The 23rd Annual Meeting of Japan Society for the Study of Surgical Technique for Spine and Spinal Nerves (JPSTSS)

• Program •

16 ~ 17 September 2016

16 September (Fri.)

Main Hall 1

7:30 Registration

8:00 ~ 8:05

~ Opening Remarks ~

President Izumi Koyanagi, M.D.

8:05 ~ 8:55 (50min.)

Main Theme 1

<The summit of microsurgery in spine and spinal cord>

Chairpersons Shinsuke Suzuki, M.D., Masahiro Hoshino, M.D.

M1-1

Microsurgical dissection for Spinal hemangioblastoma ........................... 139
Hisaaki Uchikado, M.D.

(Uchikado Neuro-Spine Clinic, Fukuoka, Fukuoka)

M1-2

The utility of intraoperative ICG-VA in the surgery of spinal intramedullary tumors ................................. 141
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(Department of Neurosurgery, Osaka City University Graduate School of Medicine, Osaka, Osaka)
The surgical outcomes of decompressive laminoplasty with spinous process osteotomy for the treatment of lumbar spinal stenosis 143
Shunsuke Kanbara, M.D., et al.
[Orthopedic Department, Nagoya University, Nagoya, Aichi]

Efficacy of the key hole surgery with microscope by Wiltse approach for the schwannoma for L2 145
Isao Kitahara, M.D., et al.
[Department of Neurosurgery, Chiba Tokushukai Hospital, Funabashi, Chiba]

Usefulness of widely opening of the bilateral laminae by sururg to paraspinal muscle featured from Kirita-Miyazaki’s method for cervical intraspinal canal lesion 147
Atsuhiko Okura, M.D., et al.
[Department of Neurosurgery, Nagoya City University Medical School, Nagoya, Aichi]

Microscopic decompression to treat lumbar spinal canal stenosis 149
Masami Fujiwara, M.D., et al.
[Orthopedic Department, Sada Hospital, Fukuoka, Fukuoka]

8:55 ~ 9:45 (50min.)

Main Theme 3
The summit of spinal deformity surgeries
Chairpersons Norio Kawahara, M.D., Nobuyuki Shimokawa, M.D.

Comparison of posterior spinal fusion with anterior-posterior spinal fusion with minimally invasive lateral lumbar interbody fusion for adult spinal deformity, minimum 1-year follow up 151
Tsuyoshi Sakuma, M.D., et al.
[Department of Orthopaedic Surgery, Seirei Sakura Citizen Hospital, Sakura, Chiba]

Staged PSO surgery after OLIF for lumbar kyphosis 153
Yosuke Kobayashi, M.D., et al.
[Department of Spine and Spinal Cord Surgery, Yokohama Brain and Spine Center, Yokohama, Kanagawa]

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Yu Yamato, M.D., et al.
[Department of Orthopaedic Surgery, Hamamatsu University School of Medicine, Hamamatsu, Shizuoka]
Correction surgery using pedicle screw for cervical degenerative kyphosis
Hiroshi Miyamoto, M.D., et al.
(Department of Orthopaedic Surgery, Kindai University Hospital, Osakasayama, Osaka)

Surgery for cervical kyphosis more than 50 degrees
Tomoaki Toyone, M.D., et al.
(Department of Orthopaedic Surgery, Showa University, Shinagawaku, Tokyo)

Surgical management of severe cervical kyphosis with myelopathy
Motoo Kubota, M.D., et al.
(Department of Spinal Surgery, Kameda Medical Center, Kamogawa, Chiba)

9:45 ~ 9:50  Break 5min.
9:50 ~ 10:40 (50min.)

Main Theme 4
＜Innovation of spine and spinal cord trauma surgeries＞
Chairpersons  Toshihiro Takami, M.D., Takamitsu Tokioka, M.D.

The management and problems of spine and spinal injury in acute stage
(Key Note Lecture)  Shinsuke Suzuki, M.D., et al.
(Department of Neurosurgery, Emergency and Critical Center, Sendai Medical Center, Sendai, Miyagi)

Selection of surgical procedures for cervical spinal injuries under consideration of vertebral artery injuries  Keitaro Tada, M.D., et al.
(Department of Orthopedic Surgery, Kochi Health Sciences Center, Kochi, Kochi)

(Department of Orthopedic Surgery, Kochi Health Sciences Center, Kochi, Kochi)

Treatment for C1-2 fracture in elderly patients—Surgery or halovest?—
Motoo Kubota, M.D., et al.
(Department of Spinal Surgery, Kameda Medical Center, Kamogawa, Chiba)

Surgical outcomes of temporary short-segment fixation without augmentation for thoracolumbar burst fracture
Hiroyuki Aono, M.D., et al.
(Orthopedic Department, National Hospital Organization Osaka National Hospital, Osaka, Osaka)
Lumbopelvic fixation of unstable sacral fractures
Shozo Kanezaki, M.D., et al.
[Orthopedic Department, Oita University, Yufu, Oita]

10:40 ~ 11:10 (30min.)

Free papers a

〈Video presentation of surgical technique in spinal surgery ①〉
Chairpersons Toru Maruyama, M.D., Masanori Ito, M.D.

Fa-1
Conserving procedure for the C2 nerve root by removal of the epidural venous plexus between C1 and C2 significantly contributes to Goel-Harms technique with microscope
Isao Kitahara, M.D.
[Department of Neurosurgery, Chiba Tokushukai Hospital, Funabashi, Chiba]

Fa-2
A surgical technique for performing an anterior lumbar interbody fusion using a paramedian extraperitoneal approach
Tomoaki Kinoshita, M.D., et al.
[Division of Orthopedic Surgery, Narashino-Daiichi Hospital, Narashino, Chiba]

Fa-3
Corpectomy using XLIF approach at thoracolumbar junction
Takeshi Umebayashi, M.D., et al.
[Shinagawa Shishokai Hospital, Shinagawa-ku, Tokyo]

Fa-4
Resection technique for spinal ossified lesion
Masahito Hara, M.D., et al.
[Department of Neurosurgery, Inazawa Municipal Hospital, Inazawa, Aichi]

11:10 ~ 11:15
Break 5min.

11:15 ~ 12:15 (60min.)

Spine Leader’s Lecture A (Postgraduate Lecture of JOA)

11:15 ~ 11:45 (30min.)
Chairperson Shunsuke Yano, M.D.
SLL-A-1 Toru Sasamori, M.D. [Department of Neurosurgery, Hokkaido University Graduate School of Medicine, Sapporo, Hokkaido]
Efficacy of spinal cord stimulation using multicontact lead for neuropathic pain due to spinal cord lesions
[Medtronic Japan Co., Ltd.]
11:45～12:15 (30min.)
Chairperson: Junichi Kunogi, M.D.

[SLI-A-2] Jean-Paul Steib, M.D. [Spine Surgery Department, University Hospital of Strasbourg, Strasbourg, France]
Artificial disc for one- and two-level DDD: the French and US experiences at five years follow up .......................................................... 124
[LDR Asia Pacific]

11:15～12:15 (Spine Leader’s Lecture B of Main Hall 2 page 76)
12:15～12:25 Break 10min.

12:25～13:25 (60min.)

Luncheon Seminar 1 (Postgraduate Lecture of JOA)
Chairperson: Koji Kanzaki, M.D.

[LS-1] Yusuke Nakao, M.D. [Department of Orthopedic Surgery, Spine Center, Sanraku Hospital, Chiyodaku, Tokyo]
Surgical technique of 3 column osteotomy for adult spinal deformity .................................................. 111
[Stryker Japan K.K.]

12:25～13:25 (Luncheon Seminar 2 of Main Hall 2 page 77)
13:25～13:30 Break 5min.
13:30～13:45 (15min.)

General Assembly (Report of board meeting and finance)
President: Izumi Koyanagi, M.D.
Announcement of President-elect
Akiyoshi Yamazaki, M.D.
(Spine Center, Department of Orthopaedic Surgery, Niigata Central Hospital, Niigata, Niigata)

13:45～14:15 (30min.)

Special Lecture
Chairperson: Izumi Koyanagi, M.D.

Hiroyasu Kamiyama, M.D. [Teishinkai Hospital]
How to use surgical microscope: Up to date
International Symposium 1

Surgical treatment of cervical degenerative spine disorders: anterior or posterior?
Chairperson  Izumi Koyanagi, M.D.

**IS1-1**

Surgical treatment of cervical degenerative spine disorders in Miami
Michael Y Wang, M.D.
[Departments of Neurological Surgery & Rehab Medicine University of Miami Miller School of Medicine, Miami, USA]

**IS1-2**

Surgical treatment of multilevel cervical degenerative disease in London
David Choi, M.D.
[National Hospital for Neurology and Neurosurgery, London, UK]

**IS1-3**

Surgical treatment of cervical degenerative spine disorders in Strasbourg
Jean-Paul Steib, M.D.
[Spine Surgery Department, University Hospital of Strasbourg, Strasbourg, France]

**IS1-4**

Optimal Surgical Approach for Degenerative Cervical Disease: What we should consider before making a decision
Hirotaka Chikuda, M.D.
[Department of Orthopaedic Surgery, The University of Tokyo, Bunkyo-ku, Tokyo]

**IS1-5**

Surgery for cervical spondylosis and OPLL
Kazutoshi Hida, M.D.
[Sapporo Azabu Neurosurgical Hospital, Sapporo, Hokkaido]

15:55 ~ 16:05  Break  10min.

16:05 ~ 16:35 (30min.)

Free papers b

*Video presentation of surgical technique in spinal surgery ②*
Chairpersons  Hitoshi Kono, M.D., Satoru Shimizu, M.D.

**Fb-1**

Surgical procedure of open-door cervical laminoplasty by a 3 cm skin incision and 60 minutes
Shigeo Ueda, M.D., et al.
[Shin-aikai Spine Center, Katano Hospital, Katano, Osaka]
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Masaki Mizuno, M.D., et al.
[Department of Neurosurgery, Mie Graduate School of Medicine, Tsu, Mie]

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Eiichiro Honda, M.D., et al.
[Department of Neurospinal Surgery, Shiroishi Kyoritsu Hospital, Kishimagun, Saga]

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bilateral dorsal root entry zonotomy (DREZotomy)................................. 189
Seiji Shigekawa, M.D., et al.
(Sapporo Azabu Neurosurgical Hospital, Sapporo, Hokkaido)

Hands-on Session 1
Chairperson  Masato Tanaka, M.D.

Minimally invasive spinal deformity surgery
Michael Y Wang, M.D. (Departments of Neurosurgical Surgery & Rehab Medicine University of Miami
Miller School of Medicine, Miami, USA)
(DePuy Synthes Japan, Johnson & Johnson K.K.)

Hands-on Session 2 of Main Hall 2 page 80

Banquet (Poster Session Room)
Main Theme 2-1
〈The summit of minimally invasive surgery in spine and spinal cord ①〉

Chairpersons: Yutaka Hiraizumi, M.D., Yasunobu Ito, M.D.

**M2-1-1**
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Hiroshi Kono, M.D., et al.
(Department of Orthopaedic Surgery, Ishikiriseiki Hospital, Higashiosaka, Osaka)

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(Orthopedic Department, Izumi Municipal Hospital, Izumi, Osaka)

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Taku Sugawara, M.D., et al.
(Department of Spinal Surgery, Research Institute for Brain and Blood Vessels-Akita, Akita, Akita)

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(Orthopedic Department, Numazu City Hospital, Numazu, Shizuoka)

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Kei Miyamoto, M.D., et al.
(Orthopaedic and Spine Surgery, Gifu Municipal Hospital, Gifu, Gifu)

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Hisaaki Uchikado, M.D.
(Uchikado Neuro-Spine Clinic, Fukuoka, Fukuoka)
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The summit of minimally invasive surgery in spine and spinal cord (2)

Chairpersons Koji Sato, M.D., Naoki Asami, M.D.

M2-2-1
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Takamitsu Tokioka, M.D., et al.
[Department of Orthopedic Surgery, Kochi Health Sciences Center, Kochi, Kochi]

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Takeshi Hori, M.D., et al.
[Center for Spinal Surgery, Nippon Koukan Hospital, Kawasaki, Kanagawa]

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Kazuo Ohmori, M.D., et al.
[Center for Spinal Surgery, Nippon Koukan Hospital, Kawasaki, Kanagawa]

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[Department of Orthopaedic Surgery, Kansai Medical University Medical Center, Moriguchi, Osaka]

M2-2-5
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Junichi Ukai, M.D., et al.
[Orthopedics Department, Nagoya Daini Red Cross Hospital, Nagoya, Aichi]

9:35 ~ 9:40  Break  5min.
Main Theme 2-3

〈The summit of minimally invasive surgery in spine and spinal cord ③〉

Chairpersons Takanori Saito, M.D., Masaki Mizuno, M.D.

M2-3-1

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Mesayuki Ishihara, M.D., et al.
[Orthopedic Department, Kansai Medical University Medical Center, Moriguchi, Osaka]

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[Shin-aikai Spine Center, Katano Hospital, Katano, Osaka]

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[Ikeda Hospital, Kobayashi, Miyazaki]

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[Department of Orthopedic Surgery, Kochi Health Sciences Center, Kochi, Kochi]

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[Orthopedic Department, Tokyo Dental College Ichikawa General Hospital, Ichikawa, Chiba]

10:20 ~ 11:10 (50min.)

Main Theme 2-4

〈The summit of minimally invasive surgery in spine and spinal cord ④〉

Chairpersons Tateru Shiraishi, M.D., Eiichiro Honda, M.D.

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[Heiwa Hospital Department Neurosurgery, Spinal Surgery, Yokohama, Kanagawa]
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[Aichi Spine Institute, Tanbagun, Aichi]

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[Aichi Spine Institute, Tanbagun, Aichi]

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[Orthopedic Surgery Department, Mizuno Memorial Hospital, Adachi-ku, Tokyo]

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[Spine Center, Asao General Hospital, Kawasaki, Kanagawa]

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Jun Ho Lee, M.D.
(Department of Neurosurgery, Kyung Hee University Medical Center)

11:10 ~ 11:15  Break 5min.

11:15 ~ 12:15 (60min.)

Spine Leader's Lecture B (Postgraduate Lecture of JOA)

11:15 ~ 11:45 (30min.)
Chairperson  Takashi Tomita, M.D.

SLL-B-1  Masashi Miyazaki, M.D. [Department of Orthopaedic Surgery, Oita University, Yufu, Oita]
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11:45 ~ 12:15 (30min.)
Chairperson  Naohiro Kawamura, M.D.

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Chairperson Manabu Ito, M.D.

Michael Y Wang, M.D.  [Departments of Neurological Surgery & Rehab Medicine
University of Miami Miller School of Medicine, Miami, USA]

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Nagano)

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(Department of Orthopedic Surgery, Musashino Red Cross Hospital, Musashino,
Tokyo)

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[Orthopedic Department, Sendai East Neurosurgical Hospital, Sendai, Miyagi]

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[Shin-aikai Spine Center, Katano Hospital, Katano, Osaka]
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Takashi Imuro, M.D., et al.
(Department of Orthopaedic Surgery, Atsugi City Hospital, Atsugi, Kanagawa)

Evaluation of the psychological state perioperative period in patients with lumbar degenerative disease using the Hospital Anxiety and Depression Scale
Takashi Imuro, M.D., et al.
(Department of Orthopaedic Surgery, Atsugi City Hospital, Atsugi, Kanagawa)

Main Theme 8-2

Overcome complications and sequela of spinal surgeries ②
Chairpersons Macondo Mochizuki, M.D., Taku Sugawara, M.D.

Multicenter Surveillance and Risk Factor Analysis of Surgical Site Infections after Lumbar Laminectomy and/or Herniotomy in Adults
Satoshi Ogihara, M.D., et al.
(Department of Orthopaedics, Saitama Medical Center, Saitama Medical University, Kawagoe, Saitama)

A new attempt of irrigation in spinal surgeries for the prevention of surgical site infection — Intraoperative iodine accumulation and irrigation reduce surgical site infection —
Yuki Onishi, M.D., et al.
(Orthopedic Department, Tokyo Metropolitan Tama Medical Center, Fuchu, Tokyo)

Evaluation for location of ureter, great vessels, colon to prevent complication in LLIF
Takahiro Hayashi, M.D., et al.
(Department of Orthopedic Surgery, Kochi Health Sciences Center, Kochi, Kochi)

Complications of anterior spinal decompression after posterior cervical spinal fusion
Isao Kitahara, M.D., et al.
(Department of Neurosurgery, Chiba Tokushukai Hospital, Funabashi, Chiba)

Optimal position of bone graft to prevent migration after anterior cervical corpectomy and fixation
Yuichi Kondo, M.D., et al.
(Department of Spine Center, Gifu Municipal Hospital, Gifu, Gifu)
To overcome - especially around the hoarseness of unceasing cervical anterior fusion surgery complications reported 257

Kazunari Kogure, M.D., et al.
[Department of Neurological Surgery, Nippon Medical School, Tamanagayama Hospital, Tama, Tokyo]

15:25 ~ 15:30  Break  5min.

15:30 ~ 16:35 (65min.)

Main Theme 8-3

〈Overcome complications and sequel of spinal surgeries 3〉

Chairpersons  Kei Miyamoto, M.D., Shiro Imagama, M.D.

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[Orthopaedic and Spine Surgery, Gifu Municipal Hospital, Gifu, Gifu]

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[Orthopedic Department, JCHO Tokyo Joto Hospital, Koto-ku, Tokyo]

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[Orthopedic Department, Center Hospital of the National Center for Global Health and Medicine, Shinjukuru, Tokyo]

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[Department of Orthopedic Surgery, School of Medicine, Tokyo University, Bunkyo-ku, Tokyo]

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[Heiwa Hospital Department Neurosurgery, Spinal Surgery, Yokohama, Kanagawa]

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[Orthopedic Department, Nagoya University, Nagoya, Aichi]
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Tetsuryu Mitsuyama, M.D., et al.
(Shinagawa Shishokai Hospital, Shinagawa-ku, Tokyo)

Evaluation of intervertebral foramen in prophylactic foraminotomy for cervical laminoplasty

Tomohiro Izumi, M.D., et al.
(Spine Center, Orthopedic Department, Niigata Central Hospital, Niigata, Niigata)

16:35 ~ 16:40
Break 5min.
16:40 ~ 17:40
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17:40 ~ 17:45
Break 5min.

17:45 ~ 18:45 (60min.)

Hands-on Session 2

Practice of the technical points of vertebral body osteotomy—For more precise and less invasive surgery—
Shigeo Sano, M.D. (Spine Center, Sanraku Hospital, Chiyoda-ku, Tokyo)
(PETER BREHM JAPAN INC.)

17:45 ~ 18:45 (Hands-on Session 1 of Main Hall 1 page 72)
18:45 ~ 18:50
Break 5min.
18:50 ~
Banquet (Poster Session Room)
Main Theme 7-1
〈Innovation of surgical techniques and assisted systems in spinal surgeries ①〉
Chairpersons Toshiki Endo, M.D., Masahito Hara, M.D.

A new application of Piezo actuator-driven pulsed waterjet in dissecting the spinal cord
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[Department of Neurosurgery, Tohoku University, Sendai, Miyagi]

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[Department of Neurosurgery, Hyogo College of Medicine, Nishinomiya, Hyogo]

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[Department of Neurosurgery, Mie University, Tsu, Mie]

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[Department of Neurosurgery, Nara Medical University, Kashihara, Nara]

Evaluation of the intervertebral foramen of the cervical spine by high resolution MRI ................................................................. 283
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[Orthopedic Department, Tsukuba Medical Center Hospital, Tsukuba, Ibaraki]

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Yoshinori Kyoh, M.D., et al.
[KYOH Orthopaedics & Neurosurgery Clinic, Amagasaki, Hyogo]
Main Theme 7-2

〈Innovation of surgical techniques and assisted systems in spinal surgeries ②〉

Chairpersons  Akiyoshi Yamazaki, M.D., Hiroyuki Nakase, M.D.

| M7-2-1 | An evaluation of the new lamina spacer that can be applied to open door and french door laminoplasty — Clinical outcomes and bone union of the spacer and opened lamina | 287 |
| ______ | (Key Note Lecture) | (Orthopedic Department, Hachinohe Municipal Hospital, Hachinohe, Aomori) |
| ______ | Shuichi Kaneyama, M.D., et al. | (Department of Orthopaedic Surgery, Kobe Rosai Hospital, Kobe, Hyogo) |
| ______ | The accuracy of cervical pedicle screw insertion | 291 |
| ______ | Nobuyuki Shimokawa, M.D., et al. | (Department of Neurosurgery, Tsukazaki Hospital, Himeji, Hyogo) |
| ______ | The Accuracy of Pedicle Screw Placement Using Intraoperative CT Imaging | 293 |
| ______ | Akira Matsuoka, M.D., et al. | (Department of Orthopaedic Surgery, Showa University, Shinagawaku, Tokyo) |
| ______ | Surgical Results of Posterior Cervical Fusion Using O-arm Based Navigation System and New Techniques with New Devices | 295 |
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| ______ | Minimally Invasive Percutaneous Pedicle Screw Placement using an Illuminated Retractor for Decreasing the Risks of K-wire Use and Radiation Exposure | 297 |
| ______ | Takeshi Ohki, M.D., et al. | (Orthopedic Department, Yuki Hospital, Yuki, Ibaraki) |

9:45 ~ 9:55  Break  10min.
Tea Time Seminar 1
Chairperson Izumi Koyanagi, M.D.

(Tea Time Seminar 2 of Main Hall 2 page 90)

9:55 ~ 10:55 (60min.)

Spinal microsurgery : Spine and surgical microscope .......................... 119
(Carl Zeiss Meditec CO., Ltd.)

Break 5min.

11:00 ~ 12:00 (60min.)

Spine Leader's Lecture C (Postgraduate Lecture of JOA)

11:00 ~ 11:30 (30min.)
Chairperson Kanji Sasaki, M.D.

Wataru Narita, M.D. [Department of Orthopaedics, Midorigaoka Hospital, Takatsuki, Osaka]
Lateral lumbar interbody fusion and percutaneous pedicle screws placed in patients in the lateral decubitus position .......................... 131
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11:30 ~ 12:00 (30min.)
Chairperson Masashi Neo, M.D.

Akira Shinohara, M.D. [Department of Orthopaedic Surgery, Jikei University Daisan Hospital, Komae, Tokyo]
Surgical procedure and pitfalls of minimally invasive lateral corpectomy ................................................................. 133
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Break 10min.

12:00 ~ 12:10
12:10 ~ 13:10 (Luncheon Seminar 4 of Main Hall 2 page 91)
13:10 ~ 13:20 Break 10min.

13:20 ~ 13:50 (World Leader's Lecture ① of Main Hall 2 page 91)
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International Symposium 2
Surgical management of Adult spinal deformity : Open or MIS? 
Chairperson  Shigeo Sano, M.D.

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Andrew A. Sama, M.D.  
(The Hospital for Special Surgery, New York, USA)

IS2-2
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Yusuke Nakao, M.D., et al.  
(Department of Orthopedic Surgery, Spine Center, Sanraku Hospital, Chiyoda-ku, Tokyo)

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〈Innovation of peripheral nerve surgeries for spinal disorders〉

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Where spinal surgery is going?

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Chairpersons Masatoshi Sumi, M.D., Masakazu Takayasu, M.D.

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Anterior hybrid decompression and fusion method for cervical OPLL with multilevel lesion
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(Department of Orthopaedic Surgery, Numazu City Hospital, Numazu, Shizuoka)

M5-1-2
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(Department of Orthopaedic Surgery, Shiga University of Medical Science, Otsu, Shiga)

M5-1-4
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Kazunari Kogure, M.D., et al.
(Department of Neurological Surgery, Nippon Medical School, Tamanagayama Hospital, Tama, Tokyo)

M5-1-5
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9:55 ~ 10:55 (60min.)

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Chairperson  Morio Matsumoto, M.D.

TS-2  Yukihiro Matsuyama, M.D.  [Department of Orthopaedic Surgery, Hamamatsu University School of Medicine, Hamamatsu, Shizuoka]
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SLL-D-1  Andrew A. Sama, M.D.  [The Hospital for Special Surgery, New York, USA]
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LS-4   Ken Ishii, M.D. [Department of Orthopaedic Surgery, Keio University, Shinjuku-ku, Tokyo]
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World Leader’s Lecture(Postgraduate Lecture of JOA)

13:20 ~ 13:50 (30min.)
Chairperson   Toshitaka Seki, M.D.
WLL-1   Michael G. Fehlings, M.D. [Toronto Western Hospital, University of Toronto, Toronto, Canada]
Surgical management of acute spinal cord injury

13:50 ~ 14:20 (30min.)
Chairperson   Kiyoshi Kumano, M.D.
WLL-2   David Choi, M.D. [National Hospital for Neurology and Neurosurgery, London, UK]
Surgical management of cervical spinal tumors except for cervical cord tumors

13:20 ~ 13:35   (Key Spine Lecture ① of Main Hall 1 page 84)
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Key Spine Lecture
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Surgical treatment of cervical spondylotic myelopathy

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**Anterior cervical surgery, others**

Chairpersons  Hideo Hosoe, M.D., Fumio Hasue, M.D.

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<td>Ryuta Kono, M.D., et al.</td>
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&Spinal tumors/Intradural lesions, others
Chairpersons Makoto Taniguchi, M.D., Hisaaki Uchikado, M.D.

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Session 11  P11-1～9
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* Abstracts are only a japanese language.