SCOLIOSIS RESEARCH SOCIETY

Spine Deformity Solutions: A Hands-On Course

October 27-29, 2021 | Nijmegen, the Netherlands

Radboud University Medical Center (RUMC)

FINAL PROGRAM

MEETING OVERVIEW

Meeting Description

The Hands-On Course will provide an opportunity for participants to expand their knowledge and improve their skills through training and discussions with leading spinal deformity surgeons from around the world. Registration is limited to ensure access to faculty, small group interaction for better learning, and opportunities for hands-on work. Nine hours of the course will be devoted to lab work. Topics and lab sessions will cover all areas of the spine and a variety of conditions and techniques.

Learning Outcomes/Objectives

As a result of participating in this activity, participants should be able to:

- Identify appropriate options for cervical and adult deformity reconstruction
- Employ techniques to avoid complications in spinal deformity surgery
- Develop skills in complex cervical deformity correction
- Identify the appropriate indications for the use of spinopelvic instrumentation
- Demonstrate skills for the correct placement of spinopelvic instrumentation
- Integrate techniques for posterior and anterior lumbo-sacral deformity corrections
- Demonstrate knowledge and skills for performing basic and complex spinal osteotomies

FACULTY

Course Chairs

Ahmet Alanay, MD
Istanbul, Turkey

Marinus de Kleuver, MD, PhD
Nijmegen, the Netherlands

Course Faculty*

Ronald Bartels, MD, PhD
Nijmegen, the Netherlands

Teresa Bas, MD, PhD
Valencia, Spain

René Castelein, MD, PhD
Utrecht, Netherlands

Sébastien Charosky, MD
Quint Fonsegrives, France

Benny Dahl, MD, PhD, DMSci
Copenhagen, Denmark

Frank Kleinstück, MD
Zürich, Switzerland

Heiko Koller, MD
Munich, Germany

Ferran Pellise, MD, PhD
Barcelona, Spain

Martin Pouw, MD, PhD
Nijmegen, the Netherlands
**Lab only faculty*

Martin Repko, MD, PhD
Brno, Czech Republic

Dominique Rothenfluh, MD, PhD
Oxford, United Kingdom

Christopher Shaffrey, MD
Durham, USA

Javier Pizones, MD, PhD
Madrid, Spain

GENERAL MEETING INFORMATION

Target Audience

Residents, fellows and orthopaedic and neurosurgeons who have an interest in and are involved in spinal deformity management and treatment.

Language

English is the official language of the course and all presentations and course materials will be provided in English.

Attire

Business casual attire is appropriate for the Fireside Chats. Casual attire and scrubs are appropriate for the lecture and lab sessions. Scrubs, disposables, and lead aprons will be provided at the lab. ***Thyroid protection will not be provided at the lab. Participants will need to provide their own thyroid shields if they need or want them.***

Accreditation Statement

The Spine Deformity Solutions: A Hands-On Course in Nijmegen, Netherlands, 27/10/2021-29/10/2021 has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) for a maximum of **15 European CME credits (ECMEC®s)**. Each medical specialist should claim only those credits that he/she actually spent in the educational activity.

Through an agreement between the Union Européenne des Médecins Spécialistes and the American Medical Association, physicians may convert EACCME® credits to an equivalent number of *AMA PRA Category 1 Credits™*. Information on the process to convert EACCME® credit to AMA credit can be found at www.ama-assn.org/education/earn-credit-participation-international-activities.

Live educational activities, occurring outside of Canada, recognised by the UEMS-EACCME® for ECMEC®s are deemed to be Accredited Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada.

Claiming Credit

Attendees can claim EACCME® credits exclusively online at www.srs.org/sds following the submission of the course evaluation.

Special Needs

If you have health issues for which you may require special accommodations, please notify the SRS staff onsite. We will make every effort to accommodate any special needs.

FDA Statement (United States)

Some drugs and medical devices demonstrated during this course have limited FDA labeling and marketing clearance. It is the responsibility of the physician to be aware of drug or device FDA labeling and marketing status.

Insurance/Liabilities and Disclaimer

SRS will not be held liable for personal injuries or for loss or damage to property incurred by participants. Course participants are encouraged to take out insurance to cover loss incurred in the event of cancellation, medical expenses or damage to or loss of personal effects when traveling outside of their own countries. SRS cannot be held liable for any hindrance or disruption of course proceedings arising from natural, political, social or economic events or other unforeseen incidents beyond its control. Registration of a participant or guest implies acceptance of this condition.

The materials presented at this activity are made available for educational purposes only. The material is not intended to represent the only, nor necessarily best methods or procedures appropriate for the medical situations discussed,

but rather is intended to present an approach, view, statement or opinion of the faculty that may be helpful to others who face similar situations.

SRS disclaims any and all liability for injury or other damages resulting to any individual attending a scientific meeting and for all claims that may arise out of the use of techniques demonstrated therein by such individuals, whether these claims shall be asserted by a physician or any other person.

Disclosure of Conflict of Interest

It is the policy of SRS to insure balance, independence, objectivity and scientific rigor in all of their educational activities. In accordance with this policy, SRS identifies conflicts of interest with instructors, content managers, and other individuals who are in a position to control the content of an activity. Conflicts are resolved by SRS to ensure that all scientific research referred to, reported, or used in a CME activity conforms to the generally accepted standards of experimental design, data collection and analysis.

CONFLICT OF INTEREST DISCLOSURES

First Name	Last Name	Disclosure
Ahmet	Alanay	Medtronic (a); DePuy Synthes (a); Globus Medical (b); Zimmer Biomet (b, g)
Marnius	de Kleuver	Medtronic (d, e)
Teresa	Bas	No relationships
Ronald	Bartels	No relationships
René	Castelein	Stryker Spine (a, d)
Sébastien	Charosky	Medronic (b); SMAIO (b, g)
Benny	Dahl	Stryker Spine (e)
Frank	Kleinstück	DePuy Synthes (a, d)
Heiko	Koller	No relationships
Ferran	Pellise	DePuy Synthes (a); Medtronic (a, b); Stryker Spine (b)
Martin	Repko	No relationships
Dominique	Rothenfluh	No relationships
Christopher	Shaffrey	NuVasive (a, b, c, g)
Javier	Pizones	DePuy Synthes (a); Medtronic (a, b)

Key:

a – grants/research support; b – consultant; c – stock/shareholder (self-managed); d – speaker's bureau; e – advisory board or panel; f – employee, salary (commercial interest); g – other financial or material support (royalties, patents, etc.)

LOCATION INFORMATION | RADBOUD UNIVERSITY MEDICAL CENTER

Wednesday, October 27 | Registration and Fireside Chat Case Discussions

Faculty Club, Huize Heyendael
Geert Grooteplein Noord 9,
6525 EZ Nijmegen, Netherlands

Directions by Car
Directions by Public Transport

Thursday, October 28 and Friday, October 29 | Lecture Sessions and Practical Exercises

Studiecentrum
Geert Grooteplein 21 (route 74 - 142)
6525 EZ Nijmegen, Netherlands

Directions by Car
Directions by Public Transport

MEETNG ROOMS

Huize Heyendael

ROOM	FUNCTION
Entrance Way	Registration Check-In
Marijnenkamer	Faculty Pre Course Meeting & Fireside Chat Room 1
Beelkamer	Fireside Chat Room 2

Studiecentrum

ROOM	ROUTE*	FUNCTION
Hippocrateszaal	Route 77	Lecture Room
Lounge	Route 77	Refreshment Breaks
De Haardt	Route 77	Lunch Breaks
Lab A	Route 103	Stations 1-5, with fluoroscope
Lab B	Route 103	Stations 6-10, without fluoroscope
Moulin AB	Route 124	Dressing Room

**At RUMC, all rooms (or departments with a group of rooms) have a specific route-number. When you enter a building, you can follow the route numbers, starting from the entrance, to the room you are looking for.*


Bezoekadres Hoofdingang
Geert Grooteplein Zuid 10
6500 HB Nijmegen
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(024) 361 11 11
Website
www.radboudumc.nl
Centrum
Arnhem (A325)
NS-Station Heyendaal
N
Kapittelweg
Ronald McDonald Huis
Radboudumc Health Academy
50-64
65-73
UGC Heyendaal
160-170
171
232-257
Bedrijven-centrum
Parkeergarage medewerkers
100-141
74-99
Studiecentrum
106-121
142-159
126-136
231
196-199
258-291
Researchtoren
Sint Annastraat (S105)
Hoofdingang
Huize Heyendaal
Experience center 6-25
Geert Grooteplein
Heyendaalseweg
Ingang West
400-428
429-480
508-566
A
636-699
SEH
D
755-779
780-869
870-879
G
880-884
385-396
506-527
605-635
B
706-754
C
782-865
F
885
491-504
515-564
376-419
369-375
900-905
906-930
907-939
940-959
Ingang Oost
Philips van Leydenlaan
René Descartesdreef
Tandheelkunde
308-355
Villa Oud Heyendaal
960-976
977-979
980-999
Malden/Mook (N271)
Erasmuslaan
Legenda
0-999 Routenummers
Ingang West 369-428 Philips van Leydenlaan 15
Hoofdingang 429-865 Geert Grooteplein Zuid 10
Ingang Oost 866-999 Renier Postlaan 4
Geplande nieuwbouw
Parkeerplaats | Parkeergarage
Fietsenstalling
Bushalte | Treinstation
Aanrijroutes
Aanrijroute Spoedeisende Hulp
Spoedeisende Hulp Geert Grooteplein zuid 22
Radboudumc

Huize Heyendael, RUMC

16:30-17:00

Faculty Shuttle to Huize Heyendael
Pick-up at Hotel Blue

17:00-18:00

Faculty Pre-Course Meeting
Room: van Agtkamer

18:00-18:30

Participant Registration
Location: Entrance, Huize Heyendael
After check-in, attendees will be directed to their designated fireside chat rooms for small group case discussions.
Hors d'oeuvres and beverages will be available inside the discussion rooms.

18:30-20:30

Fireside Chat Case Discussions: Pediatric & Adult Spine Deformity (2 Concurrent Sessions)
Theme: Radiographic Evaluation and Planning for Correction of Spinal Deformity

18:30-20:30 **1. Pediatric & Adult Spine Deformity** – Room 1: Marijnenkamer
Moderator: Marinus de Kleuver, MD, PhD
Pediatric Case Presenters: René Castelein, MD, PhD; Benny Dahl, MD, PhD
Adult Case Presenters: Ronald Bartels, MD, PhD; Sébastien Charosky, MD; Heiko Koller, MD; Christopher Shaffrey, MD

18:30-20:30 **2. Pediatric & Adult Spine Deformity** – Room 2: van Agtkamer
Moderator: Ahmet Alanay, MD
Pediatric Case Presenters: Teresa Bas, MD, PhD; Dominque Rothenfluh, MD, PhD
Adult Case Presenters: Frank Kleinstück, MD; Martin Repko, MD, PhD; Javier Pizones MD, PhD; Ferran Pellise, MD, PhD

20:30-21:00

Faculty Shuttle Provided to Hotel Blue

Studiecentrum, RUMC

7:00-7:30

Faculty Shuttle to Studiecentrum

7:30-8:00

Changing Rooms Available (change from civilian clothes to surgical scrubs)
Room: Moulin AB - Route 124

7:30-8:00

Welcome and Coffee in Lounge | Route 77

8:00-8:50

Session 1: Thoracolumbar Open and Minimally Invasive Posterior Techniques | Room: Hippocrates - Route 77
Moderator: Ahmet Alanay, MD

8:00-8:05 **Course Welcome & Introduction of the Team**
Marinus de Kleuver, MD, PhD

8:05-8:15 **Fixation of Thoracic, Lumbar, Sacrum, and Pelvis (Hooks, Pedicle Screws, Iliac Screws, and S2AIa-Ilium Screws Fixation)**
Sébastien Charosky, MD

8:15-8:25 **Minimally Invasive Stabilization of the Thoracolumbar Spine with Percutaneous Screws and Navigation**
Ahmet Alanay, MD

8:25-8:35 **Direct Lateral (Trans Psoas) and Oblique Lateral Approach to the Lumbar Spine-Degenerative Condition**
Ferran Pellise, MD, PhD

8:35-8:45 **Discussion**

8:45-8:50 **Moment of Remembrance**
Marinus de Kleuver, MD, PhD & Denise Doomeri

8:50-9:05

Proceed to lab and dress into disposable surgical gowns
Room: Moulin AB - Route 124

9:05-10:35

Practical Exercise 1A-B, Rotation 1
*Lab Room A (Stations 1-5) - Cadavers in lateral decubitus position, **left** side up*
Lab Room B (Stations 6-10) - Cadavers prone position

Group 1 **Practical Exercise 1A: Anterior Interbody Fusion (Cadavers Lateral) (with fluoroscope) –** *Lab Room A*
Lateral Lumbar Approach (from left side), Interbody Fusion (L1-L2-L3)
(Each group does two discs in the upper lumbar spine)

Group 2 **Practical Exercise 1B: Posterior Instrumentation (Cadavers Prone) (without fluoroscope)** – *Lab Room B*
Thoracic-Lumbar-Ilium; Insertion of Hooks and Pedicle Screws; Sacro-Pelvic Fixation; S2Ala-Ilium Screws. Open, anatomy based. (Left side only)

10:35-11:05

Refreshment Break in Lounge | Route 77 (*Lab staff to rotate cadavers to right side)*

11:05-12:35

Practical Exercise 1A-B, Rotation 2

*Lab Room A (Stations 1-5) - Cadavers in lateral decubitus position, **right** side up*

Lab Room B (Stations 6-10) - Cadavers prone position

Group 2 **Practical Exercise 1A: Anterior Interbody Fusion (Cadavers Lateral) (with fluoroscope) -** *Lab Room A*
Lateral Lumbar Approach (from right side), Interbody Fusion (L1-L2-L3)
(Each group does two discs in the upper lumbar spine)

Group 1 **Practical Exercise 1B: Posterior Instrumentation (Cadavers Prone) (without fluoroscope) -** *Lab Room B*
Thoracic-Lumbar-Ilium; Insertion of Hooks and Pedicle Screws; Sacro-Pelvic Fixation; S2Ala-Ilium Screws. Open, anatomy based. (Right side only)

12:35-13:15

Lunch and Group Photo *(Lab staff to turn cadavers to prone position)*
Room: De Haardt | Route 77

13:15-14:05

Session 2: Osteotomies and Pelvic Fixation | Room: Hippocrates - Route 77

Moderator: Martin Repko, MD, PhD

13:15-13:25 **Posterior Column Osteotomies Including Wide Release Ponte & Smith-Peterson Osteotomy**
Javier Pizones MD, PhD

13:25-13:35 **Pedicle Subtraction Osteotomy (PSO)**
Heiko Koller, MD

13:35-13:45 **Vertebral Column Resection (VCR)**
Benny Dahl, MD, PhD

13:45-13:55 **Complications of Osteotomies**
Martin Repko, MD, PhD

13:55-14:05 **Discussion**

14:05-14:15

Proceed to Lab | Route 103

14:15-16:45

Practical Exercise 2: Posterior Spinal Osteotomies (All Cadavers Prone Position)

Lab Room A (Stations 1-5); Lab Room B (Stations 6-10) – Route 103

Posterior Column Osteotomies, Ponte multiple levels between L1-L5, Smith-Peterson Osteotomy (SPO), Pedicle Subtraction Osteotomy (PSO) in the Lumbar Spine (at L3), Vertebral Column Resection (VCR) of the Thoracic Spine (at T9).
Participants share left/right side.

15:00-16:00

Beverage Available in Lounge | Route 77

16:45-17:00

Change Clothes (*Lab staff to turn cadavers to supine position)*
Room: Moulin AB - Route 124

17:00-17:30

Faculty Shuttle Provided to Hotel Blue

19:00-21:00

Faculty and Industry Dinner (by invitation only).
Participant free night out.

Studiecentrum, RUMC

7:00-7:30

Faculty Shuttle to Studiecentrum

7:30-8:00

Changing Rooms Available (change from civilian clothes to surgical scrubs)
Room: Moulin AB - Route 124

7:30-8:00

Welcome and Coffee in Lounge | Route 77

8:00-9:00

Session 3: Cervical Deformity: Indications, Approach, and Execution | Room: Hippocrates - Route 77
Moderator: Ronald Bartels, MD, PhD

8:00-8:10 **Anterior Cervical Discectomies and Corpectomies**
Ronald Bartels, MD, PhD

8:10-8:20 **Occipital and Cervical Fixation with Cervical Pedicle Screws and Lateral Mass Screws**
Ronald Bartels, MD, PhD

8:20-8:30 **Planning and Execution for Cervical Osteotomies**
Christopher Shaffrey, MD

8:30-8:40 **Complications of the Cervical Spine**
Christopher Shaffrey, MD

8:40-9:00 **Discussion**

9:00-9:15

Proceed to lab and dress into disposable surgical gowns
Room: Moulin AB - Route 124

9:15-10:45

Practical Exercise 3A: Anterior Approaches to the Cervical Spine and Cervicothoracic Junction (All Cadavers Supine Position)
Lab Room A (Stations 1-5); Lab Room B (Stations 6-10) - Route 103
Interbody Fusion and Corpectomy, Sternotomy, and Approach to Upper Thoracic Spine

10:45-11:15

Refreshment Break in Lounge | Route 77 *(Lab staff to turn cadavers to prone position)*

11:15-12:45

Practical Exercise 3B: Posterior Cervical Reconstruction from Occipital to T2 (All Cadavers Prone Position)
Lab Room A (Stations 1-5); Lab Room B (Stations 6-10) - Route 103
Posterior Instrumentation: Occipital Plate, C2 Pedicle Screws, C3-C7 Pedicle Screws, C7 Osteotomy. Open Anatomy Based.

12:45-13:25

Lunch *(Lab staff to turn cadavers to lateral position)*
Room: De Haardt - Route 77

13:25-14:35

Session 4: Anterior and Lateral Approach: Thoracic and Lumbar Spine | Room: Hippocrates - Route 77
Moderator: Marinus de Kleuver, MD, PhD

13:25-13:35 **Anterior Spinal Surgery for Scoliosis Overview**
Dominque Rothenfluh, MD, PhD

13:35-13:45 **Anterior Transpleural Thoracic Approaches- Deformity, Tumor, Trauma: Lateral (Flank) Thoracolumbar-Lumbar Retroperitoneal Approach for Anterior Column Reconstruction and Release**
Ferran Pellise, MD, PhD

13:45-13:55 **Anterior Techniques with Anterior Lumbar Interbody Fusion, Retroperitoneal Anterior Approach to L5-S1, L4-L5 and L3-L4**
Teresa Bas, MD, PhD

13:55-14:05 **Complications of Anterior and Lateral Surgery: How to Deal with Them**
René Castelein, MD, PhD

14:05-14:15 **How to Maximize Efficiency/Reduce Complication Rates**
Frank Kleinstück, MD

14:15-14:25 **Revision Surgery for ASD: Pre-Operative Planning and Surgical Techniques**
Marinus de Kleuver, MD, PhD

14:25-14:35 **Discussion**

14:35-14:45

Proceed to lab | Route 103

14:45-16:15

Practical Exercise 4: Anterior Thoracolumbar Approaches (Cadavers Lateral Decubitus Position, Left Side Up. Then for Second Part, Turn to Supine Position)
Lab Room A (Stations 1-5); Lab Room B (Stations 6-10) – Route 103
Part 1. Anterior Thoracic Transpleural Approach (Mid-Thoracic). Cadavers in lateral decubitus position, left side up
Cadavers to be repositioned by participants
Part 2. Anterior Lumbosacral Retroperitoneal Approach + ALIF L5-S1 & Exposure L4-L5. Cadavers supine

16:15-16:30

Open Question & Answer Wrap-up Session | Lab Room A
Marinus de Kleuver, MD, PhD & Ahmet Alanay, MD

16:30-16:45

Change Clothes and Adjourn
Room: Moulin AB - Route 124

16:45

Faculty Shuttle Provided to Hotel Blue

CORPORATE SUPPORT

We are pleased to acknowledge and thank the companies that provided financial and in-kind support to SRS for this Hands-On Course. These companies provided educational grants to support costs for facility rental, cadavers, and other course expenses as well as necessary instrumentation and implants for the hands-on lab sessions.

DePuy Synthes
Globus Medical, Inc.
Medtronic
NuVasive
Zimmer Biomet

FUTURE SRS MEETINGS

29th IMAST
April 6-9, 2022 - Miami, Florida, USA

Spine Deformity Solutions: A Hands-On Course
June 1-3, 2022 – Bordeaux, France

Current Concepts in Spine Deformity
July 28-30, 2022 - Santiago, Chile

57th Annual Meeting
September 20-23, 2022 - Sydney, Australia

Spine Deformity Solutions: A Hands-On Course
October 27-29, 2022 - Singapore, Singapore

Current Concepts in Spine Deformity
November 18-19, 2022 – Warsaw, Poland

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