The 8th Annual Meeting of

ARTHROPLASTY SOCIETY IN ASIA

PROGRAM BOOK

August 27 (Sat) - 28 (Sun), 2022

Bali, Indonesia & Beijing, China

CO-BRANDED WITH THE HIP SOCIETY THE KNEE SOCIETY AO RECON

Table of Content

Keep In Touch

ASIA 2022 Secretariat
Email: sercetraiat@asiaarthroplasty.org

Arthroplasty Editorial Office
Email: edit-group@asiaarthroplasty.org

Twitter
@ArthroplastyIn

WeChat
ASIAarthroplasty

LinkedIn
Arthroplasty Society in ASIA

YouTube
Arthroplasty Society in ASIA

Vumedi
Arthroplasty Society in ASIA

Welcome Message

Arthroplasty Society in Asia (ASIA) was created with the utmost care and consideration when it originally began in 2012. With a high degree of professionalism, experience and attention to the finer details, a team of top experts specializing in joint surgery from various Asian countries as well as external countries around the world was formed. As brilliant minds have the opportunity to come together to make advancements in the community setting by sharing and working together, they can become even more developed in their areas of expertise.

In the past 10 years, we have held seven annual meetings in Beijing, Seoul, New Delhi, Tokyo and Guangzhou. Bali, Indonesia, was announced as the host city of the 8th ASIA Annual Meeting (2020). However, it had to be postponed previously due to COVID-19. This year, we are glad to operate a face-to-face venue in Bali for in-person participation. In the meantime, a virtual meeting section will be set up based in Beijing, which is free and open to all participants who couldn't able to travel to Bali.

Although the pandemic has dramatically impacted our personal and professional lives over the last two years, ASIA strives for top-quality online educational events, including the ASIA Novel Seminar (ANS), co-branded webinars and virtual fellowship programs. In the past two years, *Arthroplasty* (ISSN: 2524-7948), the official journal of ASIA, has newly been indexed in Scopus, ESCI and PubMed/PMC. These programs and platforms allow surgeons to be updated timely with the new technology and scientific advances in the field of arthroplasty.

To be a part of this great community full of close friends and mentors, it's my pleasure to perform as the president of ASIA in the past years. I would like to appreciate all of the members for trusting and allowing me to fulfill a role I am truly passionate about in a field that I am deeply invested in. Especially, all ASIA faculties need to be highlighted for their extremely contributions and efforts in making the program glitter.

We hope all the participants will be able to benefit from the congress as it will be packaged with insightful and inspiring information. The congress will fortify the Asia and international network of researchers and professionals. With the collaboration and support of all attendants and with the spirit of partnership and working together we hope that we can seek a new height of arthroplasty.

Look forward to your attending and seeing you at both the in-person and virtual ASIA annual meeting.

Nicolaas C. Budhiparama
President of ASIA (2020-2022)

Yixin Zhou
Chairman, ASIA 2022 Scientific Committee

Organization Committee

ASIA Executive Committee

Founding Chairman	Yan Wang
Immediate Past President 2018-2019	Youn Soo Park
President 2019-2022	Nicolaas C. Budhiparama
President-Elect 2022	Yixin Zhou
Treasurer	Guoqiang Zhang
Chief Operating Officer	Ling Cheng

ASIA Past President

Past President 2013-2015	Myung Chul Yoo
Past President 2015-2017	S.K.S. Marya
Past President of ASIA 2017	Hirokazu Iida
Past President 2017-2018	Haishan Wu
Past President 2018-2019	Youn Soo Park

ASIA Faculty

Bin Shen
Cao Li
Jianbing Ma
Lidong Wu
Wanshou Guo
Weidong Xu
Xianlong Zhang
Xiaodong Chen
Yaoping Wu
Yihe Hu
Yonggang Zhou
Chun Hoi Yan
Peter K.Y. Chiu
Cheng-Kung Cheng
Mel S. Lee
Tzai Chiu Yu
Wei-Ming Chen
Dae Kyung Bae
Jun-Dong Chang
Myung Chul Lee
Seung-Beom Han
Seung Jae Lim
Yong In
Yong Sik Kim
Young-Ho Kim
Etsuo Chosa
Haruhiko Akiyama
Kenji Ohzono
Masatoshi Naito
Nobuo Sugano
Takuya Otani
Tokifumi Majima
Anup Khare
Chandeep Singh
K. J. Reddy
M. S. Dhillon
Vikram I. Shah
Andrew Tang
Bo Nivbrant
Jeganath Krishnan
Warwick James Moody Bruce
Aree Tanavali
Suthorn Bavonratanavech
Thanainit Chotanaphuti
Muhammad Amin Chinoy
Syed Shahid Noor
Samih Tarabichi
Sebastien Parratte
M. Amjad Hossain
David Choon
Mojieb Manzary
Yeo Seng Jin
Thomas S. Thornhill
Chitranjans S. Ranawat
Daniel J. Berry
William Joseph Maloney

Invited Guests

** In the alphabetical order of the last name*

Matthew P. Abdel
Russel Bondner
Nicolaas C. Budhiparama
Li Cao
Wei Chai
Liumin Chang
Yuhan Chang
Jiying Chen
Yunsu Chen
Cheng-Fong Chen
Antonia Chen
Thanainit Chotanaphuti
Craig J. Della Valle
Lin Guo
Fares S. Haddad
Carlos A. Higuera-Rueda
Chuan He
Yihe Hu
Wei Huang
Anup Khare
Fatih Kucukurmaz
Brent A. Lanting
Gwo-Chin Lee
Huiwu Li
Seung Jae Lim
Jianbing Ma
S.K.S. Marya
David J. Mayman
Ming Ni
Youn Soo Park
Sebastien Parratte
Javad Parvizi
Ran Schwarzkopf
Tarik Selmi
Hongyi Shao
Xianyue Shen
Ittai Shichman
Matsuda Shuichi
Chandeep Singh
Edwin P. Su
Li Sun
Naonobu Takahira
Hao Tang
Sean Toomey
Andrej Trampuz
Jinliang Wang
Weijun Wang
Yan Wang
Haishan Wu
Haijun Xu
Chun Hoi Yan
Tadashi Yasuda
Myung Chul Yoo
Guoqiang Zhang
Xiaogang Zhang
Yuan Zhang
Qingyuan Zheng
Yixin Zhou
Zongke Zhou

The 8th Annual Meeting of ASIA

Co-branded with Hip Society, Knee Society & AO Recon

ASIA2022

August 27-28, 2022 Bali, Indonesia & Beijing, China

Day 1 – Saturday, August 27, 2022

ASIA Keynote Speech

Keynote Speakers: Nicolaas C. Budhiparama, Myung Chul Yoo, Yixin Zhou

ASIA-The Hip Society Combined Meeting

Technical Tips Sharing of Hip Arthroplasty

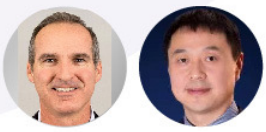
Speakers: Yan Wang, Brent A. Lanting, Edwin P. Su, Peter KY Chiu

Instability of THA

Speakers: Craig J. Della Valle, Russell Bodner, Hao Tang, Guoqiang Zhang

Revision THA

Speakers: Gwo-Chin Lee, Youn Soo Park



Satelite Meeting (Stryker)

Speakers: Sean Toomey, Yixin Zhou

Complex THA

Speakers: Chun Hoi Yan, Jianbing Ma, Cheng-Fong Chen, Jinliang Wang

THA for Patients with DDH

Speakers: Wei Chai, Naonobu Takahira, Haijun Xu, Yuan Zhang

Robot Assisted THA

Speakers: Seung Jae Lim, Huiwu Li, Kevin Ho, Li Sun

ASIA-AO Recon Combined Session

Speakers: Michael Huo, Kiki Novito, Yoon Soo Park, Daniel J. Berry, Carsten Perka, Yixin Zhou, Nicolaas C. Budhiparama

ORGANISED BY: CO-BRANDED WITH:

The 8th Annual Meeting of ASIA

Co-branded with Hip Society, Knee Society & AO Recon

ASIA2022

August 27-28, 2022 Bali, Indonesia & Beijing, China

Day 2 - Sunday, August 28, 2022

ASIA-The Knee Society Combined Meeting

Speakers: Fares S. Haddad, David J. Mayman, Mojieb Manzary, Chandeep Singh, Matsuda Shuichi, Tarik Selmi, Ran Schwarzkopf, S.K.S. Marya

TKA Session

Speakers: Matsuda Shuichi, Haishan Wu, Anup Khare, Sebastien Parratte, Lin Guo, Thanainit Chotanaphuti

Prevention and Diagnosis PJI

Speakers: Antonia Chen, Andrej Trampuz, Matthew P. Abdel, Carlos A. Higuera-Rueda

TKA Surgical Technique

Speakers: Yunsu Chen, Wei Huang, Xiaogang Zhang, Zongke Zhou, Weijun Wang

Treatment of PJI and What's New of PJI

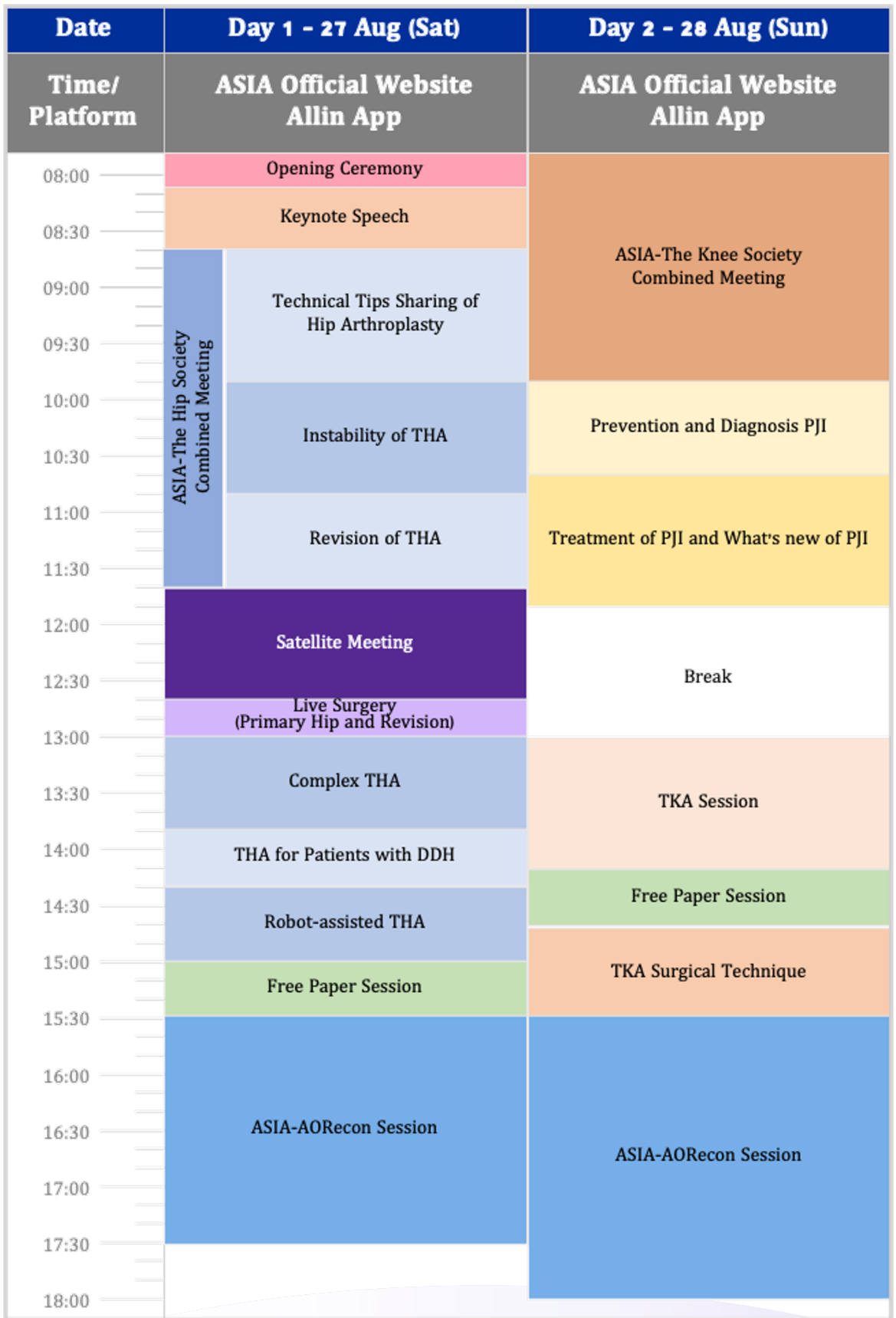
Speakers: Yuhan Chang, Li Cao, Jiying Chen, Chuan He, Hongyi Shao, Fatih Kucukurmaz, Javad Parvizi

ASIA-AO Recon Combined Session

Speakers: Michael Huo, Kiki Novito, Yoon Soo Park, Daniel J. Berry, Carsten Perka, Yixin Zhou, Nicolaas C. Budhiparama

ORGANISED BY: CO-BRANDED WITH:

Program at a Glance



Scientific Programme

Day 1 – Saturday, August 27, 2022

08:00-08:40 (UTC+8) 08:00-08:40 Local Time | Keynote Speech [Keynote Speech] Watch live

Moderator: Yixin Zhou Beijing Jishuitan Hospital

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	08:00-08:04	08:00-08:04	Opening Speech	Yixin Zhou	Beijing Jishuitan Hospital
2	08:04-08:16	08:04-08:16	The Vision and Mission of Arthroplasty Society in Asia (TBD)	Nicolaas C. Budhiparama	Medistra Hospital, Jakarta-Indonesia
3	08:16-08:28	08:16-08:28	Am I Confident About Hip Resurfacing's Resurrection	Myung Chul Yoo	Department of Orthopedic Surgery, Chung Hospital
4	08:28-08:40	08:28-08:40	Robotic Revision Total Hip Arthroplasty with a Mako	Yixin Zhou	Beijing Jishuitan Hospital

08:40-09:50 (UTC+8) 08:40-09:50 Local Time | Technical Tips Sharing of Hip Arthroplasty [ASIA-The Hip Society Combined Meeting] Watch live

Moderator: Peter K.Y. Chiu The University of Hong Kong | Edwin P. Su Hospital for Special Surgery

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	08:40-08:50	08:40-08:50	THA in Patient with Spine-Hip Combined Deformity	Yan Wang	Chinese PLA General Hospital
2	08:50-09:00	08:50-09:00	Direct Anterior - Simple Primary to Revision	Brent A. Lanting	London Health Sciences Centre
3	09:00-09:10	09:00-09:10	Hip Resurfacing Arthroplasty	Edwin P. Su	Hospital for Special Surgery
4	09:10-09:20	09:10-09:20	Liner Exchange for Wear and Osteolysis After Total Hip Arthroplasty	Peter K.Y. Chiu	The University of Hong Kong
5	09:20-09:30	09:20-09:30	Hybrid (Cemented Femur) THA - A Large Minority of Cases	Brent A. Lanting	London Health Sciences Centre
6	09:30-09:40	09:30-09:40	Panoramic Fluoroscopy for Direct Anterior THA	Edwin P. Su	Hospital for Special Surgery
7	09:40-09:50	09:40-09:50	Discussion Peter K.Y. Chiu The University of Hong Kong / Edwin P. Su Hospital for Special Surgery / Brent A. Lanting London Health Sciences Centre		

09:50-10:50 (UTC+8) 09:50-10:50 Local Time | Instability of THA [ASIA-The Hip Society Combined Meeting] Watch live

Moderator: Guoqiang Zhang Chinese PLA General Hospital | Brent A. Lanting London Health Sciences Centre

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	09:50-10:00	09:50-10:00	Constrained Liners and Dual Mobility Articulations: What is Their Role in Revision THA?	Craig J. Della Valle	Rush University Medical Center
2	10:00-10:10	10:00-10:10	Sagittal Plane Functional Planning for THA: The Time Has Come	Russell Bodner	Midwest Orthopedic Institute
3	10:10-10:20	10:10-10:20	Why the Lewinneck Safe Zone Fails? Crack the Puzzle of Patient Specific Safe Zone	Hao Tang	Beijing Jishuitan Hospital
4	10:20-10:30	10:20-10:30	Posterior Capsule Reconstruction for Reinforcing the Stability After THA	Guoqiang Zhang	Chinese PLA General Hospital
5	10:30-10:40	10:30-10:40	Where Does My Cup Go? The Case for Analytics at 1 Year Follow up	Russell Bodner	Midwest Orthopedic Institute
6	10:40-10:50	10:40-10:50	Discussion Craig J. Della Valle Rush University Medical Center / Russell Bodner Midwest Orthopedic Institute / Hao Tang Beijing Jishuitan Hospital / Guoqiang Zhang Chinese PLA General Hospital		

Day 1 – Saturday, August 27, 2022

10:50-11:40 (UTC+8) 10:50-11:40 Local Time | Revision THA [ASIA-The Hip Society Combined Meeting] Watch live

Moderator: Youn Soo Park Samsung Medical Center | Craig J. Della Valle Rush University Medical Center

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	10:50-11:00	10:50-11:00	Management of Pelvic Bone Loss in Revision THA	Gwo-Chin Lee	Hospital for Special Surgery and Pennsylvania Hospital
2	11:00-11:10	11:00-11:10	Corrosion at the Head Neck Junction: Diagnosis and Treatment	Craig J. Della Valle	Rush University Medical Center
3	11:10-11:20	11:10-11:20	Revision Total Hip Arthroplasty using Modular Tapered Stem	Youn Soo Park	Samsung Medical Center
4	11:20-11:30	11:20-11:30	Discussion Gwo-Chin Lee Hospital for Special Surgery and Pennsylvania Hospital / Craig J. Della Valle Rush University Medical Center / Yixin Zhou Beijing Jishuitan Hospital / Youn Soo Park Samsung Medical Center		

11:40-12:40 (UTC+8) 11:40-12:40 Local Time | Satelite Meeting (Stryker) [Satelite Meeting] Watch live

Moderator: Yan Wang Chinese PLA General Hospital

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	11:40-12:05	11:40-12:05	What Clinical and Economic Value Has Robotic-assisted Knee Replacement Shown in the USA Population	Sean Toomey	Orthopedic Physician Associates Seattle
2	12:05-12:10	12:05-12:10	Discussion		
3	12:10-12:35	12:10-12:35	Experience of Complex Hip and Knee Replacement	Yixin Zhou	Beijing Jishuitan Hospital
4	12:35-12:40	12:35-12:40	Panel Discussion		

12:40-13:00 (UTC+8) 12:40-13:00 Local Time | Live Surgery

13:00-13:40 (UTC+8) 13:00-13:40 Local Time | Complex THA [Complex THA] Watch live

Moderator: Chun-Hoi Yan Queen Mary Hospital

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	13:00-13:08	13:00-13:08	Isolated Liner Exchange in Revision THR	Chun-Hoi Yan	Queen Mary Hospital
2	13:08-13:16	13:08-13:16	Application of Limited 3D Printing Argument in Complicated THA	Jianbing Ma	Xi'an Honghui Hospital
3	13:16-13:24	13:16-13:24	Complex primary THR- Always Respect It	Chen Cheng-Fong	Taipei Veterans General Hospital
4	13:24-13:32	13:24-13:32	THA for Traumatic Hip Arthritis after Acetabular Fracture	Jinliang Wang	Zhengzhou Orthopaedic Hospital
5	13:32-13:40	13:32-13:40	Discussion Chun-Hoi Yan Queen Mary Hospital / Jianbing Ma Xi'an Honghui Hospital / Cheng-Fong Chen Taipei Veterans General Hospital / Jinliang Wang Zhengzhou Orthopaedic Hospital		

Day 1 – Saturday, August 27, 2022

13:40-14:20 (UTC+8) 13:40-14:20 Local Time | THA for Patients with DDH [THA for Patients with DDH]

Watch live

Moderator: Wei Chai Chinese PLA General Hospital | Naonobu Takahira Kitasato University, Tokyo

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	13:40-13:48	13:40-13:48	How To Do a Perfect THA For Patients With DDH Using Robots?	Wei Chai	Chinese PLA General Hospital
2	13:48-13:56	13:48-13:56	Anterolateral Approach： Application of 3D Model and 3D Printer to THA using Anterolateral Approach in the Supine Position -The Practice of PST Guide	Naonobu Takahira	Kitasato University, Tokyo
3	13:56-14:04	13:56-14:04	What's the Difference between C1 vs C2 Hartofilakidis type C DDH?	Haijun Xu	Forth Hospital of Wuhan, Tongji Medical College, Huazhong University of Science and Techology
4	14:04-14:12	14:04-14:12	Anterior Approach THA for Patients with Crowe Type IV DDH	Yuan Zhang	Department of Orthopedics, Xinqiao Hospital, Third Military Medical University, Chongqing, China, 400037.
5	14:12-14:20	14:12-14:20	Discussion Wei Chai Chinese PLA General Hospital / Haijun Xu Forth Hospital of Wuhan, Tongji Medical College, Huazhong University of Science and Techology / Yuan Zhang Department of Orthopedics, Xinqiao Hospital, Third Military Medical University, Chongqing, China, 400037. / Naonobu Takahira Kitasato University, Tokyo		

14:20-15:00 (UTC+8) 14:20-15:00 Local Time | Robot Assisted THA [Robot Assisted THA]

Watch live

Moderator: Seung-Jae Lim Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea | Huiwu Li Shanghai Ninth People's Hospital

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	14:20-14:28	14:20-14:28	Long-Term Outcomes of Revision Total Hip Arthroplasty Using a Tapered and Fluted Modular Stem	Seung-Jae Lim	Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea
2	14:28-14:36	14:28-14:36	Acetabular Revision Surgery Assisted by a New Classification System	Huiwu Li	Shanghai Ninth People's Hospital
3	14:36-14:44	14:36-14:44	Total Hip Arthroplasty Cup Position: Conventional, Navigation and Robot-assisted	Kevin Ho	Chinese University of Hong Kong
4	14:44-14:52	14:44-14:52	Treatment of Periprosthetic Fracture after THA	Li Sun	Guizhou Provincial Orthopedics Hospital
5	14:52-15:00	14:52-15:00	Discussion Seung-Jae Lim Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea / Huiwu Li Shanghai Ninth People's Hospital / Li Sun Guizhou Provincial Orthopedics Hospital		

15:00-15:30 (UTC+8) 15:00-15:30 Local Time | Free Paper Session I [Free Paper Session]

Watch live

Moderator: Jianbing Ma Xi'an Honghui Hospital

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	15:00-15:07	15:00-15:07	Outcomes of Novel 3D-Printed Fully Porous Titanium Cup and a Cemented Highly Cross-Linked Polyethylene Liner in Complex and Revision Total Hip Arthroplasty	Ittai Shichman	NYU Langone Health
2	15:07-15:14	15:07-15:14	Association Of Preoperative Variables Of Ipsilateral Hip Abductor Muscles With Gait Function After Total Hip Arthroplasty: A Retrospective Study	Tadashi Yasuda	Kobe City Medical Center General Hospital
3	15:14-15:21	15:14-15:21	Development And Validation Of An Automated Classification System For Osteonecrosis Of The Femoral Head Using Deep Learning Approach: A Multi-Center Study	Xianyue Shen	The Second Hospital of Jilin University
4	15:21-15:30	15:21-15:30	Discussion Xianyue Shen The Second Hospital of Jilin University / Ittai Shichman NYU Langone Health / Tadashi Yasuda Kobe City Medical Center General Hospital		

Day 1 – Saturday, August 27, 2022

15:30-16:25 (UTC+8) 15:30-16:25 Local Time | Hip Topics I [ASIA-AO Recon Combined Session] Watch live

Moderator: Michael Huo UT Southwestern Medical Center | Nicolaas C. Budhiparama Medistra Hospital, Jakarta-Indonesia

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	15:30-15:40	15:30-15:40	Opening Remarks	Michael Huo	UT Southwestern Medical Center
2	15:40-15:50	15:40-15:50	Dislocation : Prevention and Treatment	Kiki Novito	Medistra Hospital
3	15:50-16:00	15:50-16:00	Conversion THR : Following Previous Hip Fractures And Acetabular Fractures	Youn Soo Park	Samsung Medical Center
4	16:00-16:10	16:00-16:10	Revision THR : Acetabular Bone Loss Management	Daniel J. Berry	Department of Orthopedic Surgery, Mayo Clinic
5	16:10-16:25	16:10-16:25			

16:25-17:10 (UTC+8) 16:25-17:10 Local Time | Knee Topics I [ASIA-AO Recon Combined Session] Watch live

Moderator: Nicolaas C. Budhiparama Medistra Hospital, Jakarta-Indonesia

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	16:25-16:35	16:25-16:35	Bearing Option : CR, Ultra-congruent, Medial pivot, PS, Varus-valgus Constrain	Carsten Perka	Charité Universitätsmedizin Berlin
2	16:35-16:45	16:35-16:45	TKR : Mechanical vs Kinematic Alignment	Yixin Zhou	Beijing Jishuitan Hospital
3	16:45-16:55	16:45-16:55	TKR Peri-prostethetic Fracture : Fix or Revision	Michael Huo	UT Southwestern Medical Center
4	16:55-17:10	16:55-17:10	Discussion		

17:10-17:40 (UTC+8) 17:10-17:40 Local Time | Infection Topics [ASIA-AO Recon Combined Session] Watch live

Moderator: Nicolaas Budhiparama

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	17:10-17:20	17:10-17:20	Diagnostion and Prevension	Michael Huo	UT Southwestern Medical Center
2	17:20-17:30	17:20-17:30	DAIR, 1-stage, 1,5-stage and 2-stage	Daniel J. Berry	Department of Orthopedic Surgery, Mayo Clinic
3	17:30-17:40	17:30-17:40	Discussion		

20:00-21:00 (UTC+8) 20:00-21:00 Local Time | *Arthroplasty* Editorial Board Meeting **[Invited Meeting]**

Moderator: **Jianbing Ma Xi'an Honghui Hospital | Assistant Editor-in-Chief of *Arthroplasty***

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	20:00-20:03	20:00-20:03	Opening Remark	Jianbing Ma	Xi'an Honghui Hospital
2	20:03-20:08	20:03-20:08	EiC Opening Speech	Yan Wang	Chinese PLA General Hospital
3	20:08-20:18	20:08-20:18	Performance Report from Partner BMC	Xi Cheng	Springer Nature BMC
4	20:18-20:33	20:18-20:33	Performance Report from Editorial Office	Guoqiang Zhang	Chinese PLA General Hospital
5	20:33-20:38	20:33-20:38	Speech from Editorial Board Member	Chun-Hoi Yan	Queen Mary Hospital
6	20:38-20:53	20:38-20:53	Open Discussion for Future Development	All Members	
7	20:53-20:55	20:53-20:55	Closing Remark	Jianbing Ma	Xi'an Honghui Hospital

Day 2 – Sunday, August 28, 2022

08:00-09:53 (UTC+8) 08:00-09:53 Local Time | ASIA-The Knee Society Combined Meeting [ASIA-The Knee Society Combined Meeting] Watch live

Moderator: Yixin Zhou Beijing Jishuitan Hospital | David J. Mayman Hospital for Special Surgery

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	08:00-08:08	08:00-08:08	Robotic UKA	Fares S. Haddad	University College Hospitals
2	08:08-08:16	08:08-08:16	Robotic Total Knee Arthroplasty	David J. Mayman	Hospital for Special Surgery
3	08:16-08:24	08:16-08:24	Lower Limb Alignment in Total Knee Arthroplasty	Fares S. Haddad	University College Hospitals
4	08:24-08:32	08:24-08:32	The All Poly Tibia	Mojieb Manzary	Johns Hopkins Aramco Healthcare
5	08:32-08:40	08:32-08:40	TKR in Rheumatoid Knees-Varied Presentation	Chandeep Singh	Max Institute of Musculoskelatal Sciences, India
6	08:40-08:48	08:40-08:48	How Can We Improve Range of Motion After Total Knee Arthroplasty?	Matsuda Shuichi	Juntendo University, Tokyo
7	08:48-08:56	08:48-08:56	Total Knee Arthroplasty Using Customary Made Implant	Tarik Selmi	Lyon Croix-Rousse University Hospital
8	08:56-09:11	08:56-09:11	Discussion Fares S. Haddad University College Hospitals / Chandeep Singh Max Institute of Musculoskelatal Sciences, India / Matsuda Shuichi Juntendo University, Tokyo / Mojieb Manzary Johns Hopkins Aramco Healthcare		
9	09:11-09:19	09:11-09:19	Constraint in Revision Total Knee Arthroplasty	David J. Mayman	Hospital for Special Surgery
10	09:19-09:27	09:19-09:27	Cone Fixation in Revision TKA	Ran Schwarzkopf	NYU Langone Orthopedic Hospital
11	09:27-09:35	09:27-09:35	Metal Allergy in Knee Arthroplasty	Ran Schwarzkopf	NYU Langone Orthopedic Hospital
12	09:35-09:43	09:35-09:43	Distal Femoral Periprostheic Fracture Fix or Replace?	S.K.S. Marya	Chairman, Max Institute of musculoskeletal sciences Delhi
13	09:43-09:53	09:43-09:53	Discussion Fares S. Haddad University College Hospitals / David J. Mayman Hospital for Special Surgery / Matsuda Shuichi Juntendo University, Tokyo / Chandeep Singh Max Institute of Musculoskelatal Sciences, India / S.K.S. Marya Chairman, Max Institute of musculoskeletal sciences Delhi		

09:53-10:43 (UTC+8) 09:53-10:43 Local Time | Prevention and Diagnosis PJI [Prevention and Diagnosis PJI] Watch live

Moderator: Jiying Chen Chinese PLA General Hospital | Yuhan Chang Chang Gung Memorial Hospital

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	09:53-10:01	09:53-10:01	How to Prevent PJI	Antonia Chen	Brigham and Women's Hospital
2	10:01-10:09	10:01-10:09	Diagnosis of PJI——My Personal Protocol	Antonia Chen	Brigham and Women's Hospital
3	10:09-10:17	10:09-10:17	Diagnosis of PJI: Current Definition Criteria and New Dianostic Tests	Andrej Trampuz	Charité Universitätsmedizin Berlin
4	10:17-10:25	10:17-10:25	Inflammatory Arthritis —— How to Mitigate the Danger of PJI	Matthew P. Abdel	Mayo Clinic College of Medicine
5	10:25-10:33	10:25-10:33	PJI Treatment: 1 VS 2 stage. Time to Reassess the Strategy?	Carlos A. Higuera-Rueda	Cleveland Clinic Florida
6	10:33-10:43	10:33-10:43	Discussion Matthew P. Abdel Mayo Clinic College of Medicine / Carlos A. Higuera-Rueda Cleveland Clinic Florida / Yuhan Chang Chang Gung Memorial Hospital / Jiying Chen Chinese PLA General Hospital		

Day 2 – Sunday, August 28, 2022

10:43-11:49 (UTC+8) 10:43-11:49 Local Time | Treatment of PJI and What's New of PJI [Treatment of PJI and What's New of PJI]

Watch live

Moderator: Li Cao The First Affiliated Hospital of XinJiang University School of Medicine | Hongyi Shao Beijing Jishuitan Hospital

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	10:43-10:51	10:43-10:51	DAIR in Periprosthetic Joint Infection: Our Experience and Current Concept Review	Yuhan Chang	Chang Gung Memorial Hospital
2	10:51-10:59	10:51-10:59	Effective Single-stage Revision Using Intra-articular Antibiotic Infusion after Multiple Failed Surgery for Periprosthetic Joint Infection	Li Cao	The First Affiliated Hospital of XinJiang University School of Medicine
3	10:59-11:07	10:59-11:07	Two Stage	Jiying Chen	Chinese PLA General Hospital
4	11:07-11:15	11:07-11:15	Persistent Wound Drainage after TJA	Chuan He	Shanghai Ruijin Hospital
5	11:15-11:23	11:15-11:23	Time for Reimplantation	Hongyi Shao	Beijing Jishuitan Hospital
6	11:23-11:31	11:23-11:31	Unexpected Positive Intra-Operative Culture	Fatih Kucukurmaz	Bezmialem Vakıf Üniversitesi
7	11:31-11:39	11:31-11:39	What's New of PJI	Javad Parvizi	Rothman Orthopaedic Institute
8	11:39-11:49	11:39-11:49	Discussion Li Cao The First Affiliated Hospital of XinJiang University School of Medicine / Wenming Zhang The First Affiliated Hospital of Fujian Medical University / Jiying Chen Chinese PLA General Hospital / Hongyi Shao Beijing Jishuitan Hospital / Yuhan Chang Chang Gung Memorial Hospital		

13:00-14:14 (UTC+8) 13:00-14:14 Local Time | TKA Session [TKA Session]

Watch live

Moderator: Haishan Wu Shanghai Changzheng Hospital | Thanainit Chotanaphuti Phramongkutklao Hospital

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	13:00-13:12	13:00-13:12	Computer Simulation in Total Knee Arthroplasty	Matsuda Shuichi	Juntendo University, Tokyo
2	13:12-13:20	13:12-13:20	How to Achieve a High Performance TKA	Haishan Wu	Shanghai Changzheng Hospital
3	13:20-13:28	13:20-13:28	Relevance and Importance of Patellofemoal Joint in TKA	Anup Khare	Rainbow Hospital
4	13:28-13:36	13:28-13:36	Implant Design for Total Knee Arthroplasty in 2022	Sebastien Parratte	University Hospital of Marseille
5	13:36-13:44	13:36-13:44	3D Preoperative Planning of a TKR Surgery	Lin Guo	Southwest Hospital
6	13:44-13:52	13:44-13:52	Levels of Constraint Affect Functional Outcome of Femoral Sleeve in Revision TKA	Thanainit Chotanaphuti	Phramongkutklao Hospital
7	14:04-14:14	14:04-14:14	Discussion Haishan Wu Shanghai Changzheng Hospital / Thanainit Chotanaphuti Phramongkutklao Hospital / Lin Guo Southwest Hospital / Matsuda Shuichi Juntendo University, Tokyo / Anup Khare Rainbow Hospital / Sebastien Parratte University Hospital of Marseille		

14:14-14:45 (UTC+8) 14:14-14:45 Local Time | Free Paper Session II [Free Paper Session]

Watch live

Moderator: Hongyi Shao Beijing Jishuitan Hospital

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	14:14-14:21	14:14-14:21	Could Surgical Transepicondylar Axis Be Identified Accurately In Preoperative 3D Plan For Total Knee Arthroplasty? A Reproducibility Study Based On 3D-CT	Lin Guo	Southwest Hospital
2	14:21-14:28	14:21-14:28	A Preliminary Study On The Application Of Deep Learning Method Based On Convolutional Network To Pji Pathological Diagnosis	Ming Ni	Chinese PLA General Hospital
3	14:28-14:35	14:28-14:35	A Rapid Diagnosis And Data Management System For Periprosthetic Joint Infection Based On Instant Messaging Platform: A Single-Center Retrospective Cohort Study	Qingyuan Zheng	Chinese PLA General Hospital
4	14:35-14:45	14:35-14:45	Discussion Lin Guo Southwest Hospital / Hongyi Shao Beijing Jishuitan Hospital / Ye Tao PLA General Hospital / Qingyuan Zheng Chinese PLA General Hospital		

Day 2 – Sunday, August 28, 2022

14:45-15:30 (UTC+8) 14:45-15:30 Local Time | TKA Surgical Technique [TKA Surgical Technique]

Watch live

Moderator: Yi Hu | Wei Huang The First Affiliated Hospital of Chongqing Medical University

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	14:45-14:52	14:45-14:52	Analysis of Factors Influencing the Change in Relative Patellar Height After Primary: Total Knee Arthroplasty: a Clinical Study Based on Robot-Assisted Surgery	Yunsu Chen	Shanghai Sixth People's Hospital
2	14:52-14:59	14:52-14:59	"Pros &Cons"of Chinese TKA Robots	Wei Huang	The First Affiliated Hospital of Chongqing Medical University
3	14:59-15:06	14:59-15:06	DAIR：Timing and Techniques	Xiaogang Zhang	The First Affiliated Hospital of XinJiang University School of Medicine
4	15:06-15:13	15:06-15:13	TKA for Extra-articular Deformity Knee	Zongke Zhou	West China Hospital Sichuan University
5	15:13-15:20	15:13-15:20	Soft Tissue Management in Total Knee Arthroplasty	Weijun Wang	Nanjing Drum Tower Hospital
6	15:20-15:30	15:20-15:30	Discussion Yi Hu / Wei Huang The First Affiliated Hospital of Chongqing Medical University / Yunsu Chen Shanghai Sixth People's Hospital / Xiaogang Zhang The First Affiliated Hospital of XinJiang University School of Medicine / Zongke Zhou West China Hospital Sichuan University / Weijun Wang Nanjing Drum Tower Hospital		

15:30-16:00 (UTC+8) 15:30-16:00 Local Time | Debate：Hip Topics [ASIA-AO Recon Combined Session]

Watch live

Moderator: Carsten Perka Charité Universitätsmedizin Berlin

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	15:30-15:45	15:30-15:45	Debate : Femoral Neck Fracture, Partial Or Total? Daniel J. Berry Department of Orthopedic Surgery, Mayo Clinic / Kiki Novito Medistra Hospital		
2	15:45-16:00	15:45-16:00	Debate : The Dual Mobility Cup : First Choice For The Recurrent Dislocator Michael Huo UT Southwestern Medical Center / Carsten Perka Charité Universitätsmedizin Berlin		

16:00-16:40 (UTC+8) 16:00-16:40 Local Time | Debate : Knee Topics [ASIA-AO Recon Combined Session]

Moderator: Nicolaas C. Budhiparama Medistra Hospital, Jakarta-Indonesia

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	16:00-16:40	16:00-16:40	Debate : Resurfacing Patellar Or Not Resurfacing Nicolaas C. Budhiparama Medistra Hospital, Jakarta-Indonesia / Michael Huo UT Southwestern Medical Center		
2	16:15-16:30	16:15-16:30	Debate : The PCI In Contemporary TKA : a Vestigial Organ Daniel J. Berry Department of Orthopedic Surgery, Mayo Clinic / Carsten Perka Charité Universitätsmedizin Berlin		

16:40-17:55 (UTC+8) 16:40-17:55 Local Time | Case Presentation Presented by : Faisal HD [ASIA-AO Recon Combined Session]

Watch live

Moderator: Michael Huo UT Southwestern Medical Center | Nicolaas C. Budhiparama Medistra Hospital, Jakarta-Indonesia

NO.	Beijing Time (UTC+8)	Local Time	Talk Title	Speaker	Affiliation
1	16:40-16:55	16:40-16:55	Case 1 : Knee	All Speakers	
2	16:55-17:10	16:55-17:10	Case 2: Knee	All Speakers	
3	17:10-17:25	17:10-17:25	Case 3 : Hip	All Speakers	
4	17:25-17:40	17:25-17:40	Case 4 : Hip	All Speakers	
5	17:40-17:55	17:40-17:55	Summary and Closing	Michael Huo	UT Southwestern Medical Center

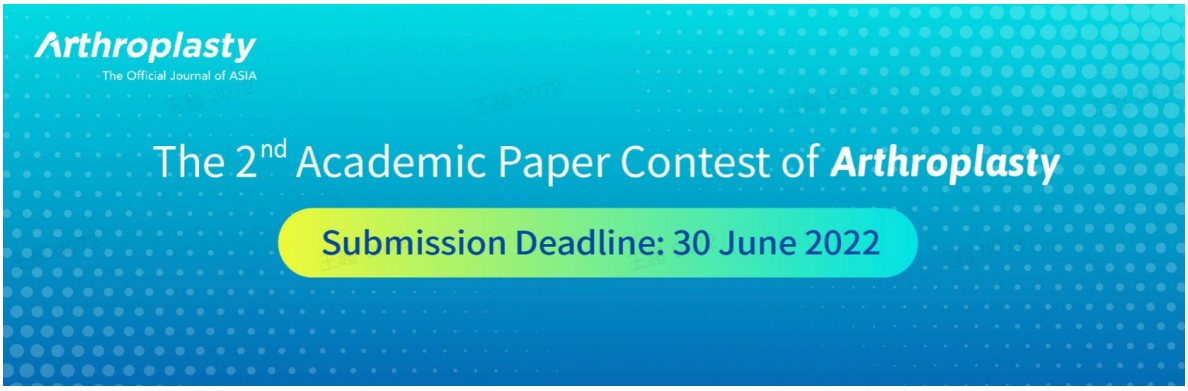
** Please note: The programme is subject to adjustment.*

Awards Announcement

ASIA 2022

The 2nd Academic Paper Contest of Arthroplasty

Winner Announcement



Based on the principles of rigorous, professional and fair, Arthroplasty invited more than 20 top experts from the United States, South Korea, Japan, Australia, Indonesia and China recommended by the Editor-in-Chief to form a review board to conduct a double-blind review of all participating articles.

After a month of intense and fair review, a total of 10 winners were selected, including two Golden Award Winners, two Silver Award Winners, and six Excellent Award Winners. Arthroplasty and the review board warmly congratulate the award winner for their diligent work and accomplishment.

Please find detailed information about the winners as follows.

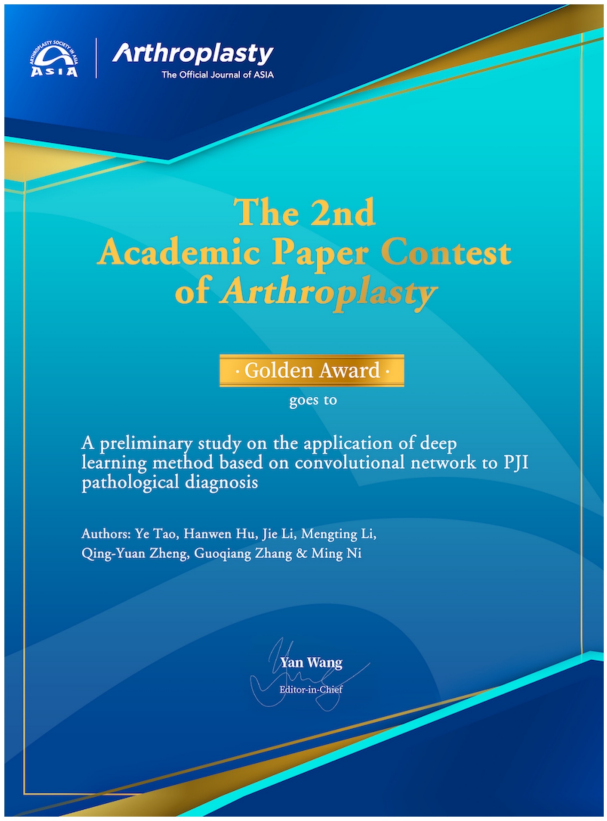
Golden Award

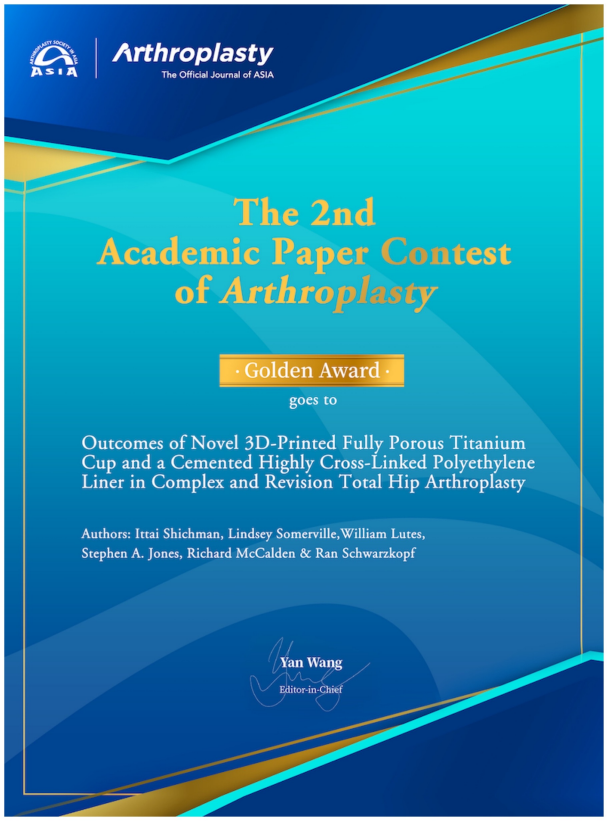
· A preliminary study on the application of deep learning method based on convolutional network to PJI pathological diagnosis

Authors: Ye Tao, Hanwen Hu, Jie Li, Mengting Li, Qing-Yuan Zheng, Guoqiang Zhang & Ming Ni

· Outcomes of novel 3D-printed fully porous titanium cup and a cemented highly cross-linked polyethylene liner in complex and revision total hip arthroplasty

Authors: Ittai Shichman, Lindsey Somerville, William Lutes, Stephen A. Jones, Richard McCalden & Ran Schwarzkopf





Silver Award

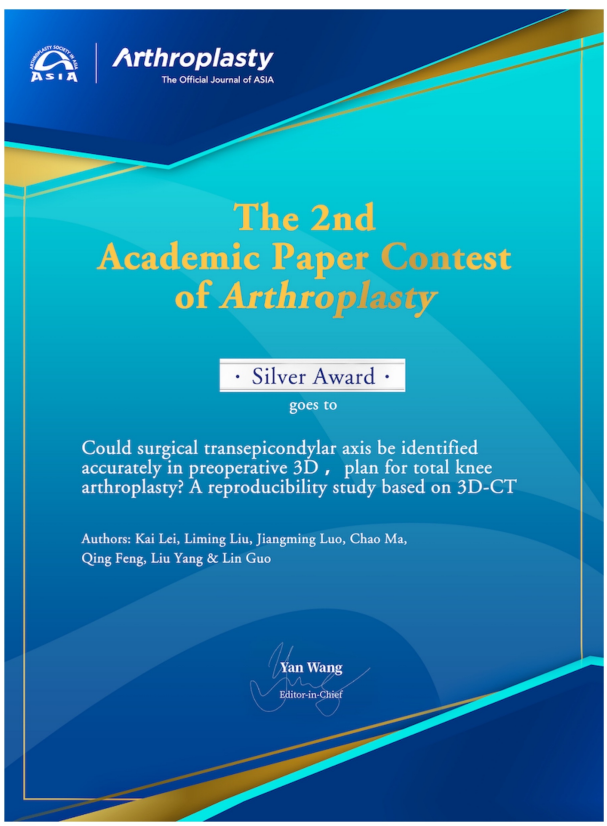
· Association of preoperative variables of ipsilateral hip abductor muscles with gait function after total hip arthroplasty: a retrospective study

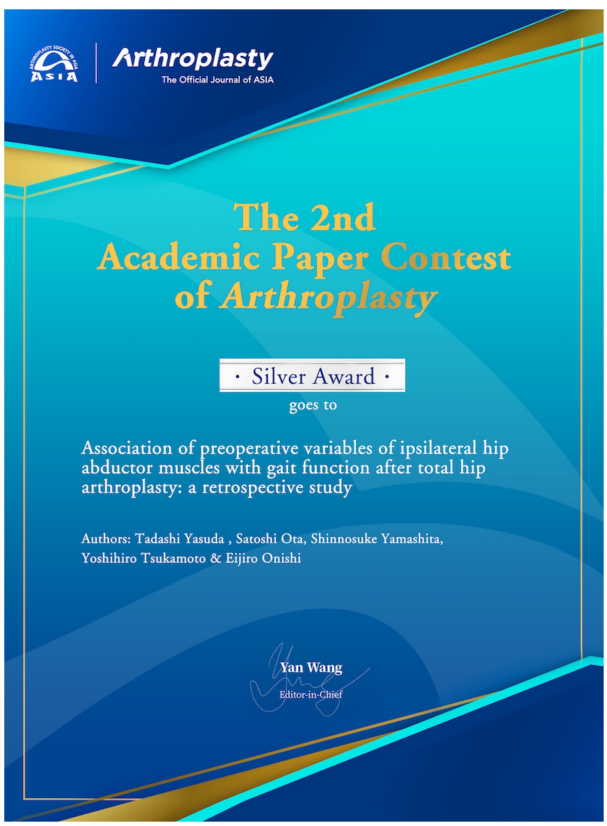
Authors: Tadashi Yasuda, Satoshi Ota, Shinnosuke Yamashita, Yoshihiro Tsukamoto & Eijiro Onishi

Read this article: https://arthroplasty.biomedcentral.com/articles/10.1186/s42836-022-00126-7

· Could surgical transepicondylar axis be identified accurately in preoperative 3D plan for total knee arthroplasty? A reproducibility study based on 3D-CT

Authors: Kai Lei, Liming Liu, Jiangming Luo, Chao Ma, Qing Feng, Liu Yang & Lin Guo





Excellence Award

· Pre- and postoperative physiotherapy using a digital application decreases length of stay without reducing patient outcomes following Total Knee Arthroplasty

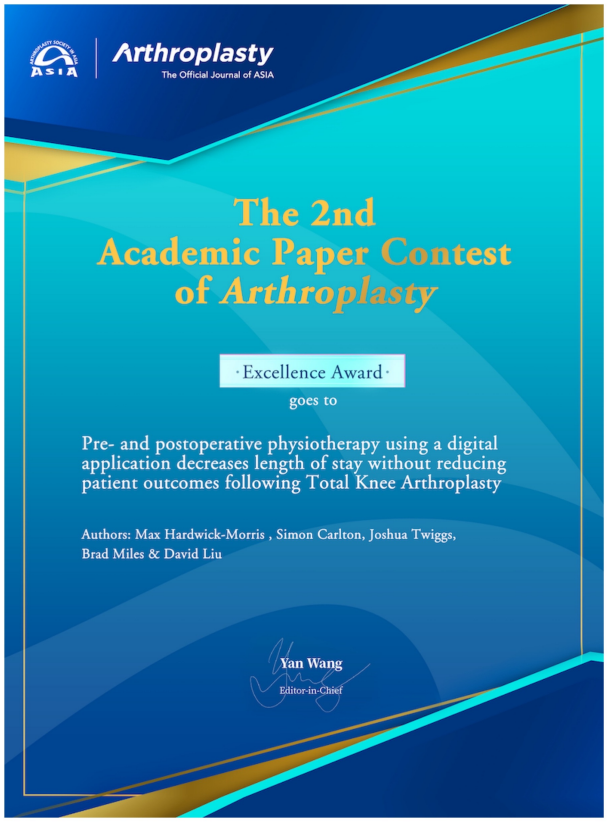
Authors: Max Hardwick-Morris, Simon Carlton, Joshua Twiggs, Brad Miles & David Liu

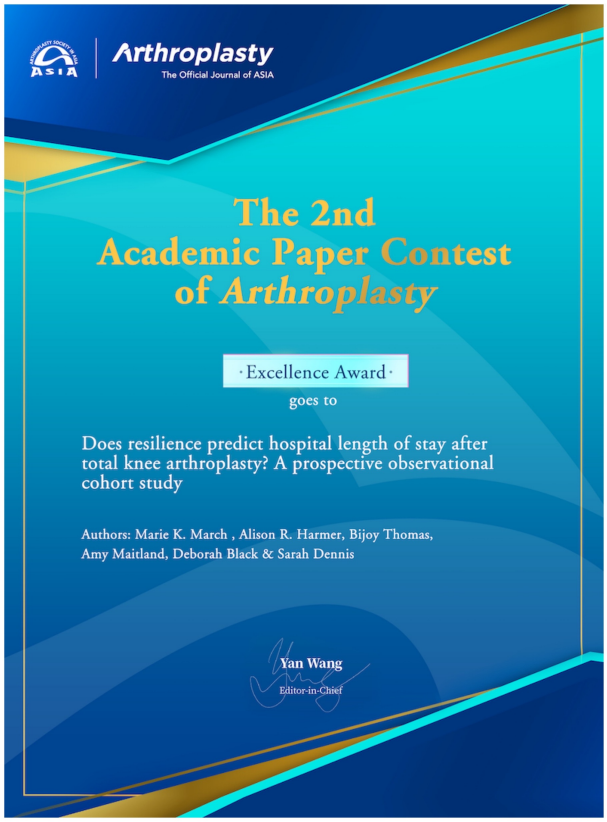
Read this article: https://arthroplasty.biomedcentral.com/articles/10.1186/s42836-022-00133-8

· Does resilience predict hospital length of stay after total knee arthroplasty? A prospective observational cohort study

Authors: Marie K. March, Alison R. Harmer, Bijoy Thomas, Amy Maitland, Deborah Black & Sarah Dennis

Read this article: https://arthroplasty.biomedcentral.com/articles/10.1186/s42836-022-00128-5





Excellence Award

· Incidence and risk factors for acute kidney injury after total joint arthroplasty

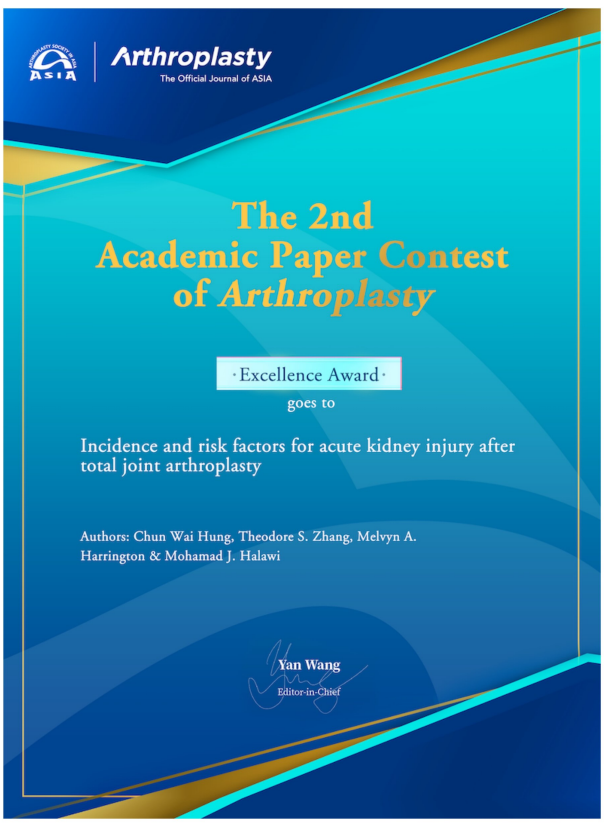
Authors: Chun Wai Hung, Theodore S. Zhang, Melvyn A. Harrington & Mohamad J. Halawi

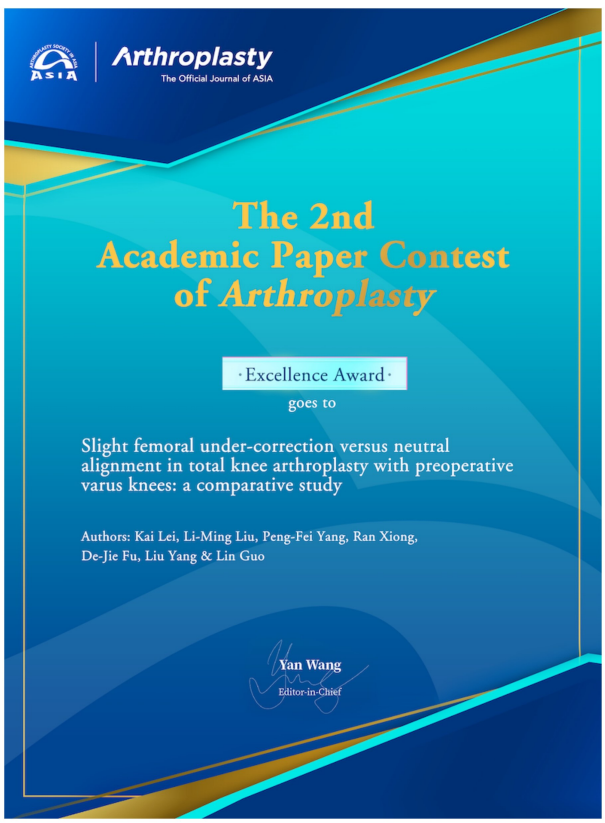
Read this article: https://arthroplasty.biomedcentral.com/articles/10.1186/s42836-022-00120-z

· Slight femoral under-correction versus neutral alignment in total knee arthroplasty with preoperative varus knees: a comparative study

Authors: Kai Lei, Li-Ming Liu, Peng-Fei Yang, Ran Xiong, De-Jie Fu, Liu Yang & Lin Guo

Read this article: https://arthroplasty.biomedcentral.com/articles/10.1186/s42836-021-00105-4





Excellence Award

· Does robotic technology successfully restore the joint line after total knee arthroplasty? A retrospective analysis

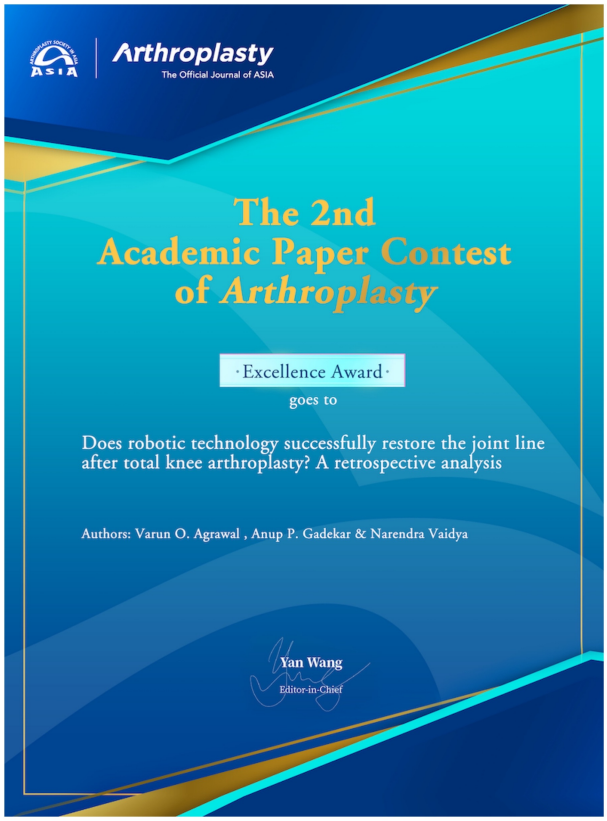
Authors: Varun O. Agrawal, Anup P. Gadekar & Narendra Vaidya

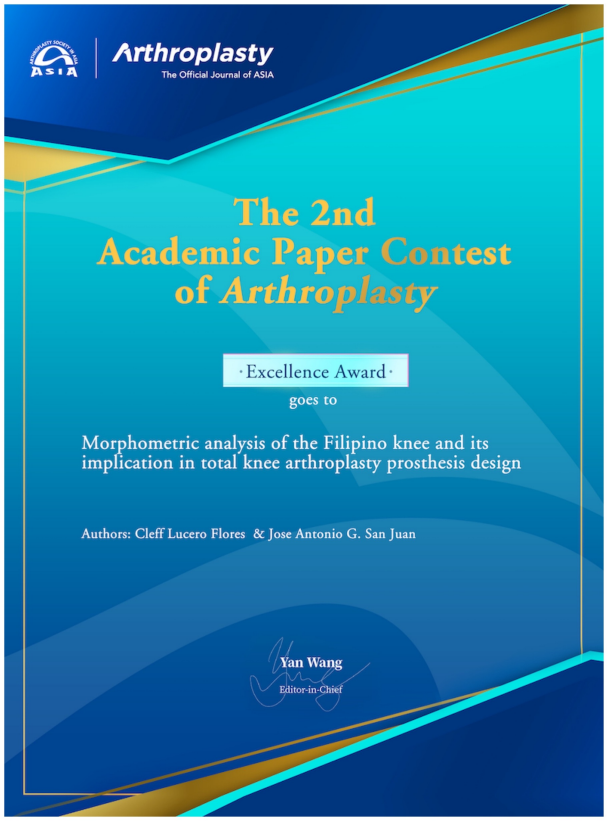
Read this article: https://arthroplasty.biomedcentral.com/articles/10.1186/s42836-021-00103-6

· Morphometric analysis of the Filipino knee and its implication in total knee arthroplasty prosthesis design

Authors: Cleff Lucero Flores & Jose Antonio G. San Juan

Read this article: https://arthroplasty.biomedcentral.com/articles/10.1186/s42836-022-00117-8





Selected Abstracts

Arthroplasty
The Official Journal of ASIA

Paper 1

Development and validation of an automated classification system for osteonecrosis of the femoral head using deep learning approach: A multi-center study

Xianyue Shen [1], Ziling He [2], Yi Shi [3], Yuhui Yang [4], Jianlin Xiao [5] and Yanguo Qin [1]

1. Jilin University Second Hospital, China
2. School of Software, Jilin University, China
3. The Second Affiliated Hospital of Anhui Medical University, China
4. Guangdong Provincial People's Hospital, China
5. Jilin University Sino-Japanese Friendship Hospital, China

Introduction: Osteonecrosis of the femoral head (ONFH) is a major cause of hip failure and disability. With accurate classification, appropriate interventions may slow down the ONFH progression and reduce the need of total hip replacement in the future. We hypothesized that a multi-class convolutional neural network (CNN) model could be developed, which could reliably classify MRI-based ONFH using the JIC classification system.

Methods: This multi-center retrospective study included 1806 mid-coronal MRI segments of 1337 hips from 4 institutions in China between October 2020 to May 2022. 1472 mid-coronal MRIs of 1155 hips were divided into training, validation, and test datasets with ratio 7:1:2 to develop a CNN model. An additional 334 mid-coronal MRIs were used to perform external validation. The prediction performance of the CNN and orthopedic surgeons is also compared. The classified performance of CNN and orthopedic surgeon was evaluated using area under the receiver operating characteristic curve (AUC), accuracy, precision, recall and F-value. A McNemar test was performed to compare the classification accuracy between the CNN and orthopedic surgeons. Model attention was assessed using Grad-CAM.

Results: A multi-class CNN which can reliably classify ONFH according to JIC classification system has been successfully developed. In internal validation, the overall accuracy of the CNN for predicting the classification of ONFH was 87.76%, and the macro-average AUC, macro-average precision, macro-average recall, and macro-average F-value were 0.90, 84.80%, 84.78%, and 84.55%, respectively. In external validation, the overall accuracy of the CNN is 83.83%, and the macro-average AUC, macro-average precision, macro-average recall, and macro-average F-value are 0.87, 79.54%, 80.49%, and 79.92%, respectively. Heat maps showed that the CNN was mostly activated by necrosis area of interest. In a human-machine comparative study, the CNN showed better overall predictive performance, significantly outperforming attending and resident orthopedic surgeons.

Discussion and Conclusion: In this study, the CNN model was capable of classifying ONFH and correctly locating the necrotic area based on MRI analysis. This model may help to improve accuracy of ONFH classification, provide clinically efficient and reproducible assessment of ONFH severity, and may be potentially useful in the risk prediction of femoral head collapse and clinical decision-making.

Keywords: deep learning; osteonecrosis of the femoral head, classification

Paper 2

A rapid diagnosis and data management system for periprosthetic joint infection based on instant messaging platform: A single-center retrospective cohort study

Qingyuan Zheng and Guoqiang Zhang
Department of Orthopedics, the First Medical Center,
Chinese PLA General Hospital, Beijing, China

Introduction: Periprosthetic Joint infection (PJI) is a catastrophic complication after total joint arthroplasty. The diagnosis process is long and involves a variety of different diagnostic indexes. Therefore, it is difficult to collect and preserve total-record diagnostic data. This study introduced the PJI rapid diagnosis and data management system based on instant messaging platform, which is designed for PJI rapid diagnosis and real-time data management. The diagnostic indexes followed the ICM2018 diagnostic criteria.

Methods: We conducted a retrospective study of 233 consecutive patients with suspected PJI in our hospital from July 2018 to January 2020. We followed the ICM2018 diagnostic criteria and integrate relevant diagnostic metrics into the smartphone application. All data related to PJI diagnosis including general condition, serological examination, joint fluid analysis, microbial culture, pathology, etc. are collected by the joint surgeon in real time during the entire diagnosis process using the smartphone. The system automatically displays diagnosis results and missing indicators based on diagnostic criteria.

Results: According to the ICM 2018 diagnostic criteria, 115 cases were judged to be infected (meeting the main diagnostic criteria or ICM2018 score ≥ 6), 25 cases could not be clearly diagnosed (ICM2018 score between 3 and 5), and 93 cases were ruled out of infection (ICM2018 score ≤ 2). Among patients diagnosed with PJI, only 20.87% (24/115) were diagnosed according to the main diagnostic indicators. Histological results (30/115, 26.09%) and PMN% (13/115, 11.30%) were the most frequently missed diagnostic indicators. The positive rate of PMN% (94/115, 81.74%) and the WBC count (86/115, 74.78%) was higher than that of microbial culture (67/115, 58.26%), intraoperative purulence (36/115, 31.30%) and histological results (40/115, 34.78%). The positive rate of bacterial culture was 58.26% (67/115), 21 cases (21/115, 18.26%) have the same bacteria in two positive cultures, and 13 cases (13/115, 11.30%) in the multiple bacterial cultures. Of the patients excluded from infection, 5 (5/93, 5.38%) had a single bacterial culture positive.

Conclusion: The rapid diagnosis and data management system for Periprosthetic Joint Infections based on instant message can cover the whole process of PJI diagnosis. It can assist clinicians to collect and store complete diagnostic data and facilitate clinical research on PJI.

Keywords: periprosthetic joint infection (PJI); instant messaging platform; the ICM 2018 diagnostic criteria; diagnostic data management

Arthroplasty
The Official Journal of ASIA

Paper 3

Midcortical-line is more reliable than T-line in predicting postoperative stem anteversion in patients with developmental hip dysplasia after total hip Arthroplasty

Ziang Jiang [1,2], Rongshan Cheng [1,2], Chunjie Xia [1,2], Yuanke Li [1], Liao Wang [2] and Zongyuan Cai [1,2]

1. School of Biomedical Engineering & Med-X Research Institute, Shanghai Jiao Tong University, Shanghai, China
2. Department of Orthopedics, Ninth People's Hospital Affiliated to Shanghai Jiaotong University School of Medicine; Shanghai Key Laboratory of Orthopaedic Implants & R&D Center for Clinical Translation 3D Printing Technology, Shanghai, China

Background: Precise preoperative planning improves postoperative outcomes in total hip arthroplasty (THA), especially in developmental dysplasia of the hip (DDH) cases. Previous studies used the T-line and midcortical-line (at different femoral neck levels) as preoperative landmarks to predict postoperative stem anteversion (PSA). However, the most reliable landmark in predicting PSA in DDH patients remains unclear. This study aimed to investigate whether the midcortical-line or T-line is more reliable in predicting PSA, and to find the optimal femoral neck level for predicting PSA in DDH patients.

Methods: Pre- and postoperative Computed Tomography (CT) scans of 28 hips in 21 DDH patients who received THA were obtained for three-dimensional femoral models. On the preoperative CT scan, the anteversion of the midcortical-line on the axial cross-sectional plane images (AM-CT), the anteversion of the midcortical-line from 3D models (AM-3D), and the T-line from 3D models (AT-3D) were measured at simulated osteotomy planes at 5 and 10 mm heights proximal to the base of the lesser trochanter. The correlation between the preoperative femoral anteversion (AM-CT, AM-3D, AT-3D) and the PSA was assessed to evaluate the prediction accuracy.

Result: The correlations between the AM-CT and the PSA were 0.86 (mean difference (MD) = 1.9°) and 0.92 (MD = –3.0°) at 5 and 10 mm height, respectively. The correlation between the AM-3D and the PSA were 0.72 (MD = –8.0°) and 0.61 (MD = –9.3°) at 5 and 10 mm cutting height. The AT-3D was significantly greater (MD = 19.0°, 11.3°) than the PSA ($p < 0.01$ and $p = 0.010$) at both 5 mm and 10 mm cutting height.

Conclusion: The AM-CT at 10 mm height had a strong correlation with the PSA and was more reliable in predicting the PSA when compared with the AM-3D and the AT-3D in DDH patients.

Keywords: midcortical-line; T-line; postoperative stem anteversion; developmental dysplasia of the hip; total hip arthroplasty

Paper 4

The early outcome of dual mobility cup total hip arthroplasty for the femoral neck fracture with Parkinson's disease

Junming Wan [1], Yanqing Hu [1], Jiachun Li [1], Yuqing Zeng [2] and Haiyong Ren [2]

1. Joint Surgery Department, Tongde Hospital of Zhejiang province, Hangzhou, China

2. Tongde Hospital of Zhejiang province, Hangzhou, China

Objective: This study aims to explore the early outcomes of dual mobility cup total hip arthroplasty for the femoral neck fracture with Parkinson's disease.

Methods: A total of 25 patients with femoral neck fracture with Parkinson's disease (9 male and 16 female), with the age of (70.20 ± 6.94) years old, were treated with dual mobility cup THA from January 2019 to June 2019. The operative duration, intraoperative blood loss, and postoperative blood loss complications were recorded. All patients were followed up postoperatively. Visual analogue scale (VAS), Harris hip score (HHS) and Mayo hip score (MHS) were recorded to evaluate the improvement of pain and recovery of the hip.

Results: Patients were postoperative follow-up with an average of (13.55±0.99) months. The mean operative duration was (1.36±0.25) h; the mean blood loss was (275.00±77.17) ml and the mean postoperative blood loss was (236.11±76.32) ml; The X-ray of the postoperative hip showed that the prosthesis was in a good position, the force line recovered satisfactorily, and the joint prosthesis was in close contact with the bone contact surface without any gaps. The mean VAS scores ranged from (5.61 ± 0.97) preoperatively to (0.11 ± 0.12) (t = 26.92, p < 0.001) at 12 months postoperatively. The average HHS ranged from (3.77 ± 1.40) points preoperatively to（91.83 ± 4.88）points (t = –86.73, p < 0.001) at 12 months postoperatively. The average MHS was (89.10 ± 5.22) points at 12 months postoperatively. None of the patients had any complications related to surgery.

Conclusion: The preliminary clinical result of dual mobility cup THA is satisfactory for hip reconstruction, increasing the stability of the hip, and restoring the function of the postoperative hip.

Keywords: dual mobility cup; total hip arthroplasty; femoral neck fracture; Parkinson's disease

Paper 5

High-energy focused extracorporeal shock wave prevents the occurrence of glucocorticoid-induced osteonecrosis of the femoral head: A prospective randomized controlled trial

Fuqiang Gao, Sun Wei and Zirong Li
China-Japan Friendship Hospital, Beijing, China

Background: Studies have shown that high-energy focused extracorporeal shock wave therapy (HF-ESWT) has a certain therapeutic effect on glucocorticoid-induced osteonecrosis of the femoral head (ONFH). This study aimed to observe the efficacy and safety of HF-ESWT as a precautionary measure to reduce the risk of glucocorticoid-induced ONFH.

Methods: A prospective randomized controlled trial was designed to evaluate whether HF-ESWT (Group A) can significantly prevent the incidence of glucocorticoid-induced ONFH relative to a control group without shockwave intervention (Group B). MRI was used to assess the occurrence of ONFH at 3, 6, and 12 months after the intervention. Continuous scoring was used to evaluate the intervention results: the 10-cm visual analog scale (VAS) was used to evaluate pain, and the hip Harris score (HHS) was used to evaluate the function of the hip joint. Any adverse events were recorded.

Results: 153 patients (89 females and 64 males) who had been allocated to group A (75 patients) or Group B (78 patients) were included in the final analysis. The patients were 45.0 ± 13.0 years old. There were significant differences between the two groups in MRI diagnosis of ONFH patients (2 cases in Group A, 9 cases in Group B; $p = 0.034$). Significant differences in functional results were measured at 6 months ($p < 0.05$) and 12 months ($p < 0.05$). However, there was no difference in the functional results measured at 3 months and in the VAS at any point.

Conclusions: Our study suggests that HF-ESWT may successfully reduce the risk of early development of glucocorticoid induced ONFH. However, HF-ESWT may be recommended to the prevention of ONFH high-risk populations receiving high-dose glucocorticoid therapy.

Keywords: extracorporeal shock wave therapy; ONFH; glucocorticoid; disease prevention

Paper 6

Tibial coronal bowing is the main cause of tibial prosthesis malalignment after total knee arthroplasty

Peng Wu, Lili He, Congcong Wu, Junzhe Lang and Lei Chen
The First Affiliated Hospital of Wenzhou Medical University, China

Objective: This study aimed to determine the occurrence rate of malalignment of tibial prosthesis after TKA on the basis of extramedullary localization technique and explore the influencing factors on demographic or radiographic parameters before TKA.

Methods: A total of 202 patients who received the first artificial TKA from January 1, 2020, to June 1, 2021, were selected as the research objects. Their general demographic data were recorded. The tibial bowing angle (TBA), tibial length, medial proximal tibial angle (MPTA), tibial plateau shift angle (TPSA), tibial bone loss, lateral distal tibial angle, and overall width of tibial plateau and widths of medial and lateral tibial plateau on full-length film were measured before TKA. The tibial component coronal alignment angle (TCCA) was measured on full-length film after the operation. TCCA < 87° or TCCA > 93° was defined as malalignment of tibial prosthesis, TBA > 2° indicated tibial bowing, and lateral bowing was recorded as +. The correlations of TCCA with demographic data and pre-operation imaging measurement parameters were statistically analyzed.

Results: According to ANOVA, TCCA had obvious negative relations with TBA ($r = -0.602$, $p < 0.001$) and TPSA ($r = -0.304$, $p < 0.001$) and obvious positive correlation with MPTA ($r = -0.318$, $p < 0.001$). According to multifactor ANOVA, TCCA presented a significantly negative correlation with TBA ($p < 0.001$). In other words, patients with lateral bowing are more likely to incur introversion of tibial prosthesis. The occurrence rate of malalignment of tibial prosthesis was 12.37%. The occurrence rates of malalignment were 22.54% in the tibial bowing group and 6.87% in the non-tibial bowing group, showing statistical differences ($p < 0.001$).

Conclusions: The malalignment rate of tibial prosthesis among Chinese patients is relatively high, which may be attributed to the abundant tibial anatomy anomalies in groups. Surgeons must pay close attention to these factors and adopt appropriate measures to avoid malalignment of tibial prosthesis in the pre-operation plan and throughout the operation.

Keywords: total knee arthroplasty; malalignment; tibial bowing; medial proximal tibial angle; tibial plateau shift angle

Paper 7

Robot-assisted surgery in total knee arthroplasty: trauma maker or trauma savior? A prospective, randomized cohort study

Zhonghua Xu, Hua Li, Zaiyang Liu, Jie Li, Jun Zhang, Min Wang and Yuan Zhang
Xinqiao Hospital, Army Medical University, China

Background: To evaluate the trauma effect of one of the first domestically developed orthopedic surgical robots in China in a clinical trial of robot-assisted total knee arthroplasty (RA-TKA).

Methods: Thirty-three patients who underwent unilateral TKA for end-stage osteoarthritis were randomized to receive RA-TKA (17 cases) or conventional manual TKA (CM-TKA) in our institution in 2020. The trauma effects of the 4 main indicators (with 48 sub-indicators) in terms of sub-sectional operative time, biochemical indicators, physical and radiographical analyses of osteotomy deviation, and postoperative comfort were analyzed.

Results: Sub-sectional operative time analysis showed time for bone cutting and gap balancing with RA-TKA were 5.3 min, and 2.2 min shorter than those with CM-TKA (p = 0.010, p = 0.02). PCO2, PO2 and SO2 of arterial blood gas analysis 24 h after RA-TKA, as well as the white blood cell count and neutrophil ratio, were significantly lower than those of CM-TKA ($p < 0.05$). Hematological biochemical indicators at 72 h after surgery showed the increments of C-reactive protein, erythrocyte sedimentation rate and D-dimer of RA-TKA were restrained by 180.7%, 22.0%, and 1050.0% ($p < 0.05$), referenced to the preoperative baseline values, compared to CM-TKA. Mechanical deviation distribution exhibited the percentage of region I errors for RA-TKA and CM-TKA were 76.5% and 27.1% (p = 0.000), the success rates of one-time osteotomy were 94.1% and 62.5% (p = 0.039). Radiographical verification showed RA-TKA was more conducive to achieving mechanical alignment and ideal tibial component azimuths. Postoperative efficacy showed that patients were more comfortable after RA-TKA in terms of reduced administration of tranexamic acid, hydrocortisone and the utilization rate of temporary intensive opioid analgesics. While no statistical difference in patient-reported outcome measures and complication were recorded between two groups during continuous observation.

Conclusions: Compared with conventional manual surgery, robot assisted technique can shorten the time for bone cutting and gap balancing, reduce mechanical errors related to the osteotomy and prosthesis position, and improve the accuracy of mechanical alignment reconstruction, thus, plays a beneficial role in trauma control in TKA. RA-TKA is also favorable in promoting postoperative comfort, minimizing inflammatory response and drug consumption.

Keywords: robot; knee osteoarthritis; arthroplasty; trauma; error

Paper 8

Modified Dejour-type trochleoplasty combined with individual extensor apparatus balancing for recurrent patellar instability with severe trochlear dysplasia

Xiaobo Chen and Fei Wang
Hebei Third Hospital, China

Purpose: To verify the safety and efficacy of modified Dejour-type trochleoplasty(TP) for recurrent patellar instability(RPI) with severe trochlear dysplasia(TD), and to report indications of individual extensor apparatus balancing procedures(IEAB), we also hope to provide a clue of safe and effective individualized treatments and personalized surgical options for RPI with severe TD.

Methods: From February 2011 to December 2017, A total of 35 knees of RPI with severe TD (Dejour B and D), treated by TP combined with different IEAB according to patients' specific situation. TP was performed in all patients. MPRP was performed if there was intrinsic tissue quality in the medial patellar retinaculum; MPFLR was needed when there was evidence of poor tissue quality or severe patellar laxity; a LPRP was needed when there existed lateral retinaculum tightness indicated by medial patellar glide (MPG) test less than one quadrant of patellar width; when TT-PCL $\geq$ 24 mm, MTTO is needed, and when the CDI $\geq$ 1.2, we performed a DTTO. Banff patellofemoral instability instrument 2.0 (BPII 2.0) to evaluate patellar instability; IKDC to evaluate function score; Tegner activity scale (TAS) and Marx activity rating scale (MARS) to evaluate activity level; VAS to evaluate the pain level. Sulcus angle (SA), patellar tilt angle (PTA), lateral patellar translation (LPT) and Caton-Deschamps index (CDI) were also recorded.

Results: BPII (2.0) increased from 37.1 $\pm$ 7.1 to 79.5 $\pm$ 5.8, IKDC from 58.8 $\pm$ 8.5 to 90.1 $\pm$ 5.7, TAS from 3.7 $\pm$ 0.8 to 6.1 $\pm$ 1.1, VAS from 5.6 $\pm$ 1.2 to 2.2 $\pm$ 0.7. The radiological changes were also changed, SA (°) from 171.1 $\pm$ 8.1 to 136.8 $\pm$ 6.5, PTA (°) from 32.9 $\pm$ 3.3 to 7.9 $\pm$ 3.0, LPT (cm) from 2.9 $\pm$ 0.3 to 0.5 $\pm$ 0.1. Five cases underwent an arthroscopic arthrolysis for knee adhesion within six months after surgery, the mean follow-up time was 52 months, three cases reported experiences of slight instability, all patients obtained full range-of-motion (ROM), no re-dislocations, arthrofibrosis or progressive patellofemoral osteoarthritis (OA) was found.

Conclusion: Modified Dejour-type TP combined with IEAB is safe and effective for RPI with severe TD to achieve patellar stability, restore more normal morphology of trochlear, reduce the lateral patellar tilt, and achieve good function and athletic ability. Indications for surgery should be carefully considered according to the patient's specific situation, so as to achieve individualized treatments and personalized surgical options for RPI with severe TD.

Keywords: recurrent patellar instability; trochlear dysplasia; trochleoplasty; individual extensor apparatus balancing

Paper 9

Comparative analysis of pathogens distribution and empiric antimicrobial therapy in patients with fracture-related infection and periprosthetic joint infection: A retrospective study

Guanglei Zhao, Tiancong Ma, Gangyong Huang, Jun Xia and Wenjun Chen
Fudan University Huashan Hospital, China

Purpose: Microbiological patterns causing periprosthetic joint infection (PJI) and fracture-related infection (FRI) varies in different regions, clinics and even departments. The aim of this study is to compare the pathogen's distribution of FRI and PJI and identify effective empiric antimicrobial regimens.

Methods: A comparative analysis of pathogens distribution was performed among 105 patients (56 with PJI and 49 with FRI). Subgroup analyses were conducted to compare the pathogen's distribution both in early (within 3 weeks) and delayed (more than 3 weeks) infections of PJI and FRI cohorts. Three reported combinations of antibiotics were used in a predicted analysis to explore the most rational empiric antimicrobial regimens.

Results: Multi-drug resistant (MDR) bacteria detected in the FRI cohort were more than PJI cohort (12.5% vs. 36.7%, p = 0.004). Overall, there were statistically significant differences in pathogens distribution between PJI and FRI ($p < 0.001$). Staphylococci was the most commonly identified pathogens in the PJI cohorts (58.9%) and gram-negative bacilli (GNB) was the most frequently identified pathogen in the FRI cohort (58.6%). Methicillin-resistant coagulase-negative Staphylococci (MRCoNS) was more frequently detected in the PJI cohort compared with FRI cohort (23.2% vs. 6.8%, p = 0.049). In addition, Acinetobacter baumannii and Enterobacter were only detected in the FRI cohort (12.1%, p = 0.013, each) while Staphylococcus capitis and Canidia Albicans were only in PJI (10.7%, p = 0.012, each). The combinations of antimicrobial agents such as ciprofloxacin + vancomycin and piperacillin/tazobactam + vancomycin are the most rational empiric antimicrobial regimens for both FRI and PJI patients.

Conclusion: Our comparative analysis is the first to report statistically significant differences in pathogens distribution between PJI and FRI. These findings are effective when choosing empiric antimicrobial regimens in the management of patients after orthopaedic and trauma surgery.

Keywords: periprosthetic joint infection; fracture-related infection; microbiological epidemiology; empiric antimicrobial therapy

Paper 10

Reported effect of curve rasp on valgus-varus of DAA total hip replacement stem and logistic regression analysis

Bei Lin and Eryou Feng
Department of Arthrosis Surgery,
Fuzhou Second Hospital, Fuzhou, China

Objective: To investigate whether the use of a curved rasp on the femoral side in total hip replacement with direct anterior approach (DA-THA) is effective in reducing the incidence of stem valgus-varus, as well as to analyze the independent risk factors affecting stem alignment.

Methods: Retrospective analysis of 160 patients undergoing DA-THA from January 2019 to December 2021, all using Tri-lock (BPS) stem, 120 patients were screened by inclusion and exclusion criteria. Gender, age, body mass index, FAR ratio, pelvic morphology ratio, femoral stem placement angle, use of curved rasp, intraoperative complications, WOMAC scores, and the above data were analyzed by difference analysis and logistic regression to analyze the independent factors influencing the valgus-varus of the femoral prosthesis implantation. Then according to whether the curved rasp was used during the operation, it was divided into group A curved rasp and group B without curved rasp. The chi-square test was used to compares the incidence of femoral malalignment between the two groups.

Results: There are two independent risk factors BMI and FAR score that affect femoral stem alignment. An increase BMI resulted in a higher probability of stem malalignment ($p < 0.05$). FAR score <1 resulted in 44.00% of stem malalignment. Further subgroups revealed a 27.5% incidence of stem malalignment in patients with intraoperative use of curved rasp, the incidence of stem malalignment significantly increased to 48.8% without the use of curved rasp ($p = 0.02$). All prosthesis placement angles in group A were better than group B, especially in moderate (9.10%)/severe (8.30%) valgus and varus, with statistically significant differences ($p < 0.05$). There was no difference in intraoperative complications and last follow-up assessment of WOMAC scores between the two groups of patients.

Conclusions: In DA-THA, BMI and FAR are independent risk factors for femoral stem malalignment. Intraoperative use of an curved rasp significantly reduces the incidence of malalignment of the femoral stem.

Keywords: total hip arthroplasty; Tri-lock (BPS) stem; direct anterior approach; prosthesis placement angle; radiological analysis; WOMAC score

Paper 11

Deep learning based diagnostic tool for automatic assessment of knee osteoarthritis severity based on the Kellgren-Lawrence grade

Jianfeng Yang [1], Yan Wang [1], Guoqiang Zhang [1], Ming Ni [1], Quanbo Ji [1], Peng Ren [1], Peng Xin [1], Hanwen Hu [2] and Yiming Wang [1]
1. The First Medical Center of Chinese PLA General Hospital, Beijing, China
2. Nankai University, Tianjing, China

Introduction: Pre-processed radiographs and specific equipment are required in most existing diagnosis tools of knee osteoarthritis. The purpose of this study is to observe the effect of a deep learning based diagnostic tool for knee osteoarthritis.

Methods: After developing the algorithm-based diagnostic tool, from January 2020 to January 2021, 697 patients who met the inclusion criteria were enrolled as the test set in the Hospital. A total of 941 knee X-rays in the test set without any pre-processed were assessed by up to 5 surgeons and this diagnostic tool respectively according to the Kellgren-Lawrence grade. To assess the performance of this tool, we used accuracy, precision, recall, specificity, confusion matrix and quadratic weighted Kappa coefficient.

Results: The diagnostic tool identified 95.7% of all knee joints in the test set. Compared to the diagnosis of surgeons, the tool achieved an accuracy of 0.977. For the most common stage in the clinic, K-L3 and K-L4, precision, recall and specificity are 0.981, 0.978, 0.987 and 0.988, 0.982, 0.993 respectively. The quadratic weighted Kappa coefficient between the diagnostic tool and surgeons was 0.815 ($p < 0.01$, 95%CI 0.727–0.903).

Discussion: Most of the existing diagnostic criteria include some subjective factors. Deep learning-assisted diagnosis can avoid the differences among surgeons to some extent. Based on our experience, the diagnostic tool which implemented on a mobile app can achieve satisfactory accuracy, avoid cumbersome image pre-processing, and reduce the burden of clinical work. Also, as a combination of artificial intelligence and surgeons, this tool delivers high-quality diagnostic service and avoids interference like implants or markers shown on images. Maybe it can be combined with other algorithms to form a prediction model to assess disease progression and prognosis in the future. This study also has limitations. The diagnostic processes exclude other information like clinical manifestations or laboratory tests, which may affect the diagnostic accuracy. The vagueness and ambiguity of diagnostic criteria also affect results. And for images that cannot be recognized by the tool, they still require further diagnosis by surgeons or even re-photographed.

Conclusion: The Deep learning-based diagnostic tool can be used to assess the severity of knee osteoarthritis. The results are comparable to the judgments of surgeons.

Keywords: knee osteoarthritis; artificial intelligence; deep learning; Kellgren-Lawrence

Paper 12

Does femoral morphology and undersized femoral component predict the risk of periprosthetic fracture after cementless total hip arthroplasty?

Guanglei Zhao, Tiancong Ma, Jun Xia and Gangyong Huang
Huashan Hospital Affiliated to Fudan University, China

Purpose: The purpose of this study was to evaluate radiographic parameters of cementless femoral components as risk factors for periprosthetic femur fracture (PFF).

Method: We identified 48 cases of primary cementless total hip arthroplasty (THA) performed at a single institution between 2012 and 2022. Twelve PFF were (1:3) matched to 36 controls based on the femoral component model, surgical approach, age, body mass index (BMI), and gender. Radiographic assessment of preoperative bone morphology and postoperative femoral component orientation included native femoral morphology, metaphyseal fill, and medial implant congruence with the medial cortical bone. A multivariable logistic regression was built to identify radiographic risk factors associated with PFF.

Result: Measures of preoperative bone quality including canal calcar ratio (p = 0.008), canal flare index (p = 0.037) and canal bone ratio (p = 0.024) were statistically associated with PFF. The distal canal fill (p = 0.001) of the femoral component was significantly more in the PFF cohort. The distance of the medial implant from the medial cortical bone was greater in cases of PFF (2.65 mm vs 1.93 mm, p = 0.089). A multivariate analysis demonstrated that greater CCR and CBR, smaller CFI and DCF, and medial incongruity increased the risk of early PFF.

Conclusion: Greater CCR and CBR, smaller CFI and DCF, and medial incongruity are the greatest radiographic risks for PFF following cementless THA.

Keywords: total hip arthroplasty; periprosthetic femur fracture; cementless stem; femoral component

Arthroplasty
The Official Journal of ASIA

Paper 13

Radiological measurement of gap balancing in total knee replacement for osteoarthritis patients with computer assisted method

Zhuo Zhang [1], Wei Chai [1], Yang Luo [1],
Chong Zhang [2] and Xin Wang [2]
1. Chinese PLA General Hospital, Beijing, China
2. Yunnan Baiyao Group Pharmaceutical E-Commerce Co., Ltd., Kunming, China

Introduction: To investigate the influence of osteophytes on postoperative gap balancing, and to initiate a predictive equation of relationship between osteophyte size and gap gaining in primary total knee replacement.

Methods: Thirty-five patients were enrolled in the study. Pre-and postoperative radiographs were analyzed. They were randomly assigned to training (n = 28) and validation (n = 7) groups using the statistical package R (version 4.0.5). Size and marginal distances of osteophytes, planned bone cut planes, predicted bone cuts and joint gaps were marked on the preoperative standing anterior-posterior and lateral views, while actual bone cuts and joint gaps were recorded on the postoperative plain films, respectively. Spearman's correlation was applied for the correlated analysis. Multiple logistic regression (MLR) was implemented to analyze the influences of independent variables on the actual joint gaps. A two-tailed $p < 0.05$ denoted statistical significance.

Results: actual joint gaps were significantly related with distances of medial and lateral predictive bone cutting lines, bone cut thickness on tibial side and posterior condylar, as well as size and marginal distances of osteophytes ($p < 0.05$). A predictive equation was calculated, the independent variables of the equation were able to predict 57.36% of the variance. Root mean square error (RMSE) of the prediction equation in validation was 2.326.

Discussion and Conclusion: postoperative joint gap can be predicted with preoperative measurements on plain films. Enlarged sample size may be helpful to improve the effectiveness and accuracy of the predictive equation.

Keywords total knee replacement; osteoarthritis; computer assisted; osteophytes

Paper 14

Effect of DAA total hip arthroplasty on the position and function of the acetabular prosthesis in subpelvic skewed pelvis

Tianyu Lai
Fuzhou Second Hospital Affiliated to Xiamen University, China

Introduction: To explore the influence of DAA total hip arthroplasty on the position and function of the subpelvic skewed acetabular prosthesis.

Methods: Data of 81 patients included in the criteria were analyzed. According to the measured pelvic tilt Angle and degree, subpelvic pelvic tilt can be divided into four types: type I refers to pelvic tilt on the affected side of the limb; Type ii is pelvic tilt on the healthy side. : 0°~3° is type A; ≥3° is type B. Follow-up was performed 1 and 6 months after the operation, and radiographs of weight-bearing hip were also taken to obtain abduction Angle and rake Angle. Repeated measurement data were compared using one-way repeated ANOVA, and one side t test was used for pairwise comparison between groups

Results: At 1 and 3 months after surgery, there were statistically significant differences in abduction Angle among subtypes ($p < 0.05$). The postoperative abduction Angle of IB patients was smaller than that of other subtypes ($p < 0.05$), which was statistically significant (4.04° and 2.17° lower than the average abduction Angle).

Conclusions: IB pelvic skew has a corresponding influence on the cup abduction Angle during DAA total hip arthroplasty. Therefore, it is recommended that the cup abduction Angle should increases at least 2.17° than normal situation when the direct anterior approach is used for the treatment of this type of pelvic skew.

Keywords: skew pelvis, total hip replacement, directly into the path of the side, acetabulum prosthesis position

stryker

Know more.
Cut less.

That's Mako. SmartRobotics™.

betula 银桦
FD880A

SMTP 水木天蓬
TECHNOLOGY

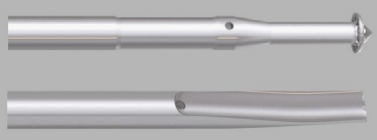
NMPA

超声骨动力设备

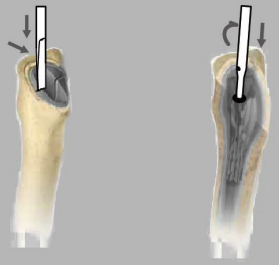
ULTRASONIC BONE DYNAMIC SYSTEM

国家超声骨组织手术设备
行业标准编制单位出品

- 髋关节翻修术
- 膝关节翻修术
- 关节畸形截骨矫形术
- 及其他关节外科手术



关节翻修刀头



ISSN: 2524-7948
Open Access

Arthroplasty

The Official Journal of ASIA

ASIA 2023 *Arthroplasty*

The 3rd Academic Paper Contest

Submit Manuscript

Submission Guideline

BMC

The 8th Annual Meeting of

ARTHROPLASTY SOCIETY IN ASIA

ASIA 2022 Organizing Committee
Email: secretariat@asiaarthroplasty.org

Free Registration