



Posters: Exhibit Hall Room 517A/516

## ICORS High Scoring Posters

### Biomaterials

**ICORS HS 1 - Human Skeletal Myocytes Cultured on PLGA Meshes of Different Structure for Muscle Regeneration**

Hee Joong Kim, Korea; Jinwoo Nam, Korea; Jaeyoun Yoon, Korea; Jeong Joon Yoo, Korea

**ICORS HS 2 - Titania Bone Cement Shows Good Osteoconductivity in Osteoporotic Rabbits**

Tomotoshi Kawata, Japan; Koji Goto, Japan; Shuichi Matsuda, Japan; Toshiyuki Kawai, Japan; Yutaka Kuroda, Japan; Masashi Imamura, Japan

**ICORS HS 3 - Mesoporous Bioactive Glass Nanoparticles/Polycaprolactone Nanocomposite Scaffold For Enhanced Bone Tissue Engineering**

Chris Steffi, Singapore; Chee Hoe Kong, Singapore; Yanli Cai, Singapore; Wilson Wang, Singapore

**ICORS HS 4 - Book-Shaped Decellularized Tendon Matrix Scaffold Combined With Bone Marrow Mesenchymal Stem Cells-Sheets for Repair of Achilles Tendon Defect in a Rabbit Model**

Shanshan Xie, China; Can Chen, China; Hongbin Lu, China

### Bone

**ICORS HS 5 - Differentiation Potential of Bone Marrow-Derived Stem Cells and Adipose-Derived Stem Cells from Same Donors**

Hee Joong Kim, Korea; Jinwoo Nam, Korea; Jeong Joon Yoo, Korea; Jaeyoun Yoon, Korea

### Cartilage and Synovium

**ICORS HS 6 - The Effect of Glucose Availability on Cellular Metabolism and Cartilage Tissue Formation**

Roberto Tarantino, Canada; Stephen Waldman, Canada

### Hand and Wrist

**ICORS HS 7 - Translation of the Ulnar Head Is More Important Than Ulnar Variance Change for Three-Dimensional Ulnolunate Distance Change During Forearm Rotation**

Dai-Soon Kwak, Korea; Ho-Jung Cho, Korea; Seung-Han Shin, Korea



## Posters: Exhibit Hall Room 517A/516

### **Hip and Knee Arthroplasty**

#### **ICORS HS 8 - Increased Knee Range of Motion and Post-Operative Function With Metal-On-Polyethylene Relative to All-Cement Molded Articulating Spacers**

**Nequesha Mohamed, US;** Nicole George, US; Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; John Tarazi, US; Jaydev Mistry, US; James Nace, US; Ronald Delanois, US

#### **ICORS HS 9 - Cement-less vs. Cemented Fixation in Total Knee Arthroplasty: Usage, Costs and Complications**

**Nequesha Mohamed, US;** Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; Nicole George, US; Alexandra Passarello, US; Wallis Edwards, US; Ronald Delanois, US

#### **ICORS HS 10 - Significantly Lower Implant and Total Inpatient Costs in Metal-On-Polyethylene Relative to All- Cement Molded Articulating Spacers**

**Nequesha Mohamed, US;** Nicole George, US; Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; John Tarazi, US; Korie Griffith, US; James Nace, US; Ronald Delanois, US

#### **ICORS HS 11 - Maryland's All Payer Model Associated With Lower Costs and Rates of Readmission in Patients Undergoing Total Hip Arthroplasty**

**Nequesha Mohamed, US;** Iciar Dávila Castrodad, US; Chukwuweike Gwam, US; Jennifer Etcheson, US; Nicole George, US; Jeffrey Jai Cherian, US; John Tarazi, US; Ashwin Mahajan, US; Randa Elmallah, US; Ronald Delanois, US

#### **ICORS HS 12 - Measured Resection versus Independent Condylar Balancing Technique in Total Knee Arthroplasty Using a Single Radius Total Knee System: A Comparison Study**

**Nequesha Mohamed, US;** Jennifer Etcheson, US; Iciar Dávila Castrodad, US; Chukwuweike Gwam, US; Nicole George, US; Randa Elmallah, US; Jaydev Mistry, US; Korie Griffith, US; Nirav Patel, US; Ronald Delanois, US

#### **ICORS HS 13 - Proteomics Analysis of Tissues Around Total Knee Arthroplasty From Various Stages of Aseptic Osteolysis**

**Jiri Gallo, Czech Republic;** Tereza Dyskova, Czech Republic; Eva Kriegova, Czech Republic; Sarka Zehnalova, Czech Republic; Zuzana



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Slobodova, Czech Republic; Milos Kudelka, Czech Republic; Petra Schneiderova, Czech Republic; Regina Fillerova, Czech Republic

### Shoulder and Elbow

#### **ICORS HS 14 - Fibroblast Growth Factor-2 Contributes to the Increase of Tenogenic Progenitors to Enhance Tendon-to-Bone Healing in a Rat Chronic Rotator Cuff Tear Model**

**Ryuji Yonemitsu, Japan;** Takuya Tokunaga, Japan; Katsumasa Ideo, Japan; Tatsuki Karasugi, Japan; Eiichi Nakamura, Japan

#### **ICORS HS 15 - Changes in Total Shoulder Arthroplasty Utilization since the Implementation of the Affordable Care Act: An Analysis of Patient- Hospital Demographics, Costs, and Charges**

**Nequesha Mohamed, US;** Chukwuweike Gwam, US; Iciar Dávila Castrodad, US; Jennifer Etcheson, US; Nicole George, US; Armin Edalatpour, US; Avnish Jetty, US; Brandon Srouf, US; Ronald Delanois, US

### Spine

#### **ICORS HS 16 - Matrix Metalloproteinase Promotes Elastic Fiber Degradation in Ligamentum Flavum Degeneration**

**Kazuki Sugimoto, Japan;** Takayuki Nakamura, Japan; Tatsuya Okada, Japan; Takuya Taniwaki, Japan; Toru Fujimoto, Japan; Eiichi Nakamura, Japan

#### **ICORS HS 17 - Effective Predictors of Lumbar-Spine Bone Density of Rheumatoid Arthritis**

**Takuya Tomizawa, Japan;** Ito Hiromu, Japan; Furu Moritoshi, Japan; Nishitani Kohei, Japan; Koichi Murata, Japan; Masayuki Azukizawa, Japan; Japan; Kohei Doi, Japan; Hashimoto Motomu, Japan; Masao Tanaka, Japan; Mimori Tsuneyo, Japan; Shuichi Matsuda, Japan

### Tendon/Ligament

#### **ICORS HS 18 - Initiation Timing of Treadmill Training for Tendon-Bone Healing in a Mice Model**

**Shengcan Li, China;** Hongbin Lu, China

### Tumours

#### **ICORS HS 19 - Anti-Interleukin-6 Receptor Antibody Inhibits Bone Metastases in a Breast Cancer Cell Line**

**Hiroki Wakabayashi, Japan;** Takahiko Hamaguchi, Japan; Yohei Naito, Japan; Akihiro Sudo, Japan



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### **ICORS HS 20 - A Novel Monoclonal Antibody SMab-2 Recognizes Endogenous IDH2-R172S of Chondrosarcoma**

Xing Liu, Japan; Hiroharu Oki, Japan; Michiaki Takagi, Japan

## ICORS Posters

### **Biomaterials**

#### **ICORS 1 - A New Method to Isolate Adipose Derived Mesenchymal Stem Cells Without Enzyme**

Yenwen Cheng, Taiwan; Melanie Coathup, US; Gordon Blunn, UK

#### **ICORS 2 - Controlled Release of Magnesium Ions Enables In-Situ Bone Regeneration**

Kelvin Yeung, Hong Kong; Zhengjie Lin, Hong Kong; Jason Jun Wu, China; Ying Zhao, China; Kenneth Cheung, Hong Kong; Paul Chu, Hong Kong

#### **ICORS 3 - Restoration of Bone Defects Using Modified Heterogeneous Deproteinized Bone Seeded With Bone Marrow Mesenchymal Stem Cells**

Jun Li, US; Lei Liu, US; Yu Shrike Zhang, US

#### **ICORS 4 - Bone Coverage Around Hydroxyapatite/poly-L-lactide Composite According to the Depth from the Surrounding Cortical Bone in Rabbit**

Kazuaki Morizane, Japan; Koji Goto, Japan; Shunsuke Fujibayashi, Japan; Bungo Otsuki, Japan; Toshiyuki Kawai, Japan; Takayoshi Shimizu, Japan; Shuichi Matsuda, Japan

#### **ICORS 5 - In Situ Forming Hyaluronic Acid Hydrogel Combined with Acellular Cartilage Matrix for Cartilage Defect Treatment**

Chih-Hung Chang, Taiwan; Yu-Chun Chen, Taiwan; Yi-Shan Shen, Taiwan; Feng-Hui Lin, Taiwan

#### **ICORS 6 - Surface Modification of Titanium Implants with Strontium via Bioinspired Polyphenol Tannic Acid Coating to Regulate Osteoblast and Osteoclast Differentiation.**

Chris Steffi, Singapore; Zhilong Shi, Singapore; Chee Hoe Kong, Singapore; Sue Wee Chong, Singapore; Yanli Cai, Singapore; Wilson Wang, Singapore



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**ICORS 7 - Multi-Domain Collagen-Based Scaffold as Multi-Cargo Delivery Vehicle for the Enthesis Tissue Engineering**

**Eugenia Pugliese, Ireland; Stefanie Korntner, Ireland; Dimitrios Zeugolis, Ireland**

**ICORS 8 - Composite Based on Chitosan and Hydroxyapatite Associated With Platelet-Rich Plasma for Bone Regeneration of Femoral Trochlea in Rabbits**

**Marcelo Sa, Brazil; Francisco Sousa Segundo, Brazil; Gabriel de Lima, Brazil; Declan Devine, Ireland**

**ICORS 9 - Strontium Substitution Improves Osteogenic and Anti-Osteoclastogenic Effects of Mesoporous Bioactive Glass Nanoparticles**

**Chee Hoe Kong, Singapore; Chris Steffi, Singapore; Yanli Cai, Singapore; Wilson Wang, Singapore**

**ICORS 10 - Scaffold and Scaffold-Free Approaches for the Fabrication of Extracellular-Matrix Rich Cartilage Tissue Substitutes**

**Stefanie Korntner, Ireland; Andrea De Pieri, Ireland; Zhuning Wu, Ireland; Dimitrios Zeugolis, Ireland**

**ICORS 11 - Engineered Novel Biocompatible Hydrogels for Viscosupplementation and Lubrication of Articular Joints in Patients With Osteoarthritis**

**Nima Khadem Mohtaram, Canada; Ali Riazi, Canada; Yuqian Zhang, Canada; Benny Prem PremSingh, Canada**

**ICORS 12 - Enhanced Osteogenic Differentiation Ability of TGF $\beta$ -3-Attracted Human Adipose Derived Stem Cells**

**Gun-il Im, Korea; Jeonghun Han, Korea; Jeong-won Park, Korea; Yeonjeong Noh, Korea; Sungsu Park, Korea**

**ICORS 13 - Inflammatory Events Triggered By Co-Induced Stress on Synovial Fibroblasts. An Explanation to Adverse Local Tissue Reactions of the Hip**

**Felipe Eltit, Canada; Felipe Simon, Chile; Donald Garbuz, Canada; Clive P. Duncan, Canada; Nelson V. Greidanus, Canada; Bassam A. Masri, Canada; Michael Cox, Canada; Rizhi Wang, Canada**

**ICORS 14 - Controlled Deferoxamine Release from Polycaprolactone/Polyethylene oxide Microspheres**



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**Lina Hadidi, Canada;** Geraldine Merle, Canada; Justine Constantin, France; Zishuia Zhang, Canada; Benjamin Dalisson, Canada; Justin Drager, US; Jake Barralet, Canada

### **Bone**

#### **ICORS 15 - Cucurbitacin E: A Future Potential Agent for Angiogenesis and Bone Formation**

**Wenxiang Cheng, China;** Yanzhi Liu, China; Xiangbo Meng, China; Zhengtan Zheng, China; Jietao Lin, China; Peng Zhang, China; Xinluan Wang, China

#### **ICORS 16 - Alterations of Bone Geometry, Density, and Microarchitecture in Chinese Male Patients With Primary Hypertrophic Osteoarthropathy: A Case-Control Study**

**Qianqian Pang, Hong Kong;** Yuping Xu, China; Weibo Xia, China; Ling Qin, Hong Kong

#### **ICORS 17 - Cyclic Tensile Stress Promotes Alternative Activation of Bone Marrow Macrophages by Suppressing Integrin $\beta$ 1-Mediated NF- $\kappa$ B Pathway to Facilitate Osteogenesis of MC3T3-E1 Cells**

**Qin Shi, China;** Mimi Chen, China; Bin Li, China

#### **ICORS 18 - Impact Response of Trabecular Bone Can Be Predicted From Its Bone Volume Fraction**

**Robert Wallace, UK;** Adib Hamdani, UK; Filipe Teixeira-Dias, UK; Pankaj Pankaj, UK

#### **ICORS 19 - Bone's Time-Dependent Behaviour Accentuates Loosening In Fracture Fixation Using Bone-Screw Systems**

**Pankaj Pankaj, UK;** Shuqiao Xie, UK

#### **ICORS 20 - Prospective Assessment of the Effect of Cyclic Fatigue on Raman Spectral Biomarkers of Bone Tissue**

**Clare Rimnac, US;** Bowen Wang, US; Jerry Du, US; Christopher Flanagan, US; Ozan Akkus, US

#### **ICORS 21 - Evidence-Based Generic Asian Pelvic Bone Models for Research, Development and Teaching Using CT-Based 3D Statistical Modeling**

**Boyko Gueorguiev, Switzerland;** Marc-Daniel Ahrend, Switzerland; Hansrudi Noser, Switzerland; Rukmanikanthan Shanmugam, Malaysia; Lukas Kamer, Switzerland; Felix Burr, Switzerland; Heinz Hügli, Switzerland; Tunku Zaman, Malaysia; Geoff Richards, Switzerland



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**ICORS 22 - Pulsed Electromagnetic Field (PEMF) Stimulates Mineral Deposition and Density During Osteogenesis in 3D Ring Culture**

**Paul Benya, US;** Aaron Kavanaugh, US; Martin Zakarian, US; Nianli Zhang, US; Erik Waldorff, US; James Ryaby, US; Fabrizio Billi, US

**ICORS 23 - Effect of Hypoxia-Reoxygenation on Femurs in Postnatal Wistar Rats**

**Rita Hameister, Singapore;** Charanjit Kaur, Singapore; Christoph H. Lohmann, Germany; S Thameem Dheen, Singapore; Gural Singh, Singapore

**ICORS 24 - MiR-378 Suppressed MSC Osteogenesis and Bone Development**

**Lu Feng, Hong Kong;** Gang Li, Hong Kong

**ICORS 25 - Micro-Level Trabecular Apparent Modulus Can Be Accurately Modeled By CanadaT Finite Element Models Based on Material Mapping Strategy and Element Type**

**Nikolas Knowles, Canada;** Jonathan Kusins, Canada; Aoife Pucchio, Canada; Louis Ferreira, Canada

**ICORS 26 - Improving Computational Models of the Humerus By Comparing the Mechanical Properties of Normal and Pathologic Bone**

**Nikolas Knowles, Canada;** Jonathan Kusins, Canada; Melanie Columbus, Canada; George Athwal, Canada; Louis Ferreira, Canada

**ICORS 27 - Adeno-Associated Virus-Mediated RNA Interference Against Mutant Allele Attenuates Abnormal Calvarial Phenotypes in an Apert Syndrome Mouse Model**

**Fengtao Luo, China;** Yangli Xie, China; Lin Chen, China

**ICORS 28 - KDM3A and KDM4C Surveil MSC Senescence and Bone Aging via Heterochromatin Reorganization**

**Xiaohua Jiang, Hong Kong;** Biao Huang, Hong Kong

**ICORS 29 - A Novel Bone Reconstructive Material: Adipose Derived Stem Cell Beads**

**Xiang Fang, Japan;** Hiroyuki Tsuchiya, Japan; Hideki Murakami, Japan; Katsuhiro Hayashi, Japan



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**ICORS 30 - Mast Cell Priming Induces More Inflammation During Bone Repair**

**Jose Ramirez-GarciaLuna, Canada;** Ore-Oluwa Olasubulumi, Canada; Janet Henderson, Canada; Paul Andre Martineau, Canada

**ICORS 31 - Does Supplemental Intramedullary Grafting Increase Stability of Plated Proximal Humerus Fractures?**

**Boyko Gueorguiev, Switzerland;** Lyubomir Rusimov, Bulgaria; Ivan Zderic, Switzerland; Daniel Ciric, Switzerland; Jan Barcik, Switzerland; Dian Enchev, Bulgaria; Mihail Rashkov, Bulgaria; Mariya Hadzhinikolova, Bulgaria; Geoff Richards, Switzerland; Asen Baltov, Bulgaria

**ICORS 32 - Factors Predicting the Effectiveness of Brace Treatment in Ais Patients With Curve More Than 40 Degrees: A Minimum of Two-Year Follow-Up**

**Zezhang Zhu, China;** Leilei Xu, China; Chao Xia, China; Fei Sheng, China; Yong Qiu, China

**ICORS 33 - Characteristics of the Stress-Generated Electrical Potentials in Bone Induced by Mechanical Loading**

**Gregory Wohl, Canada;** Laura Pravato, Canada; Hubert de Bruin, Canada

**ICORS 34 - APA Analysis of Aberrantly Expressed of Freely Circulating miRNAs for Early Diagnosis of Patients With Alcohol-Induced Osteonecrosis of the Femoral Head**

**Guoju Hong, Canada;** Jiake Xu, Australia; Kezhou Wu, Canada

**ICORS 35 - Chrysosplenetin Protects OVX-induced Osteoporosis by Regulating Osteoclast and Osteoblast Coupling via RANKL and MAPK/ERK Signaling Pathways**

**Guoju Hong, Canada;** Jiake Xu, Australia

**ICORS 36 - The First Case of Primary Hypertrophic Osteoarthropathy With Soft Tissue Giant Tumor Caused by Hpgg Loss-of-Function Mutation**

**Qianqian Pang, Hong Kong;** Yuping Xu, China; Weibo Xia, China; Ling Qin, Hong Kong

**ICORS 37 - The Innate Immune System Is Involved in Jaw Bone and Tooth Resorption**





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**Miriam Kalbitz, Germany;** Kathrin Widmann, Germany; Yvonne Moedinger, Germany; Anita Ignatius, Germany; Florian Gebhard, Germany; Melanie Haffner-Luntzer, Germany

**ICORS 38 - Development of Osteogenic and Angiogenic Potential Cell Therapy for BMP2 and VEGF-Transferred Adipose Stem Cells**  
**Gun-il Im, Korea;** Eugene Lee, Korea; Ji-yun Ko, Korea; Songhee Lee, Korea; Juyoung Kim, Korea

**ICORS 39 - Identification of New Genes for Bone Marrow Stromal Cell Transplant Survival and Bone Formation Enhancement Based on Microenvironmental Control**  
**Gun-il Im, Korea;** Eugene Lee, Korea; Juyoung Kim, Korea; Songhee Lee, Korea; Ji-yun Ko, Korea

**ICORS 40 - Polydatin Promotes Osteogenic Differentiation of Human Bone Marrow Stromal Cells By Activating the BMP2-Wnt/ $\beta$ -Catenin Signaling Pathway**  
**Xiao Jun Chen, China;** Zhenqiu Chen, China; Fan Yang, China; Feng Xiang Pang, China; Ying Shan Shen, China; Wei He, China; Qiushi Wei, China

**ICORS 41 - Association of Reduced Sclerostin Expression With Collapse Process in Patients With Osteonecrosis of the Femoral Head**  
**Xiao Jun Chen, China;** Zhenqiu Chen, China; Fan Yang, China; Feng Xiang Pang, China; Ying Shan Shen, China; Qiushi Wei, China; Wei He, China

**ICORS 42 - Hypermineralization Compromises Bone Quality in Elderly Hips**  
**Tengteng Tang, Germany;** Wolfgang Wagermaier, Germany; Roman Schuetz, Germany; Qiong Wang, Canada; Felipe Eltit, Canada; Peter Fratzi, Germany; Rizhi Wang, Canada

**ICORS 43 - Allogeneic Umbilical Cord-Derived Mesenchymal Stem Cells for Treating Critical-Sized Bone Defects: A Translational Study**  
**Ismail Hadisoebroto Dilogo, Indonesia;** Anissa Feby Canintika, Indonesia; Jeanne Adiwinata, Indonesia; Isabella Liem, Indonesia; Tri Kurniawati, Indonesia; Iqbal Fasha, Indonesia; Tera Kispas, Indonesia; Fajar Mujadid, Indonesia



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**ICORS 44 - The Effect of Epigallocatechin Gallate (Egcg) on Mir-375-7P in Pre-osteoblast MC3T3-E1 Cell Line**

Ziyu Ning, Hong Kong; William W. Lu, Hong Kong

**Cartilage and Synovium**

**ICORS 45 - Osteochondral Autograft Transfer Combined With Platelet-Rich Plasma for Knee Articular Cartilage Defects: A Preliminary Report**

Ming Li, China

**ICORS 46 - Physioxia Improves Cartilage Matrix Gene Expression and GAG Content in IL-1beta Inhibited Chondrogenesis**

Girish Pattappa, Germany; Ruth Schewior, Germany; Isabelle Hofmeister, Germany; Jennifer Seja, Germany; Johannes Zellner, Germany; Brian Johnstone, US; Denitsa Docheva, Germany; Peter Angele, Germany

**ICORS 47 - Anti-Tumour Necrosis Factor Agents Influence the Apoptosis of Inflammatory Synovial Cells in the Patients With Rheumatoid Arthritis**

Yuya Takakubo, Japan; Yuta Suzuki, Japan; Suran Yang, Japan; Hiroharu Oki, Japan; Tomoto Suzuki, Japan; Michiaki Takagi, Japan

**ICORS 48 - Hypoxic Condition Enhances Chondrogenesis in Synovium-Derived Mesenchymal Stem Cells**

Hyuk-Soo Han, Korea; Ha Ru Yang, Korea; Hyun Cheol Bae, Korea; Sun Young Wang, Korea; Hee Jung Park, Korea; Myung Chul Lee, Korea

**ICORS 49 - Vitrification of Articular Cartilage Cubes Based on Mathematically Optimized Loading Protocols**

Kezhou Wu, Canada; Leila Laouar, Canada; Nadia Shardt, Canada; Janet A. W. Elliott, Canada; Nadr M. Jomha, Canada

**ICORS 50 - Preliminary Study On Construction Of New Tissue-engineered Cartilage Using Precartilaginous Stem Cells**

Min Jin, China; Qiaoyan Tan, China; Lin Chen, China

**ICORS 51 - Chitin-Based Scaffolding With Microfracture Versus Microfracture Alone for the Treatment of Acetabular Chondral Defects: Two Year Outcomes**

Rakesh John, Canada; Ivan Wong, Canada



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### **ICORS 52 - Podoplanin is a Potential Biomarker in Lipopolysaccharide-Induced Inflamed Human Fibroblast-Like Synoviocytes.**

**Tomoto Suzuki, Japan;** Xing Liu, Japan; Yuya Takakubo, Japan; Hiroharu Oki, Japan; Ryusuke Honma, Japan; Michiaki Takagi, Japan

### **ICORS 53 - Induction of Podoplanin in Synovial Lining Cell of Lipopolysaccharide-Induced Rabbit Arthritis Model**

**Ryusuke Honma, Japan;** Masahiro Maruyama, Japan; Xing Liu, Japan; Hiroharu Oki, Japan; Yuya Takakubo, Japan; Michiaki Takagi, Japan

### **ICORS 54 - Simvastatin Causes Differentiation Through $\beta$ -catenin Pathway in Rabbit Articular Chondrocytes** **Song Ja Kim, Korea**

### **ICORS 55 - Fibroblast Like Synoviocytes Affects Osteogenesis via WNT Signaling Pathway During Periprosthetic Osteolysis**

**Supriya Jagga, Korea;** Ashish Ranjan Sharma, Korea; Yeon-Hee Lee, Korea; Ju-Suk Nam, Korea; Sang-Soo Lee, Korea

### **ICORS 56 - Comparison of Wear on Articular Cartilage Against Titanium Alloy, Cartilage, and Menisci**

**Ruixiang Sun, Canada;** Jonelle Jn Baptiste, Canada; Lindsey Westover, Canada; Samer Adeeb, Canada; Nadr M. Jomha, Canada

### **ICORS 57 - 3D Rapid-Prototyped Mg-Based Composite Scaffolds and Tissue-Engineered Chondrocyte Pellet (TeCP) for Integrative Osteochondral Defects Repair**

**Jacob Liangbin Zhou, China;** Yuxiao Lai, China; Ki Wai Ho, China; Ling Qin, Hong Kong

### **Diagnostic Imaging**

### **ICORS 58 - The Coefficient of Variation of Bone Mineral Density Histogram is Increased in Osteoporotic Vertebral Fracture Patients: A Potential Imaging Biomarker for Osteoporotic Fracture Risk Evaluation**

**Chentian Li, Hong Kong;** Chi Ma, Hong Kong; Yongqiang Jin, Hong Kong; Wing-Yuk Ip, Hong Kong; William W. Lu, Hong Kong

### **ICORS 59 - Power Doppler Score is Useful to Predict Radiographic Progression in Hand and Wrist Joint of Rheumatoid Arthritis**



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**Shunji Okita, Japan;** Ryuichi Nakahara, Japan; Keiichiro Nishida, Japan; Toshifumi Ozaki, Japan

### **ICORS 60 - Awareness of Orthopaedic Doctors and Operation Theatre Assistants on Radiation Exposure**

**Junaid Khan, Pakistan;** Rahman Rasool Akhtar, Pakistan

### **Foot and Ankle**

#### **ICORS 61 - Effect of Flatfoot on Segmental Motion of the Foot in Females**

**Dong Yeon Lee, Korea;** Min Gyu Kyung, Korea; Jae Hee Lee, Korea; Doo Jae Lee, Korea; Hyuck Soo Shin, Korea; Ji Hye Kim, Korea; Hye Ran Lee, Korea

#### **ICORS 62 - Inter-Segmental Foot Kinematics During Gait in Elderly Females According to the Severity of Hallux Valgus**

**Dong Yeon Lee, Korea;** Min Gyu Kyung, Korea; Jae Hee Lee, Korea; Eo Jin Kim, Korea,; Ji Hye Kim, Korea; Hye Ran Lee, Korea

#### **ICORS 63 - An Intra-Operative Assessment of the Axial Rotational Positioning of the Tibial Component in TAR**

**Oliver Gagne, Canada;** Andrea Veljkovic, Canada; Alastair S.E. Younger, Canada; David Townshend, UK; Kevin Wing, Canada; Murray Penner, Canada

#### **ICORS 64 - The Evaluation of the Alignment of Hindfoot in the Patients With Varus Type Ankle Arthritis by Using the Globally Optimal Iterative Closest Points (Go-ICP)**

**Hiroaki Kurokawa, Japan;** Shinichi Kosugi, Japan; Takuya Fujinuma, Japan; Takuma Miyamoto, Japan; Shigeki Morita, Japan; Akira Taniguchi, Japan; Hiroshi Takemura, Japan; Yasuhito Tanaka, Japan

#### **ICORS 65 - Plantar Fasciitis: Intra-Lesional Steroid Injections versus Intra-Lesional Autologous Blood Injections**

**Muhammad Umar Liaqat Raja, Pakistan**

#### **ICORS 66 - Comparison of Efficacy of Traditional and Accelerated Ponseti in the Management of Club Foot**

**Muhammad Umar Liaqat Raja, Pakistan**

#### **ICORS 67 - Sliding Influence to the Distal Tibial Joint Surface After Total Talar Replacement Using Alumina Ceramic Implant.**



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**Akira Taniguchi, Japan;** Yasuhito Tanaka, Japan; Hiroaki Kurokawa, Japan

### Hand and Wrist

**ICORS 68 - Human Nail Stem Cells Are Retained but Hypofunctional During Aging**  
Jia Shi, China

**ICORS 69 - Maternal Occupational Exposure to Textile Factory During Pregnancy Is Associated With a Higher Risk of Polydactyly in the Offspring**  
Jia Shi, China

**ICORS 70 - Grip Configuration in People With and Without Hand Osteoarthritis During Tasks of Daily Living: Application of Dartfish Analysis Software**  
Madeline Perrin, Canada; Emily Lalone, Canada; Sara Holland, Canada; Kathryn Sinden, Canada; Lauren Straatman, Canada

**ICORS 71 - Specifications and Design Optimization of a Novel Surgical Implant to Stabilize Distal Radial Fractures**  
Geoffrey Johnston, Canada; Nima Ashjaee, Canada; James Johnston, Canada

### Hip and Knee Arthroplasty

**ICORS 72 - The Mechanism of ZBTB20/ NF- $\kappa$ B Signaling Pathway in Aseptic Loosening Caused by Wear-Particle-Induced Macrophage Activation in Vitro**  
Yue Ding, China; Junxiong Qiu, China; Guibin Fang, China; Changchuan Li, China; Bin Song, China; Shixun Li, China; Peng Peng, China

**ICORS 73 - Motion Analysis of Stair Ascend and Descend for Staged Bilateral Total Knee Arthroplasty: Mechanical versus Kinematic Alignment**  
Cheri Chan, Singapore; Jason Beng Teck Lim, Singapore; Andy Yew, Singapore; Hong Han Tan, Singapore; Brandon Yew, Singapore; Alex Choh, Singapore; Shi-Lu Chia, Singapore; Seng Jin Yeo, Singapore; Hee Nee Pang, Singapore

**ICORS 74 - Wearable Sensors: Providing a New Perspective to Post-Operative TKA Functional Recovery**



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**Harley Williams, Canada;** Jordan Broberg, Canada; James Howard, Canada; Edward Vasarhelyi, Canada; Douglas Naudie, Canada; Brent Lanting, Canada; Matthew Teeter, Canada

### **ICORS 75 - Model-Based Radiostereometric Analysis of a Revision Hip System**

**Trevor Gascoyne, Canada;** Sara Parashin, Canada; Thomas Turgeon, Canada

### **ICORS 76 - A Residual Varus Alignment Following Total Knee Arthroplasty in a Constitutional Varus Population Does Not Lead to Improved Patient Outcome Scores**

**Harley Williams, Canada;** Brent Lanting, Canada; Nicholas Matlovich, Canada; Pieter-Jan Vanderkerckhove, Belgium; Matthew Teeter, Canada; Edward Vasarhelyi, Canada; James Howard, Canada; Lyndsay Somerville, Canada

### **Minimally Invasive Direct Anterior Surgical Approach Leads to Less Post-Operative Muscle Atrophy Following Total Hip Arthroplasty**

**Harley Williams, Canada;** Edward Vasarhelyi, Canada; James Howard, Canada; Stephen Petis, Canada; Joseph Barfett, Canada; Brent Lanting, Canada

### **ICORS 77 - Outcomes and Complications of Computer-Assisted Surgery in Total Hip Arthroplasty Utilizing A Nationwide Surgical Database**

**Nequesha Mohamed, US;** Nicole George, US; Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; Jaydev Mistry, US; Ashwin Mahajan, US; Nirav Patel, US; James Nace, US; Ronald Delanois, US

### **ICORS 78 - Accelerometer and Measured Physical Activity Levels Before and After Total Hip Arthroplasty: A Cohort Study**

**Nequesha Mohamed, US;** Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; Nicole George, US; Paul Wapner, US; Megha Abraham, US; Ronald Delanois, US

### **ICORS 79 - Excellent Functional Outcomes and Low Costs With Use of Articulating Spacers in the Management of Periprosthetic Knee Infection**

**Nequesha Mohamed, US;** Nicole George, US; Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; John Tarazi, US;



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Melbin Thomas, US; Nirav Patel, US; James Nace, US; Ronald Delanois, US

### **ICORS 80 - Maryland's All Payer Model Associated With Lower Costs and Rates of Readmission in Patients Undergoing Total Knee Arthroplasty**

**Nequesha Mohamed, US;** Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; Nicole George, US; Jaydev Mistry, US; Melbin Thomas, US; Randa Elmallah, US; Megha Abraham, US; Ronald Delanois, US

### **ICORS 81 - Reduction in Post-Acute Care Costs With the Use of Articulating Antibiotic Knee Spacers**

**Nequesha Mohamed, US;** Nicole George, US; Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; John Tarazi, US; Ashwin Mahajan, US; James Nace, US; Ronald Delanois, US

### **ICORS 82 - Decreased Opioid Consumption and Increased Patient Satisfaction With Diclofenac Relative to Ketorolac in Primary Total Knee Arthroplasty Patients**

**Nequesha Mohamed, US;** Nicole George, US; Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; Alexandra Passarello, US; Nirav Patel, US; Cheryle Gurk-Turner, US; Ronald Delanois, US

### **ICORS 83 - Changes in Total Knee Arthroplasty Utilization Since the Implementation of the Affordable Care Act: An Analysis of Patient-Hospital Demographics, Costs, and Charges**

**Nequesha Mohamed, US;** Chukwuweike Gwam, US; Iciar Dávila Castrodad, US; Jennifer Etcheson, US; Nicole George, US; John Tarazi, US; Melbin Thomas, US; Korie Griffith, US; Ronald Delanois, US

### **ICORS 84 - Antibiotic-Impregnated Calcium Sulfate Beads: A Cost-Effective Adjunct to Infected Revision Total Hip Arthroplasty**

**Nequesha Mohamed, US;** Nicole George, US; Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; John Tarazi, US; Nirav Patel, US; James Nace, US; Ronald Delanois, US

### **ICORS 85 - Which Press Ganey Survey Domains Are Best Associated With Pain Intensity in Total Hip Arthroplasty Patients?**

**Nequesha Mohamed, US;** Iciar Dávila Castrodad, US; Chukwuweike Gwam, US; Jennifer Etcheson, US; Nicole George, US; Alexandra



## Posters: Exhibit Hall Room 517A/516

Passarello, US; Ashwin Mahajan, US Nirav Patel, US; Ronald Delanois, US

### **ICORS 86 - Pain intensity: How Press Ganey Survey Domains Correlate in Total Knee Arthroplasty Patients**

**Nequesha Mohamed, US;** Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; Nicole George, US; Steven Gitarts, US; Avnish Jetty, US; Brandon Srour, US; Melbin Thomas, US; Ronald Delanois, US

### **ICORS 87 - Evaluating the Utility of Outpatient Based Pressure Mat Analyses to Detect Abnormal Biomechanical Patterns in Total Knee Arthroplasty**

**Alexandria Sehgal, UK;** Richard Burnett, UK; Colin Howie, UK; Hamish Simpson, UK; David Hamilton, UK

### **ICORS 88 - Treatment of Periprosthetic Joint Infection in Total Knee Arthroplasty With Temporary Knee Fusion: Is a Long or Short Fusion Nail Better?**

**Nequesha Mohamed, US;** Jennifer Etcheson, US; Chukwuweike Gwam, US; Iciar Dávila Castrodad, US; Nicole George, US; Randa Elmallah, US; Nirav Patel, US; Ashwin Mahajan, US; Steven Gitarts, US; Ronald Delanois, US

### **ICORS 89 - Infected Total Knee Arthroplasty Patients Implanted With Calcium Sulfate Beads Have Lower Reoperation Rates and Improved Infection Eradication**

**Nequesha Mohamed, US;** Nicole George, US; Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; Jeffrey Jai Cherian, US; Melbin Thomas, US; James Nace, US; Ronald Delanois, US

### **ICORS 90 - The Use of Antibiotic-Impregnated Calcium Sulfate Beads in Aseptic Revision Total Hip Arthroplasty is Cost-Effective in Decreasing Subsequent Infection and Reoperations**

**Nequesha Mohamed, US;** Nicole George, US; Chukwuweike Gwam, US; Jennifer Etcheson, US; Iciar Dávila Castrodad, US; John Tarazi, US; Ashwin Mahajan, US; James Nace, US; Ronald Delanois, US

### **ICORS 91 - Three-Dimensional Analysis of Contact Area and Ratio Between Acetabular Component and Bone According to Cup Inclination and Anteversion in Revision Arthroplasty**





**Posters: Exhibit Hall Room 517A/516**

**Shin-Yoon Kim, Korea; Jimin Park, Korea**

**ICORS 92 - The Mechanism of RIPK3/NLRP3 Pathway in Aseptic Loosening Caused by Wear Particles Induced Macrophage Activation in Vitro**

**Yue Ding, China; Peng Peng, China; Shixun Li, China; Changchuan Li, China; Junxiong Qiu, China; Guibin Fang, China**

**ICORS 93 - The Mechanism of USP14/ NLR5/NF-kB in Aseptic Loosening Caused by Wear Particles Induced Macrophage Activation In vitro**

**Yue Ding, China; Guibin Fang, China; Junxiong Qiu, China; Zhong Chen, China; Peng Peng, China; Shixun Li, China**

**ICORS 94 - Loss of Patient Function but Maintenance of Implant Derived Differences in Outcome Following TKA: 8-Year Longitudinal Follow-Up of a Prospective Double Blind Randomised Controlled Trial**

**David Hamilton, UK; Richard Burnett, UK; Sam Patton, UK; Gavin Macpherson, UK; Hamish Simpson, UK; Paul Gaston, UK**

**ICORS 95 - Same Day and Delayed Hospital Discharge is Associated With Worse Outcomes Following Total Knee Arthroplasty**

**Lauren Nowak, Canada; Emil H. Schemitsch, Canada**

**ICORS 96 - Patient Function Improves Following TKA but Activity Levels Remain at Pre-Op Values**

**Hamish Simpson, UK; Maurice Griffin, UK; David Hamilton, UK**

**ICORS 97 - Analyzing Coronal Alignment and Contact Kinematics in Total Knee Arthroplasties using Patient Specific Instrumentation**

**Jordan Broberg, Canada; James Howard, Canada; Edward Vasarhelyi, Canada; Xunhua Yuan, Canada; Richard W. McCalden, Canada; Douglas Naudie, Canada; Matthew Teeter, Canada**

**ICORS 98 - Severe Adverse Local Tissue Reactions Associated With Gross Trunnion Failure of a Ti-12Mo-6Zr-2Fe Femoral Component**

**Deborah Hall, US; Robert Urban, US; Robin Pourzal, US**



**Posters: Exhibit Hall Room 517A/516**

**ICORS 99 - Should We Exclude Patients With the Coronal Femerotibial Subluxation From Indication of Medial Unicompartmental Knee Arthroplasty?**

**Kotaro Yamagishi, Japan; Ichiro Tsukamoto, Japan; Koichi Nakagawa, Japan; Shinji Inoue, Japan; Masao Akagi, Japan**

**ICORS 100 - One Fourth Inner Edge of Medial Tibial Plateau Can Be a Reference of the Patient's Native Posterior Tibial Slope During Medial Unicompartmental Knee Arthroplasty**

**Shigeshi Mori, Japan; Kotaro Yamagishi, Japan; Akihiro Moritake, Japan; Ichiro Tsukamoto, Japan; Koichi Nakagawa, Japan; Kazuhiko Hashimoto, Japan; Shinji Inoue, Japan; Masao Akagi, Japan**

**ICORS 101 - Using Rasch Analysis to Compare the WOMAC Index With Oxford Hip Score**

**Tajeshwar Aulakh, India**

**ICORS 102 - Short-Term Outcomes of Outpatient Total Hip Arthroplasty in the Medicare Population**

**Yatindra Patel, US**

**ICORS 103 - Changes in Activity, Sedentary Behaviour and Sleep Efficiency Following Total Hip Arthroplasty: An Accelerometer Study**

**Jasvir Bahl, Australia; Francoise Fraysse, Australia; Kyle Curness, Australia; John Arnold, Australia; Dominic Thewlis, Australia; Lucian Bogdan Solomon, Australia**

**ICORS 104 - Goal-Directed Fluid Therapy on Post-Operative Outcomes after Orthopaedic Surgery: A Systematic Review and Meta-Analysis**

**Eunice You, Canada; Rakan Bokhari, Canada; Oliver Lasry, Canada; Michael Weber, Canada; Gabriele Baldini, Canada**

**ICORS 105 - Intra Articular Tranexamic Acid on Reducing Blood Loss Without Increasing Thrombosis After Total Hip Arthroplasty**

**Yohei Naito, Japan; Masahiro Hasegawa, Japan; Shine Tone, Japan; Hiroki Wakabayashi, Japan; Akihiro Sudo, Japan**

**ICORS 106 - The Influence of Cobalt Ions on Collagen Gel Formation and its Interaction with Osteoblasts**



## **Posters: Exhibit Hall Room 517A/516**

**Emma McCarthy, UK;** Hayley Floyd, UK; Owen Addison, UK; Zhenyu J. Zhang, UK; Pola Goldberg Oppenheimer, UK; Liam Grover, UK

**ICORS 107 - Comparison of Trans-Cortical and Cancellous Screws to Press Fit for Acetabular Shell Fixation in Total Hip Arthroplasty**  
**Timothy Burkhart, Canada;** Mehrdad Khadem, Canada; Thomas Wood, Canada; Cynthia Dunning, Canada; Ryan Degen, Canada; Brent Lanting, Canada

**ICORS 108 - Periprosthetic Femoral Fractures Around Total Hip Replacement Managed With Cemented Revision Femoral Stems.**  
**Gunasekaran Kumar, UK**

**ICORS 109 - Quality, but Not Quantity, of Physical Activity is Associated With Metal Ion Concentrations in Unilateral Hip Resurfacing at 10 Years Follow-Up**  
**Jetse Jelsma, Netherlands;** Martijn Schotanus, Netherlands; Sander van Kuijk, Netherlands; Ivo Buil, Netherlands; Ide Heyligers, Netherlands; Bernd Grimm, Germany

**ICORS 110 - Change in BMI (Body Mass Index) after Total Hip or Knee Replacement**  
**Kala Roopa Kumaresan, UK;** Gunasekaran Kumar, UK

**ICORS 111 - A New Method to Separate the Amounts of Creep and Wear in Tibial Inserts by Using Raman Spectroscopy**  
**Shine Tone, Japan;** Masahiro Hasegawa, Japan; Yohei Naito, Japan; Giuseppe Pezzotti, Japan; Akihiro Sudo, Japan

### **Infection**

**ICORS 112 - Propagation of S. aureus through Canalicular Sized Nanopores is Independent of the Accessory Gene Regulator (Agr)**  
**Edward Schwarz, US;** Elysia Masters, US; Alec Salminen, US; Karen de Mesy Bentley, UK; James McGrath, US; Steven Gill, US; Hani Awad

**ICORS 113 - Pattern of Surgical Site Infection After Elective Orthopaedic Surgery in a Tertiary Care Hospital**  
**Junaid Khan, Pakistan;** Riaz Ahmed, Pakistan

**ICORS 114 - Intraoperative Guard to Avoid Biofilm and Infection at Pedicle Screw & Bone Interface**



## Posters: Exhibit Hall Room 517A/516

**Hossein Kamal Elgafy, US;** Aakash Agarwal, US; Boren Lin, US; Christian Schultz, US; Vijay Goel, US; Anand Agarwal, US; Neel Anand, US; Chris Karas, US; Jeffrey Wang, US; Steve Garfin, US

### **ICORS 115 - Differences of Diagnostic Characteristics between the Standard Culture and Enrichment Culture**

**Akito Tomoyama, Japan;** Naomi Kobayashi, Japan; Shintaro Watanabe, Japan; Hyonmin Choe, Japan; Hiroyuki Ike, Japan; Shota Higashihira, Japan; Etsuko Yamazaki, Japan; Yutaka Inaba, Japan

### **Bone Allograft as Carrier System for the Local Delivery of Antibiotics in the Treatment of Chronic Osteomyelitis (*in vitro*)**

**Elyarbek Tashmetov, Kazakhstan;** Berik Tuleubaev, Kazakhstan; Dina Saginova, Kazakhstan; Amina Koshanova, Kazakhstan; Marietta Arutyunyan, Kazakhstan

### **ICORS 116 - Antibacterial Nanofiber Coating on 3D-printed Titanium Implant**

**Saber Amin Yavari, Netherlands;** Fatemeh Jahanmard-Hosseiniabadi, Netherlands; Ahmadreza Majed, Netherlands; Miguel Castilho, Netherlands; Karel Lietaert, Belgium; Bart van der wal, Netherlands; Charles Vogely, Netherlands; Ad Fluit, Netherlands; Edwin Boel, Netherlands; Jos Malda, Netherlands; Harrie Weinans, Netherlands

### **Knee (Modelling/Mechanics/Kinematics etc.)**

#### **ICORS 117 - Simultaneous Multi-Ligament Knee Strain Measurement: Post-ACL Injury Analysis of PCL, MCL and LCL Under Internal Tibial Rotation Load**

**Jowell Cheng, Singapore;** Alex Choh, Singapore; Brandon Yew, Singapore; Andy Yew, Singapore; Siaw Meng Chou, Singapore; Denny Tijauw Tjoen Lie, Singapore

#### **ICORS 118 - Assessing Functional Capacity of the Knee Joint Using Limb Symmetries in Paediatric Patients With ACL Injuries**

**Daniel Benoit, Canada;** Michael Del Bel, Canada; Ken K. Kontio, Canada; Louis J. Lawton, Canada; Sasha Carsen, Canada

#### **ICORS 119 - Kinematic Comparison Between Cruciate Retaining and Cruciate Sacrificing Total Knee Replacements During Gait and Stair Ascent**

**Geofrey Yamomo, Canada;** Alireza Moslemian, Canada; Thomas Wood, Canada; Brent Lanting, Canada; Ryan Willing, Canada



## Posters: Exhibit Hall Room 517A/516

### **ICORS 120 - Sequential Pressure Distributions Reveal Effect of Proud Implants in an Ovine Model of Cartilage Wear**

**Adele Changoor, Canada;** Vanessa Cristini, Canada; Ibrahim Alshaygy, Canada; Ariel Fuhrmann, Israel; Marc Grynepas, Canada; Paul Robert Kuzyk, Canada

### **ICORS 121 - Computational Modeling of MPFL With Anatomical Attachment Sites**

**Jeffry Hartanto, Singapore;** Wee Kheng Leow, Singapore; Alex Choh, Singapore; Andy Yew, Singapore; Joyce Suang Bee Koh, Singapore; Tet Sen Howe, Singapore

### **ICORS 122 - A Novel Preoperative Planning Method of Total Knee Arthroplasty Combining Musculoskeletal Model and 2D/3D Registration Technique**

**Qida Zhang, China;** Zhenxian Chen, China; Zhongmin Jin, China

### **ICORS 123 - Femoral Component Positions Can Affect Patellar Congruency after Medial Unicompartmental Knee Arthroplasty**

**Koichi Nakagawa, Japan;** Masao Akagi, Japan; Ichiro Tsukamoto, Japan; Shinji Inoue, Japan; Kotaro Yamagishi, Japan; Hisafumi Aya, Japan

### **ICORS 124 - Comparison of Strain Patterns in Native and Single Bundle Medial Patello-Femoral Ligaments : A Biomechanical Study**

**M Buhary Kizher Shajahan, Singapore;** Tet Sen Howe, Singapore; Joyce Suang Bee Koh, Singapore; Andy Yew, Singapore; Alex Choh, Singapore; Paul Chee Cheng Chang, Singapore

### **ICORS 125 - An Analysis of a Triboelectric Energy Harvesting Load Sensor for Total Knee Replacements Under Gait Loading**

**Ryan Willing, Canada;** Alwathiqbellah Ibrahim, US; Geoffrey Yamomo, Canada; Shahrzad Towfighian, US

### **ICORS 126 - Experimental Analysis of Posterior Oblique and Deep Medial Collateral Ligaments on Kinematics of PCL-Deficient Knees**

**Alireza Moslemian, Canada;** Philip Roessler, Canada; Ryan Degen, Canada; Alan Getgood, Canada; Ryan Willing, Canada



**Posters: Exhibit Hall Room 517A/516**

**ICORS 127 - Comparing Laxity between Cruciate Retaining and Cruciate Sacrificing Total Knee Replacements**

**Geoffrey Yamomo, Canada;** Alireza Moslemian, Canada; Thomas Wood, Canada; Brent Lanting, Canada; Ryan Willing, Canada

**ICORS 128 - Limitations of MPFL Reconstruction for Treatment of Patellar Instability with Patella Alta: Dynamic Simulation**

**Travis Jones, US**

**ICORS 129 - Epidemiological Study of Second Fractures in Anterior Cruciate Ligament Injury in Japanese Population and the Influence on Outcomes of ACL Reconstruction**

**Ryotaro Kumahara, Japan;** Shizuka Sasaki, Japan; Yuka Kimura, Japan; Yuji Yamamoto, Japan; Eiichi Tsuda, Japan; Yasuyuki Ishibashi, Japan

**ICORS 130 - Normal Knee Shape Variation is Associated With Deep Flexion Kinematics**

**Joe Lynch, Australia;** Diana Perriman, Australia; Catherine Galvin, Australia; Jennie Scarvell, Australia; Mark Pickering, Australia; Thor Besier, New Zealand; Paul N. Smith, Australia

**ICORS 131 - Quantification of the Regional Strain Distribution in the Anterior Cruciate Ligament in Response to Simulated Loading Using Micro-CT Imaging**

**Timothy Burkhart, Canada;** Alexandra Blokker, Canada; Ryan Wood, Canada; David Holdsworth, Canada; Alan Getgood, Canada

**ICORS 132 - Development and Validation of a Finite Element Model to Simulate the Opening of a Medial Opening Wedge High Tibial Osteotomy**

**Victor Carranza, Canada;** Alan Getgood, Canada; Timothy Burkhart, Canada

**ICORS 133 - Combined Effect of Wide Stance Gait and High Tibial Osteotomy on Knee Adduction Movement in Patients With Varus Knee Deformity**

**Jake Bowd, UK;** Paul Biggs, UK; Catherine Holt, UK; Gemma Whatling, UK

**ICORS 134 - Examination of Morphological Features of Japanese Knees By Axial CT**



## Posters: Exhibit Hall Room 517A/516

**Hiroki Nomura, Japan; Masaaki Maruyama, Japan**

### **ICORS 135 - Umbilical Cord Mesenchymal Stem Cells for Treating Osteoarthritis of the Knee: A Single-Arm, Open-Label Study**

**Alberto Lastiko Hanitya, Indonesia; Ismail Hadisoebroto Dilogo, Indonesia; Jeanne Adiwinata, Indonesia; Isabella Liem, Indonesia; Jacob Pandelaki, Indonesia**

### **ICORS 136 - Umbilical Cord Mesenchymal Stem Cells for Treating Early Osteoarthritis of the Knee: A Randomized Controlled Trial**

**Ismail Hadisoebroto Dilogo, Indonesia; Andri Maruli Tua Lubis, Indonesia; Jeanne Adiwinata, Indonesia; Isabella Liem, Indonesia; Jacob Pandelaki, Indonesia; Alberto Lastiko Hanitya, Indonesia**

### **Late breaking research**

### **ICORS 137 - Epigenetic Modulator Modulates the Vascular Endothelial Growth Inhibitor (VEGI)-Mediated Cell Death in Human Osteosarcoma and Vascular Endothelial Cells**

**Shunsuke Kumanishi, Japan; Koji Yamanegi, Japan; Hiroshi Nishiura, Japan; Yuki Fujihara, Japan; Tatsuo Sawai, Japan; Hiroyuki Futani, Japan; Shinichi Yoshiya, Japan**

### **ICORS 138 - Voluntary Physical Activity Reinforces the Efficacy of Acute Non-Steroidal Anti-inflammatory Drug Treatment for Osteoporosis-related Pain in a Mouse Model of Ovariectomy-induced Osteoporosis**

**Miyako Suzuki, Japan; Magali Millecamps, Canada; Seiji Ohtori, Japan; Laura Stone, Canada**

### **ICORS 139 - Effect of Ulnar Angulation and Soft Tissue Sectioning on Radial Head Stability in Anterior Monteggia Injuries**

**Armin Badre, Canada; David Axford, Canada; Clare Padmore, Canada; Carolyn Berkmortel, Canada; Kenneth J. Faber, Canada; James A. Johnson, Canada; Graham J.W. King, Canada**

### **ICORS 140 - The Role of Biceps Loading and Muscle Activation on Radial Head Stability in Anterior Monteggia Injuries**

**Armin Badre, Canada; Clare Padmore, Canada; David Axford, Canada; Carolyn Berkmortel, Canada; Kenneth J. Faber, Canada; Graham J.W. King, Canada; James A. Johnson, Canada**



## Posters: Exhibit Hall Room 517A/516

### **ICORS 141 - Material Mapping of CanadaT-Derived Scapular Models: A Comparison With Micro-CT Loaded Specimens Using Digital Volume Correlation**

**Nikolas Knowles, Canada;** Jonathan Kusins, Canada; Mohammadreza Faieghi, Canada; Melissa Ryan, UK; Enrico Dall'Ara, UK; Louis Ferreira, Canada

### **ICORS 142 - IVD Rejuvenation Using iPSC-Derived Notochordal Cells**

**Dmitriy Sheyn, US;** Juliane Glaeser, US; Khosrawdad Salehi, US; Tina Stefanovic, US; Wafa Tawackoli, US; Zulma Gazit, US; Debiao Li, US

### **ICORS 143 - Neural Crest-Derived MSCs Enhance Cranial Allograft Integration**

**Dmitriy Sheyn, US;** Juliane Glaeser, US; Phillip Behrens, US; Khosrowdad Salehi, US; Tina Stefanovic, US; Wafa Tawackoli, US

### **ICORS 144 - Effect of Asymmetric Insertion of the Balloon Nucleus Pulposus into the Lumbar Spine Motion Segment on Flexural Motions**

**Junghwa Hong, Korea;** Jaemin Kim, Korea; Soonmoon Jung, Korea; Taekyeong Lee, Korea

### **ICORS 145 - Pioglitazone Alleviates Compression-Induced Nucleus Pulposus Mesenchymal Stem Cell Apoptosis via Inhibition of Oxidative Stress and Mitochondrial Pathway**

**Wentian Wang, China;** Yiqiang Hu, China; Liming Xiong, China; Zengwu Shao, China; Guohui Liu, China; Yongchao Wu, China; Xianyi Cai, China; Yanbin Zhang, China

### **ICORS 146 - Stress and Stability of Intramedullary Nail and Medial Locking Plates in the Treatment of Middle and Lower Segment Tibia Fractures: A Comparative Finite Element Study**

**Fancheng Chen, China;** Baoqing Yu, China

### **ICORS 147 - A Characteristic Cam Deformity is Observed in Pediatric Patients With Femoroacetabular Impingement and Comorbid Inflammatory Conditions**

**Sasha Carsen, Canada;** Akshay Seth, Canada; Yi-Meng Yen, US; Kevin Smit, Canada; Diego Tourn, Canada,





**Posters: Exhibit Hall Room 517A/516**

**ICORS 148 - Development of a 3D Microenvironment Model for Human Bone Metastasis**

**Antone Nour, Canada;** Michael Weber, Canada; Derek Rosenzweig, Canada,

**ICORS 149 - Investigation into the Prevention of BRCanadaJ in the Minipig Large Animal Model – Is There a Role of Drug Holiday?**

**Martin Stoddart, Switzerland;** Sven Otto, Germany; Christoph Pautke, Germany; Daniel Arens, Switzerland; Philipp Poxleitner, Germany; Ursula Eberli, Switzerland; Dirk Nehrbass, Switzerland; Stephan Zeiter, Switzerland

**ICORS 150 - Highly Porous Elastomer Scaffolds for the Ligament and Cartilage Tissue Engineering**

**Parmoon Bayat Sarmadi, Canada;** Megan Cooke, Canada,

**ICORS 151 - The Role of HGFA in Mechanical Loading-Induced Tendon Stem Cell Activation**

**Jianyong Zhang, US;** Feng Li, US; Arthur R. McDowell, US; Kentaro Onishi, US; James H-C. Wang, US

**ICORS 152 - Micro-Architectural Heterogeneity of Trabecular Bone in Different Regions of the Femoral Head Obtained from Osteoporotic Femoral Neck Fracture**

**Ye Yeon Won, Korea;** Quanhu Shen, Korea; Jung-Taek Kim, Korea

**ICORS 153 - Improved Bone Augmentation Using Monetite Grafts Containing a Novel Bisphosphonate-EP4a Conjugate Drug**

**Marc Grynepas, Canada;** Zeeshan Sheikh, Canada; Gang Chen, Canada; Robert Young, Canada; Michael Glogauer, Canada

**ICORS 154 - Augmentation of Rabbit Tendon-Graft Bone Interfacial Healing Using Bioactive Platelet-Rich Fibrin Scaffolds**

**Chin-Chean Wong, Taiwan;** Chih-Hwa Chen, Taiwan

**ICORS 155 - Anterolateral Versus Medial Plating For Comminuted Intra-Articular Varus-Type Distal Tibia Fractures: A Biomechanical Assessment**

**Marisa Kohut, Canada;** Bashar Alolabi, Canada; Cheryl Quenneville, Canada



## Posters: Exhibit Hall Room 517A/516

### **ICORS 156 - Low-Cost 3D Printed Lay-FOMM Scaffolds Promote Osteogenesis**

**Jose Ramirez-GarciaLuna, Canada;** Karla Rangel-Berridi, Canada; Hyeree Park, Canada; Janet Henderson, Canada; Showan Nazhat, Canada; Derek Rosenzweig, Canada

### **ICORS 157 - MET May Be a Critical Regulator of Bone Repair Through Effects on Both Osteoblast and Osteoclast Function**

**Simon Kelley, Canada;** William Xie, Canada; Kashif Ahmed, Canada; Peter Kannu, Canada

### **ICORS 158 - Three-Dimensional-Printed Polymer Scaffolds Promote Bone Matrix Formation by Human Mesenchymal Stem Cells**

**Li Li, Canada;** Rayan Fairag, Canada; Derek Rosenzweig, Canada; Lisbet Haglund, Canada

### **ICORS 159 - The Induced Membrane Technique: Effects of Antibiotic-Impregnated Spacers on Healing of a Critical-Size Femoral Defect in a Rat Model**

**Hening Sun, Canada;** Charles Godbout, Canada; Ikran Abdullahi Ali, Canada; Emil H. Schemitsch, Canada; Aaron Nauth, Canada

### **ICORS 160 - The Induced Membrane Technique: Optimization of Autogenous Bone Grafting in a Small Animal Model of Segmental Bone Defect**

**Hening Sun, Canada;** Charles Godbout, Canada; Emil H. Schemitsch, Canada; Aaron Nauth, Canada

### **ICORS 161 - The Induced Membrane Technique in Animal Models - A Systematic Review**

**Hening Sun, Canada;** Jovana Momic, Canada; Charles Godbout, Canada; Emil H. Schemitsch, Canada; Aaron Nauth, Canada

### **ICORS 162 - Characterizing the Effects of Local Intra-Wound Vancomycin Powder on Bone Healing and Infection in an Animal Model**

**Ikran Abdullahi Ali, Canada;** Charles Godbout, Canada; Hening Sun, Canada; Emil H. Schemitsch, Canada; Aaron Nauth, Canada,

### **ICORS 163 - Prolonged Biological Activity of Human Induced Membranes Using the Masquelet Technique**

**Anna Woloszyk, US;** Kevin Tetsworth, Australia; Vaida Glatt, US



## Posters: Exhibit Hall Room 517A/516

### **ICORS 164 - Stem Cell Sources for Regenerative Strategies to Improve Durability of Skin/Implant Interfaces**

**Isha Mutreja, US;** Devaveena Dey, US; Kirk Twaroski, US; Mehdi Belkhodja, US; Joan Bechtold, US; Jakub Tolar, US; Jonathan Forsberg, US; Thomas Davis, US; Conrado Aparicio, US

### **ICORS 165 - Type II Diabetes (T2D) Alters Tendon Collagen Structural Properties - an Evaluation on T2D Clinical Samples and High-Fat Diet/Low-Dose Streptozotocin-Induced T2D Rat Model**

**Sik Loo Tan, Malaysia;** Kian Hua Yeoh, Malaysia; Mun Peak Nyon, US; Hui-Yee Tan, Malaysia; Savatey Hak, Malaysia; Margaret Roebuck, UK; Simon Frostick, UK; Tunku Kamarul, Malaysia

### **Meniscus**

**ICORS 166 - Short-term Effects of Meniscectomy on the Axial Alignment of the Lower Limb in Lateral Discoid Patients --Alert to Trap of Discoid Meniscus Injury Combined With Knee Valgus**  
**Ming Li, China**

### **ICORS 167 - An In Vitro Assessment of Knee Kinematics Following Radial Tears of the Medial Meniscus**

**Fahd Mahmood, UK;** Jon Clarke, UK; Philip Riches, UK

### **ICORS 168 - Multiple Platelet-Rich Plasma Preparations Can Solubilize Freeze-Dried Chitosan Formulations to Form Injectable Implants for Orthopaedic Indications**

**Leili Ghazi Aadeh, Canada;** Anik Chevrier, Canada; Martin Lamontagne, Canada; Michael Buschmann, US; Caroline Hoemann, US; Marc Lavertu, Canada; François Xavier Lacasse, Canada

### **Muscle**

### **ICORS 169 - Anatomical Variants of the Rectus Femoris Motor Innervation**

**Etienne Belzile, Canada;** Dominic Plante, Canada; Nicolas Janelle, Canada; Philippe Corbeil, Canada

### **ICORS 170 - The Effects of Gait Training With a Voluntary Driven Exoskeleton Robot: Hybrid Assistive Limb (Hal®) on Muscle Activity and Kinematics of Lower Limb in Patients With Neuromuscular Disease**

**Masakazu Kogawa, Japan;** Eiichi Tsuda, Japan



## Posters: Exhibit Hall Room 517A/516

### **Osteoarthritis and Other Forms of Arthropathy**

#### **ICORS 171 - Biologic Therapies for the Treatment of Knee Osteoarthritis: A Systematic Review**

**Nequesha Mohamed, US;** Jennifer Etcheson, US; Chukwuweike Gwam, US; Iciar Dávila Castrodad, US; Nicole George, US; Jaydev Mistry, US; Melbin Thomas, US; Thea Recai, US; Ronald Delanois, US

#### **ICORS 172 - Maturation of the Medial Femoral Condyle Epiphyseal Growth Plate and Osteochondral Junction**

**Sheila Laverty, Canada;** Thibaut Lemirre, Canada; Elizabeth Santschi, US; Christiane Girard, Canada; Ursula Fogarty, Ireland; Laura Chapuis, Canada; Hélène Richard, Canada

#### **ICORS 173 - Use of a Novel Ultrafast Laser System for Customization of Osteochondral Grafts and Graft Beds**

**Melissa Prickaerts, Canada;** Elena Dybner, Canada; Cameron Romanet, Canada; Thomas Dzelzainis, Canada; Ahmad Golaraei, Canada; Valentin Demidov, Canada; Lothar Lilge, Canada; Robin Majoribanks, Canada; Margarete Akens, Canada

#### **ICORS 174 - TGF- $\beta$ -Induced Transglutaminase-2 Triggers Catabolic Response in Osteoarthritic Chondrocytes by Modulating MMP-13 and Collagen II**

**Hyuk-Soo Han, Korea;** Sun Young Wang, Korea; Hyun Cheol Bae, Korea; Hee Jung Park, Korea; Myung Chul Lee, Korea

#### **ICORS 175 - What Affects Joint Destruction of Large Joints in the Lower Extremities in Rheumatoid Arthritis – A 4-Year Longitudinal Study From KURAMA Cohort**

**Kohei Doi, Japan;** Ito Hiromu, Japan; Takuya Tomizawa, Japan; Koichi Murata, Japan; Nishitani Kohei, Japan; Masao Tanaka, Japan; Hashimoto Motomu, Japan; Shuichi Matsuda, Japan

#### **ICORS 176 - Configuration of the Tibial Articular Surface is Different between Right and Left Knees**

**Ryuji Nagamine, Japan;** Weijia Chen, Japan; Kang-il Kim, Korea, Republic of; Makoto Kawasaki, Japan; Toru Suguro, Japan

#### **ICORS 177 - Whole Transcriptome Analysis Reveals Indispensable Role of ncRNAs in Chondrocyte Benefited By Moderate Cyclic Mechanical Strain**



## Posters: Exhibit Hall Room 517A/516

**Xingru Shang, China;** Jiaming Zhang, China; Fengjing Guo, China; Tao Xu, China

### **ICORS 178 - Study of Genistein Inhibit Angiogenesis in Rheumatoid Arthritis via IL-6/JAK2/STAT3/VEGF Signaling Pathway**

**Peng Zhang, China;** Huan Huang, China; Wenxiang Cheng, Guangdong, China; Zhengtan Zheng, China; Jianhai Chen, China; Jietao Lin, Guangzhou, China; Yan Wang, China;

### **ICORS 179 - Comparison of Post Traumatic Osteoarthritis Injury Initiation Methods in an Ovine Model**

**Timothy Burkhart, Canada;** Alex El Warrak, Canada; Omar Turk, Canada; Kyla Huebner, Canada; Robert Longstaffe, US; Philip Roessler, Canada; Alexandra Blokker, Canada; Mark Hurtig, Canada; Alan Getgood, Canada

### **ICORS 180 - Short Link N Acts as a Disease Modifying Osteoarthritis Drug**

**Michael Grant, Canada;** Fackson Mwale, Canada; Laura Mery Epure, Canada; H el ene Richard, Canada; Sheila Laverty, Canada; John Antoniou, Canada

### **ICORS 181 - Development of an Oral Gene Therapy With Polymeric Nanovector for Rheumatoid Arthritis Treatment**

**Francis Valli eres, Canada;** Lydia Ouyahia, Canada; Elsa Rondon Cavanzo, Canada; Qin Shi, Canada; Mohamed Benderdour, Canada; Julio Fernandes, Canada

### **ICORS 182 - Identification of Genes Regulating Osteoarthritis Development via the Collaborative Cross**

**Jacob Kenny, Australia;** Jennifer Tickner, Australia; Jiake Xu, Australia; Benjamin Mullin, Australia

### **Shoulder and Elbow**

#### **ICORS 183 - "Gap Sign" Can Be a Novel Predictor of Lafosse Type-I and -II Small Subscapularis Tear**

**Masahiko Kobayashi, Japan**

#### **ICORS 184 - Intra-Operative Verification of the Glenoid Implant Position With Structured Light Imaging in Total Shoulder Arthroplasty**



## Posters: Exhibit Hall Room 517A/516

**David Burns, Canada;** Robin R. Richards, Canada; Cari Whyne, Canada

### **ICORS 185 - Quantitative Assessment of the Ability of CanadaT-Derived Scapula Finite Element Models in Predicting Local Displacements Using Digital Volume Correlation**

**Nikolas Knowles, Canada;** Jonathan Kusins, Canada; Melissa Ryan, UK; Enrico Dall'Ara, UK; Louis Ferreira, Canada

### **ICORS 186 - The Effect of Torsional Moments on the Posterolateral Rotatory Instability of a Lateral Ligament Deficient Elbow: A Novel Biomechanical Modeling and In Vitro Investigation**

**Armin Badre, Canada;** David Axford, Canada; Sara Banayan, Canada; Jim Johnson, Canada; Graham J.W. King, Canada

### **ICORS 187 - Comparing Fixation Constructs For Scapula Insufficiency Fractures Following Reverse Shoulder Arthroplasty**

**Francis Ting, New Zealand;** Jason Lockhart, Canada; David Axford, Canada; G Daniel Langohr, Canada; George Athwal, Canada; Jim Johnson, Canada

### **ICORS 188 - Tennis Elbow: Correlation Between Ultrasound Findings and Clinical Scores Before and After Percutaneous Ultrasonic Tenotomy**

**Meng Ai Png, Singapore;** Tet Sen Howe, Singapore; Joyce Suang Bee Koh, Singapore; Bernard Morrey, US; P Chandra Mohan, Singapore

### **ICORS 189 - Arthroscopic Treatment for Shoulder Instability With Glenoid Bone Loss Using Distal Tibia Allograft Augmentation: Two Year Outcomes**

**Ivan Wong, Canada;** Rakesh John, Canada; Catherine M. Coady, Canada

### **ICORS 190 - Utility of 3D Printed Models in the Treatment of Femoroacetabular Impingement**

**Ivan Wong, Canada;** Anjaneyulu Purnachandra Tejaswi Ravipati, Canada; Catherine M. Coady, Canada

### **ICORS 191 - Healing Rates of Massive Rotator Cuff Tears Between Allograft Reconstruction vs Maximal Repair - A Prospective Randomized Controlled Trial**



## **Posters: Exhibit Hall Room 517A/516**

**Ivan Wong, Canada;** Anjaneyulu Purnachandra Tejaswi Ravipati, Canada; Catherine M. Coady, Canada

**ICORS 192 - Arthroscopic Bankart versus Anatomic Glenoid Reconstruction (AGR) for Recurrent Shoulder Instability: A Matched Cohort Study Analyzing Complications With Two-Year Follow-Up**  
**Ivan Wong, Canada;** Allison Tucker, Canada; Rakesh John, Canada

**ICORS 193 - Arthroscopic Iliac Crest Autograft Augmentation to Treat Shoulder Instability With Bone Loss: Safety Profile and Short-Term Outcomes**  
**Matthew Oldfield, Canada;** Ivan Wong, Canada

**ICORS 194 - Simulated Humeral Response to Changes in Stemless Implant Fixation-Feature Design**  
**Jacob Reeves, Canada;** G Daniel Langohr, Canada; George Athwal, Canada; James A. Johnson, Canada

**ICORS 195 - Perioperative Outcomes of Outpatient Total Shoulder Arthroplasty in the Medicare-Eligible Population**  
**Yatindra Patel, US**

**ICORS 196 - Fully Automatic Planning of Total Shoulder Arthroplasty Without Segmentation: A Deep Learning Based Approach**  
**Paul Kulyk, Canada;** Lazaros Vlachopoulos, Switzerland; Philipp Fürnstahl, Switzerland; Matthias Zumstein, Switzerland; Guoyan Zheng, Switzerland

**ICORS 197 - Wrist Accelerometry as an Objective Measure of Upper Extremity Activity**  
**Samuel Larrivé, Canada;** Emma Avery, Canada; Jeff Leiter, Canada

**ICORS 198 - Accuracy of a Thermic Sensor to Determine the Objective Wearing Time of Shoulder Splints**  
**Stéphane Pelet, Canada;** Etienne Belzile, Canada; Mathieu Angers-Goulet, Canada; Rosemarie Rinfret-Paquet, Canada

### **Spine**

**ICORS 199 - Minimally Invasive Direct Thoracic Interbody Fusion (MIS-DTIF): Technical Notes of a Single Surgeon Study**  
**Hamid Abbasi, US;** Ali Abbasi, US



## Posters: Exhibit Hall Room 517A/516

### **ICORS 200 - Economic Performance of Oblique Lateral Lumbar Interbody Fusion (OLLIF) With a Focus on Hospital Throughput Efficiency**

**Hamid Abbasi, US;** Christopher Murphy, US

### **ICORS 201 - Surgical Outcomes of Thoracic Arachnoid Web: A Case Series**

**Takashi Hirai, Japan;** Toshitaka Yoshii, Japan; Hiroyuki Inose, Japan; Masato Yuasa, Japan; Shuta Ushio, Tokyo, Japan; Hiroaki Onuma, Japan; Atsuyuki Kawabata, Japan; Atsushi Okawa, Japan

### **ICORS 202 - Influence of Segmental Fusion on Postoperative Outcomes of Bone Grafted and Non-Bone Grafted Double-Door Laminoplasty, the Modified Kirita-Miyazaki Method, for Treatment of Cervical Spondylotic Myelopathy**

**Hiroaki Onuma, Japan;** Takashi Hirai, Japan; Toshitaka Yoshii, Japan; Hiroyuki Inose, Japan; Masato Yuasa, Japan; Shuta Ushio, Japan; Atsuyuki Kawabata, Japan; Atsushi Okawa, Japan

### **ICORS 203 - Identification of Predictive Factors for Mechanical Complications after Adult Spinal Deformity Surgery; A Multi-Institutional Retrospective Study**

**Atsuyuki Kawabata, Japan;** Takashi Hirai, Japan; Toshitaka Yoshii, Japan; Hiroyuki Inose, Japan; Masato Yuasa, Japan; Hiroaki Onuma, Japan; Shuta Ushio, Japan; Atsushi Okawa, Japan

### **ICORS 204 - Gene Mining the Spinal and Dento-Skeletal Phenotypes of the Collaborative Cross Population**

**Jacob Kenny, Australia;** Samuel Bennett, Australia; Jiake Xu, Australia; Jennifer Tickner, Australia

### **ICORS 205 - CT-Ultrasound Fusion for Spinal Surgery**

**Normand Robert, Canada;** Hikmat Sahak, Canada; Jeremie Larouche, Canada; Michael Hardisty, Canada; Joel Finkelstein, Canada; Cari Whyne, Canada

### **ICORS 206 - Evaluation of Pedicle Screw Fixation in Simulated Osteoporotic Bone**

**Trevor Gascoyne, Canada;** Jonathan Tan, Canada; Michael Goytan, Canada





## Posters: Exhibit Hall Room 517A/516

### **ICORS 207 - Combined Static and Dynamic Finite Element Modelling Methodology Development for Vertebral Bodies**

**Bruno Agostinho Hernandez, UK; Harinderjit Gill, UK; Sabina Gheduzzi, UK**

### **ICORS 208 - Posture Is a Strong Determinant of Fracture Pattern in the Cervical Spine Subject to Impact Loading**

**Bruno Agostinho Hernandez, UK; Harinderjit Gill, UK; Sabina Gheduzzi, UK**

### **ICORS 209 - The Distinct Roles of Ca<sup>2+</sup> and PO<sub>4</sub> Ions in Intervertebral Disc Degeneration**

**Michael Grant, Canada; Yazeed AlSaran, Canada; Laura Mery Epure, Canada; John Antoniou, Canada; Fackson Mwale, Canada**

### **ICORS 210 - Comparing the Prognostic Performance of Area Under the Curve and F1-Score Using a National Surgery Database**

**Zachary DeVries, Canada; Philippe Phan, Canada; Mohamad Hoda, Canada**

### **Tendon/Ligament**

### **ICORS 211 - The Anterolateral Ligament of Knee: Anatomy and Mechanical Property**

**Dai-Soon Kwak, Korea; Ho-Jung Cho, Korea; Tae Soo Bae, Korea**

### **ICORS 212 - An Anatomical Study Of The Interosseous Membrane Of The Forearm**

**Hamid Rahmatullah Bin Abd Razak, Singapore; Xian-Khing Kenny Tay, Singapore; Keng Lin, Francis Wong, Singapore; Andy Yew, Singapore; Duncan Angus McGrouther, Singapore; Tet Sen Howe, Singapore; Joyce Suang Bee Koh, Singapore**

### **ICORS 213 - Face and Content Validity of the Sport-domain of the Anterior Cruciate Ligament-Quality of Life Questionnaire (ACL-QOL)**

**Jeremy Tynedal, Canada; S. Mark Heard, Canada; Laurie A. Hiemstra, Canada; Gregory M.L. Buchko, Canada; Sarah Kerslake, Canada**

### **ICORS 214 - Ultrasonography of the Lateral Ligament in Ankle Sprains**

**Karoline Bjerg Christensen, Denmark; Torben Petersen, Denmark**



## Posters: Exhibit Hall Room 517A/516

### **ICORS 215 - Quadriceps Tendon Rupture in Native Knees: Techniques and Outcomes**

**Joseph Carter, UK; Mohammed As-Sultany, UK; Gunasekaran Kumar, UK**

### **Trauma & Fractures**

### **ICORS 216 - The Evolution of Olecranon Fractures and the Fixation Strategies**

**Bryan Tan, Singapore; Jingwen Ng, Singapore; Ernest Kwek, Singapore**

### **ICORS 217 - Ideal Implant for Stable Olecranon Fractures? An Economic Evaluation**

**Bryan Tan, Singapore; Jingwen Ng, Singapore; Ernest Kwek, Singapore**

### **ICORS 218 - Association Between Pre-Operative Echocardiography and Increased Post-Operative Mortality and Medical Costs Among Adults With Hip Fracture**

**Justin Chang, Canada; Daniel Pincus, Canada; Richard Jenkinson, Canada; David Wasserstein, Canada; Hans Kreder, Canada; Bheeshma Ravi, Canada**

### **ICORS 219 - Assessing Screw Tightness Achieved By Orthopaedic Surgeons and Researchers**

**Boyko Gueorguiev, Switzerland; James Fletcher, UK; Verena Neumann, Switzerland; Lisa Wenzel, Germany; Geoff Richards, Switzerland; Harinderjit Gill, UK; Michael Whitehouse, UK; Ezio Preatoni, UK**

### **ICORS 220 - Incomplete Intertrochanteric Fracture: A Pattern Analysis Using Multiplanar Reformation Computed Tomography**

**Hee Joong Kim, Korea; Jeong Joon Yoo, Korea; Jaeyoun Yoon, Korea**

### **ICORS 221 - Compatibility of Anterolateral Distal Tibia Locking Compression Plates in the Asian Population**

**Kanapat Jaralpong, Thailand; Anupong Laohapoonrunsee Laohapoonrunsee, Thailand; Nattapon Chantarapanich, Thailand**

### **ICORS 222 - Deletion of FGFR1 in Osteoclasts Leads to Impaired Fracture Healing**

**Nan Su, China; Xiaogang Li, China; Lin Chen, China**



## Posters: Exhibit Hall Room 517A/516

### **ICORS 223 - Modifying the Local Injection Technique of MSCs to Optimize Their Therapeutic Benefit**

**Murtadhah M. K. Jalal, UK;** Hamish Simpson, UK; Robert Wallace, UK

### **ICORS 224 - Do Common Classification Systems for Tibial Plateau Fractures Describe What We Really See?**

**Stuart Millar, Australia;** John Arnold, Australia; Francoise Fraysse, Australia; Lucian Bogdan Solomon, Australia; Dominic Thewlis, Australia

### **ICORS 225 - Distal Radial Fractures: Radioulnar Interval Narrowing, the Head of the Capitate, and Radial Inclination**

**Matthew Mastel, Canada;** Geoffrey Johnston, Canada

### **ICORS 226 - Relationship Between Postoperative Delirium and Duration of Surgery Among Patients With Hip Fractures**

**Bheeshma Ravi, Canada;** Daniel Pincus, Canada; Richard Jenkinson, Canada; David Wasserstein, Canada; Donald Redelmeier, Canada

### **ICORS 227 - Comparing Complications and Costs of Total Hip Arthroplasty versus Hemiarthroplasty for Femoral Neck Fractures**

**Bheeshma Ravi, Canada;** Daniel Pincus, Canada; David Wasserstein, Canada; Richard Jenkinson, Canada; Hans Kreder, Canada

### **ICORS 228 - Reasons for Delayed Hip Fracture Surgery in Canada**

**Daniel Pincus, Canada;** David Wasserstein, Canada; Bheeshma Ravi, Canada; Richard Jenkinson, Canada; Hans Kreder, Canada; Avery Nathens, Canada; Walter Wodchis, Canada

### **ICORS 229 - Vitamin-D Levels and Severity of Forearm Fractures in Children**

**Junaid Khan, Pakistan;** Riaz Ahmed, Pakistan

### **ICORS 230 - Incidence and Complications of Fractures Managed by Traditional Bone Setters**

**Junaid Khan, Pakistan;** Riaz Ahmed, Pakistan

### **ICORS 231 - Are Sex Steroids, Bone Turnover Markers and Bone Density Loss Important in Men Having Low Trauma Distal Radius Fractures?**

**Junaid Khan, Pakistan;** Riaz Ahmed, Pakistan



**Posters: Exhibit Hall Room 517A/516**

**ICORS 232 - A Matched-Pair Comparison of Proximal Femoral Locking Plate (PFLP) and Sliding Hip Screw (SHS) Failure Rate in Trochanteric Fractures**

**Farshid Bagheri, Iran; Ali Parsa, US; Mohammad Hassani, Iran; Maryam Mirzaie, US**

**ICORS 233 - Association of Patient Outcomes With Patient Factors and Care Provided: Data from an Injury-Specific Trauma Registry**

**Tashfeen Ahmad, Pakistan; Zehra Abdul Muhammad, Pakistan**

**ICORS 234 - Comparison of Efficacy of Above Elbow POP versus Below Elbow POP in Distal Forearm Displaced Fractures in Children**

**Rahman Rasool Akhtar, Pakistan; Junaid Khan, Pakistan**

**ICORS 235 - Are Radiographs Necessary Before Kirschner Wire Removal in Supracondylar Fracture of Humerus in Children Who Have Undergone Operative Procedure?**

**Rahman Rasool Akhtar, Pakistan**

**Tumours**

**ICORS 236 - Clinical Outcomes for Primary Malignant Bone and Soft Tissue Patients Aged 65 Years or Older**

**Masao Akagi, Japan; Kazuhiko Hashimoto, Japan; Shunji Nishimura, Japan; Shunki Iemura, Japan; Ryosuke Kakinoki, Japan**

**ICORS 237 - The CXCL1/CXCR2 Paracrine Axis Contributes to Lung Metastasis in Osteosarcoma**

**Ju-Fang Liu, Taiwan; Chun-Han Hou, Taiwan**

**ICORS 238 - Investigation on Factors Related to Outcomes in of Surgical Procedures for Proximal Type of Cervical Spondylotic Amyotrophy**

**Shuta Ushio, Japan; Takashi Hirai, Japan; Toshitaka Yoshii, Japan; Hiroaki Onuma, Japan; Atsuyuki Kawabata, Japan; Atsushi Okawa, Japan**