International Society for Technology in Arthroplasty

33rd Annual Congress

Emerging technologies in arthroplasty ... the implant and beyond

Aug. 31 - Sept. 3, 2022
Maui, Hawaii, USA

Schedule

Thank you!
Industry Participants

Smith+Nephew

stryker

ZIMMER BIOMET
Moving You Forward.™

AMTI
FORCE AND MOTION

Orentec

DePuy Synthes
THE ORTHOPAEDICS COMPANY OF Johnson & Johnson

monogram

AESCULAP

atracsys

enovis

exactech

Exponent

GLOBUS MEDICAL

KINAMED INCORPORATED

Lifespans
Implant technologies for soft bones

MatOrtho

Medacta
International

NAVISWISS

OREF
ORTHOPAEDIC RESEARCH AND EDUCATION FOUNDATION

SAWBONES

simVITRO

TOTAL JOINT ORTHOPEDICS

TracPatch

UNITED ORTHOPEDIC

VENT CREATIVITY

ZERO GRAVITY

Welcome ... to the Internatioal Society for Technology in Arthroplasty 2022 Annual Congress

After the long pandemic pause, we will reconvene over five hundred surgeons, engineers, scientists, and industry experts from around the world to discuss the most recent innovations and advancements in arthroplasty technology. Our distinguished invited faculty, and the International Organizing Committee are listed later in this booklet.

We are pleased to confirm that ISTA's congress is providing continuing medical education (CME) credits for this activity.

Please note the word beyond in our congress theme, Emerging Technologies in Arthroplasty – The Implant and Beyond! The program highlights contemporary arthroplasty problems, matched with innovative solutions. Over 600 oral presentations in over 60 sessions extend to the frontiers of artificial intelligence and machine learning; smart implants; augmented and virtual reality; additive manufacturing; and novel techniques to improve implant materials, design, manufacture, simulation, surgical planning, navigation, and robotics. The program also delves into patient expectations/experience and outcomes with consideration of healthcare provider throughput and economics.

Highlights of this year's gathering include mini symposia on advancements in implant testing, and on computer simulation and predictive tools. We are again holding the popular round table event for students and early career delegates to network with established experts. A highly anticipated activity is the largest, two-stage, Shark Tank competition where innovations will be judged both by audience participation and a team of expert judges.

For the annual ISTA's Lifetime Achievement Award, we will celebrate the achievements of Dr. William H. Harris. His contributions will be honored in a dedicated scientific session with invited talks by some of the orthopaedic leaders he has inspired, and a keynote address by Dr. Harris.

We are delighted to welcome some twenty-five companies who, along with sponsoring this year's Congress, are ISTA's partners in showcasing innovation and providing education, and whose products and services embody "state of the art" in our field.

Since 1988, ISTA has been the leading international forum for exploring the future of arthroplasty. We look forward to meeting each of you in Maui and working together to bring the benefits of restored function and improved quality of life to our world community.

Enjoy the congress.

Aloha!

Hani Haider, PhD, President & Co-chair
Kevin Garvin, MD, Co-chair
Catherine Van Der Straeten, MD, PhD, Program Director

Meeting space layout

Aesculap	Booth #14	Naviswiss	Booth #9
AMTI	Booth #10	OREF	Booth #4
Atracsys	Booth #20	Sawbones	Booth #21
Corentec	Booth #1	SimVitro / Cleveland Clinic	Booth #19
DePuy Synthes	Booth #8	Smith+Nephew	Booth #11
Enovis	Booth #16	Stryker	Booth #23
Exactech	Booth #13	Total Joint Orthopaedics	Booth #6
Exponent	Booth #12	TracPatch	Booth #17
Globus Medical	Booth #18	Vent Creativity	Booth #3
Kinamed	Booth #5	Zero Gravity	Booth #24
Lifespans	Booth #7	Zimmer Biomet	Booth #22
Medacta	Booth #15		

Hani Haider, PhD
President and Co-Chair

Kevin Garvin, MD
Co-Chair

Invited Faculty

Scott Banks, PhD - USA
Robert Barrack, MD - USA
Fred Cushner, MD - USA
Shiqing Feng, MD, PhD - China
Steven B. Haas, MD - USA
Mahmoud A. Hafez, MD - Egypt
Petra Heesterbeek, PhD - Netherlands
Louise Jennings, PhD - United Kingdom
Jih-Yang Ko, MD - Taiwan
Richard Komistek, PhD - USA
Stefan Kreuzer, MD - USA
Henrik Malchau, MD - USA
William J. Maloney, MD - USA
William M. Mihalko, MD, PhD - USA
Orhun Muratoglu, PhD - USA
Stephen B. Murphy, MD - USA
Ebru Oral , PhD - USA
Douglas E. Padgett, MD - USA
Vani Sabesan, MD - USA
Elena M Samaila, MD- Italy
Youn-Soo Park, MD - Netherlands
Shinro Takai, MD, PhD - Japan
Catherine Van Der Straeten, MD, PhD - Belgium
Nico Verdonschot, PhD - Netherlands
Peter S. Walker, PhD - USA
William L. Walter, MBBS, FRACS, PhD - Australia
Markus Az. Wimmer, PhD - USA

International Organizing Committee

Hani Haider, PhD – President & Co-Chair
Kevin Garvin, MD – Co-Chair
Peter S. Walker, PhD – USA
A. Seth Greenwald, D.Phil. (Oxon) – USA
William Mihalko, MD, PhD – USA
Richard Komistek, PhD – USA
Stefan Kreuzer, MD – USA
Morteza Meftah, MD – USA
William L. Walter, MBBS, FRACS, PhD – Australia
Catherine Van Der Straeten, MD, PhD – Belgium
Lafayette Lage, MD – Brazil
Rafael Trommer – Brazil
Matthew Teeter, PhD – Canada
Shiqing Feng, MD, PhD – China
Mahmoud Hafez, MD – Egypt
Philippe Kretzer, PhD – Germany
Shinro Takai, MD – Japan
Hiromasa Miura, MD – Japan
Nobuhiko Sugano, MD – Japan
Nico Verdonschot, PhD – Netherlands
Seung-Beom Han, MD, PhD- South Korea
Youn Soo Park, MD, PhD – South Korea
Sung-Jae Lee, PhD – South Korea
Samih Tarabichi, MD – United Arab Emirates
Thanainit Chotanaphuti, MD – Thailand
Jih-Yang Ko, MD – Taiwan
Richard van Arkel, PhD, – UK

ISTA Board of Directors

Peter S. Walker, PhD
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President

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S. David Stulberg, MD
Past Presidents Council Representative

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A. Seth Greenwald, D Phil (Oxon)

Seung-Beom Han, MD

Professor Tony Miles

Arun Mullaji, FRCSEd, MCh Orth, MS Orth

Vani Sabesan, MD

David Schroeder

Bernard Stulberg, MD

Nobuhiko Sugano, MD, PhD

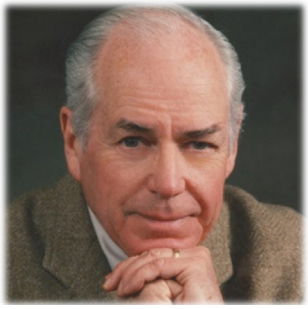
Award Recipients

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.

Presentation of Lifetime Achievement Award to a legend of orthopaedic surgery

Dr. William H. Harris, MD
Massachusetts General Hospital



HAP Paul Award

This award is given to submissions describing original contributions to the science and technology of arthroplasty. 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. A special extended presentation will be scheduled in a plenary session to allow the winner to present their work from the podium.

Early Career Investigator Award

This award is resented to the best paper submitted by an early career investigator* on research related to the field of arthroplasty. A special extended presentation will be scheduled in a plenary session to allow the winner to present their work from the podium.

Gala Dinner

Drums of the Pacific Lu'au

Location	**Sunset Terrace, Hyatt Regency (Congress venue)**
Date	**Friday September 2nd, 2022**
Time	7:00 pm - 10:00 pm
Dress	Casual
Tickets	US $99 pp adults | $50 pp for child

Your dinner ticket is required for entry!

Purchase your tickets at the registration desk.

CME Information

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Current Concepts Institute and the International Society for Technology in Arthroplasty. The Current Concepts Institute is accredited by the ACCME to provide continuing medical education for physicians.

The Current Concepts Institute designates this activity for a maximum of 18.5 AMA PRA Category 1 Credits TM . Physicians should claim only the credit commensurate with the extent of their participation in the activity.

How will I get my certificate?
Visit us in the registration desk before the end of the conference on Saturday September 3rd to pick up your certificate.

Complete your meeting evaluation:

Thursday

Friday

Saturday

Young Investigator Round Table

Wednesday August 31
5:30 pm – 7:00 pm
Room: Maui Suites

Topics Include:

- Research Commercialization
- Digital Medicine & Wearable Sensors
- Big Data & Artificial Intelligence
- New Biomaterials
- TKR Alignment
- Robotics, Navigation & Surgical Guidance
- Computational Modelling
- Diversity, Recognition & Advancement
- 3D Printing

No reproductions of any kind, including audiotapes, videotapes, and still photography may be made of presentations at ISTA without written pre-approval from ISTA. Any reproduction without proper authorization is strictly prohibited.

Thursday September 1st

Auditorium A

7:00 am - 8:00 am - Breakfast/ Expo Hall

8:00 am - 9:00 am

THA problems of Today

Moderators: William Maloney, Youn-Soo Park

8:00 am
Invited Talk: Hip trunnion fretting & corrosion
Markus Wimmer
8:08 am - Q & A - discussion

8:11 am
Has Wrought CoCrMo Alloy Changed for the Worse Over Time?
Stephanie McCarthy; Deborah Hall; Steven Mell; Brett Levine; Joshua Jacobs; Robin Pourzal

8:16 am
Dislocation After Total Hip Arthroplasty for Acute Hip Fracture. the Effect of Approach, Headsize or Dual-Mobility?
Peter Cnudde; Cecilia Rogmark; Jonatan Natman; Nils Hailer; Ammar Jobory

8:21 am
Influence of Obesity and Intra-Operative Image Guidance Technology on Acetabular Cup Positioning in Total Hip Arthroplasty
Kayti Luu; Scott Nishioka; Dylan Lawton; Emily Unebasami; Samantha Andrews; Cass Nakasone

8:26 am - Q & A - discussion

8:29 am
Survival Analysis of Total Hip Arthroplasty for High Hip Dislocation Secondary to Developmental Dysplasia or Septic Arthritis of the Hip
Kyung-Soon Park; MIN GWANG KIM; Yoon Taek Rim; Joon Kyoo Kang; Chae Jin Lim

8:34 am
Long-Term Follow-Up on Revisions of a Recalled Large-Head Metal-on-Metal Hip Prosthesis
Jimmy Daher; Bhumit Desai; Michael Warren; Michael Nammour; George Chimento

Auditorium B

7:00 am - 8:00 am - Breakfast/ Expo Hall

8:00 am - 9:00 am

TKA Problems of Today

Moderators: Kevin Garvin, Douglas E Padgett

8:00 am
Invited Talk: Anatomy of a Recall
Douglas E Padgett
8:08 am - Q & A - discussion

8:11 am
Biomechanical Effects of Implant Position in Patellofemoral Arthroplasty
Oliver Dandridge; Amy Garner; Andrew Amis; Justin Cobb; Richard van Arkel

8:16 am
Different Trochlear Groove Length Between Natural and Arthroplasty Knees Can Change Patellofemoral Contact Kinematics Related With Crepitus
Tae Woo Kim; Seung-Baik Kang

8:21 am
TKA Implant Placement Affects Quadriceps Mechanism Efficiency
Nathan Lenz; Brian Chalmers; Paola Jimenez; Steven Haas; Fred Cushner

8:26 am - Q & A - discussion

8:29 am
Metal Debris Release in Total Knee Replacements: Explant Study
Rohan Bhalekar; Shona Haston; Matthew Nargol; Nish Shyam; Antoni Nargol; David Langton

8:34 am
Are We Able to Define the Pre-Diseased Coronal Constitutional Alignment?
William Colyn; Axel Cleymans; Bruckers Liesbeth; Jan Truijen; Kristof Smeets; Johan Bellemans

8:39 am
Mobility Outcomes Testing Following TKA: Improving on Subjective Outcomes Reporting
Bradley Lambert; Jordan Ankersen; Thomas Sullivan; Terry Clyburn; Kwan Park; Caleb Shin; Stephen Incavo

Auditorium C

7:00 am - 8:00 am - Breakfast / Expo Hall

8:00 am - 9:00 am

Ankle & Other Joint Problems

Moderators: Elena Manuela Samaila, J.J. Trey Crisco

8:00 am
Using Digital Image Correlation to Track Joint Fusion Micromotion in 6 Degrees of Freedom
Robb Colbrunn; Callan Gillespie; Greg Causey; Jamey Price; Kyle Grebb

8:05 am
Biomechanical Performance of Improved Designs of Tibial Component for Mobility Total Ankle Replacement
Jyoti Jyoti; Rajesh Ghosh

8:10 am
Cmparison of Taric and Hintegra Prostheses in Total Ankle Arthroplasty; Short-Term Results
Dong Woo Shim; Hyunjoo Hong

8:15 am - Q & A - discussion

8:18 am
A Finite Element Analysis of the Foot and Ankle to Predict Contact Pressure Changes at the Medial Ankle Joint After Supramalleolar Osteotomy With or Without Fibula Osteotomy
Jung-Min Lee; Chul-Hyun Park; Sung-Jae Lee; Jeong-Jin Park

8:23 am
Comparison of Patient Demographics, Utilization Trends, and Costs of Total Ankle Arthroplasty and Ankle Fusion for Tibiotalar Osteoarthritis From 2010-2019
Ariel Rodriguez; Aaron Lam; Adam Gordon; Mitchell Ng; Andrew Horn Amr Abdelgawadi

8:28 am
In Vivo Arthrokinematics and the Potential Role of Implant Alignment in Total Wrist Arthroplasty
J.J. Trey Crisco; Bardiya Akhbari; Amy Morton; Douglas Moore; Kalpit Shah; Janine Molino; Arnold-Peter Weiss; Scott Wolfe

8:33 am - Q & A - discussion

Thursday September 1st

Auditorium A

8:39 am
The Correlations of Different Pelvic Tilt Definitions Interchangeable or Irrelevant?
Yuan Chai; Mounir Boudali; William Walter
8:44 am
Impaction Method for Implantation Influences the Primary Stability of Press-Fit Hip Cups
Miriam Ruhr; Fenna Neumann; Michael Morlock
8:49 am

Q & A - discussion
10:00 am - 10:15 am

Auditorium B

8:44 am - Q & A - discussion
8:47 am
Flexible Versus Standard Intramedullary Rod in Primary Total Knee Arthroplasty: RCT of Effects on Sagittal Contour of the Distal Femur, Implant Positioning, Functional Outcome and Sizing
Petra Heesterbeek; Ate Wymenga; Menno Benard; Thomas Bolhuis

8:52 am
Survivorship Analysis of Cementless Total Knee Arthroplasty With and Without Patellar Resurfacing at Midterm Follow-Up
Brian Darrith; Tahsin Rahman; Logan Hansen; Kevin Lindsay-Rivera; Hailey Heil; Mary Hennekes; Madison Mervis; Craig Silverton

8:57 am - Q & A - discussion

Auditorium C

Thursday September 1st

Auditoium A - Kiosk 1 (E-Posters)

9:00 am - 10:00 am

Global practices

Moderators: Mahmoud Hafez, William Mihalko

9:00 am
Health Literacy in English vs. Spanish-Speaking Orthopaedic Chronic Pain Patients in a Closed Urban Setting
Ira Kirschenbaum; Gabriela Batista; Eva Kitlen; Natasha Richmond; Lindsey Ruda; Ariel R.C. Silverman

9:03 am
Utilization and Outcomes of Total Hip and Knee Arthroplasty in the Canadian Immigrant Population
Johnathan Lex; Daniel Pincus; Michael Paterson; Harman Chaudhry; Rob Fowler; Gillian Hawker; Bheeshma Ravi

9:06 am
Disruption of Arthroplasty Rehabilitation Episode of Care
Danielle Edwards; Charles Fisher

9:09 am - Q & A - discussion

9:12 am
Safety and Efficacy of Uninterrupted Warfarin Anticoagulation With Supplemental Tranexamic Acid in Total Joint Arthroplasty Patients
Michael Johnston; Matthew Porter; Kade Eppich; David Scott; Celeste Gray; Jason Kowitz

9:15 am
MRI Use Leading Up to Total Knee Arthroplasty: A Retrospective Cohort Study
Johnathan Lex; Tiffany Lung; Daniel Pincus; Suriya Aktar; David Wasserstein; Michael Paterson; Bheeshma Ravi

9:18 am
The Impact of a Comprehensive Orthopaedic Delivery System on Referral Patterns of Knee Pain in a Closed Urban Environment
Ira Kirschenbaum; Lindsey Ruda; Eva Kitlen; Ariel R.C. Silverman; Chrissy Manning

9:21 am - Q & A - discussion

9:24 am
Association of Ethnicity and Patient Satisfaction Following Total Knee Arthroplasty
Jeffrey Hayashi; Kyung Moo Kim; Brent Shimoda; Tyler Thorne; Samantha Andrews; Cass Nakasone

9:27 am

Auditoium A - Kiosk 2 (E-Posters)

9:00 am - 10:00 am

Hip/knee clinical comorbidities

Moderators: Joonsoo Park, Christopher Scanlon

9:00 am
Incidence, Risk Factors, and Treatment Outcomes of Symptomatic Iliopsoas Tendinopathy After Total Hip Arthroplasty
Youn-Soo Park; Chanwoo Park; Seung-Jae Lim

9:03 am
Unable to Fully Sit or Stand, Some Hip Arthritis Patients Are Stuck in the Middle
Morteza Meftah; Christopher Scanlon; Thomas Christensen; Matthew Hepinstall; Thomas Bieganowski

9:06 am
Risk Factors Responsible for Mortality in Total Hip Arthroplasty for Femoral Neck Fracture in Elderly Patients
Se Yong Song; Hyung Gon Ryu

9:09 am - Q & A - discussion

9:12 am
Extensive Deep Vein Thrombosis Complicating Total Hip Arthroplasties Caused by Undiagnosed May-Thurner Syndrome
Young-Ho Roh; Taehan Kang; Chaemoon Lim; choi tea hyun; Seung Jin Yoo; Kwang Woo Nam

9:15 am
The Natural Trends of C-Reactive Protein After Hip Arthroplasty for Femoral Neck Fracture Without Infection
Cheol-Hwan Ryu; Suk Kyoon Song; Hee-Chan Kim

9:18 am
The Charlson Comorbidity Index May Underestimate Health Status for Minorities
Tyler Thorne; Dylan Lawton; Samantha Andrews; Cass Nakasone

9:21 am - Q & A - discussion

9:24 am
Sexual Dysfunction Following Hip Arthroscopy: Identifying the Variables That Matter
Arjun Verma; Misty Suri; Sarena Matriano Lim; Collyn O'quin

Auditoium A - Kiosk 3 (E-Posters)

9:00 am - 10:00 am

Hip computer modelling & simulation (FEA, etc)

Moderators: Dennis Janssen, Thang Nguyen

9:00 am
Characterization of Waviness and Effect on Total Hip Replacement Stem Taper Contact Mechanics
Michael Godoy; Jonathan Gustafson; Steven Mell; Alfons Fischer; Brett Levine; Robin Pourzal; Hannah Lundberg

9:03 am
What Lipped Liner Orientation Maximizes Jump Distance During Physiologically Relevant Hip Motions?
Alessandro Navacchia; Edward Davis

9:06 am
Rapid Prototyping Pelvic Model in Total Hip Arthroplasty: Mid-Term Follow-Up
Sang-Min Kim

9:09 am - Q & A - discussion

9:12 am
Theoretically Finding Optimal Stem Positions That Minimize Cortical Bone Removal.
Thang Nguyen; Michael LaCour; Jarrod Nachtrab; Garett Dessinger; Richard Komistek

9:15 am
Obtaining an Accurate Intraoperative Leg Length and Offset Measurement During THA Using 3-D Imaging and a Novel Computer Software Program
Landon Polakof; Justin Than; Wenchao Tao; Brad Penenberg

9:18 am
A Computational, Contact-Based Algorithm for Evaluating Possible Positions of a Blade Stem Design
Nathaniel Pyle; Bryan Kirking

9:21 am - Q & A - discussion

9:24 am
Changes of Acetabular Anteversion According to Pelvic Tilt on Sagittal Plane Under Various Acetabular Inclinations
Hee-Chan Kim; Suk Kyoon Song; Myung-Rae Cho; Cheol-Hwan Ryu

Auditoium B - Kiosk 4 (E-Posters)

9:00 am - 10:00 am

Other joints

Moderators: Alisa Buchman, Won-young Jang

9:00 am
The HINTEGRA Total Ankle Arthroplasty
Won-young Jang; Keun-Bae Lee; Gun-Woo Kim; Hong-Yeol Yang

9:03 am
Monitoring Wound Healing With Topically Applied Optical NanoFlare mRNA Nanosensors
Woo Young Jang; Seung-Beom Han; Gi Won Choi; JUNGU PARK; Taeyeong Kim; Joonsuk Lee; Sung-Jin Ahn

9:06 am
Non-Metal Trauma Orthopedic Implants Using MP-1 Game Changing Material
Alisa Buchman; Simha Sibony; Amir Oron

9:09 am - Q & A - discussion

9:12 am
Comparison of Intermediate to Long-Term Outcomes of Total Ankle Arthroplasty in Ankles With Preoperative Varus, Valgus, and Neutral Alignment
Won-young Jang; Gun-Woo Kim; Keun-Bae Lee

9:15 am
Comparison of Numerical Methods for Modeling Trabecular Bone Indentation
Rémy Benais; Stewart McLachlin; Aleksander Rycman

9:18 am
Multi-Level Posterior Cervical Foraminotomy Associated With Increased Peri-Operative Infection Rates Relative to Anterior Cervical Discectomy With Fusion and Cervical Disc Arthroplasty
Ariel Rodriguez; Mitchell Ng; Ahmed Emara; Aaron Lam; Bhavya Seth; Lasya Manne; Vinati Pillutla; Andriy Kobryn; John Houten; Ahmed Saleh; Afshin Razi

9:21 am - Q & A – discussion

Auditoium B - Kiosk 5 (E-Posters)

9:00 am - 10:00 am

Hip evaluations/preventing complications

Moderators: William Walter, Sheila Wang

9:00 am
Use of a Constrained Acetabular Liner to Prevent and Treat Recurrent Dislocation After Total Hip Replacement Arthroplasty
Seungbae Oh; Joo-Hyoun Song; Jong-Hun Ji

9:03 am
2-Year Radiostereometric Analysis Evaluation of a Short, Triple-Taper, Proximally Coated Femoral Stem Versus a Self-Locking Stem With Reinforced Proximal Body: A Randomized Controlled Trial.
Andreas Fontalis; Babar Kayani; Ivor Vanhegan; Jenni Tahmassebi; Isabella Catrina Haddad; Dia Giebaly; Vishal Rajput; Shanil Hansjee; Fares Haddad

9:06 am
Leg Length Discrepancy Assessment in Total Hip Arthroplasty: Time to Get It Right
Max Hardwick-Morris; Joshua Twiggs; Brad Miles; Christopher Jones; Piers Yates

9:09 am - Q & A - discussion

9:12 am
Extended Offset Femoral Stem Use in Anterior Approach Total Hip Arthroplasty
Edward Weldon; Keinan Agonias; James DeJesus IV; Dylan Lawton; Samantha Andrews; Cass Nakasone

9:15 am
Femoral Abduction/adduction Changes Do Not Significantly Affect Leg Length Measurements on Anteroposterior Pelvic Radiographs
Sheila Wang; Jeff Muir; Wayne Paprosky; Justin Wagler; Kelly Foley

9:18 am
Are Total Hip Bone Sparing Stems Truly Bone Sparing?
Jarrod Nachtrab; Thang Nguyen; Andrew Jacobs; Michael LaCour; Richard Komistek

9:21 am - Q & A - discussion

Auditoium B - Kiosk 6 (E-Posters)

9:00 am - 10:00 am

Disruptive technologies & patient reported outcomes

Moderators: Fred Cushner, Catherine Van Der Straeten

9:00 am
An Introduction Into the Development of Wearable Technologies
Richard Bolander

9:03 am
Effects of Increased Use of Self-Directed Therapy on Rehabilitation During the COVID-19 Pandemic Following Knee and Hip Arthroplasty
Dave Van Andel; Todd Miner; Mike Anderson; Robert E Neher; Roberta Redfern; Paul Duwelius

9:06 am
Objective Walking Metrics of Patients With Hip, Knee and Spine Pathology.
Ralph Mobbs

9:09 am - Q & A - discussion

9:12 am
Impact of Muscle Activity Monitoring in Postoperative Treatment of TKA Regarding the Guidance of Physiotherapy
Thomas Paszicsnyek; Edoardo Bori; Bernardo Innocenti; Selina Ovcak; Sandro Pramstaller

9:15 am
Activity Recognition in Remote Patient Monitoring for Total Knee Arthroplasty
Fred Cushner; Kaitlin Carroll; Felix Chan; David Lee; Esther Hsu; Barbara Elashoff; Patrick Aubin; John Savage; William Hunter

9:18 am
Early Postoperative Walking Bouts Are Associated With Improved Gait Speed and Symmetry at 90 Days
Dave Van Andel; Karl Surmacz; Mara Catalina AguileraCanon; Alex Ribeiro-Castro; Mike Anderson; Roberta Redfern; Chad Cook

9:21 am - Q & A - discussion

9:24 am
Patient Compliance With Remote Monitoring: Findings From a Multi-Center Study
Benjamin Harder; Emily Hampp; Ricardo Antunes; Robert Marchand; Paul Jacob; Andrew Meyer; T. Elaine Justice, MSN, RN; Kelly Taylor; Kelly Luttazi; Matthias Verstraete

Thursday September 1st

Auditoium A - Kiosk 1 (E-Posters)

The Mid-Term Outcome of a Novel Cementless Modular Femoral Stem in East Asian Patients
HONG SEOK Kim; Han-Jin Lee; Jeong Joon Yoo

9:30 am
Modified Supercapsular Percutaneous Assisted Approach for Japanese Dysplastic Hip Cases.
Shogo Maruyama

9:33 am - Q & A - discussion

9:36 am
The Association of Total Knee Arthroplasty on Weight Loss in the Look AHEAD (Action for Health in Diabetes) Clinical Trial
William Mihalko; Karen Johnson; Phyllis Richey; Kunal Singhal; Rebecca Neiberg; Judy Bahnson; LookAHEAD Research Study Group

9:39 am
Egyptian Community Arthroplasty Register
Mahmoud Hafez

9:42 am
National Trend of Total Hip Arthroplasty in Japan From the Database on Hospital Charge
Masaru Kadowaki; Yuji Uchio

9:45 am
Long-Term Survivorship of Contemporary Posterior-Stabilized Total Knee Prostheses in Asian Patients: A 20-Year Single-Surgeon Single-Implant Cohort Study
Jongjin Lee; Bum-Sik Lee; SEONGIL BIN; Jong-Min Kim; Jung-Su Choe

9:48 am
Outcome of the Hip Arthroplasty Performed by Low-Volume Operators
Jae Hong Ryu; Suenghwan Jo; Hyeon Joon Lee; Hyo Jun Lee

9:51 am - Q & A - discussion

Auditoium A - Kiosk 2 (E-Posters)

9:27 am
Impact of Chronic Obstructive Pulmonary Disease on Outcomes After Total Joint Arthroplasty: A Meta-Analysis and Systematic Review
Joonsuk Lee, Kyun-Ho Shin; Seung-Beom Han

9:30 am
Effect of Severity and Cause of Preoperative Anemia on the Transfusion Rate After Total Knee Arthroplasty
Tae Woo Kim; Seung-Baik Kang

9:33 am - Q & A - discussion

9:36 am
Changes in the Ratio of Patients Who Underwent Total Hip Arthroplasty for Osteonecrosis of Femoral Head After Bone Marrow Transplantation
GEON-U Kim; Ji Hoon Bahk; Yoon Vin Kim; Woo Lam Jo; Kee-Haeng Lee; Young Wook Lim

9:39 am
Characterizing Comorbidities in Total Joint Arthroplasty Patients in a Safety-Net Hospital Using the Age-Adjusted Charlson Comorbidity Index
Ira Kirschenbaum; Noshin Nuzhat; Melanie Anaya; Gabriela De Queiroz Campos; Ariel R.C. Silverman; Ronald Huang; Morteza Meftah

9:42 am - Q & A – discussion

Auditoium A - Kiosk 3 (E-Posters)

9:27 am
Primary Stability of Collared and Collarless Cementless Femoral Stems - a Finite Element Analysis Study
Ryunosuke Watanabe; Hajime Mishima; Sho Totsuka; Tomofumi Nishino; Masashi Yamazaki

9:30 am
Novel THA Component Positioning in Different Alignment Scenarios: Optimizing Performance Before Implantation
Thang Nguyen; Michael LaCour; Jarrod Nachtrab; Garett Dessinger; Manh Ta; Richard Komistek; Andrew Jacobs

9:33 am - Q & A - discussion

9:36 am
Optimizing Femoral Head Positioning and Stem Alignment Within the Canal for Total Hip Arthroplasty: Can Both Be Accomplished Simultaneously?
Michael LaCour; Manh Ta; Jarrod Nachtrab; Thang Nguyen; Richard Komistek

9:39 am
Validation of a Novel Computational Iliopsoas Impingement Detection Simulation for Surgical Planning
Brad Miles; Max Hardwick-Morris; Joshua Twiggs; Yuan Chai; Jitendra Balakumar; Rami Al-Dirini; Mark Taylor; William Walter

9:42 am - Q & A – discussion

Break - 10:15 am - 10:30 am

Auditoium B - Kiosk 4 (E-Posters)

Auditoium B - Kiosk 5 (E-Posters)

9:24 am
Patient-Specific Prescription of Aspirin as Thromboprophylaxis After Total Hip or Total Knee Arthroplasty: Case-Control Study With Propensity Score Matching
Jean-Yves Jenny

9:27 am
Postoperative Callus Around Tapered Wedge Short Stem: Undiagnosed Fracture After Total Hip Arthroplasty.
Seiya Ishii; Yuichi Shirogane; Koju Hayashi; Taiji Watari; Yasuhiro Homma; Tomonori Baba; Kazuo Kaneko; Muneaki Ishijima

9:30 am
Evaluation of Changes Over Time the Bone Formation Around the Fully Hydroxyapatite-Coated Stem Using Digital Tomosynthesis
Sho Totsuka; Tomofumi Nishino; Ryunosuke Watanabe; Masashi Yamazaki; Hajime Mishima

9:33 am - Q & A - discussion

9:36 am
Incidence and Outcomes of Intraoperative Periprosthetic Acetabular Fractures in Cementless Total Hip Arthroplasty: A Prospective Three-Dimensional CT-Based Study.
Seung-Chan Kim; Young Wook Lim; Woo Lam Jo; Soon Yong Kwon; Hwanhee Lee

9:39 am
Body Composition Changes in the Immediate Peri-Operative Period Following Total Joint Arthroplasty
Michael Marinier; Jacob Elkins; Ayobami Ogunsola

9:42 am
Radiographic Differentiation Between Nutrient Artery Canal and Periprosthetic Femoral Fracture Following Hip Arthroplasty
Young-Ho Roh; Seung Jin Yoo; choi tea hyun; Kwang Woo Nam

9:45 am - Q & A - discussion

Auditoium B - Kiosk 6 (E-Posters)

9:27 am
Numeric Pain Rating Correlates With Patient Reported Outcome Measures and Passively Collected Mobility Metrics Following Total Hip and Knee Arthroplasty
Dave Van Andel; Karl Surmacz; Alex Ribeiro-Castro; Mike Anderson; Roberta Redfern; Paul Duwelius

9:30 am
Scan2Sim: Automatic Generation of Patient-Specific Finite Element Models From Computed Tomography With 3D Convolutional Neural Networks
William Burton; Casey Myers; Chadd Clary; Clare Fitzpatrick; Paul Rullkoetter

9:30 am - Q & A - discussion

9:33 am
Automating Pre-Operative Joint Kinematics: Segmenting Native Bones With Deep Learning for Improved TKA Diagnostics
Sasank Desaraju; Andrew Jensen; Selena Tinga; Stephen Jones; Scott Banks

9:36 am
Machine Learning to Set Expectations and Improve Satisfaction Following Total Knee Arthroplasty
Jennifer Polus; Tom Appleton; Edward Vasarhelyi; Steven MacDonald; Brent Lanting; Matthew Teeter

9:39 am
The Use of Machine Learning to Develop an Automated Orthopaedic Implant Identification Tool
Parth Desai; Michael Stallard; Hunter Starring; Connor Soles; George Chimento

9:42 am
Pre-Operative Patient-Specific Risk Stratification Using Machine Learning
Morteza Meftah; Ebrahim Mortaz; Sam Barzideh

9:45 am - Q & A – discussion

Break - 10:15 am - 10:30 am

Thursday September 1st

Auditorium A

10:15 am - 11:15 am

Ceramics & other advanced material solutions

Moderators: Jeffery Taylor, Hannah Lundberg

10:15 am
In Vivo Performance of Vitamin E-Doped Polyethylene Implants: A Systematic Review
Hannah Spece; Ron Yarbrough; Steven Kurtz
10:20 am - Q & A - discussion

10:23 am
Fracture and Fatigue in Highly Cross-Linked UHMWPE
Barbara Currier; Kori Jevsevar; Rebecca Thomson; Douglas Van Citters

10:28 am
One and Two Year Results of a Novel Ceramic on Ceramic Hip Resurfacing Implant in Australia
David Lin; Joshua Xu; Patrick Weinrauch; Piers Yates; David Young; William Walter

10:33 am
Is Fretting Corrosion Damage a Concern for Titanium-Backed Acetabular Liners in Ceramic-on-Ceramic Total Hip Arthroplasty?
Hannah Spece; Eric Ouellette; Greg Klein; Michael Mont; Steven Kurtz

10:38 am - Q & A - discussion

10:41 am
Tribological Evaluation of a Pyrolytic Carbon Interposition Implant Against Live Cartilage in Comparison With Alumina Ceramic and CoCrMo-Alloy
Amandine Impergre; Markus Wimmer; Ana-Maria Sfarghiu; Nathalie Bernoud-Hubac

10:46 am
The Influence of Assembly Load and Angular Mismatch on THR Head-Neck Modular Junction Contact Mechanics in Ceramic Head Tapers: A Computational Analysis
Hannah Lundberg; Steven Mell; Denis Ovoshchnikov; Brett Levine; Robin Pourzal; Jonathan Gustafson

10:51 am Q & A - discussion

Auditorium B

10:15 am - 11:00 am

Role of the ACL and Bi-cruciate TKRs

Moderators: Steven Haas, Richard Komistek

10:15 am
Invited Talk: The Role of the ACL for knee function
Richard Komistek

10:23 am - Q & A - discussion
10:26 am
Invited Talk: Can Bi-cruciate substituting TKA function similar to a normal knee?
Steven Haas

10:34 am - Q & A - discussion

10:37 am
Meta-Analysis and Systematic Review of Revision Rates for Patients With ACL Deficiency and ACL Intact After Unicompartmental Knee Arthroplasty (UKA)
Maya Hara; Tokito Tatsuo; Tomoyuki Matsuoka; Kyosuke Shiohara; Ken Yamazaki

10:42 am
Fluoroscopic and Radiostereometric Analysis of a Bicruciate-Retaining Versus a Posterior Cruciate-Retaining TKA: A Randomized Controlled Trial
Kelly Mills; Menno Benard; Ate Wymenga; Bart Kaptein; K.C. Defoort; Gijs Van Hellemondt; Petra Heesterbeek

10:47 am
Influence of the Deep and Superficial Medial Collateral Ligament on Knee Stability During Simulated Clinical Laxity Tests
Callahan Doughty; Ryan Willing; Alan Getgood; Thiago Vivacqua; Tina Khazaee; Samira Vakili

10:52 am
Contact Kinematics Correlates to Tibial Component Migration Following Cemented Bi-Cruciate Stabilized Total Knee Replacement
Jordan Broberg; Douglas Naudie; James Howard; Brent Lanting; Edward Vasarhelyi; Matthew Teeter

10:57 am - Q & A - discussion

Auditorium C

10:15 am - 11:30 am

Shoulder problems of today

Moderators: Douglas Van Citters, Robin Pourzal

10:15 am
Invited Talk: Patients Perceptions and Utilization of Physical Therapy After Shoulder Surgery
Vani Sabesan; Alessia Lavin; Brett Stephens

10:23 am - Q & A - discussion

10:26 am
Reverse Shoulder Arthroplasty: Trends in the Incidence, Indications and Complications as Reported by ABOS Part II Oral Examination Candidates From 2005 Through 2017
Stephen Weber; Edward McFarland; Jorge Rojas Lievano; Prashant Meshram; Uma Srikumaran

10:31 am
Optimal Treatment for Glenoid Bone Loss: Augmented Versus Standard Reverse Shoulder Arthroplasty?
Vani Sabesan; Alessia Lavin; Sarah Girshfeld; Christian Martinez; Howard Routman

10:36 am
The Effect of Repairing the Subscapularis Tendon Following Reverse Total Shoulder Arthroplasty: A Preliminary Ex-Vivo Study
David Axford; Robert Potra; Antonio Arenas-Miquelez; Desmond Bokor; Richard Appleyard; Sumit Raniga; Louis Ferreira

10:41 am - Q & A - discussion

10:44 am
Muscle Activation Patterns and Torque Output During Internal and External Rotation After a Reverse Total Shoulder Arthroplasty
Alexis Nelson; William Mihalko; Thomas Throckmorton; Tyler Brolin; Blake Hajek; Willie Polio; Kunal Singhal; Shannon Hughes; Tristan Hayes; Chi-Yang Chiu; David Bernholt; Frederick Azar

10:49 am
Do Steroid Injections Affect Outcomes of Shoulder Arthroplasty? Why Risk It?
Madison Schwerzler; Alessia Lavin; Vani Sabesan; Gabriel Lama; Sarah Girshfeld; Brandon Macknofsky; Howard Routman

Thursday September 1st

Auditorium A

10:54 am
Minimum 15-Year Results of Metasul 28-Mm Metal-on-Metal Total Hip Arthroplasty in Patients Younger Than 50 Years of Age
Taek Rim Yoon; MIN GWANG KIM; Kyung-Soon Park; Chae Jin Lim; Joon Kyoo Kang

10:59 am
Oxidised Zirconium Versus Cobalt-Chrome Femoral Heads in Total Hip Arthroplasty: a Multicentre Prospective Randomised Controlled Trial With 10 Years Follow-Up
Andreas Fontalis; Babar Kayani; JOANNA BAAWA-AMEYAW; Jenni Tahmassebi; Nic Wardle; Robert Middleton; Arthur Stephen; James Hutchinson; Fares Haddad

11:04 am - Q & A - discussion

11:15 am - 12:15 pm

Range of motion & Dual Mobility hip solutions

Moderators: William Walter, Henrik Malchau

11:15 am
A Subhemispheric Acetabular Component Increases Dislocation Risk
Brian Darrith; Tahsin Rahman; Lindsay Miller; Robb Weir

11:20 am
The Influence of Digital Radiography on Improving Component Placement During Total Hip Arthroplasty
Evan Nigh; Brad Penenberg; Andrew I Spitzer; Sean Rajaee; Guy Paiement; Kevin Rezzadeh; Caleb Durst

11:25 am
Bone Morphological Risk Factors for Extraarticular Bony Impingement in Total Hip Arthroplasty
Xuzheng Han; Casey Myers; Chadd Clary

11:30 am - Q & A - discussion

11:33 am
Dual Mobility Hips Have Advantages... Is Reduced Wear One of Them?
Kevin Garvin; Joel Weisenburger; Curtis Hartman; Beau Konigsberg; Beau Kildow; Hani Haider

Auditorium B

11:00 am - 12:00 pm

TKA navigation & robotics

Moderators: William Mihalko, Robert Marchand
11:00 am
Invited Talk: Robotics in Orthopedics: Why it is the future?
Stefan Kreuzer

11:08 am - Q & A - discussion

11:11 am
Is Accuracy of Surgical Robotic Systems Used in Total Knee Arthroplasty (TKA) as Well Established as We Think?
William Bargar; Fatemeh Rasouli; Valentina Campanelli; Jayson Zadzilka; Bernard Stulberg; Joel Zuhars

11:16 am
Ten-Year Survivorship and Patient Satisfaction of Robotic-Arm Assisted Medial Unicompartmental Knee Arthroplasty: A Prospective Multicenter Study
Tarik Bayoumi; Todd Borus; Thomas Coon; Laura Jill Kleeblad; Jon Dounchis; Joseph Nguyen; Andrew Pearle

11:21 am
Addressing Valgus Knees Using Robotic Assisted Total Knee Arthroplasty Methods
Robert Marchand; Laura Yanoso-Scholl; Kevin Marchand; Kelly Taylor; Daniel Erwin; Manoshi Bhowmik-Stoker

11:26 am - Q & A - discussion

11:29 am
The Newly Developed Robot Arthroplasty System -Dr. LCT-
Soo-hyun Lee; SungHwan Yoon; OhMyoung Kwon; HangJae Lee; Richard Yuseok Bang; Yoo Wang Choi

11:34 am
Ability to Achieve Mediolateral Gap Balance With Instrumented Navigated Total Knee Arthroplasty - a Review of the First 273 Cases
James Huddleston; Laurent Angibaud; Amaury Jung; Cyril Hamad; Wen Fan; Mark Davis; Brian Zirgibel; Jake Deister

Auditorium C

10:54 am
In Vitro and in Vivo Corrosion Behavior of CoCrNiFeMo Alloy in Total Shoulder Arthroplasty
Robin Pourzal; Daehan J Yi; Alexander L. Hornung; Mozart Neto; Deborah Hall; Bianca Romay; Gregory Nicholson; Grant Garrigues

10:59 am - Q & A - discussion

11:02 am
Restrictions, Compensations, and Anatomic Biases in Reverse Total Shoulder Arthroplasty
Heath Henninger; Hema Sulkar; Klevis Aliaj; K. Bo Foreman; Peter Chalmers; Robert Tashjian

11:07 am
Quantitative Determination of Wear Rate and Wear Location in Retrieved Polyethylene Glenoid Components
Douglas Van Citters; Peder Solberg; John-Erik Bell; Peter Shaughnessy; Jacob Torrey

11:12 am
The Effect of Press-Fit on Initial Stability in Stemless Shoulder Arthroplasty
Kyle Snethen; Yang Son; Christine Mueri; Jeffrey Bischoff

11:17 am - Q & A - discussion

11:30 am - 12:30 pm

Shoulder arthroplasty - technology solutions

Moderators: Vani Sabesan, Philippe Kretzer

11:30 am
Nextar Rsa: Augmented Reality Surgical Guidance for Accurate Glenoid Component Positioning in Reverse Shoulder Arthroplasty
Daniele Ascani; Massimiliano Bernardoni

11:35 am
A Subacromial Implant to Restore Shoulder Stability in the Setting of Massive Irreparable Rotator Cuff Tears
Cole Fleet; Daniel McNeil; James Johnson; George Athwal; Andrew Trenholm

Thursday September 1st

Auditorium A

11:38 am
How Do Surface Finish and Taper Design Influence Corrosion Modes and Mechanically Assisted Crevice Corrosion Behavior in Modular Dual Mobility Acetabular Tapers? A
Aarti Shenoy; John Steele; Douglas E Padgett; Timothy Wright

11:43 am
Contributions of Capsular Releases to Femoral Exposure in THA via a Direct Anterior Approach How Much Is Enough?
Philip Noble; Zackary Byrd; Shuyang Han; Sabir Ismaily; Luis Delgadillo; Adam Freedhand

11:48 am - Q & A - discussion

11:51 am
Friction and Joint Reaction Torque in Dual Mobility Hips
Joel Weisenburger; Curtis Hartman; Beau Kildow; Beau Konigsberg; Kevin Garvin; Ryan Siskey; Hani Haider

11:56 am
Where Does the Wear of a Dual Mobility Hip Come From, Outer or Inner Articulation?
Hani Haider; Joel Weisenburger; Curtis Hartman; Beau Konigsberg; Beau Kildow; Ryan Siskey; Kevin Garvin

12:01 pm
The Role of Design, Microstructure, and Malseating in the Fretting and Corrosion of Dual Mobility Hip Metal Liners
Robin Pourzal; Deborah Hall; E. Bailey Terhune; Joseph Serino; Denis Nam; Joshua Jacobs; Craig Della Valle

12:06 pm - Q & A - discussion

12:15 pm - 1:15 pm
Industry luncheon - Stryker: Exploring functional hip positioning with Mako Total Hip
(not CME accredited)

Auditorium B

11:39 am
Evaluation of a Proof-of-Concept Platform for Markerless Robot-Assisted Orthopaedic Surgery
Fabio Tatti; Xue Hu; Matteo Bermond; Ferdinando Rodriguez-Y-Baena

11:44 am
Q & A - discussion

12:00 pm - 1:00 pm
Industry luncheon - Zimmer Biomet: Making Data Work for You
(not CME accredited)

1:00 pm - 3:15 pm
Shark Tank (Round one)

Moderators: Hani Haider, Catherine Van Der Straeten

1:00 pm
Introduction & rules

1:10 pm
Measuring Shoulder Forward Flexion ROM Using a Digital Rehab Application Versus a Laser Powered Hand-Held Digital Goniometer: A Comparative Study
Yousef Shishani; Reuben Gobezie

1:16 pm
iTemplating: The Future of Templating for Hip and Knee Arthroplasty
Parth Desai

1:22 pm
Apparatus and System for Acquiring Data From Bones and Joints, Plan Surgery and Manufacturing Instruments or Implants (US10966787B2)
Mahmoud Hafez

1:28 pm
An Eighty Patient Clinical Demonstration of a Settle Plate Method to Assess Intraoperative Airborne Microbial Contamination During Orthopedic Total Joint Replacement
John Harp

Auditorium C

11:40 am
Development of an Open-Loop Position Controller With Iterative Learning for Ex-Vivo Shoulder Motion Simulation
David Axford; Robert Potra; Antonio Arenas-Miquelez; Desmond Bokor; Richard Appleyard; Sumit Raniga; Louis Ferreira

11:45 am - Q & A - discussion

11:48 am
Development of a Robotic Test Method to Assess Key Clinical Measures in Shoulder Arthroplasty
Kyle Snethen; Charlie Parduhn; Vani Sabesan; Jonathan Braman; Marc Bandi; Jeffrey Bischoff

11:53 am
An in-Vitro Study of Glenoid Implant Peripheral Peg-Cement-Bone Interface Mechanics Under Simulated Glenoid Lift-Off Loading
Jakub Targosinski; Jonathan Kusins; Louis Ferreira; Andrew Nelson; Travis Puhr

11:58 am
Patient Reported Outcomes and Engagement Following Shoulder Surgery: The Effect of Using a Digital Remote Patient Monitoring Application
Yousef Shishani; Reuben Gobezie; Cory Ohradzansky; Stacy Jones

12:03 pm - Q & A - discussion

12:06 pm
Statistical Shape and Statistical Intensity Models of B2/B3 Eroded Scapulae With Reverse Shoulder Arthroplasty Research Applications
Joshua W Giles; Claire Pearce; Aren Beagley

12:11 pm
Performance of QCT-Derived Scapula Finite Element Models in Predicting Local Displacements Using Digital Volume Correlation
Louis Ferreira; Jonathan Kusins; Nikolas Knowles; Enrico Dall'Ara; Melissa Ryan

12:16 pm
In Situ Relationship Between Load and Range of Motion in Reverse Total Shoulder Arthroplasty
Prudhvi Tej Chinimilli; Alexander Greene; Josie Elwell; Christopher Roche; Ari Youderian; Moby Parsons; Richard Jones;

Thursday September 1st

Auditorium A

1:15 pm - 2:15 pm

Hip navigation & robotics

Moderators: Stefan Kreuzer, William Bargar

1:15 pm
Invited Talk: Inertial-based navigation tools for cup placement
William Walter

1:23 pm - Q & A - discussion

1:26 pm
New Minimally Invasive Hip Technique
Peter Walker

1:31 pm
Does Implant Positioning Change When Considering Functional Positioning? a Multi-Center Analysis
Robert Marchand; Jonathan Vigdorchik; Ajay Lall; Geoffrey H Westrich; Benjamin Domb; Seth A. Jerabek

1:36 pm
Accuracy of a Handheld CT-Based Navigation System
Stefan Kreuzer

1:41 pm -Q & A - discussion

1:44 pm
A Comparison Between Robotic-Assisted Surgery and Laser Guide Navigation With PSI in THA: Preliminary Results
Veronica Giuliani; Raffaele Iorio; Giulia Rescigno; Leonardo Previ; Attilio Speranza; Edoardo Viglietta; Carlo Massafra; Andrea Ferretti

1:49 pm
Accuracy of Acetabular Component Alignment With Surgical Guidance Systems During Hip Arthroplasty
Joshua Xu; Wout Veltman; Yuan Chai; William Walter

1:54 pm
Use of a Novel Imageless Navigation System Reduced Fluoroscopy Exposure and Improved Acetabular Positioning in Anterior Approach Total Hip Arthroplasty. a Case-Control Study.
Jacqueline Grubel; Christian Ong; Yu-Fen Chiu; Alejandro Gonzalez Della Valle; Ajay Premkumar

1:59 pm - Q & A - discussion

Auditorium B

1:34 pm
The GPE Spacer: An Antibiotic-Loaded Total Knee Prosthesis Made From Ultra-High Molecular Weight Polyethylene (UHMWPE)
Orhun Muratoglu; Cecilia Nepple; Meghna Krishnagiri Tupal; Keith Wannomae; Brad Micheli; Rachel Connolly; Ali Atici; Alireza Borjali; Ebru Oral

1:40 pm
Use of Electrophoretic Deposition in the Hospital Setting to Coat Medical Implants With Therapeutic Agents to Prevent or Treat Biomaterial Associated Infection
John Hamilton; Adrienn Markovics; Greta Della Fara; Amandine Impergre; Markus Wimmer

1:46 pm
Short interlude/break within session

1:56 pm
New Device to Detect Ligament Best Kinematic Position
Mohamed Elfekky; Peter Theobald; Samih Tarabichi

2:02 pm
Total Knee Prosthesis With Potential for Full Motion
John Blaha

2:08 pm
Validation of a Novel Host Response Assay, SynvIchor, for Discriminating Infectious and Non-Infectious Joint Pain
Antony Rapisarda; Robert Johnston; Kevin Tetsworth; Andrew Kurmis; Jeffrey Lipman; William Walter; Matthew Hartley

2:14 pm
Combining Genotyping and Machine Learning to Improve the Results of Arthroplasty
Rohan Bhalekar; David Langton; Thomas Joyce; Matthew Nargol; Nish Shyam; Moreica Pabbruwe; Edwin Su; Antoni Nargol

2:20 pm
Innovative Single Use Instrumentation for Performing Balanced Gap Resection in Total Knee Arthroplasty
Gary Rasmussen

Auditorium C

Allan Wang

12:21 pm - Q & A - discussion

12:30 pm - 1:30 pm

Industry luncheon - Corentec

(not CME accredited)

1:30 pm - 2:45 pm

Knee design, alignment & surgical technique

Moderators: Samih Tarabichi, Peter Walker

1:30 pm
Invited Talk: Is there an ideal total knee design and surgical technique for optimal function?
Peter S. Walker

1:38 pm - Q & A - discussion

1:41 pm
Evaluation of Tibial Component Rotation in Painful Total Knee Arthroplasties by Mri Enhanced With Metal Artifact Reduction Technique
Samih Tarabichi; Mohamed Elfekky

1:46 pm
Anterior Fixation Features Help Decrease Bone-Implant Micromotion in Cementless Tibial Baseplates for Total Knee Arthroplasty
Fernando Quevedo Gonzalez; Joseph Lipman; Peter Sculco; Thomas Sculco; Ivan De Martino; Timothy Wright

1:51 pm
Error Analysis of a Shear Wave Tensiometer to Measure Ligament Mechanics: The Next Step Towards Translation to Enhance Knee Arthroplasty
Joshua Roth; Lesley Arant; Mary Laudon; Matthew Blomquist

1:56 pm - Q & A - discussion

1:59 pm

Thursday September 1st

Auditorium A

2:02 pm
Validation of Naviswiss Imageless Portable Navigation System for Accurate Acetabular Cup Positioning During Total Hip Arthroplasty in the Lateral Decubitus Position: A Retrospective Analysis
Yoshinobu Uchihara; Kenichiro Saito; Masakazu Okamoto; Yusuke Inagaki; Yasuhito Tanaka

2:07 pm
Spinopelvic Mobility and Functional Component Positioning in Total Hip Arthroplasty Patients With Spinal Pathology and the Role of Robotic-Arm Assistance: A Prospective Cohort Study.
Andreas Fontalis; Fabrice Glod; Babar Kayani; Pit Putzeys; Fares Haddad

2:12 pm - Q & A - discussion

2:15 pm - 3:15 pm

Spine arthroplasty & surgery

Moderators: Jih-Yang Ko, Shiqing Feng

2:15 pm
The Range of Spinopelvic Mobility in Lumbar Fusion Patients
Casey Myers; Kathryn Colone; Sam Mattei; Kevin Shelburne; Chadd Clary; Paul Rullkoetter

2:20 pm
Biomechanical Efficacy of Hyperlordotic Cage According to Lordotic Angle in Posterior Lumbar Interbody Fusion(PLIF) in the Lower Lumbar: A Finite Element Study
Yeji Lee; Sung-Jae Lee; Sung-Woo Choi; Jieun Jang; Jae-Won Lee

2:25 pm
Comparison of in Vivo Kinematic and Radiological Parameters of Three Cervical Disc Prostheses
Ralph Mobbs

2:30 pm - Q & A - discussion

2:33 pm
Comparative Biotribological Analysis of Explanted NuNec, Mobi-C and Discocerv Cervical Discs
Göksu Kandemir; Thomas Joyce

Auditorium B

2:26 pm
THR: Presentation of Novel Femoral Components, Designed to Mitigate Impingement, Instability, Peri-Prosthetic Fracture & Revision.
David KIRWAN

2:32 pm
Short interlude/break within session

2:38 pm
Vibratory Inserton of Orthopedic Implants
Kambiz Behzadi

2:44 pm
SmartSeg: Machine Learning Infrastructure Software for Automating Medical Image Analysis
William Burton

2:50 pm
Pre-Operative Patient-Specific Risk Stratification Using Machine Learning
Morteza Meftah

2:56 pm
Confirmation of voting process, voting period & short break

3:04 pm
Results and announcement of Shark Tank finalists

Auditorium C

Femoral Cementation in Total Knee Arthroplasty - an in-Vitro Study Comparing the Cement Penetration of Two Cementing Techniques
Mareike Schonhoff; Martin Schwarze; Andre Lunz; Kevin Knappe; Tobias Renkawitz; J. Philippe Kretzer; Sebastian Jaeger

2:04 pm
In Vivo Bearing Movement During Non-Weight Bearing Knee Flexion in Mobile Bearing Unicompartmental Knee Arthroplasty
Takahiro Arakawa; Kenichi Kono; Tetsuya Tomita; Shuji Taketomi; Ryota Yamagami; Kohei Kawaguchi; Tomofumi Kage; Ryo Murakami; Hiroshi Inui; Sakae Tanaka

2:09 pm
Novel Methodology for Measuring the Medial Proximal Tibial Angle in Total Knee Arthroplasties
William Walter; Ishaan Jagota; Matthew Lim; Joshua Twiggs; Brad Miles; Max Hardwick-Morris

2:14 pm - Q & A - discussion

2:17 pm
Improved Mediolateral Gap Balance Achievement With Instrumented Navigated Total Knee Arthroplasty Compared to Conventional Instrumentation
Laurent Angibaud; Wen Fan; Florian Kerveillant; Philippe Dubard; Marine Torrollion; Matthew Rueff; Alexander Sah; James Huddleston

2:22 pm
Tibial Baseplate Motion Relates to Tibiofemoral Kinematics During Gait: A Holistic Evaluation of TKA Biomechanics Using a Patient-Specific Computational Workflow
Jonathan Glenday; Peter K. Sculco; Jonathan Vigdorchik; Joseph Lipman; Cynthia Kahlenberg; David J. Mayman; Timothy Wright; Fernando Quevedo Gonzalez

2:27 pm
Tibial Baseplate Migration Six Months After Unrestricted Kinematically Aligned Total Knee Arthroplasty Indicates a Low Risk of Baseplate Loosening
Abigail Niesen; Anna Garverick; Maury Hull

2:30 pm - Q & A - discussion

Thursday September 1st

Auditorium A

2:38 pm
Is Bone Ongrowth in Total Disc Replacements Necessary for Clinical Fixation
Jenna Wahbeh; Sang-Hyun Park; Edward Ebramzadeh; Sophia Sangorgio

2:43 pm
The L1-Pelvic Angle: A Simplified Approach to Estimating the PI-LL Mismatch From Lateral Radiographs
Mounir Boudali; Yuan Chai; John Farey; Jonathan Vigdorchik; William Walter

2:48 pm - Q & A - discussion

2:51 pm
Validation and Reliability of the Hip-Spine Assessment Feature of a Novel Surgical Planning Tool
Emily McIntosh; Nana Sarpong; John Steele; Elizabeth Davis; Jeff Muir; Haley Canoles; Jonathan Vigdorchik

2:56 pm
Prediction of Cage Subsidence in Relation to Insertion Position and Angle With Different Cage Sizes Following Oblique Lumbar Interbody Fusion
Jin-Ho Youn; Sung-Jae Lee; Jae-Won Lee; Jieun Jang; Eghan-Acquah Emmanuel; Jung-Woo Hur

3:01 pm - Q & A - discussion

Auditorium B

Auditorium C

2:45 pm - 3:15 pm
Clinic & OR efficiency

Moderators: Douglas E Padgett, Nobuhiko Sugano

2:30 pm
In-Person Pre-Operative Patient Educational Classes May Not Be Necessary Prior to Elective Arthroplasty
Maveric Abella; Krystin Wong; Dylan Lawton; Scott Nishioka; Samantha Andrews; Cass Nakasone

2:35 pm
An Automated, Web-Based Triage Tool May Optimise Referral Pathways in Elective Orthopaedic Surgery: A Proof of Concept Study
Thomas Edwards; Alexandra Stanley; Gareth Jones; Johnathan Lex; Martin Jaere

2:40 pm
The Use of Preoperative Planning to Decrease Costs and Increase Efficiency in the OR
Vani Sabesan; Alessia Lavin; Bhavya Sheth; Christian Martinez

2:45 pm -Q & A - discussion

2:48 pm
Feeling Better After TKA: Reference Chart for Remotely Collected Pain Scores
Ricardo Antunes; Paul Jacob; Robert Marchand; Andrew Meyer; T. Elaine Justice, MSN, RN; Kelly Taylor; Emily Hampp; Matthias Verstraete

2:53 pm
The Usefulness of an Extensible Trial Neck in Total Hip Arthroplasty
Keinosuke Ryu; Takashi Suzuki; Kei Kojima; Takanori Iriuchishima; Tatsuya Kubomura

2:58 pm - Q & A - discussion

Break - 10:15 am - 10:30 am

3:30 pm - 4:30 pm
Integration of emerging arthroplasty technologies

Moderators: Fred Cushner, Ryan Willing

3:30 pm
Invited Talk: History and current

3:30 pm - 4:30 pm
Knee & TKR general

Moderators: S. David Stulberg, Thomas Schmalzried

3:30 pm
Invited Talk: Defining the Target of Alignment In Total Knee Arthroplasty
Nico Verdonschot

3:30 pm - 4:30 pm
Wear/damage problems & solutions

Moderators: Steven Kurtz, Raelene Cowie

3:30 pm

Auditorium A

practice of Patient Specific Instruments and arthroplasty
Mahmoud Hafez

3:38 pm - Q & A - discussion

3:41 pm
Novel Arthrometer for Quantifying Knee Laxity in Three Planes: Safety and Reliability Assessment in Healthy Subjects
Erin Berube; Carl Imhauser; Thomas Fraychineaud; Zaid Zayyad; Jennifer Vazquez; Hamidreza Jahandar; Nicholas Sapountzis; Ethan Krell; Timothy Wright; Geoffrey H Westrich; Andrew Pearle; Danyal H. Nawabi; Thomas Wickiewicz; Peter K. Sculco; Brian Chalmers; David J. Mayman

3:46 pm
Wireless, Battery-Free Smart Implants for on-Demand Implant Fixation Monitoring
Thomas Hall; Frederic Cegla; Richard van Arkel

3:51 pm
Computed Tomography (CT) Required to Perform Robotic-Assisted Total Hip Arthroplasty (RaTHA) Can Reliably Measure Femoral Bone Mineral Density and Identify Previously Undiagnosed Femoral Osteoporosis
Robert Marchand; Brett Bukowski; Kevin Sandhu; James Bernatz; Neil Binkley; Perry Pickhardt; Paul Anderson; Richard Illgen

3:56 pm - Q & A - discussion

3:59 pm
A Novel Method for Postop Implant Evaluation for Bone Remodeling
Gokce Yildirim; Andrew Pearle; Tarik Bayoumi

4:04 pm - Q & A - discussion

4:07 pm
The Sensor Enabled TKA - a Novel Approach to Gait Analysis
Peter Schiller; Kaitlin Carroll; Kevin Gemmell; Patrick Aubin; Hsiang-Ling Teng; Jeff Gross; William Hunter; Fred Cushner

4:12 pm
Population Level Validation of a Novel Joint Distraction Radiology Protocol in Total Knee Arthroplasty Planning
Joshua Twiggs; Ishaan Jagota; David Liu; Brad Miles; Max Hardwick-Morris

Auditorium B

3:38 pm - Q & A - discussion

3:41 pm
Concurrent Repair of Medial Meniscus Posterior Root Tear Provides Additional Benefits Toward Restoring Tibiofemoral Contact Biomechanics Conferred by Opening-Wedge High Tibial Osteotomy: A Cadaveric B
Siyung Lee; Hyung Jun Park; Seung-Baik Kang; Chong Bum Chang; Moon Jong Chang; Tae Woo Kim; Tae Soo Bae; Dai-Soon Kwak; Eunah Hong; Kyung-Hwi Kim; Tae Seon Kim

3:46 pm
Effect of in Situ Calibration Algorithm on Measurement Errors of Ligament Tension Using a Shear Wave Tensiometer: A Probabilistic Modeling Study
Joshua Roth; Matthew Blomquist; Lesley Arant

3:51 pm
Does Preoperative Vastus Medialis Volume and Quality Affect Functional Outcomes After TKA?
Hojung Jung; Jungil Kim; JongHwa Lee

3:56 pm - Q & A - discussion

3:59 pm
Simultaneous Bilateral Total Knee Arthroplasty Itself Does Not Increase the Risk of Short-Term Major Medical Complications Compared With Those of Staged Bilateral Total Knee Arthroplasty: An Analysis
JUNGU PARK; Seung-Beom Han; Woo Young Jang; Taeyeong Kim; Sung-Jin Ahn; Joonsuk Lee

4:04 pm
Drivers of Initial Stability in Cementless TKA: Isolating Effects of Tibiofemoral Articulation and Fixation Features From Current Implants
Paul J. Rullkoetter; Chadd Clary; Yashar Behnam; Huizhou Yang

4:09 pm
Automatic 3D-to-2D Registration for Total Knee Arthroplasty Fluoroscopy Video by Non-Learning Optimization Method
Viet-Dung Nguyen; Michael LaCour; Richard Komistek

4:14 pm - Q & A - discussion

Auditorium C

Invited Talk: Cobalt Chromium and biologic Corrosion in TKA
William Mihalko

3:38 pm - Q & A - discussion

3:41 pm
Retrieval Analysis of Vitamin E Doped Total Knee Arthroplasty Inserts and Comparison Between Incorporation by Blending Versus Diffusion
Tabitha Derr; Hannah Spece; Daniel MacDonald; Greg Klein; Michael Mont; Arthur Malkani; Steven Kurtz

3:46 pm
A Postmortem Analysis of Polyethylene Damage in Rotating Platform and Fixed Tibial Inserts
Elexis Baral; James B Chen; Robert Hopper; Matthew Koff; Hollis Potter; Thomas Bauer; C. Anderson Engh; Timothy Wright; Douglas E Padgett

3:51 pm
Is Tibial Debonding Associated With Deformation of the Backsides of Polyethylene Tibial Inserts?
Rohan Bhalekar; Matthew Nargol; Nish Shyam; Antoni Nargol; David Langton; Stephen Wells

3:56 pm - Q & A - discussion

3:59 pm
Attune AOX Retrievals: How Do Wear and Oxidation Compare to Highly Cross-Linked UHMWPE?
Douglas Van Citters; Barbara Currier; Kori Jevsevar

4:04 pm
Chemical Characterization of Corrosion Products From Ti6Al4V Stems Coupled With CoCrMo Heads
Songyun Liu; Mozart Neto; Stephanie McCarthy; Bianca Romay; Deborah Hall; Hannah Lundberg; Robin Pourzal

4:09 pm
Post Fractures in Total Knee Arthroplasty: Differences in Fracture Progression Between UHMWPE and HCLPE Posts
Aarti Shenoy; Cynthia Kahlenberg; Elexis Baral; Ashley Pekmezian; Alberto Carli; Michael Ast; Peter Sculco; Geoffrey H Westrich; Timothy Wright

4:14 pm - Q & A - discussion

Thursday September 1st

Auditorium A

4:17 pm
The Effect of Vitamin E in Preventing Arthrofibrosis After Joint Replacement
Ebru Oral; Yingfang Fan; Jean Yuh; Sashank Lekkala; Andrew Thompson; Madeline McCanne; Mark A. Randolph; Antonia F. Chen

4:22 pm - Q & A - discussion

Auditorium B

4:17 pm
Preoperative Bone Marrow Edema Negatively Impacts Long-Term Outcomes After Unicompartmental Knee Arthroplasty
Hong Yeol Yang; Jong-Keun Seon; Sun-Ho Lee; Dong-Min Jung

4:22 pm
Mid-Term Performance of a Bicruciate-Retaining TKA, a Radiostereometric Analysis
Kelly Mills; K.C. Defoort; Gijs Van Hellemondt; Petra Heesterbeek

4:27 pm - Q & A - discussion

Auditorium C

4:17 pm
Sheared Carbon-UHMWPE Composites: A Continued Movement Towards Smart Materials
Rebecca Thomson; Hannah Favreau; Douglas Van Citters

4:22 pm
Polyimide (MP-1) as a Bearing in Total Hip Arthroplasty (THR): First Ever Use and Clinical Study Results .
James Burn

4:27 pm - Q & A - discussion

Thursday September 1st

Auditoium A - Kiosk 1 (E-Posters)

4:30 pm - 5:30 pm

Hip navigation & surgical planning

Moderators: S. David Stulberg, Emily McIntosh

4:30 pm
Public Perception of Robotic Assisted Total Hip Replacement Surgery
James Feng; Marvee Espiritu; Phillip Vartanyan; Drew Moore; Robert Runner; Mark Karadsheh

4:33 pm
The Learning Curve Associated With Computed Tomography-Based Navigation in Total Hip Arthroplasty
Hiroshi Watanabe; Tokifumi Majima; Kohei Murase

4:36 pm
Patient Specific Instrumentation in Laser Guide Navigated THA: Experience in the First 100 Cases, a CT Study
Veronica Giuliani; Andrea Ferretti; Carlo Massafra; Leonardo Previ; Attilio Speranza; Giulia Rescigno; Edoardo Viglietta; raffaele iorio

4:39 pm - Q & A - discussion

4:42 pm
The Learning Curve of Adopting an Optical, Miniature Imageless Navigation System for Total Hip Arthroplasty (THA)
Jacqueline Grubel; Christian Ong; Alejandro Gonzalez Della Valle; Ajay Premkumar; Yu-Fen Chiu

4:45 pm
Software-Driven Cup Alignment Recommendations for THA Patients With Varying Degrees of Spinopelvic Mobility
Casey Myers; Clare Fitzpatrick; Chadd Clary; Chris Hunt; Matthew Dressler; Paul Rullkoetter

4:48 pm
Evaluating Pelvic Tilt Using Measurements From Anteroposterior Pelvic Radiographs - a Meta-Analysis of Sacro-Femoral-Pubic (SFP) Method
Yuan Chai; Sam Khadra; Mounir Boudali; Ibrahim Darwish; William Walter

4:51 pm - Q & A - discussion

4:54 pm
An Original Technique Which Guarantees Excellent Femoral Component Positioning in Hip Resurfacing
Gustavo Lage; Lafayette Lage

Auditoium A - Kiosk 2 (E-Posters)

4:30 pm - 5:30 pm

Infection

Moderators: Jean-Yves Jenny, Veronica Giuliani

4:30 pm
An Australian Algorithm to Guide the Surgical Management of Chronic Prosthetic Joint Infection: A Multi-Disciplinary Team Approach
Chris Wilson; Emma Jackman; Melinda Jiang; James Sires; Santhosh Daniel; Matthew B Roberts

4:33 pm
Vancomycin Resistance Enterococcus and Implications to Trauma and Orthopaedic Care
Ali Mofidi; Medhi Tofighi; Owain Davies; Karunakar Veravalli; Parag Panwalkar; Phillip Butterick; Brendan Healy

4:36 pm
Laser Embedding of Silicon Nitride Particles Into Bioinert Metallic Substrates to Impart Resistance to Bacterial Colonization
Ryan Bock; Jackson Hendry; Sean Ronayne; Erin Jones; Douglas Hoxworth; Sonny Bal

4:39 pm - Q & A - discussion

4:42 pm
A Multi-Disciplinary Approach for the Management of Prosthetic Joint Infections: an Australian Perspective
Chris Wilson; Emma Jackman; James Sires; Santhosh Daniel

4:45 pm
Effectiveness of Drain Insertion and Irrigation in the Treatment of Septic Arthritis of the Knee Under Local Anesthesia
Byung Hak Oh

4:48 pm
Comparison of Continuous Lavage by Tube With Arthroscopic Treatment of Acute Septic Arthritis of Native Knee
Byung Hak Oh

4:51 pm
Q & A - discussion

4:54 pm
A Modified Technique for Two Stage Revision in Periprosthetic Joint Infections Treatment
Veronica Giuliani; raffaele iorio; Ferdinando Iannotti; Edoardo Viglietta; Leonardo Previ; Giulia Rescigno; Carlo Massafra; Andrea Ferretti

Auditoium A - Kiosk 3 (E-Posters)

4:30 pm - 5:30 pm

Complex hip & revision surgery

Moderators: Douglas E Padgett, Chul-Ho Kim

4:30 pm
Novel Well-Fixed Cemented Cup Removing Technique While Performing Revision Total Hip Arthroplasty With Dedicated Original Device
Hirosuke Endou; Kawamoto Toyohiro; Kazuki Yamada; Tomonori Tetsunaga; Yoshifumi Namba; Shigeru Mitani

4:33 pm
Can Models Help to Identify Modular Revision Stems at Risk for Failure?
Gerd Huber; Klaus-Peter GÃ¼nther; Michael Morlock

4:36 pm
Does Previous Hip Osteotomy Affect Cementless Conversion Total Hip Arthroplasty?
Tsutomu Kawano; Kyohei Shiomoto; Satoshi Shin

4:39 pm - Q & A - discussion

4:42 pm
Influence of Bone Morphology and Femur Preparation Method on the Primary Stability of Hip Revision Stems
Tobias Konow; Peter J Schlieker; Frank Lampe; Benjamin Ondruschka; Michael Morlock; Gerd Huber

4:45 pm
A Case of THA Revision Due to Trunniosis: a Case Report
Kawamoto Toyohiro; Yoshifumi Namba; Shigeru Mitani; Hirosuke Endou

4:48 pm
Greater Trochanteric Fracture Fixation in Complex Primary and Revision Total Hip Arthroplasty
Kwan Park; Patrick Schafer; Terry Clyburn; Stephen Incavo; Bradley Lambert

4:51 pm - Q & A - discussion

4:54 pm
Long-Term Outcomes of Cementless Femoral Stem Revision With the Wagner Cone Prosthesis
Kyung-Soon Park; MIN GWANG KIM; Yoon Taek Rim; Chae Jin Lim; Joon Kyoo Kang

Auditoium B - Kiosk 4 (E-Posters)

4:30 pm - 5:30 pm

Knee planning, alignment, balancing & bone properties

Moderators: Samih Tarabichi, Sabir Ismaily

4:30 pm
Effect of Hybrid Alignment Techniques on Native Coronal Alignment and Soft Tissue Balance in Total Knee Arthroplasty
Philip Winnock De Grave; Cobus Muller; Kurt Claeys

4:33 pm
Modified Gap Technique for Total Knee Arthroplasty (TKA) in Rheumatoid Arthritis
Satomi Abe; Hitoshi Nochi; Yusuke Sasaki; Go Sato; Hiroshi Ito

4:36 pm
The Morphology of a Kinematically Aligned Distal Femoral Osteotomy Is Different From That Obtained With Mechanical Alignment and Could Have Implications for the Design of Total Knee Arthroplasty
Seok-Hyung Won; Ye Yeon Won; Quan Hu Shen

4:39 pm - Q & A - discussion

4:42 pm
Efficacy of the Pre-Operative Three Dimensional (3D) Templating in a Robot Assisted TKA in Predicting the Correct Implant Sizes and Alignment.
Sanjay Londhe; Ravi Shah; Santosh Shetty; Rakesh Nair ; Vijay Shetty; Ashit Shah; Niraj Vora

4:45 pm
Coronal Plane Femoral Bowing in Far East Asians: Implications for the Strategy of Distal Femoral Resection in Total Knee Arthroplasty
SeungJoon Rhee

4:48 pm
Impact of Anisotropy on Predicting Mechanical Properties of Trabecular Bone From CT Imaging
James Scott; Jonathan Jeffers

4:51 pm - Q & A - discussion

4:54 pm
Variation in Mechanical Properties of Trabecular Bone in the Distal Femur
James Scott; Jonathan Jeffers

Auditoium B - Kiosk 5 (E-Posters)

4:30 pm - 5:30 pm

Knee outcomes, biomechanics & objective evaluations

Moderators: Scott Banks, Louise M. Jennings

4:30 pm
Impact of Joint Laxity Before Total Knee Arthroplasty on Postoperative Ligament Balance
Shuji Nakagawa; Yuji Arai; Atsuo Inoue; Manabu Hino; Kenji Takahashi

4:33 pm
Automated Assessment of Thigh Muscle Condition in Patients With Advanced Knee OA Using a Novel Deep Learning-Based Software: Correlation With Isokinetic Muscle Tests and Clinical Scores
Chong Bum Chang; Chang-Jin Yon; Ja-Young Choi; Seung-Baik Kang

4:36 pm
Gait Analysis in Total Knee Arthroplasty
Kenneth Schmidt; Neeraj Vij; Christian Leber

4:39 pm - Q & A - discussion

4:42 pm
Arthroplasty at Very High Altitude With Restricted Resources: Our Experience and Review of Literature
Samarth Mittal; Chandra Shekhar Yadav

4:45 pm
Post-Operative External Rotational Laxity Was Significantly Decreased Compared to the Preoperative Level Throughout Flexion in CR-TKA.
Takashi Tsuda; Kazunori Hino; Tatsuhiko Kutsuna; Kunihiko Watamori; Tomofumi Kinoshita; Hiromasa Miura; Masaki Takao

4:48 pm
Implementation of an EMR Based Interactive Virtual Care Management Platform for Perioperative Care After Total Joint Arthroplasty
James Slover; Raj Karia

4:51 pm - Q & A - discussion

4:54 pm
Comparison of Early Outcomes Comparing Two Total Knee Implant Designs
Makoa Mau; Julian Rimm; Samantha Andrews; Cass Nakasone

4:57 pm
Biomechanical Analysis of Posterior Stabilized Total Knee Arthroplasty

Auditoium B - Kiosk 6 (E-Posters)

4:30 pm - 5:30 pm

Knee component modelling/ simulation & FEA

Moderators: Nico Verdonschot, Abigail Niesen

4:30 pm
Comparing Simulation Approaches Used in Finite Element Modelling of Medial Opening Wedge High Tibial Osteotomy
Ryan Willing; Victor Carranza; Alan Getgood; Timothy Burkhart

4:33 pm
Computational Modeling of Cathodic Voltage-Controlled Electrical Stimulation Applied to Total Knee Replacements
Mark Ehrensberger; Priyanshu Vishnoi; Elise Martin; Mary Canty; Jackson Hobble; Tim Kopera

4:36 pm
TKA Implantation Effects on Quadriceps Length
Nathan Lenz; Richard D. Komitek; Brian McKinnon

4:39 pm - Q & A - discussion

4:42 pm
Effect of Femur-Insert Size Mismatch on Tibiofemoral Joint Motions and Soft Tissue Structures
Amit Mane; Michael Rock; Luke Aram; Richard Komistek; Stephen White

4:45 pm
Harmony Between Tibiofemoral Motions and Soft Tissue Structures of Two Unique Femoral J-Curves
Amit Mane; Michael Rock; Luke Aram; Richard Komistek; Stephen White

4:48 pm
A Comprehensive Comparison of Automatic 3D-to-2D Registration Techniques for Total Knee Arthroplasty by Non-Learning Optimization Methods
Viet-Dung Nguyen; Michael LaCour; Richard Komistek

4:51 pm - Q & A - discussion

4:54 pm
Changes in Load Transfer in Bone Following Combined Partial Knee Arthroplasty
Jennifer Stoddart; Amy Garner; Mahmut Tuncer; Justin Cobb; Richard van Arkel

Thursday September 1st

Auditoium A - Kiosk 1 (E-Posters)

4:57 pm
Novel Total Hip Arthroplasty Surgical Planning Tool Provides Target Values Within the Sagittal Functional Safe Zone
Emily McIntosh; Jeff Muir; Jennifer Wang; Nathanael Heckmann

5:00 pm
Automated Tool for Real-Time Cup Alignment to Avoid Edge Loading and Implant Impingement in THA
Chadd Clary; Casey Myers; Clare Fitzpatrick; Paul Rullkoetter; Chris Hunt; Brittany Marshall

5:03 pm - Q & A - discussion

5:06 pm
Patient Specific Instrument in Resurfacing Hip Arthroplasty.
Daisuke Koga

5:09 pm
Leg-Length Discrepancy in Revision Total Hip Arthroplasty: The Impact of Computer-Assisted Navigation
Troy Bornes; Christopher Anderson; Gregory Schimizzi; Allina Nocon; Kathleen Tam; Jason Blevins; Alberto Carli; Peter Sculco

5:12 pm
Assessment of Robotic Assisted Total Hip Arthroplasty With Functional Hip Positioning: 1-Year Outcomes
Benjamin Harder; Laura Yanoso-Scholl; Kevin Marchand; Kelly Taylor; Daniel Erwin; Robert Marchand

5:15 pm - Q & A - discussion

5:18 pm
A New Methodology for Extension Gap Planning in Robotic TKA
Jayson Zadzilka; Bernard Stulberg

5:21 pm
Minimal Pre-Operative Leg Length Discrepancy as a Risk Factor of Post-Operative Leg Length Discrepancy After Total Hip Arthroplasty in Patients With Non-Traumatic Osteonecrosis of the Femoral Head
HONG SEOK Kim; Han-Jin Lee; Jeong Joon Yoo

5:24 pm
Does Total Hip Arthroplasty Lead to Changes in Anterior Pelvic Plane Tilt?
Morteza Meftah; Thomas Christensen; Thomas Bieganowski; Shankar Narayanan; Ran Schwarzkopf; Matthew Hepinstall

5:27 pm Q & A - discussion

Auditoium A - Kiosk 2 (E-Posters)

4:57 pm
Accuracy and Cost-Effectivenss of a Novel Method for Alpha-Defensins Measurement in the Diagnosis of Peri-Prosthetic Joint Infections
Veronica Giuliani; Edoardo Viglietta; Giulia Rescigno; Leonardo Previ; Fabio Conteduca; Mazza Daniele; raffaele iorio; Andrea Ferretti

5:00 pm
Diagnosis of Peri-Prosthetic Knee Infection: What Do the New Msis Definition Criteria Bring?
Jean-Yves Jenny; Nicolas Giordano-Orsini

5:03 pm
Decreasing Trend in Mortality Rates of Aseptic Versus Septic Revision Total Hip Arthroplasty: An Analysis of 681,034 Cases
Ariel Rodriguez; Mitchell Ng; Andriy Kobryn; Ahmed Emara; Matthew Magruder; Nikhil Vasireddi; Afshin Razi; Che Hang Jason Wong; Viktor Krebs; Michael Mont; Nicolas Piuzzi

5:06 - Q & A - discussion

Auditoium A - Kiosk 3 (E-Posters)

4:57 pm
High Prevalence of Spinopelvic Risk Factors in Patients With Post-Operative Hip Dislocations
James Huddleston; Jonathan Vigdorchik; Chameka Madurawe; Christopher Plaskos; Jim Pierrepont

5:00 pm
Can Spino-Pelvic Alignment Be Improved After Hip Arthroplasty? : Focus on the Value of PI-LL
Shigeki Hayashi; Takahisa Sato; Masashi Kimura; Kenji Takahashi

5:03 pm - Q & A - discussion

5:06 pm
Postoperative Callus Around Tapered Wedge Short Stem: Undiagnosed Fracture After Total Hip Arthroplasty
Seiya Ishii; Yasuhiro Homma; Tomonori Baba; Yuichi Shirogane; Koju Hayashi; Kazuo Kaneko; Muneaki Ishijima; Taiji Watari

5:09 pm
Effects of Body Mass Index on Cup Placement Accuracy During Total Hip Arthroplasty in Supine Position Using a Pelvic Rotation Correction Device
Satoshi Nakasone; Masamichi Onaga; Takahiro Igei; Fumiyuki Washizaki; Kotaro Nishida; Mika Takaesu; Yoshihide Miyata

5:12 pm
Safety of Bilateral Total Hip Arthroplasty in Patients Age >70
Landon Morikawa; Scott Nishioka; Dylan Lawton; Samantha Andrews; Cass Nakasone

5:15 pm - Q & A - discussion

5:18 pm
Comparison Between Simultaneous Bilateral Total Hip Arthroplasty With and Without Drainage; a Retrospective Cohort Study.
MIN GWANG KIM; Chae Jin Lim; Yoon Taek Rim; Joon Kyoo Kang; Kyung-Soon Park

5:21 pm
Evaluation and Comparison of THA Component Fits Across Different Dorr Canal Types
Jarrod Nachtrab; Thang Nguyen; Andrew Jacobs; Michael LaCour; Richard Komistek

5:24 pm
The Effect of Stem Size on Late Revision of the Exeter Femoral Hip Stem
Chris Wilson; Emma Jackman; Jonah Poo; Stephen Graves

5:27 pm -Q & A - discussion

Auditoium B - Kiosk 4 (E-Posters)

4:57 pm
A Novel Algorithm to Balance Varus Knee Without Releasing Superficial MCL Based on the Pathological Changes in Varus Knee.
Samih Tarabichi; Mohamed Elfekky

5:00 pm
Fixed Distal Femoral Cut Consistently Achieves Neutral Alignment Across Races
Maveric Abella; Vera Ong; Tyler Thorne; Brent Shimoda; Samantha Andrews; Cass Nakasone

5:03 pm - Q & A - discussion

5:06 pm
Development of the Novel Patellar Reamer During Total Knee Arthroplasty
Hee-June Kim; Hee-Soo Kyung; Ji-Yeon Shin; Jae Hwi Han; Kyeong-Hyeon Park

5:09 pm
Is There an Influence of Dilute Povidone-Iodine (Betadine) Lavage on the Interface Fixation of Tibial Baseplates Under Clinical Relevant Conditions?
William Mihalko; Thomas M. Grupp; Ana Laura Puente Reyna; Christoph Schilling; Byron Masi; Bernhard Fritz; Charles Taunt

5:12 pm
Evaluations of MIS-TKA Without Femoral Intramedullary Reaming Using CT-Free Compact Navigation System.
Genya Mitani; Tomonori Takagaki; Kosuke Hamahashi; Daichi Takizawa; Takehisa Suzuki; ; Masahiko Watanabe

5:15 pm - Q & A - discussion

5:18 pm
Electronic Force Sensor Is Sensitive for Detecting Tight but Not Loose Soft Tissue in Total Knee Arthroplasty
Shuichi Matsuda; Shinichi Kuriyama

5:21 pm
The Progression of Varus Deformity in Osteoarthritis Induces Anterior Paradoxical Motion of Femur Relative to Tibia in Early Flexion
Tomofumi Kinoshita; Kazunori Hino; Tatsuhiko Kutsuna; Kunihiko Watamori; Takashi Tsuda; Hiromasa Miura; Masaki Takao

5:24 pm
Measuring Three Dimensional Alignment of Lower Limb After High Tibial Osteotomy With EOS System
Byung Hak Oh

5:27 pm - Q & A - discussion

Auditoium B - Kiosk 5 (E-Posters)

Reveals Intraoperative Targets for Reducing Sagittal Plane Laxity in Midflexion
Erin Berube; Cynthia Kahlenberg; William Xiang; Joseph Manzi; Brian Chalmers; David J. Mayman; Geoffrey H Westrich; Michael B.Cross; Timothy Wright; Peter Sculco; Carl Imhauser

5:00 pm
Long Leg Radiographs vs CT Perth Protocol: Mechanical Alignment Analysis
Chris Wilson; Emma Jackman; Matthew Cehic

5:03 pm - Q & A - discussion

5:06 pm
Cementless Tibial Baseplates: A Biomechanical Study of Fixation Patterns
Ryan Willing; Olawale Sogbein; Brent Lanting; Brett MacDonald

5:09 pm
Flexion Facet Centers Should Not Be Used to Determine Tibiofemoral Kinematics Following Total Knee Arthroplasty
Maury Hull

5:12 pm
The Morphology of TKA Implant Does Not Influence Periprosthetic Bone Resorption, Remodeling and Clinical Outcome
Eungsic Kim; Dong Whan Suh

5:15 pm
Examination of Appropriate Gap Balance for Good Flexion Angle and Clinical Results in PS Type TKA
Satomi Abe; Hitoshi Nochi; Hiroshi Ito

5:18 pm - Q & A - discussion

Auditoium B - Kiosk 6 (E-Posters)

4:57 pm
How Does Cam/Post Geometry in TKAs Affect Contact Stress?
Seth Coomer; Michael LaCour; Richard Komistek; Bradley Meccia

5:00 pm
Prediction of Soft Tissue Balancing in Total Knee Replacement
Daniele Ascani; Massimiliano Bernardoni; Claudia Mazza'

5:03 pm - Q & A - discussion

5:06 pm
Contact Simulation Model of Knee PSI Guide Fit Accuracy
Vincent Nierste

5:09 pm
Error in Maximum Total Point Motion of a Tibial Baseplate Is Lower With a Reverse-Engineered Model Versus a CAD Model Using Model-Based Radiosteremetric Analysis
Abigail Niesen; Anna Garverick; Maury Hull

5:12 pm
Finite Element Study on the Effect of Interference Fit and Coefficient of Friction on the Primary Fixation of a Cementless PEEK Tibial Component
Corine Post; Thom Bitter; Adam Briscoe; Nico Verdonschot; Dennis Janssen

5:15 pm
The Non-Uniformity of Regional Strain in the Patellar Tendon Significantly Increases the Shear Strain Distribution at the Proximal Tibial Epiphyseal Plate: Three-Dimensional Finite Element Analysis
Hiroshi Watanabe; Kohei Murase; Tokifumi Majima

5:18 pm - Q & A - discussion

Friday September 2nd

Auditorium A

7:00 am - 8:00 am
Breakfast/Expo Hall

8:00 am - 9:00 am
Augmented and Virtual Reality

Moderators: Mahmoud Hafez, Stephen Murphy

8:00 am
Invited Talk: Augmented Reality in Hip Replacement
Stephen Murphy

8:08 am - Q & A - discussion

8:11 am
Evaluating Alternative Registration Methods and Reference Planes for Imageless, Computer-Assisted Navigation During Supine Total Hip Arthroplasty
William Walter; John Farey; Yuan Chai; Joshua Xu; Ameneh Sadeghpour; Neri Baker

8:16 am
Novel Augmented-Reality Templating Application for Total Hip Arthroplasty: A Retrospective Analysis
Parth Desai; Michael Stallard; Hunter Starring; George Chimento; Connor Soles

8:21 am
Accuracy of Acetabular Cup Positioning Using Patient-Specific Augmented Reality Guidance
Patrick Lane; Dan Sun; William Murphy; Stephen Murphy

8:26 am - **Q & A (discussion)**

8:29 am
Retrospective Analysis of a Novel Augmented-Reality Templating Solution for Total Knee Arthroplasty
Michael Stallard; Parth Desai; Hunter Starring; Connor Soles; George Chimento

8:34 am
Nextar Tka: Augmented Reality Enhanced by Single Use Tracking System for Total Knee Replacement
Massimiliano Bernardoni; Daniele Ascani

8:39 am - Q & A - discussion

Auditorium B

7:00 am - 8:00 am
Breakfast/Expo Hall

8:00 am - 9:00 am
Additive manufacturing innovations

Moderators: Richard van Arkel, David Schroeder

8:00 am
Invited Talk: 3d Printed Custom Made Talus Prosthesis Coupled With Total Ankle Arthroplasty: The Evolution of Biomaterials and Technology
Elena Manuela Samaila; Bruno Magnan

8:08 am - Q & A - discussion

8:11 am
Printability of Porous Lattice Architectures Using Metal Additive Manufacturing
Martine McGregor; Sagar Patel; Kevin Zhang; Nichaela Vlasea; Stewart McLachlin

8:16 am
Treatment of Severe Post-Traumatic Midtarsal Bone Defect With 3d Printed Custom Made Cuboid Prosthesis: A Case Report
Elena Manuela Samaila; Bruno Magnan

8:21 am
3D-Printed Silicon Nitride-PEEK Composite Promotes Osteogenic Activity in Vitro
Paul DeSantis; Ryan Bock; Sean Ronayne; Bryan McEntire; Noreen J Hickok; Steven M. Kurtz

8:26 am - Q & A - discussion

8:29 am
Increasing the Fatigue Strength of 3D-Printed Hip Stems Using Suitable Post-Treatment Procedures
Stefan Schroeder; Jens Gibmeier; Phuong Thao Mai; Moritz M. Innmann; Tobias Renkawitz; Philippe Kretzer

8:34 am
Systematic Review on 3D Bioprinting of Composite Orthoregenerative Tissues
Rachel Pan; Kari Martyniak; David Gelikman; Makan Karimzadeh; Kelly Sutter; Jonathan deVries; Rajendra Sawh-Martinez; Thomas Kean

8:39 am
Increasing Nodal Connectivity Increases the Fatigue Strength of Lattice Structures
Stylianos Kechagias; Reece Oosterbeek; Maxwell Munford; Shaaz Ghouse; Jonathan Jeffers

8:44 am - Q & A - discussion

Auditorium C

7:00 am - 8:00 am
Breakfast/Expo Hall

8:00 am - 9:00 am
Periprosthetic fractures

Moderators: Philip Noble, Bernard Stulberg

8:00 am
Invited Talk: High incidence of stem loosening in association with periprosthetic femur fracture in previously well-fixed cementless grit-blasted tapered-wedge stem
Youn-Soo Park

8:08 am - Q & A - discussion

8:11 am
Hip Arthroplasty Femoral Stem Design and Their Association With Early Postoperative Periprosthetic Femur Fractures
William Mihalko; Tyler Calkins; Devon D Goetz; Jacob Zalewski; Caleb Jones; Peyton Gaumer; Marcus Ford; Patrick Toy; John Crockarell; James Harkess; James Guyton

8:16 am
Bone Quality and Cortical Thickness Impact the Risk of Periprosthetic Fracture Between Adjacent Stem Tips
Fernando Quevedo Gonzalez; Elizabeth Davis; Joseph Lipman; Timothy Wright; Mark P. Figgie

8:21 am
Prophylactic Cerclage as an Adjunct to Fixation of Periprosthetic Fractures: The Effect of Cable Location
Shuyang Han; Philip Noble; Analisa Narro; Carson Viglione; Hugh Jones; Jonathan Gold; David Rodriguez

8:26 am - Q & A - discussion

8:29 am
Influence of Stem Size and Position on Periprosthetic Fracture Risk and Primary Stability in Total Hip Arthroplasty
Tobias Konow; Gerd Huber; Frank Lampe; Michael Morlock

8:34 am
The Effect of Periprosthetic Bone Loss on the Failure Risk of Tibial Total Knee Arthroplasty
Dennis Janssen; Navid Soltanihafshejani; Thom Bitter; Nico Verdonschot

8:39 am
How Does Number of Cerclage Cables Impact Titanium Tapered Stem Stability in Periprosthetic Femoral Fracture: A Biomechanical Cadaveric Study
Troy Bornes; Haena-Young Lee; Mathais Bostrum; Christopher Anderson; Timothy Wright; Jose Rodriguez; Friedrich Boettner; Peter Sculco

8:44 am
Predictors of Failure of Fixation and Nonunion in Periprosthetic Distal Femur Fractures
Philip Noble; Matthew Hnatow; Cristian Ybarra; Jerry Wang; Abhi Rashiwala; Sabir Ismaily; Steven Schroder; David Rodriguez
8:49 am - Q & A - discussion

Friday September 2nd

Auditoium A - Kiosk 1 (E-Posters)

9:00 am - 10:00 am

Knee surgical technique & patella

Moderators: Mathew G Teeter, Benjamin Harder

9:00 am
The Efficacy of New Total Knee Arthroplasty Rehabilitation Protocol for Good Range of Motion After Follow-Up of 2 Years
Masataka Nishikawa; Katsuya Nakata

9:03 am
Comparing Patella Function Between Non-Implanted Knees, Posterior Cruciate Retaining TKAs, and Bi-Cruciate Stabilized TKAs
Viet-Dung Nguyen; Michael LaCour; Seth Coomer; Richard Komistek

9:06 am
Total Knee Arthroplasty With Patella Retention in Rheumatoid Arthritis
Hee-Soo Kyung; Hee-June Kim; Ji-Yeon Shin; Jae Hwi Han; Kyeong-Hyeon Park

9:09 am -Q & A - discussion

9:12 am
Impact of Over- or Under-Correction of Patella Thickness in Total Knee Arthroplasty
Landon Morikawa; Sean Chan; Kyle Obana; Brent Shimoda; Samantha Andrews; Cass Nakasone

9:15 am
Posterior-Stabilizing Versus Ultracongruent Inserts in Total Knee Arthroplasty With Patellar Resurfacing
Landon Morikawa; Maya Matsumoto; Kyle Obana; Brent Shimoda; Samantha Andrews; Cass Nakasone

9:18 am
Anatomical Patellar Resurfacing in Patellofemoral Arthroplasty
Oliver Dandridge; Amy Garner; Andrew Amis; Justin Cobb; Richard van Arkel

9:21 am -Q & A - discussion

9:24 am
Using a Virtual Surgery Method to Design Stem Boss Position and Offsets for a Revision Knee Implant
Nathaniel Pyle; Laura Small

9:27 am
Kinematic Alignment in Total Knee Arthroplasty: A Wear Simulation Study
Stefan Schroeder; Mareike Schonhoff; Maximilian Uhler; Steffen Braun; Sebastian

Auditoium A - Kiosk 2 (E-Posters)

9:00 am - 10:00 am

Knee revisions & complications

Moderators: Fred Cushner, Pier Francesco Indelli

9:00 am
Constrained Insert Design Provides Consistent V/V Constraint After Fatigue Loading With a Modern, Universal Primary Femur
Dermott McHugh; Anna Sullivan; Chris Weaber; Andi Cragen; Paul Postak

9:03 am
Avoiding Stem Extension During Revision Total Knee Arthroplasty
Jean-Yves Jenny

9:06 am
Levels of Constraint Affect Functional Outcome of Femoral Sleeve in Revision Total Knee Arthroplasty
Saradej Khuangsirikul; Phatrapol Sthavorn; Thanainit Chotanaphuti; Danai Heebthamai

9:09 am - Q & A - discussion

9:12 am
Do Obese Patients Benefit From a Kinematic Appropriate Knee?
Fred Cushner

9:15 am
Unicompartimental to Total Knee Arthroplasty Revision Using Intraoperative Sensing Technology: A New Surgical Technique.
Pier Francesco Indelli; Karlos Zepeda; Stefano Ghirardelli

9:18 am
Patellar Fracture After Total Knee Arthroplasty With Retention: A Retrospective Analysis of 2954 Consecutive Cases
Jongjin Lee; Bum-Sik Lee; SEONGIL BIN; Jung-Su Choe; Jong-Min Kim

9:21 am - Q & A - discussion

9:24 am
The Optimal Tibial Stem Position of Primary and Revision Total Knee Arthroplasty in Asian Knee: Three-Dimensional Analyses
Chong Bum Chang; Ja-Young Choi; Jong Seop Kim; Seung-Baik Kang

9:27 am
Posterior Stabilized Total Knee Arthroplasty Increases the Risk of Postoperative Periprosthetic Fractures
Samih Tarabichi; Mohamed Elfekky

Auditoium A- Kiosk 3 (E-Posters)

9:00 am - 10:00 am

Implant testing advancements

Moderators: Sophie Williams, Rafael Trommer

9:00 am
Improving Accuracy of Multi-Axial Simulators and Testing of Orthopaedic Implants Using Sensor Fusion
Robb Colbrunn; Callan Gillespie; Tara F Nagle

9:03 am
Assessing Contact Stresses in TKR With Pressure Sensitive Film: Is It Reliable?
Hani Haider; Max Twedt; Joel Weisenburger; Curtis Hartman; Beau Kildow; Beau Konigsberg; Kevin Garvin

9:06 am
In Vitro Effects of Macrophages on CoCr Alloy With and Without Electrocautery Damage
William Mihalko; Kirsten Miller; Richard Smith; Matthew Holloway

9:09 am - Q & A - discussion

9:12 am
3D-Printed Biomimetic Cervical Vertebral Body for Spinal Arthroplasty Testing
Jenna Wahbeh; Stephanie Kehoe; John Lama; Sang-Hyun Park; Edward Ebramzadeh; Sophia Sangorgio

9:15 am
Experimental Methodology to Evaluate Degradation on Human Cadaveric Hip Joints Subjected to Normal Loading Conditions on an Anatomical Hip Simulator.
Sophie Williams; David Jimenez-Cruz; Mudit Dubey; Tim Board

9:18 am
Third Body Wear of an All-Polymer Knee
Raelene Cowie; Jens Schwiesau; Adam Briscoe; Louise M. Jennings

9:21 am -Q & A - discussion

9:24 am
Chemically Dominated Corrosion Modes in CoCrMo and Ti-Alloy Femoral Stem Tapers
Stephanie McCarthy; Mozart Neto; Deborah Hall; Joshua Jacobs; Robin Pourzal

Friday September 2nd

Auditoium B - Kiosk 4 (E-Posters)

9:00 am - 10:00 am

Materials

Moderators: Ryan Willing, Babar Kayani

9:00 am
Toughness of a Conductive UHMWPE-Carbon Composite: Materials Progress Toward Smarter Orthopedic Bearings
Peder Solberg; Hannah Favreau; Rebecca Thomson; Abigail Chase; Douglas Van Citters

9:03 am
Oxidative Changes in Irradiated and Melted Polyethylene Tibial Inserts During Second Decade of in Vivo Service
Orhun Muratoglu; Keith Wannomae; David Chan; Jacquelyn Dunahoe; Andrew Freiberg

9:06 am
Femoral Closure Fatigue of IBED TiN Coated Wrought Titanium Femurs Compared to CoCrMo Femurs
Anna Sullivan; Chris Weaber; Dermott McHugh

9:09 am - Q & A - discussion

9:12 am
Rheological Behavior of Different Calf Sera Before, During and After Wear Simulation
Maximilian Uhler; Mareike Schonhoff; Timo Albert Nees; Tanja Wonerow; Jens Nuppnau; J. Philippe Kretzer; Stefan Schroeder

9:15 am
Preliminary Comparison Between Trabecular Titanium Porous Structure Manufactured via EBM and SLM Technologies: Friction and Primary Stability Performances
Elisa Salatin; Giulio Cattano; Riccardo Toninato; Michele Pressacco

9:18 am
Is a Nickel Allergy Related to Poor Outcomes in Total Knee Arthroplasty
Jimmy Daher; Bhumit Desai; Cruz Velasco-Gonzalez; George Chimento

9:21 am - Q & A - discussion
9:24 am
Metallic Versus Non-Metallic Cerclage Cables System in Periprosthetic Hip Fractures: Single-Institution Experience at a Minimum 1-Year Follow-Up
Stefano Pecchia; Attilio Speranza; Carlo Massafra; Riccardo Di Niccolo; Natale Criseo; Raffaele Iorio; Andrea Ferretti

Auditoium B - Kiosk 5 (E-Posters)

9:00 am - 10:00 am

Knee navigation & robotics

Moderators: Stefan Kreuzer, William Bargar

9:00 am
Is Accuracy of Surgical Robotic Systems in Total Knee Arthroplasty (TKA) as Well Established as We Think? a Systematic Review
William Bargar; Fatemeh Rasouli; Valentina Campanelli; Jayson Zadzilka; Joel Zuhars; Bernard Stulberg

9:03 am
Component Positioning and Limb Alignment Restoration Using an Imageless, Robotic-Assisted Total Knee Arthroplasty Technique
Marco Kaper; Bertrand Kaper

9:06 am
Comparison of Robotic-Assisted TKA and Patient Specific Instrumentation TKA
Takeshi Kojima

9:09 am -Q & A - discussion

9:12 am
Accuracy of Advanced Active Robot for Total Knee Arthroplasty: A Cadaveric Study
Suk-Ho Baek; Yong-Beom Park; Han-Jun Lee; Seong Hwan Kim; Kyu-Hwang Kim

9:15 am
Improved Accuracy in Restoring the Pre-Arthritic Static & Dynamic Alignments, Component Placement in UKA With Semi-Autonomous Handheld Robotic Systems.
Ashok Kumar P. S.; Shantanu Patil; Karthik Jayachandran; Suchitra Gopinath; Kalaivanan Kanniyan; Vijay C Bose; Pichai Suryanarayan

9:18 am
Gait Studies of Robotic Total Knee Arthroplasty Versus Conventional Jig-Based Outcomes: Results of a Prospective Randomised Controlled Trial
Ahmed Magan; Dia Giebaly; Shanil Hansjee; Vishal Rajput; Andreas Fontalis; Babar Kayani; Jenni Tahmassebi; Fares Haddad

9:21 am - Q & A - discussion

9:24 am
Resection Magnitudes and Angles in Total Knee Arthroplasty: Insights From Robotic-Assisted Ligament Balancing
Morteza Meftah; Michael Sybert; Christian

Auditoium B - Kiosk 6 (E-Posters)

9:00 am - 10:00 am

Shoulder (general)

Moderators: Farid Amirouche, Louis Ferreira

9:00 am
Method to Preserve Thin Features of Bone During Synthetic CT Image Generation
Aren Beagley; Claire Pearce; Joshua W Giles

9:03 am
Effect of Metal and Ceramic Artifacts on Digital Volume Correlation Strain Measurements in Cadaveric Shoulder Hemiarthroplasty Models
Jakub Targosinski; Jonathan Kusins; Louis Ferreira; Andrew Nelson

9:06 am
Assessment of Local Displacement Predictions Generated by MicroFEMs of Trabecular Bone Cores Retrieved From the Shoulder
Louis Ferreira; Jonathan Kusins; Nikolas Knowles; Melanie Columbus; George Athwal

9:09 am - Q & A - discussion

9:12 am
Glenoid Implants Loosening in Shoulder Arthroplasty . Asymmetry and Conformity Versus Bounded and Frictionless Screw-Bone Interface.
Farid Amirouche; Roberto Leonardo Diaz; Lewis Shi; Jason Koh

9:15 am
Impact of Porous Shoulder Implant Stems in Various Humeri Densities
Sydney Hitchon; Jaques Milner; David Holdsworth; Ryan Willing

9:18 am
Evaluating Primary Axial Stability of Cementless Humeral Stems
Saandeep Mani; Steven Meulink

9:21 am - Q & A - discussion

9:24 am
A Randomized, Controlled Study on Early Versus Delayed Rehabilitation Protocols After Reverse Total Shoulder Arthroplasty in Massive Rotator Cuff Tears
Seung Jin Yoo; Sungwook Choi; Taehyeong Lim

9:27 am
Functional Outcomes of a Lima Modular Shoulder Replacement
Elliot Cha; Nicholas Hager; Joseph Choi

Auditoium A - Kiosk 1 (E-Posters)

Jaeger; Philippe Kretzer
9:30 am
Patient Outcomes in Total Knee Arthroplasty With Internal Rotation of the Femoral Component
Benjamin Harder; Bob Marchand; Kevin Marchand; Kelly Taylor; Daniel Erwin

9:33 am
Reliability of Laxity Acquisitions During Navigated Total Knee Arthroplasty - Comparison of Two Techniques
Laurent Angibaud; Wen Fan; Philippe Dubard; Matthew Rueff; Herman Prieto; Hari Parvataneni

9:36 am - Q & A – discussion

Auditoium A - Kiosk 2 (E-Posters)

9:30 am
Determination of Tibial Implant Stability in Reference to Complete Implant Loosening
Mareike Schonhoff; Sebastian Jaeger; Andre Lunz; Tobias Renkawitz; Philippe Kretzer

9:33 am - Q & A - discussion
9:36 am
Mismatched Tibial and Femoral Components: Is It a Viable Option in Total Knee Replacement?
Joel Weisenburger; Curtis Hartman; Beau Konigsberg; Beau Kildow; Kevin Garvin; Hani Haider

9:39 am
Evaluation of the Course of Asymptomatic Pulmonary Thromboembolism After Total Knee Arthroplasty
Atsushi Sato; Takayuki Koya; Masataka Ota; Jun Oike; Kanako Iizukashi; Takayuki Okumo; Saki Yagura; Naoki Okuma; Fumiyoshi Kawashima; Koji Kanzaki

9:42 am
Bone Loss Following Revision of Cemented Stems- Dependent on Technique ?
Fred Cushner; Kaitlin Carroll; Jeff Yergler; James Ballard; Kevin Gemmell; Peter Schiller

9:45 am -Q & A – discussion

Auditoium A- Kiosk 3 (E-Posters)

9:27 am
Influence of FeCl3 and H2O2 in Corrosion Testing of Modular Taper Connections in Total Hip Arthroplasty: An in Vitro Study
Therese Bormann; Nebel, Laura; Ulrike Mueller; Phuong Thao Mai; Jens Gibmeier; Tobias Renkawitz; Philippe Kretzer

9:30 am
Nonischemic Cardiomyopathy Associated With Elevated Serum Cobalt and Accelerated Wear of a Metal-on-Metal Hip Resurfacing
Tahsin Rahman; Deborah Hall; Brian Darrith; Songyun Liu; Joshua Jacobs; Robin Pourzal; Craig Silverton

9:33 am -Q & A - discussion

9:36 am
Successful Long-Term Bone Ingrowth and Minimal Polyethylene Wear of Bilateral MOP THA in a Lowland Gorilla Compared to Human Postmortem Retrievals
Deborah Hall; Thomas M. Turner; Stephanie McCarthy; Jennifer Wright; Robert Urban; Robin Pourzal

9:39 am
Explant Analysis for Implants Suspected to Cause Revision Surgery
Michael Morlock; D.C. Wirtz; Enrique Gomez-Barrena; Alister Hart; Rainer Bader; Matthias Woiczinski; Philippe Kretzer

9:42 am -Q & A – discussion

Auditoium B - Kiosk 4 (E-Posters)

9:27 am
Biologic Response to Metals: the FDA Experience
Stephen Weber

9:30 am
Determining Stress Relaxation of Trabecular Bone to Simulate Realistic Press-Fit Conditions of Cementless Implants
Thomas Gersie; Thom Bitter; David Wolfson; Robert Freeman; Nico Verdonschot; Dennis Janssen

9:33 am - Q & A - discussion

9:36 am
Quantification of Trunnion Damage in a Series of Intact Total Hip Arthroplasty Femoral Stems Previously Identified to Be at Risk of Catastrophic Failure
Ryan Willing; Olawale Sogbein; Mathew G Teeter; Steven MacDonald; Tea-Lyn Kok; Brent Lanting

Auditoium B - Kiosk 5 (E-Posters)

Oakley; Thomas Christensen; Thomas Bieganowski; Jerry Arraut; Ittai Shichman; Matthew Hepinstall

9:27 am
Learning Curve of Robot Assisted Total Knee Arthroplasty and Its Effects on Implant Position and Limb Alignment
Joong Il Kim; Hojung Jung; JongHwa Lee

9:30 am
Validating Accuracy of an Imageless Computer-Assisted Navigation System for Total Knee Arthroplasty
Sheila Wang; James Howard

9:33 am - Q & A - discussion

9:36 am
The Change in Fixed Flexion Deformity During Robotic-Arm Assisted Unicompartmental Knee Arthroplasty
Ahmed Magan; Alastair Chambers; Babar Kayani; Vishal Rajput; Fares Haddad; Dia Giebaly

9:39 am
Deviation From Native Knee Anatomy After Total Knee Arthroplasty Depends on the Technique of Coronal Alignment Used. Analysis by a Navigation System.
Jean-Yves Jenny; Florent Baldairon

9:42 am
Advanced Active Robotic Total Knee Arthroplasty: A Learning Curve of Surgical Time and Alignment Accuracy
Suk-Ho Baek; Yong-Beom Park; Han-Jun Lee; Seong Hwan Kim; Kyu-Hwang Kim

9:45 am - Q & A - discussion

9:48 am
Balancing the Knee Through Robotic Arm Assisted Component Positioning Avoids Soft Tissue Releases in Total Knee Arthroplasty for Varus Pattern Osteoarthritis
Sabir Ismaily; Philip Noble; Jonathan Peterson; Lauren Pupa; Kevin Tran; Adam Freedhand

9:51 am
Robot-Assisted Total Knee Arthroplasty in Patients With Hemophilic Arthropathy
Kang-Il Kim; Jung-Kwon Bae

9:54 am - Q & A – discussion

Auditoium B - Kiosk 6 (E-Posters)

9:30 am
Accuracy of Local Strains Predicted by QCT-Based Finite Element Models Within Osteoarthritic Humeral Heads
Louis Ferreira; Jonathan Kusins; Nikolas Knowles; Melanie Columbus; Enrico Dall'Ara; George Athwal

9:33 am - Q & A - discussion

9:36 am
Effect of Congestive Heart Failure on Postoperative Outcomes of Primary Shoulder Arthroplasty Patients
David Mai; Elver Ho; Ryan Kong; Alex Jung; Kurt Moskovitz; Faisal Elali; Benjamin Krasnyanskiy; Adam Wolfert; Danielle Casagrande

9:39 am
Impingement in the Reverse Shoulder During Activities of Daily Living: The Effect of Humeral Neck-Shaft Angle on Glenosphere Lateralization and Size.
Michele Pressacco; Andrea Fattori; Andreas Kontaxis; amirhossein jahandar; Gabriele Vidoni; Alessandro Castagna; Kevin J Setter

9:42 am
Rotator Cuff Muscle Excursion During Abduction After Reverse Total Shoulder Arthroplasty (RTSA)
Farid Amirouche; Eric Hu; Martine Dolan

9:45 am
Evaluating the Effect of Anatomical Loading Scenarios on the Fixation Evaluation of Anatomical Shoulder Glenoid Implants
David Cunningham; Cole Fleet; Devin Ferguson; George Athwal; James Johnson

9:48 am - Q & A – discussion

Friday September 2nd

Auditorium A

11:00 am - 12:00 pm

ISTA Lifetime Achievement Award: Dr. William H. Harris, MD

Moderators: Hani Haider, Kevin Garvin, Peter Walker

12:15 pm - 1:15 pm

Industry luncheon - Smith & Nephew: JOURNEY™ II ROX: The Evidence Based Knee

(not CME accredited)

1:15 pm - 2:15 pm
Scientific tribute session to Dr. Harris and his lifetime achievements
Moderators: Kevin Garvin, Peter Walker

1:15 pm
Invited Talk: Intraoperative Imaging vs Robotics as the future for THA
Robert Barrack

1:23 pm - Q & A - discussion

1:25 pm
Invited Talk: Hip Replacement Bearings: Problem Solved
William Maloney

1:33 pm - Q & A - discussion

1:35 pm
Invited Talk: The uncemented paradox - current evidence for THA fixation
Henrik Malchau

1:43 pm - Q & A - discussion

1:45 pm
Invited Talk : Clinical Introduction of a Chemically Crosslinked UHMWPE
Orhun Muratoglu; Ebru Oral; Brinda Badwe; Rachel Connolly; Keith Wannomae; Mehmet Asik; Cecilia Nepple

1:53 pm - Q & A - discussion

1:55 pm
Invited Talk: Bill Harris' Unrecognized Contribution to Knee Arthroplasty
Thomas Schmalzried

2:03 pm - Q & A - discussion

Auditorium B

12:00 pm - 1:00 pm

Industry luncheon - AMTI: VIVO - A World of Joint Implant Testing and Research

(not CME accredited)

1:00 pm - 3:05 pm
Implant testing methods & standards mini-symposium
Moderators: Hani Haider, Louise M. Jennings

1:00 pm
Invited Talk: Influence of Positioning on the Biomechanics of Metal-on-Polyethylene Hip Replacements
Louise M. Jennings; Raelene Cowie; Susan Partridge; John Fisher; Mazen Al-Hajjar
1:08 pm -Q & A - discussion

1:11 pm
Miniaturised Instrumentation for the Detection of Impingement Events in Total Hip Replacements
Robert Kay; Matthew Shuttleworth; Oliver Vickers; Tim Board; Graham Isaac; Peter Culmer; Sophie Williams

1:16 pm
The Impact of Patient Specific Alignment on Initial Fixation of Cementless Tibial Implants
Luke Aram; Eric Peckenpaugh; Chase Maag

1:21 pm
Assessment of Cup Orientation During Gait: Implications for Preclinical Hip Replacement Testing
Lee Etchels; Ksenija Vasiljeva; Swati Chopra; Sarah Kingsbury; Philip Conaghan; Lin Wang; Jonathan Thompson; Graham Isaac; Sophie Williams; Ruth Wilcox; Alison Jones

1:26 pm - Q & A - discussion

1:29 pm
Development of Multi-Bundle Virtual Ligaments to Simulate Knee Mechanics After Total Knee Arthroplasty
Ryan Willing; Samira Vakili; Brent Lanting; Alan Getgood

1:34 pm
Evaluating Spinal Implant Fixation Under Physiologically Derived Multi-Axial Loading Waveforms Using an AMTI VIVO Joint Motion Simulator
Martine McGregor; Stewart McLachlin

Auditorium C

12:00 pm - 12:30 pm
Artificial Intelligence (technical)
Moderators: Morteza Meftah, Bryan Kirking

12:00 pm
Investigating the Capability of Machine Learning on Detecting and Classifying Failure in Piezoresistive Bone Cement Using Impedance Measurements
Hamid Ghaednia; Lily Keiderling; Jessica Rosendorf; Crystal E. Owens; A. John Hart; Joseph Schwab; Tyler N Tallman

12:05 pm
A Novel Autosegmentation Tool for Orthopaedic Surgery Planning
Gokce Yildirim; Eric Bogner; Dimitrios Georgopalis; Rachel Alexander

12:10 pm
Assessing Concordance in Post-Op Knee Implant Position Analysis Between Automated Image Analysis Algorithm and Human Radiologists
Arman Motesharei; Kevin de Souza; Benjamin Harder; Alexandre Moreau-Gaudry; Regis Pailhe

12:15 pm - Q & A - discussion
12:18 pm
Markerless Motion Tracking via Deep Learning Improves Gait Analysis of Rats in a Periprosthetic Joint Infection Model
Ebru Oral; Alireza Borjali; Orhun Muratoglu

12:23 pm
AI Produced Hip Stem Design Improves Predicted Performance
Bryan Kirking

12:28 pm - Q & A - discussion

12:30 pm - 1:30 pm

Industry luncheon - DePuy Synthes: The Innovating to Keep People Moving

(not CME accredited)

1:30 pm - 3:00 pm
Innovative materials, devices, measurement & surgical techniques
Moderators: Scott Banks, Hiromasa Miura

Auditorium A

2:05 pm
Open discussion with emphasis on audience participation & commentary

2:15 pm - 3:15 pm

Metal release, hip trunnions & solutions

Moderators: Markus Wimmer, Deborah Hall

2:15 pm
Quantitative Susceptibility Mapping of Brain Regions to Evaluate Metal Deposition in the Brain Following Long-Term Total Hip Arthroplasty and Hip Resurfacing Arthroplasty
Shahnaz Taleb; Gabriel Varela-Mattatall; Abbigail Allen; Chaithanya Nair; Roy Haast; Ali Khan; Vishal Kalia; Steven MacDonald; Ravi Menon; Brent Lanting; Matthew Teeter

2:20 pm
Correlation of the Chemical Signature of Periprosthetic Macrophages With the CoCrMo Head Wear Rate in Total Hip Replacements and Resurfacings
Songyun Liu; Deborah Hall; Stephanie McCarthy; Joshua Jacobs; Robin Pourzal

2:25 pm
Nickel Allergies Associated With Titanium-6 Augments in Total Knee Replacement
Gerhard Maale; Arianna Mixon

2:30 pm - Q & A - discussion

2:33 pm
Why Surface Topography of Hip Trunnions Matters Under Fretting Corrosion
Markus Wimmer; Alfons Fischer; Philippe Telouk

2:38 pm
Development of a New Impaction Device to Securely Connect Stem and Head Tapers.
J. Philippe Kretzer; Ulrike Mueller

2:43 pm
MOP Patients With High ALVAL Tissue Scores Had CoCrMo Femoral Heads Exhibiting a Chemical Attack of Preferential Corrosion Sites
Deborah Hall; Stephanie McCarthy; Jennifer Wright; Joshua Jacobs; Robin Pourzal

2:48 pm - Q & A - discussion

Auditorium B

1:39 pm
Is the ASTM Standard Sufficient to Test Total Knee Arthroplasty Anterior-Posterior Constraint?
Sander Holthof; Richard van Arkel; Andrew Amis; Michael Rock

1:44 pm -Q & A - discussion

1:47 pm
Preclinical Evaluation of an Active Osseointegrative Implant in a Bioreactor
Thomas Hall; Konstantinos Theodoridis; Nupur Kohli; Benjamin Lovat; Frederic Cegla; Richard van Arkel

1:52 pm
The Impact of Free Radical Stabilization Techniques on in-Vivo Subsurface Mechanical Properties in Highly Cross-Linked Polyethylene Acetabular Liners
Michael Decker; Jordan Kump; Mathew G Teeter; Robert Klassen; Brent Lanting

1:57 pm
Measurement of the Impaction Force and Broach Acceleration During Femur Preparation in Hip Arthroplasty
Katja Glismann; Tobias Konow; Marius Vorbeck; Frank Lampe; Matthias Vollmer; Gerd Huber; Michael Morlock

2:02 pm - Q & A - discussion

2:05 pm
Break (within session)

2:10 pm
Method and Device for Continuous Monitoring of Anatomic Glenoid Loosening Tests
Peder Solberg; John-Erik Bell; Douglas Van Citters

2:15 pm
Specification and Verification Practices for Synthetic Bone Models Used in Implant Testing
Amy Posch; Rusty Knowler; McKee Buxton; John James; Forrest Miller; Hani Haider

2:20 pm
Investigation of the Friction Behavior of Different Head Materials in Shoulder Arthroplasty
Maximilian Uhler; Stefan Schroeder; Mareike Schonhoff; J. Philippe Kretzer

2:25 pm - Q & A - discussion

Auditorium C

1:30 pm
Invited Talk: Does Posterior Cruciate Ligament Resection increase the tibiofemoral joint gap under the preservation of medial soft tissues?
Shinro Takai; Yasushi Oshima; Tokifumi Majima
1:38 pm - Q & A - discussion

1:41 pm
A Pillar Based, Macro-Scale, Osseointegrative Interface With Variable Biomechanics Based on Material Composition and Pillar Geometry
Greg Causey; Jamey Price; George J Picha; Matthew Pelletier; Tian Wang; William Walsh; Elizabeth Mathey; Dana Carpenter

1:46 pm
Physiological Axial Tibial Rotation of the Knee During a Weightbearing Flexion
Guoan Li

1:51 pm
Intra-Manufacturer Microstructural Variations of Additively Manufactured Implants and Its Implications on Corrosion Behavior
Mozart Neto; Nicholas Frisch; Deborah Hall; Brett R. Levine; Joshua Jacobs; Robin Pourzal

1:56 pm - Q & A - discussion

1:59 pm
Total and Partial Knee Replacement Implants That Maintain Native Load Transfer in the Tibia
Maxwell Munford; Jonathan Jeffers; Jennifer Stoddart; Alexander Liddle; Justin Cobb

2:04 pm
Ultrasonic Measurement of MCL Strain During Knee Flexion-Extension
Isabelle Kuder; Joe Lawton; Richard van Arkel
2:09 pm
Out-of-Roundness on Postmortem-Retrieved Head-Stem Taper Couples
Michael Godoy; Jonathan Gustafson; Brett Levine; Robin Pourzal; Hannah Lundberg

2:14 pm - Q & A - discussion

2:17 pm
Rotational Stability of Cementless Revision Hip Stems - a Study in Porcine Femurs
Julius Böttcher; Gerd Huber; Kay Sellenschloh; Michael Morlock

Friday September 2nd

Auditorium A

2:51 pm
Does TMZF Alloy Microstructure Play a Role in Corrosion Behavior and the Occurrence of Gross Trunnion Failure?
Mozart Neto; Jennifer Wright; Bianca Romay; Deborah Hall; W Mark Rainforth; Joshua Jacobs; Robin Pourzal

2:56 pm
Corrosion of Additively Manufactured Titanium Alloys in Simulated Inflammatory Solution: Ti-29Nb-21Zr Shows Improved Corrosion Resistance
Michael Kurtz; Jeremy Gilbert; Audrey Wessinger; Aldo Moreno-Reyes

3:01 pm - Q & A - discussion

Scan the QR Code below to vote for the presentations.

3:15 pm - 3:30 pm
Break

3:30 pm - 4:30 pm
Shark Tank: Finals

Moderators: Hani Haider, Catherine Van Der Straeten

3:30 pm
Introduction

Auditorium B

2:28 pm
Reverse Shoulder Arthroplasty: An in Vitro Comparative Evaluation of the Tightening Torques and the Compressive Forces on the Glenoid Component Using Different Designs of Central Compressive Screw
Nicola Del Negro; Thomas Ferro; Andrea Fattori; Michele Pressacco

2:33 pm
Assessment of 3D Positional Accuracy of a Surgical Tracker Based on the ASTM Standard: A Case Study
Sylvain Bernhardt; Alexander Eischeid; Hani Haider

2:38 pm
In Vitro Comparison of High and Low Viscosity Cement 'Lack of Bonding' at the Cement-Implant Interface in Total Knee Arthroplasty
Catherine Yuh; Robert Burnett; Alannah Rodrigues; Deborah Hall; Denis Nam; Robin Pourzal

2:43 pm - Q & A - discussion

2:46 pm
Assessing the Wear and Kinematics of Two Medial Ball-and-Socket Total Knee Replacements, MRK and SAIPH
Raelene Cowie; Jo Cullum; Simon Collins; Louise M. Jennings

2:51 pm
Advanced Wear Testing of a Novel Shoulder Prostheses System
Dong Wang; Andrew Amis; Hamidreza Alidousti

2:56 pm
System for High-Precision Biomechanical Testing of Motions of Multiple Small Bones in Close Anatomic Proximity
Greg Causey; Callan Gillespie; Robb Colbrunn; Tara F Nagle; Jamey Price; Kyle Grebb

3:01 pm - Q & A - discussion

3:00 pm - 3:15 pm
Break

Auditorium C

2:22 pm
Accurate Xray Measurement of Acetabular Cup Positioning Using Biplanar Xrays: A CT Validation of EOS Measurements
Stephen Murphy; William Murphy; Dan Sun; Patrick Lane; Jens Kowal

2:27 pm
Kinematic Outcomes of a Single Surgeon Implanting Multiple Posterior Cruciate Retaining (PCR) TKA Designs: Does the Implant Really Matter?
Lauren Smith; Michael LaCour; Garett Dessinger; Richard Komistek

2:32 pm
Smart Knee Prosthesis Enables Remote Patient Monitoring of Walking Speed Following Total Knee Arthroplasty: The Digital Health Revolution
Fred Cushner; Kaitlin Carroll; Jeff Yergler; Derek Yocum; Barbara Elashoff; Patrick Aubin; Peter Schiller; Jeff Gross; William Hunter

2:37 pm - Q & A - discussion

3:00 pm - 3:30 pm
Break

3:30 pm - 4:30 pm
Infection problems and innovative technology

Moderators: Veronica Giuliani, Jean-Yves Jenny

Auditorium A

Auditorium B

3:15 pm - 3:45 pm

Surgery simulators & training

Moderators: Shinro Takai, Maury Hull

3:15 pm
Collaborative Team Training in Virtual Reality Is Superior to Individual Learning for Performing Anterior Approach Total Hip Arthroplasty: A Randomised Controlled Trial
Thomas Edwards; Shubham Gupta; Daniella Soussi; Arjun Patel; Amogh Patil; Sikandar Khan; Alexander Liddle; Justin Cobb; Kartik Logishetty

3:20 pm
Immersive Virtual Reality for Novice Scrub Nurses Improves Efficiency, Confidence and Knowledge in Learning Skills for Anterior Approach Total Hip Arthroplasty: A Randomised Controlled Trial
Francesca Kablean-Howard; Thomas Edwards; Jonathan Edwards; Isabelle Poole; Kathryn King; Monil Karia; Julie Bliss; Alexander Liddle; Justin Cobb; Kartik Logishetty

3:25 pm
Immersive Virtual Reality Is Superior to Conventional Training for Novice Scrub Nurses Learning Intramedullary Tibial Nailing: A Randomised Controlled Trial
Isabelle Poole; Jonathan Edwards; Thomas Edwards; Francesca Kablean-Howard; Kathryn King; Julie Bliss; Alexander Liddle; Justin Cobb; Kartik Logishetty

3:30 pm -Q & A - discussion

3:33 pm
Immersive Virtual Reality Is Superior to Conventional Training for Novice Scrub Nurses Learning Anterior Approach Total Hip Arthroplasty: A Randomised Controlled Trial
Francesca Kablean-Howard; Thomas Edwards; Jonathan Edwards; Isabelle Poole; Monil Karia; Kathryn King; Julie Bliss; Alexander Liddle; Justin Cobb; Kartik Logishetty

3:38 pm
A Surgeon With No Experience in Performing Kinematic Alignment With Manual Instruments Has a Short Learning Curve and Comparable Accuracy and Results to Those of an Experienced Surgeon
Maury Hull; Alexander Nedopil; Anand Dhaliwal; Stephen Howell
3:43 pm - Q & A - discussion

Auditorium C

3:30 pm
Invited Talk: Avoidance of Intramedullary Violation in Computer-Assisted TKA Lowers the Incidence of Periprosthetic Joint Infection Compared With Conventional TKA
Jih-Yang Ko; Cheng-Fong Chen; Jeng-Wei Chen; Feng-Chih Kuo; Shu-Jui Kuo; Ka-Kit Siu

3:38 pm -Q & A - discussion

3:41 pm
Patient Specific Mega Spacers for Severe Bone Loss in Cases of Periprosthetic Joint Infection (PJI)
Mahmoud Hafez

3:46 pm
Absolute Neutrophil Count: A Novel Marker for Diagnosing Chronic Periprosthetic Joint Infection Following Total Hip and Knee Arthroplasty
Troy Bornes; Allina Nocon; Jonathan Yu; John Rezkalla; Mark Youssef; Alberto Carli; David J. Mayman; Peter Sculco

3:51 pm
Tourniquet Use in Total Knee Arthroplasty and the Risk of Infection: A Meta-Analysis of RCTs
Ahmed Magan; Olivia Dunseath; Panagiotis Armonis; Andreas Fontalis; Babar Kayani; Fares Haddad

3:56 pm - Q & A - discussion

3:59 pm
Cement Loaded With High-Dose Gentamicin and Clindamycin Reduces the Risk of Subsequent Infection After One-Stage Hip or Knee Arthroplasty Exchange for Peri-Prosthetic Infection: A Preliminary Study
Jean-Yves Jenny

4:04 pm
A Sterile Barrier Reduces the Risk of Contamination of the Instrument Table During Orthopaedic Procedures
Shuyang Han; Philip Noble; Robert Frangie; Hugh Jones; Jasmine Gonzalez

4:09 pm
Electrophoretic Deposition of Gentamicin and Chitosan Into Titanium Nanotubes to Prevent Periprosthetic Joint Infection
Greta Della Fara; Markus Wimmer; John Hamilton; Adrienn Markovics

4:14 pm - Q & A - discussion

Auditorium A | Auditorium B | Auditorium C

3:45 pm - 4:25 pm
Computer (FEA) solutions

Moderators: Clare K. Fitzpatrick, Chadd Clary

3:45 pm
Evaluating the Initial Stability in Cementless Patellar Implant During a Single-Leg Lunge
Xuzheng Han; Huizhou Yang; Alessandro Navacchia; Paul J. Rullkoetter; Chadd Clary

3:50 pm
Over 50% of Patients at Risk of Impingement After THA Surgery Are Not Captured With Neutral Bony Alignment
Brad Miles; Joshua Twiggs; Max Hardwick-Morris; Estelle Liu
3:55 pm
Q & A - discussion

3:59 pm
Finite Element Model of Custom Flange Acetabular Components Provides Biomechanical Insight Into the Risks of Hip Joint Center Lateralization
Haena-Young Lee; Friedrich Boettner; Jason Blevins; Jose Rodriguez; Joseph Lipman; Fernando Quevedo Gonzalez; Mathais Bostrum; Timothy Wright; Peter Sculco

4:04 pm
Quantifying the Pelvic Mobility Impact on the Functional Cup Orientation for THA
Mathieu Le Stum; Aziliz Guezou-Philippe; Arnaud Clave; Wistan Marchadour; Eric Stindel; Christian Lefevre; Dardenne Guillaume

4:09 pm - Q & A - discussion

4:17 pm
The Glove-Gown Interface: Methods to Inhibit a Potential Source of Surgical Contamination
Sabir Ismaily; Philip Noble; Lee Swiderek; Jasmine Gonzalez; Hugh Jones; Kenneth Mathis

4:22 pm
After Betadine Irrigation, Novel Technology BioPrax Treats MRSA Infections Remaining on Implant and Bone Cement: An in Vitro Study
Mary Canty; Jacob Opalinski; Bernadette Zumpano; Scott Nodzo

4:27 pm - Q & A - discussion

Friday September 2nd

Auditoium A - Kiosk 1 (E-Posters)

4:30 pm - 5:30 pm

Shoulder planning/ outcomes & general pain, drugs & complications

Moderators: Vani Sabesan, Tahsin Rahman

4:30 pm
Effects of Having Acquired Immunodeficiency Syndrome on Postoperative Outcomes of Primary Shoulder Arthroplasty Patients
David Mai; Elver Ho; Ryan Kong; Jigar Govind; Benjamin Krasnyanskiy; Faisal Elali; Adam Wolfert; Danielle Casagrande

4:33 pm
Grit and Preoperative Pain Ratings in Rotator Cuff Repair
Arjun Verma; Misty Suri; Sarena Matriano Lim; Collyn O'quin

4:36 pm
Comparative Study Between Glenoid Versus Humerus Lateralization Design in the Reverse Total Shoulder Arthroplasty : Which Lateralization Design Is Better?
Jun Seo Yang; Jong-Hun Ji

4:39 pm - Q & A - discussion

4:42 pm
Effect of Atrial Septal Defect on Postoperative Outcomes of Primary Shoulder Arthroplasty Patients
David Mai; Elver Ho; Ryan Kong; Alexandra Nerantzinis; David Kim; Adam Wolfert; Benjamin Krasnyanskiy; Faisal Elali; Danielle Casagrande

4:45 pm
Acromiohumeral Distance: Can Radiographic Factors Impact Outcomes After Reverse Shoulder Arthroplasty?
Vani Sabesan; Alessia Lavin; Feyikemi Ogunfuwa; Ajay Desai; Howard Routman

4:48 pm
Effect of Sickle Cell Anemia on Postoperative Outcomes of Primary Shoulder Arthroplasty Patients
David Mai; Elver Ho; Ryan Kong; Naomi Newen; Faisal Elali; Adam Wolfert; Benjamin Krasnyanskiy; Danielle Casagrande

4:51 pm - Q & A - discussion

4:54 pm
Predictive Factors in Sub-Acutely Achieving KOOS, JR MCID in Patients Undergoing Total Knee Arthroplasty: A Retrospective, Database Study
Tahsin Rahman; Logan Hansen; Mary Hennekes; Kevin Lindsay-Rivera; Erickson Andrews; Craig Silverton

Auditoium A - Kiosk 2 (E-Posters)

4:30 pm - 5:30 pm

Innovations in knee design, function & outcomes

Moderators: Mohamed Elfekky, Lauren Smith

4:30 pm
Early Outcomes of a Novel Cementless Unicompartmental Knee Arthroplasty System
Tarik Bayoumi; Lindsey Ruderman; Joost Burger; Edwin Su; Andrew Pearle

4:33 pm
Comparison of Survival Rates Between Total Knee Arthroplasty After a Previous Anterior Cruciate Ligament Reconstruction and Primary Total Knee Arthroplasty via Propensity Score Matching
Sun-Ho Lee; Jong-Keun Seon

4:36 pm
Return to Sports and Physical Activity After Unicompartmental Knee Arthroplasty: A Systematic Review and Meta-Analysis
Ahmed Magan; Ganan Radhakrishnan; Babar Kayani; Flaminia Ronca; Fares Haddad

4:39 pm - Q & A - discussion

4:42 pm
No Difference in Survival Rate Between Posterior Stabilized and Constrained Condylar Articulations in Revision Total Knee Arthroplasty : A Minimum 5-Year Follow-Up Analysis
Hong Yeol Yang; Dong Min Jung; Woo Kyoung Kwak; Jong-Keun Seon

4:45 pm
No Difference in Antero-Posterior Position Between Bi-Crusiate Substituting Total Knee Arthroplasty and Healthy Knee
Keinosuke Ryu; Takanori Iriuchishima; Takashi Suzuki; Hyunho Lee; Kazuyoshi Nakanishi

4:48 pm
Tibial Component Fixation of Cementless Total Knee Replacements Measured With RSA and MRI
Jordan Broberg; Matthew Koff; James Howard; Brent Lanting; Hollis Potter; Matthew Teeter

4:51 pm - Q & A - discussion

Auditoium A- Kiosk 3 (E-Posters)

4:30 pm - 5:30 pm

Advanced technology & solution tools

Moderators: J. Philippe Kretzer, Laurent Angibaud

4:30 pm
Assessing Knee Mechanics of Revision TKA Solutions and Continuum of Care
Lauren Ferris; Amit Mane; Richard Komistek; Paul Sade

4:33 pm
The Impact of Implant Design and Surgical Alignment on Posterior Stabilized Knee Kinematics
Luke Aram; Amit Mane; Richard Komistek

4:36 pm
Optimal Methodology for Creating 3D Implant CAD Models Using a Morphing Algorithm That Utilizes Either X-Ray or Fluoroscopic Images
Viet-Dung Nguyen; Michael LaCour; Jarrod Nachtrab; Richard Komistek

4:39 pm - Q & A - discussion

4:42 pm
Real-Time Prediction of THA Implant Impingement in Standing and Seated Positions for Multiple Implant Configurations
Clare Fitzpatrick; Casey Myers; Chadd Clary; Paul Rullkoetter

4:45 pm
The Sensor Enabled TKA: More Tech in the OR, No Disruption to Procedure
Kevin Gemmell; Kaitlin Carroll; Peter Schiller; Jeff Gross; William Hunter; Fred Cushner

4:48 pm
Recreating 3D Femoral Component Catalogs Using Novel Non-Rigid Registration Morphing Algorithms
Viet-Dung Nguyen; Michael LaCour; Garett Dessinger; Richard Komistek

4:51 pm - Q & A - discussion

4:54 pm
A Novel Method of Evaluating the Accuracy of Radiographic Landmark Localization
Yuan Chai; Mounir Boudali; John Farey; William Walter

Auditoium B - Kiosk 4 (E-Posters)

4:30 pm - 5:30 pm

Hip surgical techniques and approaches

Moderators: Stephen Murphy, Shantanu Patil

4:30 pm
US Versus European Experience With a Short Femoral Neck Retaining Stem for Primary THA
William Mihalko; Rick Gehlert; Nathan Jove; Nathan Jove

4:33 pm
Multi-Center Study to Assess Influence of Surgical Approach on Hip Functional Implant Placement
Benjamin Harder; Bob Marchand; Ajay Lall; Seth A. Jerabek; Geoffrey H Westrich; Benjamin Domb; Jonathan Vigdorchik

4:36 pm
Mobile Application-Based Pilot Project for Achieving 3D Balancing in Total Hip Arthroplasty Using Digital Inclinometer and Coaxial Stitch Technique, Di-CAST.
Shantanu Patil; Kalaivanan Kanniyan; Ashok Kumar P. S.; Pichai Suryanarayan; Vijay C Bose; Sawankumar Pawar

4:39 pm - Q & A - discussion

4:42 pm
Surgical Tips of Total Hip Arthroplasty After Failed Trans-Trochanteric Rotational Osteotomy for Osteonecrosis
Masamichi Onaga; Satoshi Nakasone; Takahiro Igei; Fumiyuki Washizaki; Kotaro Nishida

4:45 pm
The Incidence of Focal Osteonecrosis of the Femoral Head and Its Impact on Conversion Hip Arthroplasty After Screw Fixation of Femoral Neck Fractures: A Multicenter Study Based on Postoperative MRI
Eungsic Kim; Seung-Chan Kim

4:48 pm
Total Hip Arthroplasty After Seven Decades of a Girdlestone Situation Due to Tuberculous Coxitis in Childhood
Andrej Nowakowski; Michal Pelczar

4:51 pm - Q & A - discussion

Auditoium B - Kiosk 5 (E-Posters)

4:30 pm - 5:30 pm

Arthroplasty design, outcomes, economics & throughput

Moderators: Youn-Soo Park, Samih Tarabichi

4:30 pm
What Patient and Implant Factors Affect Trunnionosis Severity? an Implant Retrieval Analysis of 664 Femoral Stems
Mathew G Teeter; Anastasia Codirenzi; Brent Lanting

4:33 pm
Outcomes of Cementless Short-Stem Total Hip Arthroplasty in Elderly Patients
Richard Ho; Nathaniel Villanueva; Thomas Kane; Dylan Lawton; Cass Nakasone

4:36 pm
Does It Matter Which PRO You Collect to Measure Health-Related Quality of Life (HRQoL) in THA?
James Slover; Raj Karia; Jerry Arraut; Thomas Christensen; Christian Oakley; Thomas Bieganowski

4:39 pm -Q & A - discussion

4:42 pm
Contralateral Knee Osteoarthritis: Does It Influence Satisfaction After Total Knee Arthroplasty
Nathan Kim; Kylie Popovich; Andrew Takata; Brent Shimoda; Cass Nakasone; Samantha Andrews

4:45 pm
The Effect of Leg Length Discrepancy and Metal Ion Release Following Ceramic-on-Metal Total Hip Arthroplasty
Young-Ho Roh; Taehan Kang; Yong Hwan Choi; Chaemoon Lim; Kwang Woo Nam

4:48 pm
Time-Driven Activity-Based Costing to Determine Personnel Expenses in Total Joint Replacement Surgery in a Closed Urban Setting
Ira Kirschenbaum; Eva Kitlen; Melanie Anaya; Gabriela Batista; Gabriela De Queiroz Campos; Noshin Nuzhat; Natasha Richmond; Lindsey Ruda; Lisa Schulmeyer; Ariel R.C. Silverman; Ronald Huang

4:51 pm - Q & A - discussion

Auditoium B - Kiosk 6 (E-Posters)

4:30 pm - 5:30 pm

Knee outcomes

Moderators: Philip Noble, Stephen Lyman

4:30 pm
10 Years Outcome of Bilateral Simultaneous Total Knee Arthroplasty in Patients With Deformities and Comorbidities: Comparison Between Bilateral PSI, Unilateral PSI, and Unilateral Conventional Techni
Mahmoud Hafez; Ahmed Abdel Moghny; Emad Samuel Saweeres; Omar Makram

4:33 pm
Early Result of a Prospective, Randomized, Controlled Study on Radiologic and Functional Outcomes Between Patient-Specific Instrument and Conventional Total Knee Replacement Arthroplasty Instrument.
Seung Jin Yoo; Sungwook Choi; Taehyeong Lim

4:36 pm
Improvement of Global Body Posture Post Total Knee Arthroplasty as Knee-Hip-Spine Syndrome Is Affected by Contralateral Knee Condition
Yasushi Oshima; Nobuyoshi Watanabe; Toru Takeoka; Yoshiteru Kajikawa; Tadahiko Yotsumoto; Norishige Iizawa; Tokifumi Majima

4:39 pm - Q & A - discussion

4:42 pm
How Does Obesity Influence Patient Outcomes After Primary TKA?
Stephen Lyman; Fred Cushner; Michael Parks; Geoffrey H Westrich; Amethia Joseph; Ilan Fleisher; Gina Mosich; Yu-Fen Chiu

4:45 pm
Electrochemical Properties of Human Synovial Fluid and the Relationship to Patient Reported Outcomes
William Mihalko; Nico Mascia; Kirsten Miller; Lisa Phan; Marc Mihalko ; Marcus Ford; James Guyton; John Crockarell; James Harkess

4:48 pm
Perioperative Sleep Quality After Total Knee Arthroplasty.
Takeo Mammoto

4:51 pm - Q & A - discussion

Friday September 2nd

Auditoium A - Kiosk 1 (E-Posters)

4:57 pm
Prescription Drug Monitoring Reveals Varied Sources of Opioid Prescriptions Following TKA
William Mihalko; Karen Johnson; Karen Derefinko; Sarah Hand; Zoran Bursac

5:00 pm
Risk of Periprosthetic Joint Infection in Patients With Total Knee Arthroplasty Undergoing Colonoscopy: A Nationwide Propensity-Score-Matched Study
Kyun-Ho Shin; Seung-Beom Han

5:03 pm - Q & A - discussion

5:06 pm
The Pericapsular Nerve Group (PENG) Block Combined With Local Infiltration Analgesia (LIA) Provides Superior Short-Term Analgesia Compared to Non-Invasive Sham and LIA in Hip Arthroplasty Surgery:
Chris Wilson; Emma Jackman; Matthew Cehic; D-Yin Lin; Craig Morrison; Ruurd Jaarsma; Brigid Brown

5:09 pm
General Versus Regional Anesthesia in Shoulder Arthroplasty: A NSQIP Analysis Between 2008 and 2016
David Mai; Thy Vo; Elver Ho; Nayeem Uddin; Ryan Kong; Shreya Jain; Benjamin Sanits; Adam Wolfert; Faisal Elali; Benjamin Krasnyanskiy; Danielle Casagrande

5:12 pm
Quadriceps Muscle Volume Has No Effect on Patellofemoral Cartilage Lesions in Patients With End-Stage Knee Osteoarthritis
Seung Hoon Lee; Jung-Ro Yoon; Kyu Bok Kang; Jung Taek Im; Phil-Sun Park

5:15 pm - Q & A - discussion

5:18 pm
A Dose Dependent Relationship Between Intraoperatively Administered Opioids and Postoperative Opioid Refill Requests After Total Joint Arthroplasty
Tahsin Rahman; Logan Hansen; Nicholas Blackmond; Mary Hennekes; Craig Silverton

5:21 pm
Clinical and Radiological Mid-Term Results of Stemless Shoulder Arthroplasty
Sun-Ho Lee; Myung-Sun Kim; Woo-Jong Kim; Jun-Hyeok Lim

5:24 pm
The Association of Benign Prostatic Hyperplasia on Postoperative Complications and Periprosthetic Joint Infections Following Total Shoulder Arthroplasty
Ariel Rodriguez; Aaron Lam; Adam Gordon; Andrew Horn; Mitchell Ng; Ramin Sadeghpour; Jack Choeuka

5:27 pm - Q & A - discussion

Auditoium A - Kiosk 2 (E-Posters)

4:54 pm
A Comparison of Early Failures and Patient Reported Outcomes Between Press-Fit and Cemented TKA
Makoa Mau; Cass Nakasone; Samantha Andrews; Kyle Obana; Brent Shimoda; Charissa Tan

4:57 pm
Evaluation of Range of Motion During Daily Activities Through Knee-Worn Wearable Sensor System After TKA Surgery
Ricardo Antunes; Paul Jacob; Robert Marchand; T. Elaine Justice, MSN, RN; Kelly Taylor; Andrew Meyer; Emily Hampp; Matthias Verstraete

5:00 pm
New BCR Knee Arthroplasty Design
Mohamed Elfekky; Samih Tarabichi; Diego Zamagni

5:03 pm - Q & A - discussion

5:06 pm
In Vivo Knee Kinematics: How Important Is ACL Retention in Restoring Native Knee Kinematics?
Lauren Smith; Michael LaCour; Garett Dessinger; Richard Komistek

5:09 pm
Biomechanical Markers of the Knee Kinesiography Exam: Literature Review on Their Interest in the Management of Knee Osteoarthritis From Its Onset to Its Post-Surgical Management
Alex Fuentes; Laurène Lenoir; Alix Cagnin; Pierre Ranger; Patrick Lavigne; David Baillargeon; Guy Grimard; Neila Mezghani; Nicola Hagemeister

5:12 pm
3D Printed Clinical Techniques for Repair of Tibial Segmental Defects
Jay Garza; Philip Noble; Savannah Baimbridge; David McClendon; Jacob Su

5:15 pm
A Pilot Study on Preferences From Surgeon to Deal With an Innovative Personalized and Connected Knee Prosthesis
Mathieu Le Stum; Myriam Le Goff-Pronost; Eric Stindel

5:18 pm - Q & A - discussion

Auditoium A- Kiosk 3 (E-Posters)

4:57 pm
Similar Radiological Results With Accelerometer-Based Navigation Versus Conventional Technique in Total Knee Arthroplasty
Ing How Moo; Raghuraman Raghavan

5:00 pm
Design Thinking for Arthroplasty Advancement
David Pienkowski

5:03 pm - Q & A - discussion

5:06 pm
Exploring the Utility of Bioimpedance Analysis in Total Joint Arthroplasty
Michael Marinier; Jacob Elkins; Ayobami Ogunsola; David DeMik

5:09 pm
Effect of Positive and Negative Body Taper Junction on Corrosion of Modular Revision Stem: Biomechanical Study
ByungWook Nam; JungSung Kim; TaeJin Shin; Choongsoo Shin; Sang-Min Kim; Seung-Chan Kim

5:12 pm
Development of Patient-Specific Metaphyseal Stabilized Augment and Design Automation System
YoungWoong Jang; Junkyu Park; Jong-Min Kim; Yong In; Jae Ang Sim; SeongJin Kim; AhReum Han; JungSung Kim

5:15 pm - Q & A - discussion

5:18 pm
Pelvic Rotation Correction on Anteroposterior Pelvic Radiographs
Emily McIntosh; Jeff Muir; John Vincent; Joseph Schipper

5:21 pm
Robotic-Assisted Medial Unicompartmental Knee Arthroplasty With a Ligament-Guided Technique Restores Pre-Arthritic Coronal Limb Alignment
Tarik Bayoumi; Joost Burger; Lindsey Ruderman; Joseph Nguyen; Hendrik Zuiderbaan; Andrew Pearle

5:24 pm
Body Composition Changes Following Total Joint Arthroplasty as Determined by Bioimpedance Analysis
Michael Marinier; Jacob Elkins; David DeMik

5:27 pm - Q & A - discussion

Friday September 2nd

Auditoium B - Kiosk 4 (E-Posters)

4:54 pm
Modified Winged Charnley Retractor for the Use in Total Hip Arthroplasty With Direct Anterior Approach
Andrej Nowakowski; Alexander Vacariu-Seelig

4:57 pm
Utility of the Femoral Elevator System for Direct Anterior Approach in Total Hip Arthroplasty
Takahiro Igei; Satoshi Nakasone; Masamichi Onaga; Fumiyuki Washizaki; Masato Ishihara; Kotaro Nishida

5:00 pm
New Cup Targeting Technology in Anterior Approach THA: Preliminary Results
Ian Chun; Ashley Shirriff; James DeJesus IV; Dylan Lawton; Samantha Andrews; Cass Nakasone

5:03 pm - Q & A - discussion

5:06 pm
Usefulness of Intraoperative C-Arm Image Intensifier in Reducing Errors of Acetabular Component During Primary Total Hip Arthroplasty: An Application of Widmers Method
Seungbae Oh; Joo-Hyoun Song

5:09 pm
Optimised Subtrochanteric Canal Fill Ratio Prevents Subsidence of Cementless Stem in Femoral Neck Fracture in Elderly
Saradej Khuangsirikul; Yuttana Nilanont; Danai Heebthamai; Thanainit Chotanaphuti

5:12 pm
Motion Tracking Study of Surgical Impaction During THA
Adam Reynolds; Ruben Doyle; Oliver Boughton; Justin Cobb; Jonathan Jeffers; Sarah K Muirhead-Allwood

5:15 pm - Q & A - discussion

5:18 pm
The Influence of Digital Radiography on Improving Component Placement During Total Hip Arthroplasty
Evan Nigh; Caleb Durst; Sean Rajaee; Guy Paiement; Brad Penenberg; Andrew I Spitzer; Kevin Rezzadeh

5:21 pm
Hip Cup Impaction Force. What Makes the Difference?
Therese Bormann; Sebastian Jaeger; Mareike Schonhoff; Tobias Renkawitz; Philippe Kretzer

5:24 pm - Q & A - discussion

Auditoium B - Kiosk 5 (E-Posters)

4:54 pm
Assessing Patient Preferences for Technology-Assisted Versus Traditional Total Knee Arthroplasty Using a Validated Online Survey Marketplace: Before and After Patient Education
James Feng; Tanner Hafen; Phillip Vartanyan; Drew Moore; Robert Runner; Mark Karadsheh

4:57 pm
Routine Collection of Patient Reported Outcome Scores in Hip/ Knee Replacement Patients Using an EMR Integrated App for a Contactless Experience
James Slover; Raj Karia

5:00 pm
The Effects of Obesity on Hip Arthroscopy Outcomes
Arjun Verma; Misty Suri; Brian Godshaw; Mohammed Asad Khalid

5:03 pm - Q & A - discussion

5:06 pm
Time for Return to Sport Following Hip Resurfacing: A Meta-Analysis
Ahmed Magan; Babar Kayani; Ganan Radhakrishnan; Flaminia Ronca; Fares Haddad; Warran Wignadasan

5:09 pm
Same Complication Rate After Day-Case Procedure or Fast-Track Procedure After Total Hip and Knee Arthroplasty. a Prospective, Propensity Score-Matched Case-Control Study
Jean-Yves Jenny; Vincent Gisonni

5:12 pm
Changes in Neuraxial Anesthesia Protocols Lead to Improved Efficiency of Same Day Discharge Total Knee Arthroplasty in an Ambulatory Surgery Center
William Mihalko; Tyler Calkins; Clayton Wing; Zachary Diltz; Patrick Toy

5:15 pm - Q & A - discussion

Auditoium B - Kiosk 6 (E-Posters)

4:54 pm
Validation of a Patient Outcome Prediction Tool Relative to Surgeon Predictions of Patient Outcome in Total Knee Arthroplasty
Joshua Twiggs; Ishaan Jagota; Justin Roe; David Parker; Brett Fritsch; David Liu; Brad Miles; Max Hardwick-Morris

4:57 pm
A Comparison of Long-Term Outcomes of Computer-Navigated and Conventional Total Knee Arthroplasty a Meta-Analysis of Randomized Controlled Trials
SeungJoon Rhee

5:00 pm
Long-Term Report of Complications After Unicompartmental Knee Arthroplasty (UKA) in Asian Patients
Jun Seo Yang; Dong Whan Suh; Kwanghyun Cho

5:03 pm - Q & A - discussion

Saturday September 3rd

Auditorium A

7:00 am - 8:00 am
Breakfast/Expo Hall

8:00 am - 8:45 am
Artificial Intelligence & machine learning

Moderators: Ebru Oral, Mathew G Teeter

8:00 am
Optimization of Implant Positioning Towards Reconstructing the Premorbid State in Robotic-Arm Assisted Total Knee Arthroplasty
Periklis Tzanetis; Kevin de Souza; Rene' Fluit; Seonaid Robertson; Bart Koopman; Nico Verdonschot

8:05 am
Novel Technique for the Identification of Hip Implants Using Artificial Intelligence
Brandt Buckner; Neil Antonson; Beau Kildow; Beau Konigsberg; Curtis Hartman; Hani Haider; Kevin Garvin

8:10 am
Deep Learning-Based Automatic Segmentation of the Shoulder: Importance of Using Glenohumeral Joint Specific Metrics
Erik Bedard; Joshua W Giles; Alexandra Branzan Albu

8:15 am - Q & A - discussion

8:18 am
Validation of a Machine Learning Technique for Single Plane Fluoroscopy
Jordan Broberg; Andrew Jensen; Scott Banks; Matthew Teeter

8:23 am
Machine Learning Model Based on Historical Free-Living Activity Data to Improve Identification of Gait Exceptions Following Arthroplasty
Dave Van Andel; Karl Surmacz; Alex Ribeiro-Castro; Mark Brincat; Roberta Redfern

8:28 am
Machine Learning Prediction and Optimization Improves Elective Orthopaedic Surgery Scheduling
Johnathan Lex; Jacob Mosseri; Aazad Abbas; Jay Toor; Cari Whyne; Elias Khalil; Bheeshma Ravi

Auditorium B

7:00 am - 8:00 am
Breakfast/Expo Hall

8:00 am - 10:00 am
Computer modelling & simulation mini-symposium

Moderators: Paul J. Rullkoetter, Sloan Kulper

8:00 am
3D Strain Analysis of Osteoarthritic Trabecular Bone Within the Humeral Head Subjected to Stepwise Compressive Loads
Jakub Targosinski; Jonathan Kusins; Nikolas Knowles; Louis Ferreira; Melanie Columbus; George Athwal

8:05 am
Validation of a Method for Deriving Finite Element Simulations From a Statistical Bone Model
Aren Beagley; Asees Kaur; Claire Pearce; Joshua W Giles

8:10 am
Automated 3D Preoperative Planning Can Assist Surgeons in Restoring Native Hip Joint Biomechanics
Thor Besier; Lilian Lim; Maximilian Pentecost; Alex Carleton; Ju Zhang; David Liu; Patrick Weinrauch

8:15 am - Q & A - discussion

8:18 am
A Novel Mesh-Free Method for Accurately Simulating the Crushing and Cracking Behavior of Trabecular Bone Tissue With a Wide Range of Clinically Relevant Bone Mineral Density Values
Sloan Kulper; Ren Xiaodan; Tsui Hin Lin; Dana Coombs; Michael Bushelow; Evan Fang; Ahmed Abbas Alvi; Erica Ueda; Christian Xinshuo Fang; Teng Zhang

8:23 am
Numerical Evaluation of the Implanted Stem Size - an Interaction of Implant Size, Position and Bone Morphology
Peter J Schlieker; Michael Morlock; Tobias Konow

8:28 am
Evaluation of Vascular Proximity to the Acetabulum in Severely Dysplastic Hips to Assess the Risk of Vascular Injury in Total Hip Arthroplasty
Yuki Maeda; Wataru Ando; Hidetoshi Hamada; Keisuke Uemura; Nobuhiko Sugano; Kazuma Takashima

8:33 am - Q & A - discussion

Auditorium C

7:00 am - 8:00 am
Breakfast/Expo Hall

8:00 am - 9:00 am
Pain sources, management & rehabilitation technologies

Moderators: Thanainit Chotanaphuti, Lafayette Lage

8:00 am
Extracorporeal Shockwave Technology (ESWT) for Orthopaedic Treatment
Jih-Yang Ko; Ching-Jen Wang

8:05 am
The Effect of Total Hip Arthroplasty on Low Back Pain
Masakazu Okamoto; Yoshinobu Uchihara; Kenichiro Saito; Yusuke Inagaki; Yasuhito Tanaka

8:10 am
Intraosseous Ketorolac and Morphine Injection Decreases Pain Compared to Intraosseous Morphine Alone in Primary Total Knee Arthroplasty
Kwan Park; Jason Laurita; Stephen Incavo; Timothy Brown; Bradley Lambert; Terry Clyburn

8:15 am - Q & A - discussion

8:18 am
Kinematics Comparisons of the Patella Alta With the Normal Patella After Total Knee Arthroplasty
Viet-Dung Nguyen; Michael LaCour; Lauren Smith; Richard Komistek

8:23 am
Retrospective Comparative Analysis of Opioid Issuance Trends for Total Joint Arthroplasty in 2014 and 2017
Ira Kirschenbaum; Chloe Zana; Lauren McAllister; Kylen Soriano; Morteza Meftah

8:28 am
Short-Term Functional Outcomes and Complications of Custom Patellofemoral Arthroplasty
Tarun Bhargava; Joshua Rogers; Brayden Strine; Jack Nolte; Rosey Zackula

Auditorium A

8:33 am
An Efficient Experimental Design for Determining Functional Relationships Between Surgeon-Controlled Variables and Risk of Revision
Matthew Hickey; Carolyn Anglin; Bassam Masri; Antony Hodgson

8:38 am - Q & A - discussion

8:45 am - 9:45 am
Wearables
Moderators: Michael Morlock, Joseph Deck

8:45 am
Invited Talk: Look Who's Talking - My Implant!
Fred Cushner

8:53 am -Q & A - discussion

8:56 am
Comparison of Stair Count and Speed Recovery in Patients Following Partial or Total Knee Arthroplasty
Dave Van Andel; Mike Berend; Roberta Redfern; Mike Anderson; Anna Ren; Robert E Neher; Jared Foran

9:01 am
Novel Use of an Accelerometer to Measure Load Asymmetry in Hip Arthroplasty Patients
Renee Ren; Jonathan Spaan; Edwin Su; Alexander Shafiro

9:06 am
Daily Characterization of Leg Position and Step Count in TKA Patients During an Episode of Care Using Remote Monitoring Technology
Richard Bolander; S. David Stulberg; Ralph Mobbs; Curt Wiedenhoefer

9:11 am - Q & A - discussion

9:14 am
Combined Subjective & Objective Health Related Quality of Life (SO. QOL) Score, and Usefulness in a Musculoskeletal Population for Pre and Post Intervention Assessment
Ralph Mobbs

9:19 am
Multivariate Time Series Clustering for Visualization of Telemeterized Implant Datasets
Stewart McLachlin; Martine McGregor; Adam Yu; Trevor Yu

Auditorium B

8:36 am
Validation of a Novel Computational Iliopsoas Impingement Detection Simulation for Surgical Planning
Max Hardwick-Morris; Joshua Twiggs; Brad Miles; Yuan Chai; Jitendra Balakumar; Rami Al-Dirini; Mark Taylor; William Walter

8:41 am
Real-Time Prediction of THA Contact Mechanics for Hip Planning Applications
Chadd Clary; Casey Myers; Clare Fitzpatrick; Paul Rullkoetter

8:46 am
Can Lipped Liners Be Oriented to Maximize Hip Range of Motion Before Impingement?
Alessandro Navacchia; Edward Davis

8:51 am - Q & A - discussion

8:54 am
Prediction of Postoperative Impairment With Simulation: Validation of a Patient Specific Planning Tool
Joshua Twiggs; Brad Miles; Andrew Shimmin; Justin Roe; David Liu; David Parker; Brett Fritsch

8:59 am
Development of a Computational Model to Predict Kinematics, Contact Mechanics and Wear of a Total Knee Replacement
Louise M. Jennings; Bethany Lowe; Abdellatif Abdelgaied; David Wolfson

9:04 am
A Machine Learning Assessment of the Predictive Power of FEA-Based Metrics for Estimating Bone Remodeling in a Novel Osseointegrated Device
Bryan Kirking; Nathaniel Pyle

9:09 am - Q & A - discussion

9:12 am
Assessing the Biomechanical Effect of Femoral Component Malrotation Following TKA Using a Novel Computational Model Including Ligament Wrapping
Liam Montgomery; Brent Lanting; Ryan Willing

9:17 am
The Influence of Plasticity Models on the Micromotion Predictions in Total Knee Arthroplasty
Dennis Janssen; Navid Soltanihafshejani; Thom Bitter; Nico Verdonschot

Auditorium C

8:33 am
Causes, Costs and Risk-Factors for Emergency Department Visits Following Primary Total Hip Arthroplasty
Ariel Rodriguez; Mitchell Ng; Aaron Lam; Keith Diamond; Andriy Kobryn; Nikhil Vasireddi; Nicolas Piuzzi; Martin Roche; Orry Erez; Che Hang Jason Wong; Michael Mont

8:38 am - Q & A - discussion

9:00 am - 10:00 am
Surface engineered & drug eluting implants
Moderators: Ryan Siskey, Therese Bormann

9:00 am
Invited Talk: Antibiotic-Loaded Ultrahigh Molecular Weight Polyethylene (UHMWPE)
Ebru Oral; Sashank Lekkala; Jaynie Criscione; Keith Wannomae; Cecilia Nepple; Amita Sekar; Orhun Muratoglu

9:08 am -Q & A - discussion

9:11 am
Stability of Ceramic Coatings on Retrieved Knee Prosthesis
Therese Bormann; Simeon Kraenzler; Daniel Kluess; Wolfram Mittelmeier; Sebastian Jaeger; Tobias Renkawitz; Philippe Kretzer

9:16 am
Antibacterial Infection and Immune-Evasive Coating for Orthopedic Implants
Woo Young Jang; Seung-Beom Han; JUNGU PARK; JI HYE Choi; Gi Won Choi; Taeyeong Kim; Joonsuk Lee; Sung-Jin Ahn

9:21 am
Scratch Hardness of CoCrMo Compared to an IBED TiN Coated Ti6Al4V Substrate
Anna Sullivan; Chris Weaber; Dermott McHugh

9:26 am - Q & A - discussion

9:29 am
Knee Simulator Wear Performance of CoCr and IBED TiN-Coated Femoral Components Against UHMWPE
Orhun Muratoglu; Brad Micheli; Keith Wannomae; Chris Weaber; Anna Sullivan

Saturday September 3rd

Auditorium A

9:24 am
Giving Your TKA a Voice- Early Experience With a Sensor-Enabled Implant
Kaitlin Carroll; Jeff Yergler; Derek Yocum; Barbara Elashoff; Patrick Aubin; William Hunter; Fred Cushner

9:29 am
Remote Evaluation of Post-Operative Outcomes Using Wearable Sensors Comparing Robotic-Assisted and Conventional Knee Arthroplasty
Thor Besier; Faseeh Zaidi; Scott Bolam; Ted Yeung; Jacob T Munro; Michael M Hanlon; Andrew Paul Monk

9:34 am - Q & A - discussion

9:45 am - 10:00 am
Break

10:00 am - 11:00 am
TKR kinematics

Moderators: Scott Banks, Joel Weisenburger

10:15 am
Invited Talk: Machine learning enables clinically practical radiographic assessment of joint kinematics.
Scott Banks
10:23 am - Q & A - discussion

10:26 am
Kinematic Biomechanical Markers After Total Knee Arthroplasty Are Associated With Patient Outcome Measures and Satisfaction Levels
Alex Fuentes; Gabriel Larose; Nicola Hagemeister; Ilona Turnes; Pierre Ranger

Auditorium B

9:22 am
Predicting Patient-Specific in Vivo Tibiofemoral Contact Stresses in TKAs
Seth Coomer; Bradley Meccia; Michael LaCour; Richard Komistek

9:27 am - Q & A - discussion

9:30 am
The Effect of Changes in Coronal TKA Alignment on Loading of Adjacent Joints
Daniel Huff; Chase Maag

9:35 am
Analyzing the Effect of Posterior Tibial Tilt in Medial UKA on Kinematics and Kinetics Using Mathematical Modeling
Bradley Meccia; Seth Coomer; Michael LaCour; Richard Komistek

9:40 am
Role of Midlevel Constraint in Reducing Midflexion Laxity After Additional Distal Femoral Resection in Posterior Stabilized TKA
Shady Elmasry; Brian Chalmers; Cynthia Kahlenberg; Peter Sculco; Timothy Wright; David J. Mayman; Geoffrey H Westrich; Michael Cross; Carl Imhauser

9:45 am - Q & A - discussion

10:00 am - 10:15 am
Break

10:15 am - 11:00 am
Joint registries

Moderators: Barbara Currier, Catherine Van Der Straeten

10:15 am
Invited Talk: Surprising Results From a National Randomized Controlled Trial Comparing Standard Physical Therapy With a Rehabilitation App After THA and TKA in Belgium
Catherine Van Der Straeten

10:23 am - Q & A - discussion

10:26 am
Design, Construction, and Early Results of a Formal Local Revision Hip Arthroplasty Registry
Chris Wilson; Emma Jackman; Ben Piotrowski

Auditorium C

9:34 am
Amorphous Diamond-Like Carbon (ADLC) for Total Joint Arthroplasty
Ryan Siskey; Alex Avendano; Kapil Raghuraman; John Vinciguerra

9:39 am
Bonding of Silicon Nitride Particles to Ti-6Al-4V via Aqueous PEKK Solutions to Improve Biological Response
Jackson Hendry; Tony Decarmine; Erin Jones; Douglas Hoxworth; James Porteus; Bryan McEntire; Sonny Bal; Ryan Bock

9:44 am - Q & A - discussion

9:45 am - 10:00 am
Break

10:00 am - 10:45 am
Patient satisfaction/ expectations

Moderators: Pat Campbell, Young-Ho Roh

10:00 am
Comparing Two Techniques for Establishing Intraoperative Tibial Component Rotation in Total Knee Arthroplasties: In Vivo Study
Samih Tarabichi; Mohamed Elkabbani

10:05 am
MyPROM - a New Smartphone App Utilizing Gamification to Acquire PROMs and Patient Activity
Michael Morlock; Carlos Marques; Arne Klingenberg; Fabian Jaeger; Franziska Fiedler; Frank Lampe; Gerd Huber

Auditorium A

10:31 am
Biomechanical Comparison of Medial Pivot and Posterior Stabilized Implants During Ramp and Stair Descent Following Total Knee Arthroplasty
Erik Kowalski; Danilo Catelli; Geoffrey F Dervin; Mario Lamontagne

10:36 am
Functional Gait After Inverse Kinematic Aligned (IKA) Total Knee Arthroplasty Resembles Healthy Controls - a Comparative, Blinded, Gait Analysis of 45 Subjects at 2 Years Postop
Philip Winnock De Grave; Tamaya Van Criekinge; Thomas Luyckx; Kurt Claeys

10:41 am - Q & A - discussion

10:44 am
Assessing Correlations Between Patient-Reported Outcomes and Knee Kinematics Following TKA Procedure
Michael LaCour; Milad Khasian; Douglas Dennis; Richard Komistek

10:49 am
Kinematic Comparison of Medial Pivot Total Knee Arthroplasty and Non-Symptomatic Controls
Landon Hamilton; Kevin Shelburne; Paul J. Rullkoetter; C. Lowry Barnes; Erin M. Mannen

10:54 am
Pitfalls to Avoid in Using the Joint Coordinate System of Grood & Suntay to Quantify Knee Kinematics
Maury Hull

10:59 am - Q & A - discussion

11:02 am
In-Vivo Kinematics of Over 1300 Total Subjects, Including Four Implant Types and Normal Knee Comparisons
Garett Dessinger; Michael LaCour; Lauren Smith; Richard Komistek

11:07 am
In Vivo Knee Kinematics: Are Bi-Cruciate Substituting TKAs More Likely to Achieve Optimal Kinematics?
Lauren Smith; Michael LaCour; Garett Dessinger; Richard Komistek

11:12 am - Q & A - discussion

Auditorium B

10:31 am
The Impact of Preoperative Joints Education Classes on Outcomes and Complications Following Total Knee Arthroplasty: A Retrospective, Database Study
Tahsin Rahman; Madison Mervis; Logan Hansen; Brian Darrith; Jonathan Shaw; Kevin Lindsay-Rivera; Erickson Andrews; Craig Silverton

10:36 am
Utilizing Tibial Stems in Primary Total Knee Arthroplasty; Analysis of Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR) Data.
Jess Osan; Christopher Jones; Benjamin Wall; Piers Yates; Ian Alexander Harris; Yi Peng

10:41 am - Q & A - discussion

10:44 am
Utilizing Augmented Tibial Fixation for Primary Total Knee Arthroplasty (TKA) in Obese Patients; Analysis of Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR) Data.
Jess Osan; Benjamin Wall; Ian Alexander Harris; Yi Peng; Piers Yates; Christopher Jones

10:49 am
Increased Early Mortality After Total Knee Arthroplasty Using Conventional Instrumentation, Compared to Technology-Assisted Surgery: An Analysis of Linked National Registry Data
David KIRWAN; Ian Harris

10:54 am - Q & A - discussion

11:00 am - 11:45 am

International & country specific arthroplasty

Moderators: Sung-Jae Lee, Guoan Li

11:15 am
Invited talk: Effect of Imrecoxib on Synovial Macrophage Polarization and Its Mechanism in Osteoarthritis
Shiqing Feng; Bin Zhang; Ping Hu; Peng Peng; Jiangang Cao

11:23 am - Q & A - discussion

Auditorium C

10:10 am
Endoscopic Iliopsoas Lengthening for Treatment of Recalcitrant Iliopsoas Tendinitis After Total Hip Arthroplasty
James Huddleston; John Bonano; Marc Safran; Christopher Jamero; Nicole Segovia

10:15 am - Q & A - discussion

10:18 am
What Factors Contribute to Reduced Amplitude in Intraoperative Motor Evoked Potential Monitoring in Patients Undergoing Primary Total Hip Arthroplasty?
Kenichiro Saito; Yoshinobu Uchihara; Masakazu Okamoto; Yusuke Inagaki; Yasuhito Tanaka

10:23 am
Time for Return to Sport Following Total Knee Arthroplasty: A Meta-Analysis
Ahmed Magan; Babar Kayani; Ganan Radhakrishnan; Flaminia Ronca; Fares Haddad

10:28 am
The Effects of Femoral Stem Misalignment and How Next Generation Implant Systems Can Help Improve Postoperative Outcomes
Andrew Jacobs; Michael LaCour; Thang Nguyen; Jarrod Nachtrab; Richard Komistek

10:33 am -Q & A - discussion

10:45 am - 11:15 am

Outpatient & Ambulatory Service Centers

Moderators: Kwan-Kyu Park, William Mihalko

10:45 am
Risk Stratification for Same Day Discharge: An Evaluation of Three Comorbidity Indices
Ryan Nguyen; Cass Nakasone; Samantha Andrews; Brian Buchner; Dylan Lawton

10:50 am
Patient Perceptions of Same Day Discharge Versus Overnight Stay After Total Joint Arthroplasty
Kwan Park; Daniel O'Brien; Bradley Lambert; Stephen Incavo; Timothy Brown; Terry Clyburn

10:55 am - Q & A - discussion

Auditorium A

11:00 am - 11:45 am

Joint replacement function/instability

Moderators: Orhun Muratoglu, Petra Heesterbeek

11:15 am
Invited Talk: Construct Stability of Revision Total Knee Arthroplasty With Tibial Cones: Preliminary Results of a Radiostereometric Analysis (RSA)
Petra Heesterbeek; Gijs Van Hellemondt; Maartje Belt

11:23 am - Q & A - discussion

11:26 am
A Non-Contact Method for Measuring Separation During Subluxation Events in Total Hip Replacements
Oliver Vickers; Matthew Shuttleworth; Graham Isaac; Peter Culmer; Tim Board; Robert Kay; Sophie Williams

11:31 am
Single-Use Reamer Technique Can Influence the Hip Center of Rotation? a CT Study
Veronica Giuliani; raffaele iorio; Attilio Speranza; Carlo Massafra; Leonardo Previ; Giulia Rescigno; Edoardo Viglietta; Andrea Ferretti

11:36 am - Q & A - discussion

11:38 am
Functional Knee Phenotypes of OA Patients Undergoing Total Knee Arthroplasty Are Significantly More Varus or Valgus Than in a Non-OA Control Group
Jean-Yves Jenny; Florent Baldairon; Michael Hirschmann

11:43 am
Functional Femoral Anteversion: Axial Rotation of the Femur and Its Implications for Stem Version Targets in THA
Max Hardwick-Morris; Joshua Twiggs; Kunaal Kacker; Brad Miles; Jitendra Balakumar

11:48 am Q & A - discussion

Auditorium B

11:26 am
Validation and Utility of the Japanese JKOOS+: A Culturally Relevant Knee Outcome Measure
Stephen Lyman; Go Omori; Takahisa Sasho; Tomoyuki Saito; Matsutaka Deie; Norimasa Nakamura; Wataru Ando; Hiroshi Ikeda; Naoshi Fukui

11:31 am
Worldwide in-Vivo Weight-Bearing Kinematics for Three BCS TKA Cohorts Compared to the Normal Knee
Garett Dessinger; Lauren Smith; Michael LaCour; Richard Komistek

11:36 am
Spanish Translation of the HOOS, JR. for Primary Total Hip Arthroplasty
Allison Diaz; Stephen Lyman; Amethia Joseph; Alejandro Gonzalez Della Valle; Jose Rodriguez; Bella Elogoodin
11:41 am

Auditorium C

10:58 am
OARA Score, ASA and CCI Are Poor at Predicting Failure in Outpatient Total Joint Arthroplasty
Krystin Wong; Scott Nishioka; Dylan Lawton; Tyler Thorne; Samantha Andrews; Cass Nakasone

11:03 am
Same Day Discharge From an Ambulatory Surgery Center After Total Joint Arthroplasty in Patients With Obesity Is Safe
William Mihalko; Zachary Diltz; Marcus Ford; Zachary Mosher; Andrew Gailey

11:08 am - Q & A - discussion

Notes

Speaker Conflict of Interest

All faculty members, members of the program planning committee and meeting planning staff are required to disclose any conoflict of interests. If their name is not listed below, they have no conflicts to disclose.

First Name	Last Name	Type of conflict	Companies
Laurent	Angibaud	Employee	Exactech
		Stock	Exactech
Ricardo	Antunes	Employee	Stryker
Luke	Aram	Employee	DePuy Synthes
		Stocks	DePuy Synthes
Daniele	Ascani	Employee	Medacta International SA
David	Axford	Other	I am a Mitacs Accelerate Intern. This internship position is partially funded by an industry partner. My industry partner is Mathys Medical
Scott	Banks	Paid Consultant	DJO Surgical, Smith & Nephew, OnPoint Knee
		Research Support	Exactech, Lima
		Royalties	DJO Surgical, Stryker
		BOD Member	ISTA Board of DIrectors
William	Bargar	Employee	Think Surgical, Inc.
Robert	Barrack	Research Support	Biomet EOS Imaging Medical Compression Systems Smith & Nephew Stryker Wright Medical Technology, Inc.
		Royalties	Stryker
		Financial Royalties	The McGraw-Hill Companies Inc Wolters Kluwer Health - Lippincott Williams & Wilkins
		Publications BOD	Journal of Bone and Joint Surgery - American Journal of Bone and Joint Surgery - British
		BOD Member	Hip Society Knee Society
Massimiliano	Bernardoni	Employee	Medacta International
Sylvain	Bernhardt	Employee	I'm a full time employee at Atracsys LLC, the manufacturer of the system used in this paper.
Thor	Besier	Paid Consultant	VICON-IMeasureU
		Stock	FormusLabs
Tarun	Bhargava	Paid Presentations	DJO Surgical Irresept
		Paid Consultant	DJO Surgical OrthAlign
		Stock	OrthAlign
		Royalties	Innomed DJO Surgical
		BOD Member	Mid Central States Orthopaedics society
John	Blaha	Paid Consultant	MicroPort Orthopaedics
		Stocks	EVA15, LLC (Sole Owner)
		Royalties	MicroPort Orthopaedics
		Publications BOD	Reviewr or Editorial consultant: JBJS, JBJS: Reviews, Open Access, Case Connector, BJJ, JOA, THE KNEE, Arthroplasty Today
		BOD Member	Michigan Orthopaedic Society (Board Member)
Ryan	Bock	Employee	SINTX Technologies
		Stocks	SINTX Technologies
Richard	Bolander	Employee	TracPatch
		Stocks	Stulberg: TracPatch Health
		Royalties	Stulberg: Innomed Stryker TracPatch Health Mobbs: Stryker Spine / ASpine ASIA
		Other	Share a ownership: Medtronic / J & J / Consensus Orthopedics / Healthscope Australia
Julius	Böttcher	Research Support	DePuy Synthes
Richard	Boyle	Paid by	Stryker, Corin , Ossis , Lima , Adler
		Stocks	yes
		BOD Member	Anzsa
William	Burton	Paid Consultant	Consulted for Ortho Haus, which is the entity attached to one of the submissions on which I am a co-author.
		Other	Co-founder of Seg AI LLC, which is the entity attached to one of my submissions for the "shark tank session"
Mary	Canty	Employee	Garwood Medical Devices
		Stock	Garwood Medical Devices
Kaitlin	Carroll	Employee	Canary Medical
		Stocks	Canary Medical stock options
Greg	Causey	Paid Consultant	Applied Medical Technology, Inc.
Yuan	Chai	Paid Presentations	JJ Depuy
		Employee	Navbit Surgical
		Paid Consultant	Stryker, Depuy Synthes, MatOrtho
		Stocks	Intellijoint, Corin, 360, Navbit
		BOD Member	BJJ, AAHKS, Arthroplasty Society of Australia, Institute of Bone & Joint Research, Australia Institute of Musculoskeletal Research
Chadd	Clary	Employee	Ortho Haus, LLC

First Name	Last Name	Type of conflict	Companies
		Research Support	Depuy Synthes
William	Colyn	BOD Member	Belgian Knee Society
		Other	This study is part of Limburg Clinical Research Center supported by Hasselt University, Ziekenhuis Oost-Limburg and Jessa Hospital
J.J. Trey	Crisco	Royalties	Extremity Medical
		Publications BOD	J Orthopaedic Research
David	Cunningham	Research Support	A portion of my research is contracted by Stryker Corporation, formally Wright Medical Group.
Barbara	Currier	Other	DePuy, A Johnson & Johnson Company: Other financial or material support
Fred	Cushner	Paid Presentations	3M
		Employee	Canary Medical
		Paid Consultant	Acelity, Smith and Nephew
		Royalties	Orthalign, Smith and Nephew, Elsevier, Smith and Nephew, Thieme
		Royalties	
		Publications BOD	American Journal of Orthopedics, Knee, Corr, Orthopedics
Oliver	Dandridge	Research Support	Zimmer Biomet: provision of surgical instrumentation and implants. No financial support.
Michael	Decker	Paid Presentations	Aerobiotix
		Paid Consultant	Aerobiotix
		Research Support	Arthrex
Nicola	Del Negro	Employee	LimaCorporate spa
Parth	Desai	Other	Inventor of the Implant Identifier and iTemplating mobile applications
Thomas	Edwards	Research Support	Research Support Grant from DePuy Synthes
Mark	Ehrensberger	Research Support	Zimmer Biomet, Garwood Medical Devices
Mohamed	Elfekky	Paid Presentations	J&J, Microport and Zimmer-Biomet
		Paid Consultant	Samih Tarabishi consultant for Zimmer Biomet Mohamed Elfekky consultant for Microport
		Royalties	Samih Tarabishi royality with Zimmer Biomet
		BOD Member	Samih Tarabishi board member ISTA I CJR Middle East
Lee	Etchels	Other	Employed on a UKRI EPSRC research grant that was supported in part by DePuy Synthes.
Lauren	Ferris	Employee	DePuy Synthes
		Stocks	DePuy Synthes
Clare	Fitzpatrick	Employee	Ortho Haus, LLC
Pier	Francesco Indelli	Paid Consultant	Exactech
		Research Support	Zimmer
Alex	Fuentes	Employee	Emovi
		Stock	Emovi
Mathew	G Teeter	BOD Member	International Society for Technology in Arthroplasty, Canadian Orthopaedic Research Society, Canadian RSA Network
Kevin	Gemmell	Employee	Canary Medical
		Stock	Canary Medical
Thomas	Gersie	Research Support	DePuy Synthes
Katja	Glismann	Research Support	DePuy Synthes
Said	Gomaa	Employee	DePuy Synthes
Timothy	H Izant	Research Support	Stryker Orthopedics
Steven	Haas	Paid Presentations	Smith & Nephew
		Paid Consultant	Canary Medical Heraeus Orthalign
		Research Support	Smith & Nephew
		Royalties	Smith & Nephew
		BOD Member	Knee Society
Yukihiro	Habe	Employee	KYOCERA Corporation
Mahmoud	Hafez	Royalties	Royalties from the University of Leeds
		Publications BOD	Editorial Board Member of some orthopaedic journals
		BOD Member	International Federation of Inventors' Association
		Other	Board Member of the Scientific Board for ConforMIS
Hani	Haider	Consultant	HTC Services LLC, AMTI, Globus, Zimmer Biomet, Monogram
		Unpaid Consultants	Neat Surgical, Virtual Cardiovascular Solutions
		Stocks	Neat Surgical, Si-Bone, Smith & NePhew, HTC
		Research Support	Globus, Exponent, ChunLi (China), Double Medical (China), Orthopaedics Research Labs
		Publications BOD	Reviews Editor: IMechE Part H, Journal of Engineering in Medicine

First Name	Last Name	Type of conflict	Companies
		BOD Member	President - ISTA Chair, United States Technical Advisory Group to the ISO TC/150 Committee on Implants for surgery (ANSI/ASTM TAG to ISO/ TC 150) Chair: ASTM F04 Division II Committee (Orthopaedic Devices) Chair: ASTM F04.38 Committee (Computer Assisted Orthopaedic Surgical Systems)
		Other	Expert Witness for: Medacta, Wright Medical/Stryker
Byung	Hak Oh	BOD Member	Korean Orthopaedic Association
Landon	Hamilton	Other	Medtronic has supported this study financially through the External Research Program, and was not involved in the study design, collection, analysis, and interpretation of the data.
Benjamin	Harder	Employee	Stryker
Max	Hardwick-Morris	Employee	360 Med Care
John	Harp	Stocks	ORAQ Labs, LLC
Jackson	Hendry	Employee	SINTX Technologies Inc.
Heath	Henninger	Research Support	Depuy-Synthes, Maruho Medical, Stryker
Sander	Holthof	Other	Study funded by Depuy Synthes
Gerd	Huber	Paid Presentations	ulrich medical
		Unpaid Consultants	DePuy Synthes
James	Huddleston	Paid Consultant	DePuy
		Royalties	DePuy
		BOD Member	AAOS, AJRR, AAHKS, J Arthroplasty, Hip Society, Knee Society
Daniel	Huff	Employee	DePuy Synthes Joint Reconstruction
		Paid Consultant	DePuy Synthes Joint Reconstruction
		Stocks	DePuy Synthes Joint Reconstruction
		Research Support	DePuy Synthes Joint Reconstruction
Maury	Hull	Research Support	Medacta USA, Inc. and Orthopaedic Education and Research Foundation
		Publications BOD	Journal of Biomechanics
Richard	Illgen	Royalties	Stryker
		BOD Member	American Academy of Orthopaedic Surgery- American Joint Replacement Registry- Steering Committee, Member and Research Projects Sub-committee, Chair
Paul	J. Rullkoetter	DePuy Synthes, Inc.	
Peter	J. Schlieker	Research Support	DePuy Synthes
Andrew	Jacobs	Employee	DePuy Synthes
Joshua	Jacobs	Paid Presentations	Smith and Nephew
		Paid Consultant	Zimmer Biomet, Orthofix
		Stock	Hyalex
		Research Support	Zimmer Biomet, Medtronic, Nuvasive
		Financial Royalties	Taylor Francis; Journal of Bone and Joint Surgery
		Publications BOD	Journal of Bone and Joint Surgery
		BOD Member	Treasurer, Orthopaedic Research and Education Foundation; Director, American Board of Orthopaedic Surgery
Dennis	Janssen	Research Support	DePuy Synthes, Aesculap AG, Invibio Ltd
		Other	Research support from DePuy J&J Research support from Biomet UK Ltd Research support from Invibio Ltd
Yoon	Je Cho	BOD Member	Korean Hip Society Korean Society of Osteoporosis
Jean-Yves	Jenny	Paid Consultant	B-Braun, Globus Medical, FH Orthopedics
Jean-Yves	Jenny	BOD Member	CAOS International
Robert	Kay	Employee	Intrinsic Therapeutics
		Stock	Biomet Johnson & Johnson Medtronic Pfizer Zimmer
		Publications BOD	Journal of Pediatric Orthopedics
		BOD Member	Commission for Motion Lab Accreditation
Kang-Il	Kim	BOD Member	Korean Orthopaedic Association AAOS AAHKS APOA ISTA
		Publications BOD	Knee Surgery and Related Research Journal of Arthroplasty
Bryan	Kirking	Employee	DJO Surgical / Enovis
		Stock	Medical Metrics
Ira	Kirschenbaum	Paid Consultant	SwiftPath
		Stock	SwiftPath
		Royalties	Innomed
		BOD Member	AAOS
David	KIRWAN	Research Support	Signature Orthopaedics, Australia
Richard	Komistek	Paid Consultant	
		Research Support	Johnson & Johnson Smith & Nephew
		Royalties	DePuy
		BOD Member	JointVue

First Name	Last Name	Type of conflict	Companies
Tobias	Konow	Research Support	DePuy Synthes
J. Philippe	Kretzer	Paid Consultant	DePuy Synthes, Mathys
		Paid Consultant	Ceramtec
		Research Support	DePuy Synthes, Peter Brehm, Implantcast, Mathys, Permedica, Questmed, SpineServ, Endolab, Endocon, Sintx, Implantec, IMA
		BOD Member	DGfB
Stefan	Kreuzer	Paid Presentations	Corin, Smith & Nephew, Medtronic, Pacira, BrainLab, Intellijoint Surgical, SwiftPath, Pulse
		Paid Consultant	Corin, Smith & Nephew, Zimmer/Biomet, Medtronic, Pacira, BrainLab, Intellijoint Surgical, THINKSurgical, Shukla Medical, SwiftPath, Pulse
		Unpaid Consultants	Knee 360, Your Practice Online
		Stocks	Innovative Orthopedic Technologies (IOT), Inov8 Orthopedics, Inov8 Surgical, Inov8 Healthcare, K and S Solutions, Orthosensor, Argentum Medical (Silverlon), First Street Surgical Hospital, Texo-venture, Employers Direct, Alpoza
		Research Support	Corin, Smith & Nephew, DePuy Synthes (through MBJRF), THINKSurgical
		Royalties	Corin, Stryker/Stryker MAKO, Intellijoint Surgical, Pulse
		Publications BOD	Journal of Arthroplasty
		BOD Member	ISTA (International Society for Technology in Arthroplasty), ICJR (International Congress for Joint Reconstruction), MBJRF (Memorial Bone and Joint Research Foundation), Surgical Care Affiliates (Medical Advisory Board), Employers Direct (Medical Advisory Board)
Isabelle	Kuder	Research Support	Phd partially funded by Depuy Synthes
Sloan	Kulper	Paid Presentations	Sloan Kulper is a co-founders of Lifespans Limited.
		Employee	Sloan Kulper, Erica Ueda, and Christian Fang are co-founders of Lifespans Limited, and Tsui Hin Lin, Ahmed Abbas Alvi, and Teng Zhang are paid staff and/or consultants of Lifespans Limited. Dana Coombs and Michael Bushelow are paid staff of DePuy Synthes. The remaining authors have no declared conflicts.
		Stocks	Sloan Kulper, Erica Ueda, and Christian Fang are co-founders of Lifespans Limited, holding shares.
		Paid Presentations	Use provided slides
Michael	Kurtz	Paid Consultant	Jeremy L. Gilbert: Stryker Orthopedics, Zimmer Biomet, Smith and Nephew and Bausch and Lomb
		Research Support	Jeremy L. Gilbert: Bayer Inc, and DePuy Synthes
		Publications BOD	Jeremy L. Gilbert: Editor-in-Chief of Journal of Biomedical Materials Research â€" Part B: Applied Biomaterials,
		BOD Member	Jeremy L. Gilbert: member of the council of the Society For Biomaterials
Bradley	Lambert	Research Support	Delfi Medical Innovations Major League Baseball
		Impact Impartial	Yes
Patrick	Lane	Paid Presentations	Surgical Planning Associates, Inc.
		Employee	Surgical Planning Associates, Inc.
		Paid Presentations	Use provided slides
Hyun-Ji	LEE	Paid Consultant	GSmedical
Yeji	Lee	Other	Collaborative Research/ This research was supported by the KIAT (Korea Institute for Advancement of Technology) grant funded by the Korea Government (MOTIE : Ministry of Trade Industry and Energy). (P0013652)
Nathan	Lenz	Employee	Smith & Nephew
		Stock	Smith & Nephew
Guoan	Li	Royalties	Stryker/Mako Medical Inc
Seung-Jae	Lim	Paid Consultant	Johnson & Johnson
Sophie	Louth	Other	Engineering Doctorate sponsored by EPSRC and Renishaw.
Hannah	Lundberg	Publications BOD	Journal of Biomechanics editorial consultant.
Louise	M. Jennings	Research Support	Yes, Invibio Ltd, Biocomposites Ltd, Mathys Medical, DePuy Synthes, MatOrtho
Gerhard	Maale	Stocks	ORREX
		Royalties	Biocomposites LTD, Smith and Nephew
Henrik	Malchau	Paid Consultant	Biomet, Smith & Nephew
		Stock	RSA Biomedical
		Research Support	Biomet, Smith & Nephew, DePuy, Zimmer, MAKO
		Royalties	Zimmer, Biomet, Corin, RSA Biomedical
		BOD Member	RSA Biomedical
William	Maloney	Paid Consultant	Stryker
		Stock	TJO
		Royalties	Stryker Zimmer
		BOD Member	AAOS Knee Society Western Orthopedic Association
Amit	Mane	Employee	DePuy Synthes
		Stocks	DePuy Synthes
Saandeep	Mani	Employee	Zimmer Biomet
		Stock	Zimmer Biomet
Bob	Marchand	Paid Presentations	Stryker. One tray
		Paid Consultant	Stryker
		Research Support	Stryker
		Paid Presentations	Use provided slides, uses commercial data, includes paid training

First Name	Last Name	Type of conflict	Companies
Robert	Marchand	Paid Consultant	Stryker, Zipline, Onetray
		Stock Company	Stryker
		Research Support	Stryker
Shuichi	Matsuda	Paid Presentations	Zimmer-Biomet Kyocera Stryker
		Paid Consultant	Kyocera
		Research Support	Zimmer-Biomet Kyocera Smith and Nephew Stryker
		BOD Member	Japanese Society for Replacement Arthroplasty
Yohsuke	Matsumura	Research Support	TANITA co.Ltd
Dermott	McHugh	Employee	Total Joint Orthopedics
		Stock	Total Joint Orthopedics
Emily	McIntosh	Employee	Intellijoint Surgical
Stewart	McLachlin	Employee	My spouse is an employee of Zimmer Biomet Canada
Morteza	Meftah	Stocks	CAIRA, Surnova, Biobot
		Research Support	Smith & Nephew, Stryker, Intellijoint
		Royalties	Innomed
		Publications BOD	Orthopedic Journal
		BOD Member	ISTA
William	Mihalko	Paid Presentations	Aesculap Inc, Zimmer/Biomet, Smith & Nephew, Elsevier
		Paid Consultant	Aesculap; Pacira BioSciences Inc
		Stocks	Medtronic Inc
		Research Support	Aesculap
		Royalties	Aesculap
		Financial Royalties	Elsevier Inc
		Publications BOD	Journal of Arthroplasty, Journal of Orthopaedic Research, Journal of Long Term Effects of Medical Implants, Orthopaedic Clinics of North America
		BOD Member	ASTM International, Orthopaedic Research Society, The Knee Society, Hip Society, AAHKS
		Paid Presentations	Speaker training
Brad	Miles	Employee	360 Med Care
		Paid Consultant	360 Med Care Johnson & Johnson
		Stock	360 Med Care
Ralph	Mobbs	Stocks	Medtronic J&J
		Research Support	AusBio Technologies / Australia
		Publications BOD	i. Editor-in-Chief: Journal of Spine Surgery (unpaid position) ii. Chair. NSURG Research Group iii. Chair. WAGAR. Wearables and Gait Assessment Research group
		BOD Member	NSA - Neurosurgical Society of Australia SSA - Spine Society of Australia
Michael	Morlock	Paid Presentations	DePuy Synthes, Zimmer-Biomet
		Paid Consultant	DePuy Synthes, Zimmer
		Research Support	DePuy Synthes, BSN
Arman	Motesharei	Employee	Stryker
Arun	Mullaji	Paid Consultant	DePuy Zimmer Biomet
		Royalties	DePuy, Springer
Maxwell	Munford	Stock	OSSTEC ltd.
Orhun	Muratoglu	Research Support	Biomet, Mako, Depuy
		Royalties	Zimmer, Biomet, Corin, Iconacy, Renovis, Conformis, Aston Medical, Meril Healthcare, Arthrex, Mako, Ceramtec
		Other	Other financial or material support from a company or supplier: Biomet, Orthopaedic Technology Group
Stephen	Murphy	Paid Consultant	MicroPort Orthopedics Inc.
		Stock	Surgical Planning Associates, Inc.
		Royalties	MicroPort Orthopedics Inc.
		BOD Member	International Society for Technology in Arthroplasty International Society for Computer Assisted Orthopedic Surgery
Casey	Myers	Employee	Ortho Haus,LLC
		Other	This study was funded in part by DePuy Synthes.
Alessandro	Navacchia	Employee	Smith & Nephew
Mitchell	Ng	Paid Consultant	Ferghana Partners Inc.
Vincent	Nierste	Employee	Johnson and Johnson
Ikram	Nizam	Publications BOD	Reviewer for BJJ
Philip	Noble	Paid Presentations	ZimmerBiomet
		Stock	Joint View, LLC
		Research Support	ZimmerBiomet
		Royalties	ZimmerBiomet;Stryker;
		Financial Royalties	Springer

First Name	Last Name	Type of conflict	Companies
		Publications BOD	Journal of Hip Preservation Surgery
		BOD Member	International Society for Technology in Arthoplasty
Andrej	Nowakowski	Paid Consultant	Mathys AG, Robert Mathys Strasse 5, 2544 Bettlach, Switzerland: Paid consultant
		Royalties	Aesculap AG, Am Aesculap Platz, 78532 Tuttlingen, Germany: IP royalties Implantcast GmbH, LÃ¼neburger Schanze 26, 21614 Buxtehude, Germany: IP royalties Innomed, INC., 103 Estus Drive, Savannah, GA 31404, United States: IP royalties Mathys AG, Robert Mathys Strasse 5, 2544 Bettlach, Switzerland: IP royalties
Ebru	Oral	Paid Consultant	Spinal Kinetics Cambridge Polymer Group
		Royalties	Zimmer, Corin,Renovis, Mako/Stryker, Conformis, Exactech, Arthrex, Meril Healthcare, Iconacy
		BOD Member	Society for Biomaterials
Douglas E	Padgett	Paid Consultant	stryker mako Pixar Bio
		Stock	pixarbio
		Royalties	Mako
		Publications BOD	J arthroplasty
		BOD Member	Hip society
Thomas	Paszicsnyek	Paid Consultant	LIMA Italy
		Stock	MIT AG Switzerland
Landon	Polakof	Paid Consultant	Arbutus Medical
Isabelle	Poole	Paid Presentations	Yes
Amy	Posch	Employee	Pacific Research Laboratories
		Stocks	Pacific Research Laboratories
		Paid Presentations	Use provided slides, uses commercial data, includes paid training
Robin	Pourzal	Other	Contract/Service: Zimmer Inc
Michele	Pressacco	Employee	Lima
		Stock	Lima
David	Putzer	Employee	EO-SOL GmbH
		Consultant	Stryker
Nathaniel	Pyle	Employee	DJO Surgical
Fernando	Quevedo Gonzalez	Paid Consultant	Mark P. Figgie is a paid consultant for Limacorporate Spa and Wishbone
		Stocks	Mark Figgie has stock or stock options from Wishbone
		Research Support	Timothy M Wright received research support from Limacorporate Spa
		Royalties	Fernando J Quevedo Gonzalez, Joseph D Lipman, Mark Figgie, and Timothy Wright receive royalties from Limacorporate Spa Mark Figgie receives royalties from Wishbone
Antony	Rapisarda	Employee	CEO and Majority Shareholder - OrthoDx
Joshua	Roth	Paid Presentations	Medacta
		BOD Member	Orthopaedic Research Society
Peter	S. Walker	Paid Presentations	Orthosensor
		Paid Consultant	Zimmer; Mako; Orthosensor
		Unpaid Consultants	Zimmer; Mako; Orthosensor
		Stocks	Genovel
		Research Support	Zimmer; Mako; Orthosensor
		Royalties	Stryker; Zimmer
		Publications BOD	The Knee; JOA
Vani	Sabesan	Paid Consultant	Arthrex
		Research Support	Exactech, Pacira Pharmaceuticals
Elisa	Salatin	Employee	LimaCorporate
Peter	Schiller	Employee	Canary Medical
		Stock	Canary Medical
Thomas	Schmalzried	Unpaid Consultants	DePuy
		Stock	DePuy Myoscience Stryker VuMedi
		Royalties	DePuy
		Publications BOD	Orthopedics Today
Sasha	Shafikhani	Research Support	NIH
Yousef	Shishani	Employee	Dr. Shishani is the clinical director at PT Genie
		Paid Consultant	Dr. Gobezie is a consultant for Arthrex, Dr. Gobezie is the co-founder of PT Genie
		Royalties	Dr. Gobezie receives royalties from Arthrex
James	Sires	Other	Submitting author - no conflict of interest Coauthor - CW, paid presentations from Depuy and Stryker not related to this company. CW - Board member of The Arthroplasty Society of Australia (not related to this study)
James	Slover	Research Support	Institutinal Research Support from Biomet
Kyle	Snethen	Employee	Zimmer Biomet

First Name	Last Name	Type of conflict	Companies
		Stock	Zimmer Biomet
Peder	Solberg	Stocks	Intuitive Surgical, Inc and 3M, Inc
Anna	Sullivan	Employee	Total Joint Orthopedics
		Stocks	Total Joint Orthopedics
Samih	Tarabichi	Paid Presentations	Zimmer
		Paid Consultant	Zimmer
		Royalties	Zimmer
		Publications BOD	Editor JBJS Middle East edition
		BOD Member	ICJR
		Paid Presentations	Speaker training
Fabio	Tatti	Paid Consultant	Zethon Limited
Joshua	Twiggs	Employee	360 Med Care
Periklis	Tzanetis	Other	The project relevant to the presentation at this conference was funded by Stryker.
Dave	Van Andel	Employee	Zimmer Biomet
Douglas	Van Citters	Research Support	DePuy Synthes, Launchpad Medical, ConforMIS, Total Joint Orthopedics
Philippe	Van Overschel-de	Other	The author declares that a conflict of interest exists in respect of this work owing to his duties as active shareholder for moveUP, and the potential subsequent financial ties arising from this position.
Nico	Verdonschot	Paid Consultant	Invibio ltd Exactech
		Research Support	Biomet Johnson&johnson Medacta Invibio
Peter	Walker	Research Support	Surgical Specialties -Sydney Australia
William	Walter	Paid Consultant	Matortho Stryker Ceramtec
		Royalties	Stryker Matortho
		Paid Consultant	Stryker
		Research Support	Stryker, J&J De Puy.
Sheila	Wang	Employee	Intellijoint Surgical, Inc.
		Stocks	Intellijoint Surgical, Inc.
Stephen	Weber	Paid Consultant	MSquared Associates NDA Partners
		Publications BOD	Editor AOTS, JSES, TSES
		BOD Member	Committee appointment AANA, ASES, AAOS, ISAKOS
Sophie	Williams	Research Support	DePuy Synthes Joint Reconstruction
		Publications BOD	Bone and Joint Research
		BOD Member	British Orthopaedic Research Society
Ryan	Willing	Research Support	Received donated implant components from Stryker
Chris	Wilson	Paid Consultant	Yes,Stryker & DePuy / Not related to this study
Markus	Wimmer	Unpaid Consultants	Endolab
		Research Support	Corin, Liposphere
		Publications BOD	Elsevier - Editor
		BOD Member	ICRS
		Paid Presentations	CeramTec
		Unpaid Consultants	Endolab GmbH
		Research Support	CeramTec
		Publications BOD	Biotribology (Elsevier)
Jong	Woong Park	Publications BOD	Journal of Korean Fracture Society
		BOD Member	Korean Fracture Society Korean Society for the Hand The Korean Society for Microsurgery
Amirhossein	Yazdkhasti	Employee	University of Maryland
		Research Support	Harvard University Massachusetts General Hospital
Gokce	Yildirim	Employee	Vent Creativity Corporation
		Paid Consultant	Smith+Nephew, Engage Surgical
		Stocks	Vent Creativity Corporation, Stryker, Nemedio
Jayson	Zadzilka	Other	Research support as a coordinator from: Think Surgical, Inc. Centinel Spine, LLC Exactech, Inc.
		Other	I have 2 patents pending on the data.

ISTA 2023

NEW YORK

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