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2021 International Joint Meeting of KSNS & WSCS, The 1st Annual SMISS-AP Meeting

Connecting to Spine World

Sep. 29(Wed)~Oct. 2(Sat), 2021

Grand Hyatt Incheon(West Tower), Korea



The 1st Annual SMISS Asia/Pacific Meeting will be combined with the Korean Spinal Neurosurgical Society Meeting and International Joint Meeting of KSNS and WSCS.



Hosted by



The Korean Spinal Neurosurgery Society

Organized by



The Korean Neurosurgical Research Foundation

2021 International Joint Meeting of KSNS & WSCS, The 1st Annual SMISS-AP Meeting

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The 1st Annual SMISS-AP Meeting

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연혁

한양대학교 정환영 교수 등이 주축이 되어 대한척추신경외과연구회 창립 및 발기인을 구성하고 대한신경외과학회에 연구회 창립허가를 신청하여, 1987년 10월 22일 대한신경외과학회 전체 이사회에서 가결되어 1987년 10월 23일 정기총회에서 대한신경외과학회내의 세번째 연구회가 되었다. 1987년 12월 19일 대한척추신경외과연구회 창립총회 및 제 1회 학술대회를 한양의대 부속병원에서 개최하였으며 초대 회장에 정환영 교수, 총무에 김영수 교수, 상임이사에는 김상진, 김수한, 심재홍, 김현집, 변박장, 서준근, 안명수, 주문배 등과 감사에는 최선길, 이상원, 이사로는 김인홍 외 23명이 각각 선출되었다. 이후 2018년 현재까지 수많은 국제학술대회와 국내 정기학술대회 및 연수교육을 개최하고 있다.

1997년부터 일본 척추신경외과학회와 공동으로 한일척추신경외과 학술대회를 한국과 일본을 오가며 격년제로 실시하였다. 연구회가 발전함에 따라 대한신경외과학회의 승인을 얻어 1999년 12월 17일 대한척추신경외과학회(Korean Spinal Neurosurgery Society)로 명칭을 바꾸었다.

대한척추신경외과학회 내 연구회로는 2002년 대한최소침습척추수술연구회, 2007년 대한경추연구회, 2009년 대한척추변형연구회, 2010년 대한척추신경외과기초연구회, 2014년 대한척추골다공증연구회와 대한척추종양연구회가 발족되어 활동하고 있다. 2008년 7월 한국계 미국인 척추학회(Korean American Spine Society, KASS)에 대한척추외과학회와 함께 합동학회를 개최한 이래 매년 참석하고 있다. 대한척추신경외과학회는 공식적으로 2008년 3월 18일 대한의학회(Korean Academy of Medical Sciences)에 정식 가입되었고, 2008년 9월 척추학문에 대한 포괄적인 지식을 기술한 ‘척추학’ 교과서를 편찬하였으며, 2009년도에는 공식학회지인 Korean Journal of Spine이 한국연구재단 등재후보학술지에 선정되었다.

2010년 9월 9일부터 11일까지 일본, 대만, 중국, 호주 등과 공동으로 제 1회 Asia Spine 국제학회를 시작으로, 2013년 10월 3일부터 5일까지 제4회, 2016년 9월 22일부터 24일까지 제7회, 2019년 9월 19일부터 21일까지 제10회 Asia Spine 국제학회를 성공적으로 개최하였다.

역대 회장단 및 상임 임원 1987~2020

1987~1989	
회 장	정 환 영
총 무	김 영 수
상임이사	김 상 진
	김 수 한
	김 수 휴
	김 현 집
	변 박 장
	서 중 근
	안 명 수
	주 문 배
감 사	이 상 원

1989~1991	
회 장	정 환 영
총 무	김 영 수
상임이사	김 상 진
	김 수 한
	김 현 집
	변 박 장
	서 중 근
	심 재 흥
	안 명 수
	주 문 배
감 사	이 상 원

1991~1993	
명예회장	정 환 영
회 장	김 영 수
총 무	서 중 근
상임이사	김 상 진
	김 수 한
	김 현 집
	박 연 목
	변 박 장

상임이사	신 호
	심 재 흥
	안 명 수
	이 상 원
	주 문 배
감 사	최 선 길
	박 춘 근
	지 용 철

1993~1995	
명예회장	정 환 영
회 장	김 영 수
총 무	서 중 근
상임이사	김 상 진
	김 수 한
	김 현 집
	박 형 천
	배 장 호
	신 호
	오 성 훈
	이 동 렬
감 사	최 선 길
	박 춘 근
	지 용 철

1995~1997	
명예회장	정 환 영
회 장	최 선 길
총무이사	김 현 집
기획이사	김 영 수
	서 중 근
학술이사	김 상 진

ORGANIZATION

특별이사	김수한
	박연목
	박춘근
	박형천
	심재홍
	어환
	오성훈
	이동렬
	이용성
	이정청
	임승철
	조수호
감사	신호
	김정철

1997~1999	
명예회장	정환영
회장	김현집
총무이사	김수한
기획이사	김영수
	최선길
제1학술	박춘근
제2학술	어환
재무이사	오성훈
회원관리	박형천
간행이사	임승철
특별이사	김상진
	김정철
	박연목
	서중근
	신호
	심재홍
	이동렬
	이용성
특별이사	이정청
	조수호
감사	신원한
	조경석

1999~2001	
명예회장	정환영
	김영수
회장	김수한
총무이사	서중근
학술이사	박춘근
재무이사	오성훈
간행이사	어환
홍보이사	김영백
회원관리	박형천
보험관리	신원한
특별이사	김상진
	김정철
	박연목
	신호
	윤도흠
	이동렬
	임승철
	조수호
감사	조기홍
	송근성

2001~2003	
명예회장	정환영
	김영수
회장	서중근
부회장	신호
총무이사	박형천
학술이사	윤도흠
재무이사	오성훈
간행이사	어환
홍보이사	김영백
회원관리	임승철
보험관리	신원한
법제윤리	김상진
기획이사	김정철
	배장호
	염진영
	이동렬

역대 회장단 및 상임 임원 1987~2020

특별이사	최 선 길
	김 현 집
	김 수 한
	박 춘 근
감 사	최 휴 진
	김 은 상

2003~2005

명예회장	정 환 영
	김 영 수
회 장	신 호
부 회 장	박 형 천
총무이사	신 원 한
학술이사	오 성 훈
재무이사	김 영 백
간행이사	어 환
기획홍보	조 용 은
회원관리	임 승 철
보험관리	윤 도 흠
법제윤리	김 상 진
국제교류	박 춘 근
개 원 의	지 용 철
특별이사	최 선 길
	김 현 집
	김 수 한
	서 중 근
	김 정 철
	성 주 경
	염 진 영
	정 천 기
	최 휴 진
감 사	조 경 석
	박 정 울

2005~2006

명예회장	정 환 영
	김 영 수

고 문	최 선 길
	김 현 집
	김 수 한
	서 중 근
회 장	박 형 천
부회장(차기회장)	신 원 한
총무이사	김 상 진
학술이사	임 승 철
재무이사	김 영 백
간행이사	어 환
기획홍보	조 용 은
회원관리	최 휴 진
보험관리	정 천 기
법제윤리	성 주 경
국제교류	박 춘 근
개 원 의	장 지 수
특별이사	신 호
	오 성 훈
	윤 도 흠
상임이사(서울-경인)	박 윤 관
상임이사(대전-충청)	조 기 홍
	도 재 원
상임이사(호남)	하 호 균
	이 정 길
상임이사(대구-경북)	최 기 환
상임이사(부산-경남)	정 용 태
상임이사(강원)	조 용 준
감 사	송 근 성
	이 상 구

2006~2007

명예회장	정 환 영
	김 영 수
고 문	최 선 길
	김 현 집
	김 수 한
	서 중 근
회 장	신 원 한

ORGANIZATION

부회장(차기회장)	김 상 진
총무이사	어 환
학술이사	조 용 은
재무이사	김 영 백
간행이사	정 천 기
기획홍보	임 승 철
회원관리	최 휴 진
보험관리	박 춘 근
법제윤리	성 주 경
국제교류	윤 도 흠
개 원 의	장 지 수
역사편찬	오 성 훈
특별이사	신 호
	성 경 훈
	조 경 석
	송 근 성
상임이사 (서울-경인)	박 윤 관
	조 기 흥
상임이사(대전-충청)	도 재 원
상임이사(대전-충청)	하 호 균
상임이사(호남)	이 정 길
상임이사(대구-경북)	최 기 환
상임이사(부산-경남)	정 용 태
상임이사(강원)	조 용 준
감 사	이 승 명
	김 성 민

총무이사	임 승 철
학술이사	김 영 백
수련이사	조 경 석
재무이사	조 용 은
보험이사	박 춘 근
법제이사	성 주 경
국제협력	윤 도 흠
회원관리	박 윤 관
전산정보	조 기 흥
개 원 의	장 지 수
특별이사	신 원 한
	최 휴 진
	장 일 태
	성 경 훈
	김 성 민
	진 병 호
	하 호 균
	이 승 명
	이 정 길
	최 기 환
	정 용 태
	송 근 성
조 용 준	
역사편찬	오 성 훈
학술지편집	정 천 기
교과서편찬	장 호 열
최소침습	도 재 원
감 사	노 성 우
	박 춘 근

2007~2008

명예회장	정 환 영
	김 영 수
고 문	최 선 길
	김 현 집
	김 수 한
	서 중 근
	신 호
	박 형 천
회 장	김 상 진
부 회 장	어 환

2008~2009

명예회장	정 환 영
	김 영 수
고 문	최 선 길
	김 현 집
	김 수 한
	서 중 근
	신 원 한
회 장	어 환

역대 회장단 및 상임 임원 1987~2020

부 회장	임 승 철
총무이사	김 영 백
학술이사	성 주 경
학술지편집	정 천 기
수련교육	조 경 석
재무이사	조 기 홍
보험이사	도 재 원
법제이사	최 휴 진
국제협력	박 춘 근
회원관리	박 윤 관
전산정보	백 광 흠
교과서편찬	장 호 열
역사편찬	오 성 훈
최초침습	조 용 은
경 추	윤 도 흠
말초신경	조 용 준
특별이사	김 상 진
	송 근 성
개 원 의	장 지 수
	장 일 태
	성 경 훈
상임이사 (서울-경인)	김 성 민
	이 상 구
상임이사 (대전-충청)	염 진 영
	하 호 균
상임이사 (호남)	이 승 명
	이 정 길
	은 종 필
상임이사 (대구-경북)	최 기 환
	강 동 기
상임이사 (부산-경남)	정 용 태
감 사	김 근 수
	심 찬 식

고 문	최 선 길
	김 현 집
	김 수 한
	서 중 근
	신 호
	박 형 천
	신 원 한
	김 상 진
회 장	임 승 철
부 회장	김 영 백
총무이사	윤 도 흠
보험이사	도 재 원
학술이사	정 천 기
재무이사	조 기 홍
전산정보	김 성 민
대외협력	성 주 경
법제이사	정 용 태
개 원 의	장 일 태
	고 도 일
특별이사	어 환
	박 춘 근
	이 승 명
최소침습	노 성 우
경 추	박 윤 관
척추변형	장 지 수
기초연구	김 공 년
학술지편집	이 상 구
교과서편찬	장 호 열
역사편찬	송 근 성
감 사	장 태 안
	윤 승 환

2009~2010	
명예회장	정 환 영 김 영 수

2010~2011	
명예회장	정 환 영 김 영 수

ORGANIZATION

고 문	최 선 길
	김 현 집
	김 수 한
	서 중 근
	신 호
	박 형 천
	신 원 한
	김 상 진
어 환	
회 장	김 영 백
부 회 장	윤 도 흠
총무이사	도 재 원
학술이사	박 윤 관
재무이사	성 주 경
보험이사	정 용 태
전산정보	김 성 민
대외협력	정 천 기
법제이사	조 기 홍
수련이사	이 승 명
회원관리	조 용 은
개 원 의	장 일 태
	박 춘 근
특별이사	박 춘 근
	임 승 철
경 추	김 근 수
최소침습	노 성 우
척추변형	장 지 수
기초연구	김 공 년
학술지편집	이 상 구
교과서편찬	장 호 열
역사편찬	송 근 성
감 사	김 은 상
	임 수 빈

고 문	윤 도 흠
	도 재 원
	최 선 길
	김 현 집
	김 수 한
	서 중 근
	신 호
	박 형 천
	신 원 한
	김 상 진
	어 환
박 춘 근	
임 승 철	
김 영 백	
회 장	윤 도 흠
부 회 장	도 재 원
총무이사	김 은 상
학술이사	노 성 우
재무이사	이 상 구
보험이사	김 성 민
전산정보	장 호 열
대외협력	신 현 철
법제이사	김 대 현
수련이사	이 승 명
회원관리	조 용 준
의료평가	진 동 규
개 원 의	박 춘 근
	고 도 일
특별이사	조 경 석
	성 주 경
	박 윤 관
	장 일 태
	조 용 은
송 근 성	
경 추	김 근 수
최소침습	김 은 상
척추변형	장 지 수
기초연구	김 공 년
학술지편집	김 세 훈

2011~2012

명예회장	정 환 영
	김 영 수

역대 회장단 및 상임 임원 1987~2020

교과서편찬	이 정 길
역사편찬	김 인 수
감 사	김 우 경
	조 정 기

2012~2013	
명예회장	정 환 영
	김 영 수
고 문	최 선 길
	김 현 집
	김 수 한
	서 중 근
고 문	신 호
	박 형 천
	신 원 한
	김 상 진
	어 환
	박 춘 근
	임 승 철
	김 영 백
윤 도 흠	
회 장	도 재 원
부 회 장	성 주 경
총무이사	김 성 민
학술이사	김 은 상
재무이사	이 상 구
보험이사	진 동 규
전산정보	이 정 길
수련이사	이 승 명
대외협력	신 현 철
법제이사	백 광 흠
의료평가	김 대 현

2013~2014	
명예회장	정 환 영
	김 영 수

고 문	최 선 길
	김 현 집
	김 수 한
	서 중 근
	신 호
	박 형 천
	신 원 한
	김 상 진
	어 환
	박 춘 근
	임 승 철
	김 영 백
윤 도 흠	
회 장	성 주 경
부 회 장	박 윤 관
총무이사	김 근 수
학술이사	김 인 수
재무이사	김 기 정
보험이사	진 동 규
전산정보	이 정 길
수련이사	이 승 명
대외협력	신 현 철
법제이사	백 광 흠
의료평가	장 웅 규

2014~2015	
명예회장	정 환 영
	김 영 수
고 문	최 선 길
	김 현 집
	김 수 한
	서 중 근
	신 호
	박 형 천
신 원 한	

ORGANIZATION

고 문	김 상 진
	어 환
	박 춘 근
	임 승 철
	김 영 백
	윤 도 흠
	도 재 원
전임회장	성 주 경
회 장	박 윤 관
부 회 장	정 천 기
총무이사	김 우 경
학술이사	김 금 년
재무이사	김 기 정
보험이사	진 동 규
전산정보	김 세 훈
수련이사	조 정 기
대외협력	윤 승 환

2015~2016

명예회장	정 환 영
	김 영 수
고 문	최 선 길
	김 현 집
	김 수 한
	서 중 근
	신 호
	박 형 천
	신 원 한
	김 상 진
	어 환
	박 춘 근
	임 승 철
	김 영 백
	윤 도 흠
	도 재 원
	전 회 장
직전회장	박 윤 관
회 장	정 천 기

부 회 장	조 용 은
총무이사	조 정 기
학술이사	이 정 길
재무이사	윤 승 환
보험이사	진 동 규
전산정보	문 승 명
수련이사	김 기 정

2016~2017

명예회장	김 영 수	
	최 선 길	
	김 현 집	
고 문	김 수 한	
	서 중 근	
	신 호	
	박 형 천	
	신 원 한	
고 문	김 상 진	
	어 환	
	박 춘 근	
	임 승 철	
	김 영 백	
전 회 장	윤 도 흠	
	도 재 원	
	성 주 경	
	정 천 기	
	회 장	조 용 은
	부 회 장	송 근 성
	총무이사	이 상 구
	학술이사	윤 승 환
	재무이사	장 재 칠
	보험이사	박 춘 근
	기획홍보	구 성 욱
	전산정보	문 승 명
	수련이사	김 기 정
	윤리이사	김 금 년
	대외협력	조 정 기
법제이사	손 문 준	

역대 회장단 및 상임 임원 1987~2020

의료장애평가	이 정 길
연구이사	김 주 한
회원관리	김 상 우
개 원 의	최 건
	고 도 일
특별이사	박윤관
	노성우
	김근수
	김성민
	김은상
	백광흠
	장태안
	장호열
	조용준
	이승명
	김세훈
	김우경
학술지편집	박승원
교과서편찬	임수빈
역사편찬	김대현
최소침습	이승명
경 추	김기정
척추변형	윤승환
기초연구	김인수
골다공증	이정길
척추종양	장웅규
감 사	하 윤
	류경식

2017~2018

명예회장	김영수
	최선길
	김현집

고 문	김수한
	서종근
	신 호
	박형천
	신원한
	김상진
	어 환
	박춘근
	임승철
	김영백
	윤도흠
	도재원
성주경	
박윤관	
정천기	
전 회 장	조용은
회 장	송근성
부 회 장	김은상
총무이사	윤승환
학술이사	김세훈
재무이사	구성욱
보험이사	고도일
기획홍보	김주한
전산정보	최병관
수련이사	장재철
윤리이사	은종필
대외협력	심홍보
법제이사	손문준
의료장애평가	문승명
연구이사	홍재택
회원관리	김상우
개 원 의	박춘근
	이운기
	박철웅

ORGANIZATION

특별이사	조용은
	김근수
	김성민
	장호열
	백광흠
	조용준
	이승명
	김우경
	이정길
	김공년
	박승원
	김인수
	이상구
	진동규
	조정기
김기정	
신현철	
학술지편집	하 윤
교과서편찬	임수빈
역사편찬	최우진
최소침습	최 건
경 추	김기정
척추변형	윤승환
기초연구	박승우
골다공증	조정기
척추종양	김성환
대구경북지회	김인수
호남지회	은종필
부산울산경남지회	박화성
대전충정지회	도재원
감 사	조도상
	류경식

2018~2019	
명예회장	김영수
	최선길
	김현집

고 문	김수한
	서충근
	신 호
	박형천
	신원한
	김상진
	어 환
	박춘근
	임승철
	김영백
	윤도흠
	도재원
	성주경
	박윤관
	정천기
조용은	
전 회 장	송근성
회 장	김은상
부 회 장	김근수
총무이사	김세훈
학술이사	김기정
재무이사	손문준
보험이사	박철웅
기획홍보	심홍보
전산정보	정제훈
수련이사	김주한
윤리이사	문승명
대외협력	홍재택
법제이사	최승원
의료장애평가	이진석
연구이사	신동아
회원관리	김상우
개 원 의	박춘근
	장일태
	정을수
	이운기
	박진규
고도일	

역대 회장단 및 상임 임원 1987~2020

개 원 의	조보영	학술지편집	하 윤
	이승명	교과서편찬	최병관
	최건	역사편찬	은종필
	김성민	최소침습	이상구
	김우경	경추	김기정
	김인수	척추변형	이정길
	조용준	척추기초	전상용
	이상구	척추다공증	조정기
	장태안	척추종양	김성환
	장호열	대구경북지회	최건
	백광흠	호남지회	이정길
	진동규	부산울산경남지회	송근성
	신현철	대전충청지회	도재원
	박승원	감사	김준수
	김대현		손동욱
	장웅규	총무간사	박정윤
	이정길	학술간사	이선호
	김공년		
	조정기		
	윤승환		
특 별 상임이사			

ORGANIZATION

2020~2021	
명예회장	김영수
	최선길
	김현집
	김수한
	신호
	신원한
	서중근
고문	박형천
	김상진
	어환
	박춘근
	임승철
	김영백
	윤도흠
	도재원
	성주경
	박윤관
	정천기
	조용은
	송근성
김은상	
전회장	김근수
회장	박승원
부회장	김인수
World Spine 9	
Congress Chairman	김근수
사무총장	윤승환
준비위원	김현성
SMISS-AP	
Congress Chairman	박승원
준비위원장	김진성
총무위원	이성
학술위원	배준석

상임이사	
총무	김주한
학술	홍재택
재무	김승범
보험	지구열
기획홍보	정제훈
전산정보	이선호
수련	최승원
윤리	조대철
대외협력	최우진
법제	주창일
의료 장애 평가	조용재
연구	한인보
회원관리	김영진
개원의	박춘근
	박진규
	고도일
	최은석
	최건
	김정목

현 임원 명단

특 별 상임이사	이 승 명	학술지편집	하 윤
	김 성 민	교과서편찬	최 병 관
	김 우 경	역사편찬	심 홍 보
	조 용 준	최소침습	김 대 현
	이 상 구	경 추	김 세 훈
	장 호 열	척추변형	이 정 길
	백 광 흠	척추기초	구 성 욱
	진 동 규	골다공증	윤 승 환
	신 현 철	척추종양	손 문 준
	김 대 현	대구경북지회	정 을 수
	장 웅 규	호남지회	이 정 길
	이 정 길	부산울산경남지회	송 근 성
	김 금 년	대전충청지회	염 진 영
	조 정 기	감 사	심 재 준
	김 기 정		김 치 헌
	김 세 훈		
	손 문 준		
	이 진 석		
	장 재 철		
	박 철 웅		

WELCOME MESSAGE



International Joint Meeting of KSNS and WSCS

Local Organizing Committee of World Spine 2021

Dear Ladies & Gentlemen

the 2021 international Joint Meeting of KSNS & WSCS, the 1st Annual SMISS-AP Meeting will be held virtually on September, this year. On the behalf of organizing committee of International Joint Meeting of KSNS and WSCS, it is such an honor to invite you to this international spine meeting.

Last year, World Spine 9 (WS9) was expected to be held in Seoul, Korea. Unfortunately the situation was not favorable due to COVID-19. WS committee and KSNS agreed to have virtual meeting this year first and to have WS9 next year in Seoul. Even in virtual space, this year's meeting could be a real place to present the excellent clinical experiences and research results of many spine surgeons from all over the world. Providing wide academic exchanges and rich educational opportunities are correspond with the WSCS's mission to advance spine care worldwide by connecting spine surgeons in advanced and emerging nations through high quality education, training and collaborative activities.

We are going to invite many outstanding key speakers from all over the world. All invited key speakers are excellent spine surgeons in specific surgical fields. We sincerely welcome many spine surgeons including spine fellows and residents. Through the 2021 international Joint Meeting of KSNS & WSCS, the 1st Annual SMISS-AP Meeting, we hope not only to exchange the best academic knowledge, but also to share strong friendships.

We are looking forward to seeing you virtually this year and meeting you in WS9 next year in Seoul.

Keun Su Kim

Keun Su Kim, M.D., Ph.D.

Chairman of local organizing committee of International Joint Meeting of KSNS and WSCS
Past President of Korean Spinal Neurosurgery Society

WELCOME MESSAGE



International Joint Meeting of KSNS and WSCS

World Spinal Column Society (WScS)

Dear Friends

On behalf of the World Spinal Column Society, it is my pleasure to welcome all of you to The 2021 international Joint Meeting of KSNS & WSCS, the 1st Annual SMISS-AP Meeting.

Despite the numerous, unprecedented challenges this pandemic brought with it, healthcare providers around the world have persevered in their quest for knowledge and growth through virtual meetings such as these. Thanks to a collective effort, the learning has never stopped and we have been able to stay abreast of and share with one another, the constant advances and changes in spinal surgery over time. The 2021 international Joint Meeting of KSNS & WSCS, The 1st Annual SMISS-AP Meeting will highlight some of those accomplishments to date and give us a glimpse into where we hope to see spine surgery a decade from today.

I would like to express my thanks to the Korean Spinal Neurosurgery Society [KSNS] and their President Keun Su Kim, for hosting this event. It has been a pleasure collaborating with you to make this meeting possible.

With regards

Salman Sharif, F.R.C.S. (SN)

President of the World Spinal Column Society
Co Chair Spine Committee WFNS

WELCOME MESSAGE



International Joint Meeting of KSNS and WSCS

Korean Spinal Neurosurgical Society (KSNS)

Dear members of WSCS and KSNS,

I am writing here humbled by the works we have to do for the successful 'The 2021 international Joint Meeting of KSNS & WSCS, the 1st Annual SMISS-AP Meeting ' and grateful for the outstanding dedication and professionalism of the executive members of WSCS and KSNS. I also thank the president of WSCS, Professor Salman Sharif, and his colleagues for the efforts, generosity, and cooperation they have shown throughout the preparation process.

Our 35-year-old KSNS experienced the worst historical crisis during the last two years. However, this was also an opportunity to see how our collective intelligence and cooperative spirit can overcome the problem. Although we had to postpone the World Spine 9 meeting last year, the WSCS agreed to have a joint online conference with KSNS this year, hoping the World Spine conference to be held face-to-face in Korea as soon as the pandemic situation is solved. We prepared special sessions for WSCS, which will convince all of you to estimate the sophisticated level of academic and educational programs of the World Spine conference. One of the great ideas of WSCS is that they always pay thoughtful consideration to the participants from less affluent countries. Inspired by their noble ideal, our committee decided that all the foreign participants pay the least amount of cost as a registration fee. And we will refund it according to their participation.

The 2021 international Joint Meeting of KSNS & WSCS, the 1st Annual SMISS-AP Meeting, will use English as the official language. All the members can participate in programs of KSNS and WSCS without any language problem. Fortunately, we also got a chance to host the 1st SMISS AP online conference during the joint meeting. Please attend our meeting and enjoy the natural diversity of spine surgery from all over the world.

We wish for the health and prosperity of all the participants.

We are looking forward to seeing you virtually this year and meeting you in WS9 next year in Seoul.

Seung Won Park, M.D., PhD

President of KSNS
Department of Neurosurgery, Spine Center Chung-Ang University Hospital, Seoul, Korea

WELCOME MESSAGE



SMISS-AP

Society for Minimally Invasive Spine Surgery (SMISS)

Dear Colleagues,

It is with great pride that we invite you to the first annual SMISS Asia/Pacific Meeting, which will be held virtually September 29-October 1, 2021, in conjunction with the Korean Spinal Neurological Society Meeting. Such collaborations offer the optimal in exchange of ideas as we learn from colleagues from around the world.

Like you, my interactions with other thought leaders inspires me, and I always come away from these meetings having learned some pearls of wisdom which can help my surgical techniques and enhance patient care. With scheduled participants from Australia, China, India, Japan, Korea and Hong Kong, among others in the region, this SMISS Asia/Pacific Meeting is certain to provide both the highest education and a fantastic opportunity for dialogue and professional growth.

I hope you'll join us this fall for our inaugural meeting. I expect that this meeting will be a rewarding experience for all those who choose to attend. As always, SMISS values your ongoing support!

Sincerely,

Jean-Pierre Mobasser, M.D.

President of the Society for Minimally Invasive Spine Surgery (SMISS)

WELCOME MESSAGE



SMISS-AP

Welcome Message from SMISS AP Section

It is our great honor and privilege to welcome you for the memorial 2021 international Joint Meeting of KSNS & WSCS, the 1st Annual SMISS-AP Meeting on September 29- October 2 in 2021. We would like to cordially invite you on behalf of the organizing committee.

The 2021 educational course of SMISS-AP will be proudly held in conjunction with Korean Spinal Neurosurgical Society (KSNS) annual meeting.

The SMISS is well-known as a world-leader of minimally invasive spine surgery including several innovative surgical technologies and related basic research. SMISS-AP was established as the first international section of SMISS in November, 2019 at the annual meeting of SMISS in Las Vegas. The mission of SMISS AP is to expand the opportunities for research and education in the field of minimally invasive spine surgery all over the Asia-Pacific area, thereby enhancing the patient care in the world-wide. The SMISS-AP will be annually held in all Asia-Pacific area with active academic communication each other.

This memorial 1st SMISS AP meeting with KSNS will include the memorial invitational lecture from world-wide, many keynote lectures and symposiums by well-known speakers from the world, and several general sessions and e-poster sessions. We firmly believe the meeting will provide the great opportunities for participants to promote a better patient care and surgical education.

We greatly appreciate all collaborative organizing committee members in KSNS and SMISS AP for the upcoming great success of congress, and look forward to seeing you in this virtual memorial meeting soon.

Yoshihisa Kotani, M.D.

Professor, Dept. of Orthopaedic Surgery, Spine and Nerve Center
Kansai Medical University Medical Center

COMMITTEE

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In-Soo Kim	Korea
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2021 International
Joint Meeting of KSNS & WSCS,
The 1st Annual SMISS-AP Meeting

Connecting to Spine World




PROGRAM AT A GLANCE

Day 1. (Sep 29, Wed)

Time	SMISS-AP	
	Room C	Room D
11:00-12:00	Luncheon Symposium 	Registration
12:00-12:35	Session 1A Keynote Lectures	Session 1B Keynote Lectures
12:35-13:00	Session 2A Best Paper Awards	Session 2B Best Paper Awards
13:00-14:00	Session 3A Recent Advances of MIS Option for Adult Spinal Deformity	Session 3B Present Status of Endoscopic Spine Surgery and Future Perspective (I)
14:00-14:30	Tech Presentation	Tech Presentation
14:30-15:00	Session 4A Free Paper (Deformity)	Session 4B Free Paper (Endoscopy I)

PROGRAM AT A GLANCE

Day 2. (Sep 30, Thu)





Time	KSNS & WSCS	
	Room A	Room B
08:00-09:00	Registration	
09:00-09:20	Opening Remarks	
	Welcome Address and Presidential Address	
09:20-11:00	Main Topic A-1 Complex Cervical Spine Surgery	Main Topic B-1 The Current and Future Perspective of Intervertebral Disc Regeneration
11:00-11:30	Coffee Break & Poster View	
11:30-12:30	Plenary Session I	
12:30-13:30	Luncheon Symposium A-1  DONG-A ST	Luncheon Symposium B-1 DAEWON
13:30-15:00	Award Session for Young Spine Surgeon Under 40 Years Old	
15:00-15:20	Coffee Break & Poster View	
15:20~17:00	Main Topic Session A-2 Surgical Strategy for Osteoporotic Spine	Main Topic Session B-2 (WSCS) Perspectives of MISS
17:00~17:30	Invited Lecture	

PROGRAM AT A GLANCE

Time	SMISS-AP	
	Room C	Room D
08:00-12:00		
12:00-13:15	<p>Session 5A</p> <p>Emerging Techniques: Progress of Robotic, Navigation Surgery and AR/MR and AI</p>	<p>Session 5B</p> <p>Advanced MIS Option for Degenerative Spine</p>
13:15-13:30	Tech Presentation	Tech Presentation
13:30~14:15	<p>Session 6A</p> <p>Free Paper (Emerging Techniques: Progress of Robotic, Navigation Surgery and AR/MR and AI)</p>	<p>Session 6B</p> <p>Controversy of Lumbosacral Fusion</p>
14:15~15:15	<p>Session 7A</p> <p>Recent Advance of Tumor, Trauma and Biologics</p>	
15:15~15:40		<p>Session 7B</p> <p>Free Paper (Degenerative Disease)</p>

PROGRAM AT A GLANCE

Day 3. (Oct 1, Fri)





Time	KSNS & WSCS	
	Room A	Room B
08:00-09:00	Breakfast symposium A-1 	Breakfast symposium B-1 
09:00~10:00	Free Paper Session A-1	Free Paper Session B-1
10:00~11:40	Main Topic Session A-3: The Current and Future Perspective of Spine Surgery	Main Topic Session B-3: Spine and Spinal Cord Tumor
11:40~12:00	Coffee Break	
12:00~13:00	Luncheon Symposium A-2 	Luncheon Symposium B-2 
13:00~14:30	Free Paper Session A-2	Free Paper Session B-2
14:30~16:10	Plenary Session II Cervical Spine Deformity	Plenary Session III Spinal Cord Injury
16:10~16:30	Coffee Break & Poster View	
16:30~18:00	Free Paper Session A-3	Free Paper Session B-3

PROGRAM AT A GLANCE

Time	SMISS-AP	
	Room C	Room D
08:00~12:00		
12:00~13:30	Session 9A Recent Advances in Lateral and Anterior Approach	Session 9B Free Paper Session
13:30~14:00	Session 10A Free Paper (Lateral and Anterior Approach)	Rapid Fire presentations I
13:30~14:00	Session 11A Present Status of Endoscopic Spine Surgery and Future Perspective (II)	Rapid Fire presentations II
14:50~18:00		

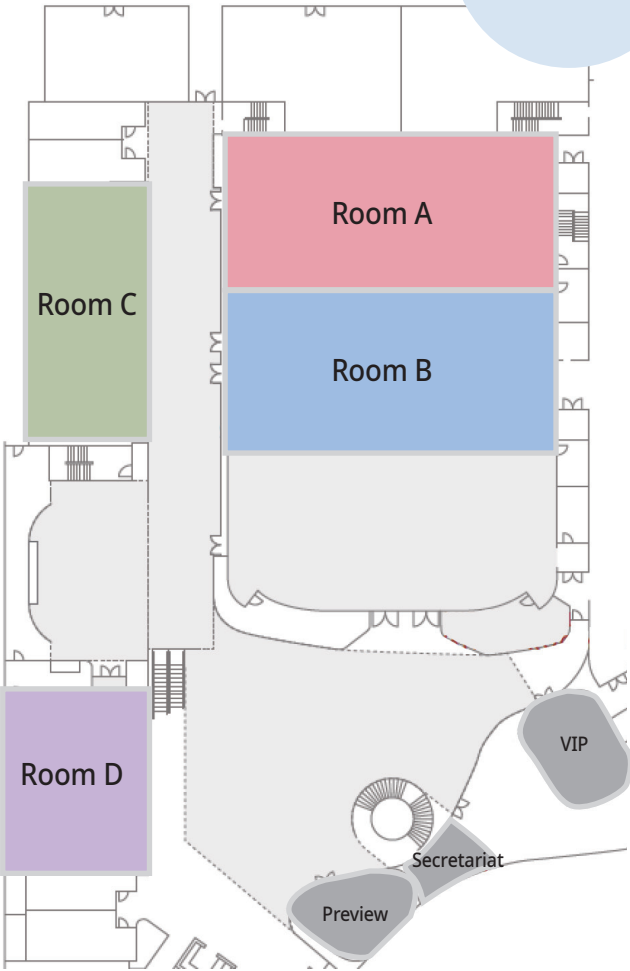
PROGRAM AT A GLANCE

Day 4. (Oct 2, Sat)

Time	KSNS & WSCS		
	Room A	Room B	Room C
08:00-09:00	Breakfast Symposium Medtronic	Breakfast Symposium 	Breakfast Symposium 
09:00-10:00	Free Paper Session A-4	Free Paper Session B-4	Plenary Session V (Revision Surgery for Adult Spinal Deformity: How to Manage)
10:00-12:05	Plenary Session IV (The Current and Future Perspective of Artificial Intelligence in Spine Surgery)	COVID-19 and Spine Surgery	
12:05-13:00	Luncheon Symposium A-3 Medtronic	Luncheon Symposium B-3 	Luncheon Symposium C-3 
13:00-14:40	Main Topic Session A-5 (WSCS) (Cervical Spine)	Award Presentation	Award Presentation
14:40-16:20	Main Topic Session A-6 (Surgical Nuance; Robot, Navigation, IOM)	Main Topic B-4 How to Evaluate and Manage Adult Apinal Deformity	
16:20-16:40	Coffee Break & Poster View		
16:40-17:40	Free Paper Session A-5	Free Paper Session B-5	
17:40-18:00	KSNS General Assembly		
18:00-18:20	Closing Ceremony and Awards		

FLOOR PLAN

B2F



CONFERENCE INFORMATION

EVENT #1

e-Gift Card

Attend the Satellite Symposium and get an e-Gift Card!

Event Period September 30 (Thu) ~ October 2 (Sat), 2021

Eligibility Participants must watch a minimum of 3 hours of lecture daily to be eligible.



50 Korean participants will be randomly selected and given a 10,000 won Starbucks e-Gift card.



All eligible Foreign participants will receive a \$10 USD Amazon e-Gift card.

EVENT #1

E-Booth Stamp Tour

* Only Domestic Registrants

Event Period September 30 (Thu) ~ October 2 (Sat), 2021

Eligibility 1. Participants must visit more than 10 booths, gold level or higher.
2. Participants must visit all Diamond and Platinum booths.



September 30 (Thu)
10 Participants.



October 01 (Fri)
10 Participants.



October 02 (Sat)
10 Participants.

50,000 won Shinsegae Department Store gift certificate will be given to 10 randomly selected E-Booth Tour Participants per day for 3 days.



September 30 (Thu) to October 02 (Sat), 2021
5 Participants: Galaxy Watch 4 Bluetooth 40mm

*All E-Booth Tour Participants during the 3 day event will be eligible and randomly selected.

CONFERENCE INFORMATION

대한의사협회 평점안내

Sep. 30	Sep. 31	OCT. 1	OCT. 2
2점	6점	6점	6점

대한의사협회 부분평점 인정 기준

체류시간	평점인정
1시간 미만	평점 인정 불가
1시간 이상 ~ 2시간 미만	1평점
2시간 이상 ~ 3시간 미만	2평점
3시간 이상 ~ 4시간 미만	3평점
4시간 이상 ~ 5시간 미만	4평점
필수평점	1평점
ex) 1시간 40분 : 1평점만 인정 (2평점 인정 불가)	

ONLINE GUIDELINE

Access Info


Enter online conference at

<http://medbox.kr/worldspine2021/>


Login is available 30 min before the beginning of 1st session on September 29(WED), from 10:30 am during the conference date(9/29~10/2) only

Login Info



Pre-registration E-mail

- Only one account per person is allowed
- You MUST “Log out” in order to re-login later.
- Best compatible browser is Chrome . (Highly Recommended).
- Conference is accessible with Microsoft Edge browser also.
- Please note Internet Explorer is NOT compatible.
(viewing all contents may be limited)
- Mobile access by result in unstable connection.

Available for all Registrants

- You may ask questions directly to the speaker during the LIVE presentation using  button
- E-Poster Exhibition
- Program Book download

Notice

1. Firewall and network security condition
 - Please check your network security and firewall condition before the congress.
 2. Do NOT use “back” arrow button to navigate to previous page.
 3. You can check your session time stamp with  button
- ** You MUST  in order to re-login later.

ORAL & POSTER AWARDS

A benefit below will be presented to accepted abstract applicant



Best Oral Abstract Awardees
50 USD



Best Poster Poster Abstract Awardees
30 USD

All presenters and posters will be presented and displayed on the Virtual Website.

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PROGRAM

KEY SPEAKERS

INVITED SPEAKERS

DAILY PROGRAM

WORLD SPINE KEY SPEAKERS



ROOM A

Main Topic Session A-1 (SEP. 30th 09:45-10:10)
Surgical Treatment of Cervical and Cervicothoracic Deformity

Plenary Session IV (OCT. 2st 10:00-10:25)
The Future of AI and Machine Learning in Spine Surgery

Christopher P Ames
UCSF Spine Center (USA)

ROOM A

Main Topic Session A-1 (SEP. 30th 10:10-10:35)
Surgical Strategy and Complication Management during
the Anterior Surgery for Cervical OPLL



Feng Zeng Jian
Beijing Capital Medical University (China)

ROOM A

Main Topic Session A-1 (SEP. 30th 10:35-11:00)
Revision Cervical Spine Surgery



Howard S An
Rush Medical College, Chicago (USA)

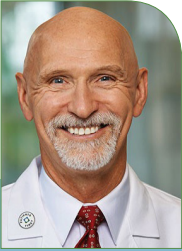
ROOM B

Main Topic Session B-1 (SEP, 30th 10:35-11:00)
Challenges to Applying Disc Cell Research to Spine
Clinic: What More Do We Need to Know?



James Kang
Brigham and Women's Hospital (USA)

WORLD SPINE KEY SPEAKERS



ROOM A

Plenary Session I (SEP. 30th 11:30-11:50)

Cervical Spondylotic Myelopathy and Deformity:
My Journey

Edward Benzel

Cleveland Clinic Foundation Spine Research Laboratory (USA)

ROOM A

Plenary Session I (SEP. 30th 11:50-12:10)

History and Contribution to Spine Surgery of KSNS

Keun Su Kim

Yonsei University (Korea)



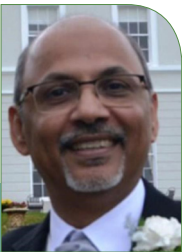
ROOM A

Plenary Session I (SEP, 30th 12:10-12:30)

Prognostic Factors in SCI Recovery

Salman Shariff

Liaquat National Hospital & Medical College, Karachi (Pakistan)



ROOM A

Invited Lecture (SEP. 30th 17:00-17:30)

Learning From Each Other, Building up Together

Bong-Soon Chang

Seoul National University (Korea)



WORLD SPINE KEY SPEAKERS



ROOM A

Main Topic Session A-3 (OCT. 1st 10:00~10:25)
Augmented Reality Surgical Guidance in Minimally
Invasive Spine Surgery

Frank Philips
Rush University Medical Center (USA)

ROOM A

Main Topic Session A-3 (OCT. 1st 10:25-10:50)
Recent Advancement of MIS Lateral Lumbar Interbody
Fusion Surgery in Korea

Seung Won Park
Chung-Ang University (Korea)



ROOM A

Main Topic Session A-3 (OCT. 1st 10:50-11:15)
Minimal Invasive Surgery for Adult Spinal Deformity

Michael Wang
University of Miami School of Medicine Miami, FL (USA)

ROOM A

Main Topic Session A-3 (OCT. 1st 11:15-11:40)
Image-Guided Navigation and Robotics in Spine Surgery

Kee Kim
UC Davis, Sacramento, CA (USA)



WORLD SPINE KEY SPEAKERS



ROOM B

Main Topic Session B-3 (OCT. 1st 10:50-11:15)
Management of Intramedullary Tumor

Fan Tao

Capital Medical University (China)

ROOM B

Main Topic Session B-3 (OCT. 1st 11:15-11:40)
Surgical Treatment of Spinal Cord Tumor around CVJ



Chun Kee Chung

Seoul National University (Korea)

ROOM A

Plenary Session II (OCT 1st 14:30-14:55)
Evaluation of Cervical Spine Alignment



ROOM B

Main Topic Session B-4 (OCT 2nd 14:40-15:05)
Effect of Aging on Sagittal Balance and Spinal Alignment

Jean C Le Huc

Bordeaux University Hospital, Spine Surgery, Bordeaux (France)

ROOM B

Main Topic Session B-4 (OCT 2nd 15:05-15:30)
GAP Score Evaluation to Prevent Mechanical Complication



Caglar Yilgor

Acibadem Maslak Hospital (Turkey)

WORLD SPINE **KEY SPEAKERS**



ROOM B

Plenary Session III (OCT, 1st 14:30-14:55)
Spinal Cord Perfusion Pressure (SCPP) Treatment

Brian K Kwon

UBC Department of Orthopaedic (Canada)

ROOM B

Plenary Session V (OCT. 2nd 10:45-11:10)
Rod Fracture and Pseudoarthrosis

Justin S Smith

General Neurological Surgery Appointment (USA)



ROOM B

Plenary Session V (OCT. 2nd 11:35-12:00)
Progression of Sagittal/Coronal Imbalance

Dean Chou

University of California, San Francisco, California (USA)

ROOM A

Main Topic Session A-5 (OCT. 2nd 15:05-15:30)
Innovative Techniques in Spinal Surgery

Jeffrey S. Roh

Swedish Neuroscience Institute Seattle, WA (USA)



WORLD SPINE KEY SPEAKERS



ROOM A

Plenary Session II (OCT. 1st 15:20-15:45)

Cervical Spine Deformity - How to Prevent Complications

Heiko Koller

Technical University of Munich in Germany (Germany)

ROOM A

Plenary Session II (OCT. 1st 15:45-16:10)

Craniocervical Realignment for CVJ Deformity



Atul Goel

Lilavati Hospital & Research Center (India)



ROOM B

Main Topic Session B-3 (OCT. 1st 10:00-10:25)

Philosophy of Surgery in Primary Spine Tumors

Ehud Mendel

Ohio State University Wexner Medical Center (USA)

WORLD SPINE INVITED SPEAKERS



ROOM A

Main Topic Session A-5 (OCT. 2nd 13:20-13:40)
Tailored Surgical Approach in Cervical Spondylotic
Myelopathy

Sait Naderi

Brain, spinal cord and nerve surgery Marmara University (Turkey)

ROOM B

Main Topic Session B-2(WSCS) (SEP. 30th 15:40-16:00)
Is TLIF the Best Minimally Invasive
Lumbar Fusion Technique?



Paulo Periera

Medicine University of Porto (Portugal)



ROOM B

Main Topic Session B-2(WSCS) (SEP. 30th 16:00-16:20)
Minimally Invasive Sacral and Sacroiliac Fixation

Abdelfattah Saoud

Spine Surgery Ain Shams University (Egypt)

ROOM B

Main Topic Session B-2(WSCS) (SEP. 30th 16:20-16:40)
Radiation protection in MISS Surgery



Nikolay Peev

Kingsbridge Private Hospital (UK)

WORLD SPINE INVITED SPEAKERS



ROOM A

Main Topic Session A-5(WSCS) (OCT. 2nd 13:00-13:20)
Cervical spondylotic myelopathy:
WFNS Recommendations

Mehmet Zileli

Ege University, Medical Faculty, Izmir (Turkey)

ROOM B

Main Topic Session B-2(WSCS) (SEP. 30th 15:20-15:40)
Endoscope in Cervical Spine Surgery



Joachim Oertel

Saarland University Hospital (Germany)

ROOM A

Main Topic Session A-5 (OCT. 2nd 13:40 -14:00)
Cervical spondylotic myelopathy:
OPLL - Time for a Rethink

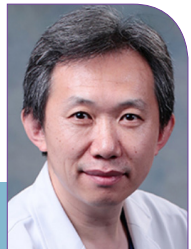


Atul Goel

Lilavati Hospital and Research Centre (India)

ROOM A

Main Topic Session A-5(WSCS) (OCT. 2st 14:00-14:20)
Treatment of Cervical OPLL with the Technique of ACAF



Zan Chen

Xuanwu Hospital, Capital Medical University (China)

SMISS-AP KEY SPEAKERS



Yoshihisa Kotani

Kansai Medical University Medical Center
Japan



William Taylor

UCSD Neurosurgery San Diego, CA
USA



Juan Uribe

Sonntag Chair of Spine Research,
Barrow Neurological Institute
USA



Kevin Foley

University of Tennessee Memphis, TN
USA

SMISS-AP KEY SPEAKERS



Neel Anand

Cedars-Sinai Medical Center, LA
USA



Jean-Pierre Mobasser

Goodman Campbell Brain and Spine, IN
USA



Ronald A. Lehman, Jr.

The Daniel and Jane Och Spine Hospital
NewYork-Presbyterian/The Allen Hospital, NY
USA



David W. Polly JR

University of Minnesota, MN
USA

SMISS-AP INVITED SPEAKERS



Choll Kim

Minimally Invasive Spine Center of Excellence
San Diego CA
USA



Per Trobisch

Chefarzt Spine Surgery Simmerath-Aachen
Germany



Yong Hai

Beijing Chaoyang Hospital, Capital Medical University
China



John Choi

Spine Ortho Clinic
Australia

SMISS-AP INVITED SPEAKERS



Yu Liang
JianTong University
China



Arvind Kulkarni
Bombay Hospital, Mumbai
India




Ken Ishii
International University of Health and Welfare
(IUHW), Chiba
Japan



Raymond Yip
Spine Care HongKong
HongKong

Sep. 29 (Wed), 2021

Room C

11:00-12:00 **Luncheon Symposium C-1:**  SK chemicals

[Seung Won Park](#) Chung-Ang University

11:00-12:00 **Importance of differential diagnosis of NeP component among LBP patients and its right treatment**

[Dae-Chul Cho](#) Kyungpook National University

12:00-12:35 **Session 1: Keynote Lectures**

12:00-12:05 **Welcome**

[Seung Won Park](#) Korea

12:05-12:15 **Introducing SMISS_AP**

[Yoshihisa Kotani](#) Japan

12:15-12:25 **History of SMISS and then discuss future directions for MIS Surgery**

[William Taylor](#) USA(San Diego)

12:25-12:35 **The future of SMISS-AP and Introduction of scientific committees**

[Jin-Sung Kim](#) Korea

12:35-13:05 **Session 2: Best Paper Competition**

[Yoshihisa Kotani](#) Japan

[Seung Won Park](#) Korea

12:35-12:41 **Comparative analysis of i-Factor, Bone Morphogenic Protein and Demineralized Bone Matrix in instrumented anterior or lateral lumbar interbody fusion**

[Ashwin Sathe](#), [Shin Jae Kim](#), [Sang Ho Lee](#),
[Yoon Sun Lee](#), [Young Soo Choi](#), [Sang-Soo Eun](#),
[Young Shik Bae](#), [Sang-Ha Shin](#), [Junseok Bae](#)

12:41-12:47 **Clinical and radiological evaluation of cage subsidence following oblique lumbar interbody fusion: a large cohort, single-centre retrospective review**

[lin Run](#), [Zeng Jiancheng](#)

Day 1

Room C

- 12:47-12:53 **Occupational direct radiation exposure to the hands with longitudinal melanonychia and hand eczema in spine surgeons: A survey by the Society for Minimally Invasive Spinal Treatment in Japan**
[Yasukazu Hijikata](#), Akinobu Suzuki, Haruki Funao, Masayuki Miyagi, Tadatsugu Morimoto, Haruo Kanno, Yoshihisa Kotani, Ken Ishii
- 12:53-12:59 **Percutaneous pedicle screws minimize the risk of proximal junctional kyphosis after adult spinal deformity correction surgery**
[Tomohisa Harada](#), Sei Terayama, Yasuo Ohori, Satoshi Makio
- 13:59-13:05 **Is Preoperative Resolution of Leg Pain at Rest a Predictor for Successful Indirect Decompression in Anterior and Lateral Lumbar Interbody Fusion?**
[Robert Ames](#), Courtney Moltzen, Ryan Hoe, I Bahar Shahidi, Tina Iannaccone, Hani Malone, Michael Jelousi, Akbarnia Behrooz, Robert Eastlak, Gregory Mundis
- 13:05-14:20 **Session 3A:
Recent Advances of MIS Option for Spinal Deformity**
[Yong Hai](#) China
[Wenjian Wu](#) China
- 13:05-13:20 **Development of circumferential minimally invasive surgery for adult spinal deformity**
[Neel Anand](#) USA(LA)
- 13:20-13:35 **Circumferential minimally invasive spine surgery for adult spinal deformity**
[Seung Won Park](#) Korea
- 13:35-13:50 **The surgical planning and role of short-segment MIS fusion for adult spinal deformity**
[Yu Liang](#) China(Shanghai)

Sep. 29 (Wed), 2021

Sep. 30 (Thu), 2021

Oct. 1 (Fri), 2021

OCT. 2(Sat), 2021

Sep. 29 (Wed), 2021

Room C

- 13:50-14:05 **Journey of my MIS deformity**
[Takanori Saito](#) Japan
- 14:05-14:20 **Veterbral body tethering for idiopathic scoliosis**
[Per Trobisch](#) Germany
- 14:20-14:30 **Tech Presentation**
- Cerapedics (ifactor)**
[Choll Kim](#) USA(Sandiego)
- 14:30-15:00 **Session 4A: Free Paper(Deformity)**
[Philip Cheung](#) Hong Kong
[Niraj B Vasavada](#) India
- 14:30-14:34 **MINIMALLY INVASIVE OBLIQUE LUMBAR INTERBODY FUSION (MIS-OLIF) FOR DEGENERATIVE LUMBAR DEFORMITY CORRECTION: IS IT WORTH IT?**
[Ayush Sharma](#)
- 14:34-14:38 **Bone fusion process in cMIS using LIF and PPS for adult spinal deformity**
[Masayuk ilshihara](#), [Shinichirou Taniguchi](#),
[Masaaki Paku](#), [Yoichi Tani](#), [Takashi Adachi](#),
[Muneharu Ando](#), [Takanori Saito](#)
- 14:38-14:42 **Augmented Reality Navigation for minimal invasive thoracolumbar pedicle screw placement**
[Pietro Scarone](#), [Sara Bonasia](#),
[Dominique Kuhlen](#), [Thomas Robert](#)
- 14:42-14:46 **The effect of the Pedicle Screw Trajectory on Screw loosening in Lumbar Spine and Its Mechanism**
[Seong-hyun Wui](#), [Seung Won Park](#), [Myeong Jin Ko](#)
- 14:46-14:56 Discussion
- 14:56-15:06 Best Paper Award & Adjourn

Day 1

Room D

12:00-12:35 **Session 1: Keynote Lectures**

Concurrent session with Room C

12:35-13:05 **Session 2: Best Paper Competition**

Concurrent session with Room C

13:05-14:05 **Session 3B: Present Status of Endoscopic Spine Surgery and Future Perspective (I)**

Raymond Yip Hong Kong

13:05-13:20 **Expanded indication of full endoscopic spine surgery**

Sang-Ha Shin Korea

13:20-13:35 **Microendoscopic decompression of spinal stenosis -indication and technique**

Yukihiro Nakagawa Japan

13:35-13:50 **Endoscopic spinal surgery in the thoracic spine: tips and pearls**

Junseok Bae Korea

13:50-14:05 **Expansion my clinic with endoscopic decompression**

Gun Keorochana Thailand

14:05-14:30 **Tech Presentation**14:05-14:30 **Joimax APAC**

Jian Shen USA(New York)

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Room D

- 14:30-15:00 **Session 4B: Free Paper(Endoscopy I)**
[Gun Keorochana](#) Thailand
[Jiancheng Zeng](#) China
- 14:30-14:34 **Comparative RCT study between endoscopic and open decompression for degenerative lumbar spinal stenosis : Preliminary outcomes in 38 patients with 6-months follow-up**
[Junghoon Kim](#), Youngjin Kim, Woojung Lim, Kyeongsik Ryu, Jinsung Kim
- 14:34-14:38 **The preliminary results of RCT btw Full-endoscopic lumbar discectomy and microdiscectomy at L5S1**
[Youngjin Kim](#), Junghoon Kim, Woojung Lim, Kyeongsik Ryu, Jinsung Kim
- 14:38-14:42 **Full-endoscopic versus microscopic unilateral laminotomy for bilateral decompression for lumbar spinal stenosis at L4-L5: A Matched-Pair Comparison Analysis**
[Kuo-Tai Chen](#), Kyung-Chul Choi, Hyeong-Ki Shim, Dong-Chan Lee, Jin-Sung Kim
- 14:42-14:46 **Comparison study of multifidus muscle changes between microdiscectomy and full-endoscopic interlaminar discectomy**
[Changik Lee](#), Woojung Lim, Min-Gi Lee, Jin-Sung Kim
- 14:46-14:56 Discussion
- 14:56-15:06 Best Paper Award & Adjourn

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Day 2

Room A

- 08:00-09:00 Registration
- 09:00-09:05 **Opening Remarks**
Jae Taek Hong Catholic University
- 09:05-09:10 **Welcome Address**
Keun Su Kim
Chairman of local organizing committee of International Joint Meeting of KSNS & WSCS
- 09:10-09:15 **Congratulatory Address**
Woo-Kyung Kim
President of the Korean Neurosurgical Society
- 09:15-09:20 **Presidential Address**
Seung Won Park
President of the Korean Spinal Neurosurgery Society
- 09:20-11:00 **Main Topic Session A-1: Complex Cervical Spine Surgery**
Hyun Chul Shin Sungkyunkwan University
Sang Woo Kim Yeungnam University
- 09:20-09:45 **Anterior cervical reconstruction for various pathology**
Soo Bin Im Soonchunhyang University
- 09:45-10:10 **Surgical Treatment of Cervical and Cervicothoracic Deformity**
Christopher P Ames Yonsei University
- 10:10-10:35 **Surgical Strategy and Complication Management during the Anterior Surgery for Cervical OPLL**
Feng Zeng Jian Beijing Capital Medical University
- 10:35-11:00 **Revision Cervical Spine Surgery**
Howard S An Rush Medical College, Chicago
- 11:00-11:30 Coffee Break & Poster View

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Room A

- 11:30-12:30 **Plenary Session I**
Woo-Kyung Kim Gachon University
- 11:30-11:50 **Cervical Spondylotic Myelopathy and Deformity:
My Journey**
Edward Benzel
Cleveland Clinic Foundation Spine Research Laboratory
- 11:50-12:10 **History and Contribution to Spine Surgery of KSNS**
Keun Su Kim Yonsei University
- 12:10-12:30 **Prognostic Factors in SCI Recovery**
Salman Shariff
Liaquat National Hospital & Medical College, Karachi
- 12:30-13:30 **Luncheon Symposium A-1: 🇲🇵 DONG-A ST**
Jung Kil Lee Chonnam University
- 12:30-13:00 **Non-surgical Treatment for Lumbar Spinal Stenosis:
Based on evidence**
Jeong-Yoon Park Yonsei University
- 13:30-15:00 **Award Session for Young Spine Surgeon Under 40
Years Old**
Ki-Jeong Kim
Seoul National University Bundang Hospital
Jin Seok Yi
Catholic University of Korea, Daejeon St. Mary's Hospital
- 13:30-13:39 **Reduction of Radiation Exposure by Modifying
Imaging Manner and Fluoroscopic Settings during
Percutaneous Pedicle Screw Insertion**
Hyunjun Kim Wooridul Spine Hospital
- 13:39-13:48 **Clinically Applicable Deep Learning to Enhance
Diagnosing Lumbar Central Stenosis in Plain
Radiographs**
Chang-Hyun Lee Seoul National University

Day 2

Room A

- 13:48-13:57 **The last touched vertebra on supine radiographs can be the optimal lower instrumented vertebra in adolescent idiopathic scoliosis patients**
Do-Hyoung Kim Seoul National University
- 13:57-14:06 **A novel approach to cervical alignment: From the top to the bottom**
Jae-Koo Lee Seoul National University
- 14:06-14:15 **The microbiological results of 165 microsurgical open biopsy and significance of culture media to identify causative bacteria.**
Kyung Joon Kim Pusan National University
- 14:15-14:24 **A new attempt to assess therapeutic response in pyogenic vertebral osteomyelitis using 18F-FDG PET and deep learning model**
JAEHO LEE Yeungnam University
- 14:24-14:33 **Thoracolumbar slope is useful parameter for evaluating HRQOL and sagittal imbalance aggravation in adult spinal deformity: A prospective observational cohort study**
Moon-Soo Han Chonnam National University
- 14:33-14:42 **Utilization of S1 Foraminal Hooks for Augmentation of S1 Screws in Adult Spinal Deformity Surgery: comparative study with iliac screws**
Ho Yong Choi Kyung Hee University
- 14:42-14:51 **Effect of mixture of recombinant human Bone Morphogenic Protein-2 and demineralized bone matrix in Lateral Lumbar Interbody Fusion**
Jun Ik Son Chung-Ang University
- 14:51-15:00 **Influence of dynamic neck motion on the clinical usefulness of multi-positional MRI in cervical degenerative spondylosis**
Jong Beom Lee Chungbuk National University
- 15:00-15:20 **Coffee Break & Poster View**

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Room A

- 15:20-17:00 **Main Topic Session A-2: Surgical Strategy for Osteoporotic Spine**
Yong-Jun Cho Hallym University
Chung Kee Chough Catholic University
- 15:20-15:45 **New Surgical Method and a New Screw for the Treatment of Osteoporotic Kummell's Disease**
Wang Biao Xi'an Jiaotong University
- 15:45-16:10 **Spine Surgery for Osteoporotic Adult Spinal Deformity**
Kotaro Nishida
Graduate School of Medicine, Ryukyus University
- 16:10-16:35 **Current Concepts of Perioperative Management for Patients with Osteoporosis: How Do Osteoporosis Medications Affect**
Koji Ishikawa Showa University
- 16:35-17:00 **Salvage Method for Vertebral Fracture after Spinal Fusion Surgery in Osteoporotic Vertebrae**
Seung Hwan Yoon Inha University
- 17:00-17:30 **Invited Lecture**
Seung Won Park Chung-Ang University
- 17:00-17:30 **Learning From Each Other, Building up Together**
Bong-Soon Chang Seoul National University

Day 2

Room B

- 09:20-11:00 **Main Topic Session B-1: The Current and Future Perspective of Intervertebral Disc Regeneration**
 Joo Han Kim Korea University
 Sung Uk Kuh Yonsei University
- 09:20-09:45 **Local And Sustained Delivery Of Senolytic Drug Inhib its Intervertebral Disc Degeneration And Restores Intervertebral Disc Structure**
 In bo Han CHA University
- 09:45-10:10 **Current Update in Disc Cell Regeneration Research**
 Daisuke Sakai Tokai University
- 10:10-10:35 **Mesenchymal stem cell therapy for disc regeneration: the European experience**
 Gianluca Vadala Campus Bio-Medico University
- 10:35-11:00 **Challenges to Applying Disc Cell Research to Spine Clinic: What More Do We Need to Know?**
 James Kang Brigham and Women's Hospital
- 11:00-11:30 **Coffee Break & Poster View**
- 12:30-13:30 **Luncheon Symposium B-1: Dæwon**
 Seung Won Park Chung-Ang University
- 12:30-13:00 **What's the difference between Teriparatide and Romosozumab**
 Seung Hwan Yoon Inha University
- 15:00-15:20 **Coffee Break & Poster View**

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Room B

- 15:20-17:00 **Main Topic Session B-2(WSCS): Perspectives of MISS**
Sang Gu Lee Gachon University
Dosang Cho Ewha Womans University
- 15:20-15:40 **Endoscope in Cervical Spine Surgery**
Joachim Oertel Saarland University Hospital
- 15:40-16:00 **Is Tlif the Best Minimally Invasive Lumbar Fusion Technique?**
Paulo Periera Medicine University of Porto
- 16:00-16:20 **Minimally Invasive Sacral and Sacroiliac Fixation**
Abdelfattah Saoud Spine Surgery Ain Shams University
- 16:20-16:40 **Radiation protection in MISS Surgery**
Nikolay Peev Kingsbridge Private Hospital
- 16:40-17:00 **Tips and Tricks of Endo-TLIF (Full endoscopic transforaminal lumbar Interbody Fusion)**
Hyeun Sung Kim Gangnam Nanuri Hospital

Day 2

Room C

12:00-13:30 **Session 5A: Emerging Techniques: Progress of Robotic, Navigation Surgery and AR/MR and AI**

[Jinsung Kim](#) Korea

[John Choi](#) Australia

12:00-12:15 **Robotic spine surgery: where we are now abs what the future holds**

[Ronald Lehman](#) NY USA

12:15-12:30 **Development of New Spine Surgery Robot in Korea and Early clinical experience**

[Seong Yi](#) Korea

12:30-12:45 **3D printing spinal model in severe spinal deformity correction**

[Yong Hai](#) China

12:45-13:00 **Advantage of lateral position surgery with intraoperative CT navigation**

[Hiroaki Nakashima](#) Japan

13:00-13:15 **Evolution of AR/VR technology in spine surgery**

[Wataru Narita](#) Japan

13:15-13:30 **Tech Presentation (Elliquence)**

13:15-13:30 **Smart and tailored endoscopic spine Techniques**

[Jinsung Kim](#) Catholic University

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Room C

- 13:30-14:15 **Session 6A:
Recent Advance of Tumor, Trauma and Biologics**
[Yu Liang](#) China
[Ho-Jin Lee](#) Korea
- 13:30-13:45 **Multidisciplinary treatment strategy for metastatic spinal tumor**
[Kazuo Nakanishi](#) Japan
- 13:45-14:00 **Minimally invasive techniques in thoracolumbar spinal trauma: Tips and Tricks**
[Raymond Wong](#) Hongkong
- 14:00-14:15 **Antiseptic material**
[Haruki Funao](#) Japan
- 14:15-15:15 **Session 7A: Free Paper
(Emerging Techniques, Tumor, Trauma and Biologics)**
[Ying Kei Chan](#) Hong Kong
[Jwo-Luen Pao](#) Taiwan
[Changqing Li](#) China
- 14:15-14:19 **Differences in Predictors of Readmission and Extended Length of Stay Between Open, Minimally Invasive, and Robotic Single-Level Lumbar Fusion Surgery**
[Calista Dominy](#), Justin Tang, Nicholas Pitaro, Christopher White, Jeremy Steinberger, Jun Kim, Samuel Cho
- 14:19-14:23 **SHOULD Q-CT BE THE GOLD STANDARD FOR DETECTING SPINAL OSTEOPOROSIS?**
[THONANGI YESHWANTH](#), Arvind Kulkarni
- 14:23-14:27 **Balloon Kyphoplasty for osteoporotic thoracolumbar vertebral fracture with diffuse idiopathic skeletal hyperostosis**
[Yoshi Enyo](#), Yukihiro Nakagawa, Masatoshi Teraguchi, Teiji Harada, Keita Kitayama

Day 2

Room C

- 14:27-14:31 **Results of Groove-entry technique/Hooking screw hybrid instrumentation for osteoporotic vertebral fracture treatment**
[Ivan Sekiguchi](#), Naoki Takeda, Naoki Ishida
- 14:31-14:35 **Anterior transcorporeal approach for metastatic cervical melanoma resection guided by O-arm navigated intraoperative computed tomography: a case report and technical note**
[Khanathip Jitpakdee](#), Jin-Sung Kim, Vit Kotheeranurak, Woojung Lim
- 14:35-14:45 Discussion
- 14:45-14:49 **Multi Modal Applications Of 3D Navigation In Single Level Mi Tlif: Impact On Precision, Accuracy, Complications And Radiation Exposure**
[Pritem AR](#), ARVIND KULKARNI
- 14:49-14:53 **Early Clinical results of pedicle screw fixation using the Korean spine surgery robot**
[Byeong jin Ha](#), Sangman Park, Chang Kyu Lee, Dong Ah Shin, Yoon Ha, Sung-Uk Kuh, Keung Nyun Kim, Seong Yi
- 14:53-14:57 **Evaluation of 100 patients undergoing K-wireless robotic and navigation assisted pedicle screw placement in adult degenerative spinal surgery**
[Fedan Avrumova](#), Madison Heath, Kyle Morse, Roger Widmann, Darren Lebl
- 14:57-15:01 **The Impact of Computer-Assisted Navigation on Charges and Readmission in Lumbar Spinal Fusion**
[Ula Isleem](#), Calista Dominy, Justin Tang, Varun Arvind, Brian Cho, Christopher White, Sara Pasik, Kush Shah, Samuel Cho, Jun Kim
- 15:01-15:05 **Novel C-arm based planning robotic spine surgery in a cadaver model using quantitative accuracy assessment methodology**
[Sangman Park](#), Seong Yi
- 15:05-15:15 Discussion
- 15:15- Adjourn

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Room D

- 12:00-13:00 **Session 5B:**
Advanced MIS Option for Degenerative Spine
Arvind Kulkarni India
Hidetoshi Nojiri Japan
- 12:00-12:15 **Single Position MIS Prone Lateral approach.**
Indications, technical aspects and applications
Juan Uribe Phoenix AZ USA
- 12:15-12:30 **My efforts to advance minimally invasive spine surgery – a brief history and future endeavors**
kevin Foley Memphis USA
- 12:30-12:45 **Advances in MIS TLIF: My Latest Techniques for Posterior ALL Release, Expandable Spacers, and Injectable Bone Grafts to Maximize Lordosis and Minimize Postoperative Radiculitis**
Choll Kim San Diego USA
- 12:45-13:00 **Horizon in MIS approach for cervical spine surgery**
Toshiyuki Takahashi Japan
- 13:00-13:30 **Tech Presentation (Centinel spine)**

Retrospective Study on Effectiveness of Lumbar Total Disc Replacement; Clinical and radiographical results of over 5 years follow-up
Kang-Jun Yoon Korea
- 13:30-15:00 **Session 6B: Controversy of Lumbosacral Fusion**
Ken Ishii Japan
Jeong-Yoon Park Korea
- 13:30-13:45 **What are the various minimally invasive options to perform a lumbar fusion**
Jean-Pierre Mobasser Indianapolis USA

Day 2

Room D

- 13:45-14:00 **MIS options in Degenerative Spondylolisthesis: MIS TLIF v/s MED**
Arvind Kulkarni Mumbai India
- 14:00-14:15 **Our Journey of anterior lumbar fusion in Chiba University**
Seiji Ohtori Japan
- 14:15-14:30 **My journey of lumbosacral fusion: Posterior to Anterior**
Yoshihisa Kotani Japan
- 14:30-14:45 **TDR - better to preserve motion**
Raymond Yip Hongkong
- 14:45-15:00 **Sacroiliac Joint Dysfunction Diagnosis and Treatment using a Minimally Invasive Surgical Approach**
David Polly Minneapolis USA
- 15:00-15:40 **Session 7B: Free Paper(Degenerative Disease)**
Xiaojian Ye China
Yukihiro Nakagawa Japan
- 15:00-15:04 **Sacroiliac joint fusion: Fusion rates and clinical outcomes using minimally invasive approach and intra-operative navigation and robotic guidance.**
[Joseph Maalouly](#), Mehul Sarkarjohnchoi
- 15:04-15:08 **Does the cage position during MIS TLIF affect lumbar lordosis?**
[Soo Heon Kim](#), Jeong Yoon Park
- 15:08-15:12 **Examination of factors causing anterior detached bone fragments after eXtreme Lateral Interbody Fusion (XLIF)**
[Atsush ilkeura](#), Yoshihisa Kotani, Takashi Toyoda, Takanori Saito
- 15:12-15:16 **A novel grading system for lumbar foraminal stenosis (LFS): incorporating bony and soft tissue components**
[Ashwin Sathe](#), Sang Soo Eun, Sang Ho Lee

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Room D

- 15:16-15:20 **Contraindication of Minimally Invasive Lateral Interbody Fusion for Percutaneous Reduction of Degenerative Spondylolisthesis: A New Radiographic Indicator of Bony Lateral Recess Stenosis Using I Line**
[Ken Ishii](#), Yuta Shiono, Norihiro Isogai, Yutaka Sasao, Shigeto Ebata, Haruki Funao
- 15:20-15:24 **A retrospective case series of 3D printed titanium cages in minimally invasive lateral lumbar spine surgery assessing fusion and subsidence**
[Joseph Maalouly](#), John Choi
- 15:24-15:28 **A two-year outcomes and complications of various techniques of lumbar discectomy; A multicentric retrospective study.**
[Praveen Goparaju](#), Arvind Kulkarni
- 15:28-15:40 Discussion
- 15:40- Adjourn

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Day 3

Room A

- 08:00-09:00 **Breakfast Symposium A-1:**  VIATRIS
Whan Eoh Sungkyunkwan University
- 08:00-08:30 **Importance of differential diagnosis of NeP component among LBP patients and its right treatment**
Dong Ah Shin Yonsei University
- 09:00-10:00 **Free Paper Session A-1**
Sang Hyun Kim Ajou University
Dong Wuk Son Pusan National University
- 09:00-09:10 **The Long-term Reoperation Rate Following Surgery for Lumbar Stenosis: A Nationwide Sample Cohort Study With a 10-year Follow-up**
Jong-myung Jung Seoul National University
- 09:10-09:20 **Risk factors for reoperation after lumbar spine surgery: A Korean National Health Insurance Service Health Examinee cohort study with an 11-year follow-up**
Sung Hyun Noh Ajou University
- 09:20-09:30 **Single position oblique lateral lumbar interbody fusion and percutaneous pedicle screw fixation under O-arm navigation: feasibility and perioperative results**
Hyung Cheol Kim Yonsei University
- 09:30-09:40 **Surgical technique and learning curve for seamless oblique lumbar interbody fusion and percutaneous pedicle screw fixation with O-arm based spinal navigation (OLIF-360)**
Chi Heon Kim Seoul National University
- 09:40-09:50 **Full endoscopic anterior cervical discectomy and interbody fusion in patients with cervical spondylotic myelopathy: A preliminary report for clinical outcome and its feasibility, and technical specification**
Kang Taek Lim Segyero hospital

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Room A

09:50-10:00 **A modified MRI protocol for the increased detection of sacrococcygeal fractures in patients with thoracolumbar junction fractures**

[Il Choi](#) Hallym University

10:00~11:40 **Main Topic Session A-3: The Current and Future Perspective of Spine Surgery**

[Yong Eun Cho](#) Yonsei University

[Seung Myung Lee](#) Chosun University

10:00-10:25 **Augmented Reality Surgical Guidance in Minimally Invasive Spine Surgery**

[Frank Philips](#) Rush University Medical Center

10:25-10:50 **Recent Advancement of MIS Lateral Lumbar Interbody Fusion Surgery in Korea**

[Seung Won Park](#) Chung-Ang University

10:50-11:15 **Minimal Invasive Surgery for Adult Spinal Deformity**

[Michael Wang](#)

University of Miami School of Medicine Miami, FL

11:15-11:40 **Image-Guided Navigation and Robotics in Spine Surgery**

[Kee Kim](#) UC Davis, Sacramento, CA

11:40-12:00 **Coffee Break & Poster View**

12:00-13:00 **Luncheon Symposium A-2: *Baxter***

[Jin Sung Kim](#) Catholic University

12:00-13:00 **Bleeding complication management in spine tumor**

[Wattana Mahattanakul](#)

Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

Day 3

Room A

- 13:00-14:30 **Free Paper Session A-2**
 Yong Ahn Gachon University
 Yong-Jae Cho Ewha Womans University
- 13:00-13:09 **Successful Motor Evoked Potential Monitoring in Cervical Myelopathy : Related Factors and the Effect of Increased Stimulation Intensity**
 Dong Hwan Kim Pusan National University
- 13:09-13:18 **Influence of negative sagittal balance and cervical alignment on clinical outcomes in patients with craniovertebral junction kyphosis**
 Kang Bin Kuh Catholic University
- 13:18-13:27 **The efficacy of furosemide on the prevertebral soft tissue swelling that occurs after anterior cervical discectomy and fusion – Comparative study with intravenous dexamethasone**
 Ju Sung Jang Chung-Ang University
- 13:27-13:36 **Predicting the risk factors of mechanical complications after posterior cervical fusion surgery**
 Sun Joon Yoo Yonsei University
- 13:36-13:45 **Comparative analysis of surgical outcomes of C1-2 fusion spine surgery between intraoperative CT image-based Navigation-guide operation and fluoroscopy-guided operation**
 Jun seok Lee Pusan National University
- 13:45-13:54 **Relationship Between Endplate Defects, Modic Change, Facet Joint Degeneration, and Disc Degeneration of Cervical Spine**
 Su Hun Lee Pusan National University
- 13:54-14:03 **Prediction of post-operative neurologic deficit in ossification of posterior longitudinal ligament surgery : major risk factor extraction for peri-operative caution**
 seungjun ryu Yonsei University

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Room A

- 14:03-14:12 **Cervical total disc replacement at 2-year follow-up-
Is it really motion preserving?**
[Aftab Younus](#)
University of Witwatersrand, Johannesburg, South Africa
- 14:12-14:21 **Clinical and Radiological Results of a New Type
of Cervical Disc Prosthesis—A 2-year Follow-up of
Comparative Study**
[Chengyi Huang](#) West China Hospital, Sichuan University
- 14:21-14:30 **Decrease of Range of Motion of Oc-C1 angle is a Risk
Factor for Subaxial Kyphosis after Posterior C1–C2
Fusion**
[Jong-Hyeok Park](#) Catholic University
- 14:30-16:10 **Plenary Session II: Cervical Spine Deformity**
[Keun Su Kim](#) Yonsei University
[Sung Min Kim](#) Seoul Barun Hospital
- 14:30-14:55 **Evaluation of Cervical Spine Alignment**
[Jean C Le Huec](#)
Bordeaux University Hospital, Spine Surgery, Bordeaux
- 14:55-15:20 **How to Do Cervical Ostetotomy and Reconstruction**
[Jae Taek Hong](#) Catholic University
- 15:20-15:45 **Cervical Spine Deformity - How to Prevent
Complications**
[Heiko Koller](#) Technical University of Munich in Germany
- 15:45-16:10 **Craniocervical Realignment for CVJ Deformity**
[Atul Goel](#) Lilavati Hospital & Research Center
- 16:10-16:30 **Coffee Break & Poster View**

Day 3

Room A

- 16:30-18:00 **Free Paper Session A-3**
Jong Tae Park Wonkwang University
Junho Lee Kyung Hee University
- 16:30-16:39 **Preservation of Deep Cervical Extensor Muscle Volume: Comparison between Conventional Open-Door and Muscle Preserving Laminoplasty Approaches in the Same Patients**
Young-Seok Lee Kyungpook National University
- 16:39-16:48 **Is it necessary to use a cervical collar after single- or double-level ACDF?**
Jin Hoon Park University of Ulsan
- 16:48-16:57 **Is it true that treatment in patients with SLICS (Subaxial Cervical Spine Injury Classification System) 4 is surgeons' choice?**
Je Hoon Jeong Soonchunhyang University
- 16:57-17:06 **Assessing the Efficacy of Coccydectomy for Medically Refractory Coccydynia**
Aftab Younus University of Witwatersrand South Africa
- 17:06-17:15 **Usefulness of Lateral Lumbar Interbody Fusion without Osteotomy for Lower Lumbar Angle Correction**
Seong Hyun Wui Chung-Ang University Hospital
- 17:15-17:24 **Comparison of treatment for lumbar spinal stenosis with sagittal imbalance: Decompression vs. Fusion**
Young Il Won Seoul National University
- 17:24-17:33 **Risk factors for adjacent segment disease after lumbar fusion in patients with rheumatoid arthritis**
Byeong Jin Ha Yonsei University
- 17:33-17:42 **Endoscopic Transforaminal Lumbar Interbody Fusion Achieved Improved Early Radiological And Clinical Outcome Compared to Open Microscopic Transforaminal Lumbar Interbody Fusion. A Retrospective Case Study**
Pang Hung Wu Gangnam Nanuri Hospital
- 17:42-17:51 **Safe Route for Cervical Approach: Partial Pediculotomy , Partial Vertebrotoomy Approach For Posterior Endoscopic Cervical Foraminotomy and Discectomy**
Pang Hung Wu Gangnam Nanuri Hospital

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Room B

08:00-09:00 **Breakfast Symposium B-1: AMGEN[®]**
Soo Bin Im Soonchunhyang University

Optimal Treatment Sequences for Patients With Osteoporosis at Very High Risk for Fracture
Langdahl Aarhus University Aarhus, Denmark

09:00-10:00 **Free Paper Session B-1**
Soo Bin Im Soonchunhyang University
Jong Tae Kim Catholic University

09:00-09:10 **Spinal cord tanycytic ependymomas- Comparison with classic ependymomas**
Shin Won Kwon Seoul National University

09:10-09:20 **Accuracy and precision of the spinal instability neoplastic score (SINS) for predicting vertebral compression fractures after radiotherapy in spinal metastases: A meta-analysis**
Chang-Hyun Lee Seoul National University

09:20-09:30 **Clinical characteristics and surgical outcome of the Spinal Cord Ependymoma associated Syringomyelia in single institutional 15 years experience**
seungjun ryu Yonsei University

09:30-09:40 **Residual cervical dumbbell tumor after surgery**
Jaehyun Kim University of Ulsan

09:40-09:50 **Extraspinal-Interdural Surgical Approach for C2 Neurinomas**
Abhidha Shah Seth G.S. Medical College, India

09:50-10:00 **The effect of the postoperative C2-7 angle on the occurrence of dysphagia after anterior cervical discectomy and fusion with the Zero-P Implant System**
Chengyi Huang West China Hospital, Sichuan University

Day 3

Room B

- 10:00-11:40 **Main Topic Session B-3: Spine and Spinal Cord Tumor**
 Keung Nyun Kim Yonsei University
 Moon-Jun Sohn Inje University
- 10:00-10:25 **Philosophy of Surgery in Primary Spine Tumors**
 Ehud Mendel Ohio State University Wexner Medical Center
- 10:25-10:50 **Philosophy of Surgery in Metastatic Spine Tumors**
 Fon-Yih Tsuang National Taiwan University Hospital
- 10:50-11:15 **Management of Intramedullary Tumor**
 Fan Tao Capital Medical University
- 11:15-11:40 **Surgical Treatment of Spinal Cord Tumor around CVJ**
 Chun Kee Chung Seoul National University
- 11:40-12:00 *Coffee Break & Poster View*
- 12:00-13:00 **Luncheon Symposium B-2: **AMGEN****
 Jongtae Kim Catholic University
- 12:30-13:30 **Romosozumab, a new bone anabolic treatment option for osteoporosis**
 Dal sung Ryu Inha University
- 13:00-14:30 **Free Paper Session B-2**
 Seung-Won Choi Chungnam National University
 Dae-Chul Cho Kyungpook National University
- 13:00-13:09 **Endoscopic spine adhesiolysis. How I do it and literatures review**
 SEYI CHEN Chung Shan Medical University Hospital
- 13:09-13:18 **Complications and Limitations of Endoscopic Spine Surgery and Percutaneous Instrumentation**
 Nantawat Uttamo Nanoori hospital

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Room B

- 13:18-13:27 **Incidental Durotomy During Endoscopic Stenosis Lumbar Decompression: Incidence, Classification, and Proposed Management Strategies**
Myeong hun Kim Nanoori hospital
- 13:27-13:36 **Prediction of risk factors after spine surgery in patients aged >75 years using the modified Frailty Index**
Young-Seok Lee Kyungpook National University
- 13:36-13:45 **Clinical Outcome of Spinal Epidural Abscess in Elderly Patients**
Ho-jun Chae Kangwon National University
- 13:45-13:54 **Risk Factor Analysis of Distal Junctional Failure after Adult Thoracolumbar Deformity Surgery**
Hyun Jun Jang Yonsei University
- 13:54-14:03 **The Efficacy of Free Vascularized Fibular Strut Graft for Spinal Reconstruction in Thoracic Spinal Tuberculosis**
Kevin Gunawan
Cipto Mangunkusumo National General Hospital
- 14:03-14:12 **Gray Ramus Communicans Nerve Block for Acute Pain Control in Vertebral Compression Fracture**
Douyoung Park Hallym University
- 14:12-14:21 **Stridor and sialorrhea as initial manifestations of diffuse idiopathic skeletal hyperostosis (DISH).**
Ali Hammed Tishreen university hospital, Syrian Arab Republic
- 14:21-14:30 **Significance of Measuring Lumbar Spine 3 Dimensional Computed Tomography Hounsfield Units to Predict Pedicle Screw loosening**
Kyeong Hwan Kim Hallym University

Day 3

Room B

- 14:30-16:10 **Plenary Session III: Spinal Cord Injury**
 Dae Hyun Kim Daegu Catholic University
 Seung Woo Park Gangwon University
- 14:30-14:55 **Spinal Cord Perfusion Pressure (SCPP) Treatment**
 Brian K Kwon UBC Department of Orthopaedic
- 14:55-15:20 **Drug Delivery Nanoparticle Treatment**
 Inbo Han CHA University
- 15:20-15:45 **Electrical Stimulation Treatment**
 Xiang Zeng Sun Yat-sen University
- 15:45-16:10 **Focused Ultrasound Treatment**
 Kyoung-Tae Kim Kyungpook National University
- 16:10-16:30 **Coffee Break & Poster View**
- 16:30-18:00 **Free Paper Session B-3**
 Kwan Ho Park Veterans Hospital
 Jae Chil Chang Soonchunhyang University
- 16:30-16:39 **Anatomical Importance of Inner Ligamentum Flavum Parameters for Successful Endoscopic Lumbar Decompression Surgery**
 BYAPAK PAUDEL Gangnam Nanuri Hospital
- 16:39-16:48 **Changes in Cervical Spinal Alignment and Motion after Posterior Full-Endoscopic Cervical Foraminotomy**
 Chi Heon Kim Seoul National University
- 16:48-16:57 **Assessing the efficacy of a Tubular lumbar microdiscectomy- A single surgeon's experience over a five-year period**
 Aftab Younus University of Witwatersrand
- 16:57-17:06 **Comparative analysis of three types of minimally invasive posterior cervical foraminotomy for the foraminal stenosis; Uniportal endoscopy, Biportal endoscopy, and Microsurgery**
 Ji Yeon Kim Wiltse Memorial Hospital

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- 17:06-17:15 **Predictive Scoring and Risk Factors of Early Recurrence after Percutaneous Endoscopic Lumbar Discectomy**
Chang-Il Ju Chosun University
- 17:15-17:24 **The transition from conventional open posterior lumbar interbody fusion (PLIF) to minimally invasive transforaminal lumbar interbody fusion (MIS-TLIF) as a beginner surgeon**
Dalsung Ryu Inha University
- 17:24-17:33 **Generation Change of Practice in Spinal Surgery: Can Endoscopic Spine Surgery Expand its Indications to Fill in the Role of Conventional Open Spine Surgery: A Study of 616 Spinal Cases**
Ravindra Singh Nanoori Hospital, Gangnam
- 17:33-17:42 **Full Endoscopic Thoracic Discectomy (FETD)**
Yasuhiko Nishimura Wakayama KOYO Hospital
- 17:42-17:51 **Uniportal Endoscopic Interlaminar decompression in Lumbar Spinal Stenosis**
Kuang-Yuan Goh Taipei Medical University Hospital
- 17:51-18:00 **Epidural Steroid Injection Might Advance Clinical And Electrophysiology Outcomes Among Drop Foot Patients Due To LDH Underwent Of Transforaminal Microdiscectomy**
Trianggoro Budisulistyo Yogyakarta State University

Day 3

Room C

- 12:00-13:30 **Session 9A: Recent Advances in Lateral and Anterior Approach**
[Raymond Wong](#) Hong Kong
[Seong Yi](#) Korea
- 12:00-12:15 **Standalone versus instrumented oblique lumbar interbody fusion**
[Wenjian Wu](#) China
- 12:15-12:30 **Anatomical and Electrophysiological Considerations for Avoiding Lumbar Plexus Injury in Lateral Lumbar Spine Surgery**
[Hidetoshi Nojiri](#) Japan
- 12:30-12:45 **Current state of Robotic Spinal Surgery and report of my adoption experience**
[John Choi](#) Australia
- 12:45-13:00 **Clinical and radiological evaluation of cage subsidence following OLIF**
[Jiancheng Zeng](#) China
- 13:00-13:15 **Contraindication of Minimally Invasive LIF for Percutaneous Reduction of Degenerative Spondylolisthesis**
[Ken Ishii](#) Japan
- 13:15-13:30 **Mini-open LaLIF for lumbar degenerative disease**
[Zhaomin Zheng](#) China
- 13:30-14:00 **Session 10A: Free Paper(Lateral and Anterior Approach)**
[Phanunan Sasiprapha](#) Thailand
- 13:30-13:34 **Influence of coronal-morphology of endplate and intervertebral space to cage subsidence and fusion following oblique lumbar interbody fusion**
[lin Run](#), [Zeng Jiancheng](#)

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- 13:34-13:38 **An anatomical clue for minimizing iliac vein injury during the anterior approach at L5-S1 level: A cadaveric study**
[Myeong Jin Ko](#)
- 13:38-13:42 **Combined i-CT navigation and neuromonitoring in lumbar lateral interbody fusion may reduce postoperative neurological deficits: single center experience.**
[Martina Dalolio](#), Paolo Ivan Fiore, Davide Croci, Luca Valci, Pietro Scarone
- 13:42-13:46 **Outcomes of oblique lumbar interbody fusion for double-segment lumbar degenerative disc diseases at L3-5 using anterolateral single-rod screw fixation**
[lin Run](#), Zeng Jiancheng
- 13:46-13:50 **Is Stand-alone Lateral Lumbar Interbody Fusion superior to Instrumented Lateral Lumbar Interbody Fusion for the treatment of Lumbar Degenerative Disease? A Meta-analysis**
[Jingwei Liu](#), Honghao Yang, Yong Hai
- 13:50-14:00 Discussion
- 14:00-14:45 **Session 11A:
Present Atatus of Endoscopic Spine Surgery and Future Perspective (II)**
[Qingbing Meng](#) China
[Junseok Bae](#) Korea
- 14:00-14:15 **Full-endoscopic trans-Kambin lumbar interbody fusion (fullendo KLIF):
The state of the art technical advances**
[Koichi Sairyo](#) Japan
- 14:15-14:30 **Biportal Endoscopic Posterior Cervical Foraminotomy**
[Jwo-Luen Pao](#) Taipei

Day 3

Room C

14:30-14:45 **Extra-foraminal approach of biportal endoscopic surgery; technique and outcomes**

Ho-Jin Lee Korea

14:45-15:15 **Tech Presentation (RIWOspine)**

14:45-15:15 **Tansforaminal lumbar decompression in L5-S1**

Chang Il Ju Chosun University

15:15- Adjournal

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Room D

12:00-13:30 **Session 9B: Free Paper Session**

[Yung Park](#) Korea

[Guo Chang Ming](#) Singapore

12:00-12:04 **The preliminary results of RCT between Ceramic (CaO-SiO₂-P₂O₅-B₂O₃ Bioactive Glass) and Allograft ACDF**

[Woojung Lim](#), Yanting Liu, Youngjin Kim, Junghoon Kim, Kyeongsik Ryu, Jin-Sung Kim

12:04-12:08 **Long screws for spacer fixation without lateral mass drilling in double door cervical laminoplasty (Tiptoe Technique)**

[Ivan Sekiguchi](#), Naoki Takeda, Naoki Ishida

12:08-12:12 **The long-term outcomes of the treatment of single-level cervical spondylosis through ProDisc-C cervical disc replacement**

[Qiang Zhang](#), Yu Liang

12:12-12:16 **Minimally Invasive cervical pedicle screw insertion - Cadaveric feasibility study and clinical series**

[Umesh Srikantha](#), Akshay Hari, Yadhu, Loknath

12:16-12:20 **Usefulness of Video-assisted Thoracoscopic Surgery (VATS) for Thoracic Disc Herniation**

[Ryo Ugawa](#), Kensuke Shinohara, Kentaro Yamane, Kazuhiro Takeuchi

12:20-12:30 **Discussion**

12:00-13:30 **Session 9B: Free Paper Session**

[Yi Jiang](#) China

[Kazuo Nakanshi](#) Japan

12:30-12:34 **Spine Surgery Checklist A Step towards Perfection through Protocols**

[Jwalant Patel](#), Arvind Kulkarni

Day 3

Room D

- 12:34-12:38 **Minimally invasive contralateral over the top approach for lumbar calcified foraminal lesions: a technical note**
[Antoine Gennari](#), Bilal Tarabay, Ghassan Boubez, Zhi Wang, Daniel Shedid, Sung-Joo Yuh
- 12:38-12:42 **The correlation of intraoperative distraction of intervertebral disc with the postoperative canal and foramen expansion following oblique lumbar interbody fusion**
[Guang-Xun Lin](#), Jin-Sung Kim
- 12:42-12:46 **Percutaneous endoscopic transforaminal lumbar interbody fusion: a novel technique- sentinel pinning for protection of exiting root**
[Yi Huang](#)
- 12:46-12:50 **What Can Be Done Using Biportal Endoscopic Techniques in Revision Spine Surgeries**
[Jwo-Luen Pao](#)
- 12:50-13:00 Discussion
- 12:00-13:30 **Session 9B: Free Paper Session**
[Matthew Scott Young](#) Australia
[Yi Hung Huang](#) Taiwan
- 13:00-13:04 **Clinical effect of chemonucleolysis with chondriase for lumbar disc herniation**
[Takashi Toyoda](#), Yoshihisa Kotani, Atsushi Ikeura, Takanori Saito
- 13:04-13:08 **Comparison of the incidence of adjacent segment pathology between anterior lumbar interbody fusion and transforaminal lumbar interbody fusion for lumbosacral junction**
[Po-Kuan Wu](#), Cheng-Min Shih, Kun-Hui Chen, Chien-Chou Pan, Yen-Kuang Lin, Ching-Yu Lee, Tsung-Jen Huang, Meng-Huang Wu, Cheng-Hung Lee

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- 13:08-13:12 **Is annular repair technique useful for reducing reherniation and reoperation after limited discectomy?**
[Qiang Zhang](#), Yu Liang
- 13:12-13:16 **Vertebroplasty with posterior spinal fusion for osteoporotic vertebral fracture using computer-assisted three-dimensional rod contouring system: a new minimally invasive technique**
[Shuzo Kato](#), Haruki Funao, Norihiro Isogai, Nao Otomo, Yutaka Sasao, Shigeto Ebata, Ken Ishii
- 13:16-13:20 **In lumbar fusion with interbody cages, polyaxial pedicle screws and intact facets, a biomechanical study shows that reversing the direction of compression improves lordotic correction.**
[Nicole Lukban](#), Shay Menachem, Kevin Seex
- 13:20-13:30 Discussion
- 13:30-15:00 **Rapid Fire Presentations I**
[Bolai Chen](#) China
[Pramod Lokhande](#) India
- 13:30-13:33 **What Are Patients Saying About SMISS Surgeons Online?: A Sentiment Analysis of Physician Review Websites**
[Ula Isleem](#), Justin Tang, Christopher White, Varun Arvind, Jun Kim, Samuel Cho, Jeremy Steinberger
- 13:33-13:36 **What are Patients Saying about you Online? A Sentiment Analysis of Online Reviews on Spine Surgeons**
[Ula Isleem](#), Justin Tang, Varun Arvind, Christopher White, Calista Dominy, Samuel Cho, Jun Kim
- 13:36-13:39 **The relationship between atlantoaxial instability and MRI findings in pre-odontoid space.**
[Atsuhiko Toyoshima](#), Shigeo Ueda

Day 3

Room D

- 13:39-13:42 **Use of Intravenous Lidocaine as an Adjunctive Pain Control Modality in Spine Surgery**
[Aryan Haratian](#), Arif Musa, Carlin Lee, Ryan Field, Collin Bennett, Saif Farhan, Christopher Cooke, Rakesh Patel, Ilyas Aleem, Samuel Bederman
- 13:42-13:45 **Research progress in endplate morphology**
[lin Run](#), Zeng Jian Cheng
- 13:45-13:48 **"Spine Surgery Checklist" A Step towards Perfection through Protocols**
[Sanjeev Asati](#), Arvind Kulkarni
- 13:48-13:51 **One-portal Percutaneous Stenotic Lumbar Decompression(PSLD) for Treating Degenerative Lumbar Stenosis. A Case Series with Minimal One-Year Follow-up**
[Ching-Hsiao Yu](#)
- 13:51-13:54 **Enbloc removal of ligamentum flavum by lumbar endoscopic lumbar Decompression: The surgical description and early clinical results**
[YADHU LOKANATH](#), Jin-Sung Kim
- 13:54-13:57 **Solitary plasmocytoma of the thoracolumbar spine: a rare case report with Interdisciplinary management using Closing Posterior "Opening Anterior Wedge osteotomy and radiotherapy.**
[Ali hammed](#), Moufid Mahfoud, Alaasu Iaima, Nadnan Najm
- 13:57-14:00 **MIS-TLIF for indirect decompression at L4/5 or L5/S lesion**
[chiro Torigoe](#)
- 14:00-14:10 Discussion

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- 14:10-14:50 **Rapid Fire Presentations II**
[Keyi Yu](#) China
[Amit Jhala](#) USA
- 14:10-14:13 **Comparison of applied anatomy at L4-L5 and L5-S1 in context of tubular decompression for LCS**
[Sanjeev Asati](#), [Arvind Kulkarni](#)
- 14:13-14:16 **MINIMALLY INVASIVE VERSUS OPEN TRANSFORAMINAL LUMBAR INTERBODY FUSION IN OVERWEIGHT AND OBESE PATIENTS: WHICH IS BETTER?**
[Akash Shakya](#), [Ayush Sharma](#)
- 14:16-14:19 **Lower Hounsfield units on computed tomography are associated with cage subsidence after Oblique Lumbar Interbody Fusion**
[lin Run](#), [Zeng Jiancheng](#)
- 14:19-14:22 **Transforaminal endoscopic lumbar foraminotomy assisted with O-arm navigation**
[Kuo-Tai Chen](#), [Jin-Sung Kim](#), [Nathaniel Brooks](#), [Woojung Lim](#), [Yanting Liu](#)
- 14:22-14:25 **Experience in the development and use of the Needle slider for the safe insertion of percutaneous pedicle screw**
[Shigeo Ueda](#)
- 14:25-14:28 **Balloon kyphoplasty augmented with intra-spinous plating (S-plate) for unstable osteoporotic vertebral fractures**
[Koki Kato](#), [Kei Miyamoto](#), [Akira Hioki](#), [Yoshihiro Yamaguchi](#)
- 14:28-14:31 **Timing of vertebroplasty in osteoporotic vertebral compression fractures**
[Sharvari Gunjotikar](#), [Arvind Kulkarni](#)

Day 3

Room D

- 14:31-14:34 **The effect of the Pedicle Screw Trajectory on Screw loosening in Lumbar Spine and Its Mechanism**
[Seong-hyun Wui](#), Seung Won Park, Myeong Jin Ko
- 14:34-14:37 **Ideal needle puncture angle and operability of the catheter during spinal cord stimulation procedure**
[Norihiro Isogai](#), Nao Otomo, Shuzo Kato, Yutaka Sasao, Shigeto Ebata, Haruki Funao, Ken Ishii
- 14:37-14:40 **Variations in Charges Across Hospital Size for Anterior Cervical Discectomy and Fusion: A National Level Database Analysis**
[Kush C Shah](#), Calista L Dominy, Eric Geng, Varun Arvind, Justin E Tang, John T Schwartz, Jun S Kim, Samuel K. Cho
- 14:40-14:50 Discussion
- 14:50- Closing Ceremony

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Room A

08:00-09:00 **Breakfast Symposium A-2: Medtronic**

Jae Taek Hong Catholic University

OLIF 360-Single position with O Arm and Navigation

Worawat Limthongkul

Chulalongkorn Hospital, Bangkok, Thailand

09:00-10:00 **Free Paper Session A-4**

Woo Jin Choe Konkuk University Hospital

Sun-Ho Lee Sungkyunkwan University

09:00-09:10 **Application of Machine Learning for the Identification of Osteoporosis based on the Extreme Learning Machine (ELM) Algorithm**

Rifaldy Faja Yogyakarta State University

09:10-09:20 **Machine learning based infrared thermographic software for diagnosis of lumbosacral radiculopathy**

Seungjun Ryu Yonsei University

09:20-09:30 **Subsidence rate according to length and surface of cage overlapping epiphyseal rim**

MYEONGJIN OH Soonchunhyang University

09:30-09:40 **Changes in glycosaminoglycan levels in the intervertebral disc during ageing and degeneration**

Dominik Tattera

Jagiellonian University Medical College, Krakow

09:40-09:50 **Developing post-op revision predicting ML algorithm based on retrospective observation of risk factors for POF and postop revision surgery in spinal deformity patients**

Seungjun Ryu Yonsei University

09:50-10:00 **Characteristics and risk factors of readmission after anterior cervical spine surgery: A systematic review and meta-analysis**

Young Ju Lee Ajou University

Day 4

Room A

- 10:00-12:05 **Plenary Session IV: The Current and Future Perspective of Artificial Intelligence in Spine Surgery**
 Chun Kee Chung Seoul National University
 Koang Hum Bak Hanyang University
- 10:00-10:25 **The Future of AI and Machine Learning in Spine Surgery**
 Christopher P Ames University of California, San Francisco
- 10:25-10:50 **Prediction Analytics in Spine Oncology Research**
 John H Shin Massachusetts General Hospital, Boston
- 10:50-11:15 **Application of Artificial Intelligence to Diagnostic Spinal Images**
 Kota Watanabe Keio University, Tokyo
- 11:15-11:40 **Artificial Intelligence and Machine Learning in Spine : Where AI Is Now, and When It's Going**
 Sung Bae Park Seoul National University
- 11:40-12:05 **The Use of Augmented Reality for the Spinal Instrumentation**
 Timothy F. Witham
 Johns Hopkins Neurosurgery Spinal Fusion Laboratory
- 12:05-13:00 **Luncheon Symposium A-3: Medtronic**
 Joo Han Kim Korea University
- 12:30-13:00 **Application of rhBMP2 for bone graft in OLIF**
 Reuben Soh General Hospital, Singapore
- 13:00-14:40 **Main Topic Session A-5(WSCS): Cervical Spine**
 Eun-Sang Kim Sungkyunkwan University
 Dong Kyu Chin Yonsei University
- 13:00-13:20 **Cervical spondylotic myelopathy: WFNS Recommendations**
 Mehmet Zileli Ege University, Medical Faculty, Izmir

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Room A

- 13:20-13:40 **Tailored Surgical Approach in Cervical Spondylotic Myelopathy**
Sait Naderi
Brain, spinal cord and nerve surgery Marmara University
- 13:40 -14:00 **OPLL - Time for a Rethink**
Atul Goel Lilavati Hospital and Research Centre
- 14:00-14:20 **Treatment of Cervical OPLL with the Technique of ACAF**
Zan Chen Xuan Wu Hospital
- 14:20-14:40 **Surgical Strategy for the Treatment of Cervical OPLL**
Yong Eun Cho Yonsei University
- 14:40-16:20 **Main Topic Session A-6: Surgical Nuance; Robot, Navigation, IOM**
Ho Yeol Zhang Ilsan Hospital
Se-Hoon Kim Korea University
- 14:40-15:05 **Robotics in Spine Surgery- Fact, Fiction, Future**
Seong Yi Yonsei University, Korea
- 15:05-15:30 **Innovative Techniques in Spinal Surgery**
Jeffrey S. Roh Swedish Neuroscience Institute Seattle, WA
- 15:30-15:55 **Advances in Navigation Guided Spine Surgery**
Jin Hoon Park University of Ulsan
- 15:55-16:20 **Electrophysiologic Monitoring: Surgeon's Buddy?**
Chi Heon Kim Seoul National University
- 16:20-16:40 **Coffee Break & Poster View**

Day 4

Room A

- 16:40-17:40 **Free Paper Session A-5**
 Kyeong-Sik Ryu Catholic University
 Moon-Kyu Kim Ulsan University
- 16:40-16:50 **Therapeutic effect of teriparatide for osteoporotic thoracolumbar burst fracture in elderly female patients**
 IKCHAN JEON Yeungnam University
- 16:50-17:00 **Analysis of radiologic and clinical outcome in acute osteoporotic vertebral compression fracture: Teriparatide alone vs Teriparatide with subsequent vertebroplasty**
 YONGJUN JIN Inje University
- 17:00-17:10 **Paraspinal muscle fatty degeneration as a predictor of progressive vertebral collapse in osteoporotic vertebral compression fractures**
 Dongwoo Yu Yeungnam University
- 17:10-17:20 **Thoracolumbar Burst Fractures Surgical Treatment – Posterior Bone Graft with or without decompression using Unilateral Biportal Endoscopy (UBE) and Percutaneous Pedicle Screw Fixation (PPSF)**
 Seung-Hyun Choi Wonwook Park Hospital
- 17:20-17:30 **Absolute value of L4 trabecular CT attenuation predicting pedicle screw loosening after degenerative lumbar spine surgery; Consider fusion level and sagittal balance**
 Byung-Jou Lee Inje University
- 17:30-17:40 **Extrasosseous cement leaks after percutaneous balloon kyphoplasty: systematization and significance**
 Roman Ilyuk Clinical hospital Feofaniya, Kyiv, Ukraine
- 17:40-18:00 KSNS General Assembly
- 18:00-18:20 Closing Ceremony and Awards

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Room B

08:00-09:00 **Breakfast Symposium B-2:**  DePuy Synthes
Keung Neun, Kim Yonsei University

3D printed TI cage material science & cervical experience

Jung-Woo Hur Catholic University

MIS TLIF & Endoscopic fusion with 3D printed TI cage

Jun Seok Bae Cheongdam Wooridul Hospital

The Clinical review of novel 3D printed Ti cage and PLIF(bi-TLIF) experience

Joo Han Kim Korea University

09:00-10:00 **Free paper Session B-4**

Jun Jae Shin Yonsei University

Il Sup Kim Catholic University

09:00-09:10 **Comparative Clinical And Radiographic Cohort Study: Uniportal Thoracic Endoscopic Laminotomy With Bilateral Decompression Using One Block Resection Technique And Thoracic Open Laminotomy With Bilateral Decompression For Thoracic Ossified Ligamentum Flavum**

Pang Hung Wu Nanoori Hospital

09:10-09:20 **Comparative Cohort Study of Paraspinal Muscle Volume Change between Uniportal Full Endoscopic Posterolateral and Open Transforaminal Lumbar Interbody Fusion**

Inkyung Lee Nanoori Hospital

09:20-09:30 **Unilateral Biportal Endoscopic Lumbar Interbody Fusion (ULIF) Versus Conventional Posterior Lumbar Interbody Fusion (PLIF) for 2 lumbosacral segment : Clinical and Radiological Outcomes of One-Year Follow-up**

Seung-Hyun Choi Wonwook Park Hospital

Day 4

Room B

- 09:30-09:40 **Biportal endoscopic assisted trans foraminal posterior lumbar interbody fusion technique (ULIF/ TPLIF)**
Jisoo Ha Bumin Hospital
- 09:40-09:50 **Stitchless transforaminal percutaneous endoscopic lumbar discectomy for lumbar prolapsed intervertebral disc in awake and aware patient: Result of 284 patients**
Sumeet Sonawane
Medical Faculty Padjadjaran University, West Java, Indonesia
- 09:50-10:00 **Increased osteophyte length: a possible risk factor for motor weakness after oblique lumbar lateral fusion surgery**
Jaeyoung Kim Chonnam National University
- 10:40-12:00 **COVID-19 and Spine Surgery**
Keun Su Kim Yonsei University
- 10:40-11:10 **The Role of Spine Surgeon in COVID-19 Pandemic Situation**
Jeffrey C. Wang USA, Los Angeles
- 11:10-11:35 **Elective and Emergency Spine Surgery for COVID-19 Patients**
Jacob Oh Yoong Leong Singapore
- 11:35-12:00 **Outpatient Advice in COVID-19 Pandemic Situation: Vaccination, Pain Procedure, and Medication**
Dong-Hwa Heo Bumin Hospital, Korea

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Room B

12:00-13:00

Luncheon Symposium B-3:  

Keun Su Kim Yonsei University

Seung Hwan Yoon Inha University

12:00-12:30

Effects of a novel BMP-2 sustained release biomaterial (Novosis Putty) for spinal fusion

Takashi Kaito Osaka University Graduate School of Medicine

12:30-13:00

Clinical experience of BMP-2

Kyung Hyun Kim Yonsei University

13:00-14:30

Award Presentation

Seung Won Park Chung-Ang University

Insoo Kim Keimyung University

13:00-13:14

대한척추신경외과학회 학술상 - Nonsurgical treatment outcomes for surgical candidates with lumbar disc herniation: a comprehensive cohort study

Chi Heon, Kim Seoul National University

13:14-13:28

기초학술상 1 – 척수 손상 후 신경병증 통증에 대한 D-serine의 효과 및 작용 조절 기전에 대한 연구

Subum Lee Kyungpook National University

13:28-13:42

기초학술상 2 – Rat 경막 유착 모델을 통한 Integrin $\alpha 2 \beta 1$ 억제제의 수술 후 경막 유착 방지 효과 평가

Hong Joo Moon Korea University

13:42-13:56

임상학술상 1 – 골다공성 척추압박골절을 동반한 골다공증 환자에서 젤레드론산 주사와 데노수맙 주사의 안전성 및 효과에 대한 비교 연구

Seong Son Gachon University

13:56-14:10

임상학술상 2 – 골다공증성 압박 골절 환자에서 척추체 강화술 후 예후 인자로서의 기립 자세와 앙와위 자세에서의 콥스 각도 차이

In Suk Bae Eulji University

Day 4

Room B

- 14:10-14:24 **임상학술상 3 – 요추 5번-천추 1번간 추간판 탈출증에서 후공간 내시경하 추간판 제거술과 현미경하 추간판 제거술간 무작위 대조군 임상연구의 예비 보고**
Jin Sung, Kim Catholic University
- 14:24-14:38 **임상학술상 4 – 현미경하 추간판 제거술간 무작위 대조군 임상연구의 예비 보고**
jungjae Lee University of Ulsan
- 14:40-16:20 **Main Topic Session B-4:
How to Evaluate and Manage Adult Spinal Deformity**
Jang Bo Lee Korea University
Sung Bum Kim Kyung Hee University
- 14:40-15:05 **Effect of Aging on Sagittal Balance and Spinal Alignment**
Jean C Le Huec
Bordeaux University Hospital, Spine Surgery, Bordeaux
- 15:05-15:30 **GAP Score Evaluation to Prevent Mechanical Complication**
Caglar Yilgor Acibadem Maslak Hospital
- 15:30-15:55 **Surgical Techniques in Adult Degenerative Scoliosis**
Dae Jean Jo Kyung Hee University
- 15:55-16:20 **PCO, PSO, VCR: When and How to Do It?**
Seung Jae Hyun Seoul National University
- 16:20-16:40 **Coffee Break & Poster View**

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Room B

- 16:40~17:20 **Free Paper Session B-5**
Seung-Myung Moon Hallym University
Byung Kwan Choi Pusan National University
- 16:40-16:50 **Impact of frailty on clinical outcomes in surgery for lumbar spinal stenosis**
Hong Kyung Shin Ulsan University
- 16:50-17:00 **Long term trends of mechanical complication after adult spinal deformity correction surgery : A retrospective analysis with minimum 3 year follow up from 2010 to 2018**
Jaeyoung So Yonsei University
- 17:00-17:10 **Partial Pedicle Subtraction Osteotomy for Patients with Thoracolumbar Fractures: Comparative Study between Burst Fracture and Posttraumatic Kyphosis**
Ho Yong Choi Kyung Hee University
- 17:10-17:20 **Usefulness of oblique lumbar interbody fusion as revision surgery: Comparison of clinical and radiological outcomes between primary and revision surgeries**
Young-Seok Lee Kyungpook National University

Day 4

Room C

08:00-09:00 **Breakfast Symposium C-1:**  **SK chemicals**
Eun-Sang Kim Sungkyunkwan University

Clinic efficacy of JOINS in the spinal OA treatment
Dong Ah Shin Yonsei University

10:00-12:00 **Plenary Session V: Revision surgery for Adult Spinal Deformity: How to manage**
Jung Kil Lee Chonnam National University
Yoon Ha Yonsei University


10:00-10:25 **Proximal Junctional Kyphosis/Failure**
Mitsuru Yagi Keio University School of Medicine, Tokyo

10:25-10:50 **Rod Fracture and Pseudoarthrosis**
Justin S Smith General Neurological Surgery Appointment

10:50-11:15 **Distal Junctional Failure**
Kyung Hyun Kim Yonsei University

11:15-11:40 **Progression of Sagittal/Coronal Imbalance**
Dean Chou University of California, San Francisco, California

11:40-12:00 Discussion

12:00-13:00 **Luncheon Symposium C-2:**  **VIATRIS**
In Soo Kim Keimyung University

12:00-12:30 **Neuropathic Pain in Low Back Pain: Prevalence, Risk Factor and real practice**
Sun-Ho Lee Sungkyunkwan University

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Room C

- 13:00-14:30 **Award Presentation**
Choon Keun Park The Leon Wiltse Memorial Hospital
Chul-Woong Park Daejeon Woori Hospital
- 13:00-13:14 **월스학술상 - A modified MRI protocol for the increased detection of sacrococcygeal fractures in patients with thoracolumbar junction fractures**
Il, Choi Hallym University
- 13:14-13:28 **라미학술상 1 - Surgical Impact on Global Sagittal Alignment and Health-Related Quality of Life Following Cervical Kyphosis Correction Surgery: Systematic Review**
Changuk, Kim Seoul National University
- 13:28-13:42 **라미학술상 2 - Pharmacologic and Regenerative Cell Therapy for Spinal Cord Injury: WFNS Spine Committee Recommendations**
Toshihiro Takami Osaka City University
- 13:42-13:56 **라미학술상 3 - Transforaminal Endoscopic Lumbar Discectomy for L5-S1 Disc Herniation With High Iliac Crest: Technical Note and Preliminary Series**
Kuo-Tai Chen Chang Gung Memorial Hospital
- 13:56-14:10 **우리학술상 1 - A New Classification for Cervical Ossification of the Posterior Longitudinal Ligament Based on the Coexistence of Segmental Disc Degeneration**
Jungi, Lee Korea University
- 14:10-14:24 **우리학술상 2 - Selection of Fusion Level for Adolescent Idiopathic Scoliosis Surgery : Selective Fusion versus Postoperative Decomensation**
Dohyeong, Kim Seoul National University
- 14:24-14:38 **대원학술상 - Percutaneous Endoscopic Decompression in Lumbar Canal and Lateral Recess Stenosis - The Surgical Learning Curve**
Cheolu, Lee St. Peter's Hospital