

The 37th Annual Research Meeting of the Japanese Orthopaedic Association

Congress President, Etsuo Chosa
Division of Orthopaedic Surgery,
Department of Medicine of Sensory and Motor Organs,
Faculty of Medicine, University of Miyazaki
Held in Miyazaki, October 13 and 14, 2022

1st Day October 13 Room 1

8 : 30 ~ 9 : 30	Educational lecture 1	Moderator M. Matsumoto
1-1-EL1	What is required for practical applications from basic research? <i>Hiroyuki Tsuchiya</i> , Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kanazawa Univ.S1497	
9 : 40 ~ 10 : 40	Meet the professionals 1	Moderator Y. Ishibashi
1-1-MP1	Cybernetics Medical Innovation challenging to improve Motor Function <i>Yoshiyuki Sankai</i> , Faculty of Engineering, Information and Systems/ Center for Cybernetics Research/F-MIRAI Center, Univ. of Tsukuba; CYBERDYNE Inc.S1497	
10 : 50 ~ 11 : 50	Invited lecture 1	Moderator N. Taniguchi
1-1-IL1	Osteoarthritis pathogenesis, drug discovery and development <i>Martin Lotz</i> , California Institute for Biomedical ResearchS1498	
12 : 10 ~ 13 : 20	Phoenix seminar 1	Moderator M. Yamazaki
1-1-PS1	Important role and clinical efficacy of parathyroid hormone in bone metabolism <i>Akinori Sakai</i> , Dept. of Orthop. Surg., Univ. of Occupational and Environmental HealthS1498	
13 : 40 ~ 14 : 00	Congress president lecture	Moderator M. Yamazaki
1-1-PL	Innovation in orthopaedic research: Progression through tradition <i>Etsuo Chosa</i> , Div. of Orthop., Univ. of MiyazakiS1499	
14 : 10 ~ 15 : 10	Keynote lecture	Moderator Y. Nakashima
1-1-KL	Locomotive syndrome (LS): The recent progress LS stage3, loco-mo-age, cross-disciplinary locomotive syndrome/frailty measures <i>Kozo Nakamura</i> , Orthop. Surg., Graduate School of Medicine, The Univ. of Tokyo/Towa Hosp.S1499	
15 : 20 ~ 16 : 20	Special lecture	Moderator E. Chosa
1-1-SL	The value of sport from the history of the Olympics and Paralympics and a look back at the Tokyo Games <i>Ichiro Kono</i> , Japan Sport Fairness CommissionS1500	
16 : 30 ~ 17 : 30	Invited lecture 2	Moderator G. Yamako
1-1-IL2	Towards personalized analysis and treatment using dynamic imaging and musculoskeletal modeling <i>Nico J.J. Verdonschot</i> , Univ. of TwenteS1500	
17 : 40 ~ 18 : 40	Educational lecture 2	Moderator M. Ishijima
1-1-EL2	Advances in osteoimmunology <i>Hiroshi Takayanagi</i> , Dept. of Immunology, The Univ. of TokyoS1501	

1st Day October 13 Room 2

8 : 30 ~ 9 : 30 Translational research 1

Moderator T. Sakai

- 1-2-TR1-1 Biomechanical prediction of the femoral bone loss and mechanical status after total hip arthroplasty*Go Yamako, et al.*, Dept. of Mech. Eng., Univ. of Miyazaki...S1502
- 1-2-TR1-2 Biomechanics and regulatory science in translational research*Ken Nakata, et al.*,
Medicine for Sports and Performing Arts, Dept. of Health and Sport Science,
Graduate School of Medicine, Osaka Univ...S1502

9 : 40 ~ 11 : 10 Symposium 1

Moderators K. Takeshita, Y. Ohe

Forefront of locomotive syndrome

- 1-2-S1-1 Efficacy of LOCOMO stage 3 : The ROAD Study*Noriko Yoshimura*,
Dept. of Preventive Medicine for Locomotive Organ Disorders, Tokyo Univ...S1503
- 1-2-S1-2 New findings from the Obuse study shared with the world
.....*Jun Takahashi, et al.*, Dept. of Orthop. Surg., Shinshu Univ...S1503
- 1-2-S1-3 Evidence for locomotive syndrome in Yakumo study*Shiro Imagama, et al.*,
Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg.,
Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ...S1504
- 1-2-S1-4 In the age of 100 years of life, what we ourselves should reform and what we should tell people
about: The usefulness of a high protein diet containing lactobacilli for people with impaired
motor function*Yoshihiro Nakamura, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki...S1504
- 1-2-S1-5 The questionnaire survey on the physical changes after the self-restraint of outdoor activities
with the COVID-19 crisis: Corona loco and Corona stress*Motoshige Nikaido, et al.*,
Nikaido Orthop. Clinic...S1505
- 1-2-S1-6 Exercise Habits of the elderly questionnaire survey: Regarding childhood exercise habits and
the physical condition of the elderly*Sadao Arai*, Arai Orthop...S1505

11 : 20 ~ 11 : 50 Special session Measures to advance research

Moderator M. Neo

- 1-2-SP-1 Attempt to set up a fund office for donations to obtain research funding
.....*Seiji Ohtori, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1506
- 1-2-SP-2 Crowdfunding for obtaining research grant in Tokushima University
.....*Koichi Sairyō*, Dept. of Orthop., Tokushima Univ...S1506

12 : 10 ~ 13 : 20 Phoenix seminar 2

Moderator Y. Kawaguchi

- 1-2-PS2 The diagnosis of back pain related with visceral pain*Kenichiro Kakutani*,
Div. of Spine Surg., Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1507

14 : 10 ~ 15 : 10 Educational lecture 3

Moderator N. Nakamura

- 1-2-EL3 Application of findings from cartilage development to skeletal regeneration
.....*Noriyuki Tsumaki*, Dept. of Tissue Biochem., Graduate School of Medicine, Osaka Univ...S1507

15 : 30 ~ 17 : 00 Symposium 2

Moderators S. Okada, H. Haro

Forefront of regenerative medicine

- 1-2-S2-1 Safety of synovial mesenchymal stem cells as a cell source for meniscus regeneration
.....*Ichiro Sekiya, et al.*, Center for Stem Cell and Regenerative Medicine,
Tokyo Medical and Dental Univ. ...S1508

- 1-2-S2-2 Micronized cellular adipose matrix (MCAM) promotes the therapeutic effect of an artificial nerve conduit in peripheral nerve gap injury *Seiji Sawai, et al.*, Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine...S1508
- 1-2-S2-3 Regenerative therapy to treat intervertebral disc disorders using the highly-purified mesenchymal stem cells combined with a biomaterial *Daisuke Ukeba, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1509
- 1-2-S2-4 Treatment of articular cartilage damage with allogeneic iPSC-derived cartilage transplantation *Noriyuki Tsumaki*, Dept. of Tissue Biochem., Graduate School of Medicine, Osaka Univ...S1509
- 1-2-S2-5 Intravenous administration of autologous mesenchymal stem cells for spinal cord injury *Ryosuke Hirota, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ. ...S1510

17 : 10 ~ 18 : 40	Symposium 3	Moderators K. Nakanishi, H. Takahashi
Virtual reality in orthopedic surgery		

- 1-2-S3-1 Utilization of VR technology in spinal surgery from the perspective of medical education *Hirooki Endo, et al.*, Dept. of Orthop. Surg., Iwate Medical Univ...S1511
- 1-2-S3-2 Frontiers of orthopedic rehabilitation medicine using virtual reality technology: Fusion of basic and clinical science *Masahiko Hara*, mediVR, Inc. Rehabilitation Center...S1511
- 1-2-S3-3 VR innovative technology for TKA and rehab *Kazutaka Sugimoto*, Dept. of Orthop. Surg., Sonoda Joint Replacement Center Hosp...S1512
- 1-2-S3-4 Progress of VR-based off-the-job training in trauma care *Shoji Yokobori*, Dept. of Emergency and Critical Care Med., Nippon Medical School ...S1512

1st Day October 13 Room 3

8 : 30 ~ 9 : 30	Educational lecture 4	Moderator S. Matsuda
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- 1-3-EL4 Mechanobiology of articular joints *Taku Saito*, Orthop. Surg., Graduate School of Medicine, The Univ. of Tokyo...S1513

9 : 40 ~ 10 : 40	Educational lecture 5	Moderator A. Okawa
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- 1-3-EL5 Our strategy of regenerative medicine for spinal cord injury *Masaya Nakamura*, Dept. of Orthop. Surg., Keio Univ...S1513

10 : 50 ~ 11 : 50	Educational lecture 6	Moderator Y. Tanaka
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- 1-3-EL6 Current status and issues to be solved in the treatment of rheumatoid arthritis: A perspective from cohort studies and for basic studies *Hiromu Ito, et al.*, Dept. of Orthop. Surg., Kurashiki Central Hosp...S1514

12 : 10 ~ 13 : 20	Phoenix seminar 3	Moderator T. Ozaki
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- 1-3-PS3 Development of reconstructive endoprosthesis for the limb salvage surgery *Hiroyuki Kawashima*, Div. of Orthop. Surg., Niigata Univ. Graduate School of Medical and Dental Sciences...S1514

14 : 10 ~ 15 : 40	Symposium 4	Moderators H. Matsumoto, M. Ikeuchi
Progression through tradition in sports medicine		

- 1-3-S4-1 Succession and innovation of knee ligament reconstruction *Eiji Kondo, et al.*, Centre for Sports Med., Hokkaido Univ. Hosp...S1515

- 1-3-S4-2 Transition and innovation of treatment for meniscus injuries
*Hideyuki Koga*, Dept. of Joint Surg. and Sports Medicine,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ.··S1515
- 1-3-S4-3 Innovation of sports medical in the hip joint
*Hajime Sugiyama*, Kanagawa Rehabilitation Center··S1516
- 1-3-S4-4 Sports medicine and sciences for foot and ankle surgery
*Tsukasa Kumai, et al.*, Faculty of Sport Sciences, Waseda Univ.··S1516
- 1-3-S4-5 Low back pain in athletes: visualization of the pain generator
*Koichi Sairyō*, Dept. of Orthop., Tokushima Univ. Graduate School··S1517

15 : 50 ~ 17 : 20	Symposium 5	Moderators H. Funasaki, T. Yamashita
Basic, clinical and translational research in sports medicine		

- 1-3-S5-1 Relationship between the elevation of blood myoglobin level and players load in professional football players*Yoshitomo Saita, et al.*, Dept. of Sports and Regenerative Medicine, Juntendo Univ.··S1518
- 1-3-S5-2 To protect the cartilage from intra-articular bleeding of sports injury
*Takuya Tajima, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki··S1518
- 1-3-S5-3 Development of applications to prevent throwing injuries with a motion synthesizer
*Takeo Ishii*, Matsudo Orthop. Hosp.··S1519
- 1-3-S5-4 A clue to prevent throwing elbow disorders for baseball player
*Kozo Furushima, et al.*, Keiyu Orthop. Hosp.··S1519
- 1-3-S5-5 Motion analysis to improve clinical outcome of anterior cruciate ligament reconstruction
*Yuichi Hoshino, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1520

17 : 30 ~ 18 : 30	Translational research 2	Moderator Y. Uchio
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- 1-3-TR2-1 Cell injection therapy for osteoarthritis of the knee*Ichiro Sekiya, et al.*,
 Center for Stem Cell and Regenerative Medicine, Tokyo Medical and Dental Univ. ···S1521
- 1-3-TR2-2 Translational research of cartilage repair using scaffold-free tissue engineered construct derived from synovial mesenchymal stem cells*Norimasa Nakamura*,
 Institute for Medical Science in Sports, Osaka Health Science Univ.··S1521

1st Day October 13 Room 4

8 : 30 ~ 10 : 00	Symposium 6	Moderators M. Takao, T. Nakagawa
Advances in AI and robotics and the future of orthopaedics		

- 1-4-S6-1 Gait based prediction of knee osteoarthritis using machine learning
*Ken Kadoya, et al.*, Dept. of Advanced Medicine for Locomotor System,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1522
- 1-4-S6-2 Prediction model of walking ability in spinal cord injury patients using machine learning
*Satoshi Maki, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1522
- 1-4-S6-3 Clinical application of ai technologies in joint surgery*Masaki Takao, et al.*,
 Dept. of Bone and Joint Surg., Ehime Univ. Graduate School of Medicine··S1523
- 1-4-S6-4 The current state of wearable robotic exoskeleton for gait reconstruction in patients with spinal cord injury*Shigeo Tanabe*, Graduate School of Health Sciences, Fujita Health Univ.··S1523
- 1-4-S6-5 Robotic and AI technologies to support care for the older people and their clinical applications
*Kenji Kato*, Assistive Robot Center, National Center for Geriatrics and Gerontology··S1524
- 1-4-S6-6 Utilization of robotic technologies in rehabilitation therapy
*Kazuomi Sugamoto*, Graduate School of Engineering, Osaka Univ.··S1524

10 : 10 ~ 11 : 40 Symposium 7

Moderators K. Chiba, H. Niki

Basic anatomy clinical and translational research in musculoskeletal disorders

- 1-4-S7-1 Biomechanics of the foot and ankle disorders from an anatomical point of view
..... *Kazuya Ikoma, et al.*, Dept. of Orthop., Graduate School of Medical Science,
Kyoto Prefectural Univ. of Medicine...S1525
- 1-4-S7-2 Elbow joint anatomy: Up to date
..... *Akimoto Nimura*, Dept. of Functional Joint Anatomy, Tokyo Medical and Dental Univ...S1525
- 1-4-S7-3 Exploring prognostic brain biomarkers for cervical myelopathy, via resting-state functional MRI
..... *Shota Takenaka, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1526
- 1-4-S7-4 Clinical anatomy of the volar aspect of the distal end of radius and clinical experiences
..... *Junya Imatani, et al.*, Dept. of Orthop. Surg., Okayama Saiseikai General Hosp...S1526
- 1-4-S7-5 The functional anatomy of anterior cruciate ligament (ACL)
..... *Sachiyuki Tsukada, et al.*, Dept. of Clinical Anatomy, Tokyo Medical and Dental Univ. ...S1527
- 1-4-S7-6 Anatomy of the ankle joint: evaluation of the ankle lateral ligaments by ultrasonography
..... *Takuji Yokoe, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki...S1527

12 : 10 ~ 13 : 20 Phoenix seminar 4

Moderator S. Imagama

- 1-4-PS4-1 STOP!! Joint destruction: Tips for drug options for order made treatment
..... *Yukio Nakamura*, Dept. of Orthop. Surg., Shinshu Univ...S1528
- 1-4-PS4-2 Basics of rheumatoid arthritis
..... *Yuya Takakubo*, Dept. Rehabilitation Medicine, Yamagata Univ...S1528

14 : 10 ~ 15 : 40 Symposium 8

Moderators A. Sudo, T. Yamamoto

Development of artificial joints applying anatomy and biomechanics

- 1-4-S8-1 Clinical anatomy of structures surrounding hip and knee joints
..... *Keiichi Akita, et al.*, Dept. of Clinical Anatomy,
Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1529
- 1-4-S8-2 Practice of tissue preserved minimally invasive THA: To pursue the static hip joint stability by
capsular ligaments preservation *Masaharu Aihara, et al.*,
Dept. of Orthop. Surg., Aihara Hosp...S1529
- 1-4-S8-3 Development of prostheses from microanatomy
..... *Nobuhiro Kaku, et al.*, Dept. of Orthop. Surg., Oita Univ...S1530
- 1-4-S8-4 The usefulness of 3D evaluation system in reverse shoulder arthroplasty
..... *Tomoya Manaka, et al.*, Dept. of Orthop. Surg.,
Osaka Metropolitan Univ. Graduate School of Medicine...S1530
- 1-4-S8-5 Implant selection of reverse shoulder arthroplasty based on Japanese shoulder geometry
..... *Keisuke Matsuki, et al.*, Sports Medicine & Joint Center, Funabashi Orthop. Hosp...S1531

15 : 50 ~ 17 : 20 Symposium 9

Moderators T. Ozaki, A. Matsumine

Topics of basic science of bone and soft tissue tumors

- 1-4-S9-1 Metastatic osteosarcoma forms a pre-metastatic niche through secretion of
organotropism-associated cytokine *Hiroya Kondo, et al.*, Dept. of Orthop. Surg.,
Okayama Univ. Graduate School of Medicine, Dentistry and Pharmaceutical Sciences...S1532
- 1-4-S9-2 Selection of drug therapy for sarcoma based on basic research *Makoto Endo, et al.*,
Dept. of Orthop. Surg., Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ...S1532
- 1-4-S9-3 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., Okayama Univ.
Graduate School of Medicine, Dentistry and Pharmaceutical Sciences...S1533

- 1-4-S9-4 Particle therapy using protons or carbon ions for bone and soft tissue sarcomas
 *Yusuke Demizu*, Dept. of Radiation Oncology, Kobe Proton Center...S1533
- 1-4-S9-5 Investigation of the efficacy of adjuvant ethanol therapy after resection of malignant soft tissue
 tumours *Yoshitaka Ban, et al.*, Dept. of Orthop. Surg., Osaka Metropolitan Univ.
 Graduate School of Medicine...S1534

17 : 30 ~ 18 : 30 Educational lecture 7 Moderator H. Kawashima

- 1-4-EL7 Bone and soft tissue tumors in the genomic medicine era
 *Akira Kawai*, Dept. of Musculoskeletal Oncology, National Cancer Center Hosp...S1535

1st Day October 13 Room 5

8 : 30 ~ 9 : 20 Free paper 1 Osteoporosis 1 Moderators Y. Nishimoto, J. Hashimoto

- 1-5-1 Identification of a novel subtype of osteal macrophages regulating bone metabolism in osteoporosis
 *Gen Matsumae, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1536
- 1-5-2 Effects of bisphosphonates and treadmill exercise on bone and kidney in adenine-induced chronic
 kidney disease model rats *Shuntaro Harata, et al.*, Dept. of Orthop. Surg.,
 Akita Univ. Graduate School of Medicine...S1536
- 1-5-3 Therapeutic effect of CLCF1 on the bone loss in osteoporotic model mice through activation of the
 interferon signaling pathway *Shunichi Yokota, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1537
- 1-5-4 Intracellular accumulation of AGEs correlates with osteoblast and osteocyte apoptosis
 *Ryusuke Suzuki, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine...S1537
- 1-5-5 Effects of etelcalcetide and teriparatide on bone in chronic kidney disease model rats
 *Shun Igarashi, et al.*, Dept. of Orthop. Surg., Akita Univ. Graduate School of Medicine...S1538

9 : 30 ~ 10 : 30 Free paper 2 Osteoporosis 2 Moderators H. Ito, K. Nishida

- 1-5-6 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...S1538
- 1-5-7 Effect of zinc supplementation on the osteoporosis medication *Hotaka Ishizu, et al.*,
 Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1539
- 1-5-8 Difference of fat compositions in lumbar vertebral bone marrow according to age and relation to
 bone mineral density *Yuji Kasukawa, et al.*, Dept. of Orthop. Surg.,
 Akita Univ. Graduate School of Medicine...S1539
- 1-5-9 Estrogen deficiency bone loss mediated by gut flora variability
 *Anniwaer Gulinazi, et al.*, Dept. of Orthop. and Spinal Surg.,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1540
- 1-5-10 Assessment of nutritional status of osteoporosis patients and the impact of nutritional status on the
 disease *Akiyoshi Kuroda, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1540
- 1-5-11 Factors of bone union prolongation for atypical femoral fractures examined from pathological
 findings *Wataru Komaki, et al.*, Dept. of Orthop. Surg., Komaki Hosp...S1541

10 : 40 ~ 11 : 30 Free paper 3 Bone : Regeneration · therapy	Moderators N. Kamei, H. Yamada
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- 1-5-12 Analysis of induced membrane around the frozen bone and development of a new bone reconstruction method *Yohei Asano, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kanazawa Univ.···S1541
- 1-5-13 Macrophage dynamics in the induced membrane of the Masquelet technique: A study using a mouse critical sized bone defect model *Yota Kaneko*, Dept. of Orthop. Surg., Fukushima Medical Univ.···S1542
- 1-5-14 An examination of bone healing after autogenous bone grafting using 'high hydrostatic pressure' in spinal fusion of rabbit *Yohei Yamada, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kanazawa Univ.···S1542
- 1-5-15 Pharmacological effects of annexin A1 in inflammatory osteolysis and its potential therapeutic application in periprosthetic osteolysis *Hend Terukawa, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1543
- 1-5-16 The examination of bone formation ability and side effect of human-induced pluripotent stem cells-derived megakaryocyte/platelets and human bone morphogenetic proteins-2 *Michiaki Mukai, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.···S1543

12 : 10 ~ 13 : 20 Phoenix seminar 5	Moderator R. Kuroda
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- 1-5-PS5 Treatment of meniscus tear with low healing potential: Effective use of biologics *Yasutaka Tashiro*, Dept. of Orthop. Surg., Kyushu Rosai Hosp.···S1544

14 : 10 ~ 15 : 00 Free paper 4 Bone : Gene	Moderators H. Mera, H. Hagino
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- 1-5-17 Promotion of bone formation ability induced by activation of glucose transporter 1 in osteoblasts *Shu Somemura, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine Hosp.···S1545
- 1-5-18 Novel regulatory mechanism of bone formation and cellular senescence by the stress response key player Nupr1 *Masatoshi Murayama, et al.*, Dept. of Orthop. Surg., Saga Univ.···S1545
- 1-5-19 Foxf2 represses bone formation via Wnt2b/ β -catenin signaling *Tomoyuki Tanaka, et al.*, Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ.···S1546
- 1-5-20 Analyses of *Tmem161a* function in bone metabolism using the exchangeable gene trap mutagenesis *Takuya Nagai, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki···S1546
- 1-5-21 EPLIN β contributes to the intercellular adhesion of osteoblasts *Taro Funamoto, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki···S1547

15 : 10 ~ 16 : 00 Free paper 5 Bone : Others	Moderators S. Jingushi, T. Maehara
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- 1-5-22 Optimization of isoelectric point in collage carrier to enhance bFGF-induced bone formation *Akiyoshi Kuroda, et al.*, Dept. of Orthop. Surg., Kitasato Univ.···S1547
- 1-5-23 What is the effect of different oxygen concentrations on the osteogenic differentiation of human induced pluripotent stem cells? *Masakazu Okamoto, et al.*, Dept. of Orthop. Surg., Nara Medical Univ.···S1548
- 1-5-24 Cytotoxicity of gentamicin on osteoblasts and efficacy of IGF-1 as a relief drug *Koki Okuyama, et al.*, Dept. of Orthop. Surg., Toho Univ.···S1548
- 1-5-25 Delayed cortical bone healing due to impaired Nrf2 signaling pathway in COPD mice *Takayuki Nabeshima, et al.*, Dept. of Orthop. Surg., School of Medicine, Univ. of Occupational and Environmental Health···S1549
- 1-5-26 Exploring the regulatory role of AnxA1 on bone remodeling *Yoshio Nishida, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1549

16 : 10 ~ 17 : 10 Free paper 6 Fracture

Moderators T. Okawa, W.C. Kim

- 1-5-27 Transcutaneous CO₂ application combined with low-intensity pulsed ultrasound accelerates bone fracture healing in rats *Kenichi Sawauchi, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1550
- 1-5-28 Experimental falling weight study for periprosthetic femoral fracture *Takuma Yagura, et al.*, Dept. of Orthop. Surg., Kansai Medical Univ...S1550
- 1-5-29 The effect of p21 deficiency on endochondral ossification during fracture healing *Kenichi Kikuchi, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1551
- 1-5-30 Evaluation of osteosynthesis implant fixation in basicervical fracture and transcervical shear fracture of femoral neck using finite element analysis *Hiroaki Kijima, et al.*, Dept. of Orthop. Surg., Akita Univ. Graduate School of Medicine...S1551
- 1-5-31 Basic experiment of virtual reality preoperative planning for plating fracture surgery with simulated bone. *Takushi Nakatani, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1552
- 1-5-32 The insertion sites of the muscles attached to the clavicle: A cadaveric study for clavicle fractures *Hiroyuki Imazato, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki...S1552

17 : 20 ~ 18 : 10 Free paper 7 Bone metabolism

Moderators N. Ogata, K. Watanabe

- 1-5-33 Three-dimensional visualization of neural network inside bone by our original optical clearing technique and elucidation of the neuronal regulatory mechanism of bone remodeling *Kurando Utagawa, et al.*, Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1553
- 1-5-34 Effects of anti-tumor agents on bone microstructure and metabolism *Takahiro Ishizaka, et al.*, Dept. of Orthop. Surg., National Defense Medical College...S1553
- 1-5-35 Effects of soft tissue sarcoma and anticancer drugs on bone metabolism in mice *Fumihito Kasama, et al.*, Dept. of Orthop. Surg., Akita Univ. Graduate School of Medicine...S1554
- 1-5-36 Age-related changes in bone and phosphorus metabolism are mediated by the age-regulatory factor SIRT6/PAI-1 *Tao Liu, et al.*, Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1554
- 1-5-37 Additional study of teriparatide to alleviate the cytotoxic effects of vancomycin *Kentaro Tsuji, et al.*, Dept. of Orthop. Surg., Toho Univ...S1555

1st Day October 13 Room 6

8 : 30 ~ 9 : 20 Free paper 8

Moderators T. Sasho, N. Fukui

Cartilage · regeneration · therapy 1

- 1-6-1 Biphasic repair of osteochondral defects with a hybrid implant of human MSC in a tissue construct and iPSC-cartilage particles in rats *Shinichi Nakagawa, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1556
- 1-6-2 Low serum and hypoxia enhance regenerative potential of induced pluripotent stem cell-derived chondrocyte cell sheets for hyaline cartilage repair *Ryoka Uchiyama, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ...S1556
- 1-6-3 Successful engraftment of allogeneic iPS cell-derived cartilage in a non-human primate articular cartilage defect model *Kengo Abe, et al.*, Cell Induction and Regulation Field, Dept. of Clinical Application, Center for iPS Cell Research and Application, Kyoto Univ...S1557
- 1-6-4 Production of hyaline cartilage sheet using human induced pluripotent stem cell-derived limb bud mesenchymal cells *Tomoka Takao, et al.*, Dept. of Regenerative Science, Okayama Univ. Graduate School of Medicine, Dentistry and Pharmaceutical Sciences...S1557

1-6-5 (Withdraw)

9 : 30 ~ 10 : 20 Free paper 9 Cartilage · regeneration · therapy 2 Moderators M. Deie, T. Ishii

- 1-6-6 Exploration of the miRNAs that contribute chondrogenic differentiation, derived from adipose tissue-derived mesenchymal stem cells *Yasuyuki Tomiyama, et al.*, Div. of Orthop. Surg., Dept. of Regenerative and Transplant Medicine, Niigata Univ. Graduate School of Medical and Dental Sciences...S1558
- 1-6-7 Extracellular vesicles derived from pro-resolving neutrophils phenotype suppress catabolic process induced by IL-1 β stimulation in chondrocytes *Keita Kitahara, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1559
- 1-6-8 Investigator-initiated clinical trial of cell magnetic targeting for knee osteoarthritis *Naosuke Kamei, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1559
- 1-6-9 Time-dependent change in cartilage repair tissue evaluated by magnetic resonance imaging up to 3 years after aatolocollagen-assisted autologous chondrocyte implantation: CaTCh study *Masashi Shinohara, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1560
- 1-6-10 Establishment of a new qualitative evaluation method for articular cartilage by MRI using ¹⁷O labeled water as a water tracer *Yoshiaki Hosokawa, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1560

10 : 30 ~ 11 : 20 Free paper 10 Cartilage · regeneration · therapy 3 Moderators K. Honoki, T. Soejima

- 1-6-11 A pilot study of implanting scaffold-free cartilage constructs into large articular cartilage defects in immunodeficient pig models *Toshihiro Nonaka, et al.*, Dept. of Orthop. Surg., Saga Univ...S1561
- 1-6-12 Activation of cartilage metabolism by microwave irradiation combined with glutamine administration *Ryota Cha, et al.*, Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine...S1561
- 1-6-13 Identification of validity-related exosomal miRNAs involved in donor characteristics of polydactyly derived chondrocyte sheets *Miki Maehara, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ...S1562
- 1-6-14 Anti-inflammatory and pain-relieving effects of direct transplantation of CD271-positive mesenchymal stem cells in knee joints *Taizen Uchida, et al.*, Dept. of Orthop. Surg., Univ. of Fukui Hosp...S1562
- 1-6-15 Effect of chemokine CCR7/CCL21 on the repair of physeal injury *WooYoung Kim, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1563

12 : 10 ~ 13 : 20 Phoenix seminar 6 Moderator Y. Tanaka

- 1-6-PS6 What you have learned through your experience in basic science research is definitely useful for your clinical practice; Why a herniated disc is painful? How can you complete this difficult surgery? ... *Kotaro Nishida*, Orthop. Surg., Graduate School of Medicine, Univ. of the Ryukyus...S1564

14 : 10 ~ 15 : 20 Free paper 11 Cartilage · others Moderators T. Onodera, Y. Takazawa

- 1-6-16 Cartilage metabolism in osteoarthritis and osteonecrosis of femoral head focusing on hyaluronic acid *Jiarui Zhang, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ...S1565
- 1-6-17 Effects of femoral head collapse on articular cartilage morphology in osteonecrosis of the femoral head *Noriko Yamamoto, et al.*, Dept. of Orthop. Surg., Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ...S1565

- 1-6-18 Eldecalcitol regulates the gene expressions of articular cartilage markers and differentiation markers in chondrocytes *Susumu Takemura, et al.*, Dept. of Orthop. Surg., Osaka Metropolitan Univ. Graduate School of Medicine...S1566
- 1-6-19 T2* mapping with ultra-short echo time (UTE) -MRI by cartilage layer in relation to histopathologic finding *Rui Imamura, et al.*, Div. of Radiol. and Nuclear Medicine, Sapporo Medical Univ. Hosp....S1566
- 1-6-20 Cellular model to analyze chondrodysplasia caused by mutations in the perlecan gene (*HSPG2*) *Shun Shirasaki, et al.*, Institute for Disease of Old Age, Juntendo Univ. Graduate School of Medicine...S1567
- 1-6-21 The shape of the first cuneiform articular cartilage at the first tarsometatarsal joint *Tomoko Karube, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1567
- 1-6-22 Investigation of radiographic characteristics in osteochondral lesions of the talus *Yuta Kawae, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ....S1568

15 : 30 ~ 16 : 20 Free paper 12 Osteoarthritis : Pathology 1 Moderators N. Sugano, Y. Suda

- 1-6-23 Expression and regulation of novel hyaluronidases (HYBID and TMEM2) in articular cartilage of knee joint osteoarthritis *Jun Shiozawa, et al.*, Dept. of Orthop., Juntendo Univ....S1568
- 1-6-24 Plasmin is induced in osteoarthritic cartilage through the change in the matrix around chondrocytes *Hiroataka Tsuno, et al.*, Clinical Research Center, NHO Sagamihara Hosp....S1569
- 1-6-25 Infrapatellar fat pad changes associated with anterior knee pain in patients with knee osteoarthritis *Yoshinori Satake, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ....S1569
- 1-6-26 Comprehensive gene expression analysis of infrapatellar fat pad in knee osteoarthritis *Atsumi Keisuke, et al.*, Dept. of Orthop. Surg., Field of Surg., Nippon Medical School, Graduate School of Medicine...S1570
- 1-6-27 Apelin expression in infrapatellar fat pad associate with pain in patient with osteoarthritis *Ayumi Tsukada, et al.*, Dept. of Orthop. Surg., Kitasato Univ....S1570

16 : 30 ~ 17 : 20 Free paper 13 Osteoarthritis : Pathology 2 Moderators T. Majima, J. Chiba

- 1-6-28 Lower bone mineral density can be the risk of enlarging the bone marrow lesion: the cohort study of Japanese women *Daisuke Chiba, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine...S1571
- 1-6-29 The effect of postmenopausal osteoporosis on the subchondral bone pathology of knee osteoarthritis in rats *Hiroyuki Wada, et al.*, Dept. of Orthop. Surg., Kochi Medical School Hosp....S1571
- 1-6-30 Effect of hypertension on subchondral bone coarse changes and cartilage degeneration in early osteoarthritis *Teruaki Hashimoto, et al.*, Dept. of Orthop. Surg., Kindai Univ. Faculty of Medicine...S1572
- 1-6-31 Bone marrow abnormalities and synovitis rather than cartilage lesion are more associated with knee pain in elderlies: The Bunkyo Health Study *Jun Tomura, et al.*, Dept. of Med. for Orthop. and Motor Organ, Juntendo Univ. Graduate Sch. of Med....S1572
- 1-6-32 Osteoarthritic chondrocytes induced by IL-1 β stimulation promote catabolic function of osteocytes: An insight into the onset of OA pathology *Taiki Tokuhiko, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ....S1573

17 : 30 ~ 18 : 20 Free paper 14 Osteoarthritis : Pathology 3 Moderators K. Nakagawa, K. Urabe

- 1-6-33 Intrinsic knee osteoarthritis is associated with the progression of knee osteoarthritis: An 8-year longitudinal study by the TOEI study *Kensuke Hotta, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine...S1573

- 1-6-34 The three-dimensional quadriceps vector is most parallel to the spherical axis in Japanese healthy knees and varus osteoarthritic knees *Tomoharu Mochizuki, et al.*, Div. of Orthop. Surg., Dept. of Regenerative and Transplant Medicine, Niigata Univ. Graduate School of Medical and Dental Sciences...S1574
- 1-6-35 Preoperatively healthy gluteus medius muscle fat degeneration affects postoperative dynamic balance in patients with unilateral osteoarthritis *Takehiro Kawakami, et al.*, Dept. of Orthop. Surg., Yamaguchi Univ. Graduate School of Medicine...S1574
- 1-6-36 Osteophytes on the medial margin of the proximal tibia grow in a short period in middle-aged and elderly patients with medial meniscus injuries *Kenji Uehara, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1575
- 1-6-37 High-fat diet feeding accelerates progression of spontaneous osteoarthritis in senescence accelerated mouse prone 8 (SAMP8) *Chenyang Ding, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ....S1575

1st Day October 13 Room 7

8 : 30 ~ 9 : 30 Free paper 15 Osteoarthritis : Treatments 1 Moderators H. Horiuchi, S. Ozeki

- 1-7-1 Efficacy of intra-articular injection of freeze-dried platelet-derived factor concentrate in a rat knee osteoarthritis model and characteristics of growth factors *Yoshitaka Nakao, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine...S1576
- 1-7-2 Leukocyte-poor PRP suppresses the progression of post-traumatic knee osteoarthritis *Yasumasa Momoi, et al.*, Dept. of Orthop., Juntendo Univ....S1576
- 1-7-3 Changes of biomarkers in synovial fluid of platelet rich plasma therapy for knee osteoarthritis *Sayuri Uchino, et al.*, Dept. of Orthop., Juntendo Univ....S1577
- 1-7-4 Changes in platelet activation and humoral factor concentration through the preparation and freeze-thawing of platelet rich plasma *Ryoka Uchiyama, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ....S1577
- 1-7-5 Analysis of the mechanism underlying intra-articular administration of adipose stem cell-derived exosomes using knee osteoarthritis model mice *Takafumi Kurokawa, et al.*, Orthop. Surg., Graduate School of Medicine, The Univ. of Tokyo...S1578
- 1-7-6 The pain-relieving effect and arthropathic changes induced by intra-articular administration of Diclofenac Etalhyaluronate Sodium in a rat model of knee osteoarthritis *Takahito Arai, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ....S1578

9 : 40 ~ 10 : 30 Free paper 16 Osteoarthritis : Treatments 2 Moderators T. Shishido, N. Kaku

- 1-7-7 Krüppel-like factors-4 and -2 are novel therapeutic targets for osteoarthritis with their strong chondrogenic and anti-inflammatory/catabolic effects *Manabu Kawata, et al.*, Dept. of Molecular Medicine, Scripps Research...S1579
- 1-7-8 Pharmacological mechanism of action of CNP in alleviating osteoarthritis *Riko Yamashita, et al.*, Dept. of Joint Surg. and Sports Medicine, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ....S1579
- 1-7-9 The effects of controlling the non-canonical pyroptosis in chondrocytes on suppression of cartilage degeneration in osteoarthritis *Taku Ebata, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ....S1580
- 1-7-10 I κ B kinase ϵ (IKK ϵ) inhibition attenuates cartilage degradation via NF- κ B signaling *Taisuke Uchida, et al.*, Dept. of Orthop. Surg., Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ....S1580

1-7-11 Relationship between a new radiographic leg-alignment parameter reflecting pelvic width and patient-reported outcome measure after high tibial osteotomy *Shintaro Yamaga, et al.*, Dept. of Orthop. Surg., KKR Sapporo Medical Center...S1581

10 : 40 ~ 11 : 30 Free paper 17 Osteoarthritis : Others 1 Moderators H. Ito, T. Otani

1-7-12 Risk factors for the development of lumbar facet joint degeneration in a community resident 11-year follow-up *Kenji Kobayashi, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ. Hosp...S1581

1-7-13 Family history of developmental dysplasia of the hip is the risk factor for progression of hip osteoarthritis *Soichiro Yoshino, et al.*, Dept. of Orthop. Surg., Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ...S1582

1-7-14 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...S1582

1-7-15 Characterization of mast cell subset derived from osteoarthritic synovium *Ken Takata, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1583

1-7-16 The correlation between osteoarthritis of the hip and *CCN3* expression *Kazuki Hirose, et al.*, Science of Functional Recovery and Reconstruction, Okayama Univ. Graduate School of Medicine, Dentistry and Pharmaceutical Sciences...S1583

12 : 10 ~ 13 : 20 Phoenix seminar 7 Moderator Y. Shimada

1-7-PS7 Basic and clinical science of bone marrow mesenchymal stem cell therapy for spinal cord injury *Ryosuke Hirota*, Dept. of Orthop. Surg., Sapporo Medical Univ. School of Medicine Dept. of Neural Regenerative Medicine, Research Institute for Frontier Medicine, Sapporo Medical Univ. School of Medicine...S1584

14 : 10 ~ 15 : 00 Free paper 18 Moderators Y. Musha, S. Fujibayashi Tendon and ligament : Pathology 1

1-7-17 Identification of novel loci for ossification of the posterior longitudinal ligament of the spine and causal effect of obesity *Yoshinao Koike, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1585

1-7-18 Participation of epigenetic factor 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...S1585

1-7-19 Correlation between the cytokine profiles with systemic factor and ossification form in patients with ossification of the posterior longitudinal ligament in cervical spine *Takafumi Yayama, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science...S1586

1-7-20 Interaction between oxidative stress and inflammatory cytokine in ligamentum flavum hypertrophy *Kei Ito, et al.*, Dept. of Orthop. Surg., Fujita Health Univ...S1586

1-7-21 p38 MAPK and p44/42 MAPK regulate TGF-beta-stimulated IL-6 production in human ligament flavum cells *Yuta Goto, et al.*, Dept. of Orthop. Surg., Nagoya City Univ., Graduate School of Medical Sciences...S1587

15 : 10 ~ 16 : 10 Free paper 19 Moderators Y. Maruyama, Y. Yamamoto Tendon and ligament : Regenerative medicine 1

1-7-22 Novel technique for tendon fixation using an interference screw *Takuya Manako, et al.*, Dept. of Orthop., Shimane Univ...S1587

1-7-23 Retinoic acid receptor agonists promote heterotopic ossification in a mouse Achilles tenotomy model *Masashi Isaji, et al.*, Dept. of Orthop. Surg., National Defense Medical College...S1588

- 1-7-24 Therapeutic effect of retinoic acid receptors antagonist on ectopic ossification during tendon healing in a mouse model *Dilimulati Yimiti, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ. ...S1588
- 1-7-25 Histological evaluation during rotator cuff tendon to bone healing in a ScxGFP transgenic rat model *Yuko Fukuma, et al.*, Dept. of Orthop. Surg., Faculty of Life Sciences, Kumamoto Univ. ...S1589
- 1-7-26 PI3K/Akt signaling stimulates Scx positive cells migration and differentiation *Atsushi Goto, et al.*, Dept. of Orthop. Surg., Gifu Univ. Graduate School of Medicine ...S1589
- 1-7-27 Hyaluronic acid inhibits chondrogenic differentiation of TSPC and promotes tendon repair *Takahiro Haga, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ. ...S1590

16 : 20 ~ 17 : 10	Free paper 20	Moderators T. Aizawa, T. Nakamura
Tendon · ligament : Mechanical property		

- 1-7-28 Shear wave elastography for the diagnosis of tendinopathy of the long head of the biceps tendon *Hirohisa Uehara, et al.*, Dept. of Orthop. Surg., Juntendo Univ. Urayasu Hosp. ...S1590
- 1-7-29 Biomechanical comparison of suture configurations of suspensory button and soft tissue-based graft *Tomoyuki Kanayama, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kanazawa Univ. ...S1591
- 1-7-30 Periostin increased by mechanical stress promotes inflammatory conditions in the ligamentum flavum by activating interleukin-6 expression *Akito Yabu, et al.*, Dept. of Orthop. Surg., Osaka Metropolitan Univ. Hosp. ...S1591
- 1-7-31 Biomechanical evaluation of transosseous rotator cuff repair with varying tendon thickness *Masahiro Kirisawa, et al.*, Dept. of Orthop. Surg., Saitama Medical Univ. ...S1592
- 1-7-32 Effect of aging on rotator cuff tendon-to-bone healing in a rat model *Shuntaro Tanimura, et al.*, Dept. of Orthop. Surg., Faculty of Life Sciences, Kumamoto Univ. ...S1592

17 : 20 ~ 18 : 20	Free paper 21	Moderators N. Abe, Y. Arai
Meniscus		

- 1-7-33 Discoid lateral meniscus is a risk factor for medial meniscus posterior root tears *Keisuke Kintaka, et al.*, Dept. of Orthop. Surg., Okayama Univ. Graduate School of Medicine, Dentistry and Pharmaceutical Sciences ...S1593
- 1-7-34 Development of novel technique for meniscus repair using artificial protein *Shunya Tsuji, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ. ...S1593
- 1-7-35 Postoperative morphological changes of the lateral discoid meniscus after partial meniscectomy: Time comparison using 3D-MRI *Hiroaki Fukushima, et al.*, Dept. of Orthop. Surg., Nagoya City Univ., Graduate School of Medical Sciences ...S1594
- 1-7-36 Bone marrow-derived fibrin clot stimulates healing of an avascular meniscus in a rabbit model of a meniscal defect *Takuya Kinoshita, et al.*, Dept. of Orthop. Surg., Osaka Metropolitan Univ. Graduate School of Medicine ...S1594
- 1-7-37 Investigation of therapeutic effect of silk-elastin protein on pig medial meniscus longitudinal tear model *Masakazu Ishikawa, et al.*, Dept. of Artificial Joints and Biomaterials, Graduate School of Biomedical and Health Sciences, Hiroshima Univ. ...S1595
- 1-7-38 Systemic high-mobility group box 1 administration accelerate meniscal healing by inducing an accumulation of PDGFR α + mesenchymal cells from bone marrow *Kyoto Ishibashi, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Hosp. ...S1595

1st Day October 13 Room 8

8 : 30 ~ 9 : 20 Free paper 22 Rheumatoid arthritis Moderators T. Yasui, M. Kataoka

- 1-8-1 The role of DDX60 in TLR3-mediated innate immune reactions in rheumatoid synoviocytes
 *Yuzuru Nakamura, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine...S1596
- 1-8-2 Expression and role of ISG56 induced by TLR3 signaling in human rheumatoid fibroblast-like
 synoviocytes *Hikaru Ishibashi, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Hosp. ...S1596
- 1-8-3 Ozoralizumab, a novel anti-TNF-alpha NANOBODY® compound, distributes more rapidly to
 inflamed joints than adalimumab *Kosuke Ebina, et al.*,
 Dept. of Musculoskeletal Regenerative Medicine, Graduate School of Medicine, Osaka Univ. ...S1597
- 1-8-4 Comparison of the clinical data of the three years continuous administration example of JAK
 inhibitor tofacitinib and baricitinib in Keiyu Orthopaedic Hospital
 *Keio Ayabe, et al.*, Keiyu Orthop. Hosp. ...S1597
- 1-8-5 Effects of iguratimod on glucocorticoid-induced disorder of bone metabolism *in vitro*
 *Akira Miyama, et al.*, Dept. of Orthop. Surg., Osaka Toneyama Medical Center...S1598

9 : 30 ~ 10 : 40 Free paper 23 Shoulder Moderators Y. Shibata, T. Mihata

- 1-8-6 Anatomical evaluation of pectoralis minor muscle attachment in coracoid process for transfer
 *Naoki Umatani, et al.*, Dept. of Orthop., Kansai Electric Power Hosp. ...S1598
- 1-8-7 MicroRNA-26a involvement in a mouse model of frozen shoulder *Yasuhiko Sumimoto, et al.*,
 Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ. ...S1599
- 1-8-8 Histological evaluation of rat shoulder arthritis model with mono-iodoacetate
 *Shohei Ise, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ. ...S1599
- 1-8-9 Evaluation of muscle activity after Latarjet procedure in recurrent anterior dislocation of the
 shoulder using positron emission tomography *Kazuho Aizawa, et al.*, Dept. of Orthop. Surg.,
 Tohoku Univ. Hosp. ...S1600
- 1-8-10 Radiological characteristics of massive rotator cuff tears with pseudoparalysis
 *Shin Yokoya, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ. ...S1600
- 1-8-11 Comparison of the strain in the deep layer of the supraspinatus tendon between surface tear
 specimens and non-tear specimens: A cadaveric study *Hiroki Miyamoto, et al.*,
 Div. of Physical Therapy, Dept. of Rehabilitation Science, Sendai Seiyo Gakuin College...S1601
- 1-8-12 Deltoid muscle atrophy after arthroscopic rotator cuff repair
 *Tetsuya Seto, et al.*, Dept. of Orthop. Surg., Yamaguchi Univ. Graduate School of Medicine...S1601

10 : 50 ~ 11 : 40 Free paper 24 Moderators H. Asahara, K. Saita
Tendon · ligament : Pathology 2

- 1-8-13 Analysis of inflammatory mechanisms and a disease-associated gene in Dupuytren's contracture
 *Hiroaki Kida, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ...S1602
- 1-8-14 Reliability and validity analysis of distal radioulnar joint ballottement test
 *Mitsuyuki Nagashima, et al.*, Dept. of Orthop. Surg., Nara Medical Univ. ...S1602
- 1-8-15 *Rspo2/Prg4*-positive cells contribute to tendon/ligament homeostasis through suppression of
 ectopic endochondral ossification *Naohiro Tachibana, et al.*, Dept. of Orthop. Surg.,
 Japanese Red Cross Musashino Hosp. ...S1603
- 1-8-16 Comparison of the efficacy of two-dimensional and three-dimensional cultures of human rotator
 cuff-derived mesenchymal stem cells for rotator cuff regeneration
 *Takahiro Furukawa, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1603

1-8-17 Effects of glutaminase 1 inhibitor on rotator cuff derived cells
 *Tatsuo Kato, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1604

14 : 10 ~ 15 : 10 Free paper 25 Osteoarthritis : Others 2 Moderators H. Ikeda, M. Sonohata

1-8-18 Development of a rat osteoarthritis model caused by medial meniscal extrusion
 *Daisuke Fukui, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ...S1604

1-8-19 Investigation of NGF regulation by TNF-a in osteoarthritic synovium using genome editing and
 spontaneous osteoarthritis mouse model, STR/Ort *Maho Tsuchiya, et al.*,
 Dept. of Orthop. Surg., Kitasato Univ...S1605

1-8-20 Susceptibility of KLF15-deficient knee osteoarthritis model mice to osteoarthritis
 *Kemmei Ikuta, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1605

1-8-21 Validation of T1rho and T2 mapping by histological analysis
 *Yuki Nishimura, et al.*, Dept. of Orthop. Surg., Nara Medical Univ...S1606

1-8-22 T1ρ relaxation time of subtalar articular cartilage *Yuhei Maki, et al.*,
 Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine, Yokohama City Seibu Hosp...S1606

1-8-23 Quantitative measurement of degenerative articular cartilage surface profile by using knee
 arthroscopy *Shizuka Sasaki, et al.*, Dept. of Orthop., Aomori City Hosp...S1607

**15 : 20 ~ 16 : 50 Symposium 10 Moderators M. Mawatari, H. Murakami
 Forefront of diagnosis and risk factors for SSI**

1-8-S10-1 Diagnosis of surgical site infection in total joint arthroplasty *Hyonmin Choe, et al.*,
 Musculoskeletal Science, Yokohama City Univ. Graduate School of Medicine...S1608

1-8-S10-2 Evaluation for bacterial gene count by Tm mapping method for identification of causative
 microorganism in periprosthetic joint infection *Katsufumi Uchiyama, et al.*,
 Dept. of Patient Safety and Healthcare Administration, Kitasato Univ...S1608

1-8-S10-3 Biofilm formation of *S.aureus* isolated from periprosthetic joint infection
 *Keigo Yonemoto, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine...S1609

1-8-S10-4 Surveillance and risk factor analysis of surgical site infection (SSI) following spinal surgeries
 *Satoshi Ogihara, et al.*, Dept. of Orthop. Surg., Saitama Medical Center,
 Saitama Medical Univ...S1609

1-8-S10-5 Infection route of surgical site infection
 *Yoshiaki Torii, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1610

1-8-S10-6 Challenges regarding SSI diagnosis *Koji Yamada*, Nakanoshima Orthop...S1610

**17 : 00 ~ 18 : 30 Symposium 11 Moderators M. Doita, Y. Matsuyama
 Basic, clinical and translational research in unstable spine**

1-8-S11-1 Biomechanical definition of lumbar segmental instability and the clinical application
 *Kazuhiro Hasegawa, et al.*, Niigata Spine Surg. Center...S1611

1-8-S11-2 Intervertebral disc regeneration using MSC-derived 3D complex
 *Takashi Kaito, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1611

1-8-S11-3 Strategies for preventing and repairing intervertebral disc degeneration by homeostasis
 maintenance *Takashi Yurube, et al.*, Dept. of Orthop. Surg.,
 Kobe Univ. Graduate School of Medicine...S1612

1-8-S11-4 Challenges for commercialization of intervertebral disc regeneration for degenerative disc
 disease *Daisuke Sakai, et al.*, Dept. of Orthop. Surg., Tokai Univ. School of Medicine...S1612

1-8-S11-5 Clinical trials of ultra-purified bioresorbable biomaterial and allogenic bone marrow
 mesenchymal stem cells for intervertebral disc regeneration
 *Hideki Sudo, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1613

- 1-8-S11-6 Clinical trial of intradiscal injection of platelet-rich plasma releasate (PRPr) for discogenic low back pain patients*Koji Akeda, et al.*, Dept. of Orthop. Surg., Mie Univ.··S1613

1st Day October 13 Room 9

8 : 30 ~ 9 : 20	Free paper 26 ACL	Moderators T. Otani, E. Kondo
1-9-1	Correlation between pivot-shift test and posterior tibial slope in anterior cruciate ligament injury: quantitative evaluation using a three-dimensional electromagnetic measurement system <i>Kiminari Kataoka, et al.</i> , Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1614	
1-9-2	The association between the injuries to anterolateral capsule and Kaplan fiber of the iliotibial band and preoperative pivot-shift test in ACL injury <i>Takeo Tokura, et al.</i> , Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1614	
1-9-3	Effect of scleraxis-positive cells in remnant tissue in anterior cruciate ligament reconstruction <i>Junki Kawakami, et al.</i> , Dept. of Orthop. Surg., Kumamoto Univ. Hosp.··S1615	
1-9-4	Quantification of the pivot-shift test using a navigation system and its relationship with lateral meniscal injuries <i>Atsuo Nakamae, et al.</i> , Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.··S1615	
1-9-5	Biomechanical comparison between conventional versus modified over-the-top anterior cruciate ligament reconstruction ··· <i>Kousuke Shiwaku, et al.</i> , Dept. of Orthop. Surg., Sapporo Medical Univ.··S1616	

9 : 30 ~ 10 : 40	Free paper 27 Muscle	Moderators N. Shiba, N. Terada
1-9-6	Identification of single nucleotide polymorphism in <i>TACC2</i> associated with knee extension strength in the elderly <i>Shuji Ito, et al.</i> , Dept. of Orthop., Shimane Univ.··S1616	
1-9-7	Heme deficiency induces age-dependent skeletal muscle disorders with autophagy insufficiency on the background of decreased AMPK signaling <i>Takeru Akabane, et al.</i> , Dept. of Orthop. Surg., Yamagata Univ. Hosp.··S1617	
1-9-8	Smad2 and Smad3 expressed in skeletal muscle promote immobilization-induced bone atrophy in mice <i>Taro Umezu, et al.</i> , Dept. of Orthop. Surg., Keio Univ.··S1617	
1-9-9	Mitochondic acid-5 (MA-5) suppresses sarcopenia in aged mice <i>Takahisa Abe, et al.</i> , Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine··S1618	
1-9-10	Identification and functional analysis of exercise-dependent myokines derived from muscle fibers <i>Keitaro Minato, et al.</i> , Div. of Orthop. Surg., Dept. of Regenerative and Transplant Medicine, Niigata Univ. Graduate School of Medical and Dental Sciences··S1618	
1-9-11	Treatment of peripheral nerve injury by hydrodynamic injection of mRNA into skeletal muscle <i>Takuya Takahashi, et al.</i> , Dept. of Orthop. and Spinal Surg., Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ.··S1619	
1-9-12	A study of muscle regeneration effect of platelet-rich plasma therapy using a rat lower leg muscle strain model by eccentric contraction <i>Hiroyori Fusagawa, et al.</i> , Dept. of Orthop. Surg., Sapporo Medical Univ.··S1619	

10 : 50 ~ 11 : 40	Free paper 28 Peripheral nerve: Pathology	Moderators D. Osada, R. Kakinoki
1-9-13	Expression levels of a transcription factor REST are enhanced in axon regeneration in the ischemia model using Schwann cell line <i>So Kawakita, et al.</i> , Dept. of Medicine for Orthop. and Motor Organ, Juntendo Univ. Graduate School of Medicine··S1620	
1-9-14	Effects of neurolysis on nerves for peripheral neuropathy caused by adhesion <i>Yuta Nakamura, et al.</i> , Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kanazawa Univ.··S1620	

- 1-9-15 Elevation of COL1A1 and COL3A1 and its regulation by b2 microglobulin in subsynovial connective tissues of patients with hemodialysis
*Kyoko Muneshige, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1621
- 1-9-16 Effect of aging for the nerve-specific protein expressions on the axon regeneration in mouse peripheral nerve injury models*Hiroyuki Obata, et al.*,
 Dept. of Medicine for Orthop. and Motor Organ, Juntendo Univ. Graduate School of Medicine··S1621
- 1-9-17 Voltage-gated calcium channels play an important role of impulse generation in slowly adapting type mechanoreceptors*Mayumi Sonekatsu, et al.*, Dept. of Orthop. Surg.,
 Wakayama Medical Univ.··S1622

14 : 10 ~ 15 : 00 Free paper 29

Moderators T. Saito, K. Sato

Peripheral nerve: Regenerative medicines

- 1-9-18 Axon regeneration induced by cell adhesion molecule LFA-1 after peripheral nerve injury
*Tomoaki Suzuki, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1622
- 1-9-19 Adaptation and limitation of the artificial nerve conduit filled with Schwann cells
*Masao Suzuki, et al.*, Dept. of Orthop. Surg., Juntendo Univ. Urayasu Hosp.··S1623
- 1-9-20 The superiority of internal filling structures of nerve guidance conduits in a rat sciatic nerve injury model*Taisuke Kasuya, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medicine, Osaka Univ.··S1623
- 1-9-21 Effect of chemical modification of carbon nanotubes (CNTs) on peripheral nerve regeneration
*Atsushi Kunisaki, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ.··S1624
- 1-9-22 Involvement of taf7l in peripheral nerve axon regeneration
*Kaori Sugiura, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine··S1624

15 : 10 ~ 16 : 10 Free paper 30 Spinal nerve: Pathology

Moderators S. Kaneko, O. Shirado

- 1-9-23 Identification of the primary cause of the inhibitory effect on axonal regeneration in spinal cord injury*Gentaro Ono, et al.*, Dept. of Orthop. Surg., Clinical Medicine,
 Graduate School of Medical Sciences, Kyushu Univ.··S1625
- 1-9-24 Identifying the regulating factor of glial scar formation after spinal cord injury in neonatal mouse
*Kazuki Kitade, et al.*, Dept. of Orthop. Surg., Clinical Medicine,
 Graduate School of Medical Sciences, Kyushu Univ.··S1625
- 1-9-25 Pathophysiology of glial scarring in chronic phase
*Tetsuya Tamaru, et al.*, Dept. of Orthop. Surg., Clinical Medicine,
 Graduate School of Medical Sciences, Kyushu Univ.··S1626
- 1-9-26 Functional ablation of glial scar using an astrocyte removal method with an apoptosis induction system*Tetsuya Tamaru, et al.*, Dept. of Orthop. Surg., Clinical Medicine,
 Graduate School of Medical Sciences, Kyushu Univ.··S1626
- 1-9-27 Comparison between asymptomatic and myelopathic rats in chronic spinal cord compression model*Masataka Miura, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medicine, Chiba Univ.··S1627
- 1-9-28 Microglia-pyramidal tract interaction in spinal cord injury and their contribution on neural activity and motor function recovery*Ryotaro Oishi, et al.*, Dept. of Orthop./Rheumatology,
 Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine,
 Graduate School of Medicine, Nagoya Univ.··S1627

16 : 20 ~ 17 : 20 Free paper 31

Moderators M. Sato, Y. Mikami

Spinal nerve: Regenerative medicine 1

- 1-9-29 Efficacy of surgical scar resection and mouse ES cell-derived spinal cord organoid transplantation for chronic spinal cord injury *Hirotaka Iura, et al.*, Dept. of Orthop. Surg., Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ. ...S1628
- 1-9-30 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. ...S1628
- 1-9-31 Development of minimally invasive drug delivery system to spinal cord using optimized liposomes *Takafumi Fukui, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ...S1629
- 1-9-32 Timing of intravenous administration of mouse adipose-derived Muse cells for spinal cord injury induced mouse *Manami Tsukuda, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Hosp. ...S1629
- 1-9-33 Epidural electrical stimulation 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. ...S1630
- 1-9-34 Therapeutic effects of combined hiPSC-NS/PCs transplantation and rehabilitative training in chronic spinal cord injury *Takahiro Shibata, et al.*, Dept. of Orthop. Surg., Keio Univ. ...S1630

17 : 30 ~ 18 : 40 Free paper 32

Moderators K. Kanzaki, M. Koda

Spinal nerve: Regenerative medicine 2

- 1-9-35 Blood spinal cord barrier protection by VCP chemical after spinal cord injury *Yuki Suzuki, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ...S1631
- 1-9-36 The effect of GLP-1 receptor agonists on macrophage polarity and blood-spinal cord barrier integrity after spinal cord injury in rats *Keiko Okada, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ. ...S1631
- 1-9-37 Search for novel markers of reactive astrocytes *Tetsuya Tamaru, et al.*, Dept. of Orthop. Surg., Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ. ...S1632
- 1-9-38 Postoperative changes in brain functional connectivity and clinical scores in patients with cervical myelopathy *Fumihiko Eto, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba ...S1632
- 1-9-39 A simple scoring of beam walking performance after spinal cord injury in mice *Shunsuke Ito, et al.*, Dept. of Orthop. Surg., Gunma Univ. Hosp. ...S1633
- 1-9-40 A GWAS risk SNP suggests the association of *UNCX* and *EGR1* with AIS pathogenicity. *Yoshiro Yonezawa, et al.*, Dept. of Orthop. Surg., Keio Univ. ...S1633
- 1-9-41 *Lbx1* negatively regulates energy metabolism in mice *Takahiro Nakagawa, et al.*, Dept. of Orthop. Surg., National Defense Medical College ...S1634

1st Day October 13 Poster Room 1

15 : 30 ~ 16 : 00 Poster session 1 Bone metabolism

Moderator K. Ebina

- Po-1 LSD1 metabolically integrates osteoclast differentiation and inflammatory bone resorption through HIF-1A and E2F1 *Kohei Doi, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ. ...S1635
- Po-2 Lyar regulates adipocyte differentiation in bone marrow mesenchymal stem cells *Yuta Onodera, et al.*, Institute of Advanced Clinical Medicine, Kindai Univ. Hosp. ...S1635

- Po-3 A novel prostaglandin EP4 selective agonist AKDS001 enhances new bone formation by
 min modeling in a rat heterotopic xenograft model of human bone *Yuichiro Ukon, et al.*,
 Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ. ...S1636
- Po-4 Different bone grafting materials in rat spinal fusion surgery
 *Takuma Otagiri, et al.*, Dept. of Orthop. Surg., Chiba Univ. Hosp. ...S1636
- Po-5 Sema3A expression in osteoblast lineage cells regulates bone homeostasis independently of
 androgen signal *Yu Yamashita, et al.*, Dept. of Cell Signaling,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ. ...S1637
- Po-6 Risk of osteogenic evaluation of osteoblasts in different cell culture media.
 *Makoto Izumiya, et al.*, Grad. Sch. of Medi, Sci. and Tech., Shinshu Univ. ...S1637

16 : 00 ~ 16 : 20	Poster session 2 Delayed union · non-union	Moderator K. Okada
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- Po-7 Novel finding of Masquelet technique in rat femoral critical sized bone model
 *Masao Suzuki, et al.*, Dept. of Orthop. Surg., Juntendo Univ. Urayasu Hosp. ...S1638
- Po-8 Rat model of Masquelet technique with an autologous cancellous bone graft
 *Kanji Shimokawa, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medical Sciences, Kanazawa Univ. ...S1638
- Po-9 Low-intensity pulsed ultrasound enhances osteogenic differentiation of induced
 membrane-derived cells *in vitro* *Kyohei Takase, et al.*, Dept. of Orthop. Surg.,
 Kobe Univ. Graduate School of Medicine ...S1639
- Po-10 An effect of administration of bFGF for the induced membrane formation in a bone defect model
 of rat *Sho Totsuka, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba ...S1639

15 : 30 ~ 16 : 00	Poster session 3 Osteoporosis	Moderator Y. Asou
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- Po-11 Impact of nutritional status on short-term functional prognosis of inpatients with acute
 osteoporotic vertebral fractures *Testuso Yamaura, et al.*, Dept. of Orthop. Surg.,
 Hyogo College of Medicine ...S1640
- Po-12 Can CML, a non-crosslinking AGEs, contribute to the loss of bone strength?: Validation using a
 bone model with excessive accumulation of CML *Shoutaro Arakawa, et al.*,
 Dept. of Orthop. Surg., The Jikei Univ. School of Medicine ...S1640
- Po-13 Morphological analysis of subtrochanteric and diaphyseal atypical femoral fractures
 *Yuya Takakubo, et al.*, Dept. of Orthop. Surg., Yamagata Univ. ...S1641
- Po-14 Calcar femorale in patients with femoral neck fracture patients: A computed tomography
 evaluation *Kazuki Oishi, et al.*, Dept. of Orthop. Surg.,
 Hirosaki Univ. Graduate School of Medicine ...S1641
- Po-15 Preoperative bone assessment by bone mineral density and bone turnover in patients undergoing
 total knee arthroplasty *Yoshinori Ishii, et al.*, Ishii Orthop. and Rehabilitation Clinic ...S1642
- Po-16 Effects of sleep disorders on bone metabolism in osteoporosis
 *Kosuke Murata, et al.*, Dept. of Orthop. Surg., Kitasato Univ. ...S1642

16 : 00 ~ 16 : 25	Poster session 4 Fracture: Pathology and treatments	Moderator K. Kawate
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- Po-17 Human non-hypertrophic nonunion tissue contains osteoblast lineage cells and E-BMP-2 activates
 osteogenic and chondrogenic differentiation *Ryo Yoshikawa, et al.*, Dept. of Orthop. Surg.,
 Kobe Univ. Graduate School of Medicine ...S1643
- Po-18 Prognosis after Ilizarov external fixator in periprosthetic fractures around the knee with
 comorbidities *Koji Nozaka, et al.*, Dept. of Orthop. Surg.,
 Akita Univ. Graduate School of Medicine ...S1643

- Po-19 The CT value of the femoral head is a significant factor in predicting the stability of the lag screw in femoral trochanteric fracture surgery *Gaku Michihiro, et al.*, Dept. of Orthop. Surg., Kugayama Hosp. ...S1644
- Po-20 Impact of TiNbSn alloy locking plates with a low Young's modulus on acceleration of osteosynthesis in rabbit tibias *Masashi Koguchi, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine ...S1644
- Po-21 Optimal timing of injection of Sclerostin antibody to fracture treatment in ovariectomized rats *Yuta Tsubouchi, et al.*, School of Physical Therapy, Faculty of Rehabilitation, Reiwa Health Sciences Univ. ...S1645

15 : 30 ~ 16 : 00 Poster session 5

Moderator Y. Hashimoto

Cartilage: Pathology and treatments 1

- Po-22 Comparison of characteristics of dedifferentiated fat cells and mesenchymal stem cells derived from infrapatellar fat pad *Shunichi Fujii, et al.*, Center for Stem Cell and Regenerative Medicine, Tokyo Medical and Dental Univ. ...S1645
- Po-23 Comprehensive evaluation of cartilage property using colorimeter *Naofumi Hashiguchi, et al.*, Dept. of Orthop. Surg., Hiroshima Univ. Hosp. ...S1646
- Po-24 Comparison of humoral factor-related gene expressions after intraarticular injections of synovial and adipose-derived mesenchymal stem cells into rat osteoarthritis knees *Seiya Matsuta, et al.*, Center for Stem Cell and Regenerative Medicine, Tokyo Medical and Dental Univ. ...S1646
- Po-25 Roles of microspikes in the adhesion of synovial mesenchymal stem cells onto injured cartilage *Takahiro Tanimoto, et al.*, Center for Stem Cell and Regenerative Medicine, Tokyo Medical and Dental Univ. ...S1647
- Po-26 Effect of TN α 2 on cartilage repair in mice *Sansui Matsunami, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine ...S1647
- Po-27 Examination of cartilage differentiation of human mesenchymal stem cells on FGF2-attracted silk fibroin *Manabu Yamada, et al.*, Dept. of Orthop. Surg., Toho Univ. Sakura Medical Center ...S1648

16 : 00 ~ 16 : 30 Poster session 6

Moderator A. Nakamae

Cartilage: Pathology and treatments 2

- Po-28 Development and analysis of mouse medial meniscus posterior root tear model *Kohei Kamada, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine ...S1648
- Po-29 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. ...S1649
- Po-30 Cell-based therapy using dedifferentiated fat cells for knee osteoarthritis rat model *Noriyuki Endo, et al.*, Dept. of Orthop. Surg., Nihon Univ. ...S1649
- Po-31 Therapeutic effects of the SVF and ADSC for osteoarthritis in an experimental rabbit model *Kensuke Anjiki, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine ...S1650
- Po-32 Anti-inflammatory effects of inhibiting glutamine metabolism in chondrocytes *Daisuke Kihira, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ. ...S1650
- Po-33 The role of intracellular metabolic changes in chondrocytes *Kenya Terabe, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ. ...S1651

- Po-51 Efficacy of immunomodulators on development of rat knee osteoarthritis
 *Tatsunori Ikemoto, et al.*, Dept. of Orthop. Surg., Aichi Medical Univ.··S1660
- Po-52 Influence of NSAIDs for prostaglandins in synovial fluid from patients with osteoarthritis
 *Yutaka Sano, et al.*, Dept. of Orthop. Surg., Nihon Univ.··S1660

16 : 05 ~ 16 : 35	Poster session 10 Osteoarthritis: Pathology	Moderator Y. Akamatsu
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- Po-53 Analysis of vasoactive intestinal peptide expression in CD39-positive synovial fibroblast fraction in patients with hip osteoarthritis *Yoshihisa Ohashi, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1661
- Po-54 Alteration in DNA methylation mechanisms in a rat model of osteoarthritis of the hip
 *Yuya Kawarai, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1661
- Po-55 M2-like macrophages derived from THP-1 cells promote the fibrogenic activities of human synovial fibroblasts *Tran Canh Tung Nguyen, et al.*, Dept. of Orthop. Surg., Faculty of Medicine, Univ. of Toyama··S1662
- Po-56 Establishment of rat rotator cuff tear arthropathy model and analysis of the phenotype
 *Toshiro Ijuin, et al.*, Dept. of Orthop. Surg., Graduate School of Medical and Dental Sciences, Kagoshima Univ.··S1662
- Po-57 Subchondral bone at early phase of knee osteoarthritis in aged mice
 *Takafumi Morishita, et al.*, Dept. of Orthop. Surg., Kindai Univ. Faculty of Medicine··S1663
- Po-58 Early features of osteophyte formation in DMM model mouse
 *Akihiro Jono, et al.*, Dept. of Bone and Joint Surg., Ehime Univ. Graduate School of Medicine··S1663

15 : 30 ~ 15 : 55	Poster session 11 Osteoarthritis: Others	Moderator K. Kumagai
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- Po-59 Total glycome approach for cartilage to explore target molecules for osteoarthritis
 *Kentaro Homan, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1664
- Po-60 Effect of CGRP receptor antagonist on the attenuation of pain and progression in osteoarthritis
 *Akinori Nekomoto, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.··S1664
- Po-61 Quadriceps muscle quality is associated with functional outcomes for total hip arthroplasty
 *Hiroki Iida, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ.··S1665
- Po-62 Total ankle arthroplasty for osteoarthritis is effective in improving locomotive syndrome; Is there a relationship between improvement in locomotive syndrome and preoperative MRI findings?
 *Hiroyuki Mitsui, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1665
- Po-63 Correction loss due to early weight-bearing in distraction DTOO for ankle osteoarthritis
 *Koji Nozaka, et al.*, Dept. of Orthop. Surg., Akita Univ. Graduate School of Medicine··S1666

15 : 55 ~ 16 : 30	Poster session 12 Joint diseases excluding OA and RA	Moderator J. Fukushi
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- Po-64 Differences in DNA and miRNA expression profiles between synovial mast cells from rheumatoid arthritis patients and osteoarthritis patients *Hyunho Lee, et al.*, Dept. of Orthop. Surg., Nihon Univ.··S1666
- Po-65 Analysis of autophagy related proteins in different subtypes of macrophages in synovium of rheumatoid arthritis *Hanqing Huang, et al.*, Dept. of Orthop. Surg., Yamagata Univ.··S1667
- Po-66 Anti-arthritis potential of CDK6 inhibitor in combination with TNF inhibitor
 *Rie Komatsu, et al.*, Institute of Medical Science, St. Marianna Univ. of School of Medicine··S1667
- Po-67 Association between acetabular coverage and femoral head collapse in patients with osteonecrosis of the femoral head *Makoto Iwasa, et al.*, Dept. of Orthop. Medical Engineering, Graduate School of Medicine, Osaka Univ.··S1668

- Po-68 Effects of extracorporeal shockwave therapy for preventing joint stiffness in immobilized knee model in rats *Jun Iwatsu, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine...S1668
- Po-69 Single cell RNA sequence analysis of synovial tissue stem cell in a rat knee arthritis model *Aritoshi Yoshihara, et al.*, Dept. of Joint Surg. and Sports Medicine, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1669
- Po-70 Mechanism of inflammation of human tenocyte through transient receptor potential channels *Takeru Yokota, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ...S1669

15 : 30 ~ 16 : 00	Poster session 13	Moderator S. Yamamoto
Tendon · ligament · muscle: Shoulder		

- Po-71 Elevated MMP13 expression in rotator cuff of mice with hyperlipidemia *Naoya Hirotsawa, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1670
- Po-72 Suppression of collagen type 1 expression in rotator cuff of rat with hyperlipidemia *Naoya Hirotsawa, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1670
- Po-73 Elevation of MMP1 and ADAMTS5 mRNA expression in glenohumeral synovia of patients with hypercholesterolemia *Kentaro Uchida, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1671
- Po-74 Elevated transforming growth factor beta levels with age mediates leptin in rat rotator cuff *Ryo Tazawa, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1671
- Po-75 Effect of platelet-rich fibrin of bone marrow repairing chronic rotator cuff tear model in rabbit *Tomohiro Uno, et al.*, Dept. of Orthop. Surg., Yamagata Univ...S1672
- Po-76 Evaluating the degeneration of each muscle constituting the rotator cuff after massive rotator cuff tear *Takayuki Seto, et al.*, Dept. of Orthop. Surg., Keio Univ...S1672

16 : 00 ~ 16 : 30	Poster session 14	Tendon and ligament: Knee	Moderator T. Matsushita
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- Po-77 Anatomical evaluation of the tibial attachment of the superficial medial collateral ligament of the knee *Kikuchi Keishirou, et al.*, Dept. of Orthop., Kurume Univ. Medical Center...S1673
- Po-78 The functional anatomy of the 1st MTP joint in relation to hallux valgus *Hiroki Yabiku, et al.*, Orthop. Surg., Graduate School of Medicine, Univ. of the Ryukyus...S1673
- Po-79 Role of substance P on maintaining the homeostasis of the ligament by inhibiting the endochondral ossification in the osteoarthritis progression *Maya Tokumoto, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1674
- Po-80 Histological evaluation of mucoid degeneration in ACL *Shuji Toyono, et al.*, Dept. of Orthop. Surg., Yamagata Univ...S1674
- Po-81 Regenerate of a meniscus defect through cartilaginous metaplasia of the autogenous tendon graft by injecting bone marrow aspirate in a rabbit model *Ken Iida, et al.*, Dept. of Orthop. Surg., Osaka Metropolitan Univ. Graduate School of Medicine...S1675
- Po-82 Analysis of factors influencing medial meniscal extrusion at 1 year after ACL reconstruction *Shotaro Watanabe, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1675

15 : 30 ~ 16 : 00	Poster session 15	Tendon · ligament : Others	Moderator T. Fujimoto
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- Po-83 The mechanism of PRF-induced accelerated healing of Achilles tendon defect *Yoshiyuki Senga, et al.*, Dept. of Orthop. Surg., Mie Univ...S1676
- Po-84 Immunohistological analysis of ligamentum flavum of rats that were induced posterior instability of the lumbar spine *Yuta Goto, et al.*, Dept. of Orthop. Surg., Nagoya City Univ., Graduate School of Medical Sciences...S1676
- Po-85 A biomechanical comparison of stability between suture anchor fixation and bone tunnels methods of ulnar collateral ligament reconstruction *Kenta Inagaki, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1677

- Po-86 Radial nerve sensory disturbance associated with lateral epicondylitis
 *Hiroshi Satake, et al.*, Dept. of Orthop. Surg., Yamagata Univ.··S1677
- Po-87 Investigation of the inhibitory effect of AMD3100 on the ossification of spinal ligament in ttw mice
 *Toru Asari, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine··S1678
- Po-88 Effect of IL-6 loading on osteoblast differentiation in cultured cells derived from ossification of the
 posterior longitudinal ligament of the cervical spine *Hideki Saito, et al.*,
 Dept. of Orthop. Surg., Shiga Univ. of Medical Science··S1678

16 : 00 ~ 16 : 30	Poster session 16 Muscle : Pathology	Moderator M. Enokida
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- Po-89 TNF- α promoter NGF expression in musculoskeletal tissue
 *Tomohisa Koyama, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1679
- Po-90 Measurement of lateral transmission of force in the extensor digitorum longus muscle of young
 and old mice *Keitaro Minato, et al.*, Div. of Orthop. Surg.,
 Dept. of Regenerative and Transplant Medicine,
 Niigata Univ. Graduate School of Medical and Dental Sciences··S1679
- Po-91 Investigation of the identification of APJ-expressing cells in muscle tissues and the regulatory
 mechanism of APJ expression *Tomohisa Koyama, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1680
- Po-92 Fine structure and anatomical analysis of deep fascia: New insights of deep fascia as a new organ
 *Hiroyuki Imazato, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki··S1680
- Po-93 SAMP8, the senescence-accelerated mice, as a potential animal model of osteosarcopenia
 *Hiroki Tawaratsumida, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medical and Dental Sciences, Kagoshima Univ.··S1681
- Po-94 A new compound mitochonic Acid 5 (MA-5) augments exercise capacity and mitochondrial
 function in skeletal muscle *Hiroaki Sato, et al.*, Dept. of Orthop. Surg.,
 Tohoku Univ. Graduate School of Medicine··S1681

15 : 30 ~ 16 : 05	Poster session 17 Muscle: Treatments and others	Moderator Y. Sakai
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- Po-95 Potential involvement of fibro-adipogenic progenitors in the regulation of immobilization-induced
 muscle atrophy in mice *Yoshiyuki Takahashi, et al.*, Dept. of Orthop. Surg., Keio Univ.··S1682
- Po-96 Skeletal muscle repair using silk-elastin *Kyohei Nakata, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ.··S1682
- Po-97 Muscle contusions cause a strong inflammatory response and destruction of the muscle
 basement membrane in the early stages of injury, resulting in prolonged muscle fiber
 regeneration and decreased muscle force
 *Ryo Miyazaki, et al.*, Medicine for Sports and Performing Arts,
 Dept. of Health and Sport Science, Graduate School of Medicine, Osaka Univ.··S1683
- Po-98 Relationship between shear elastic modulus and passive force in human hamstring muscles using
 the soft-embalmed Thiel cadaver
 *Gakuto Nakao, et al.*, Graduate School of Health Sciences., Sapporo Medical Univ.··S1683
- Po-99 Evaluation of the tail suspended mice bone and muscle metabolism and muscle pathology after
 exercise and use of bisphosphonate *Hikaru Hayakawa, et al.*, Dept. of Orthop. Surg.,
 Sapporo Medical Univ.··S1684
- Po-100 The role of the piriformis for neutral hip position
 *Yohei Kagawa, et al.*, Dept. of Orthop. Surg., Tamashima Central Hosp.··S1684
- Po-101 Suppression of hyper-acute phase inflammatory reaction in Crush syndrome attenuate muscle
 damage and renal failure *Yohei Haruta, et al.*, Dept. of Orthop. Surg.,
 Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ.··S1685

16 : 05 ~ 16 : 35

Poster session 18 Peripheral nerve: Pathology

Moderator K. Matsushita

- Po-102 Repair inhibition of peripheral nerve wallerian degeneration by neutrophil extracellular traps
.....*Yasuhiro Yamamoto, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1685
- Po-103 Changes due to chronic peripheral nerve compression in a mice model of menopausal women
.....*Sayaka Ishii, et al.*, Dept. of Medicine for Orthop. and Motor Organ,
Juntendo Univ. Graduate School of Medicine···S1686
- Po-104 Role of endogenous and exogenous Peptide Lv in peripheral nerve injury
.....*Yuji Yokozeki, et al.*, Dept. of Orthop. Surg., Kitasato Univ.···S1686
- Po-105 Intravenous infusion of mesenchymal stem cells for neuropathic pain
.....*Hisashi Obara, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.···S1687
- Po-106 Nerve decompression surgery suppresses TNF- α expression and CD8 T cell infiltration in a rat
sciatic nerve chronic constriction injury model*Michiaki Mukai, et al.*,
Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.···S1687
- Po-107 Collagen tube wrapping for sciatic nerve crush injury in rats
.....*Motoki Sonohata, et al.*, Dept. of Orthop. Surg., Saga Central Hosp.,
Japan Community Health care Organization···S1688

15 : 30 ~ 15 : 55

Poster session 19

Moderator M. Amako

Peripheral nerve: Regenerative medicine and others

- Po-108 Decellularized nerve flap for nerve tissue engineering*Akira Kodama, et al.*,
Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.···S1688
- Po-109 Decellularized nerve tissue enriched with vessels further accelerate peripheral nerve
regeneration*Kaguna Tanimoto, et al.*, Dept. of Orthop. Surg.,
Graduate School of Biomedical and Health Sciences, Hiroshima Univ.···S1689
- Po-110 Comparison of ultrasonography, electrodiagnostic testing, and clinical symptom assessment with
the CTS-6 score in the diagnosis of carpal tunnel syndrome*Toshiyuki Okura, et al.*,
Dept. of Orthop. Surg., Miyazaki Zenjinkai Hosp.···S1689
- Po-111 Comparison of cross sectional area of median nerve using MRI in carpal tunnel syndrome of
hemodialysis patients*Keiko Onaka, et al.*, Orthop. Surg.,
Graduate School of Medicine, Univ. of the Ryukyus···S1690
- Po-112 Effects and mechanisms of adipose-derived stem cell sheets on nerve autografts
.....*Atsuro Murai, et al.*, Dept. of Orthop. Surg.,
Graduate School of Medical Sciences, Kanazawa Univ.···S1690

15 : 55 ~ 16 : 25

Poster session 20

Moderator H. Iizuka

Spinal nerve: Pathology and regenerative medicine

- Po-113 hiPSC-derived neural stem progenitor cell transplantation therapy after implantation of
sustained-release collagen scaffold containing hepatocyte growth factor for rat model of chronic
complete spinal cord injury*Shogo Hashimoto, et al.*, Dept. of Orthop. Surg., Keio Univ.···S1691
- Po-114 Neuroprotective effect of bismuth subnitrate on acute spinal cord injury and its pharmacological
mechanism*Akihito Sotome, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1691
- Po-115 Small extracellular vesicles released by infused mesenchymalstromal cells target M2
macrophages and promote TGF- β upregulation, microvascular stabilization and functional
recoveryin a rodent model of severe spinal cord injury*Tomonori Morita, et al.*,
Dept. of Orthop. Surg., Sapporo Medical Univ.···S1692

- Po-116 Investigation of the effect of administration of GABA-A allosteric modulator in the acute phase after spinal cord injury*Kenya Saruta, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Hosp.···S1692
- Po-117 Comparison of the doses of intravenous infusion of mesenchymal stem cells in a model of chronic spinal cord injury*Kota Kurihara, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.···S1693
- Po-118 Therapeutic effects of ATP release inhibitors targeting Panx1 channels in a rat model of spinal cord injury*Kazuaki Morishita, et al.*, Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ.···S1693

1st Day October 13 Poster Room 3

15 : 30 ~ 16 : 00	Poster session 21 Spinal nerve: Others	Moderator H. Tominaga
Po-119	Analysis of spinal cord lymphatic vessel-like structures using transparency techniques <i>Keiichi Nakai, et al.</i> , Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine···S1694	
Po-120	Growth curve of diameters of spinal canal and spinal cord in Lewis rats: appropriate week old to make chronic compressive myelopathy model <i>Akihito Sotome, et al.</i> , Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.···S1694	
Po-121	A basic study on the dynamic analysis of the lumbar dural canal using ultrasound <i>Ryohei Kasai, et al.</i> , Graduate School of Science and Engineering, Chiba Univ.···S1695	
Po-122	Is occasional ALL rupture with posterior correction procedure for ASD specific phenomenon when combined with LLIF?: Comparison to PLIF <i>Takaya Imai, et al.</i> , Dept. of Orthop. Surg., Fujita Health Univ.···S1695	
Po-123	Evaluation of upper extremity function and activities of daily living using DASH questionnaire in cervical myelopathy patients <i>Haruki Funao, et al.</i> , Dept. of Orthop. Surg., International Univ. of Health and Welfare···S1696	
Po-124	MRI negative lumbar degenerative spondylolisthesis <i>Ryo Ozaki, et al.</i> , Dept. of Orthop. Surg., Nihon Univ.···S1696	

16 : 00 ~ 16 : 30	Poster session 22 Intervertebral disc	Moderator M. Kawakami
Po-125	Estimation of the disc compression force at every spinal level and investigation of the relationship between sagittal spinopelvic alignment in elderly women using a novel musculoskeletal model <i>Takanori Miura, et al.</i> , Tazawako Hosp.···S1697	
Po-126	Effect of Hypercholesterolemia on inflammatory- and pain- related gene expression in human intervertebral discs <i>Sho Inoue, et al.</i> , Dept. of Orthop. Surg., Kitasato Univ.···S1697	
Po-127	2 years clinical outcome of condoliase therapy for lumbar disc herniation <i>Tomohiro Banno, et al.</i> , Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine···S1698	
Po-128	Effects of Adiponectin receptor agonist AdipoRon on intervertebral disc degeneration <i>Hiroki Ohnishi, et al.</i> , Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine···S1698	
Po-129	Association between degenerative spondylolisthesis and quality of life in a Japanese community: A longitudinal study <i>Kanichiro Wada, et al.</i> , Dept. of Orthop. Surg., Hirosaki Univ. Hosp.···S1699	
Po-130	Local sagittal alignment and disk degeneration in 645 asymptomatic subjects: Age related change and sex-based difference <i>Tomohiro Yamada, et al.</i> , Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine···S1699	

15 : 30 ~ 15 : 55	Poster session 23 Bone tumors 1	Moderator T. Akiyama
Po-131	Tumor specific immunoenhancing effects after local cryoablation for metastatic bone tumor <i>Ryohei Annen, et al.</i> , Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kanazawa Univ.···S1700	

- Po-149 Risk factor analysis of perioperative greater trochanteric fracture in total hip arthroplasty via anterolateral approach *Daisuke Inoue, et al.*, Dept. of Orthop. Surg., Graduate School of Medical Sciences, Kanazawa Univ. ...S1709
- Po-150 Loss of periprosthetic bone mineral density after total hip arthroplasty: Does the implant material composition affect? *Akira Morita, et al.*, Musculoskeletal Science, Yokohama City Univ. Graduate School of Medicine ...S1709
- Po-151 Investigation of the location of the penetrating branch of the deep femoral artery after revision total hip arthroplasty using contrast-enhanced computed tomography images *Yuta Hieda, et al.*, Musculoskeletal Science, Yokohama City Univ. Graduate School of Medicine ...S1710
- Po-152 Effect of head extension on leg length, offset, and range of motion in total hip arthroplasty *Takuji Miyazaki, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ...S1710
- Po-153 What factors influence polyethylene wear at 15 years after total hip arthroplasty? *Tsunehito Ishida, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ. ...S1711
- Po-154 Accuracy of cup placement using AR Hip Navigation System *Takashi Koura, et al.*, Dept. of Orthop. Surg., Okayama Univ. Graduate School of Medicine, Dentistry and Pharmaceutical Sciences ...S1711

2nd Day October 14 Room 1

8 : 30 ~ 9 : 30 Translational research 3 Moderator S. Ohtori

- 2-1-TR3-1 Homing of vertebral-delivered mesenchymal stem cells for degenerative intervertebral discs repair *Daisuke Sakai, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ. ...S1712
- 2-1-TR3-2 Translational research in spine field: Spinal cord injury *Masao Koda, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba ...S1712

9 : 40 ~ 10 : 40 Invited lecture 3 Moderator T. Tajima

- 2-1-IL3 Evidence based decision making in sports medicine *Robert G. Marx*, Hosp. for Special Surg. ...S1713

10 : 50 ~ 11 : 50 Meet the professionals 2 Moderator H. Taneichi

- 2-1-MP2 My take on clinical anatomy *Keiichi Akita*, Dept. of Clinical Anatomy, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ. ...S1713

12 : 10 ~ 13 : 20 Phoenix seminar 8 Moderator H. Tsumura

- 2-1-PS8 Link between osteoporosis and osteoarthritis: Reconsidering of hyaluronic acid *Mitsuru Saito*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine ...S1714

13 : 30 ~ 14 : 30 Invited lecture 4 Moderator N. Nishinaka

- 2-1-IL4 Tear progression in symptomatic partial-thickness rotator cuff tears: Association with initial tear involvement and work level *Sang-Hun Ko*, Ulsan Univ. Hosp. Orthop. Surg. ...S1714

2nd Day October 14 Room 2

8 : 30 ~ 10 : 00 Symposium 12 **Moderators K. Inagaki, N. Iwasaki**
Basic, clinical and translational research in shoulders and elbow diseases

- 2-2-S12-1 Change of shoulder muscles stiffness measured by ultrasound shear wave elastography after overhand throwing.....*Hironori Tsurukami, et al.*, Dept. of Orthop. Surg., Juntendo Urayasu Hosp. ...S1715
- 2-2-S12-2 The assessment of the glenohumeral joint motion in patient with frozen shoulder using ultrasound.....*Tomonori Kenmoku, et al.*, Dept. of Orthop. Surg., Kitasato Univ. ...S1715
- 2-2-S12-3 The anatomy and function of the subscapularis insertion.....*Ryuzo Arai, et al.*, Dept. of Orthop. Surg., Kyoto Katsura Hp. ...S1716
- 2-2-S12-4 Relation between rotator cuff tear and proximal humeral bone density.....*Yoshihiko Nagata, et al.*, Dept. of Orthop. Surg., Hiroshima-Nishi Medical Center...S1716

10 : 10 ~ 11 : 40 Symposium 13 **Moderators H. Takayanagi, Y. Imai**
Forefront of bone metabolism research

- 2-2-S13-1 Intravital bone imaging dissecting dynamic bone homeostatis *in vivo*.....*Masaru Ishii*, Dept. Immunol. Cell Biol., Graduate School of Medicine, Osaka Univ. ...S1717
- 2-2-S13-2 Motor function analysis based on the athlete's GIFTEDNESS.....*Hiroshi Asahara*, Dept. of Systems BioMedicine, Tokyo Medical and Dental Univ. ...S1717
- 2-2-S13-3 Diagnosis and treatment of skeletal dysplasia: Update.....*Keiichi Ozono*, Dept. of Ped., Osaka Univ. Grad. Sch. Med. ...S1718
- 2-2-S13-4 Molecular mechanisms in osteogenesis and chondrogenesis.....*Haruhiko Akiyama*, Dept. of Orthop. Surg., Gifu Univ. Graduate School of Medicine...S1718
- 2-2-S13-5 Genome study for bone diseases.....*Shiro Ikegawa*, RIKEN Center for Integrative Medical Sciences...S1719
- 2-2-S13-6 Regulation of bone matrix protein gene expression by transcription factors.....*Toshihisa Komori*, Dept. of Mol. Bone Biol., Nagasaki Univ. ...S1719

12 : 10 ~ 13 : 20 Phoenix seminar 9 **Moderator S. Imai**

- 2-2-PS9 Reverse shoulder arthroplasty: For better clinical outcome.....*Nobuyasu Ochiai*, Dept. of Orthop. Surg., Chiba Univ. Graduate School of Medicine...S1720

13 : 30 ~ 15 : 00 Symposium 14 **Moderators G. Omori, H. Fujie**
Biomechanics of locomotive organs - basic, clinical and translational research

- 2-2-S14-1 Biomechanics of injured meniscus.....*Tatsuo Mae, et al.*, Osaka Yukioka Medical College...S1721
- 2-2-S14-2 Advances in knee computer simulation.....*Shinichi Kuriyama, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ. ...S1721
- 2-2-S14-3 Sports injuries and muscle synergy analysis.....*Koji Kaneoka*, Faculty of Sport Sciences, Waseda Univ. ...S1722
- 2-2-S14-4 Collagen crosslinking in osteoblastic cells promoted by randomized electrical stimulation.....*Shigeo Tanaka, et al.*, Inst. of Sci. & Eng., Kanazawa Univ. ...S1722
- 2-2-S14-5 Structural and mechanical properties of biomimetically mineralized collagen matrix for bone scaffold.....*Masahiro Todoh*, Faculty of Engineering, Hokkaido Univ. ...S1723
- 2-2-S14-6 Intraoperative measurements of soft tissue balance during total hip arthroplasty.....*Masaru Higa, et al.*, Univ. of Hyogo...S1723

2nd Day October 14 Room 4

8 : 30 ~ 10 : 00 Symposium 16 **Moderators N. Kawahara, J. Takahashi**
Epidemiological study of locomotor disorders

- 2-4-S16-1 Population-based cohort study ROAD 2005-2022 *Noriko Yoshimura, et al.*,
 Dept. of Preventive Medicine for Locomotive Organ Disorders, Univ. of Tokyo...S1731
- 2-4-S16-2 Physical exercise examination at Yakumo study *Hiroaki Nakashima, et al.*,
 Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg.,
 Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ...S1731
- 2-4-S16-3 The Obuse study: A Japanese cohort survey randomly sampled from a basic resident registry
 *Shota Ikegami, et al.*, Dept. of Orthop. Surg., Shinshu Univ. School of Medicine...S1732
- 2-4-S16-4 Locomotive syndrome screening conducted in local city and their issues
 *Taro Funamoto, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki...S1732
- 2-4-S16-5 International early knee osteoarthritis criteria: Prognostic power and its related magnetic
 resonance imaging findings from a 2-year longitudinal observation
 *Eiji Sasaki, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine...S1733

10 : 10 ~ 11 : 40 Symposium 17 **Moderators M. Osaki, Y. Kadono**
Mechanism of delayed union and non-union to clinical application

- 2-4-S17-1 Diagnosis and treatment of fracture delayed union and nonunion
 *Tomohiro Matsumura*, Dept. of Orthop., Jichi Medical Univ...S1734
- 2-4-S17-2 Acceleration of bone repair by transcuteaneous application of carbon dioxide
 *Takahiro Niikura, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1734
- 2-4-S17-3 The future of nonunion treatment : Let's connect basic research to clinical practice
 *Yoshinobu Watanabe, et al.*, Dept. of Orthop. Surg., Teikyo Univ. School of Medicine...S1735
- 2-4-S17-4 Can combined therapy of low-intensity pulsed ultrasound and teriparatide accelerate fracture
 healing with Ilizarov external fixator? *Koji Nozaka, et al.*, Dept. of Orthop. Surg.,
 Akita Univ. Hosp...S1735
- 2-4-S17-5 Extracorporeal shock wave therapy for non-union
 *Nobuyasu Ochiai, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1736

12 : 10 ~ 13 : 20 Phoenix seminar 11 **Moderator K. Takeshita**

- 2-4-PS11 Recent advances and problems in the treatment of rheumatoid arthritis with molecular targeted
 agents *Koji Ishii*, Dept. of Rheumatology, Oita Red Cross Hosp...S1737

13 : 30 ~ 15 : 00 Symposium 18 **Moderators K. Takahashi, N. Takahashi**
Forefront of molecular biosciences

- 2-4-S18-1 Role of Atoh8, a BMP target gene, in bone metabolism
 *Yuhei Yahiro, et al.*, Dept. of Orthop. Surg., Kagoshima City Hosp...S1738
- 2-4-S18-2 Epigenetic regulation of osteoclastogenesis: Novel regulation via crosstalk with metabolic
 environment *Keizo Nishikawa*, Doshisha Univ...S1738
- 2-4-S18-3 MicroRNA and bone metabolism with a focus on Mir125b
 *Yuji Yoshiko*, Dept. of Calcified Tissue Biol., Hiroshima Univ...S1739
- 2-4-S18-4 Regenerative medicine for chronic spinal cord injury using iPS cells
 *Narihito Nagoshi, et al.*, Dept. of Orthop. Surg., Keio Univ...S1739

15 : 10 ~ 16 : 40 **Symposium 19**
AI for disease diagnosis and treatment

Moderators H. Nagashima, K. Ishii

- 2-4-S19-1 Three-dimensional morphological analysis of Kambin's triangle based on the transforaminal approach: 3D lumbar nerve root images automatically created by AI
*Katsuhisa Yamada, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1740
- 2-4-S19-2 Robotic-arm assisted total hip arthroplasty in real clinical practice: A review of the first 100 cases*Masaki Mizushima, et al.*, Dept. of Orthop. Surg., Yonemori Hosp.··S1740
- 2-4-S19-3 Development of software for automatic sizing and placement of pedicle screws in posterior corrective and fusion surgery for scoliosis*Kota Watanabe, et al.*, Dept. of Orthop. Surg.,
 Keio Univ.··S1741
- 2-4-S19-4 Countermeasures against false positives in AI-based osteosarcoma X-ray reading system
*Joe Hasei, et al.*, Dept. of Orthop. Surg., Okayama City Hosp.··S1741
- 2-4-S19-5 Automated detection of fractures using deep learning in whole-body trauma computed tomography with object detection*Takaki Inoue, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medicine, Chiba Univ.··S1742
- 2-4-S19-6 Predicting loco risk level from locomotion screening survey using machine learning
*Yoichiroh Yamaguchi, et al.*, Miyazaki Medical Association Hosp.··S1742

2nd Day October 14 Room 5

8 : 30 ~ 9 : 30 **Best paper session**

Moderators H. Nakamura, T. Aizawa

Progression through tradition in locomotive syndrome

- 2-5-BO-1 Development of new MRSA/MRCNS detection genetic test for rapid diagnosis of surgical site infection and treatment for drug-resistant bacteria*Narumi Ueda, et al.*,
 Dept. of Orthop. Surg., Kansai Medical Univ. Medical Center··S1743
- 2-5-BO-2 Daily gait analysis based on wearable inertial sensors in insoles: Approach to predict Domino fractures in patients with distal radius fractures
*Akiko Yamamoto, et al.*, Dept. of Orthop. and Spinal Surg.,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ.··S1743
- 2-5-BO-3 Combination of ultra-purified stem cells with an alginate sodium reduces discogenic pain
*Hisataka Suzuki, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1744
- 2-5-BO-4 Head position Instability: Pathological findings of cervico-thoracic extensor muscle in patients with dropped head syndrome*Kenji Endo, et al.*, Dept. of Orthop. Surg.,
 Tokyo Medical Univ.··S1744
- 2-5-BO-5 Strong relationship between dyslipidemia and the development of the spinal ligament ossification*Tsutomu Endo, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1745

9 : 40 ~ 10 : 50 **Free paper 33**

Moderators H. Ozawa, M. Sakane

Spine and spinal cord: Treatments 3

- 2-5-1 The optimal drainage after microendoscopic decompression for lumbar spinal stenosis: Drainage should be placed close to the wound*Motohide Shibayama, et al.*, Aichi Spine Hosp.··S1746
- 2-5-2 Effect of adhesion barrier on dural adhesions after spinal cord surgery with dural incision
*Miki Morimoto, et al.*, Dept. of Orthop. Surg., Chiba Univ. Hosp.··S1746

- 2-5-3 Does preoperative prognostic nutrition index predict cardiopulmonary dysfunction after posterior fusion surgery for acute spinal cord injury?
*Hiroki Ushirozako, et al.*, Dept. of Orthop. Surg., Hokkaido Spinal Cord Injury Center...S1747
- 2-5-4 The narrow pedicle, rather than the distance from the reference frame, has an impact on the accuracy of robot-assisted pedicle screw placement
*Tsutomu Akazawa, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1747
- 2-5-5 Simulation of iliac crest screw insertion for tracker fixation and insertion accuracy of intraoperative support devices*Satoshi Nakasone, et al.*, Orthop. Surg.,
 Graduate School of Medicine, Univ. of the Ryukyus...S1748
- 2-5-6 The learning curve of robotic-assisted spine surgery using the cumulative sum analysis
*Yoshiaki Torii, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1748
- 2-5-7 The screw placement time and fluoroscopy time for robotic-assisted spine surgery
*Yoshiaki Torii, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1749

11 : 00 ~ 12 : 00	Free paper 34	Moderators T. Tachibana, E. Nakamura
Intervertebral disc: Pathology		

- 2-5-8 Expression of growth arrest and DNA damage inducible 45 gamma (GADD45G) in human intervertebral disc*Koki Kawaguchi, et al.*, Dept. of Orthop. Surg., Mie Univ. Hosp...S1749
- 2-5-9 Expression of Cytoplasmic activation/proliferation-associated protein-1 (caprin-1) in the human intervertebral disc*Junichi Yamada, et al.*, Dept. of Orthop. Surg.,
 Mie Univ. Graduate School of Medicine...S1750
- 2-5-10 The relationships between vacuum phenomenon and clinical outcomes or expression of pain-related molecules*Masayuki Miyagi, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1750
- 2-5-11 Effect of hyperlipidemia on the expression of Neuropeptide Y expression in the intervertebral disc of rats*Takashi Hozumi, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medicine, Chiba Univ...S1751
- 2-5-12 Development of endplate lesion model using monosodium iodoacetate
*Toshiaki Maruyama, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1751
- 2-5-13 Evaluation of the relation between Bag1 and intracellular signal factors in nucleus pulposus cells under oxidative stress*Kaori Suyama, et al.*, Dept. of Anat. and Cell. Biol., Tokai Univ...S1752

12 : 10 ~ 13 : 20	Phoenix seminar 12	Moderator S. Konno
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- 2-5-PS12 Involvement of dopaminergic network of the brain reward system in pain management therapy for neuropathic pain*Kenta Wakaizumi*, Dept. of Anesthesiology,
 Keio Univ./Interdisciplinary Pain Center, Keio Univ. Hosp...S1753

13 : 30 ~ 15 : 00	Symposium 20	Moderators M. Takagi, M. Akagi
Forefront of basic research on rheumatoid arthritis		

- 2-5-S20-1 Elucidation of mechanism of osteoclastogenesis in rheumatoid arthritis
*Noriko Komatsu*, Dept. of Immunology Graduate School of Medicine and
 Faculty of Medicine The Univ. of Tokyo...S1754
- 2-5-S20-2 The role of the LILR TARM1 in the development of arthritis*Rikio Yabe, et al.*,
 Dept. of Cell Biology, Institute for Advanced Medical Sciences, Nippon Medical School...S1754
- 2-5-S20-3 Current status of rheumatoid arthritis genetics and its application to precision medicine
*Yuta Kochi*, Dept. of Genomic Function and Diversity, Tokyo Medical and Dental Univ...S1755
- 2-5-S20-4 The evaluation for cartilage in patients of rheumatoid arthritis by images of an X-ray Talbot-Lau interferometry*Hiroyuki Yoshioka, et al.*, Yoshioka Orthop. Clinic...S1755

15 : 10 ~ 16 : 40 Symposium 21

Moderators K. Nishida, H. Yamada

Basic research in para-athletes

- 2-5-S21-1 Neural plasticity and reorganization in Paralympians' brain
..... *Kimitaka Nakazawa*, The Univ. of Tokyo...S1756
- 2-5-S21-2 Study of myokaine in para-athletes
..... *Yukihide Nishimura*, Dept. of Rehabilitation Medicine, Iwate Medical Univ...S1756
- 2-5-S21-3 Counter measures of heat stroke in para athletes for the Tokyo Paralympics
..... *Yoshi-ichiro Kamijo, et al.*, Dept. of Rehabilitation Medicine,
Dokkyo Medical Univ. Saitama Medical Center...S1757
- 2-5-S21-4 Basic research on the environment surrounding para-sports in Japan
..... *Hideki Arakawa, et al.*, Rehabilitation Center, Univ. of Miyazaki Hosp...S1757

2nd Day October 14 Room 6

8 : 30 ~ 9 : 30 Free paper 35

Moderators N. Hosogane, Y. Yukawa

Intervertebral disc: Regenerative medicine

- 2-6-1 N-acetylcysteine improves oxidative stress mediated cell viability loss induced by dimethyl sulfoxide in cryopreservation of human nucleus pulposus cells
..... *Shota Tamagawa, et al.*, Dept. of Orthop., Juntendo Univ...S1758
- 2-6-2 Effect of laminin on intracellular ECM production in cultured nucleus pulposus cells
..... *Hazuki Soma, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ...S1758
- 2-6-3 Donor selection and exploration of Tie2 expression as a functional index in intervertebral disc cell product manufacturing: Comparison between young and elderly donors
..... *Kosuke Sako, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ...S1759
- 2-6-4 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...S1759
- 2-6-5 Long-term effect of human iPS cell-derived cartilage-like nucleus pulposus tissue implantation on intervertebral disc degeneration using a rat nucleotomy model
..... *Takashi Kamatani, et al.*, Dept. of Orthop. Surg., Toyonaka Municipal Hosp...S1760
- 2-6-6 Clustering monkey nucleus pulposus cells by Single cell RNA-sequencing
..... *Hiroki Hagizawa, et al.*, Dept. of Tissue Biochemistry,
Graduate School of Medicine and Frontier Biosciences, Osaka Univ...S1760

9 : 40 ~ 10 : 50 Free paper 36 Bone tumors: Pathology

Moderators H. Kawano, M. Tomita

- 2-6-7 Identification of slow-cycling cells in Ewing sarcoma
..... *Shunsuke Yahiro, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1761
- 2-6-8 Role of SPRR1A in osteosarcoma cells
..... *Tomohiro Miyamoto, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1761
- 2-6-9 hTERT expression and biological significance of RdRP activity in sarcoma cell lines
..... *Akira Nomura, et al.*, Dept. of Orthop. Surg., Surgical Science, Tokai Univ...S1762
- 2-6-10 Genes influence cisplatin resistance in osteosarcoma?
..... *Tomohiko Ito, et al.*, Dept. of Orthop. Surg., Kindai Univ. Faculty of Medicine...S1762
- 2-6-11 Impact of subtype classification on survival in female breast cancer with bone metastasis
..... *Nayu Kitsuya, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ...S1763

- 2-6-12 The drug-screening using patient derived cell lines of Giant cell tumor of bone for the development of the chemotherapy *Taro Akiyama, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1763
- 2-6-13 Factors that influence 6-month survival of patients with metastatic spinal tumors who underwent surgical treatment *Masahiro Inuma, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1764

11 : 00 ~ 11 : 50	Free paper 37	Moderators J. Nishida, K. Horiuchi
Soft tissue tumors: Treatments		

- 2-6-14 Identification of clinically actionable genetic alteration by transcriptome clinical sequencing in bone and soft tissue sarcomas *Yoshiyuki Suehara, et al.*, Dept. of Orthop., Juntendo Univ.··S1764
- 2-6-15 Efficacy of anti-CSF-1R inhibitors in soft tissue sarcoma: Antitumor effects and influence on the microenvironment *Ayana Kondo, et al.*, Dept. of Orthop. Surg., Okayama Univ. Graduate School of Medicine, Dentistry and Pharmaceutical Sciences··S1765
- 2-6-16 The effect of BET inhibitor in synovial sarcoma *Yuki Kotani, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ.··S1765
- 2-6-17 Analysis of the anti-tumor effect of blue light emitting diode in synovial sarcoma *Makoto Takeuchi, et al.*, Dept. of Orthop., Institute of Biomedical Sciences, Tokushima Univ. Graduate School··S1766
- 2-6-18 Identification of blood biomarkers predictive of infiltration rate of tam and prognosis of disease: A study in patients with infiltrative soft-tissue sarcomas *Toshiaki Hata, et al.*, Dept. of Orthop. Surg., Okayama Univ. Graduate School of Medicine, Dentistry and Pharmaceutical Sciences··S1766

12 : 10 ~ 13 : 20	Phoenix seminar 13	Moderator N. Adachi
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- 2-6-PS13 Towards improvement in autologous chondrocyte implantation: MRI evaluation and analysis of cultured tissue by donor quality *Ryuichiro Akagi*, CaTCh Study Group/ Knee Surg. and Sports Medicine Center, Oyumino Central Hosp.··S1767

13 : 30 ~ 14 : 40	Free paper 38	Moderators Y. Nishida, M. Hakozaki
Soft tissue tumors: Pathology		

- 2-6-19 Roles of catecholamine synthesizing enzymes in cancer stem-like cells in malignant peripheral nerve sheath tumors *Haruyoshi Katayama, et al.*, Dept. of Orthop. Surg., Okayama Univ. Graduate School of Medicine, Dentistry and Pharmaceutical Sciences··S1768
- 2-6-20 The roles of PRRX1 as a malignant factor in malignant peripheral nerve sheath tumor *Shota Takihira, et al.*, Dept. of Regenerative Science, Okayama Univ. Graduate School of Medicine, Dentistry and Pharmaceutical Sciences··S1768
- 2-6-21 Clinical features in patients with fibrosarcoma of bone and soft tissue: Population based study of SEER database *Masatake Matsuoka, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1769
- 2-6-22 Cathepsin protease expression in infiltrative soft tissue sarcomas *Tomohiro Fujiwara, et al.*, Dept. of Orthop. Surg., Okayama Univ. Graduate School of Medicine, Dentistry and Pharmaceutical Sciences··S1769
- 2-6-23 Significance of presumed germline pathogenic variants detected from cancer genome profiling for bone and soft tissue sarcoma *Mashu Futagawa, et al.*, Dept. of Clin. Genomic Med., Okayama Univ. Hosp.··S1770
- 2-6-24 Liver metastasis in soft tissue sarcoma: Population based study of SEER database *Yuta Kawae, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1770

- 2-6-25 Differential diagnosis of lipoma and atypical lipoma tumor by using MRI scoring
 *Keiju Saito, et al.*, Dept. of Orthop. Surg., Yokohama City Univ. Hosp.··S1771

14 : 50 ~ 15 : 40	Free paper 39	Moderators H. Ikegami, T. Sunagawa
Artificial joints: Upper extremity		

- 2-6-26 Risk of penetration of the baseplate peg in reverse total shoulder arthroplasty
 *Eiji Tashiro, et al.*, Dept. of Orthop. Surg., Clinical Medicine,
 Graduate School of Medical Sciences, Kyushu Univ.··S1771
- 2-6-27 The risk of neuropathy in reverse shoulder arthroplasty using intraoperative neuromonitoring
 *Kohnan Tsuchiyama, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine··S1772
- 2-6-28 Biomechanical effect of modified L'Episcopo procedure for stability in reverse shoulder
 arthroplasty using fresh frozen cadaver *Yohei Simada, et al.*, Dept. of Orthop. Surg.,
 St. Marianna Univ. School of Medicine Hosp.··S1772
- 2-6-29 Soft tissue balance on reverse shoulder arthroplasty: The efficacy of 0 position during surgery
 *Tomonori Kenmoku, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1773
- 2-6-30 Radiographic analysis of total wrist arthroplasty *Yuichiro Matsui, et al.*, Dept. of Orthop. Surg.,
 Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1773

15 : 50 ~ 16 : 50	Free paper 40	Moderators T. Jinno, K. Sano
Artificial joints: Lower extremity 1		

- 2-6-31 Periprosthetic bone restoration with cemented triple taper polished stem
 *Fumito Kobayashi, et al.*, Dept. of Orthop. Surg., Kansai Medical Univ. Hosp.··S1774
- 2-6-32 Total hip arthroplasty in patients under 50 years of age using conventional polyethylene and
 highly cross-linked polyethylene *Yohei Naito, et al.*, Dept. of Orthop. Surg.,
 Mie Univ. Graduate School of Medicine··S1774
- 2-6-33 Accuracy of intraoperative leg length and offset changes for total hip arthroplasty with portable
 navigation system *Shine Tone, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medicine, Mie Univ.··S1775
- 2-6-34 Suppression of NF- κ B-induced chronic inflammation mitigates inflammatory osteolysis in the
 murine continuous polyethylene particle infusion model *Takeshi Utsunomiya, et al.*,
 Dept. of Orthop. Surg., Stanford Univ.··S1775
- 2-6-35 The distance from hip joint and cross-sectional area of the femoral neurovascular bundle in direct
 anterior approach total hip arthroplasty *Yousuke Tsurumi, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medicine, Chiba Univ.··S1776
- 2-6-36 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··S1776

2nd Day October 14 Room 7

8 : 30 ~ 9 : 20	Free paper 41	Moderators S. Nagoya, H. Numazaki
Artificial joints: Lower extremity 2		

- 2-7-1 Morphology of tibial plateau affects tibial component rotations in total knee arthroplasty
 *Masaichi Sotozawa, et al.*, Dept. of Orthop. Surg., Yokohama City Univ.··S1777
- 2-7-2 Biomechanical analysis of bi-cruciate ligament retaining TKA: Comparison of kinematic alignment
 and mechanical alignment methods *Shogo Nabeki, et al.*, Dept. of Orthop. Surg.,
 Sapporo Medical Univ.··S1777
- 2-7-3 Coronal ankle kinetics changes after total knee arthroplasty
 *Naoya Kikuchi, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1778

- 2-7-4 2-dimensional and 3-dimensional accuracies of robot assisted TKA with ROSA
*Masahiro Hasegawa, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine...S1778
- 2-7-5 Reliability of CT imaging evaluation for femoral rotation alignment in preoperative planning for
 TKA*Takayuki Kobayashi, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ...S1779

9 : 30 ~ 10 : 30	Free paper 42	Moderators K. Sugamoto, S. Kuriyama
Motion analysis: Upper extremity		

- 2-7-6 *In vivo* three-dimensional analysis of thumb kinematics using CT after arthrodesis and
 arthroplasty for thumb carpometacarpal osteoarthritis*Teruyasu Tanaka, et al.*,
 Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ...S1779
- 2-7-7 The function of opponens pollicis leads to the stabilization of the trapeziometacarpal joint
*Mio Norose, et al.*, Dept. of Orthop. and Spinal Surg.,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1780
- 2-7-8 ROM of shoulder and elbow joint in patients with carpal tunnel syndrome
*Eriku Yamada, et al.*, Dept. of Orthop. and Spinal Surg.,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1780
- 2-7-9 Characteristics of rotator muscle strength of the shoulder joint in abduction and external rotation
 position in college baseball players*Hiromitsu Tsuge, et al.*, Dept. of Orthop.,
 Univ. of Tsukuba Hosp...S1781
- 2-7-10 Feedforward co-activation of trunk muscles during rapid shoulder movements
*Masahiro Yamane, et al.*, Health Sciences Univ. of Hokkaido Hosp...S1781
- 2-7-11 Development of novel glenohumeral abduction brace*Kiminori Yukata, et al.*,
 Dept. of Orthop. Surg., Yamaguchi Univ. Graduate School of Medicine...S1782

10 : 40 ~ 11 : 50	Free paper 43	Bone tumors: Treatments	Moderators S. Nagano, T. Takagi
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- 2-7-12 Antitumor effect of sclerostin against osteosarcoma
*Hirokazu Ideta, et al.*, Dept. of Orthop. Surg., Shinshu Univ...S1782
- 2-7-13 The efficacy of radiodynamic therapy using acridine orange for cancers which frequently develop
 bone metastasis *in vitro* and *in vivo**Yumi Matsuyama, et al.*, Dept. of Orthop. Surg.,
 Mie Univ. Graduate School of Medicine...S1783
- 2-7-14 Anti-tumor effect of combination therapy of anti-IL-6 receptor antibody and cisplatin in
 osteosarcoma*Keisuke Yoshida, et al.*, Dept. of Orthop. Surg.,
 Mie Univ. Graduate School of Medicine...S1783
- 2-7-15 Glycogen synthase kinase 3 inhibition enhances cytotoxicity of natural killer cells against Ewing
 sarcoma cells*Naoki Oike, et al.*, Div. of Orthop. Surg.,
 Dept. of Regenerative and Transplant Medicine,
 Niigata Univ. Graduate School of Medical and Dental Sciences...S1784
- 2-7-16 Influences on spinal cord during cryoablation in spinal metastasis: An experimental study using a
 canine model*Motoya Kobayashi, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medical Sciences, Kanazawa Univ...S1784
- 2-7-17 Therapeutic effects of immune checkpoint inhibitors combined with hyperthermia for
 osteosarcoma*Yuya Izubuchi, et al.*, Dept. of Orthop. Surg., Univ. of Fukui Hosp...S1785
- 2-7-18 CAR-T cell therapy targeting the heat shock protein DNAJB8
*Yuto Watanabe, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1785

12 : 10 ~ 13 : 20	Phoenix seminar 14	Moderator K. Yamamoto
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- 2-7-PS14-1 Strategy of soft tissue management in THA aiming higher activity and long-term durability
*Masaki Takao*, Dept. of Bone and Joint Surg., Ehime Univ. Graduate School of Medicine...S1786

2-7-PS14-2 “Respect soft tissue” strategy for hip surgery aimed high functionality and long-term durability: From anterior view *Toru Nishiwaki*, Hip & Arthroplasty Center, Dept. of Orthop. Surg., Shizuoka Red Cross Hosp.··S1786

13 : 30 ~ 14 : 30	Free paper 44	Moderators K. Kanbe, S. Miyakawa
Motion analysis: Gait and lower extremity		

- 2-7-19 Analysis of spinal alignment change and muscular activity during gait in dropped head syndrome *Kousei Miura, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1787
- 2-7-20 Hip alignment in patients with spinal kyphosis: Gait analysis with 3-dimensional motion capture system and radiological evaluations *Keisuke Ishikawa, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Hosp.··S1787
- 2-7-21 Gait analysis using deep learning in rat model of osteoarthritis *Naoya Hoshikawa, et al.*, Dept. of Orthop. Surg., Field of Surg., Nippon Medical School, Graduate School of Medicine··S1788
- 2-7-22 Dynamic joint line obliquity during gait in the patients with varus knee osteoarthritis: Gait analysis using wearable sensor *Koji Iwasaki, et al.*, Dept. of Functional Reconstruction for the Knee Joint, Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1788
- 2-7-23 Proof of existence of femoral anterior offset by physical calculation: Anterior offset improves walking ability *Hiroshi Hayashi, et al.*, Dept. of Orthop., Ibaraki Prefectural Central Hosp.··S1789
- 2-7-24 The factor of femoral external rotation in squat motion *Hiroki Hijikata, et al.*, Div. of Orthop. Surg., Dept. of Regenerative and Transplant Medicine, Niigata Univ. Graduate School of Medical and Dental Sciences··S1789

14 : 40 ~ 15 : 30	Free paper 45	Moderators T. Akisue, R. Saura
Motion analysis : Rehabilitation		

- 2-7-25 The changes in standing up motion before and after knee extension exercise using single-joint hybrid assistive limb for severe cerebral palsy patients *Yuki Mataki, et al.*, Dept. of Rehabilitation Medicine, Univ. of Tsukuba Hosp.··S1790
- 2-7-26 Feasibility study of standing exercise using Qolo in people with lower limb impairments due to spinal cord injuries *Yukiyo Shimizu, et al.*, Dept. of Rehab. Med., Faculty of Medicine, Univ. of Tsukuba··S1790
- 2-7-27 LOCOBOT, controlled by shifting the center of gravity, improved weight-bearing ratio of the standing posture after total hip arthroplasty *Shigeaki Miyazaki, et al.*, Rehabilitation Center, Univ. of Miyazaki Hosp.··S1791
- 2-7-28 Safety and feasibility of transportation service using automated driving wheelchair for patients with musculoskeletal disorders *Hiroshi Takahashi, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1791
- 2-7-29 Association between handgrip strength and body water volume using bioelectrical impedance analysis in patients with thoracolumbar vertebral compression fracture *Hirokazu Inoue, et al.*, Dept. of Orthop., Jichi Medical Univ.··S1792

15 : 40 ~ 16 : 40	Free paper 46	Pain: Pathology	Moderators S. Yabuki, T. Ushida
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- 2-7-30 Optogenetic manipulation of spinal inhibitory neurons and inhibitory action of $\alpha_2\delta$ -1 ligand administration on nociceptive sensory responses evoked in the spinal dorsal horn *Yuka Fujiwara, et al.*, Dept. of Neurophysiology, Hyogo College of Medicine··S1792
- 2-7-31 Comparison of pain behavior, bone healing, bone strength, and pain-related sensory innervation at fracture sites between ovariectomized and healthy mouse tibia fracture models *Miyako Narita, et al.*, Dept. of Bioenviron. Med., Grad. Sch. of Med., Chiba Univ.··S1793

- 2-7-32 Evaluation of oxytocin expression kinetics and mechanism of analgesic and anxiolytic effects in a reserpine-induced fibromyalgia model rat *Naofumi Ikeda, et al.*, Dept. of Orthop. Surg., School of Medicine, Univ. of Occupational and Environmental Health...S1793
- 2-7-33 Association between chronic low back pain and psychological stress responses in a population-based cohort study *Norihiko Takegami, et al.*, Dept. of Orthop. Surg., Mie Univ. Graduate School of Medicine...S1794
- 2-7-34 Normative values for quantitative sensory testing using a simple bedside tool kit in healthy Japanese subjects *Masashi Izumi, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ....S1794
- 2-7-35 Intradisc bleeding is associated with low back pain in patients with lumbar disc herniated *Kazuya Kishima, et al.*, Dept. of Orthop. Surg., Hyogo College of Medicine Hosp....S1795

2nd Day October 14 Room 8

8 : 30 ~ 9 : 20 Free paper 47 Artificial intelligence Moderators M. Suzuki, Y. Nishiura

- 2-8-1 Development of a system for automatically extracting features from operative records necessary for JOANR: Application of BERT *Kosuke Kita, et al.*, Dept. of AI. Diagnostic Radiology, Graduate School of Medicine, Osaka Univ. ...S1796
- 2-8-2 Improving the efficiency of machine learning and medical application development using DevOps *Ryuichi Nakahara, et al.*, Dept. of Intelligent Orthop. System Development, Okayama Univ. Graduate School of Medicine Dentistry and Pharmaceutical Sciences...S1796
- 2-8-3 Machine learning algorithms: Prediction and feature selection for clinical refracture after surgically treated fragility fracture *Hirokazu Shimizu, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ....S1797
- 2-8-4 Unbiased quality assessments and full-automatic diagnosis of developmental dysplasia of the hip with hybrid machine learning on infantile ultrasound images *Hirokazu Shimizu, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ....S1797
- 2-8-5 Differentiating Modic change and pyogenic spondylitis using artificial intelligence *Tomohito Mukaihata, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ....S1798

9 : 30 ~ 10 : 20 Free paper 48 Images: Spine and spinal cord 1 Moderators N. Fujita, Y. Hiraizumi

- 2-8-6 Development of AI software to support quantitative diagnosis of vertebral fracture *Shoutaro Arakawa, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine...S1798
- 2-8-7 An attempt to improve the accuracy of Cobb angle prediction algorithm using artificial intelligence and 3D depth sensors: How to reduce prediction error in mild cases, which is critical for scoliosis screening *Terufumi Kokabu, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ....S1799
- 2-8-8 Development of AI algorithm for automatic Cobb angle measurement in scoliosis *Shuzo Kato, et al.*, Dept. of Orthop. Surg., Keio Univ....S1799
- 2-8-9 Quantitative evaluation of 3 dimensional spinal curvature in adolescent idiopathic scoliosis *Yuichi Shimizu, et al.*, Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine...S1800
- 2-8-10 Machine learning approach in predicting neurological recovery after surgery in patients with cervical spinal cord injury *Tomoaki Shimizu, et al.*, Dept. of Orthop. Surg., Hokkaido Spinal Cord Injury Center...S1800

10 : 30 ~ 11 : 40 Free paper 49

Moderators M. Neo, A. Minamide

Images: Spine and spinal cord 2

- 2-8-11 Relationship between morphological changes and clinical outcomes after posterior decompression and fusion surgery for thoracic OPLL *Yohei Shibuya, et al.*, Niigata Prefectural Shibata Hosp. ...S1801
- 2-8-12 Comparison in the adaptability of thoraco-lumbo-sacral orthosis casting by a conventional plaster bandage versus by a non-invasive 3D scanning *Masao Ryu, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine ...S1801
- 2-8-13 A study of the true lateral sacral view of the intraoperative fluoroscopy for transiliac-transsacral screw insertion *Junichiro Morita, et al.*, Dept. of Orthop. Surg., Mito Medical Center ...S1802
- 2-8-14 Establishment of common iliac vein detection model for oblique lateral interbody fusion using intraoperative endoscopy *Reoto Ueda, et al.*, Dept. of Medical Engineering, Graduate School of Science and Engineering /Faculty of Engineering, Chiba Univ. ...S1802
- 2-8-15 Conversion of MRI T2-weighted image of cervical spine trauma to STIR image by generated adversarial network *Atsushi Yunde, et al.*, Dept. of Orthop. Surg., Chiba Univ. Hosp. ...S1803
- 2-8-16 Additional benefit of ultrasonography to evaluate nerve root condition of degenerative cervical spine disease *Hiroki Kozuki, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ. ...S1803
- 2-8-17 Innervation area of lower limbs is associated with the 12th rib length *Juri Teramoto, et al.*, Dept. of Medicine for Orthop. and Motor Organ, Juntendo Univ. Graduate School of Medicine ...S1804

12 : 10 ~ 13 : 20 Phoenix seminar 15

Moderator N. Shiba

- 2-8-PS15 Subchondral insufficiency fracture and related diseases *Takuaki Yamamoto*, Dept. of Orthop., Fukuoka Univ. ...S1805

13 : 30 ~ 14 : 20 Free paper 50

Moderators T. Hashimoto, H. Tohyama

Images: Lower extremity

- 2-8-18 A feature of proximal femoral morphology in the patients with acetabular dysplasia *Hideki Shozen, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ. ...S1806
- 2-8-19 Association of ligamentum teres with static instability of the hip joint in mild dysplastic hip *Hironobu Hoshino, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine ...S1806
- 2-8-20 Impact of the 3D leg alignment factors of knee OA on the knee joint line obliquity in the standing antero-posterior radiography *Kazutaka Otani, et al.*, Niigata Medical Center ...S1807
- 2-8-21 Anatomy of the proximal tibiofibular ligament using 3D imaging: Analysis of the morphology and bone index of the proximal tibiofibular joint and ligamentous attachments for anatomical reconstruction *Ken Hayashi, et al.*, Dept. of Orthop. Surg., Iwate Medical Univ. ...S1807
- 2-8-22 Longitudinal changes in ultrasonography and MRI findings of jumper's knee *Yusuke Nishida, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba ...S1808

14 : 30 ~ 15 : 30 Free paper 51 Images: Upper extremity

Moderators K. Iba, K. Suzuki

- 2-8-23 Relationship between subchondral bone defect of capitellar osteochondritis dissecans detected by computed tomography and range of motion before and after arthroscopic debridement *Kenji Yokoyama, et al.*, Dept. of Orthop., Institute of Biomedical Sciences, Tokushima Univ. Graduate School ...S1808
- 2-8-24 Influences of repeated batting on the humeral capitellum: A computed tomography osteoabsorptiometry study *Yuki Matsui, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ...S1809

- 2-8-25 Detection of osteochondritis dissecans of the humerus from ultrasound imaging using deep learning *Kenta Takatsuji, et al.*, Dept. of Orthop.,
Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine...S1809
- 2-8-26 Optimal limb position for ultrasonographic evaluation of elbow valgus laxity in baseball players *Ryuhei Michinobu, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1810
- 2-8-27 Echocardiographic and radiographic features of the pink pulseless hand in pediatric supracondylar fractures of the humerus *Tomohiro Yasuda, et al.*, Dept. of Orthop. Surg.,
Fujigaoka Hosp., Showa Univ. School of Medicine...S1810
- 2-8-28 Assessment of median nerve mobility by particle image velocimetry *Takahiro Furukawa, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1811

15 : 40 ~ 16 : 50	Free paper 52 Infection	Moderators K. Uchiyama, T. Morii
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- 2-8-29 Co-Cr-Mo alloy wear debris inhibit adherence ability of *Staphylococcus epidermidis* to implant surface: An *in vitro* study *Hironobu Koseki, et al.*, Dept. Health Sciences, Nagasaki Univ...S1811
- 2-8-30 Antibacterial effect and biological reaction of calcium phosphate cement impregnated with iodine *Sei Morinaga, et al.*, Dept. of Orthop. Surg.,
Graduate School of Medical Sciences, Kanazawa Univ...S1812
- 2-8-31 IsdB antibody-mediated sepsis following *S. aureus* surgical site infection *Kohei Nishitani, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ...S1812
- 2-8-32 Validation of the evidence of intracellular *Staphylococcus aureus* in bone marrow *Yui Akiyama, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1813
- 2-8-33 Nanopore sequencer for periprosthetic joint infections: Application of genetic identification of causative organisms *Koki Abe, et al.*, Musculoskeletal Science,
Yokohama City Univ. Graduate School of Medicine...S1813
- 2-8-34 Auxiliary diagnosis of spinal infections by alpha-defensin lateral flow test *Atsuhiro Yoshida, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1814
- 2-8-35 Melting temperature mapping method enables rapid identification and quantification of pathogenic bacterium in pyogenic spondylitis *Yasuhiro Yahara, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine, Univ. of Toyama...S1814

2nd Day October 14 Room 9

8 : 30 ~ 9 : 30	Free paper 53 Regenerative medicine	Moderators H. Koga, J. Toguchida
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- 2-9-1 Removal of senescent cells in synovial mesenchymal stem cells can ameliorate its biological functions *Yugo Miura, et al.*, Center for Stem Cell and Regenerative Medicine,
Tokyo Medical and Dental Univ...S1815
- 2-9-2 NIMA-related kinase (Nek2) is involved in the decrease of muscle satellite cells in aging mice *Tatsufumi Mori, et al.*, Life Science Institute, Kindai Univ...S1815
- 2-9-3 *In vitro* mechanism analysis of meniscal regenerative repair by atelocollagen meniscal substitute treatment *Shohei Oyama, et al.*, Dept. of Musculoskeletal Regenerative Medicine,
Graduate School of Medicine, Osaka Univ...S1816
- 2-9-4 Superior load distribution function of the meniscus regenerated using adipose-derived stem cell sheets in a rabbit meniscal defect model *Mitsuhiro Kimura, et al.*, Dept. of Orthop. Surg.,
Graduate School of Medical Sciences, Kanazawa Univ...S1816
- 2-9-5 Changes in the number and quality of mesenchymal stem cells in synovial fluid in a rat osteoarthritis model *Hideto Furuoka, et al.*, Center for Stem Cell and Regenerative Medicine,
Tokyo Medical and Dental Univ...S1817

2-9-6 Tendon tissue repair using alginate-cell cross-linked gel *Jun Yamaguchi, et al.*,
Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1817

9 : 40 ~ 10 : 40	Free paper 54 Biomechanics 1	Moderators T. Mae, T. Yasuda
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- 2-9-7 Three-dimensional motion capture analysis of getting on and off a car in patients with total hip arthroplasty *Testunari Harada, et al.*, Dept. of Orthop. Surg.,
Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ.··S1818
- 2-9-8 The effect of various ankle braces on braking response time *Tatsuya Arimoto, et al.*,
Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine, Yokohama City Seibu Hosp.··S1818
- 2-9-9 Interrelationships among the lower-limb three-joint moments on the coronal plane and their relative contributions *Shuya Chida, et al.*, Dept. of Rehabilitation, Hakodate Orthop. Clinic··S1819
- 2-9-10 Quantitative evaluation of ankle drawer test in chronic lateral ankle instability using an electromagnetic measurement system *Kiminari Kataoka, et al.*, Dept. of Orthop. Surg.,
Kobe Univ. Graduate School of Medicine··S1819
- 2-9-11 Adjacent joints after Lapidus procedure for severe hallux valgus
..... *Tomoko Karube, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1820
- 2-9-12 Treatment of hallux valgus also improves foot width; Relationship between hallux valgus angle and foot width *Tomoko Karube, et al.*, Dept. of Orthop. Surg.,
St. Marianna Univ. School of Medicine··S1820

10 : 50 ~ 11 : 40	Free paper 55 Biomechanics 2	Moderators E. Tsuda, K. Hattori
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- 2-9-13 FEA for mechanism of occasional ALL rupture with posterior correction procedure for ASD using LLIF: analysis regarding cage location *Hiroki Takeda, et al.*,
Dept. of Spine and Spinal Cord Surg., Fujita Health Univ.··S1821
- 2-9-14 Analysis of implants for lumbosacral spinal fusion using FEM *Hiroyuki Tachi, et al.*,
Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1821
- 2-9-15 Comparison of the susceptibility to implant failure in the lateral, posterior, and transforaminal lumbar interbody fusion: A finite element analysis *Ryo Oikawa, et al.*,
Dept. of Orthop. Surg., Iwate Medical Univ.··S1822
- 2-9-16 Finite element analysis of distal radius fractures: Can static analysis replace dynamic analysis? *Yusuke Matsuura, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1822
- 2-9-17 Biomechanical effect of intertrochanteric curved varus osteotomy on stress reduction in femoral head osteonecrosis: A finite element analysis *Yuzhu Wang, et al.*,
Dept. of Joint Surg., The Fifth Affiliated Hosp. of Southern Med. Univ.··S1823

13 : 30 ~ 14 : 30	Free paper 56 Biomaterials	Moderators M. Kawaguchi, T. Shirai
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- 2-9-18 Bone tissue reactions to terminally γ -sterilized implants coated with a layer comprising FGF-2 and calcium phosphate *Yasukazu Totoki, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1823
- 2-9-19 The *in vivo* study for osteogenic and antibacterial activity of titanium metal releasing calcium and iodine ions *Noriasa Ikeda, et al.*, Dept. of Orthop. Surg.,
Graduate School of Medicine, Kyoto Univ.··S1824
- 2-9-20 Effect and interaction of channels and micropores in carbonate apatite honeycomb scaffolds on reconstruction of segmental bone defects *Keigo Shibahara, et al.*, Dept. of Orthop. Surg.,
Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ.··S1824
- 2-9-21 Is the use of thin highly crosslinked polyethylene liners safe in total hip arthroplasty? *Toshiyuki Tateiwa, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ.··S1825
- 2-9-22 Enhancement of β -tricalcium phosphate bone formation by addition of trace and small dose elements *in vivo* *Kenichiro Saito, et al.*, Dept. of Orthop. Surg., Nara Medical Univ.··S1825

- 2-9-23 Development of degradability adjustable magnesium implants
 · *Yoshinobu Oka, et al.*, Dept. of Pediatric Orthop.,
 Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine...S1826

14 : 40 ~ 15 : 50	Free paper 57	Moderators Y. Mikami, T. Arai
Locomotive syndrome · Frailty · Sarcopenia		

- 2-9-24 Whole blood metabolomics dissected frailty and sarcopenia
 · *Masahiro Kameda, et al.*, Geriat. Unit, Kyoto Univ. Hosp...S1826
- 2-9-25 Relationship among frailty, low back pain, health-related quality of life and locomotive syndrome indicated by the outcome of locomotor examination · *Hideki Tashi, et al.*,
 Div. of Musculoskeletal Sci. for Frailty, Niigata Univ. Grad. School of Medical and Dental Sciences...S1827
- 2-9-26 The perception of standing exercise for people with lower limb impairments
 · *Yukiyo Shimizu, et al.*, Dept. of Rehab. Med., Faculty of Medicine, Univ. of Tsukuba...S1827
- 2-9-27 Association of sarcopenia with patient-reported outcomes after total hip arthroplasty: A minimum 5-year follow-up · *Yoshinori Okamoto, et al.*, Dept. of Orthop. Surg.,
 Osaka Medical and Pharmaceutical Univ...S1828
- 2-9-28 Significance of the subcategories of 25-Question Geriatric Locomotive Function Scale (GLFS-25): Analysis of the relationship between physical functions · *Saki Inanaga, et al.*, Zenshukai Hosp...S1828
- 2-9-29 Risk of nursing care certification for locomotive syndrome stage 3
 · *Koichiro Ide, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine...S1829
- 2-9-30 Increased impedance ratios by bioelectrical impedance analysis are significantly associated with sarcopenia · *Satoshi Tanaka, et al.*, Dept. of Orthop. Surg., Nagoya Garden Clinic...S1829

16 : 00 ~ 16 : 50	Free paper 58	Electrophysiology	Moderators S. Kawabata, E. Shiota
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- 2-9-31 Experimental study of transcranial stimulation – muscle evoked potentials: Where do they originate from, and which tracts are they mediated by? · *Masahito Takahashi, et al.*,
 Dept. of Orthop. Surg., Kyorin Univ...S1830
- 2-9-32 Transcranial motor evoked potential for spinal nerve roots monitoring in a cynomolgus macaque model · *Go Yoshida, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine...S1830
- 2-9-33 Efficacy of transcranial motor evoked potentials for intraoperative neuromonitoring during traumatic spine surgery · *Hiroki Ushirozako, et al.*, Dept. of Orthop. Surg.,
 Hokkaido Spinal Cord Injury Center...S1831
- 2-9-34 Comparison of femoral nerve potentials by surgical position using transcranial electrical motor evoked potentials during primary total hip arthroplasty using modified Watson-Jones approach · *Naoto Watanabe, et al.*, Dept. of Orthop. and Spinal Surg.,
 Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ...S1831
- 2-9-35 Electrophysiological diagnosis for anterior interosseous nerve lesions
 · *Shingo Nobuta, et al.*, Dept. of Orthop. Surg., Tohoku Rosai Hosp...S1832

2nd Day October 14 Poster Room 1

9 : 45 ~ 10 : 30	Best poster session	Moderator H. Mishima, A. Teramoto
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- 2-BP-1 Changes in bone metabolism and expression of proinsulin and TNF- α with the fractured-model mice exposed to long-term hyperglycemia · *Hitomi Fujikawa, et al.*, Dept. of Orthop. Surg.,
 Shiga Univ. of Medical Science Hosp...S1833
- 2-BP-2 Correlation between CD163 expression and resting pain in patients with hip osteoarthritis: Possible contribution of macrophage subsets to pain pathogenesis
 · *Yoshihisa Ohashi, et al.*, Dept. of Orthop. Surg., Kitasato Univ...S1833

- 2-BP-3 High tibial osteotomy improves symptoms and synovial inflammation by changing the polarity of synovial macrophages from M1 to M2 *Shigeo Yoshida, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ.··S1834
- 2-BP-4 Induction of osteosarcoma stem cells using hydrogels and identification of novel target molecule LEFTY1 *Takuma Kaibara, et al.*, Dept. of Orthop. Surg., Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.··S1834
- 2-BP-5 Adiponectin inhibits fibrosis of fibroblasts in the palmar aponeurosis in Dupuytren's contracture *Yoshiaki Yamanaka, et al.*, Dept. of Orthop. Surg., School of Medicine, Univ. of Occupational and Environmental Health··S1835
- 2-BP-6 Quantitative analysis of the first tarsometatarsal joint dynamics during the stance phase of gait in normal feet and hallux valgus feet using a synchronized ultrasound and three-dimensional motion capture analysis system *Yasunari Ikuta, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical and Health Sciences, Hiroshima Univ.··S1835

10 : 30 ~ 11 : 00	Poster session 27 Artificial joints: Lower extremity	Moderator M. Ishii
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- Po-155 Effect of knee malalignment on osteoarthritis of the ankle: Comparison of hindfoot alignment before and after combined total ankle arthroplasty (cTAA) *Toru Kasai, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1836
- Po-156 Biomechanical comparison between single- and multi-radius femoral component using computer simulation *Shinichiro Nakamura, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ.··S1836
- Po-157 Anatomy of superficial femoral artery injury in TKA using a surgical support robot *Takashi Kotani, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1837
- Po-158 Gap kinematics of unicompartmental knee arthroplasty *Keinosuke Ryu, et al.*, Dept. of Orthop. Surg., Nihon Univ.··S1837
- Po-159 Relationship between the femoral nerve from the anterior of the acetabulum and the anatomical features of the pelvis and proximal femur *Hiroaki Murakami, et al.*, Dept. of Orthop. Surg., Hiroshima City Asa Citizens Hosp.··S1838
- Po-160 Effects of improvement of hip flexion ROM by THA on locomotive syndrome and JHEQ *Yuki Ota, et al.*, Dept. of Orthop. Surg., Institute of Biomedical & Health Sciences, Hiroshima Univ.··S1838

11 : 00 ~ 11 : 25	Poster session 28 Motion analysis: Upper extremity	Moderator K. Otoshi
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- Po-161 Correlation factors of elbow torque during pitching in youth baseball players using wireless gyroscope *Tomoya Yoshikawa, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1839
- Po-162 Robot-assisted voluntary rehabilitation training using shoulder Hybrid Assistive Limb for patients with shoulder elevation dysfunction from radicular origin *Margaux Noemie Lafitte, et al.*, Artificial Intelligence Laboratory, School of Integrative and Global Majors, Univ. of Tsukuba··S1839
- Po-163 Muscle activity of the shoulder muscles during upper limb raising movements - A quantitative evaluation of muscle coordination using muscle synergy analysis *Shota Date, et al.*, Dept. of Analysis and Control of Upper Extremity Function, Graduate School of Biomedical and Health Science, Hiroshima Univ.··S1840
- Po-164 A study on surface electromyography of lumbrical muscle activity in the hand *Hiroshi Kurumadani, et al.*, Dept. of Analysis and Control of Upper Extremity Function, Graduate School of Biomedical and Health Science, Hiroshima Univ.··S1840
- Po-165 A survey of sports injuries for high school handball players in Iwate *Koh Tanifuji, et al.*, Dept. of Orthop. Surg., Iwate Medical Univ.··S1841

10 : 30 ~ 11 : 05	Poster session 29 Motion analysis: Lower extremity	Moderator T. Kabata
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- Po-166 Biomechanical characteristics of varus thrust in severe varus knee osteoarthritis patients evaluated by three-dimensional gait analysis *Koji Iwasaki, et al.*,
Dept. of Functional Reconstruction for the Knee Joint,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ...S1841
- Po-167 Evaluation on knee biomechanics after posterior stabilized total knee arthroplasty
..... *Yuki Suzuki, et al.*, Dept. of Orthop. Surg.,
Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ. ...S1842
- Po-168 Investigation of hip reaction force during jog for the purpose of improving life after artificial hip joint replacement treatment ... *Taisei Matsumoto, et al.*, Faculty of Engineering, Univ. of Miyazaki ...S1842
- Po-169 Three-dimensional motion analysis of range-of-motion variations in a Zweymuller short stem
..... *Kazuma Bando, et al.*, Dept. of Medical Engineering, Faculty of Engineering, Chiba Univ. ...S1843
- Po-170 Hip reaction force during gait in patients with unilateral osteoarthritis
..... *Koki Ouchi, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki ...S1843
- Po-171 Evaluation to patellar instability of knee joint rotational alignment using 3D-CT image
..... *Yuichi Shibairi, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ. ...S1844
- Po-172 Gait characteristics of knee osteoarthritis patients in the forward and backward directions using 3-axis accelerometers *Shuntaro Wada, et al.*, Dept. of Orthop. Surg.,
Iwate Medical Univ. Hosp. ...S1844

11 : 05 ~ 11 : 40	Poster session 30 Malalignment: Spine	Moderator Y. Matsumoto
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- Po-173 Association between the horizontal gaze ability and physical characteristics of patients with dropped head syndrome *Tatsuya Igawa, et al.*, Dept. of Orthop. Surg.,
International Univ. of Health and Welfare ...S1845
- Po-174 Investigation of stand-up motion analysis of adult spinal deformity patients and healthy volunteers
..... *Kenta Kurosu, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine ...S1845
- Po-175 Estimation of spinal alignment during walking based on a single digital video camera: Comparison with 3D motion capture *Hideki Kadone, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba ...S1846
- Po-176 The cervical soft tissue imaging in patient of dropped head syndrome
..... *Tomoyuki Ueshima, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ. ...S1846
- Po-177 Examination of vertebral pelvic sagittal plane alignment in lower thoracic ossification of the ligament *Hirohiko Tsujisawa, et al.*, Dept. of Orthop. Surg., Kobari General Hosp. ...S1847
- Po-178 The relationship between cross-sectional area of lumbo-sacral sagittal alignment, trunk muscle and physical function in a Japanese population ... *Tetsushi Oyama, et al.*, Dept. of Orthop. Surg.,
Hirosaki Univ. Graduate School of Medicine ...S1847
- Po-179 Study of the relationship between lumbar facet joint degeneration and radiographic lumbar spine alignment index in the community residents *Kenji Kobayashi, et al.*, Dept. of Orthop. Surg.,
Fukushima Medical Univ. Hosp. ...S1848

2nd Day October 14 Poster Room 2

10 : 30 ~ 11 : 05	Poster session 31	Moderator A. Maeyama
Motion analysis : Rehabilitation and others		

- Po-180 Real-time monitoring of sweat lactate in water enables determination of lactate threshold in swimming: A feasibility study *Hiroki Okawara, et al.*, Dept. of Orthop. Surg., Keio Univ. ...S1848
- Po-181 Investigation of physical characteristics on exercise performance reduction during hypoxia exposure *Tomonori Sawada, et al.*, Dept. of Orthop. Surg., Keio Univ. ...S1849

- Po-182 Relationship between trunk muscle strength, physical function and bone mineral density in women over 60 years old *Ikuko Takahashi, et al.*, Ishii Orthop. and Rehabilitation Clinic...S1849
- Po-183 Bio-feedback training using upper limb Hybrid Assistive Limb for patients with brachial plexus injury *Shigeki Kubota, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1850
- Po-184 Single-joint type hybrid assistive limb in knee rehabilitation after ACL reconstruction: an open-label feasibility and safety trial *Yuichiro Soma, et al.*,
Dept. of Rehabilitation Medicine, Univ. of Tsukuba Hosp....S1850
- Po-185 Evaluating of musculoskeletal examination by longitudinal developmental classification *Mio Kimura, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba...S1851
- Po-186 Relationship between pelvic alignment and abdominal wall-sacral distance *Takashi Nagai, et al.*, Showa Univ. School of Medicine, Rehabilitation Medicine...S1851

11 : 05 ~ 11 : 40	Poster session 32 Pain: Pathology	Moderator Y. Tome
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- Po-187 GPR55 contributes to recruitment of neutrophils and induction of mechanical pain after spinal cord compression in mice *Teruaki Ono, et al.*, Dept. of Orthop. Surg.,
Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ....S1852
- Po-188 Monocyte/macrophage subsets and its expressing pain-related cytokines in painful patients with borderline developmental dysplasia of the hip *Yoshihisa Ohashi, et al.*,
Dept. of Orthop. Surg., Kitasato Univ....S1852
- Po-189 Calcium-stimulated adenylyl cyclase 1 contributes to synaptic degeneration in the insular cortex of adult mice *Manabu Yamanaka, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ....S1853
- Po-190 Roles of neurons and satellite glial cells in dorsal root ganglia for neuropathic pain in mice *Chen Su, et al.*, Dept. of Orthop. and Spinal Surg.,
Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ....S1853
- Po-191 Distribution of microglia/macrophage in brain-spinal cord lesions and the expression of pain-related factors in chronic compressed spinal cord model (*ttw/ttw*) *Arisa Kubota, et al.*,
Dept. of Orthop. and Rehabilitation Medicine, Univ. of Fukui...S1854
- Po-192 Phenotypic classification of osteoarthritis of the knee according to pain mechanisms *Mitsuhiko Kubo, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science...S1854
- Po-193 Upregulation of the hypothalamo-neurohypophysial system and pharmacogenetic activation of vasopressin neurones attenuates hyperalgesia in a neuropathic pain model rat *Kazuhiko Baba, et al.*, Dept. of Orthop. Surg.,
School of Medicine, Univ. of Occupational and Environmental Health...S1855

10 : 30 ~ 11 : 05	Poster session 33 Pain: Treatments and others	Moderator G. Inoue
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- Po-194 Changes of lumbar dorsal root ganglion and macrophage in mouse neuropathic pain model *So Hakata, et al.*, Dept. of Orthop. and Spinal Surg.,
Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ....S1855
- Po-195 Efficacy of radial pressure wave therapy on rat adjuvant arthritis models *Yu Hiraoka, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ....S1856
- Po-196 Recovery of pain after hip joint replacement in rats *Naoki Aoyama, et al.*, Dept. of Orthop. Surg., Kochi Medical School, Kochi Univ....S1856
- Po-197 The characteristics of patients suffering from shoulder joint disease with central sensitization *Yohei Harada, et al.*, Dept. of Orthop. Surg.,
Graduate School of Biomedical and Health Sciences, Hiroshima Univ....S1857
- Po-198 Effects and mechanisms of the exercise and load stimuli on the improvement of hypersensitivity in model mice of chronic pain *Kenta Kiyomoto, et al.*, Dept. of Orthop. Surg.,
Sapporo Medical Univ....S1857

- Po-199 The influence of ankle joint stretching on cold hyperalgesia in immobilized limb model mice
 *Koji Ibe, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.··S1858
- Po-200 Intravenous infusion of mesenchymal stem cells for myelopathic pain
 *Ryunosuke Fukushi, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.··S1858

11 : 05 ~ 11 : 35	Poster session 34	Moderator N. Yamamoto
Surgery: Upper extremity and lower extremities		

- Po-201 Anatomy for the lower trapezius tendon transfer
 *Masahito Yoshida, et al.*, Dept. of Musculoskeletal Sports Medicine,
 Research and Innovation, Nagoya City Univ., Graduate School of Medical Sciences··S1859
- Po-202 Prediction of optimal plate position for poly-axial volar locking plate based on radius width
 *Yusuke Eda, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ. Ibaraki Medical Center··S1859
- Po-203 Evaluation of efficiencies of pectoralis major portals in modified arthroscopic Bankart-Bristow
 procedure *Sho Yamauchi, et al.*, Dept. of Orthop. Surg., Ogaki Municipal Hosp.··S1860
- Po-204 Quantitative evaluation of changes in graft fixation tension caused by cyclic knee motion on
 double bundle anterior cruciate ligament reconstruction
 *Manato Horii, et al.*, Eastern Chiba Medical Center, Dept. of Orthop. Surg.··S1860
- Po-205 MRI assessment around the capsule immediately after lateral meniscus repair
 *Akira Tsujii, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ.··S1861
- Po-206 Effectiveness of arthroscopic surgical education using fresh porcine cadaveric knees
 *Jiro Kato, et al.*, Dept. of Orthop. Surg., Nagoya City Univ.,
 Graduate School of Medical Sciences··S1861

10 : 30 ~ 11 : 05	Poster session 35 Surgery: Spine and others	Moderator Y. Imajo
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- Po-207 The relation between preoperative nutritional evaluation measured by controlling nutritional
 status score and postoperative major complications in degenerative cervical myelopathy
 *Kousei Miura, et al.*, Dept. of Orthop. Surg., Univ. of Tsukuba··S1862
- Po-208 Morphological study of the ala of the ilium between male and female in lateral view of three
 dimension CT and possibility of LIF cage insertion in L4/5 in case of male covered by ilium
 *Masahiro Kashima, et al.*, Dept. of Orthop. Surg., Anan Medical Center··S1862
- Po-209 Evaluation of bone structure in thoracic vertebra of upper adjacent vertebra after spinal fusion
 *Terumasa Ikeda, et al.*, Dept. of Orthop. Surg., Kindai Univ. Faculty of Medicine··S1863
- Po-210 Is robotic-assisted pedicle screw placement useful for young surgeons?
 *Jun Ueno, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1863
- Po-211 Efficacy of moth-eye technology in preventing surgical loupe lens fogging
 *Shinji Tanishima, et al.*, Div. of Orthop. Surg., Dept. of Sensory of Motor Organs,
 School of Medicine, Tottori Univ. Faculty of Medicine··S1864
- Po-212 Development of synthetic absorbable monofilament suture using polyhydroxyalkanoates
 *Atsuhiko Murayama, et al.*, Dept. of Hand Surg., Musculoskeletal and Cutaneous Surg.,
 Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ.··S1864
- Po-213 Efficacy and practical results of massive transfusion protocol in orthopaedic trauma
 *Kentaro Sato, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1865

11 : 05 ~ 11 : 40	Poster session 36 Images · computers: Lower extremity	Moderator K. Ikoma
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- Po-214 Computed tomography and 3-dimensional analysis of metatarsal torsion: Hallux valgus vs. hallux
 rigidus vs. normal feet *Tadashi Kimura, et al.*, Dept. of Orthop. Surg.,
 The Jikei Univ. School of Medicine··S1865

- Po-215 Construction and validation of patient-specific flatfoot models in finite element method
 Yasutaka Sotozono, et al., Dept. of Orthop., Graduate School of Medical Science,
 Kyoto Prefectural Univ. of Medicine...S1866
- Po-216 Peritalar configuration following fusion in varus ankle osteoarthritis: A 3D weight bearing CT
 analysis Hiroyuki Mitsui, et al., Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine...S1866
- Po-217 The association between progression of flatfoot and knee deformity in patients with knee
 osteoarthritis: A study with three-dimensional upright computed tomography
 Satoshi Hakukawa, et al., Dept. of Orthop. Surg., Keio Univ....S1867
- Po-218 Anatomical features of patients with recurrent dislocation of the peroneal tendons
 Akinobu Nishimura, et al., Orthop. and Sports Medicine,
 Mie Univ. Graduate School of Medicine...S1867
- Po-219 Truncated-pyramid shape simulation for the evaluation of the femoral intercondylar notch:
 Subjects with ACL injury have small intercondylar notch volume
 Takanori Iriuchishima, et al., Dept. of Orthop. Surg., Kamimoku Spa Hosp....S1868
- Po-220 Medial tibial osteophyte, MME and AME are associated with locomotive syndrome in elderlies
 Suguru Wakana, et al., Dept. of Orthop., Juntendo Univ....S1868

10 : 30 ~ 11 : 00 Poster session 37

Moderator K. Ueshima

Images · computers: Upper extremity

- Po-221 Effect of axial traction MRI on the articular cartilage visibility of thumb CMC joint arthritis
 Akira Ikumi, et al., Dept. of Orthop. Surg., Univ. of Tsukuba...S1869
- Po-222 Four-dimensional computed tomography evaluation of glenoid track in patients with Hill-Sachs
 lesion Daisuke Momma, et al., Center for Sports Medicine, Hokkaido Univ. Hosp....S1869
- Po-223 The evaluation of degeneration of extensor carpi radialis brevis origin using CT hounsfield unit in
 lateral epicondylitis Shigeki Ishibashi, et al., Dept. of Orthop. Surg.,
 Graduate School of Biomedical and Health Sciences, Hiroshima Univ....S1870
- Po-224 Three-dimensional imaging of the distal radius with reference to volar locking plate surgery
 Koichiro Mizuno, et al., Dept. of Orthop. Surg., Iwate Medical Univ....S1870
- Po-225 Study of the validity of a handprint for flexion contracture of the fingers
 Takashi Ajiki, et al., Dept. of Orthop., Ishibashi General Hosp....S1871
- Po-226 Postoperative re-tear risk analysis after arthroscopic rotator cuff repair using machine learning
 models Issei Shinohara, et al., Dept. of Orthop. Surg.,
 Kobe Univ. Graduate School of Medicine...S1871

11 : 00 ~ 11 : 30

Poster session 38 Images · computers: Trunks · pelvis

Moderator S. Maki

- Po-227 The novel method with the radar chart to evaluate acetabular coverage in developmental
 dysplasia of the hip: Three-dimensional CT analysis Takahiro Igei, et al., Orthop. Surg.,
 Graduate School of Medicine, Univ. of the Ryukyus...S1872
- Po-228 Reference point for detection method of cervical pedicle screw loosening using digital
 tomosynthesis Eriko Okano, et al., Dept. of Orthop. Surg., Univ. of Tsukuba...S1872
- Po-229 Characteristics of osteophyte formation in subluxated hip osteoarthritis
 Osawa Yusuke, et al., Dept. of Orthop./Rheumatology, Musculoskeletal and Cutaneous Surg.,
 Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ....S1873
- Po-230 *In vivo* three-dimensional motion analysis of sternoclavicular and acromioclavicular joints using
 an upright four-dimensional computed tomography
 Yuki Yoshida, et al., Dept. of Orthop. Surg., Keio Univ....S1873
- Po-231 Evaluation of stem length and stem stability of total hip arthroplasty by finite element analysis
 Ryunosuke Watanabe, et al., Dept. of Orthop. Surg., Univ. of Tsukuba...S1874

- Po-247 Novel therapeutic strategy using fetal-derived neural stem cells for refractory respiratory muscle paralysis *Yuta Asami, et al.*, Dept. of Hand Surg., Musculoskeletal and Cutaneous Surg., Program in Integrated Medicine, Graduate School of Medicine, Nagoya Univ.··S1882
- Po-248 Examination of physiologically active substances contained in mesenchymal stem cell culture supernatant derived from fat and umbilical cord tissue and in platelet-rich plasma *Nanako Yamamoto, et al.*, Dept. of Orthop., Juntendo Univ.··S1882

10 : 55 ~ 11 : 30 Poster session 42 Biomechanics : Trunks · pelvis Moderator T. Morimoto

- Po-249 Mechanical analysis of different surgical techniques for kyphotic cervical model; Finite element analysis *Norihiro Nishida, et al.*, Dept. of Orthop. Surg., Yamaguchi Univ. Graduate School of Medicine··S1883
- Po-250 Factors associated with abnormal joint contact pressure after periacetabular osteotomy: A finite-element analysis *Kenji Kitamura, et al.*, Dept. of Orthop. Surg., Clinical Medicine, Graduate School of Medical Sciences, Kyushu Univ.··S1883
- Po-251 Relationship between thread depth and fixation strength in cancellous bone screw *Shinji Imade, et al.*, Dept. of Orthop., Shimane Univ.··S1884
- Po-252 Total human body crash simulation considering lumbar pelvis alignment *Norihiro Nishida, et al.*, Dept. of Orthop. Surg., Yamaguchi Univ. Graduate School of Medicine··S1884
- Po-253 Effect of hydroxyapatite augment on the lag screw intraoperative insertion torque for the treatment of intertrochanteric femoral fractures *Takuya Usami, et al.*, Dept. of Orthop. Surg., Nagoya City Univ., Graduate School of Medical Sciences··S1885
- Po-254 The effect of deterioration of sagittal balance on the spine: A finite element analysis *Koji Matsumoto, et al.*, Dept. of Orthop. Surg., Nihon Univ.··S1885
- Po-255 Effect of thread depth on fixing strength when reinserting screws *Masaya Sato, et al.*, Dept. of Orthop., Shimane Univ.··S1886

2nd Day October 14 Poster Room 3

10 : 45 ~ 11 : 15 Poster session 43 Biomechanics : Extremities Moderator T. Nagura

- Po-256 Biomechanical analysis of syndesmotic stability at interosseous ligament injury model *Katsunori Takahashi, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.··S1886
- Po-257 A new method to measure the strain of the median nerve in wrist extension *Kenichi Takashima, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.··S1887
- Po-258 Fracture risk assessment of vascularized femur medial condylar bone graft using finite element method *Hiroki Yamagata, et al.*, Dept. of Orthop. Surg., Yamaguchi Univ. Graduate School of Medicine··S1887
- Po-259 Biomechanical analysis of the centralization using knotless anchors for extruded medial meniscus with posterior root tear in a porcine model *Yusuke Amano, et al.*, Dept. of Joint Surg. and Sports Medicine, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental Univ.··S1888
- Po-260 Biomechanical stress of radiocapitellar contact pressures by sagittal osteochondral defects of the humeral capitellum: A cadaver study *Joji Iwase, et al.*, Dept. of Orthop., Institute of Biomedical Sciences, Tokushima Univ. Graduate School··S1888
- Po-261 Shear stress in the medial meniscus posterior root during daily activities *Takuji Yokoe, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki··S1889

11 : 15 ~ 11 : 45	Poster session 44 Biomaterials 1	Moderator G. Motomura
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- Po-262 Biocompatibility evaluation of carbon nanohorns with bone tissue
 *Katsuya Ueda, et al.*, Grad. Sch. of Medi, Sci. and Tech., Shinshu Univ.··S1889
- Po-263 A novel titanium scaffold fabricated by additive manufacturing and functionalized with strontium ions for weight-bearing critical-sized bone defect *Shintaro Honda, et al.*,
 Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ.··S1890
- Po-264 Development of an unsintered hydroxyapatite/poly L-lactic acid material screw with a new screw geometry: Comparison with a conventional screw *Takuya Wakatsuki, et al.*,
 Dept. of Orthop., Shimane Univ.··S1890
- Po-265 Acceleration of bone union using artificial bone with BMP-2-introduced by *in situ*-formed hyaluronic acid gel in mice refractory fracture model *Hiroki Saito, et al.*,
 Dept. of Orthop. Surg., Kitasato Univ.··S1891
- Po-266 Effect of spheroid size on gene expression profiles of a mouse mesenchymal stem cell line in spheroid culture *Akiyoshi Kuroda, et al.*, Dept. of Orthop. Surg., Kitasato Univ. Hosp.··S1891
- Po-267 Evaluation of the usefulness of rare earth-free magnesium alloy as an osteosynthesis material *Yuki Uraya, et al.*, Dept. of Orthop. Surg., Fujita Health Univ.··S1892

10 : 45 ~ 11 : 10	Poster session 45 Biomaterials 2	Moderator K. Yamada
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- Po-268 The bonding strength of bioactive carbon-reinforced PEEK with new bones
 *Yusuke Takaoka, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyoto Univ.··S1892
- Po-269 Evaluation of biomechanical properties considering the decomposition behavior of a novel meniscal scaffold using bioabsorbable materials *Shunsuke Sezaki, et al.*,
 Dept. of Orthop. Surg., Osaka Medical and Pharmaceutical Univ.··S1893
- Po-270 Development of 3D artificial autogenous bone using osteoblasts incorporating nano-ferrite particles *Chuang Ma, et al.*, Grad. Sch. of Medi, Sci. and Tech., Shinshu Univ.··S1893
- Po-271 The efficacy of DLC treatment on PEEK surface in biomaterial
 *Yu Usuda, et al.*, Dept. of Orthop. Surg., Shinshu Univ.··S1894
- Po-272 Possibility of spinal cages made of phosphorylated PEEK material
 *Takayuki Kamanaka, et al.*, Dept. of Orthop. Surg., Shinshu Univ.··S1894

11 : 10 ~ 11 : 35	Poster session 46 Scoliosis	Moderator H. Kuroki
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- Po-273 Upper rib cage in patients with adolescent idiopathic scoliosis: Corrective surgery influences on the upper ribs resulting in the shoulder balance *Yoko Ishikawa, et al.*, Eniwa Hosp.··S1895
- Po-274 Relationship between sacral tilt and coronal alignment parameters in patients with Lenke type 5 adolescent idiopathic scoliosis *Satoshi Takada, et al.*, Dept. of Orthop. Surg.,
 Dokkyo Medical Univ.··S1895
- Po-275 Chronological observation of congenital spinal deformity model mouse with MR imaging
 *Haruki Ueda, et al.*, Dept. of Orthop. Surg., Dokkyo Medical Univ.··S1896
- Po-276 Analysis of body composition with adolescent idiopathic scoliosis
 *Hiromori Sagae, et al.*, Dept. of Orthop. Surg., Yamagata Univ.··S1896
- Po-277 Scoliosis progression associated with ligamentum flavum hypertrophy based on comparative microarray gene expression analysis in patients with AIS *Shoji Seki, et al.*,
 Dept. of Orthop. Surg., Faculty of Medicine, Univ. of Toyama··S1897