

Musculoskeletal Infection Society  
29<sup>th</sup> Annual Open Scientific Meeting  
August 2-3, 2019  
Grand Hyatt New York

Agenda

**Friday, August 2, 2019**

7:15 a.m. Registration Opens – Manhattan Ballroom Foyer

7:15-7:45 a.m. Continental Breakfast –Museum Space / Manhattan Foyer

*Seating in Manhattan Ballroom*

**Visit Exhibitors and e-Posters- Museum Space**

7:46-7:59 a.m.

Welcome, Disclosures

Presentation of the George C. Cierny, III, M.D. Memorial Award

Barry D. Brause, M.D.

**Session I**

**EPI AND EPIDEMIOLOGY**

Moderator: Maja Babic, PhD; Brian A. Klatt, M.D.

8:00-8:06 a.m.

Hospital Volume and Post-Operative Infections in Total Knee Arthroplasty

*Hiba K Anis; Bilal M Mahmood; Alison K Klika; Wael K Barsoum; Robert M Molloy; Carlos A Higuera*

8:07-8:13 a.m.

Is Treatment of Periprosthetic Joint Infection Improving Over Time?

*Mohammed Hammad; Karan Goswami; Chi Xu; Timothy L Tan; Michael Yayac; Qiaojie Wang; Javad Parvizi*

8:14-8:20 a.m.

Opioid Use Disorder Increases the Risk of Infection after Primary Total Hip Arthroplasty

*Nipun Sodhi; Hiba Anis; Rushabh Vakharia; Eric Grossman; Carlos A Higuera; Martin Roche; Michael Mont*

8:21-8:27 a.m.

Comparing the Treatment of Knee Periprosthetic Joint Infections between Substance Use Disorder Patients and Non-Users in a Nationally-Representative Sample 2010-2014

*Eric L Smith; Evan Dugdale; David Tybor; Amir Shahien; Kenneth McAlpine*

8:28-8:36 a.m.

Discussion

8:37-8:43 a.m.

Greater Risk for Mental Health Conditions after Prosthetic Joint Infections in Total Knee Arthroplasty

*Hiba Anis; Jared Warren; Alison Klika; Siran Koroukian; Guangjin Zhou; Carlos A Higuera; Wael Barsoum; Nicolas Piuze*

- 8:44-8:50 a.m. Risk Factors for Infection after Primary Total Knee Arthroplasty in Octogenarians and Nonagenarians  
Nipun Sodhi; Hiba Anis; Rushabh Vakharia; *Bilal Mahmood*; Eric Grossman; Martin Roche; Michael Mont
- 8:51-8:57 a.m. The Economics of Antibiotic Cement in Total Knee Arthroplasty: Added Cost with No Reduction in Infection Rates  
P. Maxwell Courtney; *Michael Yayac*; Alexander Rondon; Timothy Tan; Hannah Levy; Javad Parvizi
- 8:58-9:04 a.m. Tranexamic Acid Reduces Periprosthetic Joint Infection after Primary Total Joint Arthroplasty  
Hamidreza Yazdi; Mitchell R Klement; *Mohammed Hammad*; Daisuke Inoue; Chi Xu; Karan Goswami; Javad Parvizi
- 9:05-9:11 a.m. Preoperative decolonisation and surgical site infections in orthopaedic surgery: a prospective randomised controlled trial (DECO-SSI trial)  
*Felix Rohrer*, Hubert Noetzli; Lorenz Risch; Thomas Bodmer; Philippe Cottagnoud; Tanja Hermann; Andreas Limacher; Niklaus Fankhauser; Karoline Wagner; Jan Bruegger
- 9:12-9:22 a.m. Discussion
- SYMPOSIUM #1**  
9:23-10:13 a.m. **Post-operative Spine Infections with Collections (para-spinal, epidural and subdural)**  
Moderator: Sandra Nelson, M.D.  
Hollis Potter, M.D.  
Joseph Schwab, M.D.
- 10:14-10:34 a.m. Refreshment Break - Museum Space / Manhattan Foyer  
**Visit Exhibitors and ePosters –Museum Space**
- Session II**  
**BASIC SCIENCE**  
Moderator: Laura Certain, MD, Martin McNally, MD
- 10:35-10:41 a.m. Synovial fluid induced Staphylococcus aureus aggregate development and its impact on surface attachment and biofilm formation  
*Matthew J Pestrak*; Devendra H Dusane; Doug Guzior; Paul Stoodley
- 10:42-10:48 a.m. Antibiotic-loaded calcium sulfate beads provide extended killing of biofilms beyond limits of the spacer: an in vitro study.  
*Paul Stoodley*; Casey W Peters; Craig Delury; Sean S Aiken; Phillip Laycock; Ed McPherson; Anne Sullivan; Jeffrey F Granger; Devendra H Dusane
- 10:49-10:55 a.m. Shotgun Metatranscriptomics for PJI diagnosis: A Novel Prospective Investigation  
*Karan Goswami*; Alexander J Shope; Timothy L Tan; Justin Wright; Regina Lamendella; Javad Parvizi; James J Purtill

- 10:56-11:02 a.m. Killing of persister cells and biofilms of *Pseudomonas aeruginosa* by spatial distribution of antibiotic-loaded calcium sulfate beads.  
*Devendra H Dusane*; Jacob Brooks; Devin Sindeldecker; Casey Peters; Craig Delury; Sean S Aiken; Phillip Laycock; Anne Sullivan; Jeffrey F Granger; Paul Stoodley
- 11:03-11:11 a.m. Discussion
- 11:12-11:18 a.m. Simulated Large Joint Fluid Model for Evaluating Intra-Articular Local Antibiotic Delivery Systems  
*Edward J. McPherson*; Andrew J. Wassef; Joel D. Bumgardner; Jessica A. Jennings; Scott P. Noel; V. Priya Murali; Michael Harris; Madison Brown; Omar Yunis; Matthew V Dipane
- 11:19-11:25 a.m. The Antimicrobial Effects of Synovial Fluid  
*Samy S Gabriel*; Reuben Judd; Michael R Bubb
- 11:26-11:32 a.m. Using laser capture microdissection to determine the bone concentration of antibiotics in mice: a pilot study  
*Laura Certain*; Brendan Prideaux; Claire Carter; Veronique Dartois
- 11:33-11:41 a.m. Discussion
- Session III**                    **DIAGNOSTICS**  
Moderator: Andy O. Miller, M.D.; Stephen L. Kates, M.D.
- 11:42-11:48 a.m. Metagenomic DNA Sequencing for Pathogen Identification in Orthopedic Nonunion  
Gerard Chang; Timothy L Tan; Karan Goswami; John Strony; Keenan Sobol; *Brianna Fram*; Javad Parvizi; James C Krieg
- 11:49-11:55 a.m. The Quality of a Synovial Fluid Aspirate is Critical to Result Interpretation  
Carl Deirmengian; *Gregory Kazarian*; Scott Feeley; Keith Kardos
- 11:56-12:02 a.m. Neutrophil-to-Lymphocyte ratio (NLR) is a Strong Predictor of Treatment Failure and Postoperative 90-Day Mortality in Septic Hip and Knee Arthritis  
*Pierre-Emmanuel Schwab*; Nathan Varady; Antonia F Chen
- 12:03-12:09 p.m. A Potential New Indicator for the Diagnosis of Fracture-Related Infections: Platelet Count to Mean Platelet Volume Ratio  
*Taylor Paziuk*; Gerard Chang; Brianna Fram; John Strony; James Krieg
- 12:10-12:16 p.m. Prospective, Multicenter, Adjudicator-Blinded Clinical Trial of the Alpha-Defensin (AD) Lateral Flow Test for Periprosthetic Infection (PJI)  
*Carl Deirmengian*; Sujith Kallur; John Madigan; Janet Conway; Carlos A Higuera; Robin Patel
- 12:17-12:27 p.m. Discussion

12:30-12:50 p.m. Lunch– Manhattan Ballroom  
*Please get your lunch and return to your seat*  
*For the best Biofilm Symposium*  
*Basic Science with a clinical focus*

**SYMPOSIUM # 2 Biofilm**

**12:50-1:45 p.m. Basic Science Findings Guide Clinical Outcomes Data**

**Is acute vs chronic a biofilm question?**

**Local vs systemic antimicrobials, can either work against mature biofilm?**

Moderator: Alex C. McLaren, M.D.

Edward Schwarz, PhD

Steven Kates, M.D.

Kordo Saeed, M.D.

**Session IV**

**PJI DIAGNOSTICS AND MANAGEMENT**

Moderators: Angela L. Hewlett, M.D.; Carlos A. Higuera-Rueda, M.D.

1:46-1:52 p.m. A low percentage of patients meet inclusion criteria for single-stage exchange arthroplasty  
*Malcolm E. Dombrowski; Alan Wilson; Michael J. O'Malley; Kenneth Urish; Brian R. Hamlin; Lawrence S. Crossett; Brian A. Klatt*

1:53-1:59 p.m. Femoral Impaction Bone Grafting in Staged Revision for Infected Hip Arthroplasty.  
*Mukai Chimutengwende-Gordon; Stuart A Callary; Jerome A Davidson; Kerry Costi; Sue M Pannach; Roumen Stamenkov; Donald W howie; Lucian B Solomon*

2:00-2:06 p.m. Rheumatic Disease Patients Have More Culture Negative Prosthetic Joint Infections- Are There Clinical Differences?  
*Milan Kapadia; Andy O Miller; Allina A Nocon; Peter Sculco; Susan Goodman; Michael Henry*

2:07-2:13 p.m. Total Joint Arthroplasty after Septic Arthritis: When can this be Safely Performed?  
*Timothy L Tan; Chi Xu; Elie Ghanem; Carlos Higuera; Jaiben George; Karan Goswami; Ji-Ying Chen; Javad Parvizi*

2:14-2:22 p.m. Discussion

2:23-2:29 p.m. Automated Cell Counters May Yield Falsely Elevated Synovial fluid WBC Counts in TKA  
*Carl Deirmengian; Scott Feeley; Stephen Sizer; Gregory Kazarian*

2:30-2:36 p.m. Diagnostic Performance of the Synovasure Microbial ID Test  
*Carl Deirmengian; Scott Feeley; Tony Joaquim; Dan Keeter*

- 2:37-2:43 p.m. Organism Prevalence in Prosthetic Joint Infection (PJI) Before and After the Implementation of Routine Implant Sonicate Culture  
*Lee M Sasala; Alan Wilson; Elena Nikonova; Michael J O'Malley; Brian A Klatt*
- 2:44-2:50 p.m. Differences in Pathogens Between Hip and Knee Prosthetic Joint Infections  
*Michael Henry; Milan Kapadia; Joseph Nguyen; Barry Brause; Andy O Miller*
- 2:51-2:59 p.m. Discussion
- 3:00-3:20 p.m. Refreshment Break - Museum Space / Manhattan Foyer  
**Visit Exhibitors and e-Posters – Museum Space**
- SYMPOSIUM # 3 Pre-operative PJI Risk Calculators**  
**3:21-4:16 p.m. The importance of modifying the modifiable**  
Moderator: Alberto V. Carli, M.D.  
Antonia F. Chen, M.D., MBA  
Carlos A. Higuera-Rueda, M.D.  
Aaron J. Tande, M.D.
- Session V PJI OUTCOMES**  
Moderator: Parham Sendi, M.D.; Antonia F. Chen, M.D., MBA
- 4:17-4:23 p.m. Periprosthetic joint infections diagnosed by MSIS and sonication cultures demonstrate greater than 50% treatment failure rate in patients with a history of two-stage exchange arthroplasty  
*Alan E Wilson; Kwesi St. Louis; Michael J O'Malley; Kenneth L Urish; Lawrence S Crossett; Brian A Klatt*
- 4:24-4:30 p.m. Host Grariskde and Long Term Reinfection Rate in Prosthetic Joint Infection  
*Lee Sasala; Alan Wilson; Elena Nikonova; Michael O'Malley; Brian Klatt*
- 4:31-4:37 p.m. Evolution of the 2 Stage to a 1 Stage in the Treatment of Infected Total Joints Arthroplasties: Results of the First 500 cases  
*Gerhard E Maale; John J Eager; Anirurth Srinivasaraghavn*
- 4:38-4:44 p.m. Serial Aspirations & Intra-Articular Antibiotic Injections for Non-Operative Management of Chronic PJI: Introducing the Concept of Biofilm Training  
*Edward J. McPherson; Jasmine A. Castillejos; Madhav Chowdhry; Matthew V Dipane*
- 4:45-4:53 p.m. Discussion
- 4:54-5:00 p.m. Treatment Outcomes and Attrition in Gram Negative Periprosthetic Joint Infection  
*Irene Kalbian; Karan Goswami; Nathan John; Carol Foltz; Timothy L Tan; Javad Parvizi; William V Arnold*
- 5:01-5:07 p.m. Safety and Tolerability of Rifampin in Staphylococcal Orthopedic Infections  
*Andy O Miller; Milan Kapadia; Alberto Carli; Michael Henry*

- 5:08-5:14 p.m. The Value of Serological Screening Prior to Conversion Total Hip Arthroplasty  
*Kyle H Cichos; Matthew C Christie; Alex R Heatherly; Gerald McGwin; Johnathan H Quade; Elie Ghanem*
- 5:15-5:21 p.m. Reporting Outcomes of Treatment for Periprosthetic Joint Infection of the Knee and Hip Together with a Minimum 1-year Follow-up is Reliable  
*William T Li; Timothy L Tan; Chi Xu; Karan Goswami; Javad Parvizi*
- 5:22-5:30 p.m. Discussion
- 5:40 -7:00 p.m. **President's Reception- Gallery on Lex**  
Wine & Beer with very light Hors d'oeuvres  
*SUGGESTION: Make dinner reservations early*
- 6:00-6:30 p.m. Oral Presentations of Selected e-Posters
- 6:30 p.m. Remarks: Barry D. Brause, M.D, President

### Saturday, August 3, 2019

- 6:45-7:30 a.m. MSIS Business Meeting (MSIS Members only)  
Regency Room, Grand Hyatt Hotel (2<sup>nd</sup> floor)
- 6:45-7:30 a.m. Continental Breakfast – Museum Space / Manhattan Foyer  
*Seating in the Manhattan Ballroom*  
**Visit Exhibitors and e-Posters –Museum Space**
- 7:30-8:00 a.m. **Special Presentation:**  
**Journal of Bone and Joint Infections (JBJI)**  
**Journal of the EBJIS & the MSIS**  
Best Papers of 2018-2019  
Parham Sendi, M.D. ; Elie Barbari, M.D.  
*REMINDER: EBJIS Meeting is in Antwerp, Belgium, September 12-14, 2019*
- Symposium #4**  
8:01-8:56 a.m. **Debridement, Antibiotics and Implant Retention**  
**(DAIR) Case presentations with panel discussions,**  
**in memory of Carl L. Nelson, M.D.**  
**Co-branded with the American Association of Hip and Knee Surgeons**  
Moderator: Javad Parvizi, M.D.  
Brian A. Klatt, M.D.  
Thorsten Seyler, M.D.  
Angela L.Hewlett, M.D.  
Michael Henry, M.D.

### Session VI BASIC SCIENCE

Moderator: Aaron J. Tande, M.D.; Prof. Paul Stoodley, PhD.

- 8:57-9:03 a.m. Transfusion of Older Blood Increases Bacterial Burden in a Validated Mouse Model of Spine Implant Infection  
Peter P Hsiue; Chad R Ishmael; Sam Uweh; Clark J Chen; Kellyn R Hori; Howard Y Park; Zachary DC Burke; Eldad A Hod; Nicholas M Bernthal; *Benjamin Kelley*
- 9:04-9:10 a.m. Translational Challenges of Fluorescence Image-Guided Surgical Debridement in a Mouse Model of Spine Implant Infection  
Peter P Hsiue; Chad R Ishmael; Kellyn R Hori; Clark J Chen; Cristina Villalpando; Howard Y Park; Steve D Zoller; Kevin P Francis; Nicholas M Bernthal; *Danielle Greig*
- 9:11-9:17 a.m. Fatty acid dispersal signals affect monocyte activation and nitric oxide release  
*Zoe Harrison*; Daniel Baker; J Amber Jennings
- 9:18-9:24 a.m. Injectable mannitol chitosan blended paste prevents osteomyelitis in rabbit model  
*Leslie R Pace*; Logan R Boles; Karen Beenken; Mark Smeltzer; J Amber Jennings
- 9:25-9:33 a.m. Discussion
- Symposium # 5** **Molecular Diagnostics for Musculoskeletal Infection**  
9:34-10:24a.m. **Next Generation Sequencing**  
MODERATOR: Thomas W. Bauer, M.D.,PhD.  
Andy O. Miller, M.D.  
Laura Donlin, PhD  
Karan Goswami, M.D.
- 10:25-10:45 a.m. Refreshment Break - Museum Space / Manhattan Foyer  
**Visit Exhibitors and e-Posters – Museum Space**
- Session VII** **CLINICAL STUDIES**  
Moderator: Elie Berbari, M.D.; Arvind Nana, M.D.
- 10:46-10:52 a.m. Mycobacterium chimera (MC) Spondylodiscitis—A Medical and Surgical Collaboration  
*Bethany Lehman*; Anita R. Modi; Maja Babic; Christopher Karakasis; R. Douglas Orr; Faisal Bakaeen; Steven M. Gordon
- 10:53-10:59 a.m. Development of a machine learning algorithm for prediction of failure of non-operative management in spinal epidural abscess  
*Akash A Shah*; Aditya V Karhade; Christopher M Bono; Mitchel B Harris; Sandra B Nelson; Joseph H Schwab
- 11:00-11:06 a.m. Introducing a Novel Test for the Diagnosis of Native Vertebral Osteomyelitis  
*Talha Riaz*; Matthew T Howard; Diehn E Felix; Aaron J Tande; Courtney K Ross; Paul M Huddleston; Elie F Berbari

- 11:07-11:13 a.m. Factors Associated with In-Hospital Mortality in Necrotizing Fasciitis  
Joseph Featherall; Joshua Lawrenz; Jaymeson Gordon; Jaret Karnuta; Deepak Ramanathan; Claus Simpfendorfer; Lukas Nystrom; *Nathan Mesko*; Maja Babic
- 11:14-11:22 a.m. Discussion
- 11:23-11:29 a.m. Patient Institutional Transfer During the Inter-stage Period of Two-Stage Periprosthetic Knee Infection Treatment Leads to Inferior Results  
*Simon Garceau*; Yaniv Warschawski; Omar Dahduli; Ibrahim Alshaygy; Jesse Wolfstadt; David Backstein
- 11:30-11:36 a.m. The Fate of Positive Intraoperative Cultures Following Conversion Total Hip Arthroplasty  
*Kyle H Cichos*; Maxwell Detweiler; Javad Parvizi; Gerald McGwin; Johnatha H Quade; Elie Ghanem
- 11:37-11:43 a.m. Investigating the Role of Serum Inflammatory Markers in Predicting Success of Two-Stage Prosthetic Hip Infection Revision  
*Simon Garceau*; Ethan B Sanders; Alan Gross; Oleg Safir; Paul Kuzyk
- 11:44-11:50 a.m. Sonication cultures obtained during presumed aseptic revision hip and knee arthroplasty are not predictive of future periprosthetic joint infection  
Adam S Olsen; Alan E Wilson; Rebecca I Minorini; *Michael J O'Malley*; Kenneth L Urish; Brian R Hamlin; Lawrence S Crossett; Brian A Klatt
- 11:51-11:57 a.m. The presence of a draining sinus is not a risk factor for two-stage exchange arthroplasty treatment failure  
*Alan E Wilson*; Richard A Wawrose; Elena S Nikonova; Michael J O'Malley; Kenneth L Urish; Lawrence S Crossett; Brian A Klatt
- 11:58--12:06 p.m. Discussion
- 12:07-12:35 p.m. **Introduction of Incoming President: Carlos Higuera-Rueda, M.D.**  
*Barry D. Brause, M.D.*  
**Presentation of Awards**  
Jon T. Mader Award; Jeanette Wilkins Award; e-Poster Award  
**Closing Remarks; Barry D. Brause, M.D.**
- Adjourn