surgical Training Model

Kieran Bennett; Parham Foroutan; Ella Fairweather; Samuel Sobey; Nick Litchfield; Mark Roe; Karen Reynolds; John Costi; Mark Taylor

5:12 pm

A Novel Hybrid Bicruciate Retaining Total Knee Arthroplasty Tibial Component Design

Diego Zamagni; Mohamed Elfekky; Samih Tarabichi

FRIDAY, SEPTEMBER 29, 2023

FRIDAY, SEPTEMBER 29, 2023

4:30 pm - 5:30 pm

Central Park West

KIOSK 10

THA & Technology

Moderators: Joshua Rozell, Eytan Debbi

4:30 pm

Evaluation of an Initial Robotic-Assisted Direct Anterior Approach Cohort Receiving a Collared Stem Implant: Short-Term Results

Laura Yanoso-Scholl; Kevin Marchand; Kelly Taylor; Daniel Erwin; Robert Marchand; Zachary Guerrieo

4:36 pm

Improved Short-Term Outcomes for a Novel, Fluoroscopy-Based Robotic-Assisted Total Hip Arthroplasty System Compared to Manual Technique With Fluoroscopic Assistance

Graham Buchan; Christian Hecht; Peter Sulco; James B Chen; Atul Kamath

4:42 pm

Length of Stay and Discharge Dispositions Following Robotic-Arm Assisted Total Hip Arthroplasty and Predictors of Delayed Discharge

Andreas Fontalis; Warran Wignadasan; Fabio Mancino; Crystallynn Skye The; Ricci Plastow; Ahmed Magan; Fares Haddad

4:48 pm

The Effect of Surgical Approach on the Outcomes of Outpatient Total Hip Arthroplasty at a Single Ambulatory Surgery Center in New England

Jacob Laperche; James Dove; Valentin Antoci; Eric Cohen; Michael Kutschke; David F. Painter; Alexander Homer

4:54 pm

Length of Stay and Discharge Dispositions After Total Hip Arthroplasty: A Propensity Matched Comparison of Robotic Assisted and Manual Techniques

Laura Yanoso-Scholl; Diviya Rajesh; Sietske Witvoet; Andrea Coppolecchia; Antonia Chen

5:00 pm

Femoral Nerve Palsy Following Total Hip Arthroplasty via an Anterolateral Supine Approach

Yuto Nishioka; Atsunori Ohnishi; Takaaki Nakai; Tsuyoshi Nakai

5:06 pm

Patient Reported Outcome Differences for Navigated and Robot-Assisted Total Hip

Arthroplasty Frequently Do Not Achieve Clinically Important Differences: A Systematic Review

Vinaya Rajahraman; Kyle Lawrence; David Bloom; Hayley Raymond; Casey Cardillo; Joshua Rozell; Ran Schwarzkopf; Armin Arshi

5:12 pm

Effect Technology Has on Short-Term Outcomes in Total Hip Arthroplasty

Weston Buehring; Hayley Raymond; Alana Prinos; Omid Barzideh; Morteza Meftah; Matthew Hepinstall; Patrick Connolly

5:18 pm

Collecting Long-Term (5 to 10-Years) Patient-Reported Outcome Measures May Be Unnecessary for Total Hip Arthroplasties

Pedro Rullan; Ignacio Pasqualini; Alison Klika; Jianhua Shen; Manoshi Bhowmik-Stoker; Emily Hamppe; Nicolas Piuizzi

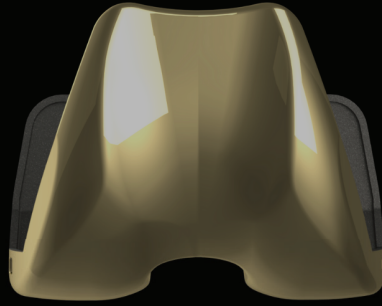
5:24 pm

A Novel Implant Planning Software Tool for Hip Stem Alignment

Gokce Yildirim; Rachel Alexander; Dimitrios Georgopolis



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NOTES:

FRIDAY, SEPTEMBER 29, 2023

SATURDAY, SEPTEMBER 30, 2023

8:00 am - 9:00 am

Metropolitan East

TKA: Kinematics & Outcomes
Moderators: Matthew Hepinstall, Morteza Meftah

8:00 am - **Moderator Introduction**

8:06 am

The Effect of Tibial Component Fixation on Pain in Unicompartmental Knee Replacement (UKR): A 5-Year Radiographic and Patient-Reported Pain Study

Azmi Rahman; Katerina Dangas; Stephen Mellon; David Murray

8:12 am

Greater Patient Satisfaction With Cementless Total Knee Arthroplasty in a Case-Controlled Series

Nicolas Piuuzzi; Jianhua Shen; Ignacio Pasqualini; Emily Hampp; Michael A Masini; John W Noble; Manoshi Bhowmik-Stoker

8:18 am - **Discussion**

8:24 am

Optimizing Intra-Operative Laxity and Balance for Improved 2 Year Pain Outcomes in TKA: A Prospective Cohort Study

Edgar Wakelin; Corey E. Ponder; Amber Randall; Jan Albert Koenig; Christopher Plaskos; Jeffrey DeClaire; Jeffrey Lawrence; John Keggi

8:30 am

With Preserved Medial Stability, Lateral Looseness Could Be Intraoperatively Allowed in PS-TKA for Varus Type Osteoarthritic Knees

Takao Inokuchi; Hirotsugu Muratsu; Daiya Kitazawa; Tomoyuki Matsumoto; Akihiro Maruo; Ryosuke Kuroda

8:36 am - **Discussion**

8:42 am

Are Kinematics an Indicator of Outcome After Total Knee Arthroplasty?

Joseph Lynch; Pip Hodge; Owen Rabak; Diana M Perriman; Jennifer Scarvell; Paul N Smith

8:48 am

In-Vivo Weight-Bearing Kinematics for Constrained Versus Traditional BCS TKA Cohorts Compared to the Normal Knee

Michael LaCour; Garrett Dessinger; Steven Haas; Richard Komistek

8:54 am - Discussion

SATURDAY, SEPTEMBER 30, 2023

8:00 am - 9:00 am

Empire East

Spinopelvic Debate in THA
Moderators: Russell Bodner, Philip Noble

8:00 am - **Moderator Introduction**

8:02 am

Increased Posterior Pelvic Tilt From Pre-Operative Supine to Post-Operative Standing: Implications for Surgeons Utilising the Direct Anterior Approach

Christopher Plaskos; Nathanael Heckmann; Jonathan Bare; Andrew Shimmin; Jim Pierrepont

8:08 am

Changes in Spinopelvic Tilt and Mobility After Total Hip Arthroplasty Using the Hip-Spine Classification: A Deep-Learning Enabled Analysis

Seong Jun Jang; Theofilos Karasavvidis; Cale Pagan; Robert Ricotti; David J. Mayman; Seth A. Jerabek; Peter K. Sculco; Jonathan Vigdorchik

8:14 am - **Discussion**

8:18 am

Increased Cup Anteversion May Not Prevent Posterior Dislocation in Patients With Abnormal Spinopelvic Characteristics in Total Hip Arthroplasty

Christopher Plaskos; Matthew Grosso; Jim Pierrepont; Arjun Saxena

8:24 am

Variations in Acetabular Cup Inclination and Anteversion Measurements Obtained With Intraoperative Navigation Software Versus Postoperative Supine and Standing Radiographs

Louis Andrew Jordan ; Renee Ren; Jonathan Spaan; Edwin Su

8:30 am - **Discussion**

8:34 am

Native Femoral Version Should Not Be Used as Reference in Uncemented Total Hip Arthroplasty

Anna Di Laura; Johann Henckel; Maria Moralidou; Harry Hothi; Alister Hart

8:40 am

A Novel Calibration Method to Enable IMU-Based Assessment of Spinopelvic Kinematics

Thor Besier; George Grammatopoulos; Kyron Marsh

8:46 am - **Discussion**

8:50 am

Panel Discussion: Advanced THA Alignment, When and How Spinopelvic Parameters Matter?

Panelists: Fares Haddad; Ran Schwarzkopf

SATURDAY, SEPTEMBER 30, 2023

Patient-Specific Implants & Instruments
Moderators: Nico Verdonshot, Douglas E Padgett

8:00 am

Moderator Introduction

8:06 am

Patient Specific Instrumentation in Laser Guide Navigated THA: Experience in the First 150 Cases, a CT Study
Attilio Speranza; Raffaele Iorio; Dario Perugia; Veronica Giuliani; Natale Criseo

8:12 am

Periacetabular Osteotomy Performed With Navigation and Patient-Specific Templates Is a Reproducible and Safe Procedure

Rene Mihalic; Peter Brumat; Rihard Trebse

8:18 am

Discussion

8:24 am

Automated Generation of Patient-Specific Musculoskeletal Models to Predict Muscle Function Following Total Hip Arthroplasty

Nynke Rooks; Duncan Bakke; Marco Schneider; Thor Besier

8:30 am

Building Surgeon-Specific Predictive Models of Tibial Insert Thickness Using Knee Joint Laxity Signature

Prudhvi Tej Chinimilli; Wen Fan; Laurent Angibaud; Amaury Jung; James Huddleston

8:36 am

Discussion

8:42 am

A Comparison of Mixed Reality Navigation to Patient Specific Guides and Traditional Freehand Technique for Guide Pin Insertion in Glenoids With Severe Erosions

Cole Fleet; Ryan Gao; James Johnson; George Athwal

8:48 am

The Placement Accuracy of Custom-Made Implants Utilizing Three-Dimensional Additive Manufacturing Technology for Cases With Massive Acetabular Bone Defects.

Atsushi Taninaka; Tamon Kabata; Yoshitomo Kajino; Daisuke Inoue; Takaaki Ohmori; Yuki Yamamuro; Tomoyuki Kataoka; Yoshitomo Saiki; Yu Yanagi; Musashi Ima; Takahiro Iyobe; Fujimaru Naoya; Hiroyuki Tsuchiya

8:54 am

Discussion**NOTES:**

SATURDAY, SEPTEMBER 30, 2023

9:00 am - 10:00 am Metropolitan East

Knee Laxity

Moderators: Johan Bellemans, Carl Imhauser

9:00 am - **Moderator Introduction**

9:05 am

Alignment in Total Knee Arthroplasty Is Only Part of the Equation: High Variability of Ligament Laxities for Each Knee Alignment Category

Edgar Wakelin; Christopher Plaskos; Gwo-Chin Lee

9:11 am

Definition of the Laxity Goals During TKA Tends to Be Surgeon Specific

Prudhvi Tej Chinimilli; Laurent Angibaud; Wen Fan; François Boux de Casson; Amaury Jung

9:17 am

Multiplanar in-Vivo Tibiofemoral Laxity: Comparison of Healthy Individuals to Patients Following TKA

David Shamritsky; Erin Berube; Akinola Oladimeji; Brian Chalmers; Stephen Lyman; Cynthia Kahlenberg; William Long; Geoffrey H Westrich; Eytan Debbi; Peter Sculco; David J. Mayman; Timothy Wright; Carl Imhauser

9:23 am - **Discussion**

9:28 am

Impact of Incremental Loads on Soft-Tissue Stiffness in a Simulated Total Knee Arthroplasty Model

Kevin Abbruzzese; Azhar Ali; Andre Freligh; Scott Logan; Jared Weir; Stefano Bini; Michael Mont

9:34 am

Midflexion Laxity in TKA: Alignment Matters, Implant Choice Does Not

Alexander Orsi; Christopher Plaskos; Eric M Slotkin; Enrique Forlenza; Stefan Kreuzer; Vasili Karas

9:40 am

Detecting Patterns of MCL Injury From Quantitative Knee Laxity Assessments

Nicholas Dunbar; Shuyang Han; Jonathan E. Gold; Kyle Borque; Nicholas D. Lanfermeijer; Lauren Pupa

9:46 am - **Discussion**

9:51 am

Panel Discussion: What is the Ideal Laxity Pattern in the Artificial Knee?

Panelists: Peter Walker; Scott Banks

SATURDAY, SEPTEMBER 30, 2023

9:00 am - 10:00 am Empire East

Hip Resurfacing

Moderators: Justin Cobb, Sarah K Muirhead-Allwood

9:00 am - **Moderator Introduction**

9:02 am

Adverse Preclinical Testing of Ceramic-on-Ceramic Hip Resurfacing

Rob Beadling; Gregory Pryce; Danielle De Villiers; Simon Collins; Michael Bryant

9:08 am

Wear of a Ceramic-on-Ceramic Hip Resurfacing Under Activities of Daily Function

Raelene Cowie; Danielle De Villiers; Simon Collins; Louise M. Jennings

9:14 am - **Discussion**

9:18 am

Accuracy of the Birmingham Hip Resurfacing Components Placement Using the Anterior Approach With Dual-Plane Fluoroscopy and Computer Navigation: A Radiographic Evaluation

Benjamin Domb; Paulo P. Padilla; Tracy George; David Maldonado; Payam W. Sabetian; Mark F. Schinsky

9:24 am

Hip Resurfacing in the Setting of Retained Proximal Femoral Instrumentation or Complex Deformity

Louis Andrew Jordan ; Ajay Premkumar; Renee Ren; Jonathan Spaan; Edwin Su

9:30 am

Clinical Implications of Range of Motion Differences Between Total Hip Arthroplasty and Hip Resurfacing Arthroplasty: A Preoperative Simulation Study

Joshua Twiggs; Max Hardwick-Morris; Brad Miles; William Walter; Kaushik Hazratwala; Tyson Doneley

9:36 am - **Discussion**

9:41 am

Could Alzheimer's Disease Pathology Be Associated With Metals Released From Total Hip Replacements?

Robin Pourzal; Puja Agarwal; Sue E. Leurgans; Sonal Agrawal; Scott Ayton; Ashley I Bush; Deborah Hall; Julie A Schneider; Joshua J. Jacobs

9:47 am - **Discussion**

9:50 am

Panel Discussion: State of Resurfacing in 2023

Panelists: Derek McMinn; Jonathan Jeffers

SATURDAY, SEPTEMBER 30, 2023

Hand & Wrist and Foot & Ankle
Moderators: Raymond Walls, Sophia Sangiorgio

9:00 am - **Moderator Introduction**

9:06 am

In-Vivo Wrist Range of Motion in Total Wrist Arthroplasty Measured With Biplane Videoradiography and Its Correlation With PROMs

J.J. Trey Crisco; Kalpit Shah; Bardiya Akhbari; Amy Morton; Douglas Moore; Scott Wolfe; Arnold-Peter Weiss

9:12 am

Comparison of Micromotion in Three Trapezial Component Fixation Designs of a Thumb CMC Arthroplasty

Ritvik Sarkar; Joseph Lipman; Timothy Wright; Robert Hotchkiss; Aaron Daluiski; Daniel Osei; Fernando Quevedo Gonzalez

9:18 am - **Discussion**

9:24 am

Comparison of Muscle Forces and Characterization of Articular Loading During Active Flexion-Extension Motion of the Wrist Before and After Total Wrist Arthroplasty: An in-Vitro Cadaveric Study

Elizabeth Norman; Emily Lalone; Assaf Kadar; Nina Suh; G Daniel Langohr

9:30 am

1yr Follow-Up Demonstrates the KinematX Midcarpal Total Wrist Improves Wrist Motion, Strength, and Patient Reported Outcome Measures

J.J. Trey Crisco; Scott Wolfe; William Runge; Alfred Hess; Barth Riedel

9:36 am - **Discussion**

9:42 am

Total Ankle Arthroplasty Is Associated With Decreased Risk of Postoperative Total Knee Arthroplasty Compared to Ankle Arthrodesis

Gloria Coden; Andrzej Brzezinski; Kurt Hofmann

9:48 am

Retrieval Analysis of the Evolution of an Ankle Design

Afton Limberg; Peder Solberg; Zachary Currier; Rebecca Thomson; Frances Faro; Douglas Van Citters

9:54 am - **Discussion**

NOTES:

SATURDAY, SEPTEMBER 30, 2023

10:30 am - 11:30 am Metropolitan East

Alignment Philosophy in TKA

Moderators: Philip Winnock De Grave, Johan Bellemans

10:30 am - **Moderator Introduction**

10:32 am

Don't End Up Valgus - Consequences of Limb Alignment Over or Under-Correction

Bradley Lambert; Pradyumna Gurusamy; Thomas Sullivan; Jennifer Liu; Stephen Incavo

10:38 am

Kinematic Alignment Best Restores the Patellofemoral Joint and Coronal Plane Alignment of the Knee: A Simulation Study Comparing Several Alignment Techniques

Alexander Orsj; Stefan Kreuzer; Christopher Plaskos

10:44 am - **Discussion**

10:48 am

Knee Adduction Moments in Kinematically and Mechanically Aligned Total Knee Arthroplasty in Level Walking and Stair Climbing

Ann-Kathrin Einfeldt; Eike Jakubowitz; Lars Tuecking; Max Ettinger; Henning Windhagen

10:54 am

Knee Kinematics While Stair Climbing After Mechanical and Kinematic Aligned TKA

Ann-Kathrin Einfeldt; Eike Jakubowitz; Max Ettinger; Lars Tuecking; Henning Windhagen

11:00 am - **Discussion**

11:04 am

No Difference in Alignment Between Kinematic and Mechanical Alignment Robotic-Assisted Total Knee Arthroplasty

Theofilos Karasavvidis; Cale Pagan; David J. Mayman; Seth A. Jerabek; Jonathan Vigdorchik

11:10 am

Kinematic Alignment Produces Superior Clinical Results to Mechanical Alignment With Primary Medial-Pivot Knee Arthroplasty

Trisha Vuong; David Scott

11:16 am - **Discussion**

11:20 am

Panel Discussion: Patient-specific Alignment in TKA- Outcome vs Survivorship?

Panelists: William Colyn; Jan Victor

SATURDAY, SEPTEMBER 30, 2023

10:30 am - 11:30 am Empire East

Smart Instruments

Moderators: Richard van Arkel, Stephen Murphy

10:30 am - **Moderator Introduction**

10:36 am

Kinematics and Kinetics During Level and Downhill Walking in Total Knee Arthroplasty Using a Robotic Ligament Tensioner

Markus Wimmer; Takayuki Koya; Ariane Lalles; Christopher Knowlton; Vasili Karas

10:42 am

Different Patterns of Final Balance for Total Knee Arthroplasty Identified Using Intra-Operatively Collected Robotic Laxity Metrics, a Descriptive Analysis.

Mike Anderson; Peter McEwen; Joseph Brook; Adam Henderson; Dave Van Andel; Trevor Pickering

10:48 am - **Discussion**

10:54 am

Development of Smart Surgical Trial Components for Intra-Operative Assessment and Recording of Component ROM and Stability in Total Hip Replacement Surgery.

Oliver Vickers; Tim Board; Peter Culmer; Graham Isaac; Robert Kay; Sophie Williams

11:00 am

Accuracy of a New Augmented Reality System for Total Knee Arthroplasty: A Cadaveric Study by Using the Nextar Tka

Daniele Ascani; Massimiliano Bernardoni; Geert Peersman

11:06 am - **Discussion**

11:12 am

Effect of Long-Term Gait Loading on a Piezoelectric Joint Load Sensor for Total Knee Arthroplasty

Brandon Hines; Brent Lanting; Ryan Willing; Steven Anton

11:18 am

Design and Virtual Evaluation of a Novel, Modular, Multi-Axis Contact Force Sensor for Arthroplasty

Joshua Roth; Jason DePhillips

11:24 am - **Discussion**

SATURDAY, SEPTEMBER 30, 2023

Implant Design 1**Moderators: Scott Banks, Patrick A. Meere**10:30 am - **Moderator Introduction**

10:34 am

Computational Design Optimization of the Bearing Geometries of a Cervical Total Disc ReplacementLucia Kölle; Markus Flohr; S J Ferguson; Ben Helgason10:40 am - **Discussion**

10:42 am

Impact of Design Factors on Implant Stability in Cementless Hip Revision Arthroplasty: Experimental-Computational Studies Evaluating Different Implant DesignsHuizhou Yang; William Fugit; Paul Rullkoetter; Chadd Clary

10:48 am

How Do Small Design Changes Affect the Primary Stability of a Cementless Stem Design?Katja Glismann; Tobias Konow; Frank Lampe; Gerd Huber; Michael Morlock10:54 am - **Discussion**

10:58 am

Comparing Outcomes of Inlay and Onlay Components in Patellofemoral ArthroplastyJonathan Katzman; Weston Buehring; Patrick Connolly; Ran Schwarzkopf; Ivan Fernandez-Madrid; Casey Cardillo

11:04 am

The Keel Plays a Role in Periprosthetic Fractures of the Tibial Component in Cementless Unicompartmental Knee Replacement (UKR)Azmi Rahman; David Heath; Stephen Mellon; David Murray11:10 am - **Discussion**

11:14 am

Effect of Higher Patellofemoral Conformity on the Robustness of Patellar BiomechanicsThiago Amaral; Amit Mane; John Ryan Martin; Richard Komistek

11:20 am

Metal-Backed Cementless Patellar Components in Primary Total Knee Arthroplasty Using a Modern Design Implant: A Review of 707 CasesArthur Malkani; Alex Joufflas; Arun Nadar; Langan Smith; James Baker; Shikha Sachdeva; Madhusudhan Yakkanti11:26 am - **Discussion****NOTES:**

SATURDAY, SEPTEMBER 30, 2023

11:30 am - 12:30 pm Metropolitan East

TKA: Outcomes

Moderators: Petra Heesterbeek, Justin Cobb

11:30 am - **Moderator Introduction**

11:35 am

Achieving Optimum Outcomes in TKA: First 100 Patients at 10-Years

Robert Eberle; Sridhar Durbhakula; Laura Rego, MA

11:41 am - **Discussion**

11:44 am

Exploring Reward Modeling for Evaluating Total Knee Arthroplasty Simulations: A Pilot Study

Brad Miles; Ishaan Jagota; Joshua Twiggs; Andrew Shimmin; Jonathan Bare; David Liu; Justin Roe

11:50 am

Prioritization of Consequences After Total Knee Arthroplasty Contributing to a Poor Response: A Best-Worst Scaling Exercise Among Osteoarthritis Patients and Knee Specialists

Petra Heesterbeek; Malou Te Molder; Lise Verhoef; José Smolders; Els Van Den Ende

11:56 am - **Discussion**

12:02 pm

Predicting Achievement of Clinically Meaningful Improvement in Patient-Reported Outcome Measures After Robotic-Assisted Total Knee Arthroplasty Using Machine Learning

Lisa Spahn Lundgren; Nathalie Willems; Sietske Witvoet; Maroussia Leidner; Laura Yanoso-Scholl; Daniele De Massari; Bob Marchand

12:08 pm

Setting Expectations to Improve Satisfaction Following Total Knee Arthroplasty With Machine Learning

Jennifer Polus; Tom Appleton; Edward Vasarhelyi; Steven MacDonald; Brent Lanting; Matthew Teeter

12:14 pm - **Discussion**

12:20 pm

Volume and pH of Synovial Fluid Prior to Total Knee Arthroplasty and the Relationship to Patient Reported Outcomes

Madison Brown; Lisa Phan; Chandler Sears; Jordan Justice; Marcus Ford; John Crockarell; James Harkess; James Guyton; Marc Mihalko ; William Mihalko

12:26 pm - **Discussion**

SATURDAY, SEPTEMBER 30, 2023

11:30 am - 12:30 pm Empire East

Imaging & Measurements 2

Moderators: Eytan Debbi, William Colyn

11:30 am - **Moderator Introduction**

11:35 am

The Patellar Tilt Differences After Total Knee Arthroplasty Between Supine and Standing Radiographic Views Are Not Related to the Rotation of Well-Aligned Femoral Components

Fernando Quevedo Gonzalez; David J. Mayman; Theofilos Karasavvidis; Cale Pagan; Daniel Driscoll; Ryan Helbock; Peter Sculco; Eytan Debbi; Timothy Wright; Jonathan Vigdorichik; Cynthia Kahlenberg

11:41 am - **Discussion**

11:44 am

Migration Analysis of a Cementless Monoblock Ceramic Acetabular Cup With a Titanium and Hydroxyapatite VPS Coating

Susannah Clarke; Camilla Halewood; Kartik Logishetty; Justin Cobb

11:50 am - **Discussion**

11:53 am

Deep Learning Automation of Preoperative Radiographic Parameters Associated With Early Periprosthetic Femur Fracture After Total Hip Arthroplasty

Seong Jun Jang; Kyle Alpaugh; Kyle Kunze; David J. Mayman; Jonathan Vigdorichik; Seth A. Jerabek; Elizabeth B. Gausden; Peter K. Sculco; Tim Li

11:59 am - **Discussion**

12:02 pm

Magnitude and Direction of Tibial Component Migration in Patients With Aseptic Loosening in Total Knee Arthroplasty

Matthew Hickey; Bart Kaptein; Carolyn Anglin; Bassam Masri; Antony Hodgson

12:08 pm - **Discussion**

12:11 pm

Optimally Sized Tibial Implants Match Patient Coverage and Reduce Implant Stock

Frederik Masure; Alex Liddle; Thomas Burge; Maxwell Munford; Jonathan Jeffers

12:17 pm - **Discussion**

Implant Design 2

Moderators: Jonathan Jeffers, Joseph Lipman

11:30 am - **Moderator Introduction**

11:33 am

Total Knee Bearing Design Without Cruciate LigamentsPeter Walker; John Perez; Daniel Hennessy

11:39 am

Do Medial Congruent TKAs Offer Great Stability and More Normal-Like Kinematic Patterns? an in Vivo Fluoroscopic Study.Michael LaCour; Garrett Dessinger; Chad Krueger; Richard Komistek11:45 am - **Discussion**

11:49 am

Does Femoral Component Design Change Affect Loosening Rate of Femoral Component? a Retrospective Comparison Study With Conventional Design Versus High Flexion Design.Youngchae Seo; Seung-Suk Seo

11:55 am

Kinematic Evaluation of Posterior-Stabilized Total Knee Arthroplasty With Fixed Bearing vs Mobile Bearing Insert Implanted With Mechanical Alignment: An in-Vivo Dynamic RSA StudyStefano Zaffagnini; Raffaele Zinno; Stefano Di Paolo; Nicola Pizza; Giulio Maria Marcheggiani Muccioli; Laura Bragonzoni; Domenico Alesi12:01 pm - **Discussion**

12:05 pm

Initial and Long-Term Bone Strains Associated With Solid and Lattice UKAJennifer Stoddart; Maxwell Munford; Jonathan Jeffers

12:11 pm

3D Printed Porous Pegs Match Solid Peg Micromotion PerformanceArron Hughes; Maxwell Munford; Jonathan Jeffers12:17 pm - **Discussion**

12:21 pm

Assessment of Hinged Knee Replacement Designs Using a Biomechanical Knee SimulatorKenneth Pascale; Kevin Abbruzzese; Damon Servidio; Emily Hampp; Rebecca Gonzalez; Lauren Hickox; Stephen Piazza12:27 pm - **Discussion****NOTES:**

Shoulder Arthroplasty

Moderators: Mandeep Virk, Vani Sabesan

12:30 pm
Prior Shoulder Arthroscopy Is Associated With Worse Outcomes Following Primary Reverse Shoulder Arthroplasty
 Garrett Jackson; Christopher Brusalis; Clyde Fomunung; Carlos Fernandez; Vani Sabesan; Howard Routman

12:36 pm
Comparison of Clinical Outcomes Using Inlay Versus Onlay Humeral Trays in Reverse Shoulder Arthroplasty for Patients With Cuff Tear Arthropathy
 Stephen Weber; Edward McFarland; Prashant Meshram; Uma Srikumaran; Punyawat Apiwatanakul

12:42 pm
Effect of Steroid Injections on Outcomes Following Shoulder Arthroplasty
 Carlos Fernandez; Vani Sabesan; Clyde Fomunung; Sarah Girshfeld; Brandon Macknofsky; Howard Routman; Benjamin Lack

12:48 pm
Comparison of Outcomes of Reverse Shoulder Arthroplasty in Patients With Dislocation Arthropathy With Matched Cohort of Patients With Glenohumeral Osteoarthritis With Severe Glenoid Bone Loss
 Stephen Weber; Punyawat Apiwatanakul; Prashant Meshram; Ridge Maxson; Uma Srikumaran; Edward McFarland

12:54 pm
Acromiohumeral Distance: Can Radiographic Factors Impact Outcomes After Reverse Shoulder Arthroplasty?
 Carlos Fernandez; Vani Sabesan; Clyde Fomunung; Feyikemi Ogunfuwa; Ajay Desai; Howard Routman; Jake Gogeun

1:00 pm
Muscle Activation Patterns and Torque Output During External Rotation (ER) After a Reverse Total Shoulder Arthroplasty Comparing Coper and Non-Coper ER Patient Populations

Alexis Nelson; Blake Hajek; Jordan Justice; Willie Polio; Tyler Brolin; Shannon Hughes; David Bernholt; Frederick Azar; Thomas Throckmorton; William Mihalko

1:06 pm
Evaluation of Deltoid Elongation in Preoperative Planning of Reverse Shoulder Arthroplasty Is a Potential Decision Support Tool to Prevent the Risk of Scapula Fracture
 Sanne Vancleef; Filip Jonkergouw; Katrien Plessers; Roel Wirix-Speetjens; Sebastian DeBoodt

1:12 pm
Reverse Shoulder Arthroplasty for Proximal Humeral Fractures: Better Treated Acute Versus Chronic Malunions?
 Carlos Fernandez; Vani Sabesan; Feyikemi Ogunfuwa; Clyde Fomunung; Howard Routman; Jake Gogeun

Biomaterials 2

Moderators: Rafael Trommer, Scott Reese

12:30 pm
Can Standard Test Specimens Inform the Mechanical Behaviour of Real Implant Designs?
Stylianos Kechagias; Jonathan Jeffers; Kabelan Karunaseelan; Reece Oosterbeek

12:37 pm
Structural Defects and Variable Porosity in 3D Printed Cups From 6 Manufacturers
Harry Hothi; Johann Henckel; Anna Di Laura; Alister Hart

12:44 pm
Custom 3D Printed Implants for Acetabular Reconstruction: Mid-Term Functional and Radiological Results
Anna Di Laura; Johann Henckel; Harry Hothi; Alister Hart

12:51 pm
Effect of Microporosities and Inclusions on Tibial Components of Knee Prosthesis
 Renir Reis Damasceno Neto; Eduardo Alberto Fancello; Carlos Rodrigo De Mello Roesler; Edison da Rosa; Patricia Ortega Cubillos

12:58 pm
Partially Molten Titanium Particles on 3D Printed Acetabular Cups
Harry Hothi; Johann Henckel; Anna Di Laura; Alister Hart

1:05 pm
An Investigation on the Mechanism of Action of Bactiguard Coating Used on Orthopaedic Devices
 Saurabh Lal; Erika Sodergren; Henry Ng; Anna Ericsson; Devendra Gorhe; Lucia Pontiroli; Billy Sodervall; Imran Khan

1:12 pm
Surface Roughness of Titanium Implants and Its Impact on Bacterial Adherence: Implications for Periprosthetic Joint Infection Prevention
Drew Clippert; Valentin Antoci; Jacob Laperche; Caitlin Barrett; Dioscaris Garcia; Jillian Glasser

1:19 pm
Design, Material, and Manufacturing Factors That Affect the Fixation of Metallic Implants to Bone: Evidence From Total Knee Replacements
 Eleix Baral; Aarti Shenoy; Geoffrey H Westrich; Thomas Sculco; Timothy Wright

SATURDAY, SEPTEMBER 30, 2023

12:30 pm - 1:30 pm Lenox

KIOSK 3

Clinical Issues

Moderators: Brian Chalmers, Eytan Debbi

12:30 pm

Electronic Surgeon-Patient Communication Following Primary Total Hip Arthroplasty: Effects on Postoperative Outcome Measures and Patient Reported Outcome Scores

Akram Habibi; Spencer Ward; Jonathan Katzman; Ran Schwarzkopf; Joshua Rozell; Casey Cardillo

12:36 pm

Trends in Surgical Management of Osteonecrosis of the Femoral Head: A 2010 to 2020 Nationwide Study

Mitchell Ng; Adam Gordon; Nicolas Piuzzi; Afshin Razi; Che Hang Jason Wong; Lynne Jones; Michael Mont; Matthew Magruder; Ariel Rodriguez

12:42 pm

YouTube Is a Poor Source of Patient Information for Patellofemoral Joint Arthroplasty

Harkirat Jawanda; Garrett Jackson; Zeeshan Khan; Mitchell Pfennig; Christopher Brusalis; Anjay Batra; Nikhil Verma; Jorge Chahla

12:48 pm

Surgeon-Patient Communication Using the Electronic Portal: Impact on Postoperative Outcomes and Patient Reported Outcome Measures Following Total Knee Arthroplasty

Akram Habibi; Spencer Ward; Jonathan Katzman; Ran Schwarzkopf; Joshua Rozell; Hayley Raymond

12:54 pm

The Effect of Technology on Short-Term Clinical Outcomes in Total Knee Arthroplasty

Weston Buehring; Jonathan Katzman; Muhammad Haider; Benjamin Schaffler; Matthew Hepinstall; Morteza Meftah; Muhammad Haider

1:00 pm

Parametric Analysis of Factors Affecting Osteochondral Grafts in the Knee

Gavin Day; Alison Jones; Marlene Mengoni; Ruth Wilcox

1:06 pm

Does Medicare Insurance Affect Access to Complex Revision Shoulder Arthroplasty Subspecialty Shoulder Care?

Carlos Fernandez; Vani Sabesan; Anna Redden; Clyde Fomunung

1:12 pm

Pandemic Effect on Patient Anxieties, at-Risk Populations, and the Impact on Orthopedic Volume Trends

Drew Clippert; Caitlin Barrett; Valentin Antoci; Jacob Laperche; Dioscaris Garcia

1:18 pm

Decreasing Trends in Arthroscopic Treatment of Osteoarthritis of the Knee Following Publication of the 2013 AAOS Clinical Practice Guidelines: A Large Database Analysis

Kent Kern; Tyler Madden; Karl Roberts

SATURDAY, SEPTEMBER 30, 2023

12:30 pm - 1:30 pm Lenox

KIOSK 4

Customization

Moderators: Nicholas Dunbar, Carl Imhauser

12:30 pm

Short-Term Outcomes of a Novel, Personalized Revision Knee System

Emily Ronan; Jonathan Katzman; Alana Prinos; Hayley Raymond; Daniel Waren; Ran Schwarzkopf; Vinay Aggarwal

12:36 pm

Efficacy of Custom Made Porous Cones in TKA Re-Revisions: A Biomechanical Comparative Study

Edoardo Bori; Marika Padalino; Gianluca Piovan; Bernardo Innocenti

12:42 pm

In-Silico Method for Pre-Clinical Assessment of Custom-Made Knee Implants

Georg Hettich; Josef-Benedikt Weiß; Thomas M. Grupp

12:48 pm

Improved Clinical Outcomes for Personalised Alignment Strategies Using Assistive Technology

Philippe Van Overschelde

12:54 pm

Does Femoral Flange Design Influence Patellofemoral Mechanics in Patient Specific Alignment?

Amit Mane; Rebecca Boldt; Chase Maag; Ian Leslie; Michael Hirschmann; Richard Komistek

1:00 pm

3D-Printed Patient-Specific Instrumentation Helps Achieve the Intended Prosthetic Femoral Version

Anna Di Laura; Johann Henckel; Harry Hothi; Alister Hart

1:06 pm

Improved Postoperative Radiographic Alignment Associated With Patient-Specific Instrumentation Total Ankle Arthroplasty

Gloria Coden; Kurt Hofmann; Nicholas Veale

1:12 pm

Patient-Specific Instrumentation for Total Ankle Arthroplasty

Gloria Coden; Nicholas Veale; Kurt Hofmann

1:18 pm

Solving the Anchorage Problem Distal to the Isthmus as an Essential Feature of a Customized Spacer

Alexander Vacariu-Seelig; Andrej Nowakowski

1:24 pm

Use of Custom Glenoid Components for Reverse Total Shoulder Arthroplasty

Stephen Weber; Punyawat Apiwatanakul; Prashant Meshram; Andrew Harris; Joel Bervell; Piotr Lukasiewicz; Ridge Maxson; Matthew Best; Uma Srikumaran; Edward McFarland

SATURDAY, SEPTEMBER 30, 2023

12:30 pm - 1:30 pm Empire East

KIOSK 5

Patient Satisfaction

Moderators: Andrew Wickline, Yifei Dai

12:30 pm

Patient Satisfaction and Patient-Reported Outcomes Do Not Vary by BMI Class in Knee Arthroplasty

Nicolas Piuizzi; Trevor Murray; Matthew Deren; Roberta Redfern; Craig L Israelite; Charles Nelson; Dave Van Andel

12:36 pm

Does Discharge Disposition or Length of Stay for Patients Undergoing Staged Bilateral Total Joint Arthroplasty Change Between First and Second Procedures?

Marcel M Dupont; Alirio J deMeireles; Timothy D Gossett; Roshan Shah; John Cooper

12:42 pm

Determining the Patient Acceptable Symptomatic State for the Forgotten Joint Score, the Modified Harris Hip Score, and the Visual Analog Scale at Minimum 5-Year Follow-Up Following Primary Total Hip Arthroplasty

Benjamin Domb; Saiswarnesh Padmanabhan; David Maldonado; Andrew J. Curley; Mark F. Schinsky; Ady Kahana Rojkind

12:48 pm

I Can't Get No Satisfaction: One-Month Post-Operative Pain Predicts Three-Month Post-Operative Dissatisfaction in Total Knee Arthroplasty

Mike Anderson; Jason Cholewa; Roberta Redfern; Dave Van Andel; Karl Surmacz

12:54 pm

Can We Link PROMIS to KOOS, JR and HOOS, JR Scores? Results From a Preliminary Analysis

Mary Hennekes; Matthew Gasparro; Christopher Rittle; Joshua Castle; Eric Makhni

1:00 pm

Preoperative Synovitis and Satisfaction After Total Knee Arthroplasty for Osteoarthritis

Jennifer Polus; Holly Philpott; Trevor Birmingham; Edward Vasarhelyi; Steven MacDonald; Brent Lanting; Tom Appleton; Matthew Teeter

1:06 pm

The Impact of Patient Grit, Resilience and Ability to Cope With Stress on Outcomes Following Total Joint Arthroplasty

Jacob Laperche; Drew Clippert; Valentin Antoci; Caitlin Barrett

SATURDAY, SEPTEMBER 30, 2023

12:30 pm - 1:30 pm Empire East

KIOSK 6

TKA: Survivorship & Enhancing Wear Resistance

Moderators: David Markel, Steven Kurtz

12:30 pm

Is Survivorship a Concern With Cementless Total Knee Arthroplasty?

Nicolas Piuizzi; Jianhua Shen; Ignacio Pasqualini; Emily Hampp; Michael A Masini; John W Noble; Manoshi Bhowmik-Stoker

12:36 pm

Early Identification of Poorly Performing Implants in Michigan With the Example of the Vanguard XP

Nicholas Frisch; David Markel; Richard Hughes; Brian Hallstrom; Michael Masini

12:42 pm

Patellar Resurfacing and Survivorship After Primary Total Knee Arthroplasty From the Michigan Arthroplasty Registry Collaborative Quality Initiative

Kent Kern; Brian Hallstrom; David Markel; Thomas Zheng; Richard Hughes; Karl Roberts; Tyler Madden

12:48 pm

Survivorship and Clinical Outcomes of a Single Design Revision Tibial Component in Primary and Revision Total Knee Arthroplasty: A Multi-Center Registry Review

nader nassif; Kirk Kindsfater; David F Dalury; Andrew Spitzer; Donald Pomeroy; John F Irving; William P Barrett; David Fawley; Sean Croker; Robert Gorab

12:54 pm

Highly Porous Metaphyseal Cones in Revision Total Knee Arthroplasty

Filesha Haniff; Kevin Denehy; Emily Hampp

1:00 pm

Clinical and Biomechanical Evaluation of Midlevel Constrained and Posterior-Stabilized Polyethylene Inserts in Primary Total Knee Arthroplasty: An Analysis of 12,674 Cases

Cynthia Kahlenberg; Michael M. Kheir; Fernando Quevedo Gonzalez; Yu-Fen Chiu; Timothy Wright; Brian Chalmers; Peter K. Sculco

1:06 pm

Wear of a PEEK-OPTIMA Polymer-on-UHMWPE Total Knee Replacement

Raelene Cowie; Adam Briscoe; Louise M. Jennings

1:12 pm

The Effect of Multiple Variables on the Wear Performance of a Highly Crosslinked UHMWPE: A Retrospective Review

Ilya Borukhov; Sally LiArno

1:18 pm

Wear Performance of UHMWPE GUR 1050 After Mechanical Compression

Lucas Gimenis de Moura; Eduardo Alberto Fanello; Edison da Rosa; Carlos Rodrigo De Mello Roesler; Clara Muniz Da Silva De Almeida; Marcia Maru; ARTHUR SANTOS

1:24 pm

Significant Wear Resistance of Vitamin E Grafted UHMWPE Reverse Shoulder Humeral Bearings Articulating With CoCrMo Glenspheres

Diego Orozco Villasenor; Ravikumar Varadarajan; Kimberly Mimnaugh

SATURDAY, SEPTEMBER 30, 2023

SATURDAY, SEPTEMBER 30, 2023

12:30 pm - 1:30 pm Empire West

KIOSK 7

THA & Technology 2

Moderators: Philip Noble, Shuyang Han

12:30 pm

Frictional Torque of the Outer Diameter of a Novel Dual Mobility Design

Mazen Al-Hajjar; Silvia Carbone; Ioan Cracaoanu; Megan Hadley

12:36 pm

Subluxation-Induced Adhesion of the Liner and Influence of Impaction to Prevent Liner Dissociation in Ceramic-Ceramic Total Hip Arthroplasty

J. Philippe Kretzer; Sebastian Jaeger; Mareike Schonhoff; Maximilian Uhler

12:42 pm

Navigated Cup Placement in Total Hip Arthroplasty Is More Precise and Accurate Than the Free-Hand Technique: A Randomized, Controlled Trial

Rene Mihalic; Jurij Zdrovc; Janez Mohar; Rihard Trebse

12:48 pm

Retrieval Analysis of Cages, Custom Acetabular Components and Cup Cages From Complex Revision Total Hip Arthroplasties

Abdulganeey Olawin; Cemile Basgul; Steven Kurtz; Greg Klein; P. Maxwell Courtney; Jonathan Garino

12:54 pm

Assessment of Friction of Ceramic-on-Ceramic Hip Resurfacing Arthroplasty

Gregory Pryce; Rob Beadling; Danielle De Villiers; Simon Collins; Michael Bryant

SATURDAY, SEPTEMBER 30, 2023

12:30 pm - 1:30 pm Empire West

KIOSK 8

Wearables & Sensors 2

Moderators: Sally LiArno, Patrick A. Meere

12:30 pm

Similar Physical Demands of Performing Arthroplasty Surgery and Clinic

Gloria Coden; James Penn Miller; Lauren Schoeller; Carl Talmo

12:36 pm

Higher Surgeon Energy Expenditure Associated With Performing Total Hip Arthroplasty Compared to Total Knee Arthroplasty

Gloria Coden; James Penn Miller; Lauren Schoeller; Carl Talmo

12:42 pm

Increased Patient Body Mass Index Is Associated With Increased Surgeon Physiologic Stress During Total Hip Arthroplasty

Itay Ashkenazi; Ittai Shichman; Alana Prinos; Jonathan Katzman; Claudette Lajam; Ran Schwarzkopf; Joshua Rozell; Kyle Lawrence

12:48 pm

Similar Surgeon Energy Expenditure in the Inpatient Hospital and Ambulatory Surgery Center Setting

Gloria Coden; James Penn Miller; Lauren Schoeller; Carl Talmo

12:54 pm

Assessment of Color Sensor Technologies for Potential Wound Care Estimation

Kevin Abbruzzese; Andre Freligh; Vincent Alipit

1:00 pm

Non-Invasive Active Acoustics as Biomarkers of Early Periprosthetic Joint Effusions, a Cadaveric Study

Rahul Goel; Quentin Goossens; H. Trask Crane; Göktu? Cihan Özmen; Omer Inan; Ajay Premkumar

1:06 pm

Functional Metric to Support Identification of Anomalous Recovery in Remotely Monitored TKA Patients

Ricardo Antunes; Paul Jacob; Robert Marchand; T. Elaine Justice, MSN, RN; Kelly Taylor; Matthias Verstraete

1:12 pm

Efficient and Non-Intrusive Knee Joint Loading Assessment Using Markerless Motion Capture During Walking Gait to Distinguish Knee Osteoarthritis Severity

Jereme Outerleys; Anastasija Mihic; Jacob Calderone; Vajra Keller; Elise Laende; Kevin Deluzio

1:18 pm

Feasibility and Repeatability of a Novel in-Clinic Markerless Motion Capture System for Arthroplasty Patient Gait Analysis

Stephanie Civiero; Michael Dunbar; Glen Richardson; Annemarie Laudanski; Janie Wilson

1:24 pm

Biomechanical Changes in Gait Kinematics Pre- and Post-TKA Detected With Markerless Motion Capture

Elise Laende; Jereme Outerleys; Kevin Deluzio

SATURDAY, SEPTEMBER 30, 2023

Spine**Moderators: Jeffery Taylor, Edward Ebramzadeh**

12:30 pm

Operative Time Associated With Increased Length of Stay After Single-Level Cervical Disc Arthroplasty: An Analysis of 3,681 SurgeriesMitchell Ng; Nikhil Vasireddi; Ahmed Emara; Aaron Lam; Nicholas Ahn; Amrit Khalsa; John Houten; Ahmed Saleh; Afshin Razi

12:36 pm

Topology Optimization of Spinal Implants Under Physiologic LoadsRichard Barina; Michaela Vlasea; Stewart McLachlin

12:42 pm

In-Situ Wear and Corrosion Performance Assessment of Mixed-Material Spinal Instrumentation Implant Systems Under Simulated Inflammatory ConditionsPhilipp Niklas Keller; Richard Hall; Rob Beadling; Michael Bryant

12:48 pm

Sneak Peak at a Comprehensive Retrieval Analysis of 200 Cervical Disc ReplacementsJenna Wahbeh; Sang-Hyun Park; Pat Campbell; Edward Ebramzadeh; Sophia Sangiorgio

12:54 pm

Spinal Flexibility in Patients Undergoing Total Hip ArthroplastyWilliam Murphy; Andrew Amundson; Stephen Murphy; Patrick Lane

1:00 pm

Surgical Outcomes of Decompression Without Fusion for Lumbar Spinal Stenosis With Degenerative Scoliosis of More Than 20 DegreesAtsunori Ohnishi; Yuto Nishioka; Takaaki Nakai; Junzou Hayashi; Tsuyoshi Nakai

1:06 pm

Presentation and Management of Infection in Total Disc Replacement: A Review of the LiteratureHannah Spece; Armen Khachatryan; Frank M Phillips; Todd H Lanman; Grant Garrigues; Hyun Bae; Joshua Jacobs; Steven Kurtz;

1:12 pm

Surgical Trends Demonstrate Increased Utilization of Cervical Disc Arthroplasty Over Anterior Cervical Discectomy and Fusion From 2016 to 2021Mitchell Ng; Ariel Rodriguez; Aaron Lam; Ahmed Emara; Nicholas Ahn; Amrit Khalsa; John Houten; Ahmed Saleh; Afshin Razi

1:18 pm

Can a Lumbar Vertebra Training Model Reproduce the Tactile Feel of Screw Insertion Into Cadavers?Parham Foroutan; Kieran Bennett; Ella Fairweather; Samuel Sobey; Nick Litchfield; Mark Roe; Karen Reynolds; John Costi; Mark Taylor**Outcomes of Robotic-Assisted TKA****Moderators: Catherine Van Der Straeten, Matthew Hepinstall**

12:30 pm

Use of Technology Improves Mid-Term Clinical and Patient-Reported Outcomes in Cruciate-Retaining Total Knee ArthroplastyWeston Buehring; Patrick Meere; Omid Barzideh; Matthew Hepinstall; Morteza Meftah; Benjamin Schaffler; Catherine Di Gangi

12:36 pm

The Effect of Technology on Clinical and Patient-Reported Outcomes in Posterior-Stabilized Total Knee ArthroplastyWeston Buehring; Emily Ronan; Patrick Meere; Morteza Meftah; Matthew Hepinstall; Catherine Di Gangi

12:42 pm

Influence of Robotic Technology Updates on Hospital and Patient Reported OutcomesLaura Yanoso-Scholl; Kevin Marchand; Kelly Taylor; Daniel Erwin; Zachary Guerrieo; Bob Marchand

12:48 pm

Excellent Outcomes in Obese Patients - an Analysis of 1,564 Cementless Robotic-Assisted TKA CasesChristina O'Neill; Melanie Caba; Kelly Taylor; Zachary Guerrieo; Laura Yanoso-Scholl; Robert Marchand; Kevin Marchand

12:54 pm

Assessment of Accuracy and Early Outcomes During the Adoption Phase of a Novel Image-Free Robotic-Assisted System for Total Knee ArthroplastyIan Leslie; Timothy Alton; Erik Severson; Marcus Ford; James Lesko; Rodrigo Diaz; Ronald Delanois

1:00 pm

The Impact of Image-Based Robotic-Assisted Total Knee Arthroplasty With Functional Positioning Principles: Anterior Compartment Restoration and One-Year Follow-Up ResultsCecile Batailler; Moussa Kafelov; Sebastien Lustig

1:06 pm

Cementless Total Knee Arthroplasty Comparing Robotic-Assisted Technology and Manual Jig-Based InstrumentationArthur Malkani; Michael Stoltz; Nolan Smith; Sarag Abhari; Langan Smith; Madhusudhan Yakkanti

1:12 pm

Operative Time Learning Curve for an Image-Free Robotic-Assisted Total Knee ArthroplastyCale Pagan; Theofilos Karasavvidis; Breana Siljander; Charles DeCook; Eytan Debbi; Jonathan Vigdorichik

1:18 pm

Is TKA Surgical Performance Enhanced Using Augmented Reality? a Single Center Study on 76 Consecutive PatientsEdoardo Bori; Bernardo Innocenti; Gianluca Castellarin; Elodie Barbieux; Victor-Paul Grandjean; Grace Jost

NOTES:

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