



MENA SPINE
CONGRESS

MENA SPINE CONGRESS (MSC 2026)

UNITES TOP SPINE SURGEONS & SPECIALISTS TO
EXPLORE THE LATEST IN SPINE SURGERY

23 - 24 JANUARY, 2026

RITZ - CARLTON (DIFC) DUBAI , UAE

SCIENTIFIC PROGRAM





To Our Distinguished Colleagues and Valued Partners,

It is our great pleasure to welcome you to the **2nd MENA Spine Congress**, taking place on January 23–24, 2026, at the Ritz-Carlton, Dubai International Financial Centre (DIFC), UAE.

Following the remarkable success of the MSC edition in 2025, this year's congress has been thoughtfully elevated to offer an even more impactful and enriching experience. We are proud to convene leading spine surgeons, researchers, and innovators from across the region and beyond, united by a shared commitment to advancing spine care.

The 2026 program features a robust scientific agenda, including state-of-the-art keynote presentations, interactive panel discussions, and immersive hands-on workshops. These sessions are designed to provide practical insights and training in the latest surgical techniques and clinical practices, enabling attendees to translate knowledge into improved patient outcomes.

Complementing the scientific program, our vibrant medical exhibition will showcase cutting-edge technologies, novel devices, and innovative solutions shaping the future of spine care. It is a unique opportunity to engage with industry leaders and discover transformative tools that can elevate your practice.

We invite you to join us in Dubai for an inspiring congress that fosters collaboration, promotes excellence, and drives meaningful progress in the field of spine surgery. We look forward to welcoming you to what promises to be an unforgettable event.

Sincerely,



Sameh Abolfotouh
Conference Chairman



MENA SPINE
CONGRESS

SCIENTIFIC & ORGANIZING COMMITTEE

&

ADVISORY BOARD MEMBERS

SCIENTIFIC & ORGANIZING COMMITTEE



SAMEH ABOLFOTOUH



OMAR ALNORI



FAISAL KONBAZ



WALEED AWWAD



NAYEF BIN DAJIM



MUZAHEM TAHA



GHAZWAN HASAN



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DAN RIEW



JEFFREY WANG



RICHARD BRANSFORD



MOHIT BHANDARI



OSCAR ALVES



TONY TANNOURY



YOUSSRY EL HAWARY





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FACULTY SPEAKERS

FACULTY SPEAKERS



JEFFREY WANG



PATRICK HSIEH



RICHARD BRANSFORD



ALI BAAJ



JENS CHAPMAN



DON MOORE



MOHIT BHANDARI



KLAUS SCHNAKE



LUKE KIM



OSCAR L. ALVES



AYUSH SHARMA



CHRISTIAN MORGENSTERN



YOUSSRY EL HAWARY



TONY TANNOURY



OMAR ALNORI



FAISAL KONBAZ



WALEED AWWAD



NAYEF BIN DAJIM



MUZAHEM TAHA



GHAZWAN HASAN



FACULTY SPEAKERS



JUAN EMMERICH



SALEH BAEESA



FAHAD ALHELAL



SULTAN ALDEBEYAN



SAMI ALEISSA



ABDULAZIZ ALMUTAIR



ABDUL RAZZAQ AL-OBAID



JOSEPH EL KHALIL



MOHAMED ALASHA



CHARBEL D. MOUSSALLEM



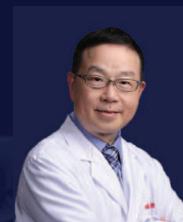
WAEL AL-SAMAK



IMAD HASHIM



YOSHIHISA KOTANI



YU LIANG



ARVIND KULKARNI



RIZWAN AKRAM



NICANDRO FIGUEIREDO



CARMEN VLEGGEERT-
LANKAMP



PETR VACHATA



AHMED IBRAHIM

FACULTY SPEAKERS



HANI MHAILDI



MOHAMED ARMOATY



SULTAN ALKALBANI



KHALIFA AL GHAFRI



AHMED SHAWKY



WASEEM AZIZ



NADER HEBELAH



MARCUS HEAD



RAMI SALAMEH



KHALED FARAJ



ANTHONY REX



MOHAMED KHATTAB



WALEED HEKAL



ASEEM ALHAJ



SANDESH LAKKOL



NIKOLA JEVTIĆ



GERALD HUESH



ALEX THABANE



MASON ALNORI



MOHAMED EL-SHARKAWI



ASHRAF N. EL NAGA



AO SPINE YOUTH CLUB MEMBERS



DEYA ALWADY



ANGELICA ARCE ZUÑIGA



SABIR KHAN KHATTAK



GUNA PRATHEEP



KAUSHIK RAMPRASAD



DORIA CRISMARUC



IRINA TURTUREANU



MARIA MĂDĂLINA ANCĂȚĂ





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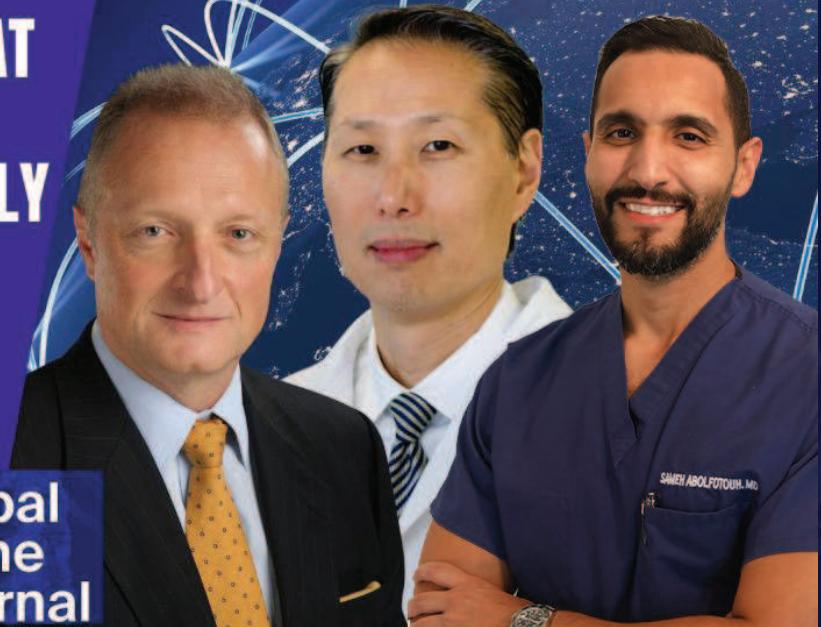
SEATTLE
SCIENCE
FOUNDATION  AO
SPINE

LIVE FROM DUBAI - WHAT VALUE DO ROBOTICS IN SPINE SURGERY ACTUALLY PROVIDE?

*Jens Chapman, M.D., Sameh
Abolfotouh, M.D. & Jeffrey
Wang, M.D.*



Global
Spine
Journal



PROGRAM AT A GLANCE

23 - 24 JANUARY, 2026

08:00 - 17:30	23 JANUARY, 2026
08:00 - 08:30	OPENING CERMONY
08:30 - 09:30	SESSION 1: CSRS SESSION: NAVIGATING THE CERVICAL SPINE: A DEEP DIVE INTO DIAGNOSIS, TECHNOLOGY, AND COMPLICATIONS
09:30 - 10:30	SESSION 2: JBJS SYMPOSIUM: CALLING ALL SURGEONS: THE ART OF "IDEATION"
10:00 - 11:00	ABSTRACT SESSION 01 (MSC THEATRE)
10:30 - 11:00	COFFEE BREAK
11:00 - 12:00	SESSION 3: AO SPINE SYMPOSIUM: SURGEON LONGEVITY: MASTERING A SUSTAINABLE CAREER IN SPINE SURGERY
12:00 - 13:00	SESSION 4: NASS SESSION: INTERNATIONAL COLLABORATION AND LEADERSHIP TO ADVANCE GLOBAL SPINE CARE
13:00 - 14:00	LUNCH BREAK
14:00 - 15:00	AO SPINE KF TRAUMA SYMPOSIUM – SACRAL FRACTURES (MSC THEATRE)
14:00 - 15:30	SESSION 5: CHALLENGING CASE DISCUSSIONS
15:00 - 16:00	ABSTRACT SESSION 02 (MSC THEATRE)
15:30 - 16:00	COFFEE BREAK
16:00 - 17:30	SESSION 6: ADULT SPINE DEFORMITY

07:00 - 17:00	24 JANUARY, 2026
07:00 - 08:00	SESSION 7: BREAKFAST WITH AO SPINE YOUTH CLUB : BRIDGING GENERATIONS IN SPINE SURGERY: LEADERSHIP, MENTORSHIP, AND THE LESSONS WE DON'T USUALLY TALK ABOUT
08:00 - 09:30	SESSION 8: THE EVERYDAY DECISION DILEMMAS
09:30 - 10:30	GLOBAL SPINE JOURNAL CLUB : WHAT VALUE DO ROBOTICS IN SPINE SURGERY ACTUALLY PROVIDE (MSC THEATRE)
09:30 - 10:30	SESSION 9: NORTHWESTERN MEDICINE SESSION: THE AGING SPINE
10:30 - 10:50	AMGEN SYMPOSIUM (MSC THEATRE)
10:30 - 11:00	COFFEE BREAK
11:00 - 12:00	SESSION 10: GSC SESSION
12:00 - 13:00	SESSION 11: SPINE AND LIFE: JOURNEYS TO THE TOP
12:00 - 13:00	ABSTRACT SESSION 03 (MSC THEATRE)
13:00 - 14:00	LUNCH BREAK
14:00 - 14:40	ABSTRACT SESSION 04 (MSC THEATRE)
14:00 - 15:00	SESSION 12: SMISS AP SYMPOSIUM: ADVANCES AND CHALLENGES IN MIS SURGERY
15:00 - 15:20	COFFEE BREAK
15:20 - 16:30	SESSION 13: CHALLENGING CASE DISCUSSIONS
16:30 - 17:00	CLOSING REMARKS + BEST PAPER AWARD

DAY 01 PROGRAM

(08:00 - 17:30)

TIME	TOPICS	SPEAKERS
08:00 - 08:30	OPENING CEREMONY	
08:30 - 09:30	SESSION 1: CSRS SESSION: NAVIGATING THE CERVICAL SPINE: A DEEP DIVE INTO DIAGNOSIS, TECHNOLOGY, AND COMPLICATIONS <small>MODERATORS: CARMEN VLEGEERT-LANKAMP - OSCAR L. ALVES</small>	
08:30 - 08:40	IS INFLAMMATION AN IMPORTANT FACTOR IN RADICULOPATHY? THE ROLE OF MACROPHAGES	CARMEN VLEGEERT-LANKAMP
08:40 - 08:50	REVISIONS STRATEGIES IN PSEUDARTHROSIS	OSCAR L. ALVES
08:50 - 09:00	HOW HELPFUL IS CERVICAL SPINE ENDOSCOPY AS A SURGICAL TOOL?	AHMED IBRAHIM
09:00 - 09:10	MULTIPLE COMPLICATIONS LONG-TERM AFTER THREE-LEVEL CERVICAL SONDYLECTOMY	PETR VACHATA
09:10 - 09:20	TWO OF A KIND CERVICAL BONE TUMOUR	OSCAR L. ALVES
09:20 - 09:30	DISCUSSION	
09:30 - 10:30	SESSION 2: JBJS SYMPOSIUM: CALLING ALL SURGEONS: THE ART OF "IDEATION" <small>MODERATORS: MOHIT BHANDARI - SAMEH ABOLFOTOUGH</small>	
09:30 - 09:35	INTRODUCTION / WELCOME	SAMEH ABOLFOTOUGH
09:35 - 09:45	WHY ARE "DISRUPTIVE IDEAS" DECLINING?	MOHIT BHANDARI

09:45 - 09:55	DOES A.I. MAKE US MORE (OR LESS) CREATIVE?	ALEX THABANE
09:55 - 10:05	INNOVATING IN THE OPERATING ROOM	JENS CHAPMAN
10:05 - 10:15	BUILDING IDEATION TEAMS: WHAT SURGEONS CAN LEARN FROM INTER-DISCIPLINARY TEAMS	GERALD HUESH
10:15 - 10:25	IDEAS TO IMPLEMENTATION: NAVIGATING THE INNOVATION PIPELINE	BEATE HANSON
10:25 - 10:30	PANEL DISCUSSION AND SUMMARY	SAMEH ABOLFOTOUH
10:00 - 11:00	ABSTRACT SESSION 01 (MSC THEATRE)	PAGE 13
10:30 - 11:00	COFFEE BREAK	
11:00 - 12:00	SESSION 3: AO SPINE SYMPOSIUM: SURGEON LONGEVITY: MASTERING A SUSTAINABLE CAREER IN SPINE SURGERY MODERATORS: JUAN EMMERICH - MUZAHEM TAHA - JENS CHAPMAN	
11:00 - 11:10	THE PHYSICAL DEMANDS OF SPINE SURGERY	RICHARD BRANSFORD
11:10 - 11:20	RADIATION SAFETY IN SPINAL SURGERY	LUKE KIM
11:20 - 11:30	THE SILENT BATTLES: MENTAL HEALTH, ISOLATION, AND THE PRICE OF SUCCESS	JEFFREY WANG
11:30 - 11:40	DEALING WITH DIFFICULT OUTCOMES AND COMPLICATIONS	JENS CHAPMAN
11:40 - 11:50	LONGEVITY IN LEADERSHIP: THE EMOTIONAL BURDEN IN GOVERNANCE WHILE LEADING GLOBAL CHANGE	JUAN EMMERICH
11:50 - 12:00	PANEL DISCUSSION	



12:00 - 13:00	SESSION 4: NASS SESSION: INTERNATIONAL COLLABORATION AND LEADERSHIP TO ADVANCE GLOBAL SPINE CARE MODERATORS: PATRICK HSIEH - JEFFREY WANG	
12:00 - 12:10	ADVANCING GLOBAL SPINE CARE THROUGH INTERNATIONAL EDUCATION AND RESEARCH INITIATIVES	PATRICK HSIEH
12:10 - 12:20	IMPROVING NEGLECTED SPINE CARE IN DEVELOPING COUNTRIES	HANI MHAILI
12:20 - 12:30	STANDARDIZING ENDOSCOPIC SPINE SURGERY EDUCATION: INTEGRATING VR, SIMULATION, AND CADAVER TRAINING FOR GLOBAL ADOPTION	LUKE KIM
12:30 - 12:40	WHO PAYS FOR INNOVATION? THE GLOBAL BATTLE FOR REIMBURSEMENT IN SPINE SURGERY	DON MOORE
12:40 - 12:50	DEVELOPING LEADERSHIP SKILLS TO IMPROVE GLOBAL SPINE CARE THROUGH ACADEMIC SPINE SOCIETIES	JEFFREY WANG
12:50 - 13:00	PANEL DISCUSSION AND Q & A	
13:00 - 14:00	LUNCH BREAK	
14:00- 15:30	SESSION 5: CHALLENGING CASE DISCUSSIONS MODERATORS: AYUSH SHARMA - TONY TANNOURY - YOUSRY EL HAWARY	
14:00 - 14:10	IONM DROP COMPLICATION	SANDESH LAKKOL
14:10- 14:20	TRANSARTICULAR ANTERIOR C1-C2 FIXATION: AN INNOVATIVE SURGICAL TECHNIQUE	WASEEM AZIZ
14:20 - 14:30	SINGLE STAGE POSTERIOR APPROACH WITH PONTE OSTEOTOMIES AND USE OF BEAM RODS FOR CORRECTION OF HIGH GRADE RIGID ADOLESCENT IDIOPATHIC SCOLIOSIS: CASE SERIES	WALEED HEKAL
14:30 - 14:40	MY WORSE CERVICAL CASE	IMAD HASHIM
14:40 - 14:50	THE DOMINO EFFECT: MULTILEVEL CONTIGUOUS OSTEOPOROTIC LUMBAR FRACTURES	ASEEM ALHAJ
14:50 - 15:00	DISLOCATIONS NEEDED MORE TO DO	WAEL AL-SAMAK
15:00 - 15:10	SAME LEVEL, DIFFERENT LESSON. MY RECURRENT DISC	RIZWAN AKRAM
15:10 - 15:20	A CASE OF REVISION SCOLIOSIS	CHARBEL D. MOUSSALLEM
15:20 - 15:30	Q & A	

14:00- 15:00	AO SPINE KF TRAUMA SYMPOSIUM – SACRAL FRACTURES (MSC THEATRE) MODERATORS: KLAUS SCHNAKE - RICHARD BRANSFORD	
14:00 - 14:10	EPIDEMIOLOGY AND CLASSIFICATION	MOHAMED EL-SHARKAWI
14:10 - 14:22	PERCUTANEOUS STABILIZATION OF SACRAL AND PELVIC RING FRACTURES	ASHRAF EL NAGA
14:22 - 14:34	REDUCTION AND STABILIZATION OF HIGH ENERGY SACRAL FRACTURES	JENS CHAPMAN
14:34 - 14:46	SURGICAL TREATMENT OF SACRAL INSUFFICIENCY FRACTURES	KLAUS SCHNAKE
14:46 - 15:00	DISCUSSION	
15:00 - 16:00	ABSTRACT SESSION 02 (MSC THEATRE)	
15:30 - 16:00	COFFEE BREAK	
16:00- 17:30	SESSION 6: ADULT SPINE DEFORMITY MODERATORS: KHALED FARAJ - MOHAMED KHATTAB - MARCUS HEAD	
16:00 - 16:30	WHAT'S THE BEST SURGICAL OPTION? DEBATE SESSION	
16:00 - 16:10	I WOULD ONLY DECOMPRESS THE SPINE	ABDUL RAZZAQ AL-OBAID
16:10 - 16:20	ONE LEVEL FUSION USUALLY DOES THE JOB	ABDULAZIZ ALMUTAIR
16:20 - 16:30	IT'S A DEFORMITY CASE: GO BIG OR GO HOME!	SAMI ALEISSA
16:30 - 16:40	PRE-OPERATIVE PLANNING AND STRATEGIES TO MINIMIZE IATROGENIC DEFORMITY	MOHAMED ARMOUTY
16:40 - 16:50	ANTERIOR APPROACH TO RESTORE LUMBAR LORDOSIS	TONY TANNOURY
16:50- 17:00	WHEN TO OPERATE AND WHEN NOT TO IN ADULT SPINE DEFORMITY	AHMED SHAWKY
17:00 - 17:10	PROXIMAL JUNCTIONAL KYPHOSIS: IS IT AVOIDABLE?	SULTAN ALDEBEYAN
17:10 - 17:20	IS THERE A ROLE FOR SCHROTH IN ADULT SPINE DEFORMITY?	NIKOLA JEVTIĆ
17:20 - 17:30	Q & A	

ABSTRACT SESSION 01 (MSC THEATRE) MODERATORS: FAISAL KONBAZ - WALEED AWWAD		
10:00 - 11:00		
10:00 - 10:06	MORE THAN A SPINAL INJURY: THE CLINICAL SIGNIFICANCE OF STERNAL FRACTURES IN THORACIC SPINE TRAUMA - A RETROSPECTIVE ANALYSIS OF 4TH COLUMN FRACTURES OF THE SPINE	JOSINA STRAUB
10:06 - 10:12	FRACTURES IN PARKINSON'S DISEASE: PATHOPHYSIOLOGY, PREVENTION, AND ORTHOPEDIC OUTCOMES	ALI OSMAN
10:12 - 10:18	POST TRAUMATIC CAUDA EQUINA SYNDROME - A RARE CASE PRESENTATION	FAISAL HAMAD
10:18 - 10:24	ROUTINE OR REQUIRED? REASSESSING CERVICAL CT USE IN GERIATRIC HEAD TRAUMA – A RETROSPECTIVE ANALYSIS FROM A GERMAN LEVEL I TRAUMA CENTER	JOSINA STRAUB
10:24 - 10:30	ANTERIOR CERVICAL DISCECTOMY AND FUSION (ACDF): CLINICAL OUTCOMES AND PREDICTORS OF RECOVERY – A SINGLE-CENTER RETROSPECTIVE STUDY	MOHAMMED AYMAN KHOKAR
10:30 - 10:36	DISCUSSION	
10:36 - 10:42	CERVICAL EPIDURAL HEMATOMA CAUSING CORD COMPRESSION – POST LUMBAR SPINAL ANESTHESIA	MOHAMAD GOUSE
10:42 - 10:48	INTRAOPERATIVE BREAKAGE OF A JAMSHIDI NEEDLE CANNULA DURING MINIMALLY INVASIVE TLIF: A CASE REPORT ON MANAGEMENT AND FOLLOW-UP	AASHISH RAGHU
10:48 - 10:54	FORESTIER'S DISEASE: A NARRATIVE REVIEW OF CURRENT EVIDENCE AND GAPS IN DIFFUSE IDIOPATHIC SKELETAL HYPEROSTOSIS RESEARCH	ANTONY LOUIS REX MICHAEL
10:54 - 11:00	DISCUSSION	

ABSTRACT SESSION 02 (MSC THEATRE)		
MODERATORS: FAISAL KONBAZ - GHAZWAN HASAN		
15:00 - 16:00		
15:00 - 15:06	SINGLE LEVEL VS MULTI-LEVEL LUMBAR INTERBODY FUSION FOR LUMBAR DEGENERATIVE DISEASES: A SYSTEMATIC REVIEW AND META ANALYSIS	ABDULRAHMAN ALNWIJI
15:06 - 15:12	LUMBAR MICRODISCECTOMY OUTCOMES AND PREDICTORS OF PAIN IMPROVEMENT: A SINGLE-CENTER RETROSPECTIVE STUDY	YOUSSEF ELSABBAN
15:12 - 15:18	COMPARATIVE OUTCOMES OF ENDOSCOPIC VERSUS MICROSURGICAL RESECTION OF THE SYNOVIAL CYSTS IN LUMBAR SPINE	OLEKSANDR ZOLOTOVEKH
15:18 - 15:24	EXAMINING THE EFFECTIVENESS & SAFETY OF TRANEXAMIC ACID IN SPINAL SURGERY: A COMPREHENSIVE SYSTEMATIC REVIEW & META-ANALYSIS	LAYAN ALBRAIK
15:24 - 15:30	COMPARISON OF MICROSCOPIC, ENDOSCOPIC, AND OPEN MICRODISCECTOMY FOR LUMBAR DISC HERNIATION: A PROSPECTIVE STUDY OF 600 CASES	JAWAD UL HAQ
15:30 - 15:36	DISCUSSION	
15:36 - 15:42	PATIENT ASSESSMENT OF CHATGPT VERSUS A NATIONAL HEALTH CHATBOT FOR TRIAGE GUIDANCE IN BACK PAIN: A PROSPECTIVE STUDY AT A GERMAN UNIVERSITY EMERGENCY DEPARTMENT	JONAS KRUECKEL
15:42 - 15:48	TECHNIQUE OF DECOMPRESSION OF DORSAL SPINE OLF BY UBE	SANATAN SATAPATHY
15:48 - 15:54	BIPORTAL ENDOSCOPIC TRANSFORAMINAL LUMBAR INTERBODY FUSION WITH BILATERAL FACETECTOMY VIA UNILATERAL APPROACH. REDUCTION EFFECT OF SPONDYLOLISTHESIS. TECHNICAL REPORT.	JINYOUNG LEE
15:54 - 16:00	DISCUSSION	

DAY 02 PROGRAM

(07:00 - 17:00)

TIME	TOPICS	SPEAKERS
07:00 - 08:00	SESSION 7: BREAKFAST WITH AO SPINE YOUTH CLUB : BRIDGING GENERATIONS IN SPINE SURGERY: LEADERSHIP, MENTORSHIP, AND THE LESSONS WE DON'T USUALLY TALK ABOUT MODERATOR: DEYA ALWADY	
07:00 - 07:15	YOUTH PERSPECTIVES	
07:00 - 07:05	LEADERSHIP: FROM AN EARLY - CAREER STAGE	MARIA-MĂDĂLINA ANCUȚA
07:05 - 07:10	MENTORSHIP: INSIGHTS FROM THE MENTEE PERSPECTIVE	GUNA PRATHEEP KALANCHIAM
07:10 - 07:15	TEACHING : HOW WE LEARN AND WHAT WE VALUE IN SURGICAL TRAINING. HOW TEACHING IS DIFFERENT FROM LEADERSHIP AND MENTORSHIP	ANGÉLICA L. ARCE STANKOVIĆ
07:15 - 07:25	FACULTY REFLECTIONS	
	PANEL DISCUSSION PANELISTS: JUAN EMMERICH - SAMEH ABOLFOTOUGH - JEFFREY WANG - ALI BAAJ - JENS CHAPMAN - RICHARD BRANSFORD - OMAR ALNORI - WALEED AWWAD	
	HOW DO LEADERSHIP AND MENTORSHIP EVOLVE OVER THE COURSE OF A CAREER?	JEFFREY WANG
07:25 - 07:35	TIPS AND TRICKS AND LIFE TIME SCENARIOS MODERATORS: SABIR KHAN - KAUSHIK SIMHA HARAVU RAMPRASAD - DORIA CRISMARUC - IRINA TURTUREANU - ANGÉLICA L. ARCE STANKOVIĆ	
07:35 - 07:45	THE THINGS WE NEVER TALK ABOUT	IRINA TURTUREANU
07:45 - 08:00	CLOSING REMARKS	AO SYC

08:00 - 09:30	SESSION 8: THE EVERYDAY DECISION DILEMMAS MODERATORS: CHRISTIAN MORGESTERN - LUKE KIM - GHAZWAN HASAN	
08:00 - 08:10	SACRO-ILIAC JOINT PAIN AND SURGERY: A NEGLECTED TOPIC IN SPINE	OSCAR L. ALVES
08:10 - 08:20	PSEUDOARTHROSIS: DO I REALLY NEED TO RE-OPERATE?	JENS CHAPMAN
08:20 - 08:30	DURAL TEARS: WHAT'S THE BEST STRATEGY?	SALEH BAEESA
08:30 - 08:40	POST OPERATIVE NEURITIS: HOW TO PREVENT AND TREAT?	JOSEPH EL KHALIL
08:40 - 08:45	Q & A	
08:45 - 08:55	INTERBODY FUSION DEVICES: WHAT'S THE BEST EVIDENCE?	JEFFREY WANG
08:55 - 09:05	2-LEVEL CERVICAL DISC: DOES A HYBRID CONSTRUCT MAKE ANY DIFFERENCE?	TONY TANNOURY
09:05 - 09:15	OVERCOMING MY FEARS: SHOULD I INVEST IN LEARNING ENDOSCOPY?	CHRISTIAN MORGESTERN
09:15 - 09:25	ENABLING TECHNOLOGY: OVERCOMING MY FEARS AND EGOS	ALI BAAJ
09:25 - 09:30	Q & A	
09:30 - 10:30	GLOBAL SPINE JOURNAL CLUB : WHAT VALUE DO ROBOTICS IN SPINE SURGERY ACTUALLY PROVIDE (MSC THEATRE) SPEAKERS: SAMEH ABOLFOTOUH - JENS CHAPMAN - JEFFREY WANG	Global Spine Journal   SEATTLE SCIENCE FOUNDATION
09:30 - 10:30	SESSION 9: NORTHWESTERN MEDICINE SESSION: THE AGING SPINE MODERATORS: ALI BAAJ - WALEED AWWAD - FAISAL KONBAZ	
09:30 - 09:40	RISK STRATIFICATION AND FRAILTY IN THE ELDERLY POPULATION	DON MOORE
09:40 - 09:50	OPTIMIZING SURGICAL STRATEGIES: COMPREHENSIVE EVALUATION OF OSTEOPOROTIC VERTEBRAL FRACTURES	KLAUS SCHNAKE
09:50 - 10:00	INSTRUMENTATION STRATEGIES IN THE OSTEOPOROTIC BONE	FAHAD ALHELAL
10:00 - 10:10	CENTRAL CORD SYNDROME: MYTH VS REALITY	ALI BAAJ
10:10 - 10:20	GERIATRIC ODONTOID FRACTURE: OLD VS OLDER PATIENTS!	SULTAN ALKALBANI

10:20 - 10:30	Q & A	
10:30 - 10:50	AMGEN SYMPOSIUM (MSC THEATRE)	AMGEN
	BEYOND SURGICAL REPAIR : ADDRESSING OSTEOPOROSIS TO IMPROVE LONG TERM OUTCOMES	SAMEH ABOLFOTOUGH
10:30 - 11:00	COFFEE BREAK	
11:00 - 12:00	SESSION 10: GSC SESSION MODERATORS: JEFFREY WANG - JUAN EMMERICH - SAMEH ABOLFOTOUGH	
11:00 - 11:02	INTRODUCTION TO THE GLOBAL SPINE CONGRESS	JEFFREY WANG
11:02 - 11:11	ARTIFICIAL INTELLIGENCE: THE FUTURE OF SPINE SURGERY	JENS CHAPMAN
11:11 - 11:20	SOCIAL MEDIA FOR PRACTICING SPINE SURGEONS	KLAUS SCHNAKE
11:20 - 11:29	CHAT GPT AND AI FOR THE MODERN SPINE SURGEON	PATRICK HSIEH
11:29 - 11:38	NOVEL EDUCATION FOR THE NEW GENERATION OF SPINE SURGEON	RICHARD BRANSFORD
11:38 - 11:45	SOCIAL MEDIA'S INFLUENCE ON SURGEONS AND PATIENT EXPECTATIONS OF SPINAL TREATMENT	HANI MHAILI
11:45 - 12:00	DISCUSSION	
12:00 - 13:00	SESSION 11: SPINE AND LIFE: JOURNEYS TO THE TOP MODERATORS: DON MOORE - OMAR ALNORI - NAYEF BIN DAJIM	
12:00 - 12:10	BENDING WITHOUT BREAKING: HOW MY TOUGHEST CASES SHAPED MY LIFE	RICHARD BRANSFORD
12:10 - 12:20	THE LONE CLIMB: BUILDING A SPINE CAREER AGAINST ALL ODDS	JEFFREY WANG
12:20 - 12:30	PANEL DISCUSSION	
12:30 - 12:40	FROM MEMBERSHIP TO LEADERSHIP: LESSONS I LEARNED ON MY JOURNEY TO LEADERSHIP OF AO SPINE	JUAN EMMERICH
12:40 - 12:50	BREAKING THE MOLD: INNOVATING WHEN NO ONE BELIEVED	MOHIT BHANDARI
12:50 - 13:00	PANEL DISCUSSION	
12:00 - 13:00	ABSTRACT SESSION 03 (MSC THEATRE)	



13:00 - 14:00	LUNCH BREAK	
14:00 - 14:40	ABSTRACT SESSION 04 (MSC THEATRE)	PAGE 20
14:00 - 15:00	SESSION 12: SMISS AP SYMPOSIUM: ADVANCES AND CHALLENGES IN MIS SURGERY MODERATOR: YOSHIHISA KOTANI	
14:00 - 14:12	POSTERIOR CERVICAL ENDOSCOPIC DISCECTOMY, TIPS TRICKS AND PITFALLS	AYUSH SHARMA
14:12 - 14:24	MINIMALLY INVASIVE TLIF IN HIGH GRADE SPONDYLOLISTHESIS	ARVIND KULKARNI
14:24 - 14:36	MIS ADULT DEFORMITY SURGERY: ADVANTAGE AND COMPLICATION PREVENTION	YOSHIHISA KOTANI
14:36 - 14:48	CURRENT STATUS OF ROBOTIC SPINE SURGERY IN CHINA	YU LIANG
14:48 - 15:00	Q & A	
15:00 - 15:20	COFFEE BREAK	
15:20 - 16:30	SESSION 13: CHALLENGING CASE DISCUSSIONS MODERATORS: TONY TANNOURY - ARVIND KULKARNI - AHMED SHAWKY	
15:20 - 15:30	CONGENITAL KYPHOSIS	KHALIFA ALGHAFRI
15:30 - 15:40	DURAL DILEMMAS: NAVIGATING THE MOST COMMON SPINE SURGERY COMPLICATION	NADER HEBELAH
15:40 - 15:50	DREADED COMPLICATIONS IN DEFORMITY CORRECTION SURGERY	MASON ALNORI
15:50 - 16:00	SPINAL SURGERY FOR A CASE OF ADULT IDIOPATHIC SCOLIOSIS: WHAT WENT WRONG?	NICANDRO FIGUEIREDO
16:00 - 16:10	A CHALLENGING CASE OF KYPHOSCOLIOSIS	ANTONY LOUIS REX MICHAEL
16:10 - 16:20	THORACIC SPINE TUMORS : COMPLEX ILLUSTRATIVE CASES	MOHAMED ALASHA
16:20 - 16:30	WHEN YOUR ROUTINE PRACTICE FAILS	RAMI SALAMEH
16:30 - 17:00	CLOSING REMARKS + BEST PAPER AWARD	

ABSTRACT SESSION 03 (MSC THEATRE)		
MODERATORS: FAISAL KONBAZ - NAYEF BIN DAJIM		
12:00 - 13:00		
12:00 - 12:06	DOES A DIAGNOSIS OF OSTEOPOROSIS INCREASE THE INCIDENCE OF MECHANICAL AND JUNCTIONAL FAILURES IN OLDER PATIENTS UNDERGOING ASD SURGERY?	AHMED SHAWKY ABDELGAWAAD
12:06 - 12:12	FROM HIGH RISK TO SAFER OUTCOMES: MODIFIED HALO-PELVIC TRACTION VS. DIRECT FUSION IN RIGID KYPHOSCOLIOSIS	MUHAMMAD SAAD ILYAS
12:12 - 12:18	INCIDENCE AND RISK FACTORS OF POSTOPERATIVE MOTOR DEFICITS AFTER SPINE DEFORMITY SURGERY: RESULTS OF THE SDIM STUDY	AHMED SHAWKY ABDELGAWAAD
12:18 - 12:24	DISCUSSION	
12:24 - 12:30	COMPARATIVE ANALYSIS OF LOW VERSUS HIGH IMPLANT DENSITY IN DECREASING COBB ANGLE IN ADOLESCENTS IDIOPATHIC SCOLIOSIS 1 LENKE TYPE	JAWAD UL HAQ
12:30 - 12:36	ANATOMICAL ILIAC SCREW FIXATION: EARLY OUTCOMES AND TECHNICAL DESCRIPTION OF A SACROILIAC-SPARING, CONNECTOR-FREE APPROACH	MOHANNAD W AWWAD
12:36 - 12:42	EFFECTS OF LOWER LIMB LENGTH DISCREPANCY ON SPINOPELVIC COMPENSATION FOLLOWING ILIZAROV HIP RECONSTRUCTION IN PATIENTS WITH DEVELOPMENTAL DYSPLASIA OF THE HIP	JAWAD UL HAQ
12:42 - 12:48	CERVICAL PEDICLE SCREWS: EVALUATING THE EFFICACY AND STABILITY COMPARED TO LATERAL MASS SCREWS	ANAS DYAB
12:48 - 12:54	CERVICAL PEDICLE SCREW PLACEMENT. A MORPHOMETRIC ANALYSIS AND PREDICTION MODEL IN 139 CLINICAL CASES USING THE ORTHOGONAL VIEW EVALUATION METHOD (OVEM)	JOHN MICHAEL DUFF
12:54 - 13:00	DISCUSSION	

14:00 - 14:40 ABSTRACT SESSION 04 (MSC THEATRE) MODERATORS: FAISAL KONBAZ - MUZAHEM TAHA		
14:00 - 14:06	BRIDGING THE TRAINING GAP: A GLOBAL AO SPINE SURVEY REVEALS STRONG DEMAND FOR HANDS-ON, HYBRID, AND AI-ENHANCED EDUCATION FOR ADVANCED TECHNOLOGIES IN SPINE SURGERY	SIEGMUND LANG
14:06 - 14:12	ASSESSING PREDICTORS OF NEUROLOGIC IMPROVEMENT AND READMISSIONS FOLLOWING URGENT CORD DECOMPRESSION DUE TO NEOPLASTIC CAUSES	MOHAMMAD ABUBAKR
14:12 - 14:18	SHORT - TERM ASSESSMENT OF FUNCTIONAL OUTCOMES AND QUALITY OF LIFE AFTER THORACIC AND LUMBAR SPINAL METASTASIS SURGERY	MAHMOUD ABOUSAYED
14:18 - 14:24	ROBOTICS ARE RARELY USED" – A GLOBAL AO SPINE SURVEY REVEALS GAPS IN ACCESS, TRAINING, AND CONFIDENCE IN ROBOTIC, NAVIGATION, AND AR/VR TECHNIQUES IN SPINE SURGERY	SIEGMUND LANG
14:24 - 14:30	EVIDENCE-BASED APPROACH TO MANAGING COCCYDYNIA	ANTONY LOUIS REX MICHAEL
14:30 - 14:40	DISCUSSION	



MENA SPINE
CONGRESS

MSC WORKSHOPS



MENA SPINE
CONGRESS

DAY 01 WORKSHOPS

MORNING WORKSHOPS

(08:00 - 13:00)

RIWOSPINE WORKSHOP
BY AMICO

RIWOSPINE
A Richard Wolf Company

 **AMICO**

GLOBUS WORKSHOP
BY AMICO

 **GLOBUS**
MEDICAL

 **AMICO**

AFTERNOON WORKSHOPS

(14:00 - 17:00)

DEPUY SYNTHES WORKSHOP
BY JOHNSON & JOHNSON


THE ORTHOPAEDICS COMPANY OF 

EDGE MEDICAL
WORKSHOP



DAY 02 WORKSHOPS

MORNING WORKSHOPS

(08:00 - 13:00)

PHYSICAL THERAPY WORKSHOP



SPINAL ENDOSCOPY MASTER WORKSHOP



AFTERNOON WORKSHOPS

(14:00 - 17:00)

PHYSICAL THERAPY WORKSHOP



MASTER ADVANCED TECHNIQUES IN SPINE SURGERY

Medtronic





MENA SPINE
CONGRESS

ABSTRACTS

ABSTRACT 01

ABSTRACT TITLE	More than a spinal injury: the clinical significance of sternal fractures in thoracic spine trauma - a retrospective analysis of 4th column fractures of the spine	
AUTHOR NAME	Josina Straub	
INTRODUCTION & OBJECTIVE	BACKGROUND	The thoracic spine and sternum are pivotal for the thoracic stability. High-energy trauma can compromise both, resulting in complex injury patterns. However, the prevalence and associated factors of concurrent thoracic spinal and sternal fractures (4th column fractures) remain poorly defined.
	OBJECTIVES	This study aimed to assess the prevalence, the associated factors and risk factors for increased mortality of 4th column fractures.
METHOD	Patients admitted to our level 1 trauma centre between 2006 and 2022 with thoracic vertebral fractures were retrospectively analysed and stratified into two cohorts based on the presence or absence of a concurrent sternal fracture.	
RESULTS	A total of 366 patients were included, of whom 55 sustained a 4th column fracture. Patients with combined injuries more frequently presented with spinal cord injury (24.0% vs. 14.4%) and required significantly longer intubation (10.7 vs. 7.2 days; $p=0.018$). In the total cohort, mortality was strikingly high among patients older than 65 years, with 47.1% dying during hospitalization. In multivariable analysis, the presence of a sternal fracture was not independently associated with mortality (aOR 1.0; $p=0.967$), which was instead primarily determined by advanced age (aOR 8.8; $p<0.001$) and higher Injury Severity Score (aOR 1.1; $p<0.001$). Conversely, sternal fracture independently increased the likelihood of surgical spinal stabilization (aOR 2.2; $p=0.028$) and was linked to prolonged intubation in the presence of thoracoabdominal injury or advanced age. Length of hospital stay was influenced by severe associated injuries such as aortic rupture ($\beta +22.2$ days; $p<0.001$) and unstable pelvic ring fractures ($\beta +6.8$ days; $p=0.013$).	
CONCLUSION	4th column fractures indicate high-energy trauma and are significantly associated with longer intubation times. Frequent coexistence of thoracoabdominal injuries underscores the complexity of these cases, contributing to increased morbidity and mortality, particularly in elderly patients. These findings highlight the need for heightened clinical vigilance and a multidisciplinary management.	

ABSTRACT 02

ABSTRACT TITLE	Fractures in Parkinson's Disease: Pathophysiology, Prevention, and Orthopedic Outcomes	
AUTHOR NAME	Ali Osman	
INTRODUCTION & OBJECTIVE	BACKGROUND	Fractures are a major, underrecognized source of morbidity and mortality in PD. Neuromotor deficits (bradykinesia, postural instability, rigidity), sarcopenia, and low bone mineral density (BMD) drive frequent falls and skeletal fragility. Hip fractures are 2–4×, and upper-extremity fractures up to 8×, more common than in age-matched controls. Despite this, bone health screening and fracture prevention are inconsistently applied.
	OBJECTIVES	Synthesize recent evidence on epidemiology, mechanis, and management of fractures in Parkinson's disease (PD).
METHOD	Focused PubMed review using "Parkinson's disease," "fracture," "osteoporosis," "BMD," "FRAX," and "fall prevention," emphasizing studies on pathophysiology, risk stratification, and treatment outcomes.	
RESULTS	Skeletal fragility in PD reflects reduced mechanical loading, vitamin D deficiency, chronic inflammation (elevated IL-6/TNF- α), neuroendocrine changes, and sarcopenia. Functional impairment correlates with fracture risk and poorer postoperative outcomes. Care gaps are substantial: after a fracture, <10% of PD patients undergo osteoporosis screening. Effective strategies include early, regular physical therapy; weight-bearing/resistance exercise; vitamin D/calcium optimization; and pharmacologic therapy (e.g., bisphosphonates; emerging data for zoledronic acid and denosumab/teriparatide sequences). Telerehabilitation, wearable fall-detection/monitoring, and standardized use of FRAX plus functional measures (e.g., TUG, gait speed, grip strength, SPPB) can enhance risk identification. Multidisciplinary pathways linking neurology, geriatrics, rehabilitation, and orthopedics improve coordination but are underused, particularly in high-risk groups (advanced PD, dementia, long-term care).	
CONCLUSION	Reframing skeletal fragility as a primary, modifiable outcome of PD—rather than a secondary complication—supports early risk stratification (DEXA/FRAX plus functional testing), proactive bone health management, fall-focused rehabilitation (including telehealth), and coordinated multidisciplinary care to reduce fracture incidence, institutionalization, and mortality.	

ABSTRACT 03

ABSTRACT TITLE	Routine or required? Reassessing cervical CT use in geriatric head trauma – a retrospective analysis from a German level I trauma center	
AUTHOR NAME	Josina Straub	
INTRODUCTION & OBJECTIVE	BACKGROUND	Geriatric patients with head trauma have an increased risk of consecutive cervical spine injury (CSI). Due to reduced clinical accessibility computertomography (CT) is frequently performed.
	OBJECTIVES	The relevance of routine cervical spine CT imaging in addition to cranial computertomography (cCT) remains unclear. This study calculates the prevalence, risk factors and the number needed to screen (NNS) for consecutive CSI following head trauma in a geriatric cohort.
METHOD	A retrospective analysis was conducted on patients aged ≥ 65 years presenting to a level I trauma centre in Germany between January 2020 and October 2024 undergoing both cCT and cervical spine CT imaging after a head impact.	
RESULTS	Among 2,157 patients, 55.9% were female and 63.6% aged ≥ 80 years. Sensomotoric deficits were detected in 1.5%. CSI were identified in 5.5%, with 10.9% of those requiring operation. Identified risk factors included female gender (OR=1.6; p=0.006), pre-existing dementia (OR=1.4, p=0.01), admission via resuscitation room (OR=1.6; p=0.05) and intracranial bleeding (OR=1.5; p=0.03). The NNS to detect a CSI was 18.1 for patients aged ≥ 65 years and 17.6 for those aged ≥ 80 years. For asymptomatic patients, the NNS was 19.3 for those aged ≥ 65 years and 18.5 for those aged ≥ 80 years. The NNS for operation was 165.9 in patients aged ≥ 65 years and 171.4 in those aged ≥ 80 years.	
CONCLUSION	Concomitant CSI are common in geriatric head trauma. Routine cervical spine CT imaging should be considered when cCT is indicated, as it enables the timely identification of CSI and directly influences clinical decision-making. The low NNS highlights the value of routine cervical spine CT imaging, supporting its broader implementation to prevent complications and improve patient outcomes.	

ABSTRACT 04

ABSTRACT TITLE	Anterior Cervical Discectomy and Fusion (ACDF): Clinical Outcomes and Predictors of Recovery – A Single-Center Retrospective Study	
AUTHOR NAME	Mohammed Ayman Khokar	
INTRODUCTION & OBJECTIVE	BACKGROUND	Cervical discectomy is routinely undertaken in the treatment of neck and radicular pain but postoperative recovery is variable. An understanding of clinical and perioperative prognostic factors for the outcome could help guide surgical decisions and patient counseling.
	OBJECTIVES	To assess factors influencing pain improvement and hospital stay following cervical discectomy.
METHOD	A total of 35 patients undergoing cervical discectomy were included in the retrospective analysis. Extractable demographic, surgical, and postoperative factors included back pain Visual Analogue Scale (VAS) scores, surgical time, blood loss, incision size, and postoperative stay (LOS). The correlation between clinical variables and pain response was analyzed using Bivariate testing and correlation analysis.	
RESULTS	Mean back-pain improvement was 3.9 ± 2.0 VAS points. Male gender correlated with greater back-pain relief ($p = 0.034$), while re-operation was associated with reduced improvement ($p = 0.049$). LOS averaged 9 ± 9.4 days and differed by BMI category ($p < 0.01$). BMI was inversely correlated with LOS ($r = -0.372$, $p = 0.036$). Multiple-level discectomies demonstrated higher blood loss ($p = 0.011$) and longer hospital stay ($p = 0.025$), but pain relief did not differ across single-, double-, or triple-level procedures.	
CONCLUSION	<p>Cervical discectomy affords significant back pain relief, and the result varies by sex, re-operation status, and BMI. Despite increased blood loss and longer LOS for multi-level surgeries, the improvement in pain remains the same. Awareness of these predictors informs personalized perioperative care for the purpose of optimizing recovery and efficiency of the treatment.</p> <p>Keywords</p> <p>Cervical Discectomy; Postoperative Pain; Visual Analogue Scale; Length of Stay; Perioperative Outcomes; Body Mass Index; Surgical Extent; Retrospective Study</p>	

ABSTRACT 05

ABSTRACT TITLE	Cervical epidural hematoma causing cord compression – post lumbar spinal anesthesia	
AUTHOR NAME	Mohamad Gouse	
INTRODUCTION & OBJECTIVE	INTRODUCTION	Spontaneous spinal epidural hematoma (SSEH) is a rare but potentially serious condition. When neurological deficits are present, rapid diagnosis and treatment are essential for recovery. SSEH may be linked to trauma, coagulopathy, arteriovenous malformations, Paget's disease, or postoperative complications. Onset is usually sudden and may rapidly progress to neurological impairment.
METHOD	<p>CASE REPORT</p> <p>A 46-year-old hypertensive male presented to the emergency department with sudden severe headache and neck pain. He had undergone a urological procedure under difficult spinal anesthesia three days earlier, though his postoperative recovery had been uneventful.</p> <p>On admission, he was fully oriented (GCS 15/15) with no motor or sensory deficits. The initial diagnosis was post-spinal headache, but neurological evaluation revealed marked neck rigidity without other deficits. A non-contrast CT brain was performed, showing an epidural hematoma extending from C2 to C6, compressing the ventral aspect of the spinal cord. No intracranial abnormalities were detected.</p> <p>The patient was admitted to the ICU. Hematological and coagulation parameters were normal. He was treated conservatively with analgesia, head elevation, and optimal blood pressure control. Neurological status remained stable, and he improved clinically within three days. A repeat CT scan showed regression of the hematoma, and he was discharged without deficits.</p>	
RESULTS	<p>DISCUSSION</p> <p>Cervical epidural hematoma is uncommon but potentially life-threatening. Although a lumbar spinal procedure had preceded the event, imaging confirmed hematoma localized to the cervical region, with no abnormalities elsewhere. Most reported cases require urgent surgical decompression, especially in the presence of neurological deficits. However, in this patient, close monitoring and conservative treatment led to complete recovery.</p> <p>This case emphasizes the importance of individualized management in cervical epidural hematoma. Selected patients without neurological impairment may be safely managed conservatively under close observation.</p>	

ABSTRACT 06

ABSTRACT TITLE	Forestier's Disease: A Narrative Review of Current Evidence and Gaps in Diffuse Idiopathic Skeletal Hyperostosis Research	
AUTHOR NAME	Antony Louis Rex Michael	
INTRODUCTION & OBJECTIVE	BACKGROUND	Diffuse idiopathic skeletal hyperostosis (DISH) or Forestier's disease, is a systemic, non-inflammatory musculoskeletal disorder characterized by ligament & entheses ossification in the axial skeleton. DISH is a prevalent, but relatively underexplored condition.
	OBJECTIVES	This review aims to identify and highlight significant knowledge gaps that require additional research, and provide an overview of the recent data on the epidemiology, pathophysiology, clinical symptoms, diagnosis, and therapy of DISH.
METHOD	Existing literature using PubMed and Google Scholar databases was reviewed, with an emphasis on studies published within the last 20 years. The phrases "DISH," "Diffuse Idiopathic Skeletal Hyperostosis," and "Forestier's disease" were used in the research technique. The inclusion criteria involved articles published in English within the last 20 years. Exclusion criteria involved articles not directly relevant to DISH, articles published in a foreign language and articles protected by a paywall.	
RESULTS	<p>DISH typically affects the thoracic spine and primarily affects the older male population. DISH may be a component of a larger systemic disorder and not just a localised one, as evidenced by the epidemiological association with advanced age, male sex, obesity, diabetes mellitus, and other metabolic factors. The Resnick and Niwayama criteria are utilised for radiological diagnosis, and X-ray and CT to evaluate its severity and complications.</p> <p>Despite this, there is no universally accepted improvement in diagnostic criteria to identify uncommon or early cases. Management strategies remain largely symptomatic, including analgesics, physiotherapy to surgical resection in severe cases.</p>	
CONCLUSION	<p>Forestier's disease is a clinically heterogeneous disorder with an impact on spinal stability and quality of life. However, further research is needed to understand its pathophysiology, improve diagnostic standards, classification system, and develop effective treatment algorithm. Greater understanding of systemic associations may lead to improved early diagnosis and comprehensive patient care.</p>	

ABSTRACT 07

ABSTRACT TITLE	Single Level vs Multi-Level Lumbar Interbody Fusion for Lumbar Degenerative Diseases: A Systematic Review and Meta Analysis	
AUTHOR NAME	Abdulrahman Alnwi	
INTRODUCTION & OBJECTIVE	BACKGROUND & OBJECTIVES	Degenerative spondylolisthesis affects approximately 39 million patients worldwide. While consensus supports decompression with fusion for single-level pathology, optimal surgical approaches for multilevel disease remain disputed. Despite the frequency of this clinical presentation, evidence comparing outcomes between single-level versus multi-level interbody fusion procedures is surprisingly scarce. This study aims to determine how the level of interbody fusion extent impacts outcomes in patients undergoing lumbar fusion for degenerative spondylolisthesis.
METHOD	Our systematic review methodology involved comprehensive database searches (Web of Science, Scopus, PubMed, Cochrane Library, EMBASE) from inception through April 2025. Two independent reviewers performed article screening, data extraction, and quality assessment. Statistical analyses used R software (v4.4.2), with outcomes reported as risk ratios for categorical variables and mean differences for continuous measures (95% CI). Statistical significance threshold was $p<0.05$.	
RESULTS	Our meta-analysis evaluated 10 studies (N=1,430 patients; 971 single-level, 366 double-level, 198 multilevel fusions). Single-level procedures demonstrated 41% lower revision rates (RR=0.59 [0.40-0.86], $p=0.007$). Operative advantages included reduced surgical time (-60.73 min [-80.89 to -40.57], $p<0.001$), blood loss (-286.99mL [-496.71 to -77.27], $p=0.007$), and hospitalization (-1.22 days [-2.09 to -0.34], $p=0.006$). Oswestry Disability Index (ODI) scores showed borderline improvement (-3.90 [-7.89 to 0.10], $p=0.06$). Screw loosening decreased by 84% (RR=0.16 [0.08-0.34], $p<0.001$). We observed no significant differences in lumbar lordosis (-0.01 [-1.75 to 1.72], $p=0.99$), infection rates (RR=0.49 [0.19-1.25], $p=0.13$), adjacent segment deterioration, vascular injuries, or dural tears.	
CONCLUSION	Single-level lumbar fusion demonstrated superior outcomes versus multi-level procedures, with fewer revisions, reduced operative time, decreased blood loss, shorter hospitalization, and fewer screw loosening events. Functional outcomes favored single-level procedures, though adjacent segment deterioration rates remained comparable between groups.	

ABSTRACT 08

ABSTRACT TITLE	Lumbar Microdiscectomy Outcomes and Predictors of Pain Improvement: A Single-Center Retrospective Study	
AUTHOR NAME	Youssef A Ali ElSabban	
INTRODUCTION & OBJECTIVE	BACKGROUND	Lumbar discectomy is an efficient treatment for radiculopathy and lower back pain; however, patient results are inconsistent. Identification of the factors that affect relief of pain and perioperative risk may improve surgical planning.
	OBJECTIVES	To evaluate clinical and operative predictors of postoperative pain recovery and surgical intensity for lumbar discectomy.
METHOD	A retrospective study conducted at a tertiary referral hospital in Dubai from 2021 to 2024. Patients undergoing lumbar discectomy were identified through the institutional surgical registry. Demographic, clinical, and perioperative data, including operative time, estimated blood loss (EBL), incision size, length of stay (LOS), and pre- and postoperative VAS scores for leg pain, were obtained from electronic records. Data collection followed institutional ethical approval. Bivariate and correlation analyses determined factors associated with pain improvement and perioperative outcomes.	
RESULTS	Leg pain significantly improved (Δ VAS 5.4 ± 2.6). Greater leg-pain improvement occurred in male patients ($p = 0.001$), those without disc herniation ($p = 0.001^*$), and patients not receiving preoperative physical therapy ($p = 0.001^*$). Complications, CSF leak, and re-operation were associated with less pain relief ($p < 0.05^*$). BMI was negatively correlated with incision size ($r = -0.381$, $p = 0.012$) and LOS ($r = -0.276$, $p = 0.016$). Pain relief did not differ by the number of operated levels, but operative time ($p = 0.013$) and EBL ($p = 0.002$) increased with surgical extent.	
CONCLUSION	Lumbar discectomy reduces leg pain considerably, but the outcome varies according to sex, preoperative treatment, and postoperative complications. Perioperative measures are related to BMI but independent of analgesic measures. Blood loss and surgical time are greater for higher surgical extent, a procedural intensity marker.	
	<p>Keywords</p> <p>Lumbar Discectomy; Leg Pain; Visual Analogue Scale; Surgical Complications; Operative Time; Estimated Blood Loss; Body Mass Index; Retrospective Cohort.</p>	

ABSTRACT 09

ABSTRACT TITLE	Effects of lower limb length discrepancy on spinopelvic compensation following Ilizarov hip reconstruction in patients with developmental dysplasia of the hip.	
AUTHOR NAME	Jawad ul Haq	
INTRODUCTION & OBJECTIVE	BACKGROUND	Very little is known about the effects of lower limb length discrepancy (LLLD) on spinopelvic compensation after Ilizarov hip reconstruction (IHR) in patients with developmental dysplasia of the hip (DDH).
	OBJECTIVES	The purpose of this study is to assess the impact of LLLD correction on spinopelvic and biomechanical adaptations following IHR among DDH patients.
METHOD	A prospective study was carried out with a case of 40 DDH patients receiving IHR in the period between January 2024 and March 2025. Patients were split into two groups, low dislocation group (LDG, Crowe type I and II, n=15) and high dislocation group (HDG, Crowe type III and IV, n=25). There was the gathering of demographic data, preoperative, postoperative, and final follow-up imaging data, such as lower limb length (LLL), sacral obliquity (SO), iliac obliquity (IO), hip obliquity (HO), Cobb angle, apical vertebral translation (AVT), and coronal decompensation (CD).	
RESULTS	Patients in the LDG were older at surgery and had a shorter disease duration compared to the HDG. In the LDG, mean LLLD improved from approximately 5 mm preoperatively to under 3 mm at final follow-up, with corresponding small but significant reductions in SO, IO, and HO. Spinal parameters such as Cobb angle, AVT, and CD showed no meaningful change. In the HDG, the mean LLLD decreased markedly from nearly 69 mm before surgery to about 27 mm at final follow-up, which was accompanied by reductions in SO ($\approx 15^\circ$ to 13°), IO ($\approx 13^\circ$ to 11°), HO ($\approx 7^\circ$ to -3°), and CD (≈ 22 mm to 19 mm). However, Cobb angle and AVT again remained largely unchanged. Across both groups, the extent of LLLD correction demonstrated a strong correlation with improvements in pelvic obliquity indices.	
CONCLUSION	IHR is effective in the treatment of LLLD in DDH patients, and the extent of LLLD treatment has a significant impact on spinopelvic compensatory mechanisms. The findings reveal the significance of managing LLLD to maximize the biomechanical outcomes of DDH patients who receive IHR.	

ABSTRACT 10

ABSTRACT TITLE	Patient assessment of ChatGPT versus a national health chatbot for triage guidance in back pain: a prospective study at a German university emergency department.	
AUTHOR NAME	Jonas Krueckel	
INTRODUCTION & OBJECTIVE	BACKGROUND	Emergency departments (EDs) in Germany are increasingly overcrowded, while back pain remains among the most common presenting complaints. Digital triage systems such as large language models (LL) and statutory health chatbots may support patient navigation.
METHOD	From May to July 2025, all surgical ED patients at a tertiary center were prospectively screened (n=568). Of these, 51 (9.0%) presented with back pain and were included in this subset analysis. While waiting, patients entered their symptom into ChatGPT (GPT-4) and, in a subset (n=20), the KVB Chatbot. Both systems generated recommendations, and patients rated response quality (satisfaction, usefulness, comprehensibility, empathy, length). Statistical analyses included Chi-square, McNemar, Wilcoxon, and Kruskal-Wallis tests. Recruitment occurred during daytime hours; no night cases. Ethical approval was granted.	
RESULTS	The cohort comprised 25 women (49.0%) and 26 men (51.0%), mean age 47.5 years (SD 19.7, range 18–85). Most were treated in trauma surgery (88.2%); triage categories were orange 15.7%, yellow 23.5%, green 60.8%. Presentations occurred between 09:00–18:00, peaking at 10:00 (n=11, 21.6%) and 11:00 (n=8, 15.7%). ChatGPT advised ED attendance in 98.0%, GP in 41.2%, and specialist in 27.5%. The KVB Chatbot recommended ED in 50.0%, GP in 25.0%, and specialist in 5.0%. Discordance between systems was significant for ED recommendation ($p=0.004$). Patients rated ChatGPT highly: satisfaction mean 4.3/5, usefulness 4.2/5, comprehensibility 4.7/5; empathy was lower (3.8/5). In direct comparison, ChatGPT scored better than KVB in clarity ($p=0.017$) and showed a borderline advantage in meaningfulness ($p=0.050$). Overall, 31 patients (60.8%) desired an AI navigation service, and 24 (47.1%) would consult AI again. For potential future care of the same symptom, 68.6% indicated the ED, 15.7% a GP, and 15.7% a specialist. This intention correlated with the actual triage severity ($p=0.011$; linear trend $p=0.006$).	
CONCLUSION	Patients valued ChatGPT's responses for clarity and usefulness, and many endorsed future use of such tools. While recommendations differed markedly between ChatGPT and the KVB chatbot, only the objective clinical triage category was significantly associated with patients' intended future pathway.	

ABSTRACT 11

ABSTRACT TITLE	Biportal endoscopic transforaminal lumbar interbody fusion with bilateral facetectomy via unilateral approach. Reduction effect of spondylolisthesis. Technical report.	
AUTHOR NAME	Jinyoung Lee	
INTRODUCTION & OBJECTIVE	BACKGROUND	Lumbar fusion surgery, particularly transforaminal lumbar interbody fusion (TLIF), is a well-established treatment for degenerative lumbar spinal disorders. The unilateral biportal endoscopic TLIF (UBE-TLIF) technique has advantage of reduced postoperative discomfort, quicker recovery, and shorter hospital stays compared to open-TLIF and MIS-TLIF. This technical note describes the use of UBE-TLIF with bilateral facetectomy, a procedure that enhances sagittal balance correction and neural decompression by allowing for better access to the contralateral facet joint without additional incisions.
METHOD		The UBE-TLIF with bilateral facetectomy technique was performed on patients with degenerative lumbar conditions, including spondylolisthesis, collapsed discs, and facet joint degeneration. Under spinal anesthesia, patients were positioned prone, and portals were established for the endoscopic procedure. Bilateral decompression and facetectomy were achieved by accessing both facets through a sublaminar approach, followed by neural decompression, disc removal, endplate preparation, and cage insertion. The surgical technique emphasizes meticulous execution to avoid complications such as neural injury and pedicle damage.
CONCLUSION		UBE-TLIF with bilateral facetectomy is a safe and effective approach for managing complex lumbar degenerative conditions. It facilitates comprehensive neural decompression, reduces the risk of endplate injury, and improves sagittal balance correction. Despite the increased technical demands, the procedure offers substantial benefits, particularly in cases of severe disc collapse and facet degeneration. Surgeon expertise and careful procedural planning are essential for achieving optimal outcomes with this technique.

ABSTRACT 12

ABSTRACT TITLE	Does a diagnosis of osteoporosis increase the incidence of mechanical and junctional failures in older patients undergoing ASD surgery?	
AUTHOR NAME	Ahmed Shawky Abdelgawaad	
INTRODUCTION & OBJECTIVE	HYPOTHESIS	Patients with osteoporosis undergoing spinal deformity surgery will have a higher incidence of mechanical complications and junctional failure.
	STUDY DESIGN	Post-hoc analysis from prospective multicenter international observational study.
	INTRODUCTION	Adult spinal deformity surgery (ASD) is associated with a nearly 50% risk of mechanical complications. It has long been established that the majority of patients are female, and with the higher prevalence of osteoporosis within this demographic, it may be that there is a greater incidence of mechanical complication within the same group. The purpose of this review is to analyze the medical, surgical and implant related adverse events in osteoporotic patients undergoing multilevel ASD surgery.
METHOD	Patients >60 years of age undergoing ASD surgery >5 levels were prospectively reviewed from 12 international centers. Bone health, medical and surgical management was at the discretion of the treating surgeon. Baseline bone mineral density (BMD) was performed using femoral neck DXA studies, with results categorized according to the WHO criteria. Patients were divided into 3 groups based on their pre-operative BMD and analyzed for peri-operative adverse events.	
RESULTS	219 patients were analyzed for review. 80.4% were female and 143 underwent pre-op femoral neck BMD testing with 52 having normal bone density, 68 osteopenia and 23 osteoporosis. Of the patients with osteoporosis, 82.6% were female with a rate of 60.9% in the Asian patients, 34.8% in the North American patients, and 4.3% in European patients. Patients with osteoporosis had a significantly lower BMI ($22.8 \pm 3.8 \text{ kg/m}^2$) than osteopenic ($24.6 \pm 4.8 \text{ kg/m}^2$) and normal BMD ($27.3 \pm 6.0 \text{ kg/m}^2$) $p < 0.001$. Surgical features were similar in each group except for levels fused which greater in the osteoporotic group (11.3 ± 5.5 vs 9.7 ± 4.8 vs 7.2 ± 4.4 levels, $p = 0.001$). At up to 5 years post-op, the rod fracture rate was 3.8%, 11.8% and 4.3% in each group, although the difference was not significant. The PJK rate was 34.8%, 29.4% and 23.1% in each group, a non-significant difference. Medical and surgical adverse events rate was similar in each group.	
CONCLUSION	Patients with osteoporosis aged over 60 years undergoing >5 level fusions for ASD had a lower BMI, longer constructs and a higher rate of PJK. Rod fracture and implant related complications were similar in each group.	

ABSTRACT 13

ABSTRACT TITLE	From High Risk to Safer Outcomes: Modified Halo-Pelvic Traction vs. Direct Fusion in Rigid Kyphoscoliosis	
AUTHOR NAME	Muhammad Saad Ilyas	
INTRODUCTION & OBJECTIVE	INTRODUCTION	Severe & rigid kyphoscoliotic deformities present major surgical challenges due to their stiffness, pulmonary compromise, and high risk of neurologic injury. Halo-pelvic traction (HPT) offers a gradual, staged correction strategy that can reduce curve rigidity, improve sagittal and coronal alignment, and potentially enhance surgical safety. Our modified halopelvic Ilizarov distraction device has achieved promising results in correcting severe spinal deformities without significant risk to neurology with fewer complications and good patient compliance. The current study compares radiological, surgical, and clinical outcomes between staged HPT followed by definitive fusion and direct fusion-only surgery in adolescents with severe kyphoscoliosis.
METHOD		Patients diagnosed with severe ($>85^\circ$ Cobb angle) adolescent idiopathic kyphoscoliosis were included in the study after institution ethical approval. Patients were divided into two groups: HPT Group underwent 6 weeks of HPT followed by final fusion, while non-HPT Group underwent direct fusion without modified halopelvic traction. Radiological parameters including AP cobb and lateral angles, fulcrum view angles, osteotomy types, surgical time, intraoperative neuromonitoring signals, and postoperative complications were analyzed.
RESULTS		A total of 68 patients were included (36 HPT, 32 non-HPT). Mean age was higher in the HPT group (15.58 ± 1.13 vs. 14.34 ± 1.04 years, $p<0.001$), with 50% males compared to 31.2% in non-HPT group. Severe curves (Cobb's $>100^\circ$) were more frequent in HPT group (75% vs. 18.8%). Preoperative deformity was greater in HPT group (AP Cobb 112.19° vs. 92.69° , $p<0.001$; lateral Cobb 82.22° vs. 48.44° , $p<0.001$; fulcrum angle 89.11° vs. 65.84° , $p<0.001$). Postoperatively, AP Cobb correction was 75.2% (29.2°) in HPT group vs. 66.2% (38.0°) in non-HPT group, while sagittal plane correction was significantly superior in HPT group (69.97% vs. 49.97%, $p=0.002$). Coronal correction was comparable (67.13% vs. 72.56%, $p=0.054$). In curves $<100^\circ$, both groups achieved similar correction. No neuromonitoring signal loss occurred in HPT group, whereas three events occurred in non-HPT group (two recovered intraoperatively). One postoperative mortality due to pulmonary complications was reported in non-HPT group. Mean surgical time was shorter in HPT group (366 vs. 414 minutes). Osteotomy distribution showed fewer high-grade osteotomies in HPT group (Type 3-4 in 2 patients) versus non-HPT group (4 patients), despite greater deformity severity.
CONCLUSION		For large, rigid adolescent kyphoscoliotic deformities, a staged approach with halo-pelvic traction prior to fusion achieves superior sagittal plane correction, reduces the need for high-grade osteotomies, ensures safer neuromonitoring, and facilitates more efficient surgery even in more severe curves. Fusion-only surgery, by contrast, carries higher neurologic risks and demands more invasive corrective techniques.

ABSTRACT 14

ABSTRACT TITLE	Incidence and Risk Factors of Postoperative Motor Deficits After Spine Deformity Surgery: Results of the SDIM Study	
AUTHOR NAME	Ahmed Shawky Abdelgawaad	
INTRODUCTION & OBJECTIVE	INTRODUCTION	Understanding and preventing new-onset postoperative motor deficits (NOPMD) is a critical concern in spinal deformity surgery. Despite advancements in surgical techniques and intraoperative neuromonitoring (IONM), these complications still arise, resulting in significant morbidity.
METHOD	This study aims to explore the association between pre- and intra-operative variables and the development of NOPMD in patients undergoing surgery for spine deformity.	
RESULTS	Of the 555 patients who met the inclusion criteria, 55 (10.1%) experienced NOPMD, defined as a decrease of at least 1 point in the ASIA LE from baseline. These deficits affected: hip flexors (n=38), knee extensors (n=35), ankle dorsiflexors (n=17), ankle plantar flexors (n=14), and great toe extensors (n=28). IONM alerts were observed in only 21 (38.2%) patients with NOPMD. Univariable analysis revealed that the key factors associated with NOPMD included: older age, higher BMI, presence of baseline motor deficits, revision surgery, posterior decompression, use of interbody devices, and the occurrence of IONM alerts during surgery ($p<0.05$). Interestingly, patients with NOPMD exhibited lower baseline coronal Cobb angles, smaller postoperative changes in both coronal and sagittal Cobb angles, and fewer posterior column osteotomies compared to those without NOPMD ($p<0.05$).	
CONCLUSION	New onset postoperative motor deficits occurred in 10.1% of patients undergoing spine deformity correction surgery. Older age, higher BMI, baseline motor deficit, revision surgery, posterior decompression, use of interbody devices and presenting IONM alert during surgery were identified as key contributing factors.	

ABSTRACT 15

ABSTRACT TITLE	Comparative Analysis of Low Versus High Implant Density in Decreasing Cobb Angle in Lenke Type 1 Adolescents Idiopathic Scoliosis	
AUTHOR NAME	Jawad ul Haq	
INTRODUCTION & OBJECTIVE	BACKGROUND	The optimal implant density for surgical correction of adolescent idiopathic scoliosis (AIS) remains debated. While high-density pedicle screw constructs are believed to enhance correction, they also increase cost and operative complexity. This study aimed to compare low versus high implant density in terms of Cobb angle correction and cost in patients with Lenke type 1 AIS treated with posterior segmental spinal instrumentation.
METHOD	<p>This retrospective cohort study was conducted at the Department of Orthopedic and Spine Surgery, Ghurki Trust Teaching Hospital/Lahore Medical and Dental College, Lahore. Records of patients who underwent posterior spinal fusion for Lenke type 1 AIS between June 2015 and June 2019 were reviewed. Low implant density was defined as $\leq 60\%$ (≤ 1.2 screws per fused segment), while high density was $> 60\%$ (> 1.2). Radiographs were assessed for pre- and post-operative Cobb angle, percentage of correction, sagittal and lumbar modifiers, and implant density. Implant cost was calculated for each group. Statistical analysis was performed using independent sample t-tests, paired t-tests, and Chi-square tests, with significance set at $p < 0.05$.</p>	
RESULTS	<p>Sixty-six patients were included, of whom 71.2% ($n=47$) were female. The low-density group ($n=25$) achieved a mean Cobb angle correction from $62.6^\circ \pm 13.0^\circ$ to $13.8^\circ \pm 8.07^\circ$ (mean correction: $78.56\% \pm 12.07\%$). Implant density averaged 1.11 ± 0.083 screws per segment, with a mean cost of Rs. $85,248 \pm 13,414$. The high-density group ($n=41$) improved from $65.24^\circ \pm 16.16^\circ$ to $13.29^\circ \pm 8.18^\circ$ (mean correction: $79.85\% \pm 12.85\%$), with an average implant density of 1.49 ± 0.09 screws per segment and mean cost of Rs. $93,658 \pm 10,589$. There was no significant difference in Cobb angle correction between the two groups ($p = 0.868$). However, implant cost was significantly lower in the low-density group ($p = 0.000$).</p>	
CONCLUSION	<p>Cobb angle correction in Lenke type 1 AIS was not significantly influenced by implant density. Low implant density constructs achieved comparable correction while significantly reducing implant cost, suggesting they are a cost-effective alternative to high-density constructs.</p>	

ABSTRACT 16

ABSTRACT TITLE	Anatomical Iliac Screw Fixation: Early Outcomes and Technical Description of a Sacroiliac-Sparing, Connector-Free Approach	
AUTHOR NAME	Mohannad W Awwad	
INTRODUCTION & OBJECTIVE	BACKGROUND	Iliac fixation is fundamental for long lumbosacral constructs, yet conventional strategies such as S2-alar-iliac (S2AI) and classic iliac screws carry risks of wound complications, hardware prominence, and construct failure. S2AI fixation also traverses the sacroiliac joint and requires domino connectors, which may increase biomechanical stress and construct complexity. We describe a morphology-guided anatomic iliac fixation technique that spares the sacroiliac joint and avoids domino connectors, and report early outcomes in comparison with other fixation strategies.
METHOD	We retrospectively reviewed patients who underwent pelvic fixation at a tertiary center between 2018–2023. Patients were grouped as anatomic iliac fixation, classic iliac, or S2AI fixation. Data collected included demographics, operative time, blood loss, transfusion requirements, wound complications, and construct failure. The anatomic iliac fixation technique is detailed, highlighting consistent pelvic morphology landmarks that allow safe, reproducible placement while preserving sacroiliac integrity.	
RESULTS	Thirty-two patients underwent pelvic fixation: 10 with anatomic iliac fixation, 10 with classic iliac, and 12 with S2AI screws. Mean age was 43.1 years, 78% female, with a mean BMI of 28.7. Operative time was shortest in anatomic iliac fixation (mean 5.5 h) compared with classic iliac (5.9 h) and S2AI (7.3 h). Mean blood loss was lower in anatomic iliac fixation (402 ml) compared with classic iliac (455 ml) and S2AI (1,208 ml). Transfusion was required in 66% of S2AI patients, 40% of anatomic iliac fixation, and none of the classic iliac cases. Wound complications were lowest in anatomic iliac fixation (20%) and classic iliac (20%) when compared to S2AI (33%). Construct failure with revision was observed in one classic iliac and one S2AI case, but none in anatomic iliac fixation. No anatomic iliac fixation patients experienced neurological, thromboembolic, or systemic complications.	
CONCLUSION	The morphology-guided anatomic iliac fixation technique provides a sacroiliac-sparing, connector-free alternative for pelvic fixation. Early outcomes suggest reduced wound morbidity, lower blood loss, and absence of construct failure compared with conventional iliac fixation methods. Importantly, anatomic iliac fixation demonstrates no inferiority to widely used techniques, positioning it as a practical and reproducible strategy that warrants further prospective validation.	

ABSTRACT 17

ABSTRACT TITLE	Effects of lower limb length discrepancy on spinopelvic compensation following Ilizarov hip reconstruction in patients with developmental dysplasia of the hip.	
AUTHOR NAME	Jawad ul Haq	
INTRODUCTION & OBJECTIVE	BACKGROUND	Very little is known about the effects of lower limb length discrepancy (LLLD) on spinopelvic compensation after Ilizarov hip reconstruction (IHR) in patients with developmental dysplasia of the hip (DDH).
	OBJECTIVES	The purpose of this study is to assess the impact of LLLD correction on spinopelvic and biomechanical adaptations following IHR among DDH patients.
METHOD	A prospective study was carried out with a case of 40 DDH patients receiving IHR in the period between January 2024 and March 2025. Patients were split into two groups, low dislocation group (LDG, Crowe type I and II, n=15) and high dislocation group (HDG, Crowe type III and IV, n=25). There was the gathering of demographic data, preoperative, postoperative, and final follow-up imaging data, such as lower limb length (LLL), sacral obliquity (SO), iliac obliquity (IO), hip obliquity (HO), Cobb angle, apical vertebral translation (AVT), and coronal decompensation (CD).	
RESULTS	Patients in the LDG were older at surgery and had a shorter disease duration compared to the HDG. In the LDG, mean LLLD improved from approximately 5 mm preoperatively to under 3 mm at final follow-up, with corresponding small but significant reductions in SO, IO, and HO. Spinal parameters such as Cobb angle, AVT, and CD showed no meaningful change. In the HDG, the mean LLLD decreased markedly from nearly 69 mm before surgery to about 27 mm at final follow-up, which was accompanied by reductions in SO ($\approx 15^\circ$ to 13°), IO ($\approx 13^\circ$ to 11°), HO ($\approx 7^\circ$ to -3°), and CD (≈ 22 mm to 19 mm). However, Cobb angle and AVT again remained largely unchanged. Across both groups, the extent of LLLD correction demonstrated a strong correlation with improvements in pelvic obliquity indices.	
CONCLUSION	IHR is effective in the treatment of LLLD in DDH patients, and the extent of LLLD treatment has a significant impact on spinopelvic compensatory mechanisms. The findings reveal the significance of managing LLLD to maximize the biomechanical outcomes of DDH patients who receive IHR.	

ABSTRACT 18

ABSTRACT TITLE	Cervical Pedicle Screws: Evaluating the Efficacy and Stability Compared to Lateral Mass Screws	
AUTHOR NAME	Anas Dyab	
INTRODUCTION & OBJECTIVE	INTRODUCTION	Spinal fusion procedures often require the use of screw fixation to provide stability and support for the healing process. When performing cervical spine fusion, surgeons have traditionally relied on lateral mass screws as a reliable method of fixation. (Yasuda & Takayasu, 2014) However, the use of cervical pedicle screws has emerged as an alternative approach that may offer greater stability and improved fusion outcomes. Literature Review.
METHOD		This study retrospectively analyzed the outcomes of cervical fusion procedures performed at our institution between 2018 and 2023. Patients were divided into two groups: those who underwent fusion with lateral mass screws and those who received cervical pedicle screws. Demographic data, surgical details, and clinical outcomes were collected and compared between the two groups. Radiographic evaluation was performed to assess fusion rates, screw placement accuracy, and construct stability. Complications such as neurovascular injuries, screw loosening, and implant failure were also documented. (Wang et al., 2021).
RESULTS		A total of 80 patients were included in the study, with undergoing lateral mass screw fixation and receiving cervical pedicle screws. Fusion rates were higher in the pedicle screw group at compared to the lateral mass screw group at . Screw placement accuracy, as measured by the pedicle perforation grading system, was excellent in the pedicle screw group with over of screws placed within the pedicle. (Wang et al., 2021) Construct stability, as indicated by the absence of screw loosening or implant failure, was also superior in the pedicle screw group compared to the lateral mass screw group. The pedicle screw group experienced a lower rate of complications, with neurovascular injuries occurring in only of patients compared to in the lateral mass screw group. (Tsirikos, 2019) Regarding screw accuracy, the pedicle screw group had a higher proportion of screws placed within the acceptable range, with of the screws graded as optimal or acceptable, compared to in the lateral mass screw group. (Wang et al., 2021)
	DISCUSSION	The findings of this study suggest that the use of cervical pedicle screws may offer several advantages over lateral mass screws for cervical spine fusion. The increased stability and improved fusion rates provided by pedicle screw fixation may lead to better long-term outcomes and a lower risk of complications (Kim et al., 2018; Wang et al., 2021). While the technical challenges and potential risks associated with pedicle screw placement must be carefully considered, the results of this study indicate that with proper surgical technique and intraoperative imaging guidance, cervical pedicle screws can be a safe and effective option for spinal stabilization. The literature supports these findings, with several studies demonstrating the superior biomechanical properties and clinical outcomes of cervical pedicle screws compared to lateral mass screws (Luo et al., 2019; Okuyama et al., 2001; Tsirikos, 2019; Wang et al., 2021).
CONCLUSION		In conclusion, this retrospective analysis suggests that the use of cervical pedicle screws may be a more effective and stable construct for cervical spine fusion compared to lateral mass screws. The improved fusion rates, construct stability, and lower complication rates observed in the pedicle screw group support the consideration of this technique as a viable alternative to traditional lateral mass screw fixation.

ABSTRACT 19

ABSTRACT TITLE	Bridging the Training Gap: A Global AO Spine Survey Reveals Strong Demand for Hands-On, Hybrid, and AIEnhanced Education for Advanced Technologies in Spine Surgery	
AUTHOR NAME	Siegmund Lang	
INTRODUCTION & OBJECTIVE	INTRODUCTION	Advanced technologies such as robotics, navigation, and augmented/virtual reality (AR/VR) are reshaping the landscape of spine surgery. Their adoption, however, depends not only on equipment availability but also on structured training and education. In parallel, artificial intelligence (AI) is emerging as a novel adjunct for both surgical planning and educational support. This global survey aimed to assess training access, educational needs, and attitudes toward AI among spine surgeons.
METHOD	A 45-question online survey was disseminated globally via AO Spine communication channels between February 13 and March 10, 2025. The questionnaire addressed demographics, training experience in robotics/navigation/AR-VR, perceived training quality, preferred educational formats, and use of AI-based tools. Descriptive statistics were applied.	
RESULTS	A total of 266 spine surgeons completed the survey (completion rate: 76%). Respondents were primarily from Europe and Southern Africa (36.5%), Asia Pacific (26.2%), and North America (11.0%). Most were under 45 years of age (n=140;54.6%) and had less than 11 years of surgical experience (45.9%). The majority were orthopedic-trained (69.2%); 57.1% had completed a spine fellowship. Nearly half (48.5%) worked in academic or university-affiliated institutions, and 79.3% practiced in urban settings. Only 3.3% reported receiving weekly in-house training on advanced technologies, while 29.2% lacked structured access entirely. Despite this, 77.5% endorsed hands-on cadaver workshops as the most effective learning format. Simulation-based AR/VR training was supported by 54.9%, and 47.9% preferred hybrid models combining online modules with practical experience. Mentorship from experienced surgeons was viewed as essential by 41.1%. In the past three years, cadaver labs (62.7%) and conventional technique courses (54.1%) were most frequently attended, whereas only 34.5% received training in robotics and 22.0% in AR/VR. Over 30% rated their training in advanced technologies as inadequate. Industry-sponsored education was regarded as "very important" by 68.4% of respondents. AI was viewed positively by 86.6%, particularly for simulation and planning. Although 67.3% anticipated AI improving patient outcomes and 54.0% valued personalized feedback, only 25.7% had practical experience with AI-based tools.	
CONCLUSION	There is a clear mismatch between interest in and access to structured training in advanced spine technologies. Surgeons favor cadaveric, simulation-based, and hybrid educational formats but report limited exposure. AI is increasingly recognized as a promising tool for future education, yet remains underutilized in practice.	

ABSTRACT 20

ABSTRACT TITLE	Assessing Predictors of Neurologic Improvement and Readmissions Following Urgent Cord Decompression Due to Neoplastic Causes	
AUTHOR NAME	Mohammad Abubakr	
INTRODUCTION & OBJECTIVE	BACKGROUND	Urgent decompressive surgery for neoplastic spinal cord compression (NSCC) can result in neurological preservation and pain control. The ability to predict recovery and estimate neurological prognosis in these patients remains a significant clinical problem. This study aimed to examine clinical, surgical complexity, and radiographic factors in an effort to define independent predictors of post-operative neurological recovery.
	OBJECTIVES	The purpose of this study is to assess which patient, surgical, and radiographic factors are independently associated with both the likelihood and the speed of neurological recovery after urgent decompression.
METHOD	This retrospective cohort study analyzed patients who underwent decompressive surgery within 14 days of diagnosis through electronic medical records. Demographics, surgical variables, and pre-operative Bilsky grade were recorded. The primary outcomes were defined as post-operative time to neurological improvement and 90-day readmission rates. Univariate and multivariable proportional hazards models were utilized.	
RESULTS	69% of patients had postoperative neurological improvement. In multivariable analysis, increasing BMI was an independent positive predictor for both odds of neurological recovery (adjusted OR 1.26, p=0.03) and time to recovery (HR 1.08, p=0.03). In contrast, multilevel decompression was independently associated with worse odds of neurological recovery (adjusted OR 0.54, p=0.02) and longer time to improvement (HR 0.69, p=0.04). Time to intervention within 14 days was not significantly associated with either outcome. Importantly, Bilsky Grades 1-2 had a significantly faster time to recovery when compared to a Bilsky Grade 3 (HR 1.52, p=0.047).	
CONCLUSION	Patient-specific factors and iatrogenic surgical complexity factors may be more significant predictors than previously thought of recovery prognosis than time to surgical intervention within a relatively narrow time frame (≤ 14 days). This data supports the value of preoperative radiographic risk stratification, such as the Bilsky scale, to refine patient selection, and provide a neurological prognosis.	

ABSTRACT 21

ABSTRACT TITLE	Short-term assessment of functional outcomes and quality of life after thoracic and lumbar spinal metastasis surgery	
AUTHOR NAME	Mahmoud Abousayed	
INTRODUCTION & OBJECTIVE	STUDY DESIGN	The study design was a prospective cohort study.
	BACKGROUND	Because of improvements in initial tumor identification and treatment, as well as longer life expectancies, more people are receiving diagnoses for spinal metastases.
	OBJECTIVE	The aim of this study was to assess early functional outcomes and quality of life (QOL) after surgical management of patients with spinal metastases.
METHOD	In this prospective cohort study, a total of 33 patients with thoracic and lumbar spine metastases who underwent surgical management between November 2021 and August 2023 were followed up for 1 year or until death. Oswestry Disability Index and the Eastern Cooperative Oncology Group Performance Status were used for the functional outcome; QOL was assessed using European Quality of Life 5-Dimensions (EuroQOL-5D). Scores were recorded preoperatively, 4 weeks postoperatively, and 6 and 12 months postoperatively.	
RESULTS	The mean age was 52.12 ± 13.4 years (range: 23–70 years), 22 (66.7%) were females, and 11 (33.3%) were males. Patients were divided into three groups according to the revised Katagiri score: 12 (36.4%) patients were at low risk (0–3), 18 (54.5%) patients were at intermediate risk (4–6), and 3 (9.1%) patients were at high risk (7–10). The mean survival was 5.44 ± 3.46 months (range 1–13), and there was no perioperative death (within 1 month postoperative). Sixteen (48.5%) patients survived for more than 1 year and 17 (51.5%) patients died from different causes related to the natural history of tumor metastasis.	
CONCLUSION	Following surgical treatment of the spinal metastases, improvements in QOL and functional results were seen in the short-term. For patients with a projected life expectancy of longer than 3 months, surgery is a good alternative.	
	<p>Keywords</p> <p>Functional outcome, metastatic spine surgery, quality of life, short-term follow-up, spinal metastases</p>	

ABSTRACT 22		
ABSTRACT TITLE	"Robotics Are Rarely Used" – A Global AO Spine Survey Reveals Gaps in Access, Training, and Confidence in Robotic, Navigation, and AR/VR Techniques in Spine Surgery	
AUTHOR NAME	Siegmund Lang	
INTRODUCTION & OBJECTIVE	INTRODUCTION	Advanced technologies such as robotics, navigation, and augmented/virtual reality (AR/VR) are widely promoted in spine surgery, yet real-world adoption remains poorly understood. This international survey aimed to assess global access, use, barriers, and perceived readiness for these tools.
METHOD	A structured online survey was disseminated between February 13 and March 10, 2025, through AO Spine communication channels (email, social media, and official website). The questionnaire comprised 45 items covering surgical background, access to robotics/navigation/AR-VR, comfort levels, perceived obstacles, and educational needs.	
RESULTS	A total of 266 spine surgeons completed the survey (completion rate: 76%). Respondents were primarily from Europe and Southern Africa (36.5%), Asia Pacific (26.2%), and North America (11.0%). Most participants were younger than 45 years (n=140; 54.6%), with 45.9% reporting fewer than 11 years of spine surgery experience. The majority were orthopedic-trained (69.2%); 57.1% had completed a spine fellowship. Nearly half (48.5%) worked in academic or university-affiliated hospitals, and 79.3% practiced in urban settings. Fluoroscopy was the most common primary surgical technique (44.0%), followed by freehand (31.6%) and navigation/robotics (9.9%). Only 2.8% reported robotic-assisted surgery as their main technique. Navigation systems were available to 67.2% of respondents, whereas only 19.2% reported access to robotics; 31.6% lacked access to any advanced surgical technology. Surgeon comfort levels varied: 47.3% reported feeling very or completely comfortable with navigation, 8.0% with robotics, and 76.4% indicated AR/VR was either unavailable or unfamiliar. Key barriers included high capital costs (83.6%), limited equipment availability (64.4%), and lack of institutional support (60.3%). Concerns related to complexity and learning curve (46.5%) and fear of skill degradation through over-reliance on technology (26.8%). Main motivators for adoption were reduced radiation exposure (63.0%), shorter operative times (63.0%), and improved patient outcomes (61.6%). Hands-on training (56.2%) and mentorship (41.1%) were considered essential enablers.	
CONCLUSION	There is a pronounced gap between enthusiasm for and actual use of robotics and AR/VR in spine surgery. Access and training remain key limiting factors globally, particularly in resource-limited settings. To unlock the full potential of these technologies, targeted investments in structured education and infrastructure are urgently needed.	

ABSTRACT 23

ABSTRACT TITLE	Evidence-Based Approach to Managing Coccydynia	
AUTHOR NAME	Antony Louis Rex Michael	
INTRODUCTION & OBJECTIVE	BACKGROUND	Coccydynia, or pain localized to the coccyx, has been recognised for centuries yet remains a challenging condition to diagnose and treat. It affects females more commonly and is associated with obesity, trauma, prolonged sitting, and degenerative or psychological factors. Despite its frequency, many patients remain underdiagnosed and inadequately managed.
	OBJECTIVES	To review the anatomical, clinical, and radiological aspects of coccydynia and present an evidence-based management approach that improves diagnostic accuracy and treatment outcomes.
METHOD	A literature-based review was conducted focusing on the incidence, aetiology, diagnostic investigations, and treatment modalities for coccydynia. Key studies assessing conservative, interventional, and surgical management options were analyzed to develop a practical treatment algorithm.	
RESULTS	Dynamic lateral sacrococcygeal X-rays and I proved most useful in identifying instability and excluding alternative pathologies. Conservative management—including cushioning, NSAIDs, and physiotherapy—remains first-line and effective in most acute cases. Chronic or refractory cases respond better to interventional techniques such as corticosteroid injections, radiofrequency ablation, or ganglion impar blocks. Coccygectomy yields good outcomes when non-surgical methods fail.	
CONCLUSION	Coccydynia is an under-recognized but treatable condition. A structured, evidence-based approach—from accurate imaging to tailored conservative and interventional management—can significantly improve patient outcomes and quality of life.	

ABSTRACT 24

ABSTRACT TITLE	Post Traumatic Cauda Equina syndrome - A rare case Presentation
AUTHOR NAME	Faisal Hamad
INTRODUCTION & OBJECTIVE	Cauda Equina Syndrome is frequently discussed in literature, however we present a very rare clinical scenario of this entity caused by high energy trauma resulting in large disc herniation at L4/L5 level with associated fracture of T12 vertebra and no fracture at the level of the herniated disc.

ABSTRACT 25

ABSTRACT TITLE	Intraoperative Breakage of a Jahidi Needle Cannula During Minimally Invasive TLIF: A Case Report on Management and Follow-Up
AUTHOR NAME	Aashish Raghu
INTRODUCTION & OBJECTIVE	Instrument breakage in spinal surgery is rare. We report a 55-year-old with L4/5 spondylolisthesis in whom a Jahidi cannula fractured during TLIF. The fragment was retained; recovery was uneventful, and follow-up is ongoing for retained hardware risks.

ABSTRACT 26

ABSTRACT TITLE	Comparative outcomes of endoscopic versus microsurgical resection of the synovial cysts in lumbar spine
AUTHOR NAME	Zolotovekh Oleksandr
INTRODUCTION & OBJECTIVE	<p>This study retrospectively examines the results of endoscopically removed lumbar synovial cysts. A total of 20 patients were included. The first group consisted of eight women and 12 men with an average age of 52 years. The second group, which underwent microsurgical intervention, included 10 women and 10 men with an average age of 54 years. Improvements were measured using the Oswestry Disability Index (ODI) and the Visual Analogue Scale (VAS) for leg pain. The results showed that endoscopic resection led to significantly better outcomes for patients, with greater improvements in symptom relief and functional recovery compared to the microsurgical group.</p> <p>Keywords</p> <p>Spinal endoscopy, synovial cysts, lumbar spine, Oswestry Disability Index, microsurgery.</p>

ABSTRACT 27

ABSTRACT TITLE	Examining the Effectiveness and Safety of Tranexamic Acid in Spinal Surgery: A Comprehensive Systematic Review and Meta-analysis
AUTHOR NAME	Layan Albraik
INTRODUCTION & OBJECTIVE	This meta-analysis of 47 studies (n=89,610) demonstrates that tranexamic acid significantly reduces perioperative blood loss and hospital stay in spinal surgery without increasing thromboembolic risk, supporting its role in evidence-based perioperative care.

ABSTRACT 28

ABSTRACT TITLE	Technique of Decompression of Dorsal spine OLF by UBE
AUTHOR NAME	Sanatan Satapathy
INTRODUCTION & OBJECTIVE	Thoracic OLF causes myelopathy often needing surgery. Unilateral Biportal Endoscopy (UBE) enables safe, minimally invasive decompression with reduced tissue damage. Patients showed neurological recovery, fewer complications, and quicker recovery, supporting UBE as an effective option.
CONCLUSION	Patients valued ChatGPT's responses for clarity and usefulness, and many endorsed future use of such tools. While recommendations differed markedly between ChatGPT and the KVB chatbot, only the objective clinical triage category was significantly associated with patients' intended future pathway.

ABSTRACT 29

ABSTRACT TITLE	Cervical Pedicle Screw Placement. A morphometric Analysis and Prediction Model in 139 clinical cases using the Orthogonal View Evaluation Method (OVEM)
AUTHOR NAME	John Michael Duff
INTRODUCTION & OBJECTIVE	Although posterior instrumentation is common in the cervical spine, utilization of pedicle screw fixation in the subaxial spine remains challenging and controversial. This is due to the small bone volume of the target bone mass in combination with medial angulation of the screws intraoperative mobility of the target bone mass and neurovascular proximity. The ideal cervical pedicle screw position in the subaxial spine is circumferentially covered by cortical bone. Little is known about the variables associated with an increased risk in placement of pedicle screws. In this study we analyze clinical and radiologic parameters and variables associated with risk for screw placement in patients operated using image guided screw placement in the subaxial spine.



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