

The 36th Annual Research Meeting of the Japanese Orthopaedic Association

Congress President, Akihiro Sudo
Department of Musculoskeletal Surgery,
Department of Multimodality Therapy for Cancer,
Mie University Graduate School of Medicine
Held in Ise, October 14 and 15, 2021

1st Day October 14 Room 1

8 : 30 ~ 9 : 30	Educational lecture 1	Moderator M. Hasegawa
1-1-EL1	Robotic assisted surgery and navigation <i>Nobuhiko Sugano, et al.</i> , Dept. of Orthop. Medical Engineering, Graduate School of Medicine, Osaka Univ. ....S1443	
9 : 40 ~ 10 : 40	Educational lecture 2	Moderator H. Kawano
1-1-EL2	Harnessing nanotechnology for immunotherapy against advanced soft tissue sarcomas <i>Naozumi Harada</i> , United Immunity, Co., Ltd. ....S1443	
10 : 50 ~ 11 : 50	Invited lecture 1	Moderator K. Chiba
1-1-IL1	Intervertebral disc degeneration and discogenic low back pain: The mechanisms of pain and emerging therapies <i>Howard S. An</i> , Rush Univ. Medical Center, Chicago, IL, USA ....S1444	
12 : 10 ~ 13 : 10	Luncheon seminar 1	Moderator T. Miyamoto
1-1-LS1	Therapeutic strategy for hip diseases considering pathology and spinal alignment <i>Hironobu Hoshino, et al.</i> , Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine ....S1444	
13 : 20 ~ 13 : 30	Opening ceremony	Congress President Akihiro Sudo
13 : 30 ~ 13 : 50	Congress president lecture	Moderator A. Uchida
1-1-PL	Mina Ayashi <i>Akihiro Sudo</i> , Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine ....S1445	
14 : 00 ~ 15 : 00	Keynote lecture	Moderator Y. Nakashima
1-1-KL	Background and goal of the locomotive syndrome <i>Kozo Nakamura</i> , Orthop. Surg., Graduate School of Medicine, The Univ. of Tokyo ....S1445	
15 : 10 ~ 16 : 10	Special lecture 1	Moderator M. Watanabe
1-1-SL1	Translational research for discogenic disc disease <i>Koichi Masuda</i> , Dept. of Orthop. Surg., Univ. of California, San Diego, La Jolla, CA, USA ....S1446	
16 : 20 ~ 17 : 20	Invited lecture 2	Moderator D. Sakai
1-1-IL2	Real life matters: Monitoring patient activities with wearables can transform clinical diagnostics, assessment and treatment <i>Bernd Grimm</i> , Luxembourg Institute of Health (LIH), Val Fleuri, LuxembourgS1446	

17 : 30 ~ 18 : 30	Educational lecture 3	Moderator H. Tsuchiya
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- 1-1-EL3 Latest advances in intravital imaging technology - application for studying bone and skeletal systems...*Masaru Ishii*, Dept. Immunol. Cell Biol., Graduate School of Medicine, Osaka Univ...S1447

1st Day October 14 Room 2

8 : 30 ~ 10 : 10	Symposium 1	Moderators K. Yamada, K. Yamamoto
Contemplation of the SSI prevention for orthopaedic surgery		

- 1-2-S1-1 What's new for antimicrobial prophylaxis from NOCOTA study
.....*Kosei Nagata, et al.*, Orthop. Surg., Graduate School of Medicine, The Univ. of Tokyo...S1448
- 1-2-S1-2 The impact of cefazolin shortage on surgical site infection following spine surgery in Japan
.....*Hiroyuki Nakarai, et al.*, Dept. of Orthop. Surg., Sanraku Hosp...S1448
- 1-2-S1-3 Important points for prevention of surgical field contamination
.....*Toshiyuki Tateiwa, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ...S1449
- 1-2-S1-4 Pros and cons for intraoperative diluted-povidone iodine lavage
.....*Daisuke Inoue, et al.*, Dept. of Orthop. Surg., Kanazawa Univ. Hosp...S1449
- 1-2-S1-5 The local application of vancomycin powder into the operative field
.....*Eiichiro Iwata, et al.*, Dept. of Orthop. Surg., Nara City Hosp...S1450
- 1-2-S1-6 Pros/Cons of antibiotic-loaded bone cement for infection prophylaxis
.....*Takeshi Morii, et al.*, Dept. of Orthop. Surg., Kyorin Univ...S1450

10 : 30 ~ 11 : 50	Symposium 2	Moderators T. Sakai, K. Okazaki
Unsolved issues in research on joint replacement pursuing forgotten joints		

- 1-2-S2-1 Forgotten hip; Achievable factors and basic data
.....*Naoyuki Hirasawa, et al.*, Dept. of Orthop. Surg., Hokusuiikai Memorial Hosp...S1451
- 1-2-S2-2 Analysis of factors that failed to achieve forgotten hip and basic research for improvement
.....*Satoshi Nagoya, et al.*, Dept. of Musculoskeletal Biomech. Surg. Development,
Sapporo Medical Univ...S1451
- 1-2-S2-3 Forgotten knee: Its achievability and related basic science
.....*Yoshinori Kadoya*, Hanwa Joint Reconstruction Center...S1452
- 1-2-S2-4 Forgotten knee: Basic research to break the barrier
.....*Ken Okazaki*, Dept. of Orthop. Surg., Tokyo Women's Medical Univ...S1452

12 : 10 ~ 13 : 10	Luncheon seminar 2	Moderator S. Matsuda
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- 1-2-LS2 Conservative treatments and postoperative pain management for knee osteoarthritis
.....*Ken Okazaki*, Dept. of Orthop. Surg., Tokyo Women's Medical Univ...S1453

14 : 00 ~ 15 : 20	Symposium 3	Moderators T. Nikaïdo, K. Watanabe
Pain-inducing mechanism in low back pain		

- 1-2-S3-1 The path-mechanism of discogenic low back pain
.....*Masayuki Miyagi, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1454
- 1-2-S3-2 Mechanism of muscular low back pain*Yoshihito Sakai, et al.*, Dept. of Orthop. Surg.,
National Center for Geriatrics and Gerontology...S1454
- 1-2-S3-3 Mechanism of low back pain caused by lumbar facet joint osteoarthritis
.....*Hidenori Suzuki, et al.*, Dept. of Orthop. Surg.,
Yamaguchi Univ. Graduate School of Medicine...S1455

- 1-2-S3-4 Mechanism of low back pain based on brain imaging
 *Takuya Nikaido, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ.··S1455

15 : 30 ~ 16 : 50	Symposium 4	Moderators D. Osada, T. Wada
What is new in surgical anatomy of the elbow?		

- 1-2-S4-1 Anatomical knowledge of medial side of elbow joint *Akimoto Nimura, et al.*,
 Dept. of Functional Joint Anatomy, Graduate School of Medical and Dental Sciences,
 Tokyo Medical and Dental Univ.··S1456
- 1-2-S4-2 Clinical anatomy of the elbow joint for terrible triad injury
 *Junya Imatani, et al.*, Dept. of Orthop. Surg., Okayama Saiseikai General Hosp.··S1456
- 1-2-S4-3 Practical anatomy for elbow arthroscopy
 *Kozo Shimada, et al.*, Dept. of Orthop. Surg., JCHO Osaka Hosp.··S1457
- 1-2-S4-4 Update: Practical anatomy for elbow surgery, the educational point in cadaver workshop
 *Kousuke Iba, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ. ···S1457

17 : 00 ~ 18 : 20	Symposium 5	Moderators S. Tanaka, Y. Tanaka
Mechanisms of joint destruction and therapeutic approaches in rheumatoid arthritis		

- 1-2-S5-1 Basic pathology of synovial inflammation
 *Yuya Takakubo, et al.*, Dept. of Rehabil., Yamagata Medical Univ.··S1458
- 1-2-S5-2 Osteoimmunology in joint destruction
 *Yuho Kadono*, Dept. of Orthop. Surg., Saitama Medical Univ.··S1458
- 1-2-S5-3 Mechanisms of cartilage destruction and its control in rheumatoid arthritis
 *Toshihisa Kojima, et al.*, Dept. of Orthop. Surg.,
 Nagoya Univ. Graduate School of Medicine··S1459
- 1-2-S5-4 Therapeutic targets for joint destructions in inflammatory diseases
 *Takeshi Miyamoto*, Dept. of Orthop. Surg., Kumamoto Univ. Hosp.··S1459

1st Day October 14 Room 3

8 : 30 ~ 9 : 30	Educational lecture 4	Moderator N. Iwasaki
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- 1-3-EL4 Real pathomechanics of complex regional pain syndrome uncovered by advanced brain sciences
 *Hitoshi Hirata*, Dept. of Hand Surg., Graduate School of Medicine, Nagoya Univ./
 Innovative Research Center for Preventive Medical Engineering, Nagoya Univ.··S1460

9 : 40 ~ 10 : 40	Educational lecture 5	Moderator M. Matsumoto
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- 1-3-EL5 Granulocyte colony-stimulating factor-mediated neuroprotective therapy for acute spinal cord
 injury: From bench to bedside *Masao Koda*, Dept. Orthop. Surg., Univ. of Tsukuba··S1460

10 : 50 ~ 11 : 50	Educational lecture 6	Moderator Y. Kadono
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- 1-3-EL6 Utilization of ICT and AI in the management of rheumatoid arthritis: Medical DX in the new
 normal era *Shin-ya Kawashiri*, Nagasaki Univ. Graduate School of Biomedical Sciences··S1461

12 : 10 ~ 13 : 10	Luncheon seminar 3	Moderator A. Sudo
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- 1-3-LS3 Evidence based conservative treatment of osteoporosis: A review with recent topics
 *Naohisa Miyakoshi*, Dept. of Orthop. Surg., Akita Univ. Graduate School of Medicine··S1461

14 : 00 ~ 15 : 00	Educational lecture 7	Moderator M. Sato
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- 1-3-EL7 Regeneration of articular cartilage damage by iPSC-derived cartilage
 *Noriyuki Tsumaki*, Center for iPS Cell Research and Application, Kyoto Univ.··S1462

15 : 10 ~ 16 : 10	Educational lecture 8	Moderator H. Akiyama
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- 1-3-EL8 Advances in diagnostic imaging using artificial intelligence
 *Shoji Kido*, Dept. of Artificial Intelligence Diagnostic Radiology, Osaka Univ.··S1462

16 : 20 ~ 17 : 20	Educational lecture 9	Moderator J. Takahashi
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- 1-3-EL9 Diagnosis and treatment for osteoporotic vertebral fracture *Hiroaki Nakamura*,
 Dept. of Orthop. Surg., Osaka City Univ. Graduate School of Medicine··S1463

17 : 30 ~ 18 : 30	Afternoon seminar	Moderator I. Sekiya
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- 1-3-AS Effects of PRP/APS and stem cell therapy on osteoarthritis pathophysiology
 *Taku Saito*, Orthop. Surg., Graduate School of Medicine, The Univ. of Tokyo··S1463

1st Day October 14 Room 4

8 : 30 ~ 10 : 10	Symposium 6	Moderators Y. Watanabe, A. Mogami
Nonunion and fracture related infection (FRI): Basic science and clinical application		

- 1-4-S6-1 Transplantation of autologous peripheral blood-derived CD34-positive cells to fracture nonunion patients *Keisuke Oe, et al.*, Dept. of Orthop. Surg., Kobe Univ. Hosp.··S1464
- 1-4-S6-2 Localization diagnosis of infective pseudoarthrosis using FDG-PET/CT
 *Motoyuki Takaki, et al.*, Dept. of Traumatology, Fukushima Medical Univ.,
 Trauma & Reconstruction Center, Southern Tohoku General Hosp.··S1464
- 1-4-S6-3 Histological analysis of induced membrane: the critical component of the Masquelet reconstruction technique *Takahiro Niikura, et al.*, Dept. of Orthop. Surg.,
 Kobe Univ. Graduate School of Medicine··S1465
- 1-4-S6-4 Healing rate and complications of “chipping” technique for non-union of long bone
 *Gen Sasaki, et al.*, Dept. of Orthop. Surg., Teikyo Univ.··S1465
- 1-4-S6-5 Pharmacokinetics of antibiotics distribution by continuous local antibiotics perfusion (CLAP)
 *Akihiro Maruo, et al.*, Dept. of Orthop. Surg., Steel Memorial Hirohara Hosp.··S1466
- 1-4-S6-6 Treatment with antibiotic cement coated nail for infected nonunion or osteomyelitis
 *Mitsuhiro Matsuura, et al.*, Dept. of Orthop. Surg., Kurume Univ.··S1466

10 : 30 ~ 11 : 50	Symposium 7	Moderators Y. Imai, N. Tsumaki
The state-of-the-art in skeletal basic research		

- 1-4-S7-1 FGF23 and hypophosphatemic diseases
 *Seiji Fukumoto*, Institute of Advanced Medical Sciences/
 Fujii Memorial Institute of Medical Sciences, Tokushima Univ.··S1467
- 1-4-S7-2 Intravital imaging technology dissecting bone dynamics *in vivo*
 *Masaru Ishii*, Dept. Immunol. Cell Biol., Graduate School of Medicine, Osaka Univ.··S1467
- 1-4-S7-3 Regulatory mechanism of bone remodeling
 *Tomoki Nakashima*, Dep. of Cell Signaling, Tokyo Medical and Dental Univ.··S1468
- 1-4-S7-4 Recent topics on skeletal development *Yuuki Imai*, PROS, Ehime Univ.··S1468

12 : 10 ~ 13 : 10 Luncheon seminar 4		Moderator A. Okawa
1-4-LS4	Challenges in the approval of a novel sustained-release BMP-2 product for spinal fusion in Japan <i>Takashi Kaito</i> , Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ. ...S1469	
14 : 00 ~ 15 : 20 Symposium 8		Moderators R. Saura, F. Tajima
The role of muscle as the largest endocrine organ		
1-4-S8-1	Secretion of myokine in persons with spinal cord injury <i>Tomoyuki Ito, et al.</i> , Dept. of Rehabilitation Medicine, Kyoto Tanabe Memorial Hosp. ...S1470	
1-4-S8-2	The effect of low intensity exercise on arthritis in patients with rheumatoid arthritis <i>Satoshi Nakazaki, et al.</i> , Dept. of Rheumatology, Jouhoku Hosp. ...S1470	
1-4-S8-3	The prevention of Alzheimer's disease by exercise <i>Yasuha Noda</i> , Dept. Human Health Sciences, Graduate School of Medicine, Kyoto Univ. ...S1471	
1-4-S8-4	Role of the exercise-induced myokine in cardiovascular disease <i>Noriyuki Ouchi</i> , Dept. of Mol. Med. and Cardiology, Nagoya Univ. Graduate School of Medicine ...S1471	
15 : 30 ~ 16 : 50 Symposium 9		Moderators T. Ozaki, T. Otani
Basic research in the field of pediatric orthopaedics: The progress and prospect for the future		
1-4-S9-1	A new therapeutic strategy for Legg-Calve Perthes disease (LCPD) using a monoclonal neutralizing antibody for Interleukin 6 (IL-6) receptor by stimulating bone healing following ischemic osteonecrosis ... <i>Nobuhiro Kamiya</i> , Sports Medicine, Graduate School of Tenri Univ. ...S1472	
1-4-S9-2	Development of therapeutic drugs for pediatric intractable bone diseases <i>Hiroshi Kitoh, et al.</i> , Dept. of Orthop. Surg., Aichi Children's Health and Medical Center ...S1472	
1-4-S9-3	Biomechanical approach to pediatric scoliosis <i>Toshiaki Kotani, et al.</i> , Dept. of Orthop. Surg., Seirei Sakura Citizen Hosp. ...S1473	
1-4-S9-4	Three-dimensional computer simulation approach to malunited diaphyseal forearm fracture in children <i>Tsuyoshi Murase, et al.</i> , Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ. ...S1473	
17 : 30 ~ 18 : 30 Advanced session 1		Moderators N. Shiba, T. Aizawa
Application of artificial intelligence in orthopaedics		
1-4-A1-1	High-dimensional analysis of finger motion and screening for cervical myelopathy with a non-contact sensor and machine learning <i>Takafumi Koyama, et al.</i> , Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ. ...S1474	
1-4-A1-2	An algorithm for using deep learning convolutional neural networks with three dimensional depth sensor imaging in scoliosis detection <i>Terufumi Kokabu, et al.</i> , Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ...S1474	
1-4-A1-3	Prediction of curve progression in adolescent idiopathic scoliosis using deep learning analysis <i>Yasuhito Yahara, et al.</i> , Dept. of Orthop. Surg, Univ. of Toyama ...S1475	
1-4-A1-4	Development of diagnostic tool for osteosarcoma X-ray by artificial intelligence <i>Joe Hasei, et al.</i> , Dept. of Orthop. Surg., Okayama City Hosp. ...S1475	
1-4-A1-5	Machine learning approach in predicting clinically significant improvements after surgery in patients with cervical ossification of the posterior longitudinal ligament <i>Satoshi Maki, et al.</i> , Dept. of Orthop. Surg. Graduate School of Medicine, Chiba Univ. ...S1476	
1-4-A1-6	AI-assisted diagnostic system for screening of osteoporosis <i>Toru Moro, et al.</i> , Div. of Science for Joint Reconstruction, Graduate School of Medicine, The Univ. of Tokyo ...S1476	

1st Day October 14 Room 5

8 : 30 ~ 9 : 30	Free paper 1 Cartilage 1	Moderators Y. Maruyama, T. Sasho
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- 1-5-1 The treatment of SDC4 on articular cartilage might prevent cartilage degeneration
..... *Yoshio Hattori, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine...S1477
- 1-5-2 Hb stimulates the expression of MMP-2, -9 and ADAMTS-5, -9 by synovial cells: A possible cause of
cartilage damage after intraarticular bleeding
..... *Takuya Tajima, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki...S1477
- 1-5-3 Clinically attainable concentration of meclozine promotes bone elongation of a mouse model of
achondroplasia by attenuating MAPK pathway
..... *Masaki Matsushita, et al.*, Dept. of Orthop. Surg., Nagoya Univ. Graduate School of Medicine...S1478
- 1-5-4 Phenotype analysis of hereditary growth plate disorders using human iPSC-derived hypertrophic
chondrocytes *Yann Preteemer, et al.*, Center for iPS Cell Research and Application (CiRA),
Kyoto Univ...S1478
- 1-5-5 Induction of hypertrophic chondrocytes from human iPS cells using the automated cell culture
system *Akira Ohta, et al.*,
DDO, Center for iPS Cell Research and Application (CiRA), Kyoto Univ...S1479
- 1-5-6 Optimization for removal of undifferentiated iPS cells using quantitative evaluation by cell-specific
glycan analysis *Takuji Miyazaki, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1479

9 : 40 ~ 10 : 40	Free paper 2 Cartilage 2	Moderators I. Sekiya, T. Aoyama
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- 1-5-7 Histologic and macroscopic analysis of autologous platelet-rich fibrin membrane to augment
healing of microfracture chondral defects in a rabbit model *Takuya Kinoshita, et al.*,
Dept. of Orthop. Surg., Osaka City Univ. Graduate School of Medicine...S1480
- 1-5-8 Scaffold-free cartilage constructs for large chondral defects fabricated using bio-3D printer
..... *Anna Maria Nakamura, et al.*, Ctr. for Regen. Medi. Res., Saga Univ...S1480
- 1-5-9 The effect of bone marrow stimulation technique for cartilage defect varies depending on the
subchondral bone condition in rat model *Junichi Sumii, et al.*, Dept. of Orthop. Surg.,
Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1481
- 1-5-10 Induction and stable expansion of human pluripotent stem cell-derived chondroprogenitor cells
..... *Daisuke Yamada, et al.*, Dept. of Reg. Sci., Okayama Univ. Graduate School of Medicine...S1481
- 1-5-11 Comparison of polydactyly-derived chondrocyte sheets with varying efficacies through Ingenuity
Pathway Analysis *Takumi Takahashi, et al.*, Dept. of Orthop. Surg., Tokai Univ...S1482
- 1-5-12 Exploring the function of exosomal miRNAs involved in the efficacy of polydactyly-derived
chondrocyte sheets *Miki Maehara, et al.*, Dept. of Orthop. Surg., Tokai Univ...S1482

10 : 50 ~ 11 : 50	Free paper 3 Knee 1	Moderators Y. Uchio, M. Ishijima
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- 1-5-13 Effect of high tibial osteotomy on synovial fluid properties in patients with spontaneous
osteonecrosis of the knee *Ken Kumagai, et al.*, Dept. of Orthop. Surg., Yokohama City Univ...S1483
- 1-5-14 Safety and feasibility of robot suit HAL assisted knee-function improvement therapy during the
early postoperative period after open wedge high tibial osteotomy
..... *Tomokazu Yoshioka, et al.*, Div. of Regenerative Medicine for Musculoskeletal Surg.,
Dept. of Orthop. Surg., Univ. of Tsukuba...S1483
- 1-5-15 Change of stress distribution patterns across patellofemoral joint after inverted V-shaped high tibial
osteotomy *Yoshio Nishida, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1484

- 1-5-16 Investigation of pre and post operative leg length discrepancy between OWHTO and h-CWHTO
.....*Shu Takagawa, et al.*, Dept. of Orthop. Surg., Yokohama City Univ. Medical Center...S1484
- 1-5-17 Distance between lateral edge of the flange and hinge point in open wedge high tibial osteotomy
.....*Shuntaro Nejima, et al.*, Dept. of Orthop. Surg., Yokohama City Univ....S1485
- 1-5-18 Change of patella height after high tibia osteotomy evaluated by using three-dimensional computed tomography: Medial open wedge versus inverted-V shaped osteotomy.....*Shinya Dobashi, et al.*,
Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ....S1485

12 : 10 ~ 13 : 10 Luncheon seminar 5

Moderator Y. Matsuyama

- 1-5-LS5 Basic science by the clinical orthopaedic surgeon
.....*Seiji Okada*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ. ...S1486

14 : 00 ~ 15 : 00 Free paper 4 Knee 2

Moderators T. Majima, K. Nakata

- 1-5-19 Inhibitory effect of antibody against vascular endothelial growth factor on degeneration of articular cartilage derived from patients with osteoarthritis of the knee
.....*Masaichi Sotozawa, et al.*, Dept. of Orthop. Surg., Yokohama City Univ....S1487
- 1-5-20 Thawed cryopreserved synovial mesenchymal stem cells show comparable effects to cultured cells in the inhibition of osteoarthritis progression in rats*Kiyotaka Horiuchi, et al.*,
Center for Stem Cell and Regenerative Medicine, Tokyo Medical and Dental Univ....S1487
- 1-5-21 Intra articular injection of the adipose-derived mesenchymal stem cell prevent knee osteoarthritis progression*Takanori Wakayama, et al.*, Dept. of Orthop., Juntendo Univ....S1488
- 1-5-22 Tissue metalloproteinase inhibitor (TIMP) is a factor associated with the efficacy of platelet-rich plasma (PRP) therapy for knee osteoarthritis*Sayuri Uchino, et al.*,
Dept. of Orthop. Surg., Juntendo Univ. ...S1488
- 1-5-23 Changes in cartilage volume after injection of platelet-rich plasma in a cynomolgus macaque model of knee osteoarthritis*Hatsumi Ichinose, et al.*, Dept. of Orthop. Surg.,
Hamamatsu Univ. School of Medicine...S1489
- 1-5-24 Effect of platelet-rich plasma on M1/M2 macrophage polarization
.....*Ryoka Uchiyama, et al.*, Dept. of Orthop. Surg., Tokai Univ....S1489

15 : 10 ~ 16 : 10 Free paper 5 Knee 3

Moderators H. Miura, K. Nakagawa

- 1-5-25 Development of a novel meniscal sheet scaffold and its effectiveness for meniscal wrapping treatment in a rabbit defect model*Kuniaki Ikeda, et al.*, Dept. of Orthop. Surg.,
Osaka Medical and Pharmaceutical Univ....S1490
- 1-5-26 Transtibial pullout repair is useful for patients with oblique tears of the medial meniscus posterior root*Naohiro Higashihara, et al.*, Science of Functional Recovery and Reconstruction,
Okayama Univ. Graduate School of Medicine...S1490
- 1-5-27 Isolated two simple stitches improve posterior extrusion of the meniscus in patients with medial meniscus posterior root tear*Keisuke Kintaka, et al.*,
Science of Functional Recovery and Reconstruction, Okayama Univ. Graduate School of Medicine...S1491
- 1-5-28 Risk factors associated with bilateral medial meniscus posterior root tears
.....*Takaaki Hiranaka, et al.*, Science of Functional Recovery and Reconstruction,
Okayama Univ. Graduate School of Medicine...S1491
- 1-5-29 Anatomic repair for the medial meniscus posterior root tear is correlated with good meniscal healing status*Masanori Tamura, et al.*, Science of Functional Recovery and Reconstruction,
Okayama Univ. Graduate School of Medicine...S1492
- 1-5-30 Dynamic medial meniscus extrusion correlates with knee pain during walking than the static state in knee osteoarthritis*Yuko Nakashima, et al.*, MSK Ultrasound in Medicine, Hiroshima Univ....S1492

16 : 20 ~ 17 : 20	Free paper 6 Knee 4	Moderators K. Urabe, E. Kondo
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- 1-5-31 Transplantation of Achilles tendon treated with parathyroid hormone promotes meniscus regeneration in a rat model of massive meniscal defect *Kazuya Nishino, et al.*,
Dept. of Orthop. Surg., Osaka City Univ. Hosp. ...S1493
- 1-5-32 Histological findings of meniscal restoration using silk-elastin *Toshiya Kano, et al.*,
Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ. ...S1493
- 1-5-33 Effect of cryopreservation on adhesion ability to the meniscus and morphology of human synovium mesenchymal stem cells *Shunichi Fujii, et al.*,
Center for Stem Cell and Regenerative Medicine, Tokyo Medical and Dental Univ. ...S1494
- 1-5-34 The effect of the relationship between medial meniscal extrusion and knee alignment on the stress load of the knee: Finite element analysis *Takuhei Kozaki, et al.*, Dept. of Orthop. Surg.,
Wakayama Medical Univ. ...S1494
- 1-5-35 Overtime morphologic change of discoid lateral meniscus after a partial meniscectomy *Hiroaki Fukushima, et al.*, Dept. of Orthop. Surg.,
Nagoya City Univ. Graduate School of Medical Sciences ...S1495
- 1-5-36 Force distribution of the anterior horn of lateral meniscus and connective tissue to the anterior cruciate ligament *Kousuke Shiwa, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ. ...S1495

17 : 30 ~ 18 : 30	Free paper 7 Knee 5	Moderators K. Takahashi, A. Nakamae
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- 1-5-37 Analysis of the medial hamstring function in the ground reaction force during the cutting maneuvers under a created muscle fatigue condition *Kenta Yamatsu, et al.*,
Graduate School of Health Science, Sapporo Medical Univ. ...S1496
- 1-5-38 Bone marrow abnormalities detected on MRI is associated with knee pain in healthy elderly: The Bunkyo Health Study *Jun Tomura, et al.*, Dept. of Med. for Orthop. and Motor Organ,
Juntendo Univ. Graduate School of Medicine ...S1496
- 1-5-39 Time course of nerve growth factor expressions and sensory nerve growth during knee osteoarthritis progression in rats *Koji Aso, et al.*, Dept. of Orthop. Surg.,
Kochi Medical School, Kochi Univ. ...S1497
- 1-5-40 Decidual protein induced by progesterone (DEPP) protects chondrocytes against oxidative stress through enhancing autophagy *Masanari Kuwahara, et al.*, Dept. of Orthop. Surg.,
Graduate School of Medical Sciences, Kyushu Univ. ...S1497
- 1-5-41 Mechanical loading may cause release of pathogenic proteins from degenerated cartilage in OA knee joints *Hiroataka Tsuno, et al.*, Clinical Research Center, NHO Sagami-hara Hosp. ...S1498
- 1-5-42 The relationship between mechanical stress and proinflammatory cytokine stimulation on three-dimensional tissue of human articular chondrocytes *Minami Hikida, et al.*,
Medicine for Sports and Performing Arts, Dept. of Health and Sport Sciences,
Graduate School of Medicine, Osaka Univ. ...S1498

1st Day October 14 Room 6

8 : 30 ~ 9 : 30	Free paper 8 Shoulder 1	Moderators H. Ikegami, T. Mihata
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- 1-6-1 Relationship between scar tissue formation around torn tendon and behavioral change in rat models of rotator cuff tear *Toru Morimoto, et al.*, Dept. of Orthop. Surg., Kochi Medical School,
Kochi Univ. ...S1499
- 1-6-2 Evaluation of association of HMGB1 expression with rat rotator cuff impingement model tendinopathy and its functional impacts on tenocytes *Toshiro Ijuin, et al.*,
Dept. of Orthop. Surg., Graduate School of Medical and Dental Sciences, Kagoshima Univ. ...S1499

- 1-6-3 Effect of platelet-rich fibrin of bone marrow repairing chronic rotator cuff tear model in rabbit
.....*Tomohiro Uno, et al.*, Dept. of Orthop. Surg., Yamagata Univ.··S1500
- 1-6-4 Involvement of oxidative stress in rat rotator cuff tear model*Hirohisa Uehara, et al.*,
Dept. of Medicine for Orthop. and Motor Organ, Juntendo Univ. Graduate School of Medicine··S1500
- 1-6-5 The regulation of endogenous growth factors and Scx⁺/Sox9⁺ cells during healing process after
injury of rotator cuff tendon enthesis in mice*Katsumasa Ideo, et al.*, Dept. of Orthop. Surg.,
Kumamoto Univ. Hosp.··S1501
- 1-6-6 Histological analysis of graft healing after superior capsule reconstruction for the irreparable rotator
cuff tear in rabbits*Akihiko Hasegawa, et al.*, Dept. of Orthop. Surg.,
Osaka Medical and Pharmaceutical Univ.··S1501

9 : 40 ~ 10 : 40	Free paper 9 Shoulder 2	Moderators H. Goto, N. Taniguchi
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- 1-6-7 Suprascapular nerve translation after rotator cuff repair combined with muscle advancement and
releasing the transverse scapular ligament*Yohei Harada, et al.*, Dept. of Orthop. Surg.,
Graduate School of Biomedical and Health Sciences, Hiroshima Univ.··S1502
- 1-6-8 Changes in compound muscle action potentials in the deltoid muscle after arthroscopic rotator
cuff repair*Kiminori Yukata, et al.*, Dept. of Orthop. Surg.,
Yamaguchi Univ. Graduate School of Medicine··S1502
- 1-6-9 Superoxide: Induced oxidative stress causes re-tear after arthroscopic rotator cuff repair
.....*Yoshiaki Itoigawa, et al.*, Dept. of Orthop. Surg., Juntendo Univ. Urayasu Hosp.··S1503
- 1-6-10 A study of AGEs (advanced glycation end-products) deposition and its effects by intra-articular
tissues in shoulder rotator cuff tears with diabetes mellitus*Issei Shinohara, et al.*,
Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1503
- 1-6-11 Cellular responses of tendon stromal cells isolated from torn rotator cuff tendons to TGF- β 1 and
BMP-2 treatments *in vitro**Wataru Morita, et al.*, Nuffield Dept. of Orthop.,
Rheumatology & Musculoskeletal Sciences (NDORMS), Univ. of Oxford, Oxford, UK··S1504
- 1-6-12 Association between shoulder pain and nerve growth factor expression in the synovial tissues of
patients with rotator cuff tears*Ryo Tazawa, et al.*, Dept. of Orthop. Surg.,
Machida Municipal Hosp. ···S1504

10 : 50 ~ 11 : 50	Free paper 10 Shoulder 3	Moderators Y. Iwahori, S. Imai
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- 1-6-13 Relationship between tissue hemodynamics in subacromial bursa and shoulder pain in patients
with rotator cuff tear*Masashi Izumi, et al.*, Dept. of Orthop. Surg., Kochi Medical School,
Kochi Univ.··S1505
- 1-6-14 Effect of different competition levels in baseball players on bilateral humeral retroversion angle
.....*Shota Ike, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1505
- 1-6-15 Reliability of quantitative measurements for anterior shoulder instability with ultrasound
.....*Jumpei Inoue, et al.*, Dept. of Orthop. Surg.,
Nagoya City Univ. Graduate School of Medical Sciences··S1506
- 1-6-16 The correlation between CCN3 expression and osteoarthritis in shoulder joint
.....*Kazuki Hirose, et al.*, Science of Functional Recovery and Reconstruction,
Okayama Univ. Graduate School of Medicine··S1506
- 1-6-17 Creation and image evaluation of rat shoulder arthritis model by mono-iodoacetate
.....*Shohei Ise, et al.*, Dept. of Orthop. Surg. Graduate School of Medicine, Chiba Univ.··S1507
- 1-6-18 Gene expressions in frozen shoulder: Comparison with cases of shoulder joint instability and rotator
cuff injuries and relation to clinical findings*Tetsuo Yamaguchi, et al.*,
Dept. of Integrated Arts and Science, Tokushima Univ.··S1507

12 : 10 ~ 13 : 10	Luncheon seminar 6	Moderator K. Nakata
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- 1-6-LS6 Molecular biological mechanism of high molecular weight hyaluronan in osteoarthritis treatment
*Nobunori Takahashi*, Dept. of Orthop. Surg., Nagoya Univ. Graduate School of Medicine...S1508

14 : 00 ~ 15 : 00	Free paper 11 Shoulder 4	Moderators Y. Shibata, K. Sugamoto
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- 1-6-19 Anatomical evaluation of the long head of the biceps tendon tenodesis using an interference screw
 in Japanese cadavers*Naoki Umatani, et al.*, Dept. of Orthop. Surg.,
 Kansai Electric Power Hosp. ...S1509
- 1-6-20 Acromioclavicular joint instability in cross-body adduction view: Biomechanical effect of
 acromioclavicular and coracoclavicular ligaments sectioning*Shimpei Kurata, et al.*,
 Dept. of Orthop. Surg., Nara Medical Univ. Hosp. ...S1509
- 1-6-21 Increase in macrophage marker and inflammatory cytokine expression in patients with shoulder
 instability*Kyoko Muneshige, et al.*, Dept. of Orthop. Surg., Kitasato Univ. ...S1510
- 1-6-22 Examination of scapular strain due to three different stresses via the glenosphere
*Daisuke Ishii, et al.*, Dept. of Orthop. Surg., Kitasato Univ. ...S1510
- 1-6-23 Risk of acromial impingement and clinical outcome in RSA
*Kohnan Tsuchiyama, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine...S1511
- 1-6-24 Examination of the relationship between the humeral tray position and stability in the reverse
 shoulder arthroplasty using fresh frozen cadaver*Yohei Shimada, et al.*,
 Dept. of Orthop. Surg., Chiba Univ. Hosp. ...S1511

15 : 10 ~ 16 : 10	Free paper 12 Hand 1	Moderators Y. Nishiura, K. Sato
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- 1-6-25 Opponensplasty for the reconstruction of thumb opposition: A biomechanical study of pulley
 location*Mitsuyuki Nagashima, et al.*, Dept. of Orthop. Surg., Nara Medical Univ. ...S1512
- 1-6-26 Impact of opponensplasty on thumb kinematics for severe carpal tunnel syndrome
*Akira Kodama, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ. ...S1512
- 1-6-27 Anatomical analysis based on the muscle, tendinous structures and the joint capsule for elucidation
 of the mechanism of stabilization of the trapeziometacarpal joint*Mio Norose, et al.*,
 Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences,
 Tokyo Medical and Dental Univ. ...S1513
- 1-6-28 Relationship between hypoplastic scaphoids and osteoarthritis of trapezio-metacarpal joint
*Daisuke Kawamura, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ...S1513
- 1-6-29 Thumb kinematic analysis of pre- and post- CMC arthrodesis for trapeziometacarpal osteoarthritis
*Teruyasu Tanaka, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ. ...S1514
- 1-6-30 Effect of traction MRI for evaluation of the articular cartilage of the thumb carpometacarpal joint
*Akira Ikumi, et al.*, Dept. of Orthop. Surg., Kenpoku Medical Center Takahagi Kyodo Hosp. ...S1514

16 : 20 ~ 17 : 20	Free paper 13 Hand 2	Moderators S. Omokawa, T. Nakamura
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- 1-6-31 Can artificial nerve graft filled with Schwann cells be a new option for nerve reconstruction?
*Masao Suzuki, et al.*, Dept. of Medicine for Orthop. and Motor Organ,
 Juntendo Univ. Graduate School of Medicine...S1515
- 1-6-32 Preoperative and postoperative changes of CSA in carpal tunnel syndrome using 3T MRI
*Atsushi Maeda, et al.*, Dept. of Orthop. Surg., Fujita Health Univ. ...S1515

- 1-6-33 Comparison of diagnostic methods for carpal tunnel syndrome: Usefulness of clinical symptoms, ultrasonography and electrophysiological examination
.....*Toshiyuki Okura, et al.*, Dept. of Orthop. Surg., Miyazaki Zenjinkai Hosp.··S1516
- 1-6-34 A study of the correlation between carpal axial alignment and change of ROM by DARTS total wrist arthroplasty*Mitsutoshi Ota, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1516
- 1-6-35 Tissue factor expression and thrombin effects in Dupuytren's disease
.....*Jiro Kato, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine··S1517
- 1-6-36 Analysis of disease-associated SNPs and inflammatory mechanisms in Dupuytren's contracture
.....*Hiroaki Kida, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1517

17 : 30 ~ 18 : 30	Free paper 14 Osteoarthritis	Moderators H. Ikeda, T. Yamamoto
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- 1-6-37 Producing ability of equal in Japanese general population: Wakayama Health Promotion Study
.....*Takashi Shimoe, et al.*, Dept. of Plast., Wakayama Medical Univ.··S1518
- 1-6-38 The role of miR-23a/b cluster in maintaining joint homeostasis*Yusuke Fujiwara, et al.*,
Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.··S1518
- 1-6-39 Functional analysis of I κ B kinase ϵ (IKK ϵ) in human chondrocytes*Taisuke Uchida, et al.*,
Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kyushu Univ.··S1519
- 1-6-40 Regulations mechanism of macrophage activity and synovitis by V-set and transmembrane domain containing 4*Manabu Mukai, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1519
- 1-6-41 Involvement of inflammatory macrophage derived extracellular vesicles in cartilage degeneration in osteoarthritis*Taku Ebata, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1520
- 1-6-42 Role of mast cell in the acute aggravation (flare) of osteoarthritis
.....*Junpei Dan, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ.··S1520

1st Day October 14 Room 7

8 : 30 ~ 9 : 30	Free paper 15 Peripheral nerve 1	Moderators T. Saito, T. Murase
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- 1-7-1 Histological alteration in peripheral nerve induced by conditional knockout of low-density lipoprotein-related protein 1 (LRP1) in mice*Sumihisa Orita, et al.*,
Center for Medical Engineering/Dept. of Orthop. Surg., Chiba Univ. ···S1521
- 1-7-2 Role of V-set and transmembrane domain containing 4 in peripheral nerve injury
.....*Yuji Yokozeki, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1521
- 1-7-3 Effect of aging on the expression of the neuroprotective marker REST in mouse models of nerve crush injury*Hiroyuki Obata, et al.*, Dept. of Medicine for Orthop. and Motor Organ,
Juntendo Univ. Graduate School of Medicine··S1522
- 1-7-4 Different sensitivities to voltage gated potassium channel blockers in three types of mechanoreceptors ···*Mayumi Sonokatsu, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ.··S1522
- 1-7-5 Histological study on the pain mechanism of painful traumatic neuroma: Using clinical sample and animal models*Yuki Matsui, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1523
- 1-7-6 New peripheral nerve reconstruction methods using tumor-bearing nerve graft treated by liquid nitrogen*Hiroataka Yonezawa, et al.*, Dept. of Orthop. Surg.,
Graduate School of Medical Science, Kanazawa Univ.··S1523

9 : 40 ~ 10 : 40	Free paper 16 Peripheral nerve 2	Moderators R. Kakinoki, S. Kawabata
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| 1-7-7 | Examination of neurite outgrowth effect of peripheral nerve-specific fibroblasts
..... <i>Masato Hara, et al.</i> , Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.S1524 | |
| 1-7-8 | New treatment of paralysis with xenotransplantation
..... <i>Sota Saeki, et al.</i> , Dept. of Hand Surg., Graduate School of Medicine, Nagoya Univ.S1524 | |
| 1-7-9 | Oxidation-enhanced carbon nanotube promote neurite outgrowth <i>Atsushi Kunisaki, et al.</i> ,
Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.S1525 | |
| 1-7-10 | Effect of nerve capping with a nerve conduit for painful terminal neuroma
..... <i>Jiro Kato, et al.</i> , Dept. of Orthop. Surg., Mie Univ. Graduate School of MedicineS1525 | |
| 1-7-11 | Results of the nerve autograft wrapped with an adipose-derived stem cell sheet
..... <i>Atsuro Murai, et al.</i> , Dept. of Orthop. Surg., Graduate School of Medical Science,
Kanazawa Univ.S1526 | |
| 1-7-12 | Effects of exogenously administered platelet-rich plasma with and without thrombin and its
mechanism in a rat sciatic nerve injury model <i>Michiaki Mukai, et al.</i> ,
Dept. of Orthop. Surg. Graduate School of Medicine, Chiba Univ.S1526 | |

10 : 50 ~ 11 : 50	Free paper 17 Peripheral nerve 3	Moderators T. Ushida, K. Ishii
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| 1-7-13 | The validity of magnetoneurography in the diagnosis of piriformis syndrome
..... <i>Masaaki Paku, et al.</i> , Dept. of Orthop. Surg., Kansai Medical Univ.S1527 | |
| 1-7-14 | Noninvasive assessment of neural activity from the brachial plexus to cervical spine using
magnetoneurography <i>Yuta Tanaka, et al.</i> , Dept. of Orthop. and Spinal Surg.,
Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ.S1527 | |
| 1-7-15 | Microvascular neural blood flow assessment for chronic nerve compression injury mouse model by
fluorescein angiography <i>Shunpei Hama, et al.</i> , Dept. of Orthop. Surg.,
Osaka City Univ. Graduate School of MedicineS1528 | |
| 1-7-16 | Consideration of the decline in axon regeneration induction with aging focusing on the neuron-
restrictive silence factor REST <i>Ayaka Kaneko, et al.</i> ,
Dept. of Medicine for Orthop. and Motor Organ, Juntendo Univ. Graduate School of MedicineS1528 | |
| 1-7-17 | Further evidence that platelet-rich plasma promotes neurite outgrowth through enhancement of
Schwann cells functioning <i>Seiji Sawai, et al.</i> , Dept. of Orthop.,
Graduate School of Medical Science, Kyoto Prefectural Univ. of MedicineS1529 | |
| 1-7-18 | Nerve regeneration by decellularized vascularized nerve transplantation
..... <i>Kaguna Tanimoto, et al.</i> , Dept. of Orthop. Surg.,
Graduate School of Biomedical and Health Sciences, Hiroshima Univ.S1529 | |

12 : 10 ~ 13 : 10	Luncheon seminar 7	Moderator M. Matsumoto
Next-generation interbody fusion devices		

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| 1-7-LS7-1 | Design of innovative orthopedic implant for inducing high quality bone under <i>in vivo</i> stress
distribution <i>Takayoshi Nakano</i> , Dept. of Engineering, Graduate School of Medicine,
Osaka Univ.S1530 | |
| 1-7-LS7-2 | Development of new spinal implants as fruition of matching seeds for innovative technologies
and needs in clinical fields <i>Manabu Ito</i> , Dept. of Orthop. Surg.,
NHO Hokkaido Medical CenterS1530 | |

14 : 00 ~ 15 : 00	Free paper 18 Spinal cord 1	Moderators S. Konno, M. Nakamura
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| 1-7-19 | Novel <i>in vivo</i> imaging system of grafted human IPS cell-derived neuron activity after spinal cord
injury <i>Kentaro Ago, et al.</i> , Dept. of Orthop. Surg., Keio Univ.S1531 | |
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- 1-7-20 Efficacy of hiPSC-gliogenic NS/PCs for transplantation in the chronic phase of spinal cord injury
..... *Yasuhiro Kamata, et al.*, Dept. of Orthop. Surg., Keio Univ.S1531
- 1-7-21 Clarifying the therapeutic effect of grafted human iPSC derived neurons in spinal cord injury by
chemically controlling neural activity *Takahiro Kitagawa, et al.*, Dept. of Orthop. Surg.,
Keio Univ.S1532
- 1-7-22 Participation of heparan sulfate proteoglycans in neuronal axon outgrowth of embryo mice in a
mimetic culture model of glial scars *Jun Ouchida, et al.*, Dept. of Orthop. Surg.,
Nagoya Univ. Graduate School of MedicineS1532
- 1-7-23 Promotion of spinal cord regeneration by transplantation of axon-like nerve bundle derived from
human dental pulp mesenchymal stem cell *Yosuke Shibao, et al.*, Dept. of Orthop. Surg.,
Univ. of TsukubaS1533
- 1-7-24 Suppressive effect of adalimumab on osteogenic differentiation of ligamentum flavum
mesenchymal stem cells isolated from patients with ossification of the posterior longitudinal
ligament *Ryo Araki, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Hosp.S1533

15 : 10 ~ 16 : 10	Free paper 19	Spinal cord 2	Moderators	K. Takeshita, M. Yoshimoto
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- 1-7-25 Investigation of the effect of antipsychotic drug, Brexpiprazole, on the neuroprotection after spinal
cord injury *Akihito Sotome, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.S1534
- 1-7-26 MicroRNA-23 clusters promote myelination of the central nervous system
..... *Yuji Tsuchikawa, et al.*, Dept. of Orthop. Surg.,
Graduate School of Biomedical and Health Sciences, Hiroshima Univ.S1534
- 1-7-27 Role of miR-26a in repair process of injured spinal cord *Takahiro Harada, et al.*,
Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.S1535
- 1-7-28 Effects of acute administration of GABA-A receptor agonist on mice for spinal cord injury
..... *Kenya Saruta, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Hosp.S1535
- 1-7-29 The effect of GLP-1 receptor agonists on macrophage polarity and blood-spinal cord barrier
integrity after spinal cord injury in rats *Keiko Yamaguchi, et al.*,
Dept. of Orthop. Surg., Tokai Univ.S1536
- 1-7-30 The effectiveness of decompression surgery after spinal cord injury on a rat with canal stenosis
..... *Sho Okimatsu, et al.*, Dept. of Orthop. Surg. Graduate School of Medicine, Chiba Univ.S1536

16 : 20 ~ 17 : 20	Free paper 20	Spinal cord 3	Moderators	H. Nagashima, K. Nakanishi
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- 1-7-31 Observation of corticospinal tract and microglia in spinal cord injury mice using *in vivo* two photon
microscope *Ryotaro Oishi, et al.*, Dept. of Orthop. Surg.,
Nagoya Univ. Graduate School of MedicineS1537
- 1-7-32 The assessment of activated microglia expression in the spinal cord and clinical significance of
PK11195 PET imaging *Makoto Kitade, et al.*, Dept. of Orthop. and Rehabilitation Medicine,
Univ. of FukuiS1537
- 1-7-33 Relationship between cervical compressive myelopathy and spinal cord ischemia in a rat model of
chronic spinal cord compression *Masataka Miura, et al.*,
Dept. of Orthop. Surg. Graduate School of Medicine, Chiba Univ.S1538
- 1-7-34 Correlation between gait analysis and patient reported outcomes JOACMEQ in patients with
compression cervical myelopathy *Tatsuo Makino, et al.*, Div. of Orthop. Surg.,
Niigata Univ. Graduate School of Medical and Dental SciencesS1538
- 1-7-35 Prevalence of atlantodens and atlantoaxial osteoarthritis: A computed tomography imaging study
based on 1266 cases *Yuma Suga, et al.*, Dept. of Orthop. Surg., Nara Medical Univ.S1539
- 1-7-36 The role of myofibroblasts in the fibrosis of ligamenta flava
..... *Fumio Hayashi, et al.*, Dept. of Orthop. Surg., Tokushima Pref. Kaifu Hosp.S1539

17 : 30 ~ 18 : 30	Free paper 21 Spinal cord 4	Moderators O. Shirado, Y. Shimada
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- 1-7-37 The utility of blood fibrosis marker PⅢNP as a predictor of functional prognosis after spinal cord injury *Gentaro Ono, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kyushu Univ. ...S1540
- 1-7-38 The validity of magnetoneurography in the diagnosis of upper cervical cord disease *Masaaki Paku, et al.*, Dept. of Orthop.Surg., Kansai Medical Univ. ...S1540
- 1-7-39 The Hounsfield unit value of the upper instrumented vertebra is a predictor of proximal junctional failure after long instrumented spinal fusion surgery for adult spinal deformity *Norichika Yoshie, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine ...S1541
- 1-7-40 Examination of bone structural of uppermost instrumented vertebra with long fusion surgery *Terumasa Ikeda, et al.*, Dept. of Orthop. Surg., Kindai Univ. ...S1541
- 1-7-41 The effect of anatomical tumor location in extramedullary tumor surgery with intraoperative neurological monitoring *Shinji Morito, et al.*, Dept. of Orthop.Surg. Kurume Univ. Hosp. ...S1542
- 1-7-42 The risk factor associated with cervical kyphotic change after laminoplasty in the patients with cervical spondylotic myelopathy *Takuya Sakamoto, et al.*, Dept. of Orthop. Surg., Yamaguchi Univ. Hosp. ...S1542

1st Day October 14 Room 8

8 : 30 ~ 9 : 30	Free paper 22 Tumor 1	Moderators A. Matsumine, K. Honoki
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- 1-8-1 Identification of the pathogenic gene for dysplasia epiphysealis hemimelica *Kan Ito, et al.*, Dept. of Orthop. Surg., Nagoya Univ. Graduate School of Medicine ...S1543
- 1-8-2 Prediction of risk factors for pathological fracture after bone tumor biopsy using finite element analysis *Tadashi Iwai, et al.*, Dept. of Orthop. Surg., Osaka Social Medical Center Hosp. ...S1543
- 1-8-3 An examination of bone healing after autogenous bone grafting using “high hydrostatic pressure” *Yohei Yamada, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Science, Kanazawa Univ. ...S1544
- 1-8-4 Anti-tumor effects of everolimus in combination with bortezomib against bone and soft tissue sarcomas *Koichi Nakamura, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine ...S1544
- 1-8-5 The chimeric antigen receptor T (CAR-T) therapy specific for the heat shock protein DNAJB8-derived peptide *Yuto Watanabe, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ. ...S1545
- 1-8-6 Development of TCR-T therapy targeting long non-coding RNA-derived antigen *Shuto Hamada, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ. ...S1545

9 : 40 ~ 10 : 40	Free paper 23 Tumor 2	Moderators J. Nishida, H. Sugiura
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- 1-8-7 Inhibition of the growth of breast cancer-associated brain tumors by the osteocyte-derived conditioned medium *Tomohiko Sano, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine ...S1546
- 1-8-8 Effects of intravascular administration of acridine orange and bisphosphonate on local bone metastasis model of breast cancer *Ryo Shoji, et al.*, Dept. of Orthop. Surg., Akita Univ. Graduate School of Medicine ...S1546
- 1-8-9 Analysis of denosumab-induced hypocalcemia in patients with bone metastases *Koki Tsuchiya, et al.*, Dept. of Orthop. Surg., Showa Univ. ...S1547
- 1-8-10 Tumor specific immunoenhancing effects after local cryoablation for metastatic bone tumor *Ryohei Annen, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Science, Kanazawa Univ. ...S1547

- 1-8-11 The new treatment using acridine orange for metastatic bone tumor
 *Yumi Matsuyama, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine...S1548
- 1-8-12 Exploration of master regulators for metastatic bone cancer recurrence
 *Hirokazu Shimizu, et al.*, Dept. of Musculoskeletal Oncology, Hokkaido Cancer Center...S1548

10 : 50 ~ 11 : 50	Free paper 24 Tumor 3	Moderators H. Futani, T. Akiyama
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- 1-8-13 Biological significance of hTERT-RdRP activity in sarcoma cell lines
 *Akira Nomura, et al.*, Dept. of Orthop. Surg., Tokai Univ. Hosp...S1549
- 1-8-14 Significance of cancer genomic medicine in sarcoma
 *Eiji Nakata, et al.*, Dept. of Orthop. Surg., Okayama Univ. Hosp...S1549
- 1-8-15 Brain metastasis in soft tissue sarcoma patients: Population based study of SEER database
 *Ryo Itoga, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1550
- 1-8-16 Relevance of soluble CD80 in patients with soft tissue tumor
 *Yumi Matsuyama, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine...S1550
- 1-8-17 Fbxw7 loss promotes tumorigenesis via Myc accumulation in Ewing sarcoma cells
 *Masanori Kawano, et al.*, Dept. of Orthop. Surg., Oita Univ...S1551
- 1-8-18 Identification of slow-cycling cells in Ewing sarcoma
 *Shunsuke Yahiro, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1551

14 : 00 ~ 15 : 00	Free paper 25 Tumor 4	Moderators Y. Oda, Y. Nishida
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- 1-8-19 Expression analysis of immune checkpoint proteins, IDO, VISTA, CD47, CEACAM-1, in high
 grade soft tissue sarcoma *Kunihiro Asanuma, et al.*, Dept. of Orthop. Surg.,
 Mie Univ. Graduate School of Medicine...S1552
- 1-8-20 Infiltrative soft-tissue sarcomas (iSTS): Does iSTS secrete CSF-1 and recruit tumor-associated
 macrophages? *Toshiaki Hata, et al.*, Science of Functional Recovery and Reconstruction,
 Okayama Univ. Graduate School of Medicine...S1552
- 1-8-21 Ability of early monocyte count to predict neutropenia with doxorubicin-containing regimen for
 non-round cell soft-tissue sarcomas *Eiji Osaka, et al.*, Dept. of Orthop. Surg., Nihon Univ...S1553
- 1-8-22 Natural killer cell related ligands targeted CAR-T therapy against synovial sarcoma cells
 *Yudai Murayama, et al.*, Div. of Orthop. Surg.,
 Niigata Univ. Graduate School of Medical and Dental Sciences...S1553
- 1-8-23 Analyses of regulation mechanism of EWS-ATF1, fusion gene of clear cell sarcoma, by HDAC
 inhibitors *Hirokazu Mae, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine,
 Osaka Univ. ...S1554
- 1-8-24 The roles of PRRX1 in malignant peripheral nerve sheath tumor
 *Shota Takihira, et al.*, Dept. of Orthop. Surg., Okayama Univ. Hosp...S1554

15 : 10 ~ 16 : 10	Free paper 26 Tumor 5	Moderators T. Yamamoto, M. Kanamori
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- 1-8-25 Pterostilbene have antitumor effect through tumor cell selective mitochondria abrasion
 *Shingo Kishi, et al.*, Dept. of Molecular Pathology, Nara Medical Univ...S1555
- 1-8-26 Research on decursin, a natural organic compound that has a sensitizing effect with cisplatin on
 osteosarcoma cell lines *Daichi Hayashi, et al.*, Dept. of Orthop.,
 Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine...S1555
- 1-8-27 Inhibitory effect of osteosarcoma metastasis by amplifying cell stiffness
 *Kouji Kita, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine...S1556
- 1-8-28 Polarization change of macrophages stimulated with metastatic and non-metastatic osteosarcoma
 *Hiroya Kondo, et al.*, Science of Functional Recovery and Reconstruction,
 Okayama Univ. Graduate School of Medicine...S1556

- 1-8-29 Preclinical evaluation of pexidartinib for osteosarcoma: CSF-1/CSF-1R inhibition alters immune cell composition and inhibit tumor growth and metastasis *Tomohiro Fujiwara, et al.*, Science of Functional Recovery and Reconstruction, Okayama Univ. Graduate School of Medicine...S1557
- 1-8-30 Primary malignant osseous neoplasms in hand *Shota Ike, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1557

16 : 20 ~ 17 : 20	Free paper 27	Biomaterial 1	Moderators J. Chiba, M. Neo
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- 1-8-31 Osteogenic and antibacterial activity of titanium metal releasing calcium and iodine ions *Norimasa Ikeda, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ...S1558
- 1-8-32 Efficacy of antibiotic-loaded hydroxyapatite/collagen composites is dependent on adsorbability for treating *Staphylococcus aureus* osteomyelitis in rats *Satoru Egawa, et al.*, Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1558
- 1-8-33 Bone tissue compatibility of phosphorylated PEEK *Kaoru Aoki, et al.*, Physical Therapy Div., Shinshu Univ...S1559
- 1-8-34 Comparison of screws coated with fiblast growth factor-2-apatite composite layer by metal *Yasukazu Totoki, et al.*, Dept. Orthop. Surg., Univ. of Tsukuba...S1559
- 1-8-35 Surface engineering using laser peening method increases the resistance of cobalt chrome spinal rods *Akihito Wada, et al.*, Dept. of Orthop. Surg., Toho Univ. ...S1560
- 1-8-36 Investigation of therapeutic effect of silk-elastin with suturable strength on meniscal repair *Tadashi Inoue, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1560

17 : 30 ~ 18 : 30	Free paper 28	Biomaterial 2	Moderators Y. Musha, N. Saito
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- 1-8-37 Hydroxyapatite-hybridized double-network hydrogel surface enhances differentiation of bone marrow-derived mesenchymal stem cells to osteogenic cells in an *in vitro* environment *Takuma Kaibara, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1561
- 1-8-38 Bone reconstruction of segmental bone defect using carbonate apatite honeycomb block *Keigo Shibahara, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kyushu Univ...S1561
- 1-8-39 Fixation strength of precision processing headless bone screw *Takuya Manako, et al.*, Dept. of Orthop. Surg., Shimane Univ...S1562
- 1-8-40 Investigation of the appropriate thread depth for unsintered-hydroxyapatite/poly-L-lactic acid (u-HA/PLLA) *Shinji Imade, et al.*, Dept. of Orthop. Surg., Shimane Univ...S1562
- 1-8-41 Silicate/zinc substituted strontium apatite coating improves osteoinductive properties of β -tricalcium phosphate bone graft substitute *Hironori Sugimoto, et al.*, Dept. of Orthop. Surg., Nara Medical Univ...S1563
- 1-8-42 *In vivo* osteogenesis around silicate-zinc-substituted strontium apatite PEEK disk bonded by CO₂ laser *Sachiko Kawasaki, et al.*, Dept. of Orthop. Surg., Nara Medical Univ...S1563

1st Day	October 14	Room 9
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8 : 30 ~ 9 : 30	Free paper 29	Foot 1	Moderators S. Ozeki, M. Takao
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- 1-9-1 Study of the displacement of the lowest point of calcaneus in varus ankle osteoarthritis using weight-bearing long-leg AP view *Yuki Ueno, et al.*, Dept. of Orthop. Surg., Uda City Hosp...S1564

- 1-9-2 Plantar pressure distribution in basketball players during sport-specific movements: Comparison with or without chronic ankle instability *Yoshihiro Hirai, et al.*, Dept. of Orthop. Surg., Osaka Medical and Pharmaceutical Univ. ...S1564
- 1-9-3 Evaluation of 2D3D registration using bone phantom of foot and ankle *Takuma Miyamoto, et al.*, Dept. of Orthop. Surg., Nara Medical Univ. ...S1565
- 1-9-4 *In vivo* kinematics of hindfoot joint on weight-bearing activities using bi-plane fluoroscopy and 3D/2D registration *Yukio Mikami, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ. ...S1565
- 1-9-5 Biomechanical analysis of syndesmotic stability at AITFL and PITFL injuries model *Katsunori Takahashi, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ. ...S1566
- 1-9-6 Validation of a newly developed electromagnetic measurement of the ankle drawer test *Kiminari Kataoka, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine ...S1566

9 : 40 ~ 10 : 40	Free paper 30	Foot 2	Moderators	T. Hashimoto, M. Kubota
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- 1-9-7 X-ray assessment of the curly roe deformity *Hiroshi Satake, et al.*, Dept. of Orthop. Surg., Yamagata Univ. ...S1567
- 1-9-8 Anatomical risk factors associated with progression of hallux valgus *Masashi Shinohara, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ. ...S1567
- 1-9-9 Estimating radiographic parameters of hallux valgus from self-photography using deep convolutional neural networks *Kana Inoue, et al.*, Dept. of Medical Engineering, Chiba Univ. ...S1568
- 1-9-10 Analysis of windlass mechanism using 3D-CT in healthy volunteers *Takumi Kihara, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine ...S1568
- 1-9-11 MRI analysis for clarification of mechanism of ankle OA: In the case of where huge osteophytes behind the talus *Hiroyuki Mitsui, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine ...S1569
- 1-9-12 Utility of thin-slice magnetic resonance imaging diagnosing injuries of the superior and inferior fascicles of the anterior talofibular ligament in chronic lateral ankle instability *Tomoyuki Nakasa, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ. ...S1569

10 : 50 ~ 11 : 50	Free paper 31	Foot 3	Moderators	Y. Suda, N. Haraguchi
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- 1-9-13 Anatomical characteristic of the role of the cuboid *Masakazu Tazaki, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. ...S1570
- 1-9-14 Attempt of full automation of foot and ankle 4D analysis by 2D-3D registration utilizing AI/deep learning *Satoko Nakao, et al.*, Dept. of Orthop. Surg., Nara City Hosp. ...S1570
- 1-9-15 Tibiofibular diastasis after distal tibial oblique osteotomy for osteoarthritis of the ankle joint *Kanu Shimokawa, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Science, Kanazawa Univ. ...S1571
- 1-9-16 Treatment results of combined total ankle arthroplasty (cTAA); Is cTAA useful in cases where huge osteophytes occur behind the talus? *Hiroyuki Mitsui, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine ...S1571
- 1-9-17 Total ankle arthroplasty with total talar prosthesis affected the postoperative hindfoot alignment *Yuhei Maki, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine ...S1572
- 1-9-18 Platelet rich fibrin (PRF) accelerates the healing of Achilles tendon defect by promoting the proliferation and activation of tenocytes via FGFR/Akt signaling and TGF- β /Smad3 signaling *Yoshiyuki Senga, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine ...S1572

14 : 00 ~ 15 : 00	Free paper 32 Infection	Moderators M. Mawatari, S. Abe
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- 1-9-19 The influence of bovine serum albumin and temperature on adherence ability of *Staphylococcus epidermidis*: an *in vitro* study *Hironobu Koseki, et al.*, Dept. Health Sciences, Nagasaki Univ. Graduate School of Biomedical Sciences...S1573
- 1-9-20 Usefulness of a novel biomarker synovial fluid presepsin for diagnosis in periprosthetic joint infection *Takashi Imagama, et al.*, Dept. of Orthop. Surg., Yamaguchi Univ. Graduate School of Medicine...S1573
- 1-9-21 Combined therapy with adipose-derived mesenchymal stem cells and antibiotics against periprosthetic joint Infection in rats *Yuki Yamamuro, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Science, Kanazawa Univ....S1574
- 1-9-22 Teriparatide mitigates the cytotoxic effects of vancomycin *Kentaro Tsuji, et al.*, Dept. of Orthop. Surg., Toho Univ. ...S1574
- 1-9-23 Effect of anti-RANKL antibody on bone destruction in pyogenic spondylitis: A prospective longitudinal study *Masafumi Machida, et al.*, Dept. of Orthop. Surg., Hakujikai Memorial Hosp....S1575
- 1-9-24 The relationship between the time course of nutritional status and the pneumonia after cervical spinal cord injury surgery *Nobuyuki Komukai, et al.*, Dept. of Orthop. Surg., The Jikei Univ. Hosp....S1575

15 : 10 ~ 16 : 10	Free paper 33 Regeneration	Moderators J. Toguchida, S. Kaneko
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- 1-9-25 Efficacy of preconditioned or genetically-modified IL4 over-expressing mesenchymal stromal cells for steroid-associated osteonecrosis of the femoral head in rabbits *Masahiro Maruyama, et al.*, Dept. of Orthop. Surg., Stanford Univ....S1576
- 1-9-26 The effect of megakaryocytes and platelets derived from human induced pluripotent stem cells on bone formation *Masashi Sato, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ....S1576
- 1-9-27 Comparison of the amount of growth factors contained in human-derived PRP and those in platelet induced from human iPSC-cells *Reoto Ueda, et al.*, Dept. of Medical Engineering, Chiba Univ....S1577
- 1-9-28 Comparison of differentiation specificity of dedifferentiated fat cells (DFAT) by tissue collection site *Hirokatsu Sawada, et al.*, Dept. of Orthop. Surg., Nihon Univ....S1577
- 1-9-29 Effects of a single bout of exercise on the composition of platelet-rich plasma and platelet activation *Hirofumi Nishio, et al.*, School of Health and Sports Science, Juntendo Univ....S1578
- 1-9-30 Induction of iPSC-derived Prg4-positive cells with character of superficial zone cells and fibroblast-like synovial cells *Takashi Satake, et al.*, Gifu Seiryu Hosp....S1578

16 : 20 ~ 17 : 20	Free paper 34 Locomotive syndrome	Moderators Y. Nishimoto, A. Kido
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- 1-9-31 Impact of musculoskeletal disorders on healthy life expectancy *Yoshihiro Ritsuno, et al.*, Dept. of Orthop. Surg., Fujita Health Univ....S1579
- 1-9-32 COVID-19 pandemic influenced the epidemiology of sports-related injuries *Ryosuke Nakajima, et al.*, Dept. of Orthop., Juntendo Univ....S1579
- 1-9-33 Incidence of perioperative cancer locomotive syndrome and its risk factors in cancer patients *Yoshimi Katayama, et al.*, Dept. of Reha. Med., Okayama Univ. Hosp....S1580
- 1-9-34 The relationship among the questionnaires related to musculoskeletal disorder, body composition, and motor function for the aquatic exercise participants *Hideki Tashi, et al.*, Niigata Univ. Graduate School of Medical and Dental Sciences...S1580
- 1-9-35 Locomotive syndrome stages 2 and 3 affect the occurrence of later long-term care insurance: The Miyagawa cohort study *Yukie Kitaura, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine...S1581

- 1-9-36 Find the cut-off value for global spinal alignment to determine fall risk
 *Takashi Nagai, et al.*, Dept. of Rehabilitation Medicine, Showa Univ. ...S1581

17 : 30 ~ 18 : 30 Free paper 35 Pain Moderators S. Yabuki, T. Tachibana

- 1-9-37 What is the difference between verbally-administered NRS and patient self-administered VAS of low back symptoms for the patients with lumbar degenerative disease?
 *Kazunori Hayashi, et al.*, Dept. of Orthop. Surg., Osaka City Juso Hosp. ...S1582
- 1-9-38 An association between child locomotive syndrome and musculoskeletal pain
 *Masaru Hatano, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine ...S1582
- 1-9-39 Parathyroid hormone administration suppresses the nerve growth factor elevation in ovariectomized mice *Kosuke Murata, et al.*, Dept. of Orthop. Surg., Kitasato Univ. ...S1583
- 1-9-40 Ketamine induces analgesic effect in the anterior cingulate cortex
 *Manabu Yamanaka, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ. ...S1583
- 1-9-41 Inhibitory effect of riluzole on neuropathic pain and the action on inhibitory synaptic transmission in the spinal dorsal horn *Ryo Taiji, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ. ...S1584
- 1-9-42 Objective characterization of hip pain levels during walking by combining quantitative electroencephalography with machine learning *Atsushi Kimura, et al.*,
 Dept. of Orthop. Surg., Keio Univ. ...S1584

2nd Day October 15 Room 1

8 : 30 ~ 9 : 30 Special lecture 2 Moderator M. Saito

- 2-1-SL2 Application of tumor-suppressive, bone-protective secretomes for treatment of bone diseases
 *Hiroki Yokota*, Indiana Univ. School of Medicine, Indianapolis, IN, USA ...S1585

9 : 40 ~ 10 : 40 Invited lecture 3 Moderator M. Takagi

- 2-1-IL3 Silicon nitride smart chemistry for joint arthroplasty
 *Giuseppe Pezzotti*, Ceramic Physics Laboratory, Kyoto Institute of Technology/
 Dept. of Immunology, Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine/
 Dept. of Orthop. Surg., Tokyo Medical Univ./The Center for Advanced Medical Engineering and
 Informatics, Osaka Univ./Institute of Biomaterials and Bioengineering,
 Tokyo Medical and Dental Univ. ...S1585

10 : 50 ~ 11 : 50 Special lecture 3 Moderator S. Ohtori

- 2-1-SL3 Analysis of lumbar disorders using image-based three-dimensional computer models
 *Nozomu Inoue*, Rush Univ. Medical Center, Chicago, IL, USA ...S1586

12 : 10 ~ 13 : 10 Luncheon seminar 8 Moderator T. Ushida

- 2-1-LS8 Pathogenesis and management of pain in osteoarthritis
 *Masahiko Ikeuchi*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ. ...S1586

13 : 20 ~ 14 : 20 Invited lecture 4 Moderator M. Yamazaki

- 2-1-IL4 Artificial intelligence (AI) in musculoskeletal radiology
 *Stefan Nehrer, et al.*, Danube-Univ. Krems, Krems an der Donau, Austria ...S1587

14 : 30 ~ 15 : 30 Invited lecture 5 Moderator N. Adachi

- 2-1-IL5 MSC based intervertebral disc regeneration: From bench to bedside
 *Gianluca Vadalà*, Campus Bio-Medico Univ. of Rome, Rome, Italy ...S1587

2nd Day October 15 Room 2

8 : 30 ~ 10 : 00 Symposium 10

Moderators N. Nakamura, N. Adachi

Biological joint reconstruction

- 2-2-S10-1 Joint regeneration by synovial mesenchymal stem cells *Nobutake Ozeki, et al.,*
Center for Stem Cell and Regenerative Medicine, Tokyo Medical and Dental Univ. ...S1588
- 2-2-S10-2 Realization of magnetic cell targeting for cartilage regeneration *Naosuke Kamei, et al.,*
Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ. ...S1588
- 2-2-S10-3 Cartilage regeneration by a scaffold-free tissue-engineered construct generated from
autologous synovial mesenchymal stem cells *Kazunori Shimomura, et al.,*
Dept. of Sports Orthop., Hoshigaoka Medical Center ...S1589
- 2-2-S10-4 Regenerative medicine through the transplantation of chondrocyte sheets for the treatment of
osteoarthritis of the knee *Masato Sato, et al.,* Dept. of Orthop. Surg., Tokai Univ. ...S1589
- 2-2-S10-5 Anterior cruciate ligament reconstruction using anterior cruciate ligament derived vascular
stem cells *Tomoyuki Matsumoto, et al.,* Dept. of Orthop. Surg.,
Kobe Univ. Graduate School of Medicine ...S1590

10 : 10 ~ 11 : 40 Symposium 11

Moderators K. Takase, Y. Mochizuki

The factors for the results of the post operative results of the rotator cuff repair

- 2-2-S11-1 The effect of local application of growth factors on tendon-to-bone healing after rotator cuff
repair in rats *Ryuji Yonemitsu, et al.,* Dept. of Orthop. Surg.,
Kumamoto Univ. Hosp. ...S1591
- 2-2-S11-2 Effect of G-CSF on rotator cuff repair in a rat model *Yusuke Kobayashi, et al.,*
Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine ...S1591
- 2-2-S11-3 Efficacy of the therapy of augmentations using Tilapia scale-derived Type I collagen scaffolds
for rotator cuff healing in rat models *Kohei Yamaura, et al.,* Dept. of Orthop. Surg.,
Kobe Univ. Graduate School of Medicine ...S1592
- 2-2-S11-4 Establishment of non-enzymatic preparation techniques for isolating subacromial bursa-derived
cells as a potential augment for rotator cuff repair *Daichi Morikawa, et al.,*
Dept. of Orthop. Surg., Juntendo Univ. Urayasu Hosp. ...S1592
- 2-2-S11-5 Kinetics of repair cells after rotator cuff repair surgery: Visualization of cell kinematics using
GFP rat model *Yoshikazu Kida, et al.,* Dept. of Orthop.,
Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine ...S1593

12 : 10 ~ 13 : 10 Luncheon seminar 9

Moderator N. Miyakoshi

Management of osteoporosis and neuropathic pain for bone and joint health

- 2-2-LS9-1 Therapeutic approaches for peripheral neuropathic pain in spinal diseases
..... *Izaya Ogon, et al.,* Dept. of Orthop. Surg., Sapporo Medical Univ. ...S1594
- 2-2-LS9-2 Treatment strategy of osteoporosis : role of denosumab and tips for the usage *Ko Chiba,*
Dept. of Orthop. Surg., Nagasaki Univ. Graduate School of Biomedical Sciences ...S1594

13 : 20 ~ 14 : 40 Symposium 12

Moderators T. Yamaoka, A. Myoi

**Biological scaffolds for regenerative therapy:
Learn from multidisciplinary research**

- 2-2-S12-1 Inactivation of human nevus tissue using high hydrostatic pressure for autologous skin
reconstruction *Naoki Morimoto,* Dept. of Plast. Surg., Graduate School of Medicine,
Kyoto Univ. ...S1595

- 2-2-S12-2 Interface manipulation for tissue-compatible biological scaffolds
 *Tetsuji Yamaoka*, National Cerebral and Cardiovascular Center Research Institute...S1595
- 2-2-S12-3 Regulation of stem cell differentiation by decellularized extracellular matrix formed by cultured stem cells *Takashi Hoshiba*, Biotechnology Group,
 Tokyo Metropolitan Industrial Technology Research Institute...S1596
- 2-2-S12-4 Bone-targeting poly(phosphoester)s
 *Yasuhiko Iwasaki*, Dept. of Chem. and Mater. Eng., Kansai Univ...S1596

15 : 00 ~ 16 : 20	Symposium 13	Moderators N. Tsubokawa, H. Hirata
The first line of research for peripheral nerve disorders in upper extremities		

- 2-2-S13-1 Visualization of electrophysiological activity at the upper limb using magnetoneurography
 *Toru Sasaki, et al.*, Orthop. Surg., Tsuchiura Kyodo General Hosp...S1597
- 2-2-S13-2 Enhanced nerve autograft using adipose derived stem cells
 *Kaoru Tada, et al.*, Dept. of Orthop. Surg., Kanazawa Univ. Hosp...S1597
- 2-2-S13-3 Association between T2 mapping and nerve conduction studies in carpal tunnel syndrome
 *Atsushi Maeda, et al.*, Dept. of Orthop. Surg., Fujita Health Univ. ...S1598
- 2-2-S13-4 Peripheral nerve research using nerve conduit: Grafting, capping, wrapping
 *Takuya Uemura, et al.*,
 Dept. of Orthop. Osaka General Hosp. of West Japan Railway Company...S1598

16 : 30 ~ 17 : 30	Advanced session 2	Moderators T. Kumai, N. Abe
Basic research for prevention and treatment of sports injuries		

- 2-2-A2-1 Application of extracorporeal shockwave therapy to improve osteochondritis dissecans in a pig model *Joji Iwase, et al.*, Dept. of Orthop., Tokushima Univ. Graduate School...S1599
- 2-2-A2-2 Influence of medial arch support on knee joint kinematics during cutting motion
 *Seikai Toyooka, et al.*, Dept. of Orthop. Surg., Teikyo Univ...S1599
- 2-2-A2-3 Biomechanical effect of radiocapitellar contact pressures by sagittal osteochondral defects of the humeral capitellum *Joji Iwase, et al.*, Dept. of Orthop., Tokushima Univ. Graduate School...S1600
- 2-2-A2-4 Comparison of bioactive substance in peripheral blood and platelet-rich plasma between young athletes and osteoarthritic elder patients *Yoshitomo Saita, et al.*,
 Dept. of Sports and Regenerative Medicine, Juntendo Univ...S1600
- 2-2-A2-5 Bone marrow aspirate concentrate for the intervertebral disc degeneration caused by sports disorders *Daisuke Ukeba, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1601
- 2-2-A2-6 Validity of a simple footprint assessment board for diagnosing the severity of flatfoot:
 A prospective cohort study *Seikai Toyooka, et al.*, Dept. of Orthop. Surg., Teikyo Univ...S1601

2nd Day October 15 Room 3

8 : 30 ~ 9 : 30	Educational lecture 10	Moderator H. Kawashima
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- 2-3-EL10 Recent advancement of molecular and clinical research in musculoskeletal tumor
 *Akihiko Matsumine*, Dept. of Orthop. and Rehabilitation Medicine, Univ. of Fukui...S1602

9 : 40 ~ 10 : 40	Educational lecture 11	Moderator A. Sakai
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- 2-3-EL11 Research approach to artificial nerve based on regenerative medicine
 *Ryosuke Kakinoki, et al.*, Dept. of Orthop. Surg., Kindai Univ...S1602

10 : 50 ~ 11 : 50		Educational lecture 12	Moderator M. Deie
2-3-EL12	Cell therapy for difficult-to-repair meniscus tears <i>Ichiro Sekiya, et al.</i> , Center for Stem Cell and Regenerative Medicine, Tokyo Medical and Dental Univ. ...S1603		
12 : 10 ~ 13 : 10		Luncheon seminar 10	Moderator H. Wakabayashi
2-3-LS10	Interaction between aging and cartilage degeneration <i>Mitsuru Saito</i> , Dept. of Orthop. Surg., The Jikei Univ. School of Medicine ...S1603		
13 : 20 ~ 14 : 20		Educational lecture 13	Moderator A. Sudo
2-3-EL13	Genome analyses of bone and joint diseases <i>Shiro Ikegawa</i> , Lb. Bone & Joint Diseases, IMS, RIKEN ...S1604		
14 : 30 ~ 15 : 30		Educational lecture 14	Moderator S. Imagama
2-3-EL14	Mesenchymal stem cell therapy for spinal cord injury. Basic research and clinical practice <i>Toshihiko Yamashita</i> , Dept. of Orthop. Surg., Sapporo Medical Univ. ...S1604		
15 : 40 ~ 16 : 40		Educational lecture 15	Moderator S. Okada
2-3-EL15	Our strategy of regenerative medicine for spinal cord injury <i>Masaya Nakamura</i> , Dept. of Orthop. Surg., Keio Univ. School of Medicine ...S1605		

2nd Day October 15 Room 4

8 : 30 ~ 10 : 00		Symposium 14	Moderators H. Haro, Y. Matsuyama
How far is the current status of intervertebral disc regeneration development for clinical application?			
2-4-S14-1	Challenges for development of regenerative medicinal products for intervertebral disc <i>Daisuke Sakai, et al.</i> , Dept. of Orthop. Surg., Tokai Univ. ...S1606		
2-4-S14-2	Intervertebral disc therapy using PRP-releasate: From basic research to clinical trial <i>Koji Akeda, et al.</i> , Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine ...S1606		
2-4-S14-3	Intervertebral disc regeneration with mesenchymal stem cells <i>Takashi Kaito, et al.</i> , Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ. ...S1607		
2-4-S14-4	Development of cell therapy to treat intervertebral disc degeneration using highly-pure allogenic bone marrow-derived mesenchymal stem cells and <i>in situ</i> forming gel <i>Hideki Sudo, et al.</i> , Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ...S1607		
2-4-S14-5	Potential intervertebral disc tissue repair by using the low adhesive scaffold collagen (LASCel) <i>Takashi Yurube, et al.</i> , Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine ...S1608		
10 : 10 ~ 11 : 40		Symposium 15	Moderators T. Mae, G. Omori
New approach for biomechanical research			
2-4-S15-1	Patient-specific modeling based on medical images and simulation for predictive medicine <i>Marie Oshima</i> , Interfaculty Initiative in Information Studies/ Institute of Industrial Science, The Univ. of Tokyo ...S1609		
2-4-S15-2	Accurate full-field displacement and strain measurements using moire phase analysis technology <i>Shien Ri, et al.</i> , National Metrology Institute of Japan, National Institute of Advanced Industrial Science and Technology ...S1609		

- 2-4-S15-3 3D-DIC method for visualizing deformations inside objects
 *Yasuyuki Morita*, Fac. Adv. Sci. Tech., Kumamoto Univ.··S1610
- 2-4-S15-4 AE detection of microdamage and application to acoustic diagnosis of bone and tendon
 .. *Shuichi Wakayama, et al.*, Dept. Mechanical System Engineering, Tokyo Metropolitan Univ.··S1610

12 : 10 ~ 13 : 10	Luncheon seminar 11	Moderator T. Kojima
Therapeutic strategies for rheumatoid arthritis: Toward further improvement of patient outcomes		

- 2-4-LS11-1 Optimizing the treatment of rheumatoid arthritis: 2021 update *Kosuke Ebina*,
 Dept. of Musculoskeletal Regenerative Medicine, Osaka Univ. Graduate School of Medicine··S1611
- 2-4-LS11-2 Management of comorbidities in patients with rheumatoid arthritis
 *Takeshi Mochizuki*, Dept. of Orthop. Surg., Kamagaya General Hosp.··S1611

13 : 20 ~ 14 : 50	Symposium 16	Moderators Y. Tanaka, H. Niki
Biomechanics of foot and ankle diseases from an anatomical point of view		

- 2-4-S16-1 Posterior malleolar fracture: Anatomy and biomechanics *Naoki Haraguchi, et al.*,
 Dept. of Orthop. Surg., St. Marianna Univ. Yokohama Seibu Hosp.··S1612
- 2-4-S16-2 Functional anatomy of the ankle lateral ligaments and the pathomechanism of chronic ankle
 instability *Yuki Tochigi*, First Dept. of Orthop. Surg.,
 Dokkyo Medical Univ. Saitama Medical Center··S1612
- 2-4-S16-3 Science of hallux valgus from an anatomical angle
 *Tomoko Karube, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1613
- 2-4-S16-4 Biomechanics of the foot with adult acquired flatfoot deformity *Kazuya Ikoma, et al.*,
 Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine··S1613
- 2-4-S16-5 Biomechanics in the patients of ankle osteoarthritis
 *Hiroaki Kurokawa, et al.*, Dept. of Orthop. Surg., Nara Medical Univ.··S1614

15 : 00 ~ 16 : 20	Symposium 17	Moderators Y. Tanaka, T. Nakamura
Amputation and stump management for indication of lower limb prostheses: Basics and clinical practices		

- 2-4-S17-1 Practical stump management and amputation to form a stump suitable for artificial limb use
 and maintain good condition *Hiroaki Kato*, Komono Kosei Hosp. ···S1615
- 2-4-S17-2 Postoperative stump care following lower limb amputation: Theory and clinical practice
 *Mitsunori Toda, et al.*, Dept. of Orthop. Surg., Hyogo Rehab. Center Hosp.··S1615
- 2-4-S17-3 Lower limb amputation for recovering activity of daily living from the perspective of
 rehabilitation medicine *Yohei Tanaka*, Dept. of Rehab. Med., JR Tokyo General Hosp.··S1616
- 2-4-S17-4 Analysis of the soft tissues of the residual limbs in persons with transfemoral amputation
 *Takashi Nakamura, et al.*, National Rehabilitation Center for Persons with Disabilities··S1616

16 : 30 ~ 17 : 40	Advanced session 3	Moderators T. Toyone, K. Kanzaki
Science of spine and dynamic analysis		

- 2-4-A3-1 Three-dimensional gait analysis in patients with adult spinal deformity: Correlation between gait
 parameters and spino-pelvic parameters *Norihiko Takegami, et al.*, Dept. of Orthop. Surg.,
 Mie Univ. Graduate School of Medicine··S1617
- 2-4-A3-2 Fat infiltration in back muscles and gluteus maximus muscle is significantly related to
 deterioration of spino-pelvic sagittal balance during gait: A gait analysis using three-
 dimensional motion analysis *Kousei Miura, et al.*, Dept. Orthop. Surg., Univ. of Tsukuba··S1617
- 2-4-A3-3 Finite element analysis for mechanism of occasional ALL rupture with posterior correction
 procedure in corrective surgery for adult spinal deformity using LLIF
 *Hiroki Takeda, et al.*, Dept. of Spine and Spinal Cord Surg., Fujita Health Univ.··S1618

- 2-4-A3-4 Optimal anchor at the lower thoracic upper instrument vertebra in adult spinal deformity surgery using finite element analysis *Takuhei Kozaki, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ.··S1618
- 2-4-A3-5 Association between dynamic spino-pelvic balance evaluated by three-dimensional gait motion analysis and static spino-pelvic alignment in dropped head syndrome *Kousei Miura, et al.*, Dept. Orthop. Surg., Univ. of Tsukuba··S1619
- 2-4-A3-6 Worsening thoracic sagittal malalignment during walking affects proximal junctional kyphosis *Tomoyuki Asada, et al.*, Dept. Orthop. Surg., Univ. of Tsukuba··S1619
- 2-4-A3-7 Innovative dynamic finite element analysis simulation software in spinal deformity surgery *Hiroyuki Tachi, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1620

2nd Day October 15 Room 5

8 : 30 ~ 9 : 30	Free paper	Best poster session	Moderators	A. Minamide, K. Uchiyama
2-5-BP-1	Investigation of microRNAs involved in bone destruction by breast cancer metastasis <i>Kazumichi Kitayama, et al.</i> , Dept. of Rehab. Science, Kobe Univ. Graduate School of Health Science··S1621			
2-5-BP-2	Impact of preserving the ischiofemoral ligament, iliofemoral ligament, and conjoined tendon during total hip arthroplasty: A cadaveric study <i>Yasuaki Tamaki, et al.</i> , Dept. of Orthop., Tokushima Univ. Graduate School··S1621			
2-5-BP-3	Adjacent segment disease on hip joint as complication of spinal fusion surgery including sacroiliac joint fixation <i>Takuhei Kozaki, et al.</i> , Dept. of Orthop. Surg., Wakayama Medical Univ.··S1622			
2-5-BP-4	Aberrant autophagy in skeletal muscle of heme-deficient mice <i>Takeru Akabane, et al.</i> , Dept. of Orthop. Surg., Yamagata Univ.··S1622			
2-5-BP-5	Three-dimensional alignment of the normal upper extremity in the standing neutral position <i>Yuki Yoshida, et al.</i> , Dept. of Orthop. Surg., Keio Univ.··S1623			
2-5-BP-6	Functional analysis of novel identified tyrosine kinase fusion genes by DNA/RNA-base clinical sequencing in bone and soft tissue sarcomas <i>Nobuhiko Hasegawa, et al.</i> , Dept. of Orthop., Juntendo Univ.··S1623			
2-5-BP-7	Characteristics and cell-derived origin of proinsulin, TNF- α expressed in callus of the long-term diabetic mice using GFP bone marrow transplantation model <i>Hitomi Fujikawa, et al.</i> , Dept. of Orthop. Surg., Shiga Univ. of Medical Science Hosp.··S1624			

9 : 40 ~ 10 : 40	Free paper	Best paper session	Moderators	E. Chosa, K. Sairyo
2-5-BO-1	The novel neurostimulator with robotic control technology enables advanced control of denervated muscles reinnervated in the transplantation of embryonic motoneurons into the peripheral nerve <i>Katsuhiro Tokutake, et al.</i> , Dept. of Hand Surg., Graduate School of Medicine, Nagoya Univ.··S1625			
2-5-BO-2	Nupr1 is involved in age-related bone loss and aging-related gene expression in a mouse model <i>Masatoshi Murayama, et al.</i> , Dept. of Orthop. Surg., Saga Univ.··S1625			
2-5-BO-3	Establishing a method for reprogramming scar-forming astrocytes to neuron <i>Tetsuya Tamaru, et al.</i> , Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kyushu Univ.··S1626			
2-5-BO-4	The effect of anti-RANKL monoclonal antibody on spinal fusion in mice spinal arthrodesis model <i>Soji Tani, et al.</i> , Dept. of Orthop. Surg., Showa Univ.··S1626			

- 2-5-BO-5 Observed efficacy of subcutaneous tanezumab or oral nonsteroidal anti-inflammatory drugs in osteoarthritis patients: Subgroup analyses of a phase 3 study *David J. Hunter, et al.*, Univ. of Sydney, Sydney, Australia...S1627
- 2-5-BO-6 Evaluation of attachment site of knee posterior capsule and efficacy of posterior capsular release: Cadaver study *Kinoshita Tomofumi, et al.*, Dept. of Bone and Joint Surg., Ehime Univ. Graduate School of Medicine...S1627

10 : 50 ~ 11 : 50	Free paper 36 TKA	Moderators H. Tsumura, K. Hayakawa
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- 2-5-1 Impact of femoral and tibial component positions and intraoperative knee kinematics on postoperative knee range of motion in total knee arthroplasty *Mitsuru Hanada, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine...S1628
- 2-5-2 The analysis of the knee kinematics using navigation system during total knee arthroplasty for valgus deformity via a lateral approach *Takaaki Hiranaka, et al.*, Science of Functional Recovery and Reconstruction, Okayama Univ. Graduate School of Medicine...S1628
- 2-5-3 A new method for cutting femoral bone using measured anterior reference point with preoperative planning for total knee arthroplasty - Accuracy of femoral component anterior flange position *Hiroyuki Onuma, et al.*, Dept. of Orthop. Surg., Tama Municipal Hosp...S1629
- 2-5-4 Variety of lower leg twist on OA knee analyzed by using 3DCT: What is a point when we perform TKA operation? *Taro Uehara, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ...S1629
- 2-5-5 Evaluation of appropriate extension gap using intra-articular sensor in CRTKA *Takashi Nakamura, et al.*, Dept. of Orthop. Surg., Toho Univ. ...S1630
- 2-5-6 Rotational mismatch between femoral and tibial components before and after posterior stabilized total knee arthroplasty *Shine Tone, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine...S1630

12 : 10 ~ 13 : 10	Luncheon seminar 12	Moderator M. Hasegawa
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- 2-5-LS12 Current status and issues of hemophilic arthropathy: An attempt at joint preservation *Hitoshi Suzuki*, Dept. of Orthop. Surg., Univ. of Occupational and Environmental Health...S1631

13 : 20 ~ 14 : 20	Free paper 37 Knee 6	Moderators T. Otani, M. Ikeuchi
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- 2-5-7 Gene expression of circadian rhythm in cartilage degeneration with dislipidemia *Hiroaki Hosokawa, et al.*, Dept. of Orthop. Surg. Graduate School of Medicine, Chiba Univ...S1632
- 2-5-8 Evaluation of cartilage in the medial compartment of the knee by 3D MRI analysis and arthroscopy *Nobutake Ozeki, et al.*, Center for Stem Cell and Regenerative Medicine, Tokyo Medical and Dental Univ...S1632
- 2-5-9 Analysis of advanced glycation end products in osteoarthritis cartilage and chondrocyte sheets *Eriko Toyoda, et al.*, Dept. of Orthop. Surg., Tokai Univ...S1633
- 2-5-10 Potential involvement of AGE/RAGE system and oxidative stress in knee osteoarthritis *Yasushi Naito, et al.*, Dept. of Orthop. Surg., Fujita Health Univ...S1633
- 2-5-11 Delayed knee osteoarthritis progression in SIRT1 knock-in mice *Tetsuya Yamamoto, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1634
- 2-5-12 Kinematics of varus thrust in medial knee osteoarthritis: Analysis of knee joint angle and segment angle *Kota Miura, et al.*, Dept. of Rehab., Hakodate Orthop. Clinic...S1634

14 : 30 ~ 15 : 30	Free paper 38 Knee 7	Moderators M. Akagi, E. Tsuda
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- 2-5-13 Speculation on the influence of skeletal factors on the ground reaction force vector *Ryota Kuzuhara, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1635

- 2-5-14 Accuracy of patellar tendinopathy screening using ultrasonography
..... *Yusuke Nishida, et al.*, Dept. Orthop. Surg., Univ. of Tsukuba...S1635
- 2-5-15 Relationship between infrapatellar fat pad morphological changes and anterior knee pain
in patients with knee osteoarthritis *Yoshinori Satake, et al.*, Dept. of Orthop. Surg.,
Kochi Medical School, Kochi Univ...S1636
- 2-5-16 Examination of patella morphology by Wiberg classification: Measurement of patella ridge position
using knee MR image *Moritaka Maruyama, et al.*, Dept. of Orthop. Surg.,
Iwate Medical Univ. ...S1636
- 2-5-17 Morphology of the quadriceps tendon and its insertion site using three dimensional computed
tomography and magnetic resonance imaging *Go Nakano, et al.*, Dept. of Orthop. Surg.,
Iwate Medical Univ...S1637
- 2-5-18 Hyaluronic acid sheet attenuates IFP fibrosis and knee joint pain in a rat arthritis model
..... *Tei Kyoku, et al.*, Dept. of Joint Surg. and Sports Medicine,
Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ. ...S1637

15 : 40 ~ 16 : 40	Free paper 39 Knee 8	Moderators N. Fukui, R. Kuroda
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- 2-5-19 Quantitative analysis of cartilage and meniscus using T2* mapping for early knee osteoarthritis
..... *Rui Imamura, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ. ...S1638
- 2-5-20 TRPA1 expression and activation in knee osteoarthritis rat
..... *Hide Nobu Tamai, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ...S1638
- 2-5-21 The influence of osteoporosis on progression of osteoarthritis in a rat model of knee osteoarthritis
..... *Hiroyuki Wada, et al.*, Dept. of Orthop. Surg., Kochi Medical School Hosp...S1639
- 2-5-22 Hybid is involved in pathophysiology of knee osteoarthritis by degradation of high-molecular-
weight hyaluronan *Masahiro Momoeda, et al.*, Dept. of Orthop., Juntendo Univ...S1639
- 2-5-23 Effect of CGRP receptor antagonist on the attenuation of pain and progression in osteoarthritis
..... *Akinori Nekomoto, et al.*, Dept. of Orthop. Surg.,
Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1640
- 2-5-24 Joint safety and neurologic events with subcutaneous tanezumab or oral nonsteroidal
anti-inflammatory drugs in osteoarthritis patient subgroups (an 80-week study)
..... *David J. Hunter, et al.*, Univ. of Sydney, Sydney, Australia...S1640

16 : 50 ~ 17 : 50	Free paper 40 Knee 9	Moderators Y. Ishibashi, H. Koga
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- 2-5-25 Investigation of unilateral muscle mass reduction in knee osteoarthritis patients
..... *Manabu Mukai, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1641
- 2-5-26 Difference in the joint space of the medial knee compartment between full extension and
Rosenberg weight-bearing radiographs *Yugo Miura, et al.*,
Center for Stem Cell and Regenerative Medicine, Tokyo Medical and Dental Univ...S1641
- 2-5-27 Morphology of the meniscal posterior root attachments and the meniscofemoral ligaments using
three-dimensional computed tomography: A cadaveric study *Koh Tanifuji, et al.*,
Dept. of Orthop. Surg., Iwate Medical Univ. ...S1642
- 2-5-28 Diagnosis of ramp lesions by evaluating MRI in the knee-flexed positions *Jiro Kato, et al.*,
Dept. of Orthop. Surg., Nagoya City Univ. Graduate School of Medical Sciences...S1642
- 2-5-29 Assessment of medial meniscus in anterior cruciate ligament deficient knees using magnetic
resonance imaging with Porto-knee testing device *Atsuo Nakamae, et al.*,
Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1643
- 2-5-30 Examination of anti-inflammatory and pain-relieving effects by intra-articular direct transplantation
of CD271 positive mesenchymal stem cells or PLA cells *Taizen Uchida, et al.*,
Dept. of Orthop. Surg., Univ. of Fukui Hosp...S1643

2nd Day October 15 Room 6

8 : 30 ~ 9 : 30		Free paper 41 Elbow	Moderators K. Inagaki, K. Shimada
2-6-1	Anatomic study of the lateral elbow in terms of capsule and aponeurosis <i>Atsuhiko Fukai, et al.</i> , Dept. of Clinical Anatomy, Tokyo Medical and Dental Univ.···S1644		
2-6-2	Artificial intelligence for diagnose ultrasound image of elbow osteochondritis dissecans <i>Tomoya Yoshikawa, et al.</i> , Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine···S1644		
2-6-3	Study on stability of total elbow arthroplasty: A cadaver study <i>Hiromasa Wakita, et al.</i> , Dept. of Orthop. Surg. Graduate School of Medicine, Chiba Univ.···S1645		
2-6-4	Evaluation of factors in postoperative bone atrophy in fractures of the diaphysis of the forearm: A study using finite element analysis <i>Yusuke Matsuura, et al.</i> , Dept. of Orthop. Surg. Graduate School of Medicine, Chiba Univ.···S1645		
2-6-5	Treatment using JuNction external fixation for supracondylar fractures of the distal humerus in children. <i>Tomohiro Yasuda, et al.</i> , Dept. of Orthop. Surg., Showa Univ. Fujigaoka Hosp.···S1646		
2-6-6	Biomechanical study of stress distribution around the ulnar component in unlinked TEA: Difference between long and short stems <i>Akiko Morohoshi, et al.</i> , Dept. of Orthop. Surg., Showa Univ.···S1646		
9 : 40 ~ 10 : 40		Free paper 42 RA	Moderators S. Momohara, T. Kojima
2-6-7	Analysis of cytokine expression in osteoarthritis and rheumatoid arthritis using synovial fibroblasts of the knee joint <i>Kosuke Kumagai, et al.</i> , Dept. of Orthop. Surg., Shiga Univ. of Medical Science···S1647		
2-6-8	Tocilizumab inhibits IL-6-induced gliostatin expression in human rheumatoid synoviocytes <i>Hiroki Yonezu, et al.</i> , Dept. of Orthop. Surg., Nagoya City Univ. Graduate School of Medical Sciences···S1647		
2-6-9	Analysis of the pain regulation of baricitinib with collagen monoclonal antibody-induced arthritis in mice <i>Kenta Makabe, et al.</i> , Orthop. Surg., Graduate School of Medicine, The Univ. of Tokyo···S1648		
2-6-10	Effect of interleukin-33 on immune complex-induced tumor necrosis factor α and interleukin-8 production in cultured human synovium-derived mast cells <i>Masahiko Yanagisawa, et al.</i> , Dept. of Orthop. Surg., Nihon Univ.···S1648		
2-6-11	Involvement of cellular communication network 3 (CCN3) in development of local bone erosion in rheumatoid arthritis <i>Gen Matsumae, et al.</i> , Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1649		
2-6-12	Lipid mediators in synovial fluid from patients with rheumatoid arthritis <i>Yutaka Sano, et al.</i> , Dept. of Orthop. Surg., Nihon Univ. Itabashi Hosp.···S1649		
10 : 50 ~ 11 : 50		Free paper 43 Hip 1	Moderators S. Nagoya, S. Mitani
2-6-13	Three dimensional simulation of the rotational acetabular osteotomy <i>Suzuki Daisuke, et al.</i> , Dept. of Health Sci., Chitose College of Rehabilitation···S1650		
2-6-14	Relationship between the JHEQ and findings of avulsion of the hip capsular ligament in patients before acetabular rotation osteotomy <i>Yuichi Shirogane, et al.</i> , Dept. of Medicine for Orthop. and Motor Organ, Juntendo Univ. Graduate School of Medicine···S1650		
2-6-15	Longitudinal evaluation of stress distribution in eccentric acetabular rotation osteotomy <i>Yumejiro Nakamura, et al.</i> , Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1651		
2-6-16	Elevated levels of TNF- α , IL-1 β and IL-6 in the synovial tissue of patients with labral tear: A comparative study with hip osteoarthritis <i>Tomohisa Koyama, et al.</i> , Dept. of Orthop. Surg., Kitasato Univ.···S1651		

- 2-6-17 Analysis of macrophage subsets increased in synovial tissue in patients with labral tear:
A comparative study with hip osteoarthritis
..... *Yoshihisa Ohashi, et al.*, Dept. of Orthop. Surg., Kitasato Univ. ...S1652
- 2-6-18 Correlation between synovial NGF expression and central sensitization-related pain in patients
with hip osteoarthritis *Yoshihisa Ohashi, et al.*, Dept. of Orthop. Surg., Kitasato Univ. ...S1652

13 : 20 ~ 14 : 20	Free paper 44	Hip 2	Moderators Y. Inaba, M. Osaki
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- 2-6-19 Comparison of concentrated autologous bone marrow aspirate transplantation as an joint
preserving operation for idiopathic osteonecrosis of the femoral head with natural course
..... *Yohei Tomaru, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba Hosp. ...S1653
- 2-6-20 Detection of inflammasome in synovial tissues of patients with rapidly destructive coxopathy:
An insight into pathophysiology of disease *Shunichi Yokota, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ...S1653
- 2-6-21 Quantitative evaluation of lateral and proximal migration of the femoral head in primary
osteoarthritis of the hip *Hiroakira Terakawa, et al.*, Dept. of Orthop. Surg.,
Matsudo City General Hosp. ...S1654
- 2-6-22 3D-MRI analysis of articular cartilage thickness in the femoral head of children with Legg-Calvé-
Perthes disease *Hidenao Tanaka, et al.*, Dept. of Orthop. Surg.,
Graduate School of Medical Sciences, Kyushu Univ. ...S1654
- 2-6-23 Evaluation of psoas major tendon by hip radial MRI
..... *Shinya Ibuchi, et al.*, Dept. of Orthop. Surg., Niigata Rinko Hosp. ...S1655
- 2-6-24 Periostin induces early articular cartilage degeneration in a developmental dysplasia of the hip
..... *Yutaka Nakamura, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Gifu Univ. ...S1655

14 : 30 ~ 15 : 30	Free paper 45	Hip 3	Moderators T. Okawa, T. Jinno
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- 2-6-25 The relation between spinopelvic parameter and hip ROM in postural change in total hip
arthroplasty *Yuta Matsuki, et al.*, Dept. of Orthop. Surg.,
Yamaguchi Univ. Graduate School of Medicine ...S1656
- 2-6-26 Characteristics of JHEQ scores classified by joint instability
..... *Fumiya Kizawa, et al.*, Dept. of Reha., Hokkaido Univ. Hosp. ...S1656
- 2-6-27 Effects of the nonunion at the superior pubic ramus after curved periacetabular osteotomy:
A finite element analysis *Kenichiro Doi, et al.*, Dept. of Orthop. Surg., Fukuoka Univ. ...S1657
- 2-6-28 Evaluation of radiographic findings correlated with hip instability in patients with borderline hip
dysplasia *Takeshi Shoji, et al.*, Dept. of Artificial Joints and Biomaterials,
Graduate School of Biomedical and Health Sciences, Hiroshima Univ. ...S1657
- 2-6-29 Mitochondrial transcription factor A prevent osteocytic cell death under a stressed environment
..... *Shusuke Ueda, et al.*, Dept. of Orthop. Surg., Kanazawa Medical Univ. ...S1658
- 2-6-30 Anatomy of descending branch of femoral circumflex artery and vastus lateralis motor nerves in
anterolateral thigh flap *Hiroshi Okada, et al.*,
Susumu Tamai Memorial Extremity Trauma Center, Nara Medical Univ. Hosp. ...S1658

15 : 40 ~ 16 : 40	Free paper 46	THA 1	Moderators N. Sugano, A. Kaneuji
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- 2-6-31 Differences in biomechanical behavior between materials in cemented polished tapered stems with
the same design and surface roughness: To clarify the difference in frequency of periprosthetic
fractures *Junichi Tsujioka, et al.*, Dept. of Orthop. Surg., Kanazawa Medical Univ. ...S1659
- 2-6-32 Prediction of intraoperative fracture by hammering sound frequency analysis and stress estimation
during total hip arthroplasty *Takeaki Yamamoto, et al.*, Dept. of Orthop. Surg.,
St. Marianna Univ. School of Medicine ...S1659

- 2-6-33 Pre-operative prediction for the post-operative spino-pelvic alignment and mobility in total hip arthroplasty *Hiroki Tanabe, et al.*, Dept. of Orthop., Juntendo Univ. ...S1660
- 2-6-34 Finite element analysis for accurate positioning of femoral osteotomy in total hip arthroplasty with subtrochantric shortening *Daisuke Takahashi, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ...S1660
- 2-6-35 The initial fixing of cementless metal cup with using line to line technique: Comparison of two cups *Takeaki Yamamoto, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine ...S1661
- 2-6-36 Femoral bone density changes after total hip arthroplasty with cementless tapered wedge stem: A three-year follow-up study *Yohei Naito, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine ...S1661

16 : 50 ~ 17 : 50

Free paper 47 THA 2

Moderators H. Ito, N. Takahira

- 2-6-37 Total hip arthroplasty using a three-dimensional porous titanium acetabular cup: An examination of micromotion using subject-specific finite element analysis *Takaki Miyagawa, et al.*, Dept. of Orthop. Surg., Gifu Univ. ...S1662
- 2-6-38 Accuracy of leg lengthening using HipAlign new supine *Masahiro Hasegawa, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine ...S1662
- 2-6-39 Evaluation of femoral anteversion after total hip arthroplasty using changeable neck system *Kazuhiro Yamazaki, et al.*, Dept. of Orthop. Surg., Yamaguchi Univ. Graduate School of Medicine ...S1663
- 2-6-40 Comparison of periprosthetic BMD between Zweymuller type stem and taper wedge type stem according to femoral canal shape *Akira Morita, et al.*, Dept. of Orthop. Surg., Yokohama City Univ. ...S1663
- 2-6-41 Quantitative analysis of hammering sound during cementless cup insertion in total hip arthroplasty *Xu Zhuang, et al.*, Dept. of Orthop., Juntendo Univ. ...S1664
- 2-6-42 Examination of risk factors for postoperative neuropathy after primary total hip arthroplasty by intraoperative MEP monitoring *Kenichiro Saito, et al.*, Dept. of Orthop. Surg., Nara Medical Univ. ...S1664

2nd Day October 15 Room 7

8 : 30 ~ 9 : 30

Free paper 48 Spine 1

Moderators M. Takaso, H. Murakami

- 2-7-1 The method for detecting pedicle screw loosening of posterior cervical fixation using digital tomosynthesis *Eriko Okano, et al.*, Dept. of Orthop. Surg., Tsukuba Univ. ...S1665
- 2-7-2 Image diagnosis of cervical ossification of the posterior longitudinal ligament on plain cervical radiographs using residual neural network *Takamitsu Konishi, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ. ...S1665
- 2-7-3 Evaluation of dorsal column function in compressive myelopathy patients before and after surgery using three dimensional anisotropy contrast and diffusion tensor analysis *Tatsuki Mizouchi, et al.*, Spine Center, Dept. of Orthop. Surg., Niigata Central Hosp. ...S1666
- 2-7-4 Conversion of T2-weighted MR image of cervical spine injury to STIR image using generated adversarial network *Atsushi Yunde, et al.*, Dept. of Orthop. Surg., Chiba Univ. Hosp. ...S1666
- 2-7-5 Deep learning-based semantic segmentation for the spinal cord of patients with cervical spondylotic myelopathy *Kyohei Nozawa, et al.*, Dept. of Medical Engineering, Chiba Univ. ...S1667
- 2-7-6 Analysis of spastic gait in patients with cervical myelopathy using laser-TUG system *Takafumi Koyama, et al.*, Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ. ...S1667

9 : 40 ~ 10 : 40	Free paper 49 Spine 2	Moderators A. Okawa, H. Nakamura
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- 2-7-7 Noninvasive and detailed assessment of neural activity by magnetoneurography in patients with lumbar radiculopathy and cauda equina syndrome*Jun Hashimoto, et al.*,
Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences,
Tokyo Medical and Dental Univ.···S1668
- 2-7-8 Coronal pelvic tilt in adult spinal deformity is a compensatory mechanism for spinal malalignment
.....*Keiichi Nakai, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine···S1668
- 2-7-9 Synchronized bilateral sciatic nerve stimulation achieved noninvasive assessment for thoracic electrophysiological activity by magnetoneurography*Jun Hashimoto, et al.*,
Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences,
Tokyo Medical and Dental Univ.···S1669
- 2-7-10 Tetanic stimulation of the peripheral nerve augments motor evoked potentials by re-exciting spinal anterior horn cells*Yusuke Yamamoto, et al.*, Dept. of Orthop. Surg., Nara Medical Univ.···S1669
- 2-7-11 Feature of tight filum terminale in motor evoked potential*Naosuke Kamei, et al.*,
Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.···S1670
- 2-7-12 Changes in muscle activity of trunk and lower limbs in adult spinal deformity during gait
.....*Hiromichi Aoki, et al.*, Dept. of Orthop. Surg., Dokkyo Medical Univ.···S1670

10 : 50 ~ 11 : 50	Free paper 50 Spine 3	Moderators H. Ozawa, Y. Mikami
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- 2-7-13 Automated object detection of spinal schwannoma in MRI utilizing deep learning
.....*Sadayuki Ito, et al.*, Dept. of Orthop. Surg., Nagoya Univ. Graduate School of Medicine···S1671
- 2-7-14 Does the corrective surgery improve the balance of body surface in AIS patients?
.....*Yoko Ishikawa, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1671
- 2-7-15 Changes in static and dynamic balance in adolescent idiopathic scoliosis patients before and after surgery using 3D motion analysis*Natsumi Horikita, et al.*, Dept. of Orthop. Surg.,
Tokai Univ.···S1672
- 2-7-16 Evaluation of genetic causality between BMI and adolescent idiopathic scoliosis by mendelian randomization study*Nao Otomo, et al.*, Dept. of Orthop. Surg., Keio Univ.···S1672
- 2-7-17 A risk variant identified by adolescent idiopathic scoliosis GWAS increases the *UNCX* transcription
.....*Yoshiro Yonezawa, et al.*, Dept. of Orthop. Surg., Keio Univ.···S1673
- 2-7-18 Relationship between S1 spina bifida occulta and the onset of L5 spondylolysis
.....*Fumihiko Eto, et al.*, Dept. of Orthop. Surg.,
Univ. of Tsukuba Hosp. Mito Clinical Education and Training Center···S1673

13 : 20 ~ 14 : 20	Free paper 51 Spine 4	Moderators N. Kawahara, H. Taneichi
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- 2-7-19 Surgical Apgar score are significant useful as a predictor of major complications after cervical surgery in elderly patients*Kousei Miura, et al.*, Dept. Orthop. Surg., Univ. of Tsukuba···S1674
- 2-7-20 Four-dimensional spinal reconstruction using anatomically pre-bent rods in thoracic adolescent idiopathic scoliosis*Hideki Sudo, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1674
- 2-7-21 Effect of corrective stresses on rods in adult spinal deformity surgery by finite element analysis
.....*Koichiro Ide, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine···S1675
- 2-7-22 Posterior rod strain in lumbopelvic fixation using lateral interbody fusion: An *in-vitro* experimental study using synthetic bone models*Shunji Tsutsui, et al.*, Dept. of Orthop. Surg.,
Wakayama Medical Univ.···S1675

- 2-7-23 Stress analysis of the posterior implants after resection of the lumbar facet joint using a three-dimensional finite element method *Ryo Oikawa, et al.*, Dept. of Orthop. Surg., Iwate Medical Univ.··S1676
- 2-7-24 Can corrective surgery impact the balance between left and right body surfaces in patients with adolescent idiopathic scoliosis?: From the viewpoint of the scapular alignment *Yoko Ishikawa, et al.*, Dept. of Orthop. Surg., Wajo-kai Eniwa Hosp.··S1676

14 : 30 ~ 15 : 30	Free paper 52	Intervertebral disc 1	Moderators	K. Nishida, N. Hosogane
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- 2-7-25 Distribution and polarization of hematogenous macrophages associated with the progression of intervertebral disc degeneration *Yusuke Yamamoto, et al.*, Dept. of Orthop. and Rehabilitation Medicine, Univ. of Fukui··S1677
- 2-7-26 Role of TGF- β in M2 macrophage differentiation following intervertebral disc injury *Akiyoshi Kuroda, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1677
- 2-7-27 Macrophage migration and macrophage polarization changes during human cervical disc degeneration *Atsushi Yamagishi, et al.*, Dept. of Orthop. and Rehabilitation Medicine, Univ. of Fukui··S1678
- 2-7-28 Investigation of NGF regulation mechanism in intervertebral disc *Yuji Yokozeki, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1678
- 2-7-29 Mutation in progressive ankylosis gene causes osteogenesis and calcification in the annulus fibrosus and leads to spinal ankylosis *Takashi Ohnishi, et al.*, Dept. of Orthop. Surg., Hokkaido Univ. Hosp.··S1679
- 2-7-30 Time course of changes in serum oxidative stress markers in patients with lumbar disc herniation: A comparative study between condoliase disc administration and discectomy *Hiroshi Takahashi, et al.*, Dept. Orthop. Surg., Univ. of Tsukuba··S1679

15 : 40 ~ 16 : 40	Free paper 53	Intervertebral disc 2	Moderators	M. Doita, N. Fujita
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- 2-7-31 NF- κ B decoy oligodeoxynucleotide partially recovers disc degeneration in the rabbit anular puncture model and reduces pain responses in the rat xenograft-radiculopathy model *Kenji Kato, et al.*, Dept. of Orthop. Surg., Nagoya City Univ. Graduate School of Medical Sciences··S1680
- 2-7-32 Chimera decoy oligodeoxynucleotide attenuated intervertebral disc degeneration in a rabbit anular-puncture model *Daisuke Fukui, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ.··S1680
- 2-7-33 Effect of adiponectin receptor agonist AdipoRon on human intervertebral disc cell in a three-dimensional cell culture *Hiroki Ohnishi, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1681
- 2-7-34 Effect of hepatocyte growth factor on HIF-1 α expression and cell proliferation on nucleus pulposus cells *Tomonori Itsuji, et al.*, Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine··S1681
- 2-7-35 The metabolism of hyaluronic acid in intervertebral disc degeneration *Tatsuya Yamamoto, et al.*, Dept. of Orthop. Surg., Keio Univ.··S1682
- 2-7-36 Effect of contrast media on enzyme activity of condoliase *Kazuhiro Chiba, et al.*, Dept. of Orthop. Surg., National Defense Medical College··S1682

16 : 50 ~ 17 : 50	Free paper 54	Intervertebral disc 3	Moderators	H. Takahashi, H. Yamada
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- 2-7-37 The impact of endplate/intervertebral disc injuries in osteoporotic vertebral fractures on the progression of vertebral collapse using quantitative assessment *Tatsuhiko Fujiwara, et al.*, Dept. of Orthop. Surg., Mie Univ. Hosp.··S1683

- 2-7-38 Evaluation of the relation between Bag1 and cellular stress response factors in nucleus pulposus cells*Kaori Suyama, et al.*, Dept. of Cell. Biol., Tokai Univ.··S1683
- 2-7-39 Relationship between decreased TGF- β expression and reduced CD206 positive macrophage with aging*Kentaro Uchida, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1684
- 2-7-40 Correlation analysis of pain and inflammatory cytokines and chemokines in patients with lumbar degenerative diseases*Akihiko Hiyama, et al.*, Dept. of Orthop. Surg., Tokai Univ.··S1684
- 2-7-41 Optimal cryopreservation and storage method for regenerative medicine product using nucleus pulposus cells*Kosuke Sako, et al.*, Dept. of Orthop. Surg., Tokai Univ.··S1685
- 2-7-42 Effect of whole tissue culture and fibroblast growth factor on maintenance of Tie2 molecule expression in human nucleus pulposus cells*Kosuke Sako, et al.*, Dept. of Orthop. Surg., Tokai Univ.··S1685

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8 : 30 ~ 9 : 30		Free paper 55 Fracture 1	Moderators M. Shirahama, T. Noda
2-8-1	Epidemiology and risk factors of hip fracture in Nagasaki prefecture <i>Hironobu Koseki, et al.</i> , Dept. Health Sciences, Nagasaki Univ. Graduate School of Biomedical Sciences··S1686	
2-8-2	There are patients with femoral neck fractures who have defects in the anterior and posterior walls of the acetabulum despite a normal CE angle	.....<i>Kei Sano, et al.</i> , Dept. of Orthop., Juntendo Univ.··S1686	
2-8-3	Investigation about mechanical behavior of hip fractures using fresh frozen cadavers and finite element analysis	.....<i>Sei Yano, et al.</i> , Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1687	
2-8-4	Occupational radiation protection for the hip surgeon during internal fixation of proximal femur fractures: A cadaveric study	.....<i>Michihiro Takai, et al.</i> , Dept. of Orthop. Surg., Tokushima Univ.··S1687	
2-8-5	Evaluation of instability after intramedullary nailing for femoral diaphyseal fracture using finite element analysis	.....<i>Hideyuki Mimata, et al.</i> , Interdisciplinary Graduate School of Engineering Sciences, Kyusyu Univ.··S1688	
2-8-6	Comparison of rotational deformity of post-operative femoral shaft fracture using 3D-CT measurement and conventional method	.....<i>Kohei Sato, et al.</i> , Science of Functional Recovery and Reconstruction, Okayama Univ. Graduate School of Medicine··S1688	

9 : 40 ~ 10 : 40		Free paper 56 Fracture 2	Moderators Y. Asou, T. Yasui
2-8-7	Automated detection of fractures using deep learning in whole-body trauma computed tomography with object detection	.....<i>Takaki Inoue, et al.</i> , Dept. of Orthop. Surg., Chiba Univ. Hosp.··S1689	
2-8-8	Bone morphogenetic proteins expression in human induced membranes	.....<i>Takahiro Oda, et al.</i> , Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1689	
2-8-9	Analysis of the membrane formed on the surface of the β -TCP spacer in the Masquelet method	.....<i>Yohei Asano, et al.</i> , Dept. of Orthop. Surg., Graduate School of Medical Science, Kanazawa Univ.··S1690	
2-8-10	Clinical characteristics and pathogenesis of insufficiency fracture of the medial tibial condyle: A retrospective study	.....<i>Satoshi Kishiro, et al.</i> , Dept. of Orthop. Surg., St. Marianna Univ.··S1690	
2-8-11	Accelerations of bone union by high concentration Poly(POG)n gel containing BMP-2 in mice refractory fracture model	.....<i>Akiyoshi Kuroda, et al.</i> , Dept. of Orthop. Surg., Kitasato Univ.··S1691	
2-8-12	Occupational radiation protection during internal fixation of tibial shaft fractures: A cadaveric study	.....<i>Yasuyuki Omichi, et al.</i> , Dept. of Orthop. Surg., Tokushima Univ.··S1691	

10 : 50 ~ 11 : 50		Free paper 57 Fracture 3	Moderators T. Sunagawa, K. Kawasaki
2-8-13	Heated tobacco products impair cell viability, osteoblastic differentiation, and bone fracture healing	<i>Kazuya Nishino, et al.</i> , Dept. of Orthop. Surg., Osaka City Univ. Hosp. ....S1692	
2-8-14	Mechanical analysis of phalangeal osteosynthesis with Kirschner wires: Examination of stress distribution using the finite element method	<i>Yukinori Hayashi, et al.</i> , Dept. of Orthop. Surg., Jichi Medical Univ. ....S1692	
2-8-15	Indications of conservative treatment for unstable distal radius fractures in the elderly patients	<i>Gaku Niitsuma, et al.</i> , Dept. of Orthop. Surg., Showa Univ. ....S1693	
2-8-16	An anatomical study of the position of distal radius volar locking plate by using cadaveric body	<i>koichiro Mizuno, et al.</i> , Dept. of Orthop. Surg., Iwate Medical Univ. ....S1693	
2-8-17	Correlation between morphology of distal radius fractures and pressure of carpal tunnel	<i>Haruhiko Satonaka, et al.</i> , Dept. of Orthop. Surg., Ise Municipal General Hosp. ....S1694	
2-8-18	Predictors of subsequent fall in distal radius fractures: Prediction of prognosis by nutrition assessment markers	<i>Takako Nagai, et al.</i> , Dept. of Orthop. Surg., Nihon Univ. ....S1694	
13 : 20 ~ 14 : 20		Free paper 58 Bone 1	Moderators D. Togawa, T. Miyamoto
2-8-19	A study of scaffold-free adipose-derived stem cell structures fabricated by bio-3D-printing technology for extensive bone regeneration	<i>Ryota Fujimoto, et al.</i> , Res. Ctr. for Regen. Med., Saga Univ. ....S1695	
2-8-20	Recapitulation and application of human skeletal development using human pluripotent stem cells	<i>Shoichiro Tani, et al.</i> , Orthop. Surg., Graduate School of Medicine, The Univ. of Tokyo ....S1695	
2-8-21	Topical co-administration of zoledronate with recombinant human bone morphogenetic protein-2 can induce and maintain bone formation in the bone marrow environment	<i>Yoichi Ohta, et al.</i> , Dept. of Orthop. Surg., Osaka City Univ. Graduate School of Medicine ....S1696	
2-8-22	Adipose-derived stem cell spheroids promote bone repair in a critical-sized bone defect	<i>Yutaro Yamada, et al.</i> , Dept. of Orthop. Surg., Osaka City Univ. Graduate School of Medicine ....S1696	
2-8-23	Investigation of the effect of culture period on the reference genes for RT-qPCR analyses in the osteogenic differentiation of human induced pluripotent stem cells	<i>Kensuke Okamura, et al.</i> , Dept. of Orthop. Surg., Nara Medical Univ. ....S1697	
2-8-24	Low-intensity pulsed ultrasound enhances osteogenic differentiation of induced membrane-derived cells <i>in vitro</i>	<i>Kyohei Takase, et al.</i> , Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine ....S1697	
14 : 30 ~ 15 : 30		Free paper 59 Bone 2	Moderators H. Horiuchi, N. Yamamoto
2-8-25	Accelerations of bone union by in situ forming hyaluronic acid-tyramine conjugates containing BMP-2 in mice critical size bone defect model	<i>Shintaro Shoji, et al.</i> , Dept. of Orthop. Surg., Kitasato Univ. ....S1698	
2-8-26	Alendronate improves the osteolytic bone phenotype of the osteoclast-specific mutant Pfn1-cKO mouse as a model for novel type of severe Paget's disease of bone	<i>Ling Zhu, et al.</i> , Dept. of Joint Surg. and Sports Medicine, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ. ....S1698	
2-8-27	Retinoic acid receptor γ antagonist potently promotes chondrogenesis and enables efficient BMP induced bone tissue regeneration	<i>Daisuke Tateiwa, et al.</i> , Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ. ....S1699	
2-8-28	Bone phenotyping of DAP12-associated immunoreceptors using double-deficient mice with FcR γ	<i>Hideyuki Kobayashi, et al.</i> , Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ....S1699	

- 2-8-29 Different effects of MSC-based therapy during acute/chronic inflammation on bone healing in the murine continuous polyethylene particle infusion model *Takeshi Utsunomiya, et al.*, Dept. of Orthop. Surg., Stanford Univ., Stanford, CA, USA...S1700
- 2-8-30 Annexin A1 (AnxA1) suppresses inflammatory osteolysis and bone resorption through activating peroxisome proliferator activated receptor gamma PPARγ signaling *Alhasan Hend, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1700

15 : 40 ~ 16 : 40	Free paper 60	Osteoporosis 1	Moderators	H. Hagino, H. Yamada
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- 2-8-31 Analysis of the influence of teriparatide on cortical bone in ovariectomized rats using sweep imaging with Fourier transform *Yasutaka Sotozono, et al.*, Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine...S1701
- 2-8-32 Once-weekly teriparatide treatment prevents microdamage accumulation in the tibial trabecular bone of ovariectomized cynomolgus monkeys *Teppei Senda, et al.*, Dept. of Orthop. Surg., Kagawa Univ. ...S1701
- 2-8-33 Smoking cessation increases levels of osteocalcin and uncarboxylated osteocalcin in human sera *Yasuhiro Kiyota, et al.*, Dept. of Orthop. Surg., Keio Univ...S1702
- 2-8-34 Pyridoxamine improves osteoblast function and attenuates bone density and cortical thickness loss in diabetic mice *Toshifumi Hikichi, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Science, Kanazawa Univ...S1702
- 2-8-35 Intracellular AGE accumulation induces osteoblast apoptosis via endoplasmic reticulum stress *Ryusuke Suzuki, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine...S1703
- 2-8-36 Foxf2 in osteoprogenitors regulates bone formation via canonical Wnt signaling *Tomoyuki Tanaka, et al.*, Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1703

16 : 50 ~ 17 : 50	Free paper 61	Osteoporosis 2	Moderators	M. Kataoka, N. Miyakoshi
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- 2-8-37 In silico analysis of the effect of osteoclast progenitor dynamics on bone turnover in osteoporosis *Young Kwan Kim, et al.*, Institute for Frontier Life and Medical Sciences, Kyoto Univ...S1704
- 2-8-38 Effect of belt electrode skeletal muscle electrical stimulation against immobilized osteopenia *Hironobu Koseki, et al.*, Dept. Health Sciences, Nagasaki Univ. Graduate School of Biomedical Sciences...S1704
- 2-8-39 Analyses of Tmem161a function in bone metabolism using the exchangeable gene trap mutagenesis *Takuya Nagai, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki...S1705
- 2-8-40 Accumulation of carbamylated products in human bone collagen deteriorates bone quality as well as AGEs *Shoutaro Arakawa, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine...S1705
- 2-8-41 Evaluation of the tail suspended mice bone and muscle metabolism after exercise and use of bisphosphonate *Hikaru Hayakawa, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1706
- 2-8-42 Decrease and regulation of UCP2 expression in muscle tissue of ovariectomized mice *Tomohisa Koyama, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1706

2nd Day	October 15	Room 9
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8 : 30 ~ 9 : 30	Free paper 62	Tendon 1	Moderators	S. Miyakawa, H. Chikuda
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- 2-9-1 A differential gene expression analysis of ligamentum flavum between concave and convex curvature of main thoracic spine for adolescent idiopathic scoliosis patients *Shoji Seki, et al.*, Dept. of Orthop. Surg, Univ. of Toyama...S1707

- 2-9-2 Glycosaminoglycan analysis of human degenerated lumbar ligamentum flavum by mass spectrometry *Michihaya Kono, et al.*, Dept. of Orthop. Surg., Shimane Univ. ...S1707
- 2-9-3 Comprehensive analysis of genes involved in ligamentum flavum hypertrophy using a next-generation sequencer: Study using a ligamentum flavum hypertrophied rabbit model *Akito Yabu, et al.*, Dept. of Orthop. Surg., Osaka City Univ. Graduate School of Medicine...S1708
- 2-9-4 Expression and function of fibroblast growth factor 1 in the hypertrophied ligamentum flavum of lumbar spinal stenosis *Akinobu Suzuki, et al.*, Dept. of Orthop. Surg., Osaka City Univ. Graduate School of Medicine...S1708
- 2-9-5 CDC5L promote early chondrocyte differentiation and proliferation by modulating pre-mRNA splicing of SOX9, COL2A1, and WEE1 *Go Jokoji, et al.*, Dept. of Orthop. Surg., Graduate School of Medical and Dental Sciences, Kagoshima Univ. ...S1709
- 2-9-6 A proteomic analysis for osteogenic factors concerning with ossification of the posterior longitudinal ligament in cervical spine *Takafumi Yayama, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science...S1709

9 : 40 ~ 10 : 40

Free paper 63 Tendon 2

Moderators K. Suzuki, H. Tohyama

- 2-9-7 Evaluation of intrinsic regeneration process using the film model method in rabbits *Rikuto Yoshimizu, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Science, Kanazawa Univ....S1710
- 2-9-8 Tendon tissue repair using alginate-cell cross linking gel *Jun Yamaguchi, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ....S1710
- 2-9-9 Effects of vascular endothelial growth factor blocker on differentiation of paratenon-derived cells and tendon proper-derived cells *Yohei Kusaba, et al.*, Dept. of Orthop. Surg., Yokohama City Univ. Hosp....S1711
- 2-9-10 Generation of α SMA-CreER^{T2} BAC transgenic mice *Atsushi Goto, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Gifu Univ....S1711
- 2-9-11 Periostin suppresses joint contracture *Hiroataka Iura, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kyushu Univ....S1712
- 2-9-12 RNA processing enzyme Dicer is involved in tendon development/maturation and injury repair processes *Takenori Omoto, et al.*, Graduate School of Biomedical and Health Sciences, Hiroshima Univ....S1712

10 : 50 ~ 11 : 50

Free paper 64 Tendon 3

Moderators T. Soejima, H. Numazaki

- 2-9-13 Morphological examination of medial patellotibial ligament and bone attachment using 3D-imaging *Yasutaka Oya, et al.*, Dept. of Orthop. Surg., Iwate Medical Univ. Hosp....S1713
- 2-9-14 Relationship between meniscal resultant force and movement under loading in lateral meniscus with a partial tear *Takehito Hirose, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ. ...S1713
- 2-9-15 Role of the posterior fan-like extension fibers of the anterior cruciate ligament femoral insertion on the failure load *Ryo Kanto, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine...S1714
- 2-9-16 Adipose-derived stem cell sheets improve early biomechanical strength in rabbit anterior cruciate ligament reconstruction *Tatsuaki Matsumoto, et al.*, Dept. of Orthop. Surg., Keio Univ....S1714
- 2-9-17 Bone density distribution pattern of lateral wall of the femoral intercondylar notch: Speculation on the direct insertion of the femoral ACL attachment *Yutaro Sugawara, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ....S1715
- 2-9-18 The potential of scaffold-free tubular constructs of adipose tissue-derived mesenchymal stem cells for tendon-bone healing after anterior cruciate ligament reconstruction in a rabbit model *Kotaro Higa, et al.*, Orthop. Surg., Graduate School of Medicine, the Univ. of the Ryukyus...S1715

13 : 20 ~ 14 : 20		Free paper 65 Muscle 1	Moderators T. Arai, Y. Takazawa
2-9-19	Chronic kidney disease deteriorates skeletal muscle fatigue resistance with impaired mitochondrial function in rats	.....<i>Hiroyori Fusagawa, et al.</i> , Dept. of Orthop. Surg., Sapporo Medical Univ.··S1716	
2-9-20	Type I muscle fiber atrophy in the elastase-induced pulmonary emphysema mouse model	.....<i>Yosuke Mano, et al.</i> , Dept. of Orthop. Surg., Univ. of Occupational and Environmental Health··S1716	
2-9-21	Oxidative and glycation stress blood markers showed no association with musculoskeletal aging	.....<i>Ryosuke Takahashi, et al.</i> , Dept. of Orthop., Juntendo Univ.··S1717	
2-9-22	ALDH2 mutation promotes skeletal muscle atrophy in mice via accumulation of oxidative stress	.....<i>Hiroki Kobayashi, et al.</i> , Dept. of Orthop. Surg., Keio Univ.··S1717	
2-9-23	Examination of an influence of reduced-vitamin D on sarcopenia pathophysiology	.....<i>Takafumi Mizuno, et al.</i> , Dept. of Orthop. Surg., Nagoya Univ. Graduate School of Medicine··S1718	
2-9-24	Low back pain is closely associated with frailty but not with sarcopenia: Cross-sectional study of rural Japanese community-dwelling older adults	.....<i>Shotaro Tsuji, et al.</i> , Dept. of Orthop. Surg., Hyogo College of Medicine··S1718	

14 : 30 ~ 15 : 30		Free paper 66 Muscle 2	Moderators N. Terada, N. Nishinaka
2-9-25	Biomechanical change of rat paraspinal muscles following posterior spinal surgery	.....<i>Shun Yamamoto, et al.</i> , Dept. of Orthop. Surg., The Jikei Univ. Hosp.··S1719	
2-9-26	Skeletal muscle-specific NRF2 activation enhances exercise capacity in female mice	.....<i>Takahiro Onoki, et al.</i> , Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine··S1719	
2-9-27	Mechanism of action of Rspo3 as a novel myokine using human contractile muscle cell	.....<i>Tadahisa Takahashi, et al.</i> , Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine··S1720	
2-9-28	Skeletal muscle regeneration using silk-elastic	.....<i>Kyohei Nakata, et al.</i> , Dept. of Orthop. Surg., Hiroshima Univ.··S1720	
2-9-29	Study of prophylactic agents for ischemia and re-perfusion injury on crush syndrome: Report of newly established severe rat crush injury model	.....<i>Kenji Yamada, et al.</i> , Dept. of Paramedics, Kyorin Univ. Faculty of Health Sciences··S1721	
2-9-30	Comparison of exercise effects by muscle fiber type in a rat arthritis model	.....<i>Yoichiro Kamada, et al.</i> , Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine··S1721	

15 : 40 ~ 16 : 40		Free paper 67 Motion analysis	Moderators N. Haga, Y. Nishimura
2-9-31	Analysis of gait motion changes by intervention using robot suit hybrid assistive limb (HAL) in myelopathy patients after decompression surgery for ossification of posterior longitudinal ligament	.....<i>Seioh Ezaki, et al.</i> , Dept. Orthop. Surg., Univ. of Tsukuba··S1722	
2-9-32	Reference values and correlations for multiple physical performance measures: A cross-sectional study in men aged 80 years or more who can walk independently	.....<i>Yoshinori Ishii, et al.</i> , Ishii Orthop. & Rehab. Clinic··S1722	
2-9-33	Association of gait speed, brain volume and the risk of dementia: the Hisayama study	.....<i>Takahiro Tajimi, et al.</i> , Dept. of Epidemiology and Public Health, Graduate School of Medical Sciences Kyushu Univ.··S1723	
2-9-34	Effect of onset of sweating on lactate threshold determined based on sweat lactate during exercise	.....<i>Yuta Maeda, et al.</i> , Dept. of Orthop. Surg., Keio Univ.··S1723	
2-9-35	Prediction of time to exhaustion from sweat lactate response	.....<i>Takashi Morisue, et al.</i> , Dept. of Orthop. Surg., Keio Univ.··S1724	
2-9-36	Detection of the change in fatigue level using blood lactate and investigation of the availability to assess fatigue using sweat lactate	.....<i>Shunsuke Minoji, et al.</i> , Dept. of Orthop. Surg., Keio Univ.··S1724	

16 : 50 ~ 17 : 50	Free paper 68	Imaging analysis	Moderators	T. Yamashita, I. Matsushita
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- 2-9-37 Relationship between radiographic feature of lumbar spondylosis and low back pain in the population-based cohort study *Junichi Yamada, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine...S1725
- 2-9-38 Comparison of sit to stand motion analysis of adult spinal deformity patients and healthy volunteers using the markerless mobile motion capture system *Kenta Kurosu, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine...S1725
- 2-9-39 Automatic detection of ultrasound image imaging site by AI using unsupervised learning *Ryuichi Nakahara, et al.*, Science of Functional Recovery and Reconstruction, Okayama Univ. Graduate School of Medicine...S1726
- 2-9-40 Video recording with a GoPro and an Insta 360 ONE X2, and virtual reality training with VR headset in lower limb artificial joint surgery for medical education *Masaya Ueno, et al.*, Dept. of Orthop. Surg., Saga Univ...S1726
- 2-9-41 Creating hip X-ray image classification model with Neural Network Console: GUI based deep learning *Yoichiroh Yamaguchi, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki...S1727
- 2-9-42 Three-dimensional evaluation of hip contact area considering the effect of fovea capitis *Tohru Irie, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1727

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17 : 50 ~ 18 : 00 Closing ceremony

Poster

Poster session 1	Cartilage 1	Moderator	Y. Arai
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- Po-001 Study on temsirolimus of mtor inhibitor for protecting chondrocyte *Akiyoshi Mori, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1728
- Po-002 Chondroprotective effect of AICAR involve changes in chondrocyte energy metabolism *Masataka Maeda, et al.*, Dept. of Orthop. Surg., Nagoya Univ. Graduate School of Medicine...S1728
- Po-003 Time-dependent change of repair tissue in 2 years after autologous chondrocyte implantation evaluated by magnetic resonance imaging *Masashi Shinohara, et al.*, Dept. of Orthop. Surg. Graduate School of Medicine, Chiba Univ...S1729
- Po-004 The relationship between the subchondral bone change and pain in articular cartilage injury *Yuichi Kato, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1729

Poster session 2	Cartilage 2	Moderator	M. Ishikawa
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- Po-005 Optimization of chondrocyte isolation for single cell RNA sequence *Kyota Ishibashi, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Hosp...S1730
- Po-006 The role of b-series gangliosides after growth plate injury in mice *Yoshiaki Hosokawa, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1730
- Po-007 Proliferative effect of human mesenchymal stem cells by FGF2-attracted type silk fibroin *Manabu Yamada, et al.*, Dept. of Orthop. Surg., Toho Univ. Sakura Medical Center...S1731
- Po-008 Inactivation of chondrocyte-specific L-type amino acid transporter 1 induces scoliosis in mice *Makoto Handa, et al.*, Dept. of Orthop. Surg., Kanazawa Univ...S1731

Poster session 3 RA	Moderator H. Ito
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- Po-009 Sustained hypoxia suppresses the production of pro-inflammatory cytokines in rheumatoid arthritis via negative feedback of HIF-1 α *Kenta Kaihara, et al.*, Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine...S1732
- Po-010 Prediction of the effect of biologics on rheumatoid arthritis by artificial intelligence model *Toshihisa Maeda, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1732
- Po-011 Interleukin-17A expression in human synovial mast cells in rheumatoid arthritis and osteoarthritis *Junichirou Kan, et al.*, Dept. of Orthop. Surg., Nihon Univ. Itabashi Hosp....S1733
- Po-012 Analysis on autophagy-related molecule of WIPI and autophagy structures in the synovium of rheumatoid arthritis and osteoarthritis *Hanqing Huang, et al.*, Dept. of Orthop. Surg., Yamagata Univ....S1733
- Po-013 Susceptibility of cyclin-dependent kinase inhibitor 1-deficient mice to rheumatoid arthritis arising from interleukin-1 β -induced inflammation *Yoshinori Takashima, et al.*, Dept. of Orthop. Surg., Kobe Univ. Hosp....S1734
- Po-014 Risk factors associated with the aggravation of cervical spine lesions in rheumatoid arthritis *Tetsuhiko Inoue, et al.*, Dept. of Orthop. Surg., Yokohama City Univ. Graduate School of Medicine...S1734

Poster session 4 Osteoarthritis 1	Moderator K. Watanabe
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- Po-015 The development of OA by obesity in a senescence-accelerated mouse model *Dilimulati Yimiti, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ....S1735
- Po-016 Mast cell-derived neuropeptides in synovial tissue of osteoarthritis *Ken Takata, et al.*, Dept. of Orthop. Surg., Kitasato Univ....S1735
- Po-017 Increasing expression of calcitonin gene-related peptide induces ligament degeneration through endochondral ossification in osteoarthritis *Maya Tokumoto, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ....S1736
- Po-018 Relationship between thinning of articular cartilage due to endochondral ossification and osteoarthritis *Keita Nagira, et al.*, Dept. of Orthop. Surg., Faculty of Medicine, Tottori Univ. ...S1736

Poster session 5 Osteoarthritis 2	Moderator S. Orita
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- Po-019 Colchicine is a DMOAD candidate protecting against cartilage degeneration by inhibiting MMP13 expression via PLC- γ 1 phosphorylation *Hiroyasu Ogawa, et al.*, Dept. of Orthop., Ogaki Tokushukai Hosp. ...S1737
- Po-020 The activation of transient receptor potential vanilloid-4 inhibits IL-1 β -induced articular cartilage degradation via regulation of the CaMKK/AMPK/NF- κ B signaling pathway *Kyosuke Hattori, et al.*, Dept. of Orthop. Surg., Nagoya Univ. Graduate School of Medicine...S1737
- Po-021 Comprehensive analysis of microRNA in joint capsule of human lumbar facet joint with osteoarthritis *Koji Ishida, et al.*, Dept. of Orthop. Surg., Tottori Univ. Hosp....S1738
- Po-022 Differential regulation of DUSP-1 between interleukin-1 β and prostaglandin E₂ in human synovial fibroblasts *Asato Maekawa, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ....S1738

Poster session 6 Joint	Moderator T. Ichiseki
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- Po-023 Establishment of equine persistent synovitis models induced by intra-articular administration of monoiodoacetic acid and changes of synovial inflammatory biomarker profile *Kentaro Fukuda, et al.*, JRA Equine Research Institute...S1739
- Po-024 Effect of taurine in the osteocytes in hypoxic environment to which added dexamethasone *Hiroaki Hirata, et al.*, Dept. of Orthop. Surg., Kanazawa Medical Univ....S1739

- Po-025 Appropriate timing of administration of metformin for joint contracture ·····*Kotaro Tokuda, et al.*,
Dept. of Orthop. Surg., Univ. of Occupational and Environmental Health··S1740
- Po-026 Proliferated synovial cells migrate to the surface of articular cartilage in a rat knee arthritis model
··········*Aritoshi Yoshihara, et al.*, Dept. of Joint Surg. and Sports Medicine,
Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ. ···S1740

Poster session 7 Shoulder

Moderator K. Yamakado

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- Po-031 Verification of reflective marker-based three-dimensional motion capture in dynamic shoulder
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- Po-032 Shoulder MRI analysis in medical checkup of college baseball pitcher
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- Po-034 Variations of the hypertrophic muscle overlying the transverse carpal ligament
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- Po-042 Occupational radiation protection during internal fixation of distal radius fractures: A cadaveric study ····*Yoshinori Takahashi, et al.*, Dept. of Orthop. Surg., Tokushima Univ. Graduate School···S1748

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*Kenichi Kikuchi, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1815

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*Hikaru Saito, et al.*, Dept. of Orthop. Surg., Akita Univ. Graduate School of Medicine...S1816
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- Po-186 Outcome of guided growth surgery using the eight-plate for lower extremity deformities
*Yongseung Lee, et al.*, Dept. of Orthop. Surg., Saga Handicapped Children's Hosp. ...S1820
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*Kentaro Sato, et al.*, ECCU, St. Marianna Univ. School of Medicine...S1821

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 *Daisuke Nakashima, et al.*, Dept. of Orthop. Surg., Keio Univ.··S1821

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Moderator G. Inoue

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- Po-190 Mitochondrial aconitase deficiency by reactive oxygen species induces disuse muscle atrophy
 *Kosuke Sugiura, et al.*, Dept. of Orthop., Tokushima Univ. Graduate School··S1822
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 *Chikara Hayakawa, et al.*, Dept. of Orthop. Surg., Showa Univ.··S1823
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