

The 38th Annual Research Meeting of the Japanese Orthopaedic Association

Congress President, Masashi Yamazaki
Department of Orthopaedic Surgery,
Institute of Medicine, University of Tsukuba
Held in Tsukuba, October 19 and 20, 2023

1st Day October 19 Room 1

8 : 00 ~ 9 : 20 Symposium 1 Moderators M. Koda, S. Okada
Cutting edge of treatment and reseach on spinal cord injury

- 1-1-S1-1 Basic research of spinal cord injury focusing on regulating the glial cells
.....*Kazu Kobayakawa, et al.*, Dept. of Orthop. Surg., Clinical Medicine,
Graduate School of Medical Sciences, Kyushu Univ.···S1533
- 1-1-S1-2 Human hepatocyte growth factor for acute spinal cord injury: Journey from bench to clinical
trial and future perspective
.....*Kazuya Kitamura, et al.*, Dept. of Orthop. Surg., National Defense Medical College···S1533
- 1-1-S1-3 Early surgical treatment for acute spinal cord injury with a view to future spinal
cord regeneration*Kota Suda, et al.*, Hokkaido Spinal Cord Injury Center···S1534
- 1-1-S1-4 Considerations for conducting clinical research and clinical trials in patients with spinal cord
injury: Including the perspective of regulatory science
.....*Takeo Furuya, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.···S1534
- 1-1-S1-5 Early surgical treatment for traumatic cervical spinal cord injury without bone injury:
Lessons we learned from the OSCIS randomized trial
.....*Hiroataka Chikuda*, Dept. of Orthop. Surg., Gunma Univ. Graduate School of Medicine···S1535
- 1-1-S1-6 Database for spinal cord injury*Hiroaki Sakai, et al.*, Spinal Injuries Center···S1535

9 : 30 ~ 10 : 50 Symposium 2 Moderators M. Nakamura, M. Watanabe
Latest regenerative medicine and cell therapy in spine and spinal cord

- 1-1-S2-1 Regenerative medicine for severe spinal cord injury using iPS cells
.....*Narihito Nagoshi, et al.*, Dept. of Orthop. Surg., Keio Univ.···S1536
- 1-1-S2-2 Basic and clinical science of bone marrow mesenchymal stem cell therapy for spinal cord injury
.....*Ryosuke Hirota, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.···S1536
- 1-1-S2-3 Administration of multilineage-differentiating stress-enduring cells after spinal cord injury
in mice*Gentaro Kumagai, et al.*, Dept. of Orthop. Surg.,
Hirosaki Univ. Graduate School of Medicine···S1537
- 1-1-S2-4 Development of regenerative medicinal product for intervertebral disc degeneration
.....*Daisuke Sakai, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ.···S1537
- 1-1-S2-5 Intradiscal injection of platelet-rich plasma (PRP) for intervertebral disc degeneration
.....*Koji Akeda, et al.*, Dept. of Musculoskeletal Surg.,
Dept. of Multimodality Therapy for Cancer, Mie Univ. Graduate School of Medicine···S1538
- 1-1-S2-6 Bone fusion in spinal surgery using PRP: iPS cell-derived platelets promote bone regeneration
.....*Yasuhiro Shiga, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.···S1538

11 : 00 ~ 12 : 00	Special lecture 1	Moderator M. Yamazaki
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1-1-SL1 Donor-Muse cell therapy free from HLA-matching test and immunosuppressant treatment
*Mari Dezawa*, Dept. of Stem Cell Biology and Histology, Tohoku Univ.
 Graduate School of Medicine...S1539

12 : 10 ~ 13 : 20	Luncheon seminar 1	Moderator M. Matsumoto
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1-1-LS1 The latest diagnosis and treatment of low back pain treatment including lumbar spinal canal
 stenosis: Including the MiroTAS trial
*Seiji Ohtori*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1539

13 : 30 ~ 13 : 50	Opening ceremony	
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13 : 50 ~ 14 : 20	Congress President lecture	Moderator Y. Nakashima
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1-1-PL Imagine the future of our Orthopaedics
*Masashi Yamazaki*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1540

14 : 30 ~ 15 : 30	Special lecture 2	Moderator A. Okawa
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1-1-SL2 Cybernetics medical and health care innovation -Cybernetics in orthopaedic medicine:
 Fusion of bio-medical systems and AI-robotics/information systems-
*Yoshiyuki Sankai*, Institute of Engineering, Information and Systems/
 Center for Cybernetics Research/ F-MIRAI, Univ. of Tsukuba...S1540

15 : 40 ~ 17 : 00	Symposium 3	Moderators K. Nakata, Y. Ishibashi
Latest regenerative medicine and cell therapy in knee joint		

1-1-S3-1 The effectiveness of leukocyte-poor platelet rich plasma injections for symptomatic
 osteoarthritis of the knee in the Japanese population: A prospective, randomized,
 double-blinded, placebo-controlled clinical trial
*Tomokazu Yoshioka, et al.*, Div. of Regen Med. for Musculoskeletal, Univ. of Tsukuba...S1541

1-1-S3-2 Regenerative therapy for osteoarthritis of the knee using chondrocyte sheets
*Masato Sato, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ...S1541

1-1-S3-3 Scaffold-free tissue engineered construct derived from allogenic synovial mesenchymal stromal
 cells in cartilage repair: Clinical trial
*Norimasa Nakamura, et al.*, Institute for Medical Science in Sports,
 Osaka Health Science Univ...S1542

1-1-S3-4 Autologous chondrocyte implantation with correction osteotomy
*Nobuo Adachi, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1542

1-1-S3-5 Meniscus repair with cell transplantation
*Ichiro Sekiya, et al.*, Center for Stem Cell and Regenerative Medicine,
 Tokyo Medical and Dental Univ...S1543

17 : 10 ~ 18 : 30	Symposium 4	Moderators N. Sugano, Y. Niki
Cutting edge of robot technology on joint surgery		

1-1-S4-1 The new normal brought about by robotic-arm assisted total knee arthroplasty
*Masaki Mizushima*, Dept. of Orthop. Surg., Yonemori Hosp...S1544

1-1-S4-2 Accuracy of bone resection and validation of joint gap evaluation tool for TKA with ROSA
 robotic system
*Ryuichi Gejo, et al.*, Dept. of Orthop. Surg., Faculty of Medicine, Univ. of Toyama...S1544

- 1-1-S4-3 Dawn of switchover in surgical procedure of total knee arthroplasty by VELYS Robotic-Assisted Solution *Tadashi Fujii, et al.*, Orthop. surgery, Kashiba Asahigaoka Hosp.S1545
- 1-1-S4-4 Accuracy of robotic-assisted total knee arthroplasty and early clinical outcomes: Comparison between Navio and Rosa *Masahiro Hasegawa, et al.*, Dept. of Musculoskeletal Surg., Dept. of Multimodality Therapy for Cancer, Mie Univ. Graduate School of MedicineS1545
- 1-1-S4-5 Mako robotic THA *Atsuko Sato, et al.*, Dept. of Orthop Surg., Nissan Tamagawa Hosp.S1546
- 1-1-S4-6 Short-term results of THA in supine position with Rosa Hip Robotic System *Arihiko Kanaji, et al.*, Dept. of Orthop. Surg., Restorative Medicine of Neuro-Musculoskeletal System, Fujita Health Univ.S1546

1st Day October 19 Room 2

8 : 00 ~ 9 : 00 Instructional lecture 1 Moderators H. Tsuchiya, M. Takagi

- 1-2-EL1-1 Silver-hydroxyapatite coated implants for prevention of periprosthetic joint infection: From bench to practice *Masaaki Mawatari*, Dept. of Orthop. Surg., Saga Univ.S1547
- 1-2-EL1-2 Next generation orthopaedic implants *Bergita Ganse*, Innovative Implant Development (Fracture Healing), Saarland Univ., Saarland, GermanyS1547

**9 : 10 ~ 10 : 30 GJSOT Symposium 1 Moderators D. Pennig, M. Neo
New technology-1 (Spine & Joint)**

- 1-2-GS1-1 *GJSOT Fellow from Germany-1*S1548
- 1-2-GS1-2 Clinical cases of lateral lumbar disc herniation and postoperative recurrent lumbar disc herniation successfully treated with novel intradiscal condoliase injection *Toru Funayama, et al.*, Dept. of Orthop. Surg., Univ. of TsukubaS1548
- 1-2-GS1-3 PROSPACE XP Posterior Lumbar Interbody Fusion System: 1-year clinical outcomes from a prospective study *Francis Ch. Kilian*, SPINE Center, Catholic Hosp. Koblenz, GermanyS1549
- 1-2-GS1-4 Effect of medial stabilizing technique on kinematics in total knee arthroplasty using the navigation system *Eiji Sasaki, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of MedicineS1549
- 1-2-GS1-5 Influence of the patella position on patellofemoral joint biomechanics after total knee arthroplasty: Computer-based study *Wolfram Mittelmeier, et al.*, Dept. & Lab. f. Biomechanics & Implant Technology, Orthop. Univ. Hosp., Rostock Univ. Medical Center, Rostock, GermanyS1550
- 1-2-GS1-6 Indications for arthroscopic superior capsule reconstruction using fascia lata autograft and risk factors for a postoperative graft tear *Akihiko Hasegawa, et al.*, Dept. of Orthop. Surg., Osaka Medical and Pharmaceutical Univ.S1550
- 1-2-GS1-7 (Withdrawn)

**10 : 40 ~ 12 : 00 GJSOT Symposium 2 Moderators T. Pohlemann, Y. Ishibashi
New technology-2 (Trauma & Space Medicine)**

- 1-2-GS2-1 Japan-style posterior pelvic ring fixations for unstable pelvic ring fracture patients *Yohei Yanagisawa, et al.*, Dept. of Orthop. Surg., Univ. of TsukubaS1552
- 1-2-GS2-2 Treatment strategy for the high energy tibial plateau fracture *Masanori Yorimitsu, et al.*, Dept. of Musculoskeletal Traumatology, Faculty of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama Univ.S1552
- 1-2-GS2-3 Outcomes of arthroscopic bone grafting and screw fixation for scaphoid nonunion *Shiro Yoshida, et al.*, Dept. of Orthop. Surg., Kurume Univ.S1553

- 1-2-GS2-4 Musculoskeletal research: Transfer from spaceflight to traumatology
*Bergita Ganse*, Innovative Implant Development (Fracture Healing),
 Saarland Univ., Saarland, Germany...S1553
- 1-2-GS2-5 Effect of the hybrid training method on the disuse atrophy of the musculoskeletal system of
 the astronauts staying in the international space station for a long term: How to obtain
 mechanical stress on the human musculoskeletal system in the space
*Naoto Shiba, et al.*, Asakura Medical Association Hosp...S1554
- 1-2-GS2-6 Modern fracture treatment and visions for future developments
*Tim Pohlemann*, Hand and Recovery,
 Saarland Univ. Hosp. and Medical Faculty of Saarland Univ., Saarland, Germany...S1554
- 1-2-GS2-7 (Withdrawn)

12 : 10 ~ 13 : 20	Luncheon seminar 2	Moderator S. Harada
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- 1-2-LS2 Optimization of osteoporosis treatment: The role that bone-forming agents should play
*Kosuke Ebina, et al.*, Dept. of Musculoskeletal Regenerative Medicine,
 Graduate School of Medicine, Osaka Univ...S1556

14 : 30 ~ 15 : 30	Symposium 5	Moderators A. Matsumine, S. Iwata
Orthopaedic surgeon-initiated clinical trials on bone and soft tissue tumors		

- 1-2-S5-1 Design and conducting a physician-initiated clinical trial (REALIZE study) of zaltoprofen for
 tenosynovial giant cell tumor*Akihiko Takeuchi, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medical Sciences, Kanazawa Univ...S1557
- 1-2-S5-2 From basic to translational research of originally-developed oncolytic adenovirus aimed for
 investigator-initiated clinical trial*Satoshi Nagano, et al.*, Dept. of Physical Therapy,
 School of Health Sciences, Faculty of Medicine, Kagoshima Univ...S1557
- 1-2-S5-3 Challenges in investigator-initiated clinical trials for rare advanced-stage malignant
 musculoskeletal tumors*Robert Nakayama, et al.*, Dept. of Orthop. Surg., Keio Univ...S1558
- 1-2-S5-4 Points to keep in mind in investigator-initiated clinical trials for bone and soft tissue tumors:
 From my experience of working in PMDA
*Hiroshi Urakawa, et al.*, Dept. of Advanced Medicine, Nagoya Univ. Hosp...S1558

15 : 40 ~ 17 : 00	Symposium 6	Moderators Y. Kawaguchi, S. Imagama
Cuting edge of treatment and reseach on ossification of spinal ligament		

- 1-2-S6-1 Whole spine CT data, including differences between AS and DISH
*Kanji Mori, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science...S1559
- 1-2-S6-2 Spinal fracture in the patients with diffuse idiopathic skeletal hyperostosis:
 Multicenter prospective study*Yohei Takahashi, et al.*, Dept. of Orthop. Surg., Keio Univ...S1559
- 1-2-S6-3 Surgical treatment of cervical ossification of the posterior longitudinal ligament: Evidence from
 prospective observational study*Toshitaka Yoshii*, Dept. of Orthop. Surg.,
 Tokyo Medical and Dental Univ. Graduate School of Medicine...S1560
- 1-2-S6-4 Neuropathic pain in patients with postoperative cervical ossification of posterior
 longitudinal ligament*Masayuki Miyagi, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1560
- 1-2-S6-5 Frontiers of thoracic OPLL/OLF research*Hiroaki Nakashima, et al.*, Dept. of Orthop./
 Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine,
 Graduate School of Medicine, Nagoya Univ...S1561
- 1-2-S6-6 Patient and public involvement (PPI) research advances spinal ligament ossification research
*Masahiko Takahata, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1561

17 : 10 ~ 18 : 30 SOFJO Symposium Moderators P. Hernigou, S. Imai

- 1-2-SS-1 Different bearing surfaces on each side have different incidence of infection in patients with bilateral total hip arthroplasties *Philippe Hernigou*, Univ. of Paris, Paris, France...S1562
- 1-2-SS-2 Assessing the primary stability of the acetabular cup and of the femoral stem by impact analyses: A cadaveric study *Guillaume Haiat, et al.*,
Multiscale Modeling and Simulation Laboratory,
French National Centre for Scientific Research (CNRS), Paris, France...S1562
- 1-2-SS-3 Acoustic emission to avoid complications in cementless hip arthroplasty: Relay baton from Jacques Lisfranc *Yasuhiro Homma, et al.*, Dept. of Orthop., Juntendo Univ...S1563
- 1-2-SS-4 RANK expression promotes lung metastasis of osteosarcoma in a mouse xenograft model *Kosei Ando, et al.*, Dept. of Rehabilitation, Shiga Univ. of Medical Science...S1563
- 1-2-SS-5 Dynamic analysis of the ulnar nerve and cubital tunnel morphology using ultrasonography; A cadaveric study *Hideo Hasegawa, et al.*, Dept. of Orthop. Surg., Nara Medical Univ...S1564

1st Day October 19 Room 3

8 : 00 ~ 9 : 00 Instructional lecture 2 Moderator N. Miyakoshi

- 1-3-EL2 The science of tissue maturation and aging *Mitsuru Saito*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine...S1565

9 : 10 ~ 10 : 30 Symposium 7 Moderators K. Sairyo, M. Tatsumura
Scientific reseach on lumbar spondylolysis

- 1-3-S7-1 Factors affecting the bone union after conservative treatment for adolescent lumbar spondylolysis: Multivariable analyses on 217 cases/298 lesions in a retrospective cohort study *Hisanori Gamada, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1566
- 1-3-S7-2 Science of lumbar spondylolysis by sagittal spinopelvic alignment *Noriyuki Iesato, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1566
- 1-3-S7-3 Quantitative assessment of bone marrow edema in patients with lumbar spondylolysis on magnetic resonance imaging *Toshio Nakamae, et al.*, Dept. of Orthop. Surg.,
Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1567
- 1-3-S7-4 The science of lumbar spondylolysis from elite baseball players *Kinshi Kato, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ...S1567
- 1-3-S7-5 The science of lumbar spondylolysis from exercise therapy *Shiro Sugiura, et al.*, Nishikawa Orthop. Clinic...S1568
- 1-3-S7-6 Scientific research of surgical results in lumbar spondylolysis: Selection of surgical methods and surgical results *Kosuke Sugiura, et al.*, Dept. of Orthop.,
Institute of Biomedical Sciences, Tokushima Univ. Graduate School...S1568

10 : 40 ~ 12 : 00 Symposium 8 Moderators T. Yamamoto, T. Sakai
Novel therapy for avascular necrosis of the femoral head: Child and adult

- 1-3-S8-1 Why is bone repair against osteonecrosis different between childhood and adulthood? *Ryosuke Yamaguchi, et al.*, Dept. of Rehabilitation Medicine, Kyushu Univ. Hosp...S1569
- 1-3-S8-2 A new therapeutic strategy using anti-IL-6 antibody for Perthes disease in adolescence *Nobuhiro Kamiya, et al.*, Graduate School of Physical Education Studies, Tenri Univ...S1569
- 1-3-S8-3 The effect of cell-based immunomodulatory therapy for the early stage of osteonecrosis of the femoral head: A translational study in rabbits *Masahiro Maruyama, et al.*, Dept. of Orthop. Surg., Stanford Univ...S1570

- 1-3-S8-4 Long-term outcome of concentrated autologous bone marrow aspirate transplantation for idiopathic osteonecrosis of femoral head and its application to Perthes disease
 *Yohei Tomaru, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1570
- 1-3-S8-5 Regenerative therapy using rhFGF-2 gelatin hydrogel for avascular osteonecrosis
 *Yutaka Kuroda, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ...S1571
- 1-3-S8-6 A study to prevent the development of osteonecrosis of the femoral head by advanced medical treatment *Goro Motomura, et al.*, Dept. of Artificial Joints and Biomaterials, Graduate School of Medical Sciences, Kyushu Univ...S1571

12 : 10 ~ 13 : 20	Luncheon seminar 3	Moderator N. Adachi
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- 1-3-LS3 Recent progress in research on the pathophysiology, diagnosis and treatment of osteoarthritis
 *Keiichiro Nishida*, Dept. of Orthop. Surg., Science of Functional Recovery and Reconstruction, Faculty of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama Univ...S1572

14 : 30 ~ 15 : 30	Free papers Osteoarthritis: Pathology	Moderators T. Otani, K. Urabe
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- 1-3-1 Enhanced fibrinolysis may promote cartilage degeneration through the activation of MMP-1 and 3 in osteoarthritic knee joints undergoing synovial flare
 *Nobuho Tanaka, et al.*, Clinical Research Center National Hosp. Organization Sagamihara National Hosp...S1573
- 1-3-2 Inflammatory chondrocytes induce pyroptosis signaling in osteocytes: A study highlighting mechanism of bone remodeling activation in OA *Yuki Ogawa, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1573
- 1-3-3 CCL21 is highly expressed in synovial tissue of female osteoarthritis patients
 *Naoya Shibata, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1574
- 1-3-4 Examination of effectiveness of urinary O-glycosylated hydroxylysine as a new biomarker for osteoarthritis of the knee *Jun Tomura, et al.*, Dept. of Medicine for Orthop. and Motor Organ, Juntendo Univ. Graduate School of Medicine...S1574
- 1-3-5 Increase mast cell marker expression in synovium of hip osteoarthritis patients with overweight
 *Maho Tsuchiya, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1575
- 1-3-6 FNIII14 in degenerated cartilage is involved in the pathogenesis of osteoarthritis
 *Fumihiro Nishimura, et al.*, Dept. of Musculoskeletal Surg., Dept. of Multimodality Therapy for Cancer, Mie Univ. Graduate School of Medicine...S1575
- 1-3-7 Elucidation of the mechanism(s) contributing to angiogenesis in synovium in osteoarthritic knee joints *Hirotaka Tsuno, et al.*, Dept. of Rheumatology, National Hosp. Organization Sagamihara National Hosp...S1576

15 : 45 ~ 16 : 55	Afternoon seminar 1	Moderator Y. Shiga
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- 1-3-AS1 Development of spine surgery for patients with osteoporosis using fenestrated screws
 *Kousei Miura, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1577

17 : 10 ~ 18 : 10	Instructional lecture 3	Moderators M. Doita, T. Aizawa
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- 1-3-EL3-1 Accuracy and learning curve of robotic-assisted spine surgery
 *Tsutomu Akazawa*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1578
- 1-3-EL3-2 Robotic spine surgery: Where we are today and where we hope to go
 *Sheeraz A. Qureshi*, Orthop. Surg., Minimally Invasive Spine Surg., Hosp. for Special Surg., NY, USA...S1578

1st Day October 19 Room 4

8 : 00 ~ 9 : 00 Instructional lecture 4 Moderators D. Osada, A. Sakai

- 1-4-ELA-1 Basic research to develop easy and strong new flexor tendon suture techniques
 *Koji Moriya*, Dept. of Orthop., Niigata Hand Surg. Foundation...S1579
- 1-4-ELA-2 Tissue engineering for flexor tendon repair
 ... *Chunfeng Zhao, et al.*, Dept. of Orthop. Surg., Mayo Clinic Rochester, Rochester, MN, USA...S1579

9 : 10 ~ 10 : 30 Symposium 9 Moderators Y. Kadono, A. Nakajima
Cutting edge of treatment and reseach on arthritis

- 1-4-S9-1 Mechanisms of joint destruction associated with rheumatoid arthritis and its mitigation strategies ... *Kosuke Ebina, et al.*, Dept. of Musculoskeletal Regenerative Medicine, Graduate School of Medicine, Osaka Univ...S1580
- 1-4-S9-2 Osteoclast differentiation and inflammatory bone resorption by LSD1-HIF1A axis
 *Koichi Murata, et al.*, Dept. of Advanced Medicine for Rheumatic Diseases, Graduate School of Medicine, Kyoto Univ...S1580
- 1-4-S9-3 The role of semaphorin 3G in arthritis
 *Yuya Kawarai, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1581
- 1-4-S9-4 Cytokine networks in the pathogenesis of rheumatoid arthritis
 *Naoki Kondo*, Div. of Orthop. Surg., Dept. of Regenerative and Transplant Medicine, Niigata Univ. Graduate School of Medical and Dental Sciences...S1581
- 1-4-S9-5 Novel OA targets (GRK5 and IKK ϵ) that regulate the NF- κ B pathway and development of new OA drugs using Amlexanox *Yukio Akasaki, et al.*, Dept. of Orthop. Surg., Kyushu Univ...S1582
- 1-4-S9-6 Glucose metabolism in cartilage and tendon degeneration
 *Shuji Asai, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ...S1582

10 : 40 ~ 12 : 00 Symposium 10 Moderators S. Imai, N. Taniguchi
Cutting edge of treatment and reseach on shoulder joint disease

- 1-4-S10-1 Fresh frozen cadaver study of shoulder joint
 *Nobuyasu Ochiai, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1583
- 1-4-S10-2 Inhibition/promotion of tendon-bone healing by oxidative stress in rotator cuff repair
 *Yoshiaki Itoigawa, et al.*, Dept. of Orthop. Surg., Juntendo Univ. Urayasu Hosp...S1583
- 1-4-S10-3 The progression of the osteoarthritis change in patients with rotator cuff tear
 *Nobuyuki Yamamoto, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine...S1584
- 1-4-S10-4 Quantitative assessment of muscle volume and fatty infiltration of the rotator cuff muscles using MRI *Noboru Matsumura, et al.*, Dept. of Orthop. Surg., Keio Univ...S1584
- 1-4-S10-5 Relationship of each preoperative deltoid volume to flexion range of motion and clinical outcomes after RTSA
 *Naoya Nishinaka, et al.*, Graduate School of Health Sciences, Showa Univ...S1585
- 1-4-S10-6 3D postoperative evaluation of reverse shoulder arthroplasty with CT-guided navigation
 *Tomoya Manaka, et al.*, Dept. of Orthop. Surg., Osaka Metropolitan Univ. Graduate School of Medicine...S1585

12 : 10 ~ 13 : 20 Luncheon seminar 4 Moderator Y. Kawaguchi

- 1-4-LS4 Imagine the future of patient specific three-dimensional screw guide
 *Itsuo Shiina*, Dept. of Orthop. Surg., Moriya Daiichi General Hosp...S1586

14 : 30 ~ 15 : 30 Free papers Surgery: Extremity 1 Moderators T. Okawa, N. Ochiai

- 1-4-1 Effect of acromioclavicular ligament and coracoclavicular ligament resection on stability in acromioclavicular joint dislocation: A cadaveric study
*Fumiya Hattori, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1587
- 1-4-2 Wide awake surgery study as a basis for tendon transfer: Passive distraction distance, active contraction distance, and characteristics of contraction of musculotendinous units
*Mineyuki Zukawa, et al.*, Dept. of Orthop. Surg., Faculty of Medicine, Univ. of Toyama··S1587
- 1-4-3 Can microsurgical robots with haptic feedback get closer to the microsurgeon's hand?
*Satoshi Ichihara, et al.*, Dept. of Orthop. Surg., Juntendo Univ. Urayasu Hosp.··S1588
- 1-4-4 Analysis of changes in wrist joint contact area before and after capitate shortening for Kienböck's disease*Hideyuki Kobayashi, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1588
- 1-4-5 Anatomical relations between perforators and motor nerve branches in anterolateral thigh flap harvest*Hiroshi Okada, et al.*, Susumu Tamai Memorial Limb Trauma Center, Nara Medical Univ. Hosp.··S1589
- 1-4-6 Relationship between degeneration of medial capsule in MTP joint and hallux valgus angle in patients with hallux valgus*Tomoyuki Nakasa, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.··S1589
- 1-4-7 Inverse association of sarcopenia with spinopelvic mobility after total hip arthroplasty*Yoshinori Okamoto, et al.*, Dept. of Orthop. Surg., Osaka Medical and Pharmaceutical Univ.··S1590

15 : 45 ~ 16 : 55 Afternoon seminar 2 Moderator T. Ainoya

- 1-4-AS2 Prevention of falls and fragility fractures in the elderly: Evidence-based practice
*Hiroshi Hagino*, Sanin Rosai Hosp.··S1591

17 : 10 ~ 18 : 10 Instructional lecture 5 Moderator T. Miyamoto

- 1-4-EL5 Molecular mechanism of bone metabolism and clinical applications
*Sakae Tanaka*, Orthop. Surg., Sensory and Motor System Medicine, Surgical Sciences, Graduate School of Medicine, The Univ. of Tokyo··S1591

1st Day October 19 Room 5

**8 : 00 ~ 9 : 20 Symposium 11 Moderators Y. Tanaka, H. Niki
 Cutting edge of treatment and reseach on osteoarthritis of the foot**

- 1-5-S11-1 Epidemiology of ankle osteoarthritis among Japanese community dwellers
*Akinobu Nishimura, et al.*, Dept. of Orthop. and Sports Medicine, Mie Univ. Graduate School of Medicine··S1592
- 1-5-S11-2 Risk factors for the progression of advanced varus ankle osteoarthritis
*Hiroaki Kurokawa, et al.*, Dept. of Orthop. Surg., Nara Medical Univ.··S1592
- 1-5-S11-3 Quantitative evaluation of ankle instability that causes osteoarthritis
*Atsushi Teramoto, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.··S1593
- 1-5-S11-4 Total ankle arthroplasty against osteoarthritis: FINE total ankle system
*Makoto Hirao, et al.*, Dept. of Orthop. Surg., National Hosp. Organization, Osaka Minami Medical Center··S1593
- 1-5-S11-5 Development of artificial talar prosthesis; Its history and clinical application
*Akira Taniguchi, et al.*, Dept. of Orthop. Surg., Nara Medical Univ.··S1594

14 : 30 ~ 15 : 30 Free papers Sarcopenia Moderators T. Arai, E. Tsuda

- 1-5-1 Explore sarcopenia treatments targeting improvement of neuromuscular junction (NMJ) function
 *Yuichi Miyairi, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg.,
 Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ.··S1602
- 1-5-2 Novel myokines which expression are commonly regulated in primary and secondary sarcopenia
 in mice *Yusuke Masuda, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medical and Dental Sciences, Kagoshima Univ.··S1602
- 1-5-3 Fyn regulates the interleukin-6/STAT-3/autophagy axis in sarcopenia
 *Tsuyoshi Sasaki, et al.*, Dept. of Orthop. Surg., Gunma Univ. Graduate School of Medicine··S1603
- 1-5-4 Association between aging-related sarcopenia and eicosanoids/docosanoids of skeletal muscle
 in mice *Tomoyasu Kadoguchi, et al.*, Dept. of Life Sciences,
 Graduate School of Arts and Sciences, The Univ. of Tokyo··S1603
- 1-5-5 Human muscle morphological changes in relation to NAD⁺ metabolism during aging
 *Nguyen Tran Canh Tung, et al.*, Dept. of Orthop. Surg., Faculty of Medicine, Univ. of Toyama··S1604
- 1-5-6 Changes over time in skeletal muscle atrophy and mitochondrial activity in a rat model of
 adenine-induced chronic kidney disease
 *Kento Okamoto, et al.*, Dept. of Orthop. Surg., Akita Univ. Graduate School of Medicine··S1604
- 1-5-7 High-intensity interval training using electrical stimulation improves muscle endurance and
 mitochondrial function in a rat model of chronic kidney disease-associated cachexia
 *Hiroyori Fusagawa, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.··S1605

15 : 45 ~ 16 : 55 Afternoon seminar 3 Moderator Y. Tanaka

- 1-5-AS3 Treatment of hemophilic arthropathy in clinical practice
 *Nobunori Takahashi*, Dept. of Orthop. Surg., Aichi Medical Univ.··S1606

17 : 10 ~ 18 : 10 Instructional lecture 6 Moderators Y. Uchio, K. Takahashi

- 1-5-EL6-1 Cell therapy as a point of care for osteoarthritis of the knee: Is the treatment effective
 and appropriate? *Masato Sato*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ.··S1607
- 1-5-EL6-2 PRP therapies update: The future of PRP in orthopaedic surgery
 *Mikel Sánchez, et al.*, Arthroscopic Surg., Unit,
 Unidad de Cirugía Artroscópica, S.L., Vitoria-Gasteiz, Spain··S1607

1st Day October 19 Room 6

8 : 00 ~ 9 : 00 Free papers Risk management, others Moderators K. Hiraoka, M. Takahashi

- 1-6-1 Reduction technique for occupational radiation exposure during fluoroscopic spine surgery;
 A cadaveric study *Kazuta Yamashita, et al.*, Dept. of Orthop., Institute of Biomedical Sciences,
 Tokushima Univ. Graduate School··S1608
- 1-6-2 Long-term effects of diffuse idiopathic skeletal hyperostosis on physical function :
 A longitudinal analysis
 *Tomohiro Banno, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine··S1608
- 1-6-3 Large-scale language model (AI) analysis of answers to the National Medical Examination
 ChatGPT vs. GPT-4 *Ryuichi Nakahara, et al.*, Dept. of Orthop. Surg.,
 Science of Functional Recovery and Reconstruction, Faculty of Medicine,
 Dentistry, and Pharmaceutical Sciences, Okayama Univ.··S1609

- 1-6-4 Effect of metformin administration on knee joint capsule in a mouse model of diabetes mellitus
*Touichirou Naitou, et al.*, Dept. of Orthop. Surg., School of Medicine,
 Univ. of Occupational and Environmental Health...S1609
- 1-6-5 Telemedicine using ultrasonography and telerehabilitation with 5G communication system in
 aging and depopulated mountainous area*Masaomi Saeki, et al.*, Dept. of Hand Surg.,
 Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine,
 Graduate School of Medicine, Nagoya Univ...S1610
- 1-6-6 Nutritional status can be a substitute index for swallowing status
*Kentaro Sato, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine,
 Yokohama City Seibu Hosp...S1610
- 1-6-7 Trial of social implementation of healthcare services through industry-academia collaboration
*Koji Fujita, et al.*, Dept. of Functional Joint Anatomy,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1611

9 : 15 ~ 10 : 15	Free papers	Biomaterials 1	Moderators	Y. Musha, H. Mutsuzaki
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- 1-6-8 Efficacy of Nanoclay gel as a novel carrier for BMP2
*Takuya Furuichi, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1612
- 1-6-9 The best reference gene of RT-qPCR analyses for the three-dimensional osteogenic differentiation
 of human induced pluripotent stem cells
*Masakazu Okamoto, et al.*, Dept. of Orthop. Surg., Nara Medical Univ...S1612
- 1-6-10 Osseointegration onto implant with polymeric surface modification
*Taku Ikegami, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine...S1613
- 1-6-11 Evaluation of bioabsorbable headless compression screws composed by magnesium alloy:
 In vivo study of their degradation and interaction with bone
*Hiroshi Noguchi, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1613
- 1-6-12 Effect of silver treatment concentration on biocompatibility and antibacterial properties of
 strontium and silver ion releasing titanium materials
*Kazuki Orita, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ...S1614
- 1-6-13 Prospects of medical device development using new biodegradable material,
 polyhydroxyalkanoates: Through the development of absorbable monofilament sutures
*Atsuhiko Murayama, et al.*, Dept. of Hand Surg., Musculoskeletal and Cutaneous Surg.,
 Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ...S1614
- 1-6-14 Development of a new silk biomaterial to prevent post-operative adhesions
*Hiroataka Watanabe, et al.*, Dept. of Orthop. Surg., Fujita Health Univ...S1615

10 : 30 ~ 11 : 30	Free papers	Biomaterials 2	Moderators	T. Jinno, H. Kawashima
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- 1-6-15 Improvement of osseointegration by amin modification on PEEK cage by plasma technology
*Takuya Furuichi, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1616
- 1-6-16 Reducing effects of terminally g-sterilized implants coated with a layer comprising FGF-2 and
 calcium phosphate on impaired bone formation
*Yasukazu Totoki, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1616
- 1-6-17 Radiological and histological evaluation of bone repair effect of octacalcium phosphate/
 gelatin porous composite on refractory bone defects in rat femur
*Ryuichi Kanabuchi, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine...S1617
- 1-6-18 Evaluation of bone augmentation using magnesium alloy bioabsorbable coils
*Hiroshi Noguchi, et al.*, National Institute of Advanced Industrial Science and Technology...S1617
- 1-6-19 An innovative drug delivery system for bone regeneration using acidic-peptide conjugated low
 molecular weight heparin*Naoya Iwata, et al.*, Dept. of Orthop. Surg., Div. of Disease Control,
 Research field of Medical Sciences, Graduate School of Medicine, Gifu Univ...S1618

- 1-6-20 Evaluation of biodegradability metal implants *in vivo*
*Ryo Maekawa, et al.*, Dept. of Orthop., Graduate School of Medical Science,
 Kyoto Prefectural Univ. of Medicine...S1618
- 1-6-21 Strontium-loaded 3D-printed intramedullary nail titanium implant for critical-sized femoral
 diaphyseal defects in rabbits
*Shintaro Honda, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ...S1619

12 : 10 ~ 13 : 20 Luncheon seminar 6 Moderator T. Saito

- 1-6-LS6 Constipation among orthopaedic patients*Takatoshi Okuda, Koto Hosp.*...S1620

14 : 30 ~ 15 : 30 Free papers Biomechanics: Lower extremity Moderators Y. Suda, Y. Takazawa

- 1-6-22 Accuracy and reliability of ultrasound-assisted Lachman test in diagnosing anterior cruciate
 ligament injuries*Yuzuru Sakakibara, et al.*, Muroran City General Hosp...S1621
- 1-6-23 The anterior cruciate ligament injury increased axial internal rotational laxity of the knee joint
*Kenjiro Okimura, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1621
- 1-6-24 The association between the ramp lesion of medial meniscus and preoperative knee laxity in
 anterior cruciate ligament injury
*Kanto Nagai, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1622
- 1-6-25 Increased tibiofemoral contact force can reflect knee flexion restriction during cruciate-retaining
 total knee arthroplasty
*Shinichi Kuriyama, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ...S1622
- 1-6-26 Biomechanical analysis of tibiotalar joint kinematics in deltoid ligament injury models using a 6
 degrees-of-freedom robotic system
*Katsunori Takahashi, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1623
- 1-6-27 Biomechanical analysis of load sharing in deltoid ligament using a 6 degrees-of-freedom
 robotic system*Katsunori Takahashi, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1623
- 1-6-28 Evaluation of morphological changes influenced by medializing calcaneal osteotomy on flatfoot:
 Surgical simulation using finite element analysis*Yumiko Kobayashi, et al.*, Dept. of Orthop.,
 Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine...S1624

15 : 45 ~ 16 : 45 Free papers Biomechanics: Upper extremity Moderators Y. Shibata, K. Inagaki

- 1-6-29 Alterations of the subchondral bone density patterns and kinematics in osteoarthritis of the
 thumb carpometacarpal joint
*Natsuki Yamamoto, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1625
- 1-6-30 Biomechanical study of insertion sites in the Camitz procedure: A cadaver study
*Kenichi Takashima, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1625
- 1-6-31 The optimal tendon transfer technique in reconstruction of thumb extension and abduction
*Yosuke Ito, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1626
- 1-6-32 The effect of wrist joint angle on the radiocarpal joint surface: A finite element analysis
*Takashi Nomoto, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1626
- 1-6-33 Closing radial wedge osteotomy reduces stress on the lunate bone: Finite element analysis for the
 optimal osteotomy angle
*Atsushi Hojo, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1627
- 1-6-34 Biomechanical study on reproducibility of scapular fatigue fracture after reverse shoulder
 arthroplasty using finite element model
*Kenta Inagaki, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1627
- 1-6-35 Cadaveric research on the shoulder joint position to avoid radial nerve injury caused by
 intramuscular injection into the deltoid muscle
*Naoki Minami, et al.*, Dept. of Orthop. Surg., Nara Medical Univ...S1628

17 : 00 ~ 18 : 00	Free papers Infection	Moderators T. Ishii, H. Horiuchi
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- 1-6-36 Usefulness of Tm mapping method for bone and soft tissue infections that were difficult to identify by bacterial culture tests
 *Hayato Futakawa, et al.*, Dept. of Orthop. Surg., Faculty of Medicine, Univ. of Toyama...S1629
- 1-6-37 Evaluation of the efficacy of bead crushing DNA extraction for real-time PCR diagnosis of Gram-positive bacteria *Yuta Hieda, et al.*, Dept. of Orthop. Surg., Yokohama City Univ. Hosp....S1629
- 1-6-38 The molecular mechanisms of biofilm formation in *S. aureus* isolated from periprosthetic joint infections *Keigo Yonemoto, et al.*, Dept. of Orthop. Surg.,
 The Jikei Univ. School of Medicine...S1630
- 1-6-39 Analysis of osteomyelitis by Raman spectroscopy using rat osteomyelitis model
 *Shun Fujii, et al.*, Dept. of Orthop., Graduate School of Medical Science,
 Kyoto Prefectural Univ. of Medicine...S1630
- 1-6-40 Antimicrobial effect and sustained elution of silver-loaded bone cement
 *Naoya Esaki, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine...S1631
- 1-6-41 Selection of initial antibiotics for severe open limb fractures based on tissue culture results
 *Yuta Hayashi, et al.*, Dept. of Musculoskeletal Traumatology and Reconstructive Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ....S1631
- 1-6-42 Diagnostic utility of a novel point-of-care test of myeloperoxidase for periprosthetic joint infection
 *Shinsuke Ikeda, et al.*, Dept. of Orthop. Surg., Kitasato Univ....S1632

1st Day October 19 Room 7

8 : 00 ~ 9 : 00	Free papers	Moderators A. Hara, E. Kondo
Osteoarthritis: Epidemiology, pathology		

- 1-7-1 The epidemiology about the relationship between self-reported lower extremity alignment, radiographic knee alignment and knee complains in Iwaki Cohort
 *Yuzuru Nakamura, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine...S1633
- 1-7-2 Agricultural work is a risk for the development of knee osteoarthritis in non-obese women; 10-year general population longitudinal study
 *Eitaro Sato, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine...S1633
- 1-7-3 Relationship between hip osteoarthritis and femoroacetabular impingement in the general population: A 5-year longitudinal study
 *Hikaru Kamada, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine...S1634
- 1-7-4 Impact of preoperative temporal summation of pain on acute-postoperative walking pain in TKA and THA patients *Shota Oda, et al.*, Rehabilitation Center, Kochi Medical School Hosp....S1634
- 1-7-5 Stress distribution analysis of metacarpophalangeal joint before and after arthrodesis for thumb carpometacarpal osteoarthritis
 *Yuichiro Matsui, et al.*, Faculty of Dental Medicine, Hokkaido Univ....S1635
- 1-7-6 Dynamic analysis of impaired thumb pronation function in thumb carpometacarpal joint osteoarthritis *Kazuya Tsukamoto, et al.*, Dept. of Orthop. and Spinal Surg.,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ....S1635
- 1-7-7 Effect of the Sauvé-Kapandji method on the wrist contact surface for distal radial ulnar joint disorders *Tomoaki Suzuki, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ....S1636

9 : 15 ~ 10 : 15	Free papers	Osteoarthritis: Treatments	Moderators	Y. Nishida, I. Sekiya
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- 1-7-8 The effects of human adipose-derived stromal vascular fraction on osteoarthritis in immunodeficient rats
 *Yuma Onoi, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1637
- 1-7-9 Intra-articular injections of curcumin monoglucuronide TBP1901 suppresses cartilage damage and regulates subchondral bone alteration in an osteoarthritis rat model
 *Akihiro Nakahata, et al.*, Dept. of Motor Function Analysis, Human Health Sciences, Graduate School of Medicine, Kyoto Univ...S1637
- 1-7-10 Behavioral studies of PRP application in a rat model of knee osteoarthritis
 *Hidenobu Tamai, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ...S1638
- 1-7-11 Investigating the effects of novel thermal stimulation techniques on chondrocytes
 *Ryota Cha, et al.*, Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine...S1638
- 1-7-12 Changes in circadian clock induced by thermal stimulation using mouse femoral organ culture
 *Takashi Seya, et al.*, Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine...S1639
- 1-7-13 Potential for nucleic acid medicine via suppression of VEGF production by intra-articular administration of miRNA mimic
 *Tatsumi Tanaka, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ...S1639
- 1-7-14 Artificial protein (Silk-elastin) can repair and regenerate degenerated meniscus in rabbit model
 *Shunya Tsuji, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1640

10 : 30 ~ 11 : 30	Free papers	Knee osteoarthritis 1	Moderators	T. Majima, M. Deie
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- 1-7-15 Medial meniscus extrusion is associated with medial meniscus posterior horn width negatively and anterior horn thickness positively in knee osteoarthritis
 *Takuya Yamamura, et al.*, Dept. of Orthop., Juntendo Univ...S1641
- 1-7-16 The influence of meniscus extrusion and leg alignment on the distribution pattern of subchondral bone density across knee joint
 *Koji Iwasaki, et al.*, Dept. of Functional Reconstruction for the Knee Joint, Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1641
- 1-7-17 Novel method for meniscal extrusion associated with the distribution pattern of subchondral bone density across knee joint
 *Koji Iwasaki, et al.*, Dept. of Functional Reconstruction for the Knee Joint, Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1642
- 1-7-18 Quantitative analysis of medial meniscal extrusion and cartilage degeneration in early knee osteoarthritis using MRI UTE-T2* mapping
 *Rui Imamura, et al.*, Div. of Radiol. and Nucle. Med., Sapporo Medical Univ. Hosp...S1642
- 1-7-19 Morphological study around the popliteal hiatus of lateral meniscus by 3D imaging using 7T-MRI
 *Hiroki Kaneko, et al.*, Dept. of Orthop. Surg., Iwate Medical Univ...S1643
- 1-7-20 There is no adverse effect on meniscal healing of early weight-bearing following medial meniscus posterior root repair
 *Masanori Tamura, et al.*, Dept. of Orthop. Surg., Science of Functional Recovery and Reconstruction, Faculty of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama Univ...S1643
- 1-7-21 A posterior tibial slope in the plain radiography does not reproduce the slope of the medial condyle accurately in varus knees in patients undergoing knee arthroplasty
 *Kohei Nishitani, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ...S1644

12 : 10 ~ 13 : 20 Luncheon seminar 7 Moderator K. Takeshita

- 1-7-LS7 Present and future of pharmacotherapy for low back pain: Be aware of drug selection based on the balance between benefits and harms
*Takuya Nikaido*, Dept. of Orthop. Surg., Fukushima Medical Univ.···S1645

14 : 30 ~ 15 : 30 Free papers Knee osteoarthritis 2 Moderators H. Ikeda, M. Ozaki

- 1-7-22 Changes in the contact stress distribution pattern of the tibiofemoral joint after medial closing wedge distal femoral varus osteotomy: An evaluation using computed tomography osteoabsorptiometry*Masanari Hamasaki, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1646
- 1-7-23 The change in biomechanics of contralateral knee joint after high tibial osteotomy*Koji Iwasaki, et al.*, Dept. of Functional Reconstruction for the Knee Joint, Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1646
- 1-7-24 Comparison of tibial posterior slope angle by between tibial mechanical axis and various diaphyseal tibial axes after total knee arthroplasty*Yoshinori Ishii, et al.*, Ishii Orthop. and Rehabilitation Clinic···S1647
- 1-7-25 Kinematics of varus thrust in patients with medial knee osteoarthritis*Koji Iwasaki, et al.*, Dept. of Functional Reconstruction for the Knee Joint, Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1647
- 1-7-26 Concentration of platelet-derived growth factor (PDGF) in platelet-rich plasma (PRP) and its effect on symptomatic relief*Nanako Yamamoto, et al.*, Dept. of Orthop., Juntendo Univ.···S1648
- 1-7-27 Patient-reported outcomes measures (PROMs) and changes in patient activity following platelet-rich plasma (PRP) therapy for patients with knee osteoarthritis*Ryosuke Nakajima, et al.*, Dept. of Orthop., Juntendo Univ.···S1648
- 1-7-28 Comparison of predisposing factors affecting anterior knee pain between on walking and at rest in patients with knee osteoarthritis*Yoshinori Satake, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ.···S1649

15 : 45 ~ 16 : 45 Free papers Peripheral nerve 1 Moderators N. Terada, M. Yamamoto

- 1-7-29 Molecular mechanism of axon regeneration of LFA1 expressed by repair Schwann cells*Tomoaki Suzuki, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1650
- 1-7-30 CD8 T cell contribute to macrophage polarization in mice chronic constriction injury model*Eiki Shirasawa, et al.*, Dept. of Orthop. Surg., Kitasato Univ.···S1650
- 1-7-31 Gene expression of neurotrophic factors in transient REST-regulated cells using the Schwann cell line RSC96*Takamaru Suzuki, et al.*, Dept. of Medicine for Orthop. and Motor Organ, Juntendo Univ. Graduate School of Medicine···S1651
- 1-7-32 Effectiveness of human induced pluripotent stem cell-derived neurite bundle artificial nerve transplantation in massive nerve defect*Takayuki Nishijima, et al.*, Dept. of Orthop. Surg., Keio Univ.···S1651
- 1-7-33 PDGFR α expressing fibroblasts in epineurium promote the repair of the lesion site after peripheral nerve injury by enhancing angiogenesis*Masato Hara, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1652
- 1-7-34 Peripheral nerve regeneration by targeting neutrophil extracellular traps that accumulate in the neuroepithelium*Hiroki Takeuchi, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1652

- 1-7-35 Involvement of taf7l in peripheral nerve axon regeneration: The results of over-expression experiment
 *Kaori Sugiura, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine...S1653

17 : 00 ~ 18 : 00 Free papers Peripheral nerve 2 Moderators T. Arai, Y. Nishiura

- 1-7-36 Noninvasive evaluation of ulnar neuropathy at the elbow using magnetoneurography
 *Yuta Tanaka, et al.*, Dept. of Orthop. and Spinal Surg.,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1654
- 1-7-37 A histological study of distal nerve transfer for upper limb
 *Akira Kodama, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1654
- 1-7-38 Mitochondrial function in subsynovial connective tissue within the carpal tunnel in carpal tunnel syndrome patients
 *Shuya Tanaka, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1655
- 1-7-39 Elevated COL5A1 expression in the subsynovial connective tissue of patients receiving hemodialysis with carpal tunnel syndrome
 *Eiki Shirasawa, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1655
- 1-7-40 Median nerve volume in carpal tunnel syndrome by three-dimensional MRI
 *Takuya Funahashi, et al.*, Dept. of Orthop. Surg., Fujita Health Univ...S1656
- 1-7-41 Diagnosis of thoracic outlet syndrome
 *Hiroshi Satake, et al.*, Dept. of Orthop. Surg., Yamagata Univ...S1656
- 1-7-42 Relationship between MRI and nerve conduction studies in the evaluation of carpal tunnel syndrome severity
 *Kazuya Uehara, et al.*, Dept. of Orthop. Surg., Yamaguchi Univ. Graduate School of Medicine...S1657

1st Day October 19 Room 8

8 : 00 ~ 8 : 40 Free papers Moderators Y. Shibata, H. Ikegami
Reverse shoulder arthroplasty: RSA

- 1-8-1 The reproducibility evaluation of postoperative three-dimensional assessment system using a new coordinate system in reverse shoulder arthroplasty
 *Tomoya Manaka, et al.*, Dept. of Orthop. Surg.,
 Osaka Metropolitan Univ. Graduate School of Medicine...S1658
- 1-8-2 Does the anterior inclination angle of scapular affect the range of motion after reverse shoulder arthroplasty? *Shinya Oikawa, et al.*, Dept. of Orthop. Surg., Iwate Medical Univ...S1658
- 1-8-3 Evaluation of reverse total shoulder arthroplasty with kinetic analysis application (KINOSIS)
 *Kohnan Tsuchiyama, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine...S1659
- 1-8-4 Impact of humeral liner constrain on impingement free range of motion and impingement type in reverse shoulder arthroplasty *Katsumasa Nakazawa, et al.*, Dept. of Orthop. Surg.,
 Osaka Metropolitan Univ. Graduate School of Medicine...S1659
- 1-8-5 Biomechanical effect of modified L'Episcopo procedure for stability in reverse shoulder arthroplasty using fresh frozen cadaver
 *Yohei Shimada, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1660

9 : 15 ~ 10 : 15 Free papers Cartilage: Regeneration, treatments Moderators N. Fukui, Y. Arai

- 1-8-6 Anti-HLA antibody titers in allogeneic chondrocyte sheet transplantation cases
 *Miyu Tamaki, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ...S1661

- 1-8-7 Three-year clinical outcomes after ultra-purified alginate gel (UPAL) implantation surgery
 *Tomohiro Onodera, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1661
- 1-8-8 Scalable cartilage regenerative therapy using human surgical discard-derived chondrocyte sheets
 *Makoto Kondo, et al.*, Dept. of Molecular Pharmaceutics,
 College of Pharmacy, Univ. of Utah, Salt Lake City, UT, USA···S1662
- 1-8-9 Regenerative approach on injured articular cartilage with human iPSC-derived plate-shaped
 cartilage tissues (Chondro-plate) *Yuki Fujisawa, et al.*, Dept. of Regenerative Science,
 Okayama Univ. Graduate School of Medicine, Dentistry and Pharmaceutical Sciences···S1662
- 1-8-10 Contribution of DKK1 in hyaline cartilage regeneration by allogeneic chondrocyte
 sheet transplantation *Eriko Toyoda, et al.*, Dept. of Orthop. Surg.,
 Surgical Science, Tokai Univ.···S1663
- 1-8-11 Effects of articular cartilage repair by transplantation of polydactyly-derived chondrocyte cell
 sheets and mini-sheets
 *Makoto Ogawa, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ.···S1663
- 1-8-12 Effects of peripheral blood-derived and bone marrow-derived platelet-rich fibrin for osteochondral
 defects in rabbits *Takahiro Igarashi, et al.*, Dept. of Orthop. Surg., Yamagata Univ.···S1664

10 : 30 ~ 11 : 35 Free papers Cartilage: Pathology, treatments	Moderators M. Ishikawa, S. Miyaki
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- 1-8-13 Synovial mesenchymal stem cells show higher PRG4 expression than adipose mesenchymal stem
 cells after injection into rat osteoarthritis knees
 *Seiya Matsuta, et al.*, Center for Stem Cell and Regenerative Medicine,
 Tokyo Medical and Dental Univ.···S1665
- 1-8-14 Development of articular cartilage regeneration therapy by mesenchymal stem cell
 magnetic targeting *Naosuke Kamei, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ.···S1665
- 1-8-15 KLF15 deficiency exacerbates osteoarthritis by downregulating PPAR gamma
 *Kemmei Ikuta, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine···S1666
- 1-8-16 Nutrient-regulated dynamics of chondroprogenitors in the postnatal murine growth plate
 *Takeshi Oichi, et al.*, Dept. of Orthop., Univ. of Maryland, Baltimore, MD, USA···S1666
- 1-8-17 Application of extracorporeal shockwave therapy to accelerate the healing for osteochondral
 injury in a pig model *Joji Iwase, et al.*, Dept. of Orthop., Tokushima Univ. Hosp.···S1667
- 1-8-18 Extracellular vesicles derived from resolving neutrophils phenotype suppress catabolic process in
 chondrocytes *Keita Kitahara, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1667
- 1-8-19 Systemic high-mobility group box 1 administration accelerate meniscal healing by inducing an
 accumulation of PDGFR α + mesenchymal cells via SDF-1/CXCR4 axis
 *Kyota Ishibashi, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine···S1668
- 1-8-20 Evaluation of articular cartilage of thumb carpometacarpal joint by axial traction MRI: Comparison
 with arthroscopic finding *Akira Ikumi, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba···S1668

12 : 10 ~ 13 : 20 Luncheon seminar 8	Moderator M. Watanabe
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- 1-8-LS8 Mesenchymal stem cell transplantation for spinal cord injury: Current status and prospects
 *Ryosuke Hirota, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.···S1669

14 : 30 ~ 15 : 30 **Free papers**
Motion analysis: Lower extremity

Moderators **H. Tohyama, A. Taniguchi**

- 1-8-21 Full-body gait analysis using depth camera and machine learning: Attempting to identify gait in anterior cruciate ligament reconstruction patients
*Kentaro Homan, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1670
- 1-8-22 Investigation of quantitative evaluation of pivot shift test using inertial sensor
*Jiro Kato, et al.*, Dept. of Orthop. Surg., Nagoya City Univ.,
 Graduate School of Medical Sciences··S1670
- 1-8-23 Investigation of the change of knee joint kinematics by the posterior tibial component inclination in unicompartmental arthroplasty
*Natsuki Sugimura, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ.··S1671
- 1-8-24 Clinical motion analysis in double knee action acquisition using artificial intelligence for postoperative patients of severe spinal cord disorder
*Seioh Ezaki, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1671
- 1-8-25 Walk analysis of patients with degenerative gonarthrosis by the smart insole
*Takashi Yamaga, et al.*, Dept. of Hand Surg., Musculoskeletal and Cutaneous Surg.,
 Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ.··S1672
- 1-8-26 *In vivo* kinematic analysis of transfibular total ankle arthroplasty using bi-plane fluoroscopy and 2D/3D registration
*Yukio Mikami, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1672
- 1-8-27 Gait analysis before and 1 year after total knee arthroplasty comparing modern and conventional implant design*Kosuke Okuno, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1673

15 : 45 ~ 16 : 45 **Free papers**
Motion analysis: Rehabilitation, others

Moderators **M. Senda, T. Ogata**

- 1-8-28 Effectiveness of intervention using the robot assistive device focusing on gait analysis and muscle activity: Case report*Kazushi Takahashi, et al.*, Dept. of Physical Therapy,
 Ibaraki Prefectural Univ. of Health Sciences Hosp.··S1674
- 1-8-29 The feasibility of intensive voluntary-assisted gait training using a wearable cyborg for a pediatric patient with arthrogyriposis multiplex congenita
*Mayumi Kuroda, et al.*, Dept. of Physical Therapy, Ibaraki Prefectural Univ. of Health Sciences··S1674
- 1-8-30 Influence of exercise using functional electrical stimulation combined gait rehabilitation robot on blood pressure variability in patients with acute spinal cord injury: Preliminary study
*Takahiro Sato, et al.*, Dept. of Orthop. Surg., Akita Univ. Graduate School of Medicine··S1675
- 1-8-31 Preoperative physical function and Imaging findings Influencing postoperative outcome in cervical ossification of posterior longitudinal ligament
*Takuma Fudo, et al.*, Dept. of Orthop. Surg., Kurume Univ.··S1675
- 1-8-32 Stand up test is the most influential of the locomotive syndrome risk test in elderly people: The Bunkyo Health Study*Suguru Wakana, et al.*, Dept. of Orthop., Juntendo Univ.··S1676
- 1-8-33 The risk of subsequent fracture in patients with distal radius fractures: Daily gait analysis based on wearable inertial sensors in insoles*Akiko Yamamoto, et al.*, Dept. of Orthop. and Spinal Surg.,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ.··S1676
- 1-8-34 Effect of index finger abduction exercise on kinematics of first carpometacarpal joint
*Dai Ooishi, et al.*, Rehabilitation Center, Kochi Medical School Hosp.··S1677

17 : 00 ~ 18 : 00 Free papers

Moderators K. Sugamoto, K. Inagaki

Motion and imaging analysis: Upper extremity

- 1-8-35 Three-dimensional analysis of thumb kinematics using CT after arthrodesis, arthroplasty and osteotomy for thumb carpometacarpal osteoarthritis
..... *Teruyasu Tanaka, et al.*, Dept. of Orthop. Surg.,
Graduate School of Biomedical and Health Sciences, Hiroshima Univ.···S1678
- 1-8-36 Changes in thumb joint movement before and after carpal tunnel release in patients with severe carpal tunnel syndrome
..... *Hiroshi Kurumadani, et al.*, Dept. of Analysis and Control of Upper Extremity Function,
Graduate School of Biomedical and Health Science, Hiroshima Univ.···S1678
- 1-8-37 The different roles of the brachialis and biceps brachii muscles during the dynamic elbow flexion: Surface electromyographic study
..... *Shota Date, et al.*, Dept. of Analysis and Control of Upper Extremity Function,
Graduate School of Biomedical and Health Science, Hiroshima Univ.···S1679
- 1-8-38 Pilot study for augmented reality-enhanced elbow arthroscopy
..... *Michiro Yamamoto, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and
Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ.···S1679
- 1-8-39 Can deep learning-based shoulder radiography diagnose rotator cuff tear?
..... *Ryosuke Iio, et al.*, Dept. of Orthop. Surg., Osaka City Univ. Graduate School of Medicine···S1680
- 1-8-40 Difference between pitchers and fielders of stiffness changes around shoulder muscles after pitching motion
..... *Hironori Tsurukami, et al.*, Dept. of Orthop. Surg., Juntendo Univ. Urayasu Hosp.···S1680
- 1-8-41 The reliability of acromioclavicular joint kinematics using shape matching method
..... *Toshiki Zeniya, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.···S1681

1st Day October 19 Room 9

8 : 00 ~ 9 : 00

Free papers Pain: Pathology, treatments

Moderators S. Konno, T. Ushida

- 1-9-1 Pain-related sensory innervation in lumbar vertebral bodies and pain behavior in a mouse model of ovariectomy-induced osteoporosis
..... *Miyako Narita, et al.*, Dept. of Bioenvironmental Med.,
Graduate School of Medicine, Chiba Univ.···S1682
- 1-9-2 Altered ascending pain facilitatory mechanism in chronic pain patients
..... *Masashi Izumi, et al.*, Rehabilitation Center, Kochi Medical School Hosp.···S1682
- 1-9-3 The distribution of microglia in central nervous system and pathomechanism of neuropathic pain in compressive cervical myelopathy model (*ttw/ttw*)
..... *Arisa Kubota, et al.*, Dept. of Orthop. Surg., Fukui Univ.···S1683
- 1-9-4 Glycative stress induces pain via spinal dorsal horn neuron
..... *Takeru Ueno, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ.···S1683
- 1-9-5 Analgesic effect of intra-arterial microembolization: A possible new treatment for knee osteoarthritis
..... *Yuki Matsuyama, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ.···S1684
- 1-9-6 Long-term EEG recording by chronic implantation of epidural electrodes in micromini pigs while awake to search for an objective evaluation method for pain
..... *Katsuhiro Tokutake, et al.*, Dept. of Upper and Lower Limb Traumatology,
Nagoya Univ. Graduate School of Medicine···S1684
- 1-9-7 Effects of a new conservative treatment for degenerative medial meniscus tear: A histological study in rabbits
..... *Tomoyuki Kanayama, et al.*, Dept. of Orthop. Surg.,
Graduate School of Medical Sciences, Kanazawa Univ.···S1685

- 1-9-8 Osteoporosis in female patients with adolescent idiopathic scoliosis at least 34 years after spinal fusion
 *Tsutomu Akazawa, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1686
- 1-9-9 Is the application of compression maneuvers during posterior lumbar fusion truly resulting in the compression of intervertebral cages?: A cadaveric study
 *Takaki Yoshiyama, et al.*, Osaka Red Cross Hosp...S1686
- 1-9-10 Combined effect of DBM, PRP, and bone marrow fluid on bone union in a rat posterolateral fusion model
 *Takuma Otagiri, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1687
- 1-9-11 Study of the effect of skipping pedicle screw insertion on affected vertebrae in posterior spinal fusion for pyogenic spondylitis *Yosuke Shibao, et al.*, Univ. of Tsukuba Hosp./
 Jichi Medical Univ. Joint Ibaraki Western Regional Clinical Education Center...S1687
- 1-9-12 Usefulness of original upper limb fixation device in cervical total disc replacement
 *Kanji Mori, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science...S1688
- 1-9-13 The utility of clavicle cortex index as a screening tool for low bone mineral density among spine surgery patients *Yusuke Dodo, et al.*, Dept. of Orthop. Surg., Showa Univ...S1688
- 1-9-14 Risk factors for intravascular bone cement leakage in cement-augmented fenestrated pedicle screws *Reimi Ikeda, et al.*, Moriya Daiichi General Hosp...S1689

- 1-9-15 Mechanism of cartilage repair by miRNAs in small extracellular vesicles released from polydactyly chondrocyte-derived structures
 *Miki Maehara, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ...S1690
- 1-9-16 Establishment of a novel method for the isolation of highly purified extracellular vesicles derived from adipose-derived mesenchymal stromal cells with therapeutic potential of osteoarthritis
 *Hiroto Hanai, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1690
- 1-9-17 Intravitreal administration of photoactivated adenylate cyclase induces time-dependent axonal regeneration after optic nerve injury
 *Tomohiro Yamada, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine...S1691
- 1-9-18 Basic fibroblast growth factor promotes regeneration of the meniscus via synovial mesenchymal stem cells through the CXCL6-CXCR2 pathway
 *Atsushi Goshima, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1691
- 1-9-19 *In vitro* evaluation of bone formation by stem cells embedded in antibacterial hydrogel
 *Masaya Ueno, et al.*, Dept. of Orthop. Surg., Saga Univ...S1692
- 1-9-20 Non-invasive total counting of cultured cells using a home-use scanner
 *Mitsuru Mizuno, et al.*, Center for Stem Cell and Regenerative Medicine,
 Tokyo Medical and Dental Univ...S1692
- 1-9-21 Evaluation of senescent cells and reprogramming factors during spontaneous repair of rat meniscus *Yusuke Aimoto, et al.*, Center for Stem Cell and Regenerative Medicine,
 Tokyo Medical and Dental Univ...S1693
- 1-9-22 Comparative analysis of release kinetics and amount of growth factors released from fibrin clot and leukocyte rich platelet rich fibrin
 *Yuta Nakanishi, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1693

14 : 30 ~ 15 : 35 Free papers

Moderators H. Nagashima, T. Ogata

Spinal cord: Regenerative medicine

- 1-9-23 Involvement of extracellular matrix in spinal white matter formation process for regeneration following spinal cord injury
..... *Tetsuto Yamaura, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine...S1694
- 1-9-24 Identification of the mode of action of bismuth on spinal cord injury and optimization of its administration protocol for clinical application *Akihito Sotome, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1694
- 1-9-25 Multiple injection of mesenchymal stem cells for chronic spinal cord injury in rats
..... *Kota Kurihara, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1695
- 1-9-26 Therapeutic effects of combined hepatocyte growth factor and hiPSC-NS/PCs transplantation in subacute spinal cord injury *Yu Suematsu, et al.*, Dept. of Orthop. Surg., Keio Univ...S1695
- 1-9-27 Comparison of the anti-inflammatory effects of mouse adipose- and bone-marrow-derived multilineage-differentiating stress-enduring cells in acute-phase spinal cord injury
..... *Toshihide Nagaoki, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine...S1696
- 1-9-28 *Ex vivo* gene therapy using human-induced pluripotent stem cell-derived neural stem/progenitor cells to deliver synaptic organizer CPTX for spinal cord injury
..... *Yusuke Saijo, et al.*, Dept. of Orthop. Surg., Keio Univ...S1696
- 1-9-29 Epidural electrical stimulation enforces neuron-glia interaction and promotes synapse regeneration after cervical spinal cord injury in mice
..... *Kazuki Kitade, et al.*, Dept. of Orthop. Surg., Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ...S1697
- 1-9-30 Evaluation of stress tolerance in a mouse model of spinal cord injury: Investigation of usefulness of ultrasonic vocalization
..... *Isamu Sasaki, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine...S1697

15 : 45 ~ 16 : 45 Free papers Surgery: Spine, others 2

Moderators S. Soshi, N. Hosogane

- 1-9-31 Evaluation of surgical indications for full-endoscopic discectomy at lumbosacral disc level using 3D MRI-CT fusion imaging created with artificial intelligence
..... *Katsuhisa Yamada, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1698
- 1-9-32 Efficacy of patient-specific template guide for long and safe insertion of cortical bone trajectory screw into vertebral body *Ryo Fujita, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1698
- 1-9-33 Biomechanical comparison of transforaminal, posterior, and lateral lumbar interbody fusion with posterior instrumentation: A finite element analysis
..... *Yutaro Shimooki, et al.*, Dept. of Orthop. Surg., Iwate Medical Univ...S1699
- 1-9-34 The incidence and alert timing of spontaneous electromyogram in cervical ossification of the posterior longitudinal ligament surgery
..... *Jun Hashimoto, et al.*, Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1699
- 1-9-35 The optimal angle for setting the patient on the surgical table for lateral lumbar interbody fusion in adult spinal deformity: A three-dimensional computed tomography analysis
..... *Yosuke Ogata, et al.*, Dept. of Orthop. Surg., Seirei Sakura Citizen Hosp...S1700
- 1-9-36 Safety of robotic-assisted screw placement for spine surgery: Our experience with the initial 125 cases *Tsutomu Akazawa, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1700

- 1-9-37 Proposal of a new technique for pelvic screw insertion
*Junichiro Morita, et al.*, Dept. of Orthop. Surg., Mito Medical Center...S1701

17 : 00 ~ 18 : 00 Free papers Spinal cord: Pathology Moderators O. Shirado, N. Fujita

- 1-9-38 *Lbx1* negatively regulates energy metabolism in mice
*Takahiro Nakagawa, et al.*, Dept. of Orthop. Surg., National Defense Medical College...S1702
- 1-9-39 Cyclooxygenase-2 expression in the spinal cord injury induced neuropathic pain
*Masakazu Toi, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine...S1702
- 1-9-40 Pathophysiological role of type III collagen in spinal cord injury and development of novel
 therapies via the type III collagen-Gpr56 pathway
*Gentaro Ono, et al.*, Dept. of Orthop. Surg., Clinical Medicine,
 Graduate School of Medical Sciences, Kyushu Univ...S1703
- 1-9-41 Lineage analysis of Mefflin-positive cells in spinal cord injury
*Yoshinori Morita, et al.*, Dept. of Orthop./Rheumatology,
 Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine,
 Graduate School of Medicine, Nagoya Univ...S1703
- 1-9-42 Effect of transthyretin on ligamentum flavum and epidural fat in patients with lumbar spinal
 canal stenosis
*Kazuya Maeda, et al.*, Dept. of Orthop. Surg., Faculty of Life Sciences, Kumamoto Univ...S1704
- 1-9-43 Spinal alignment affects the improvement of leg edema according to the surgery in patients with
 lumbar spinal stenosis
*Naoaki Osada, et al.*, Hosp., National Center for Geriatrics and Gerontology...S1704
- 1-9-44 Evaluation of lumbar neural activity by the femoral nerve and lateral femoral cutaneous nerve
 stimulation method using magnetospinography
*Hisato Higashikawa, et al.*, Dept. of Orthop. and Spinal Surg.,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1705

1st Day October 19 Hands-on Room

15 : 40 ~ 17 : 40 Hands-on seminar

- 1-HS Cervical Bendini and NVM5 (Efficacy of MEP and effective use of NVM5)
*Masaki Tatsumura*, Tsukuba Univ. Hosp. Mito Clinical Education and
 Training Center Dept. of Orthop. Surg., and Sports Medicine

1st Day October 19 Poster 1

10 : 40 ~ 11 : 15 Poster Pain: Pathology, treatments Moderator T. Akiyama

- 1-Po-1 Identification of pain-related synovial fibroblast subsets and their multi-omics analysis in
 knee osteoarthritis*Yoshihisa Ohashi, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1706
- 1-Po-2 Preoperative risk factors affecting postoperative patients-reported outcomes after total
 hip arthroplasty*Shinichi Ueki, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1706
- 1-Po-3 Association with bFGF and shoulder pain in patients with rotator cuff diseases
*Mitsuyoshi Matsumoto, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1707

- 1-Po-4 Mechanism of chronic pain of symptomatic hip osteoarthritis by association of its distribution, nociceptive, neuropathic, nociplastic, or mixed pain screening, and the prevalence of lumbar spinal stenosis: A cross-sectional study
 ... *Shuichi Miyamoto, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ. Ibaraki Medical Center...S1707
- 1-Po-5 Gene expression profile in the dorsal horn of spinal cord in spared nerve injury after intravenous infusion of mesenchymal stem cells
 *Ryunosuke Fukushi, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1708
- 1-Po-6 Evaluation of radial pressure wave therapy for mechanism of pain relief
 *Yu Hiraoka, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1708
- 1-Po-7 Development of TPU soft orthosis using 3D printer: Thumb CM arthropathy orthosis, de Quervain's disease orthosis, and hand joint orthosis
 *Hideo Takata, et al.*, Dept. of Orthop. Surg.,
 Toyama Prefectural Rehabilitation Hosp. & Support Center for Children with Disabilities...S1709

11 : 20 ~ 11 : 50	Poster Intervertebral disc	Moderator Y. Aoki
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- 1-Po-8 Increased Netrin-1 expression in intervertebral disc of aged rat
 *Akiyoshi Kuroda, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1710
- 1-Po-9 Histological evaluation of lumbar cartilage endplate in mouse of age-related degeneration
 *Toshio Nakamae, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1710
- 1-Po-10 Lumbar endplate degeneration through miR-26a in mouse
 *Toshio Nakamae, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1711
- 1-Po-11 A novel animal model of lumbar vertebral endplate lesion by intervertebral disc injection of monosodium iodoacetate in rat *Toshiaki Maruyama, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1711
- 1-Po-12 PRP administration for intervertebral disc in low back pain patients with Modic type 1 change
 *Soya Kawabata, et al.*, Dept. of Orthop. Surg., Fujita Health Univ...S1712
- 1-Po-13 Regenerative effect of platelet-rich plasma releasate in the rabbit degenerated disc induced by Condoliase *Takahiro Hasegawa, et al.*, Dept. of Musculoskeletal Surg.,
 Dept. of Multimodality Therapy for Cancer, Mie Univ. Graduate School of Medicine...S1712

14 : 30 ~ 15 : 05	Best poster	Moderator Y. Ishibashi
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- 1-BP-1 Persistent antibacterial activity of silver-containing hydroxyapatite coating
 *Sakumo Kii, et al.*, Dept. of Orthop. Surg., Saga Univ...S1713
- 1-BP-2 Mechanisms of tendon tissue repair using alginate-cell cross-linked gel
 *Jun Yamaguchi, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine...S1713
- 1-BP-3 Follistatin-like 1 (FSTL1), a matricellular protein, is upregulated with human and rat meniscus tissue degeneration *Shunya Otani, et al.*, Medicine for Sports and Performing Arts,
 Dept. of Health and Sport Science, Graduate School of Medicine, Osaka Univ...S1714
- 1-BP-4 Assessing the efficacy of eelomerase-specific oncolytic adenovirus for bone and soft-tissue sarcomas using fluorescence-guided methods *Koji Uotani, et al.*, Dept. of Orthop. Surg.,
 Science of Functional Recovery and Reconstruction, Faculty of Medicine,
 Dentistry, and Pharmaceutical Sciences, Okayama Univ...S1714
- 1-BP-5 Relationship between locomotive syndrome and advanced glycation end products in community-dwelling patients: The Yakumo Study
 *Yuto Ozawa, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg.,
 Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ...S1715

- 1-BP-6 Increased synovial CD14 mRNA expression and proportion of CD14 high subsets in early-stage hip osteoarthritis: Propensity matched score analysis
*Yoshihisa Ohashi, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1715
- 1-BP-7 The mechanism underlying the promotion of bone formation by platelets and megakaryocytes derived from human-induced pluripotent stem cells: Is there a signaling pathway that operates independently of the cytokines present in the formulation?
*Michiaki Mukai, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1716

15 : 10 ~ 15 : 40	Poster Biomaterials 1	Moderator Y. Inagaki
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- 1-Po-14 Degradation rate control of magnesium alloy screws and plates by carbonate apatite and hydroxyapatite coatings*Sachiko Hiromoto, et al.*, National Institute for Materials Science··S1717
- 1-Po-15 Development and evaluation of 3D-printed iodine-loaded titanium implant with the gradient porous structure to regulate antibacterial and osteoconductive properties
*Shintaro Honda, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ.··S1717
- 1-Po-16 Investigation of bioactivity of three-dimensional printed β -tricalcium phosphate scaffolds
*Kyohei Takase, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1718
- 1-Po-17 Outcomes of a unidirectional porous tricalcium phosphate filling for defects after resection of benign bone lesions: A prospective multicenter study
*Kunihiro Ikuta, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ.··S1718
- 1-Po-18 Effects of teriparatide and bone marrow aspirate on bone formation in unidirectional porous beta-tricalcium phosphate*Hiroshi Kumagai, et al.*, Ichihara Hosp.··S1719
- 1-Po-19 Acceleration of bone union using artificial bone with bFGF introduced by in situ-formed gelatin gel in mice fracture model*Hiroki Saito, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1719

15 : 50 ~ 16 : 20	Poster Biomaterials 2	Moderator N. Saito
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- 1-Po-20 Osteogenic effects by magnetron sputtering of strontium on PEEK
*Masato Ikuta, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ.··S1720
- 1-Po-21 Effect of drug-loaded PLLA coating on magnesium alloy bioabsorbable coils for bone substitutes
*Hiroshi Noguchi, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1720
- 1-Po-22 Evaluation of type I collagen gene expression in human osteoblasts on F-DLC-coated titanium scaffold ···*Daiki Yamaguchi, et al.*, Graduate School of Medical Science, Kitasato Univ.··S1721
- 1-Po-23 Torsional strength of new type u-HA/PLLA screw: Compared with conventional screw
*Masaya Sato, et al.*, Dept. of Orthop., Shimane Univ.··S1721
- 1-Po-24 Reverse buttress thread prevents screw loosening: Axial cyclic load test with conventional buttress thread screws as a control*Masaya Sato, et al.*, Dept. of Orthop., Shimane Univ.··S1722
- 1-Po-25 Characterization of bone remodeling of unidirectional porous β -tricalcium phosphate in ACDF and LLIF*Kosuke Sato, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1722

16 : 30 ~ 17 : 00	Poster Infection	Moderator S. Abe
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- 1-Po-26 Investigation of the influences of different antibiotic concentrations on bone marrow-derived cells
*Yuya Yamamoto, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1723
- 1-Po-27 Antifungal evaluation for a yeast and a filamentous fungus by silver containing hydroxyapatite coating*Masaya Ueno, et al.*, Dept. of Orthop. Surg., Saga Univ.··S1723
- 1-Po-28 Mechanisms of infection control of posterior fixation in pyogenic spondylitis: Initial evaluation of a pyogenic spondylitis-posterior fixation rat model
*Hisanori Gamada, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1724

- 1-Po-29 Gentamicin minimum biofilm eradication concentration (MBEC) and resistance genes in MRSA clinical isolates *Kohei Ando, et al.*, Dept. of Emerg. Med., School of Medicine, Univ. of Occupational and Environmental Health...S1724
- 1-Po-30 Efficacy of pretreatment with sodium hypochlorite aqueous and povidone-iodine for early stage of biofilm: an *in vitro* study *Iku Tomonaga, et al.*, Dept. of Orthop. Surg., Nagasaki Univ. Graduate School of Biomedical Sciences...S1725
- 1-Po-31 Questioning microbiome of orthopedic infections illustrates pitfalls of low-biomass microbial studies; New pathogen detection method by next-generation sequencing with quantitative real-time PCR *Narumi Ueda, et al.*, Dept. of Orthop. Surg., Kansai Medical Univ. Medical Center...S1725

17 : 10 ~ 17 : 35	Poster Motion analysis: Lower extremity	Moderator T. Matsushita
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- 1-Po-32 Development and validation of a knee joint varus thrust detection model during gait using video and machine learning *Takuya Ibara, et al.*, Dept. of Functional Joint Anatomy, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1726
- 1-Po-33 Plantar pressure pattern during walking in patient with medial knee osteoarthritis *Kyohei Nishida, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1726
- 1-Po-34 Comparison of gait analysis before and after unilateral TKA surgery for knee osteoarthritis *Jun Fukui, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ...S1727
- 1-Po-35 Pre- and post-operative gait measurement of knee osteoarthritis patients using gait analysis sensors *Hideyuki Aoki, et al.*, Dept. of Orthop. Surg., Toho Univ. (Omori)...S1727
- 1-Po-36 Correlation of knee instability with alignment and repetitive physical activity in patients with knee osteoarthritis: A cross-sectional study *Yusuke Yamamoto, et al.*, Dept. of Orthop. Surg. Tan-nan Regional Medical Center...S1728

17 : 50 ~ 18 : 30	Poster Cartilage: Regeneration, treatments	Moderator Y. Akasaki
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- 1-Po-37 The chondroprotective effect of AICAR involves chondrocyte energy metabolism *Masataka Maeda, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ...S1729
- 1-Po-38 Donor-to-donor characteristics variation of human juvenile cartilage-derived chondrocyte sheets revealed by combined histological evaluation in a nude rat chondral defect transplantation model *Keisuke Matsukura, et al.*, Dept. of Orthop. Surg., Asahikawa Medical Univ...S1729
- 1-Po-39 Examination of cartilage protective effect by controlling lipid metabolism *Ryo Sato, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ...S1730
- 1-Po-40 Minced cartilage implantation with silk-elastin and spider-silk into the osteochondral defect in rabbit model *Naofumi Hashiguchi, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1730
- 1-Po-41 Depletion of CCR7 inhibited growth imbalance after physeal injury in mice *Masatake Matsuoka, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1731
- 1-Po-42 Chondroprotective and anti-inflammatory effects of direct intra-articular administration of CD271-positive mesenchymal stem cells in an animal model of osteoarthritis *Takumi Sakamoto, et al.*, Dept. of Orthop. and Rehabilitation Medicine, Unit of Surg., Div. of Medicine, Faculty of Medical Sciences, Univ. of Fukui...S1731

- 1-Po-43 Functional analysis of KLF15-conditional knock out mice in a fracture model
*Shotaro Tachibana, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1732
- 1-Po-44 Self-assembled articular cartilage-hydroxyapatite conjugate with growth factors for combined
 articular cartilage and subchondral bone repair
*Takanori Kumai, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1732

1st Day October 19 Poster 2

10 : 00 ~ 10 : 30	Poster Risk management, others	Moderator D. Nozawa
1-Po-45	Comparison of protection goggle for occupational radiation exposure; A cadaveric study <i>Daiki Nakajima, et al.</i> , Dept. of Orthop., Institute of Biomedical Sciences, Tokushima Univ. Graduate School...S1733	
1-Po-46	Current status and issues of occupational exposure for orthopaedic surgeons, in-hospital survey <i>Keigo Nagasawa, et al.</i> , Dept. of Orthop. Surg., Moriya Daiichi General Hosp...S1733	
1-Po-47	Detection of risk of musculoskeletal disorders using skin autofluorescence values of terminal glycation products AGEs <i>Taisuke Seki, et al.</i> , Dept. of Orthop. Surg., Aichi Medical Univ. Medical Center...S1734	
1-Po-48	The risk factor of malnutrition in orthopaedic surgery <i>Masahiro Inuma, et al.</i> , Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine, Yokohama City Seibu Hosp...S1734	
1-Po-49	A novel rat model for knee extension contracture after knee joint surgery <i>Yu Kobori, et al.</i> , Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ...S1735	
1-Po-50	Early effects of extracorporeal shock wave therapy on wound healing in rats <i>Takuro Sugiyama, et al.</i> , Dept. of Orthop. Surg., Kurume Univ...S1735	

10 : 40 ~ 11 : 10	Poster Others	Moderator T. Akisue
1-Po-51	Investigation of foot X-ray factors on the progression of hallux valgus <i>Akinobu Nishimura, et al.</i> , Dept. of Orthop. and Sports Medicine, Mie Univ. Graduate School of Medicine...S1736	
1-Po-52	Longitudinal evaluation of musculoskeletal examination in growth classification of elementary and middle school students <i>Mio Kimura, et al.</i> , Dept. of Orthop. Surg., Univ. of Tsukuba...S1736	
1-Po-53	Relationship between static balance function and superficial plantar sensation in lifesaving-stimulation of superficial plantar sensation by barefoot exercise on sandy ground may prevent falls <i>Shota Ichikawa, et al.</i> , Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1737	
1-Po-54	Validity of Risser grade on whole standing spine XP <i>Takahiro Mui, et al.</i> , Dept. of Orthop. Surg., Nara Medical Univ...S1737	
1-Po-55	The degree of locomotive syndrome and the phase angle determined by the bioelectrical impedance method are also related in the new classification: Bunkyo Health Study <i>Yuichiro Machiyama, et al.</i> , Dept. of Orthop., Juntendo Univ...S1738	
1-Po-56	Increase in people with locomotive syndrome during COVID-19: The results of locomotive syndrome check-up <i>Taro Funamoto, et al.</i> , Div. of Orthop. Surg., Dept. of Medicine of Sensory and Motor Organs, Faculty of Medicine, Univ. of Miyazaki...S1738	

11 : 20 ~ 11 : 50	Poster Osteoporosis	Moderator H. Inose
1-Po-57	Comparative study of romosozumab and zoledronate in bone microstructure and mechanical strength: Rat osteoporosis model <i>Ryota Takase, et al.</i> , Dept. of Rehabilitation Medicine, Oita Univ. Hosp...S1739	

- 1-Po-58 Mechanism of excessive bone resorption after discontinuation of anti-RANKL antibody
 *Hotaka Ishizu, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1739
- 1-Po-59 Investigation of the effect of the anti-rheumatic drug iguratimod on
 immobility-related osteoporosis
 *Taihei Miura, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ.···S1740
- 1-Po-60 Aged senescence-accelerated mouse prone 8 (SAMP8) exhibits osteomalacia-like bone loss with
 increased MGP expression *Hiroki Tawaratsumida, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medical and Dental Sciences, Kagoshima Univ.···S1740
- 1-Po-61 Effects of bisphosphonate and treadmill exercise combination on bone and kidney in a rat model
 of chronic kidney disease *Shuntaro Harata, et al.*, Akita Kousei Medical Center···S1741
- 1-Po-62 Relationship between sleep disorders and back pain in osteoporosis
 *Kosuke Murata, et al.*, Dept. of Orthop. Surg., Kitasato Univ.···S1741

15 : 10 ~ 15 : 40	Poster Fracture	Moderator Y. Asou
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- 1-Po-63 The effect of polyamine on healing of fractures
 *Takahiro Suzuki, et al.*, Saitama Medical Center, Jichi Medical Univ.···S1742
- 1-Po-64 The effects of rotation and angular deformities of the radius: An anatomical study of fresh
 frozen cadavers *Yukie Metoki, et al.*, Dept. of Orthop. Surg., Kitasato Univ.···S1742
- 1-Po-65 Optimal plate selection and fixation techniques for diaphyseal fractures of the forearm:
 Insights from finite element analysis of stress concentration and strain
 *Yusuke Matsuura, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.···S1743
- 1-Po-66 Decreased radial inclination diminishes effects of ulnar abutment syndrome: A mechanical study
 using finite element analysis
 *Yusuke Matsuura, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.···S1743
- 1-Po-67 Nonunion after osteoporotic vertebral compression fracture does not affect clinical outcomes:
 A multicenter prospective study *Masaru Hatano, et al.*, Daiwa Chuo Hosp.···S1744
- 1-Po-68 Findings from complete survey of hip fracture in Okinawa using the nation-wide survey
 *Yoshiro Yoshikawa, et al.*, Okinawa Red Cross Hosp.···S1744

15 : 50 ~ 16 : 20	Poster Regeneration and treatments 1	Moderator Y. Yanagisawa
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- 1-Po-69 New mechanism of vasculogenesis and osteogenesis promoted by bone marrow mononuclear
 cells for bone healing via gap junction-mediated cell-cell interaction
 *Yoshihito Suda, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine···S1745
- 1-Po-70 The bone formation effect in different creation scales of megakaryocytes and platelets derived
 from human-induced pluripotent stem cells in a rat lumbar posterolateral fusion model
 *Takahito Arai, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.···S1745
- 1-Po-71 Development of a method to promote healing of intractable fractures by using lively children's
 cells to revitalize the bone environment of the elderly
 *Toshifumi Murakami, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1746
- 1-Po-72 Effects of abaloparatide and zoledronate on bone healing in a rat femoral osteotomy model
 *Takashi Kataoka, et al.*, Dept. of Rehabilitation Medicine, Oita Univ. Hosp.···S1746
- 1-Po-73 Investigation of the effect of LIPUS on induced membrane-derived cells on promoting
 bone differentiation
 *Kyohei Takase, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine···S1747
- 1-Po-74 Effect of belt electrode-skeletal muscle electrical stimulation (B-SES) for enhance fracture
 healing in rats femur fracture model *Yuta Tsubouchi, et al.*, School of Physical Therapy,
 Faculty of Rehabilitation, Reiwa Health Sciences Univ.···S1747

16 : 30 ~ 17 : 00 **Poster Regeneration and treatments 2****Moderator Y. Asou**

- 1-Po-75 Regulation of osteoblast to osteocyte differentiation by Cyclin-dependent kinase-1
 *Tomoyuki Tanaka, et al.*, Dept. of Orthop. and Spinal Surg.,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ.··S1748
- 1-Po-76 Effect of carbonyl derivatives on the mineralization of osteoblast
 *Tetsuya Seto, et al.*, Dept. of Orthop. Surg., Yamaguchi Univ. Graduate School of Medicine··S1748
- 1-Po-77 Mesenchymal stem cell spheroid combined with basic fibroblast growth factor accelerates callus
 formation in a mouse fracture model
 *Kugo Takeda, et al.*, Kitasato Univ. Graduate School of Medical Sciences··S1749
- 1-Po-78 The preventive effect of transcutaneous CO₂ application on disuse bone and muscle atrophy
 *Ryota Nishida, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1749
- 1-Po-79 Development of a novel bone-targeted BMP-2 carrier using polyphosphodiester (PEP Na)
 *Hiromasa Hirai, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ.··S1750
- 1-Po-80 Kielin/chordin-like protein enhances effect of bone morphogenic protein-2 to induce
 osteoblast differentiation *Kei Nagasaki*, Dept. of Orthop. Surg., Showa Univ.··S1750

17 : 10 ~ 17 : 40 **Poster Bone: Others****Moderator M. Hakozaiki**

- 1-Po-81 Effects of anti-tumor agents on bone microstructure and metabolism in mice
 *Keisuke Horiuchi, et al.*, Dept. of Orthop. Surg., National Defense Medical College··S1751
- 1-Po-82 Effects of soft tissue sarcoma and doxorubicin on bone metabolism in mice
 *Fumihito Kasama, et al.*, Dept. of Orthop. Surg., Akita Univ. Graduate School of Medicine··S1751
- 1-Po-83 The effectiveness and safety of DF-HA in a rat hip MIA model
 · · *Hiroakira Terakawa, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1752
- 1-Po-84 Morphological changes of osteoblasts and osteoclasts in the fractured mice exposed to
 long-term hyperglycemia
 *Hitomi Fujikawa, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science Hosp.··S1752
- 1-Po-85 An effect of systemic administration of dexamethasone for the induced membrane formation in a
 bone defect model of rat *Sho Totsuka, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1753
- 1-Po-86 Cellular senescence is associated with ischemic osteonecrosis while mesenchymal stem cell
 conditioned medium inhibits bone collapse
 *Masanori Okamoto, et al.*, Dept. of Orthop./Rheumatology,
 Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine,
 Graduate School of Medicine, Nagoya Univ.··S1753

17 : 50 ~ 18 : 25 **Poster Cartilage: Others****Moderator T. Matsushita**

- 1-Po-87 KLF15 affects the progression of arthropathy in inflammatory arthritis
 *Kensuke Anjiki, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1754
- 1-Po-88 Chondrogenic differentiation of human mesenchymal stem cells on FGF2-induced silk fibroin
 *Manabu Yamada, et al.*, Dept. of Orthop. Surg., Toho Univ. School of Medicine (Sakura)··S1754
- 1-Po-89 Articular cartilage degeneration in the patients with idiopathic osteonecrosis of the femoral
 head: Evaluation using T2 mapping MRI *Hiroki Kaneta, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ.··S1755
- 1-Po-90 COX-2 selective inhibitors suppress drug-induced cell apoptosis in isolated rabbit
 articular chondrocytes
 *Kosuke Kumagai, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science··S1755
- 1-Po-91 Regulation of chondrocyte differentiation by CCN2 through binding to GDF5 and its receptors
 *Naohiro Higashihara, et al.*, Advanced Research Center for Oral And Craniofacial Sciences,
 Okayama Univ. Dental School··S1756

- 1-Po-92 The expression of β -catenin-independent Wnt signaling in degenerated meniscus
 *Yusuke Inoue, et al.*, Musculoskeletal Science,
 Yokohama City Univ. Graduate School of Medicine...S1756
- 1-Po-93 Evaluation of histological characteristics of meniscus using colorimeter
 *Shohei Kawakami, et al.*, Dept. of Orthop. Surg., Kagawa Univ...S1757

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10 : 00 ~ 10 : 30	Poster Peripheral nerve	Moderator T. Ogawa
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- 1-Po-94 Development of a novel animal model mimicking chronic entrapment neuropathy using
 sciatic nerve *Yasuhiro Yamamoto, et al.*, Dept. of Orthop., Juntendo Univ...S1757
- 1-Po-95 The effects of the transcriptional factor REST on axonal marker GAP43
 *So Kawakita, et al.*, Dept. of Medicine for Orthop. and Motor Organ,
 Juntendo Univ. Graduate School of Medicine...S1758
- 1-Po-96 Cellular mechanisms of Schwann cell loaded artificial nerve
 *Masao Suzuki, et al.*, Dept. of Orthop. Surg., Juntendo Univ. Urayasu Hosp...S1758
- 1-Po-97 Changes due to peripheral nerve compression in rat models of menopausal women
 *Sayaka Ishii, et al.*, Hand Surg., Center, Juntendo Univ. Urayasu Hosp...S1759
- 1-Po-98 Evaluation of median nerve T2 values and electrophysiological severity in carpal
 tunnel syndrome *Harunori Kondo, et al.*, Dept. of Orthop. Surg., Fujita Health Univ...S1759
- 1-Po-99 Methylcobalamin shifts macrophage phenotype toward anti-inflammatory direction after
 peripheral nerve injury by promoting Ras-mediated Akt phosphorylation
 *Toru Iwahashi, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1760

10 : 40 ~ 11 : 10	Poster Motion and imaging analysis: Upper extremity	Moderator A. Nimura
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- 1-Po-100 Analysis of hand and finger movements during blood collection procedures using a
 three-dimensional optical motion analysis system: Comparison of experts and novices
 *Aya Kanazuka, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1760
- 1-Po-101 Tip pinch strength is accurately measured?
 *Konosuke Yamaguchi, et al.*, Dept. of Orthop. Surg., Kagawa Univ...S1761
- 1-Po-102 Motion analysis of orthopaedic surgeons in elbow arthroscopy
 *Hiroaki Iwase, et al.*, Dept. of Hand Surg., Musculoskeletal and Cutaneous Surg.,
 Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ...S1761
- 1-Po-103 Shoulder joint rotation angle that require intervention in medical checkups to prevent shoulder
 pain during pitching in baseball players
 *Hiromitsu Tsuge, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1762
- 1-Po-104 Evaluation of elbow valgus instability in professional baseball team medical check: Examination
 of ultrasonography and computed tomography
 *Daisuke Momma, et al.*, Center for Sports Medicine, Hokkaido Univ. Hosp...S1762
- 1-Po-105 Effect of aging on reaching movement during activities of daily living
 *Jun Nakatake, et al.*, Rehabilitation Center, Univ. of Miyazaki Hosp...S1763

11 : 20 ~ 12 : 00	Poster Surgery: Spine, others	Moderator T. Toyone
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- 1-Po-106 Longitudinal changes in outcomes of transcranial stimulation motor evoked potential
 monitoring during high-risk spine surgery
 *Hiroki Ushirozako, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine...S1763

- 1-Po-107 Association between proximal junctional kyphosis and vertebral body Hounsfield unit values after adult spinal deformity surgery
 *Shuhei Mizobuchi, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ.··S1764
- 1-Po-108 Association of spinal corrective surgery with abdominal aorta length in patients with adult spinal deformity *Shuhei Ohyama, et al.*, Dept. of Orthop. Surg., Seirei Sakura Citizen Hosp.··S1764
- 1-Po-109 Anatomical relationship between medial diaphragm leg and segmental artery for prevention of intraoperative segmental artery injury
 *Kiyoshi Yagi, et al.*, Dept. of Musculoskeletal Sports Medicine, Research and Innovation, Nagoya City Univ., Graduate School of Medical Sciences··S1765
- 1-Po-110 Augmented reality navigated microscopic spine surgery
 *Fumitake Tezuka, et al.*, Dept. of Orthop., Institute of Biomedical Sciences, Tokushima Univ. Graduate School··S1765
- 1-Po-111 Pre- and Post-operative change in the length of the pars defect after Smiley face rod method for terminal-stage lumbar spondylolysis
 *Shotaro Teruya, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1766
- 1-Po-112 Percutaneous pedicle screw placement for robot-assisted spine surgery
 *Yoshiaki Torii, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1766
- 1-Po-113 Evaluation of vertebral bone density using CT values in adolescent idiopathic scoliosis: Difference between concave and convex side of apex vertebra
 *Tomoto Suzuki, et al.*, Dept. of Orthop. Surg., Yamagata Univ.··S1767

15 : 10 ~ 15 : 45	Poster	Tendon and ligament: Pathology	Moderator	T. Soejima
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- 1-Po-114 Effects of different exercise conditions on tendon-to-bone attachment sites *in vivo* in mice: Validation in the supraspinatus tendon, patellar tendon, and Achilles tendon attachment sites
 *Kaichi Ozone, et al.*, Dept. of Rehabilitation Medicine, Univ. of Tsukuba Hosp.··S1767
- 1-Po-115 Cxcl14-mediated stromal cell-macrophage interaction as therapeutic target for hand dermal fibrosis *Atsushi Goto, et al.*, Dept. of Orthop. Surg., Div. of Disease Control, Research field of Medical Sciences, Graduate School of Medicine, Gifu Univ.··S1768
- 1-Po-116 Mechanism of inflammation of human tenocyte through transient receptor potential channels
 *Takeru Yokota, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ.··S1768
- 1-Po-117 Relationship between oxidative stress in the rotator cuff and transcutaneous AGEs measurement using in diabetic rats
 *Akinobu Kawada, et al.*, Dept. of Orthop. Surg., Kagawa Univ.··S1769
- 1-Po-118 Biochemical markers of mitochondria degeneration are increased in type 3 rotator cuff tendon stumps with increased signal intensity changes on MRI
 *Masaya Kusunose, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1769
- 1-Po-119 Characteristics of abnormal blood flow with dynamic magnetic resonance imaging for freezing phase of frozen shoulder *Tomohiro Saito, et al.*, Dept. of Orthop., Jichi Medical Univ.··S1770
- 1-Po-120 Aging promotes heterotopic ossification in a mouse Achilles tenotomy model
 *Masashi Isaji, et al.*, Dept. of Orthop. Surg., National Defense Medical College··S1770

15 : 50 ~ 16 : 20	Poster	Tendon and ligament: Treatments	Moderator	M. Hayashi
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- 1-Po-121 The effects of fibroblast growth factor-2 (FGF-2) on Achilles tendon injury on rats
 *Yuki Fujikawa, et al.*, Dept. of Musculoskeletal Surg., Dept. of Multimodality Therapy for Cancer, Mie Univ. Graduate School of Medicine··S1771
- 1-Po-122 Study on the efficacy of anti-inflammatory effects of platelets from adipose-derived mesenchymal stem cells for the tendinopathy *Akiko Torii, et al.*, Dept. of Orthop. Surg., Keio Univ.··S1771

- 1-Po-123 *In vivo* tendon injury healing using non-thermal atmospheric pressure gas discharge plasma: A rat model *Katsumasa Nakazawa, et al.*, Dept. of Orthop. Surg., Osaka Metropolitan Univ. Graduate School of Medicine...S1772
- 1-Po-124 Antioxidants reduce oxidative stress and accelerate the healing after rotator cuff repair *Hirohisa Uehara, et al.*, Dept. of Orthop., Juntendo Univ....S1772
- 1-Po-125 Hyper-dry amniotic membrane prevents peritendinous adhesion and promotes recovery of repaired tendon microstructure and mechanical function *Tatsuro Hirokawa, et al.*, Dept. of Orthop. Surg., Faculty of Medicine, Univ. of Toyama...S1773
- 1-Po-126 Biomechanical study comparing suture techniques for medial meniscus posterior root repair *Eiji Sasaki, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine...S1773

16 : 30 ~ 17 : 00	Poster Tendon and ligament: Knee joint	Moderator K. Nakagawa
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- 1-Po-127 Pathological investigation of mucoid degeneration in the anterior cruciate ligament of knee osteoarthritis patients *Shuji Toyono, et al.*, Dept. of Orthop. Surg., Yamagata Saisei Hosp....S1774
- 1-Po-128 Scleraxis-expressing cells in remnant tissue contribute to early mechanical strength improvement in anterior cruciate ligament reconstruction *Junki Kawakami, et al.*, Dept. of Orthop. Surg., Faculty of Life Sciences, Kumamoto Univ....S1774
- 1-Po-129 Factors influencing the graft maturity on magnetic resonance imaging after anterior cruciate ligament reconstruction *Hiroaki Fukushiima, et al.*, Dept. of Orthop. Surg., Nagoya City Univ., Graduate School of Medical Sciences...S1775
- 1-Po-130 Quantification of the pivot-shift test using a navigation system and its relationship with lateral meniscal injuries *Atsuo Nakamae, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ....S1775
- 1-Po-131 Effects of internal bracing with high-strength suture on the tendon graft in anterior cruciate ligament reconstruction: A biomechanical and histological study in a porcine model *Tomoya Iwaasa, et al.*, Dept. of Orthop. Surg., Shinshu Univ....S1776
- 1-Po-132 The presoaking grafts in vancomycin does not exacerbate bone graft healing in the ACLR model using rats *Ryu Yoshida, et al.*, Dept. of Joint Surg. and Sports Medicine, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ....S1776

17 : 10 ~ 17 : 40	Poster Tendon and ligament: Others	Moderator A. Teramoto
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- 1-Po-133 A histological evaluation of the tibial attachment of the posterior cruciate ligament in the sagittal and coronal planes *Akihiro Yamashita, et al.*, Dept. of Orthop. Surg. and Center for Joint Surg., Kurume Univ. Medical Center...S1777
- 1-Po-134 Differences in collagen types composition of semitendinosus and quadriceps tendons by physical maturity *Yushin Mizuno, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kanazawa Univ....S1777
- 1-Po-135 β 2-microglobulin amyloid deposition and RAGE related inflammation pathway in thickening of the ligamentum flavum of haemodialysis patients *Keisuke Ishikawa, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine...S1778
- 1-Po-136 A new suture method for finger PIP joint collateral ligament: Cadaver study *Kenji Kubota, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ....S1778
- 1-Po-137 Morphology of the radial attachment of the radioulnar ligament and related osseous landmarks *Masanori Matsuura, et al.*, Dept. of Orthop. Surg., Iwate Medical Univ....S1779
- 1-Po-138 Enthesopathy of the medial metatarsosesamoid ligament in relation to hallux valgus *Hiroki Yabiku, et al.*, Orthop. Surg., Graduate School of Medicine, Univ. of the Ryukyus...S1779

17 : 50 ~ 18 : 20

Poster Motion analysis: Rehabilitation, others

Moderator N. Ogata

- 1-Po-139 Effect for improving muscle strength using single-joint type hybrid assistive limb in knee training after ACL reconstruction
 *Yuichiro Soma, et al.*, Dept. of Rehabilitation Medicine, Univ. of Tsukuba Hosp.···S1780
- 1-Po-140 Single-joint type hybrid assistive limb in knee training after ACL reconstruction:
 Electromyographic examination for effect of muscle activity
 *Yuichiro Soma, et al.*, Dept. of Rehabilitation Medicine, Univ. of Tsukuba Hosp.···S1780
- 1-Po-141 Efficacy and safety of Hybrid Assistive Limb lumbar-type (HAL-FB02) for acute rehabilitation after total hip arthroplasty *Atsushi Imamura, et al.*, Dept. of Orthop. Surg., Nagoya City Univ., Graduate School of Medical Sciences···S1781
- 1-Po-142 The report of using the lumbar-type HAL for patients with spastic cerebral palsy
 *Yuki Mataki, et al.*, Dept. of Rehabilitation Medicine, Univ. of Tsukuba Hosp.···S1781
- 1-Po-143 Investigation of the effectiveness of warm-up exercise using assistive device in wheelchair sports: A study in able-bodied subjects *Ryo Nakazawa, et al.*, Dept. of Physical Therapy, Ibaraki Prefectural Univ. of Health Sciences Hosp.···S1782
- 1-Po-144 What is necessary in order to continue locomotion training?
 *Saki Inanaga, et al.*, Dept. of Orthop. Surg., Kosei Hosp.···S1782

2nd Day October 20 Room 1

8 : 00 ~ 9 : 20

Symposium 13

Moderators S. Matsuda, M. Takao

Next generation with computer assisted orthopaedic surgery

- 2-1-S13-1 Application development and social implementation for screening of musculoskeletal diseases
 *Koji Fujita*, Dept. of Functional Joint Anatomy, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ.···S1783
- 2-1-S13-2 AI development strategies for rare diseases
 *Joe Hasei, et al.*, Dept. of Medical Information and Assistive Technology Development, Faculty of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama Univ.···S1783
- 2-1-S13-3 Development of computer-assisted technology for clinical procedures using fluoroscopy
 *Yuichi Yoshii, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ. Ibaraki Medical Center···S1784
- 2-1-S13-4 Clinical application of augmented reality
 *Atsushi Tanji, et al.*, Dept. of Orthop. Surg., Japanese Red Cross Ashikaga Hosp.···S1784
- 2-1-S13-5 Development of a custom-made rod for spinal deformity correction with high biocompatibility
 *Hideki Sudo*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1785
- 2-1-S13-6 Examination of accuracy and related factors of soft tissue balance evaluation in robotic-assisted TKA *Daisuke Hamada, et al.*, Dept. of Orthop., Institute of Biomedical Sciences, Tokushima Univ. Graduate School···S1785

9 : 30 ~ 10 : 50

Symposium 14

Moderators R. Kuroda, M. Ikeuchi

Cutting edge of treatment and research on osteoarthritis of the knee

- 2-1-S14-1 Longitudinal epidemiological study on the bone marrow lesions in early knee osteoarthritis
 *Eiji Sasaki, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine···S1786
- 2-1-S14-2 The coronal inclination of the medial tibial plateau affects coronal gait kinematics
 *Tomoharu Mochizuki, et al.*, Div. of Orthop. Surg., Dept. of Regenerative and Transplant Medicine, Niigata Univ. Graduate School of Medical and Dental Sciences···S1786

- 2-1-S14-3 MRI 3D analysis for knee osteoarthritis
*Nobutake Ozeki, et al.*, Center for Stem Cell and Regenerative Medicine,
 Tokyo Medical and Dental Univ.···S1787
- 2-1-S14-4 Mechanisms of pain in knee osteoarthritis
*Koji Aso, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ.···S1787
- 2-1-S14-5 Usefulness and limitation of biomarkers for treatment and research in knee osteoarthritis
*Muneaki Ishijima, et al.*, Dept. of Medicine for Orthop. and Motor Organ,
 Juntendo Univ. Graduate School of Medicine···S1788
- 2-1-S14-6 Meniscal centralization to prevent progression of knee OA
*Hideyuki Koga, et al.*, Dept. of Joint Surg. and Sports Medicine,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ.···S1788

11 : 00 ~ 12 : 00	Special Symposium	Moderators K. Takeshita, H. Kawano
Orthopaedic surgery and SDGs		

- 2-1-SS-1 Tsukuba super science city initiative
*Kenji Suzuki*, Center for Cybernics Research, Univ. of Tsukuba···S1789
- 2-1-SS-2 Safety and feasibility of transportation service using an automated driving wheelchair for
 patients with musculoskeletal disorders; Approach to SDGs from Orthopaedic surgeon
*Hiroshi Takahashi, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba···S1789
- 2-1-SS-3 AI hospital project for better health care
*Morio Matsumoto*, Dept. of Orthop. Surg., Keio Univ.···S1790
- 2-1-SS-4 Application of telemedicine to the clinical field of orthopaedic surgery
*Norimasa Iwasaki, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1790

12 : 10 ~ 13 : 20	Luncheon seminar 9	Moderator M. Akagi
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- 2-1-LS9 Robotic-assisted TKA: Optimization of the surgery and installation target
*Daisuke Hamada, et al.*, Dept. of Orthop., Institute of Biomedical Sciences,
 Tokushima Univ. Graduate School···S1791

14 : 00 ~ 15 : 00	Special program 1	Moderator H. Kamada
Locomotive organs research for athletes		

- 2-1-SP1*Kimiyasu Kudo*, Graduate School of Comprehensive Human Sciences Degree Programs in
 Comprehensive Human Sciences Doctoral Program in Sports Medicine, Univ. of Tsukuba
- 2-1-SP1*Hitoshi Shiraki*, Faculty of Health and Sport Sciences, Univ. of Tsukuba
- 2-1-SP1*Masashi Yamazaki*, Dept. of Orthop. Surg., Univ. of Tsukuba

15 : 10 ~ 16 : 10	Cultural lecture	Moderator T. Yamashita
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- 2-1-CL Current situation and challenges of top athlete development and strengthening: From the
 management perspective
*Kaori Yamaguchi*, Faculty of Health and Sports Sciences, Univ. of Tsukuba···S1791

2nd Day October 20 Room 2

8 : 00 ~ 9 : 00	Instructional lecture 7	Moderators T. Sato, T. Matsumura
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- 2-2-EL7-1 Posterior malleolar fracture: Anatomy and biomechanics
*Naoki Haraguchi*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine,
 Yokohama City Seibu Hosp.···S1792

2-2-EL7-2 New frontiers in fracture care - Is there a place and need for sensor/actor implants?
*Tim Pohlemann*, Hand and Recovery,
 Saarland Univ. Hosp. and Medical Faculty of Saarland Univ., Saarland, Germany...S1792

9 : 10 ~ 10 : 30	GJSOT Symposium 3	Moderators W. Mittelmeier, T. Ozaki
New technology-3 (Spine & Joint)		

2-2-GS3-1*GJSOT Fellow from Germany-2*...S1793
 2-2-GS3-2 Preventive measures for kyphotic change after cervical laminoplasty
*Takashi Fujishiro, et al.*, Dept. of Orthop. Surg., Osaka Medical and Pharmaceutical Univ....S1793
 2-2-GS3-3 Comparison of pedicle screw accuracy between using fluoroscopy guidance and intraoperative
 CT navigation for posterior spinal fusion for neuromuscular scoliosis
*Kanichiro Wada, et al.*, Dept. of Orthop. Surg.,
 Hirosaki Univ. Graduate School of Medicine...S1794
 2-2-GS3-4 Disruptive innovation: The relevance of registries in Orthopaedic and Trauma Research
*Dietmar Pennig*, St. Vinzenz-Hosp. Cologne, Academic Teaching Hosp. Univ. of Cologne...S1794
 2-2-GS3-5 OpenCap: Markerless 3D motion analysis
*Yusuke Kamatsuki, et al.*, Dept. of Orthop. Surg., Okayama Saiseikai General Hosp....S1795
 2-2-GS3-6 New surgical option by autologous tissue to prevent a progression of knee osteoarthritis
*Tomoya Iseki, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine...S1795
 2-2-GS3-7 (Withdrawn)
 2-2-GS3-8 (Withdrawn)

10 : 40 ~ 12 : 00	Special program 2	Moderators M. Neo, D. Sakai
Cervical artificial disc replacement: current status in Japan, Germany and US		

2-2-SP2-1 Early experiences and short-term clinical results of Prestige LP in Japan
*Toshitaka Yoshii*, Dept. of Orthop. Surg.,
 Tokyo Medical and Dental Univ. Graduate School of Medicine...S1797
 2-2-SP2-2 Introduction and current status of total disc replacement (TDR) in Japan
*Ken Ishii*, Dept. of Orthop. Surg., Keio Univ....S1797
 2-2-SP2-3 Cervical arthroplasty (TDR) in Germany
*Francis Ch. Kilian*, SPINE Center, Catholic Hosp. Koblenz, Koblenz, Germany...S1798
 2-2-SP2-4 Cervical artificial disc replacement*Sheeraz A. Qureshi*, Orthop. Surg.,
 Minimally Invasive Spine Surg., Hosp. for Special Surg., NY, USA...S1798

12 : 10 ~ 13 : 20	Luncheon seminar 10	Moderator M. Nakamura
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2-2-LS10 Background theory and clinical practice of HAL for medical lower limb type
*Takashi Nakajima*, Dept. of Neurology, NHO Niigata National Hosp....S1799

13 : 30 ~ 14 : 30	Instructional lecture 8	Moderators E. Tsuda, Y. Hada
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2-2-EL8-1 Practice of robotics rehabilitation training for patients with musculoskeletal disorders
*Shigeki Kubota, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1800
 2-2-EL8-2 Robotic rehabilitation for musculoskeletal disorders
*Hafez Bin Hussain*, PERKESO Rehabilitation Centre, Malacca City, Malaysia...S1800

14 : 40 ~ 15 : 40	Instructional lecture 9	Moderators T. Nakajima, E. Chosa
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2-2-EL9-1 Novel rehabilitation approaches utilizing the T-HAL method for people with spinal
 cord injuries
*Yukiyo Shimizu*, Dept. of Rehab. Med., Institute of Medicine, Univ. of Tsukuba...S1801

2-4-EL12-2 Intervertebral disc degeneration phenotypes and spinal cord crosstalk in acute and chronic discogenic pain and potential anti-inflammatory treatment targets
*James C. Iatridis*, Icahn School of Medicine, Mount Sinai Health System...S1808

9 : 15 ~ 10 : 35	Symposium 16	Moderators J. Takahashi, T. Moro
New AI technology in orthopaedic surgery		

- 2-4-S16-1 New screening AI to diagnose osteoporosis with plain chest radiographs
*Yuichi Imoto, et al.*, Dept. of Orthop. Surg., Teikyo Univ...S1809
- 2-4-S16-2 The innovation of osteoporosis treatment: Development and social impact of AI medical devices for bone analysis from chest radiographs
*Yoichi Sato, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ...S1809
- 2-4-S16-3 AI-assisted diagnostic system for osteoporosis using the X-ray images
*Toru Moro, et al.*, Div. of Science for Joint Reconstruction, Graduate School of Medicine, The Univ. of Tokyo...S1810
- 2-4-S16-4 Measurement of bone mineral density of the proximal femur from hip X-rays
*Keisuke Uemura, et al.*, Dept. of Orthop. Medical Engineering, Graduate School of Medicine, Osaka Univ...S1810
- 2-4-S16-5 Detection of sacral fractures by artificial intelligence learned with XP labeled based on CT findings*Naoya Inagaki, et al.*, Dept. of Orthop. Surg., The Kashiwa Hosp. of the Jikei Univ. School of Medicine...S1811
- 2-4-S16-6 Extracting registry entry items from spinal surgery records using large-scale language models and few-shot learning
*Satoshi Maki, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1811

10 : 50 ~ 11 : 50	Instructional lecture 13	Moderators H. Akiyama, M. Takao
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- 2-4-EL13-1 Autologous concentrated bone marrow injection for idiopathic osteonecrosis of the femoral head: From its birth to the approval as advanced medical care B in Japan
*Yasuhiro Homma, et al.*, Dept. of Orthop., Juntendo Univ...S1812
- 2-4-EL13-2 Stem cell implantation for the osteonecrosis of femoral head
*Philippe Hernigou*, Univ. of Paris, Paris, France...S1812

12 : 10 ~ 13 : 20	Luncheon seminar 12	Moderator H. Taneichi
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- 2-4-LS12 New findings in pharmacological effects of PTH
*Tadahiro Imura*, Faculty of Dental Medicine, Hokkaido Univ...S1813

13 : 30 ~ 14 : 50	Symposium 17	Moderators H. Ozawa, G. Inoue
Scientific reseach on sacroiliac joint pain		

- 2-4-S17-1 The concept of Sacroiliac-spine syndrome based on clinical data
*Eiichi Murakami, et al.*, Japan Sacroiliac Joint and Low Back Pain Center, JCHO Sendai Hosp...S1814
- 2-4-S17-2 Functions and disorders of the sacroiliac joints from the viewpoint of gross anatomy and histological structure
*Daisuke Kurosawa, et al.*, Dept. of Orthop. Surg., JCHO Sendai Hosp...S1814
- 2-4-S17-3 MRI findings of athletes with sacroiliac joint pain
*Koji Kaneoka, et al.*, Faculty of Sport Sciences, Waseda Univ...S1815
- 2-4-S17-4 Pathology of sacroiliac joint disorder by SPECT/CT and trial of new operative treatment
*Hiroaki Koga*, Dept. of Orthop. Surg., Nanpuh Hosp...S1815

- 2-4-S17-5 Relationship between hip joint and sacroiliac joint: A literature review
*Kensuke Fukushima, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1816
- 2-4-S17-6 Does hip-sacro iliac joint-spine syndrome exist?
*Ayumi Kaneuji, et al.*, Dept. of Orthop. Surg., Kanazawa Medical Univ.··S1816

15 : 00 ~ 16 : 20	Symposium 18	Moderators H. Taneichi, K. Nakanishi
Motion analysis for adult spine deformity and drop head syndrome		

- 2-4-S18-1 Gait analysis of adult spinal deformity patients
*Satoshi Inami, et al.*, Dept. of Orthop. Surg., Dokkyo Medical Univ.··S1817
- 2-4-S18-2 Three-dimensional gait analysis in patients with adult spinal deformity: Correlations between gait parameters and spino-pelvic parameters/patient reported outcome measures
*Norihiko Takegami, et al.*, Dept. of Musculoskeletal Surg.,
 Dept. of Multimodality Therapy for Cancer, Mie Univ. Graduate School of Medicine··S1817
- 2-4-S18-3 Pathophysiology and clinical evaluation of degenerative lumbar kyphoscoliosis using gait motion analysis
*Hideyuki Arima, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine··S1818
- 2-4-S18-4 Three-dimensional gait analysis synchronized with electromyography during prolonged walking: Towards understanding pathology of adult spinal deformity and dropped head syndrome*Tomoyuki Asada, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1818
- 2-4-S18-5 Gait pattern of patients with dropped head syndrome and efficacy of SHAIR program
*Haruki Funao, et al.*, Dept. of Orthop. Surg.,
 International Univ. of Health and Welfare Narita Hosp.··S1819

2nd Day October 20 Room 5

8 : 00 ~ 9 : 00	Free papers	Moderators K. Goto, T. Matsumoto
Artificial joints: Images lower extremity		

- 2-5-1 Is the intraoperative soft tissue assessment using a robotic system associated with intraoperative knee rotational kinematics?: A study using data of bi-cruciate stabilized TKA
*Keizo Wada, et al.*, Dept. of Orthop., Institute of Biomedical Sciences,
 Tokushima Univ. Graduate School··S1820
- 2-5-2 Intraoperative pelvic movement in total hip arthroplasty in a lateral decubitus position using AR- and CT-based navigation system
*Yohei Naito, et al.*, Dept. of Musculoskeletal Surg., Dept. of Multimodality Therapy for Cancer,
 Mie Univ. Graduate School of Medicine··S1820
- 2-5-3 The relationship between spinopelvic shape and parameter in total hip arthroplasty
*Yuta Matsuki, et al.*, Dept. of Orthop. Surg., Yamaguchi Univ. Graduate School of Medicine··S1821
- 2-5-4 Impact of kinematics of total knee arthroplasty using navigation to postoperative clinical results
*Masahiro Hasegawa, et al.*, Dept. of Musculoskeletal Surg., Dept. of Multimodality Therapy for
 Cancer, Mie Univ. Graduate School of Medicine··S1821
- 2-5-5 Relationship between lower limb varus alignment and gait parameters after total knee arthroplasty
*Ryosuke Tsutsumi, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1822
- 2-5-6 Computer simulation of total knee arthroplasty for varus knee with severe lateral femoral bowing
*Shinichiro Nakamura, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ.··S1822
- 2-5-7 Changes in talus alignment replaced by combined total ankle arthroplasty with artificial talus (cTAA)*Rintaro Niki, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1823

9 : 10 ~ 10 : 30 Symposium 19

Moderators Y. Uchio, S. Orita

Translational research: acceleration with industry-academia collaboration and startup

- 2-5-S19-1 Development of a wearable device for sweat lactate monitoring
.....*Daisuke Nakashima*, Dept. of Orthop. Surg., Keio Univ.··S1824
- 2-5-S19-2 Development and social implementation of Qolo which assists sit-to-stand and stand-to-sit posture transfer and standing mobility based on biomechanics
.....*Hideki Kadone, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1824
- 2-5-S19-3 Approach to organ regeneration using bio 3D printers
.....*Koichi Nakayama*, Dept. of Regenerative Medicine and Biomedical Engineering,
Faculty of Medicine, Saga Univ.··S1825
- 2-5-S19-4 Development of AI-based support tools for scoliosis surgery
.....*Kota Watanabe*, Dept. of Orthop. Surg., Keio Univ.··S1825
- 2-5-S19-5 Development of an innovative exercise device for the abdominal trunk muscles
.....*Satoshi Kato, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Sciences,
Kanazawa Univ.··S1826
- 2-5-S19-6 Titanium screws coated with a fibroblast growth factor-2-calcium phosphate composite layer
.....*Hiroataka Mutsuzaki, et al.*, Center for Medical Science,
Ibaraki Prefectural Univ. of Health Sciences··S1826

10 : 40 ~ 12 : 00 Symposium 20

Moderators A. Sudo, A. Myoui

Cutting edge of biomaterials for orthopaedic surgery

- 2-5-S20-1 Basic research on unidirectional porous beta-tricalcium phosphate and clinical use in spine surgery
.....*Hiroshi Kumagai, et al.*, Dept. of Orthop. Surg., Ichihara Hosp.··S1827
- 2-5-S20-2 Characterization of bone remodeling of unidirectional porous β -tricalcium phosphates: A quantitative analysis using computed tomography
.....*Naoya Kikuchi, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1827
- 2-5-S20-3 Development of artificial bone with osteogenic activity by amine modification using plasma technology
.....*Takashi Kaito*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ.··S1828
- 2-5-S20-4 Clinical application and future perspective of bioactive titanium
.....*Shunsuke Fujibayashi, et al.*, Yoshikawa Hosp.··S1828
- 2-5-S20-5 Development of regenerative medicine for musculoskeletal organs using high-purified alginate gel
.....*Tomohiro Onodera, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1829

12 : 10 ~ 13 : 20 Luncheon seminar 13

Moderator T. Ozaki

- 2-5-LS13 The characteristics of artificial bone with unidirectional porous structure in orthopaedic surgery
.....*Toru Funayama*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1830

13 : 30 ~ 14 : 30 Free papers

Moderators S. Kawano, T. Mamoto

Artificial joints: Lower extremity

- 2-5-8 Involvement of ferroptosis in inflammatory osteolysis associated with implant loosening
.....*Takuya Ogawa, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1831
- 2-5-9 Oxidation index and oxidative induction time for anti-oxidant doped highly cross-linked polyethylene retrieved *in vivo*
.....*Shine Tone, et al.*, Dept. of Musculoskeletal Surg.,
Dept. of Multimodality Therapy for Cancer, Mie Univ. Graduate School of Medicine··S1831

- 2-6-4 The relation between spine alignment and scapula position by plain radiograph examination
*Jun Kawamata, et al.*, Dept. of Orthop., Institute of Biomedical Sciences,
 Tokushima Univ. Graduate School...S1839
- 2-6-5 The relationship between spinal alignment and activity of paravertebral muscle during gait in
 patients with adult spinal deformity
*Tomoyuki Asada, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1840
- 2-6-6 Estimation of spinal alignment during walking using AI: Comparison with 3D motion capture
*Seioh Ezaki, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1840
- 2-6-7 How do the kinematic characteristics of the hip joint change in patients with spinal kyphosis after
 corrective spinal fusion surgery?: A study using gait analysis with a three-dimensional
 motion analyser
*Ryo Fujita, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine...S1841

9 : 15 ~ 10 : 15 Free papers Tendon and ligament: Pathology Moderators S. Ozeki, A. Nimura

- 2-6-8 PI3K/Akt signaling stimulates Scx positive cells migration and differentiation
*Atsushi Goto, et al.*, Dept. of Orthop. Surg., Div. of Disease Control,
 Research field of Medical Sciences, Graduate School of Medicine, Gifu Univ...S1842
- 2-6-9 Sex differences in wrist torque in patients with lateral epicondylitis of the humerus
*Kazuhiro Ikeda, et al.*, Dept. of Orthop. Surg., Kikkoman General Hosp...S1842
- 2-6-10 Establishment of tendon sheath-specific reporter mice
*Koki Kato, et al.*, Dept. of Orthop. Surg., Div. of Disease Control,
 Research field of Medical Sciences, Graduate School of Medicine, Gifu Univ...S1843
- 2-6-11 Comprehensive genetic analysis of mouse intrasynovial tendons for sex hormone deficiency
 and aging*Hiroko Iwakawa, et al.*, Dept. of Orthop. Surg., Shinshu Univ...S1843
- 2-6-12 Characteristics of ultrasonography and MRI findings before the development of jumper's knee
*Yusuke Nishida, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1844
- 2-6-13 Establishment of a chronic massive rotator cuff tear model using pigs
*Hideyuki Sasanuma, et al.*, Dept. of Orthop., Jichi Medical Univ...S1844
- 2-6-14 Relationship between Glutaminase 1 and Stump classification in rotator cuff tears
*Tatsuo Kato, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1845

10 : 30 ~ 11 : 30 Free papers Tendon and ligament: Spine Moderators N. Kawahara, K. Kanzaki

- 2-6-15 Regulation of angiogenetic factor by DNA methylation array in patients with ossification of the
 spinal ligament*Yuya Chosei, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science...S1846
- 2-6-16 Participation of DNA methylation in pathogenesis with ossification of the posterior longitudinal
 ligament in cervical spine
*Takafumi Yayama, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science...S1846
- 2-6-17 The involvement of epigenetic factors in the expression of cytokines by DNA methylation array
 and microRNA array in patients with ossification of the spinal ligament
*Takafumi Yayama, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science...S1847
- 2-6-18 Association of dyslipidemia with the development of symptomatic ossification of the posterior
 longitudinal ligament*Shotaro Fukada, et al.*, Spine Center, Hakodate Central General Hosp...S1847
- 2-6-19 Potential involvement of oxidative stress in ligamentum flavum hypertrophy
*Kei Ito, et al.*, Dept. of Orthop. Surg., Fujita Health Univ...S1848
- 2-6-20 The development of Achilles and plantar tendon ossification is associated with ossification of the
 posterior longitudinal ligament of the spine*Tsutomu Endo, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1848

- 2-6-21 The growth pattern of ossification of the posterior longitudinal ligament after cervical posterior decompression and fusion*Jun Hashimoto, et al.*, Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ.··S1849

12 : 10 ~ 13 : 20	Luncheon seminar 14	Moderator K. Sairyo
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- 2-6-LS14 Aging and chronic low back pain*Masayuki Miyagi*, Dept. of Orthop. Surg., Kitasato Univ.··S1850

13 : 30 ~ 14 : 30	Free papers Intervertebral disc: Analysis	Moderators K. Chiba, M. Doita
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- 2-6-22 Paracrine regulation by hedgehog in the nucleus pulposus and articular cartilage*Hiroki Hagizawa, et al.*, Dept. of Tissue Biochemistry, Graduate School of Medicine and Frontier Biosciences, Osaka Univ.··S1851
- 2-6-23 Comparison of selective inhibition of the mTOR signaling pathway in intervertebral disc degeneration by RNA interference and CRISPR-Cas9 systems*Masao Ryu, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1851
- 2-6-24 Selective RNA interference of intracellular mTOR signaling is protective against intervertebral disc degeneration in a rat tail temporary static compression model *in vivo**Naotoshi Kumagai, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1852
- 2-6-25 Transient receptor potential vanilloid 4 activation promotes autophagy and extracellular matrix synthesis in rat intervertebral disc cells*Kohei Kuroshima, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1852
- 2-6-26 Transient receptor potential vanilloid 4 (TRPV4) knockdown suppresses autophagy and extracellular matrix synthesis in rat intervertebral disc cells*Tomoya Matsuo, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1853
- 2-6-27 Association between lumbar disc bulge and clinical outcomes for lumbar spinal stenosis patients*Takahiro Hasegawa, et al.*, Dept. of Musculoskeletal Surg., Dept. of Multimodality Therapy for Cancer, Mie Univ. Graduate School of Medicine··S1853
- 2-6-28 Investigation of the natural resorption factor of lumbar disc herniation*Shoji Kojima, et al.*, Dept. of Orthop. Surg., Aichi Medical Univ.··S1854

14 : 40 ~ 15 : 45	Free papers Intervertebral disc regeneration: Culture	Moderators T. Aizawa, K. Nishida
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- 2-6-29 Identification of potential compounds that can mitigate the adverse effects of mitochondrial reactive oxygen species on human nucleus pulposus cells*Shota Tamagawa, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ.··S1855
- 2-6-30 Correlation analysis between expression of transcription factors PITX1 and FOXQ1 and age-related degeneration in nucleus pulposus cell phenotype*Shota Ogasawara, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ.··S1855
- 2-6-31 Functional analysis of integrins in enhancing Type II collagen production in human medullary nucleus progenitor cells*Hazuki Soma, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ.··S1856
- 2-6-32 Effect of hyaluronic acid in mitigating cytotoxicity by DMSO after thawing of human nucleus pulposus cells*Daiki Munesada, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ.··S1856
- 2-6-33 Bag-1 protects nucleus pulposus cells from oxidative stress by interacting with HSP70*Kaori Suyama, et al.*, Dept. of Anat. Cell. Biol., Tokai Univ.··S1857
- 2-6-34 Expression of caspase recruitment domain-containing protein 14 (CARD14) in nucleus pulposus: Implication for disc degeneration*Koki Kawaguchi, et al.*, Dept. of Musculoskeletal Surg., Dept. of Multimodality Therapy for Cancer, Mie Univ. Graduate School of Medicine··S1857

- 2-6-35 Regenerative therapy to treat intervertebral disc disorders using the bone marrow aspirate concentrate combined with a bioabsorbable biomaterial
 *Daisuke Ukeba, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1858
- 2-6-36 Nucleic acid targets for regeneration of the intervertebral disc based on regenerative medicine using bone marrow-derived mesenchymal stem cell transplantation
 *Takashi Ohnishi, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1858

2nd Day October 20 Room 7

8 : 00 ~ 9 : 00 Free papers Osteoarthritis: Basic research Moderators T. Sasho, M. Ishijima

- 2-7-1 Effect of intra-articular injection of VEGF inhibitor on osteochondral unit in surgical osteoarthritis rats model *Yu Okuno, et al.*, Dept. of Orthop. Surg., Tottori Univ.··S1859
- 2-7-2 Involvement of I κ B kinase (IKK) in meniscus degeneration and therapeutic effect of IKK ϵ /TBK1 inhibitors *Ryota Hirose, et al.*, Dept. of Orthop. Surg.,
 Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ.··S1859
- 2-7-3 Analysis of cytokine expression in joint degenerative diseases using synovial fibroblasts derived from knee joints ··· *Kosuke Kumagai, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science··S1860
- 2-7-4 Functional analysis of Uhrf1 during osteophyte formation
 *Akihiro Jono, et al.*, Dept. of Bone and Joint Surg., Ehime Univ. Graduate School of Medicine··S1860
- 2-7-5 The capsuloligamentous complex of the glenohumeral joint is crucial for preventing cuff tear arthropathy progression *Toshiro Ijuin, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medical and Dental Sciences, Kagoshima Univ.··S1861
- 2-7-6 The activation of BMP signaling in a novel animal model of shoulder cuff tear arthropathy
 *Tomohiro Iuchi, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medical and Dental Sciences, Kagoshima Univ.··S1861
- 2-7-7 Identification of anti-inflammatory compounds based on Omura natural products library
 *Sho Inoue, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1862

9 : 15 ~ 10 : 15 Free papers Fracture Moderators T. Ishii, T. Matsumura

- 2-7-8 Development of a functional prognosis prediction model for patients with proximal femur fractures using machine learning
 *Kyohei Nozawa, et al.*, Dept. of Medical Eng., Graduate School of Sci. and Eng., Chiba Univ.··S1863
- 2-7-9 AI-assisted quantitative evaluation of vertebral fractures: Reproducibility study with 1753 vertebrae
 *Shoutaro Arakawa, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine··S1863
- 2-7-10 Incidence and location of osteochondral lesion of the talus associated with ankle fractures evaluated by magnetic resonance imaging
 *Futoshi Morio, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine··S1864
- 2-7-11 Prospective multicenter study by a magnetic resonance imaging at 3-month in patients with subsequent-domino osteoporotic vertebral fracture
 *Tomoyuki Kusukawa, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine··S1864
- 2-7-12 Association of bone density with periarticular Hounsfield unit of wrist and fracture type in patients with distal radius fractures *Tomonori Kinoshita, et al.*, Dept. of Orthop. Surg., Nihon Univ.··S1865
- 2-7-13 Biomechanical comparisons of the position of plate placement for medial tibial plateau fractures (Schatzker type IV); A biomechanical study using porcine tibias
 *Jiro Ando, et al.*, Dept. of Orthop., Jichi Medical Univ.··S1865

- 2-7-14 The impact of non-thermal atmospheric pressure gas discharge plasma on healing of bone fracture delayed union model*Kosuke Saito, et al.*, Dept. of Orthop. Surg., Osaka Metropolitan Univ. Graduate School of Medicine...S1866

10 : 30 ~ 11 : 30 Free papers Regeneration and treatments Moderators J. Toguchida, N. Fujita

- 2-7-15 Bone metabolism environment in rat femoral critical sized bone model using Masquelet technique*Masao Suzuki, et al.*, Dept. of Orthop. Surg., Juntendo Univ. Urayasu Hosp...S1867
- 2-7-16 Masquelet technique using a mouse's femur critical-sized bone defect model: Effects of different fixation methods and addition of basic fibroblast growth factor on induced membrane*Tatsuru Sonobe, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ...S1867
- 2-7-17 Masquelet technique using a mouse's femur critical-sized bone defect model: Differences in macrophage expression in induced membranes by fixation method*Yota Kaneko, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ...S1868
- 2-7-18 Development of bone reconstruction using human iPS cell-derived expandable limb-bud-like mesenchymal (ExpLBM) cells*Kohei Sato, et al.*, Dept. of Orthop. Surg., Science of Functional Recovery and Reconstruction, Faculty of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama Univ...S1868
- 2-7-19 Effects of BMP-2 on femoral osteogenesis in rats*Ippei Yamauchi, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ...S1869
- 2-7-20 Abaloparatide promotes bone repair of vertebral defects in ovariectomized rats by increasing bone formation*Akito Makino, et al.*, Pharmacology Research Dept., Teijin Pharma Limited...S1869
- 2-7-21 Effect of romosozumab administration on bone fusion in rat OVX model with posterolateral lumbar fusion*Kohei Okuyama, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1870

12 : 10 ~ 13 : 20 Luncheon seminar 15 Moderator H. Chikuda

- 2-7-LS15 Involvement of neuropathic pain in patients with degenerative cervical myelopathy*Yasushi Oshima*, Orthop. Surg., Sensory and Motor System Medicine, Surgical Sciences, Graduate School of Medicine, The Univ. of Tokyo...S1871

13 : 30 ~ 14 : 30 Free papers Osteoporosis Moderators A. Sakai, H. Takahashi

- 2-7-22 Novel anti-nuclear factor-kappa B peptide derived from nuclear acidic protein attenuates ovariectomy-induced osteoporosis in mice*Kenji Takami, et al.*, Dept. of Orthop. Surg., Nippon Life Hosp...S1872
- 2-7-23 Therapeutic potentials of a novel bone macrophage-derived molecular protein in in experimental post-menopausal osteoporosis*Junki Shiota, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1872
- 2-7-24 Exploring the regulatory role of osteal macrophage on bone remodeling: Focus on cellular senescence*Yoshio Nishida, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1873
- 2-7-25 Not extracellular AGEs but intracellular induce osteoblast apoptosis via endoplasmic stress*Ryusuke Suzuki, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine...S1873
- 2-7-26 Effects of etelcalcetide and teriparatide on the bone microstructure and bone strength in the adenine-induced chronic kidney disease model rats*Shun Igarashi, et al.*, Dept. of Orthop. Surg., Municipal Oomori Hosp...S1874
- 2-7-27 Involvement of cellular senescence in bone loss after discontinuation of PTH administration*Masayuki Bun, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1874

2nd Day October 20 Room 8

8 : 00 ~ 9 : 00	Free papers	Moderators J. Nishida, H. Kawano
Malignant soft tissue tumors: Treatments		

- 2-8-1 Antitumor effect and neurotoxicity of ethanol adjuvant therapy after surgery for a soft tissue sarcoma *Yoshitaka Ban, et al.*, Dept. of Orthop. Surg.,
Osaka Metropolitan Univ. Graduate School of Medicine...S1883
- 2-8-2 Targeting INI1-AURKA pathway to induce antitumor activity against EPS
..... *Akitomo Inooue, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1883
- 2-8-3 New treatment of rhabdomyosarcoma targeting the process of translational regulation
.. *Takuto Itano, et al.*, Dept. of Orthop. Surg., Science of Functional Recovery and Reconstruction,
Faculty of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama Univ...S1884
- 2-8-4 Impact of catecholamine synthesizing pathway inhibitor in cancer stem-like cells in malignant peripheral nerve sheath tumors and potential as chemotherapy
..... *Haruyoshi Katayama, et al.*, Dept. of Orthop. Surg.,
Science of Functional Recovery and Reconstruction, Faculty of Medicine,
Dentistry, and Pharmaceutical Sciences, Okayama Univ...S1884
- 2-8-5 Development of combination therapy targeting both sarcoma cells and sarcoma microenvironment for soft-tissue sarcoma *Ayana Kondo, et al.*, Dept. of Orthop. Surg.,
Science of Functional Recovery and Reconstruction, Faculty of Medicine,
Dentistry, and Pharmaceutical Sciences, Okayama Univ...S1885
- 2-8-6 Elucidation of the mechanism of action of BET inhibitor in synovial sarcoma
..... *Yuki Kotani, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1885
- 2-8-7 CSF-1 as a circulating biomarker predictive of TAM infiltration and prognosis of patients with infiltrative soft-tissue sarcoma *Toshiaki Hata, et al.*, Dept. of Orthop. Surg.,
Science of Functional Recovery and Reconstruction, Faculty of Medicine,
Dentistry, and Pharmaceutical Sciences, Okayama Univ...S1886

9 : 15 ~ 10 : 15	Free papers Metastatic tumor	Moderators H. Sugiura, K. Honoki
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- 2-8-8 Comparison of amputation versus limb salvage surgery for the bone sarcoma: Population based study of SEER database *Nayuhito Yanagisawa, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1887
- 2-8-9 Preoperative nutritional status is the factor for the prediction of postoperative performance status and postoperative chemotherapy *Masahiro Inuma, et al.*, Dept. of Orthop. Surg.,
St. Marianna Univ. School of Medicine, Yokohama City Seibu Hosp...S1887
- 2-8-10 Comparison of abscopal effects of local therapies (radiation, thermal ablation and cryoablation) for metastatic bone tumor in a mouse model *Masafumi Kawai, et al.*, Dept. of Orthop. Surg.,
Graduate School of Medical Sciences, Kanazawa Univ...S1888
- 2-8-11 Survival impact of resection of the primary malignant bone tumor of the extremities with distant metastasis at diagnosis *Ryuichi Fukuda, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1888
- 2-8-12 A study of effectiveness of cryo-chemotherapy for bone metastasis of lung cancer
..... *Toru Udaka, et al.*, Dept. of Orthop. Surg., Kyorin Univ...S1889
- 2-8-13 Investigation of useful tumor markers that should be submitted along with computed tomography when skeletal metastasis of unknown primary is suspected at the initial visit
..... *Toshio Kojima, et al.*, Dept. of Orthop. Surg., Nihon Univ...S1889

- 2-8-14 The roles of PRRX1 as a malignant factor in malignant peripheral nerve sheath tumor
*Shota Takihira, et al.*, Dept. of Orthop. Surg.,
 Science of Functional Recovery and Reconstruction, Faculty of Medicine,
 Dentistry, and Pharmaceutical Sciences, Okayama Univ.··S1890

10 : 30 ~ 11 : 35	Free papers	Moderators	T. Torigoe, Y. Matsumoto
Osteosarcoma, soft tissue sarcoma			

- 2-8-15 IL17 is required for tumorigenesis in AX cell-derived osteosarcoma
*Naoto Yoshimura, et al.*, Dept. of Orthop. Surg., Faculty of Life Sciences, Kumamoto Univ.··S1891
- 2-8-16 Role of tumor-associated macrophage-derived chemokines in the osteosarcoma microenvironment
*Rikito Tatsuno, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medical Science, Univ. of Yamanashi··S1891
- 2-8-17 Role of SPRR1A in osteosarcoma cells
*Tomohiro Miyamoto, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1892
- 2-8-18 Modification of anti-CSF-1/CSF-1R inhibitor for targeting sarcoma microenvironment for
 increased safety profile*Tomohiro Fujiwara, et al.*, Dept. of Orthop. Surg.,
 Science of Functional Recovery and Reconstruction, Faculty of Medicine,
 Dentistry, and Pharmaceutical Sciences, Okayama Univ.··S1892
- 2-8-19 Effects of antihypertensive medication on the cellular rigidity, proliferative potential, and adhesive
 properties of osteosarcoma cells*Teruya Uchiyama, et al.*, Dept. of Musculoskeletal Surg.,
 Dept. of Multimodality Therapy for Cancer, Mie Univ. Graduate School of Medicine··S1893
- 2-8-20 Prognostic nutritional index predicts prognosis of soft tissue sarcoma
 ···*Keiju Saito, et al.*, Musculoskeletal Science, Yokohama City Univ. Graduate School of Medicine··S1893
- 2-8-21 The utility of clinical sequence by cancer genome panel in the treatment of bone and soft
 tissue tumor*Eiji Nakata, et al.*, Dept. of Orthop. Surg.,
 Science of Functional Recovery and Reconstruction, Faculty of Medicine,
 Dentistry, and Pharmaceutical Sciences, Okayama Univ.··S1894
- 2-8-22 Super methotrexate-resistance in osteosarcoma cells is linked to malignancy and expression of
 PI3K/AKT/mTOR and c-MYC
*Yusuke Aoki, et al.*, Orthop. Surg., Graduate School of Medicine, Univ. of the Ryukyus··S1894

13 : 30 ~ 14 : 20	Free papers	Surgery: Extremity 2	Moderators	D. Osada, T. Sunagawa
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- 2-8-23 Relationship between placement position and intraoperative zero position acquisition in reverse
 shoulder arthroplasty*Tomonori Kenmoku, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1895
- 2-8-24 Clinical effects of bioabsorbable scaffold on postoperative pain of rotator cuff repair
*Tomonori Kenmoku, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1895
- 2-8-25 Fatty infiltration progression after rotator cuff repair is accelerated by statin administration
*Kotaro Yamakado, et al.*, Fukui General Hosp.··S1896
- 2-8-26 Efficacy of simple mini-open rotator cuff repair in combination with arthroscopic treatment
*Isao Takei, et al.*, Dept. of Orthop. Surg.,
 St. Marianna Univ. School of Medicine, Yokohama City Seibu Hosp.··S1896
- 2-8-27 Ideal position for bone tunnel in the augmentation of acromioclavicular ligament using Internal
 Brace for acromioclavicular dislocation
*Kaneaki Tawada, et al.*, Dept. of Orthop. Surg., Komaki City Hosp.··S1897
- 2-8-28 Makeshift depth stop from an electric plug used for clavicle plating
*Pradyumna Krishna Majumdar, et al.*, Dept. of Orthop. Surg., PGIMS, Rohtak, India··S1897

14 : 30 ~ 15 : 05	Free papers	Surgery: Extremity 3	Moderators M. Kataoka
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- 2-8-29 Corrective osteotomy for malunited distal radius fracture using the augmented reality (AR) osteotomy guide *Masaru Munemori, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.···S1898
- 2-8-30 Finite element analysis of phalangeal fracture fixation using Kirschner wires: Investigation of the relationship between insertion angle, wire diameter, and insertion point *Yukinori Hayashi, et al.*, Dept. of Orthop., Jichi Medical Univ.···S1898
- 2-8-31 Medium- and long-term results of combination metatarsal proximal osteotomies for shortening *Tomoko Karube, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine···S1899
- 2-8-32 Relationship between the osteotomy angle in coronal plane and the intact ratio in curved varus osteotomy for osteonecrosis of the femoral head *Shinichiro Sakai, et al.*, Dept. of Bone and Joint Surg., Ehime Univ. Graduate School of Medicine···S1899

15 : 15 ~ 15 : 50	Free papers	Skeletal muscle	Moderators N. Terada, H. Horiuchi
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- 2-8-33 Establishment of a method to prepare decellularized skeletal muscle for application in soft tissue reconstruction *Shiro Fukuoka, et al.*, Dept. of Orthop. Surg., Science of Functional Recovery and Reconstruction, Faculty of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama Univ.···S1900
- 2-8-34 Parathyroid hormone inhibits fatty infiltration and muscle atrophy after rotator cuff tear by fibro-adipogenic progenitors browning in a rodent model *Ryosuke Iio, et al.*, Dept. of Orthop. Surg., Osaka City Univ. Graduate School of Medicine···S1900
- 2-8-35 Stress-strain relationship for each hamstring muscle using the soft-embalmed Thiel cadaver *Gakuto Nakao, et al.*, Graduate School of Health Sciences, Sapporo Medical Univ.···S1901
- 2-8-36 Relationship between phase angle, skeletal muscle mass and motor function *Ikuko Takahashi, et al.*, Ishii Orthop. and Rehabilitation Clinic···S1901

2nd Day October 20 Room 9

8 : 00 ~ 9 : 05	Free papers	Spinal cord, others	Moderators H. Yamada, S. Kaneko
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- 2-9-1 Drainage function of the spinal cord: Focusing on lymphatic vessel markers *Keiichi Nakai, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine···S1902
- 2-9-2 Myelin-specific microRNA-23 cluster deletion inhibits myelination of the central nervous system *Shigeki Ishibashi, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.···S1902
- 2-9-3 Association between serum IL-17 levels and ectopic bone formation in OPLL patients with DISH: A comparative study *Nguyen Tran Canh Tung, et al.*, Dept. of Orthop. Surg., Faculty of Medicine, Univ. of Toyama···S1903
- 2-9-4 Functional connectivity analysis using resting state functional MRI before and after surgery in patients with cervical myelopathy ··· *Fumihiko Eto, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba···S1903
- 2-9-5 Machine learning web application for predicting functional outcomes in patients with traumatic spinal cord injury following inpatient rehabilitation *Satoshi Maki, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.···S1904
- 2-9-6 A study on automatic generation of neural tractography by MRI diffusion tensor imaging in lumbar spine disease using deep learning *Hidenari Takeuchi, et al.*, Works Human Intelligence···S1904

- 2-9-7 Establishment of nerve root region segmentation method in lumbar spine disease MRI diffusion tensor images using deep learning
*Rira Masumoto, et al.*, Dept. of Medical Engineering, Faculty of Engineering, Chiba Univ.··S1905
- 2-9-8 A study on speckle tracking development and dynamic analysis for the extraction of pulsation in the lumbar dural canal
*Ryohei Kasai, et al.*, Dept. of Medical Eng., Graduate School of Sci. and Eng., Chiba Univ.··S1905

9 : 15 ~ 10 : 15	Free papers	Moderators	A. Taniguchi, T. Takagi
Images: Upper and lower extremity			

- 2-9-9 Visualization of tendons of the hand on FRACTURE MRI
*Yukari Matsuzawa, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1906
- 2-9-10 CT sagittal image evaluation for osteochondritis dissecans of the elbow correlates with clinical outcomes of arthroscopic debridement in adolescent baseball players
*Kenji Yokoyama, et al.*, Dept. of Orthop.,
 Institute of Biomedical Sciences, Tokushima Univ. Graduate School··S1906
- 2-9-11 Virtual reality preoperative planning method for intramedullary nailing
*Takushi Nakatani, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1907
- 2-9-12 Developmental dysplasia of the hip with posterior wall deficiency concentrates great stress on the acetabulum*Daisuke Suzuki, et al.*, Dept. of Health Sciences, Chitose Collage of Rehabilitation··S1907
- 2-9-13 Utility of percutaneous pelvic screw placement in fragility fractures of pelvis: Investigation using finite element analysis
*Satoshi Nakasone, et al.*, Orthop. Surg., Graduate School of Medicine, Univ. of the Ryukyus··S1908
- 2-9-14 Quantitative evaluation of anterior talofibular ligament footprint using 3DMRI
*Kenta Kono, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1908
- 2-9-15 Quantitative evaluation and measurement reliability of the lateral ankle ligament footprint using 3DMRI
*Yuriko Yoshimoto, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1909

10 : 30 ~ 11 : 30	Free papers	Images: Spine	Moderators	D. Togawa, M. Takahata
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- 2-9-16 Novel evaluation for vertebral artery course using 3D MRI with CT-like bone contrast and MR angiography
*Takaki Inoue, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1910
- 2-9-17 Usefulness of FRACTURE MRI and MRA fusion imaging in preoperative planning for spinal fusion surgery
*Kentaro Mataka, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ. Ibaraki Medical Center··S1910
- 2-9-18 The relationship between neuropathic pain and functional connectivity after surgery in patients with cervical myelopathy*Kento Inomata, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1911
- 2-9-19 Measurement of postoperative vertebral rotation in early onset scoliosis utilizing quantitative evaluation using inverse trigonometric functions: A multicenter study
*Shun Okuwaki, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1911
- 2-9-20 Fracture line congruency on CT-like MRI of 1.5 Tesla and CT images of acute lumbar spondylolysis*Masaki Tatsumura, et al.*, Tsukuba Univ. Hosp.
 Mito Clinical Education and Training Center Dept. of Orthop. Surg., and Sports Medicine··S1912
- 2-9-21 Association between the bone marrow edema on MRI assessed quantitatively using contrast ratio and the rest period in lumbar spondylolysis patients
*Reo Asai, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ. Ibaraki Medical Center··S1912

2-9-22 Development of novel semi-quantitative evaluation method for cervical radiograph novel semi-quantitative evaluation method for cervical radiograph
 *Junichi Yamada, et al.*, Dept. of Musculoskeletal Surg.,
 Dept. of Multimodality Therapy for Cancer, Mie Univ. Graduate School of Medicine...S1913

13 : 30 ~ 14 : 30	Free papers Imaging analysis: AI	Moderators H. Oka, R. Nakahara
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2-9-23 Development of screening method for carpal tunnel syndrome using video analysis
 *Kazuya Tsukamoto, et al.*, Dept. of Orthop. and Spinal Surg.,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1914

2-9-24 Prediction of Cobb angle using deep learning algorithm with three-dimensional depth sensor considering the influence of garment in idiopathic scoliosis
 *Yoko Ishikawa, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1914

2-9-25 Prediction of cervical spondylosis classification using deep learning with convolutional neural network *Hiroyuki Tachi, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1915

2-9-26 Can ChatGPT pass the Japanese orthopaedic certification examination?
 *Ryuto Tsuchiya, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1915

2-9-27 Detection of medial epicondyle deformity of the humerus in adolescent baseball player using deep learning *Kenta Takatsuji, et al.*, Dept. of Orthop.,
 Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine...S1916

2-9-28 Validation of segmentation of the common iliac vein in intraoperative endoscopic images to support oblique lateral interbody fusion for L5/S1
 *Kaori Yamamoto, et al.*, Dept. of Medical Engineering, Faculty of Engineering, Chiba Univ...S1916

2-9-29 Investigation of the accuracy of 3D images of lumbosacral nerve roots created using artificial intelligence technology *Daisuke Ukeba, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1917

14 : 40 ~ 15 : 30	Free papers Joint diseases	Moderators K. Hiraoka, N. Nishinaka
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2-9-30 Involvement of inflammasome activation in frozen shoulder
 *Masaki Takahashi, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine...S1918

2-9-31 Oxidative stress is involved in the development of idiopathic frozen shoulder
 *Hironori Tsurukami, et al.*, Dept. of Orthop. Surg., Juntendo Univ. Urayasu Hosp...S1918

2-9-32 MicroRNA-26a knockout mice suppress contractures in frozen shoulder models
 *Yasuhiko Sumimoto, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1919

2-9-33 Evaluation of useful assessment for predicting of shoulder pain during throwing in baseball players *Shotaro Teruya, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1919

2-9-34 Three-dimensional analysis of blood vessels and neural fibers in porcine meniscus using CUBIC protocols
 *Chika Lee, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1920

2-9-35 Analysis of femoral torsion in patients with recurrent patellar dislocation
 *Rika Shigemoto, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1920

15 : 40 ~ 16 : 30	Free papers RA: Others	Moderators K. Takahashi, A. Nakajima
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2-9-36 Anti-citrullinated osteopontin antibody enhances the binding of osteopontin to synovial cells and aggravates rheumatoid arthritis
 *Akio Umemoto, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ...S1921

- 2-9-37 ProtectinD1 in synovial fluid enable to discriminate between rheumatoid arthritis and osteoarthritis *Yutaka Sano, et al.*, Dept. of Orthop. Surg., Nihon Univ.··S1921
- 2-9-38 Targeting of rheumatoid arthritis synovial fibroblasts proliferation by CDK6 inhibition alone *Ryoji Fujii, et al.*, Inst. of Medical Science, St. Marianna Univ. School of Medicine··S1922
- 2-9-39 Bone strength of the metacarpal head in patients with rheumatoid arthritis and its related factors *Rika Kakutani, et al.*, Div. of Orthop. Surg., Dept. of Regenerative and Transplant Medicine, Niigata Univ. Graduate School of Medical and Dental Sciences··S1922
- 2-9-40 Influence of exercise therapy to articular cartilage, in rheumatoid arthritis (RA) model rat *Kei Nakamura, et al.*, Dept. of Immunology, Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine··S1923
- 2-9-41 Peptide-based vaccine targeting IL17A attenuates experimental spondyloarthritis in HLA-B27 transgenic rats *Tetsuya Tomita, et al.*, Morinomiya Univ.··S1923

2nd Day October 20 Poster 1

9 : 30 ~ 10 : 00 Poster Sarcopenia Moderator Y. Sakai

- 2-Po-1 Usefulness of sarcopenia index in assessing sarcopenia *Toshihiko Ito, et al.*, Dept. of Orthop. Surg., Field of Surg., Nippon Medical School, Graduate School of Medicine··S1924
- 2-Po-2 Possible role of sclerostin in aging-associated skeletal muscle atrophy *Tetsuo Kobayashi, et al.*, Dept. of Orthop. Surg., Shizuoka Medical Center··S1924
- 2-Po-3 The effect of belt electrode-skeletal muscle electrical stimulation on the prevention of muscle atrophy using arthritis model rats *Kazufumi Hisamoto, et al.*, Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine··S1925
- 2-Po-4 Decreased grip strength is associated with paraspinal muscular oxidative stress in human females with lumbar degenerative disease *Ryosuke Takahashi, et al.*, Dept. of Medicine for Orthop. and Motor Organ, Juntendo Univ. Graduate School of Medicine··S1925
- 2-Po-5 Muscle activity related to the lumbar mobility for severe adult spinal deformity *Yu Yamato, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine··S1926
- 2-Po-6 A longitudinal study of the relationship between frailty and spinal alignment using the Japanese version of the Cardiovascular Health Study criteria based on health screening study among elderly residents *Shin Oe, et al.*, Dept. of Geriatric Musculoskeletal Health, Hamamatsu Univ. School of Medicine··S1926

10 : 10 ~ 10 : 30 Poster Motion analysis: Spinal alignment Moderator A. Minamide

- 2-Po-7 Cervical sagittal parameters and cervical posterior spondylolisthesis *Koji Matsumoto, et al.*, Dept. of Orthop. Surg., Nihon Univ.··S1927
- 2-Po-8 Cutoff values for spinal alignment by degree of locomotive syndrome *Makoto Miyagami, et al.*, Dept. of Orthop. Surg., Showa Univ.··S1927
- 2-Po-9 Status of sarcopenia in spinal alignment and abdominal circumference *Takashi Nagai, et al.*, Dept. of Rehabilitation Medicine, Showa Univ.··S1928
- 2-Po-10 Relationship between lumbar spinal flexibility and cervical spinal balance during gait *Kotaro Sakashita, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1928

10 : 50 ~ 11 : 20	Poster Images: Lower extremity	Moderator K. Watanabe
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- 2-Po-11 Evaluation of acetabular coverage before and after curved periacetabular osteotomy in dysplastic hips: Finite element analysis and radar chart
 *Takahiro Igei, et al.*, Orthop. Surg., Graduate School of Medicine, Univ. of the Ryukyus...S1929
- 2-Po-12 The feature of proximal femoral bone morphology with developmental dysplasia of the hip
 *Hideki Shozen, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1929
- 2-Po-13 Acetabulum central line of the patients as pre-operative planning for total hip arthroplasty
 *Hiroshi Wada, et al.*, Dept. Orthop. Surg., Ibaraki Western Medical Center...S1930
- 2-Po-14 Evaluation of first ray instability in hallux valgus, hallux rigidus and normal feet using 3-D analysis system and weight-bearing CT
 *Tadashi Kimura, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine...S1930
- 2-Po-15 Quantitative assessment of the anterior talofibular ligament after arthroscopic repair using T2* values
 *Yoshihiro Akatsuka, et al.*, Div. of Radiology and Nuclear Med...S1931
- 2-Po-16 CT evaluation of abnormal transverse talar alignment in ankle osteoarthritis
 *Yoshiki Tayama, et al.*, Dept. of Orthop. Surg.,
 Dokkyo Medical Univ. Saitama Medical Center...S1931

11 : 30 ~ 11 : 50	Poster Surgery: Extremity	Moderator Y. Yoshii
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- 2-Po-17 Identifying costal osteochondral junction by sonography: Cadaveric study
 *Tetsuya Takenaga, et al.*, Dept. of Orthop. Surg.,
 Nagoya City Univ., Graduate School of Medical Sciences...S1932
- 2-Po-18 Visible area of the elbow joint by use of NanoScope
 *Sho Yamauchi, et al.*, Dept. of Musculoskeletal Sports Medicine,
 Research and Innovation, Nagoya City Univ., Graduate School of Medical Sciences...S1932
- 2-Po-19 Imaging evaluation of arthroscopic cuff repair using biocomposite anchor
 *Genki Iwama, et al.*, Dept. of Orthop. Surg., Nihon Univ...S1933
- 2-Po-20 Safe zone for the approach to the retrograde nail fixation of tibiototalcanal arthrodesis:
 An anatomical study of fresh frozen cadavers
 *Yukie Metoki, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1933

13 : 30 ~ 14 : 00	Poster Spinal cord, others	Moderator S. Kawabata
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- 2-Po-21 Immunological and reparative processes in Wallerian degeneration after spinal cord injury:
 Time course study focusing on specific neural tracts
 *Yohei Sodeyama, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1934
- 2-Po-22 GFR α 1 promotes sensory axon regeneration after spinal cord injury
 *Hidemasa Terao, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1934
- 2-Po-23 Nerve root morphological and functional changes after degenerative cervical myelopathy
 surgery: Preliminary study using ultrasound and electrophysiology
 *Nobuaki Tadokoro, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ...S1935
- 2-Po-24 Morphology of the filum terminale in ultrasound images during lumbar decompression
 *Tomohiko Hasegawa, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine...S1935
- 2-Po-25 Direct nerve stimulation motor evoked potential for prevention of postoperative motor deficits in
 resection of spinal intradural schwannoma
 *Go Yoshida, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine...S1936

2-Po-26 A study of metastatic spinal tumors in our hospital: Association between SINS and progression of vertebral collapse *Yuki Konno, et al.*, Dept. of Orthop. Surg., Yamagata Univ.··S1936

14 : 10 ~ 14 : 50	Poster Spinal cord: Regenerative medicine	Moderator T. Tachibana
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- 2-Po-27 The effect of intravenous administration of multilineage differentiating stress enduring (Muse) cells for spinal cord injury mice with multiple injury
 ···*Manami Tsukuda, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine··S1937
- 2-Po-28 Intravenous infusion of mesenchymal stem cells into a staggered lesion model of spinal cord injury *Hisashi Obara, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.··S1937
- 2-Po-29 Effects of daily administration of GLP1 receptor agonists in spinal cord injured rats
 *Nobuaki Hattori, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ.··S1938
- 2-Po-30 Effects of decompression surgery and erythropoietin combination on a rat model of compression myelopathy
 *Yuki Shiratani, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1938
- 2-Po-31 Intrathecal adipose-derived mesenchymal stromal cell transplantation for SCI; Cell distribution analysis using in vivo imaging system
 *Ai Takahashi, et al.*, Dept. of Orthop. and Rehabilitation Medicine, Unit of Surg., Div. of Medicine, Faculty of Medical Sciences, Univ. of Fukui··S1939
- 2-Po-32 Therapeutic effect of immunoreceptor blockage for acute spinal cord injury in mice
 *Shun Okuwaki, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1939
- 2-Po-33 Neuronal regeneration by low adhesive scaffold collagen in rat spinal cord injury
 *Norihiko Nakano, et al.*, Biwako Prof. Univ. of Rehab.··S1940
- 2-Po-34 Adipose-derived mesenchymal stromal cell transplantation and treadmill training for SCI treatment *Ai Takahashi, et al.*, Dept. of Orthop. and Rehabilitation Medicine, Unit of Surg., Div. of Medicine, Faculty of Medical Sciences, Univ. of Fukui··S1940

2nd Day October 20 Poster 2

9 : 30 ~ 10 : 00	Poster RA: Others	Moderator T. Yasui
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- 2-Po-35 Ginger-derived exosomes suppress arthritis *Hiroki Kaneta, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.··S1941
- 2-Po-36 Anti-PD-L1 antibody-induced inflammatory arthritis exacerbates joint pain by promoting neuronal apoptosis via synovial fibroblast-derived humoral factor A
 *Hitoshi Toyoda, et al.*, Dept. of Orthop. Surg., Showa Univ.··S1941
- 2-Po-37 Analysis of autophagy-related molecules in synovial macrophage subtypes of rheumatoid arthritis *Hanqing Huang, et al.*, Dept. of Orthop. Surg., Yamagata Univ.··S1942
- 2-Po-38 Enhancement effect of IL-33 on cytokine production from cultured synovial mast cells by aggregated IgG stimulation ···*Masahiko Yanagisawa, et al.*, Dept. of Orthop. Surg., Nihon Univ.··S1942
- 2-Po-39 Localization of peroxisomal proliferator-activated receptors (PPARs) in synovial tissue in patients with rheumatoid arthritis *Yuya Takakubo, et al.*, Dept. of Rehabilitation, Yamagata Univ.··S1943
- 2-Po-40 (Withdrawn)

10 : 10 ~ 10 : 40	Poster Osteoarthritis: Images	Moderator S. Miyakawa
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- 2-Po-41 Three-dimensional tibial cortical bone thickness in patients with knee osteoarthritis and healthy elderly subjects, and the effect of lower limb alignment and the medial compartment inclination of the proximal tibia on cortical bone thickness
 ···*Keisuke Maeda, et al.*, Div. of Orthop. Surg., Dept. of Regenerative and Transplant Medicine, Niigata Univ. Graduate School of Medical and Dental Sciences··S1944

- 2-Po-42 Effects of the progression of varus deformity in knee osteoarthritis on the lower extremity muscles: A deep learning model-based study
*Kohei Kono, et al.*, Dept. of Bone and Joint Surg., Ehime Univ. Graduate School of Medicine...S1944
- 2-Po-43 Inclination angle of the proximal medial aspect of the tibia to the coronal plane
*Tomonori Kinugasa, et al.*, Dept. of Orthop. Surg., Ichihara Hosp....S1945
- 2-Po-44 Association between morphologic feature of the proximal tibia and bone marrow lesion with early knee osteoarthritis from Iwaki cohort study
*Hikaru Ishibashi, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine...S1945
- 2-Po-45 Relationship between intra-articular stress and Fear index in acetabular dysplastic hips
*Junichi Sumii, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ....S1946
- 2-Po-46 Evaluate of the bone morphogenetic features of the anterosuperior of femoral proximal part using human bone model: Could the plain radiography be substitute for CT examination for evaluation cam deformity?
*Tomohiro Mimura, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science...S1946

10 : 50 ~ 11 : 20	Poster Osteoarthritis: Pathology	Moderator N. Kaku
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- 2-Po-47 Effect of freeze-thawing of platelet rich plasma on macrophage polarization
*Ryoka Uchiyama, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ....S1947
- 2-Po-48 Identification of fibrocyte in synovial tissue of osteoarthritis patients and its involvement in OA pathophysiology*Maho Tsuchiya, et al.*, Dept. of Orthop. Surg., Kitasato Univ....S1947
- 2-Po-49 Jietacin derivative inhibits TNF- α -mediated inflammatory cytokines production via suppression of the NF- κ B pathway in synovial cells
*Kentaro Uchida, et al.*, Dept. of Orthop. Surg., Kitasato Univ....S1948
- 2-Po-50 Relationship between synovial mesenchymal stem cells and bone morphology in patients with different types of hip osteoarthritis
*Yang Yang, et al.*, Dept. of Joint Surg. and Sports Medicine,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ....S1948
- 2-Po-51 Regulation of DNA methylation alters in synovium and peripheral blood mononuclear cells in hip osteoarthritis
*Yuya Kawarai, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ....S1949
- 2-Po-52 Expression of matrix metalloproteinase-3 and connective tissue growth factor is elevated in patients with cuff tear arthropathy*Ryo Tazawa, et al.*, Dept. of Orthop. Surg., Kitasato Univ....S1949

11 : 30 ~ 12 : 00	Poster Osteoarthritis: Epidemiology, pathology	Moderator H. Wada
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- 2-Po-53 FNIII14 has the potential to stimulate cellular senescence in chondrocytes
*Yohei Yamabe, et al.*, Dept. of Musculoskeletal Surg.,
 Dept. of Multimodality Therapy for Cancer, Mie Univ. Graduate School of Medicine...S1950
- 2-Po-54 Expression and regulation of axon guidance gene in infrapatellar fat pad
*Yui Uekusa, et al.*, Dept. of Orthop. Surg., Kitasato Univ....S1950
- 2-Po-55 Increased mast cell marker expression in infrapatellar fat pad of knee osteoarthritis patients with high HbA1c value*Ayumi Tsukada, et al.*, Dept. of Orthop. Surg., Kitasato Univ....S1951
- 2-Po-56 Increased NMUR1 expression in mast cells in the synovial membrane of obese osteoarthritis patients*Ayumi Tsukada, et al.*, Dept. of Orthop. Surg., Kitasato Univ....S1951
- 2-Po-57 Relationship between knee osteoarthritis and health-related quality of life: A cross-sectional study using data from the Locomotor Health Examination: LOHAS study
*Tatsuru Sonobe, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ....S1952

2-Po-58 Nocturnal pain in elderly is associated with severity and structural change of knee osteoarthritis: The Bunkyo Health Study
*Takahiro Sasahara, et al.*, Dept. of Orthop., Juntendo Univ.··S1952

13 : 30 ~ 14 : 00	Poster Osteoarthritis: Basic research	Moderator T. Watanabe
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2-Po-59 Time course of osteoclast density during progression of knee osteoarthritis in rats
*Koji Aso, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ.··S1953

2-Po-60 Intra-articular diclofenac etalhyaluronate sodium has analgesic effect and joint protection effects compared to hyaluronic acid in a rat knee osteoarthritis model
*Soichiro Tokeshi, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1953

2-Po-61 The effect of postmenopausal osteoporosis on subchondral osteoclasts of knee osteoarthritis in rats*Hiroyuki Wada, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ.··S1954

2-Po-62 Early changes of osteochondral units in rats with destabilization of medial meniscus
*Keita Nagira, et al.*, Dept. of Orthop. Surg., Tottori Univ.··S1954

2-Po-63 Effect of CGRP receptor antagonist on the attenuation of degeneration of menisci in DMM mice
*Akinori Nekomoto, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ.··S1955

2-Po-64 Effect of 2-DG intra-articular injection on DMM model mice
*Junya Hasegawa, et al.*, Dept. of Orthop./Rheumatology,
 Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine,
 Graduate School of Medicine, Nagoya Univ.··S1955

14 : 10 ~ 14 : 40	Poster Osteoarthritis: Treatments	Moderator H. Mutsuzaki
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2-Po-65 Appropriate patient selection based on joint line convergence angle minimizes difference in mechanical axis between standing and supine positions after high tibial osteotomy
*Naosuke Nagata, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1956

2-Po-66 Effect of plate position on tibial translation and posterior tibial slope after cyclic loading in medial open wedge high tibial osteotomy: a biomechanical study using porcine tibia
*Yoshiya Nibe, et al.*, Dept. of Orthop., Jichi Medical Univ.··S1956

2-Po-67 Effectiveness of bone grafting to the peg hole of the tibial component in cementless total knee arthroplasty*Sho Nojiri, et al.*, Dept. of Orthop. Surg., Fujita Health Univ.··S1957

2-Po-68 Investigation of fixation style by sagittal plane alignment in Zweymüller-type stem MIRFY with shortened stem length
*Takashi Yoneya, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1957

2-Po-69 Coracoclavicular ligament injury would cause acromioclavicular osteoarthritis
*Shin Yokoya, et al.*, Dept. of Artificial Joints and Biomaterials,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ.··S1958

2-Po-70 Changes in the periarticular-arthroplasty joint after total ankle arthroplasty combined with ceramic talus prosthesis
*Yuhei Maki, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1958

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9 : 30 ~ 10 : 00	Poster Artificial joints: Hip	Moderator S. Nagoya
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2-Po-71 Attempt and verification of setting change of cup target placement for navigation using AR technology with intraoperative pelvic tilt taken into account
*Takeaki Yamamoto, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1959

- 2-Po-72 Development of an evaluation system for intraoperative acetabular cup fixation using laser resonance frequency analysis ····*Takuto Hatakeyama, et al.*, Dept. of Orthop. Surg., Keio Univ.···S1959
- 2-Po-73 Evaluation of stem size and stem stability of total hip arthroplasty by patient-specific finite element analysis ········*Ryunosuke Watanabe, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba···S1960
- 2-Po-74 Prediction of bone remodeling around a cementless tapered-wedge stem following total hip arthroplasty in Dorr type C by finite element analysis ··········*Yusuke Okanoue, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ.···S1960
- 2-Po-75 Does cortical hypertrophy around the cemented stem influence the clinical results in primary total hip arthroplasty? ··········*Hiroakira Terakawa, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.···S1961
- 2-Po-76 Cortical hypertrophy in triple taper polished stem ··········*Takashi Toyoda, et al.*, Dept. of Orthop. Surg., Kansai Medical Univ.···S1961

10 : 10 ~ 10 : 40	Poster Muscle: Others	Moderator Y. Takazawa
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- 2-Po-77 Quantitative evaluation of rotator cuff muscles using shear wave elastography predicts whether reparable or not in arthroscopic rotator cuff repair ··········*Yoshiaki Itoigawa, et al.*, Dept. of Orthop. Surg., Juntendo Univ. Urayasu Hosp.···S1962
- 2-Po-78 Muscle contractility of the infraspinatus muscle maintains the acromiohumeral distance ··········*Ryuta Oishi, et al.*, Dept. of Orthop. Surg., Yamagata Univ.···S1962
- 2-Po-79 Changes in pitching performance and physical findings due to fatigue ··········*Daisuke Ishii, et al.*, Dept. of Orthop. Surg., Kitasato Univ.···S1963
- 2-Po-80 Anatomical structure of the interscalene triangle and their relationship to thoracic outlet syndrome in Japanese ··········*Toshiya Nito, et al.*, Dept. of Orthop. Surg., Yamagata Univ.···S1963
- 2-Po-81 Optimal temperature for *ex-vivo* perfusion of rat hindlimb ··········*Gen Yokota, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.···S1964
- 2-Po-82 Effects of soft tissue injury on the bone metabolism and muscle metabolism by mouse model of the soft tissue injury ····*Kenta Kiyomoto, et al.*, Dept. of Musculoskeletal Anti-aging Medicine, Sapporo Medical Univ.···S1964

10 : 50 ~ 11 : 20	Poster Images: Spine	Moderator Y. Yukawa
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- 2-Po-83 Evaluation of cervico-thoracic spine bone density and trabecular structure using 3D trabecular structure measurement software in cervical spine disease ··········*Shingo Aoyama, et al.*, Dept. of Orthop. Surg., Kindai Univ. Faculty of Medicine···S1965
- 2-Po-84 Three-dimensional evaluation of dynamic spinal motion during flexion and extension for adult spinal deformity with degenerative scoliosis ··········*Nobuaki Takeura, et al.*, Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine···S1965
- 2-Po-85 Relation in lumbar curves of adolescent idiopathic scoliosis between the amount of vertebral lateral deviation in radiographs and vertebral rotation angle ··········*Yuichi Shimizu, et al.*, Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine···S1966
- 2-Po-86 Posterior spinal fixation with percutaneous pedicle screws for thoracolumbar spinal injury: Preoperative vertebral CT values are a predictive factor of the range of fixation ··········*Takeru Akabane, et al.*, Dept. of Orthop. Surg., Yamagata Univ.···S1966
- 2-Po-87 Establishment of a quantitative measurement method for thoracoabdominal movement during breathing and evaluation of breathing patterns in healthy subjects ··········*Makoto Yasukawa, et al.*, Biometrics Research Laboratory, NEC Corporation···S1967
- 2-Po-88 Automation of posture evaluation for forward flexion using single 2D image ··········*Shuhei Noyori, et al.*, Biometrics Research Laboratories, NEC Corp.···S1967

11 : 30 ~ 12 : 00	Poster Artificial joints: Knee	Moderator A. Kanemori
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- 2-Po-89 Effect of femoral posteromedial osteophyte resection on femoral rotation angle in total knee arthroplasty; Intraoperative assessment by ROSA robotic assist surgery
 *Kenji Uehara, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1968
- 2-Po-90 Prediction of tibiofemoral rotational alignment after fixed-bearing total knee arthroplasty
 *Tsutomu Maeda, et al.*, Dept. of Orthop. Surg., Shiga General Hosp...S1968
- 2-Po-91 Kinematics during stairs ascending and descending in cruciate substituting mobile bearing total knee arthroplasty *Takahiro Arakawa, et al.*, Dept. of Orthop. Surg.,
 The Univ. of Tokyo Hosp., The Univ. of Tokyo...S1969
- 2-Po-92 Postoperative 3-dimensional motion analysis of the mobile medial pivot type TKA
 ... *Osamu Tanifuji, et al.*, Div. of Orthop. Surg., Dept. of Regenerative and Transplant Medicine,
 Niigata Univ. Graduate School of Medical and Dental Sciences...S1969
- 2-Po-93 Evaluation of varus-valgus stability after total knee arthroplasty: Comparison of 2D and 3D
 *Hiroki Hijikata, et al.*, Niigata Rehabilitation Hosp...S1970
- 2-Po-94 Clinical and radiographic outcomes of porous tantalum femoral component in total knee arthroplasty: Comparison with conventional cementless femoral component of the same company *Arata Watanabe, et al.*, Dept. of Orthop. Surg., Ichihara Hosp...S1970

13 : 30 ~ 14 : 00	Poster Sarcoma treatments	Moderator T. Akiyama
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- 2-Po-95 Osteosarcoma patient-derived orthotopic xenograft models
 *Takashi Higuchi, et al.*, Dept. of Orthop. Surg., Kanazawa Red Cross Hosp...S1971
- 2-Po-96 Development of a novel osteosarcoma treatment using doxorubicin prodrug that exerts its pharmacological effects under hypoxic conditions
 *Koki Yoshioka, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1971
- 2-Po-97 Therapeutic development of hypoxia-responsive doxorubicin prodrug for soft tissue sarcoma
 *Taisuke Furuta, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1972
- 2-Po-98 Chimeric ant cell therapy using NK cell activation receptor (NKG2D) for synovial sarcoma
 *Tomohiro Miyazaki, et al.*, Div. of Orthop. Surg.,
 Dept. of Regenerative and Transplant Medicine,
 Niigata Univ. Graduate School of Medical and Dental Sciences...S1972
- 2-Po-99 Is high-pressure treatment, a novel devitalization method, useful for autologous bone grafting?
 *Yohei Yamada, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medical Sciences, Kanazawa Univ...S1973
- 2-Po-100 Local treatment strategy by combining virotherapy with oncolytic virus VSV and photothermal therapy using carbon nanotubes *Tomohiko Sakuda, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1973

14 : 10 ~ 14 : 40	Poster Sarcoma cell physiology	Moderator M. Kanamori
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- 2-Po-101 Establishment and characterization of a novel dedifferentiated chondrosarcoma cell line harboring an *IDH1* mutation
 *Makoto Emori, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1974
- 2-Po-102 Glucose metabolism in SP cells isolated from doxorubicin resistant osteosarcoma cells
 *Takahiro Tanabu, et al.*, Dept. of Orthop. Surg.,
 Hirosaki Univ. Graduate School of Medicine...S1974

- 2-Po-103 Blue light emitting diode light induces apoptosis by increasing reactive oxygen species in bone and soft tissue sarcoma *Shinji Kawaguchi, et al.*, Dept. of Orthop.,
Institute of Biomedical Sciences, Tokushima Univ. Graduate School...S1975
- 2-Po-104 The expression of PVR and its clinicopathological significance in MPNST
..... *Naoya Nakahashi, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1975
- 2-Po-105 Association between ADC values and size changes in desmoid tumors
..... *Masato Sugawara, et al.*, Dept. of Orthop. Surg., Yamagata Univ...S1976
- 2-Po-106 Lovastatin induces novel cell death due to impaired mitochondria iron utilization specifically in osteosarcoma cells *Shingo Kishi, et al.*, Research Institute Nozaki Tokushukai...S1976

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16 : 50 ~ 17 : 00 **Closing ceremony**