5th SALZBURG HANDS-ON WORKSHOP  
on Microsurgical and Endovascular  
Techniques, with live animals  
November 30th to December 3rd, 2016

Christian Doppler Medical Center  Research Laboratory for Microsurgical Neuroanatomy  
Course Director: Rahman A. Al-Schameri, M.D.  
Chairman: Peter A. Winkler, M.D., Ph.D.

Topics

• Basics of microsurgical techniques  
• Basics of endovascular techniques - Aneurysm/Stroke  
• Basics of cerebral revascularization  
  • Surgical revascularization - bypass  
  • Acute endovascular revascularization  
• Hands on technique on alive animal  
• Nerve coaptation  
• Lectures and updates  
  • Neurosurgical/endovascular management of cerebral aneurysms  
  • Neurosurgical/endovascular management of acute and chronic stroke  
  • Neuroradiological evaluation, pre- and postoperative  
  • Management of giant aneurysm  
  • Surgery of peripheral nerve  
  • Intra-extracranial stenosis, stent & carotid endarterectomy

Educatonal Objectives

- Overview about diagnostic and therapeuticaly options in CVD  
- Improvement of microsurgical skills  
  • Principle and philosophy of endovascular surgery  
- Case discussion  
- Risk assessment  
- Establishment of M&M conference
Modern micro neurosurgery-training should enable the neurosurgeon to work easily and effortlessly through the operating microscope. In order to accomplish this it is essential that adequate laboratory animal training is available and can be used. The first step in microsurgery is to acquire skill and proficiency in the handling of the mobile operating microscope. This includes the understanding of basic optical and mechanical construction of the microscope as well as its principles as applied to neurosurgical procedures. Preparation, practice, and proficiency with microsurgical instruments are also indispensable for developing skills for precisely manipulating magnified tissue structures. Additionally the increasing demand of understanding the principle of endovascular technique by the treatment of many cerebrovascular diseases obligate the neurosurgeons to be educated not only in the open surgical field as well as in the endovascular surgery, this provide the safety and give you the ability to chose without bias the best treatment option for your patient. The ultimate success in clinical microsurgery depends on acquisition and application of these special skills. For that very reason the Research Laboratory for Microsurgical Neuroanatomy at the Department of Neurosurgery has been established at the Christian Doppler Medical Center, Paracelsus Medical University Salzburg. We invite you to join our 5th Salzburg Hands-on Workshop on Microsurgical and Endovascular Techniques for Cerebral Revascularization and we are looking forward to spending very interesting and stimulating days in Salzburg with you.

Welcome

Members of Faculty

Rahman Al-Schameri, M.D.
Department of Neurosurgery Christian Doppler Medical Center
Paracelsus Medical Private University Salzburg

Cornelia Daller, M.D.
Department of Neurosurgery Christian Doppler Medical Center
Paracelsus Medical Private University Salzburg

Anna Hauser, M.D.
Department of Neurosurgery Traunstein, Germany

Thomas Hauser, M.D.
Department of Neurosurgery Christian Doppler Medical Center
Paracelsus Medical Private University Salzburg

Thomas Holzenbein, M.D.
Chairman of the Department of Vascular Surgery Paracelsus Medical Private University Salzburg

Michael Kral, M.D.
Department of Neurosurgery Christian Doppler Medical Center
Paracelsus Medical Private University Salzburg

Manuel Lunzer, M.D.
Department of Neurosurgery Christian Doppler Medical Center
Paracelsus Medical Private University Salzburg

Johannes Sebastian Mutzenbach, M.D.
Department of Neurology Christian Doppler Medical Center
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Bernd Richling, M.D.
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Heinrich Schubert, M.D.
Plastic Surgeon, Salzburg

Camillo Sherif, M.D.
Department of Neurosurgery Krankenanstalt Rudolfstiftung Vienna

U. Spetzger, M.D. Ph.D.
Department of Neurosurgery Karlsruhe, Germany

Saleem Abdulrauf, M.D.
Director of the center of cerebrovascular and skull base surgery, Saint louis, USA

Siegfried Thurnher, M.D.
Chairman of the Department of Radiology Barmherzige Brüder, Wien

S. Ottavio Tomasi, M.D.
Department of Neurosurgery Christian Doppler Medical Center
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Gottfried Wechselberger, M.D.
Chairman of the Department of Plastic Surgery Barmherzige Brüder Salzburg

Peter A. Winkler, M.D., Ph.D.
Chairman of the Department of Neurosurgery Christian Doppler Medical Center
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Peter A. Winkler, M.D., Ph.D
Professor and Chairman
Rahman Al-Schameri, M.D.
Senior Consultant and Course director

Department of Neurosurgery
Research Laboratory for Microsurgical Neuroanatomy
Christian Doppler Medical Center
Paracelsus Medical Private University Salzburg
### Wednesday, November 30, 2016

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td>Welcome and introduction</td>
<td>Winkler, Al-Schameri</td>
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<tr>
<td>09:10</td>
<td>Goals and strategy of microsurgical course</td>
<td>Al-Schameri</td>
</tr>
<tr>
<td>09:30</td>
<td>Receipt of anastomosis training kit and microinstrument set</td>
<td>Lunzer</td>
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**Microsurgery Hands-on Part I with Silicone model (Biomet)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:50</td>
<td>Hands-on: Performance of running and interrupted sutures</td>
<td>Al-Schameri</td>
</tr>
<tr>
<td>11:00</td>
<td>Refreshment break</td>
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<tr>
<td>11:15</td>
<td>Hands-on: Performance of end-to-end and end-to-side anastomosis</td>
<td>Al-Schameri</td>
</tr>
<tr>
<td>12:45</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>13:45</td>
<td>Hands-on: Performance of end-to-end and end-to-side anastomosis with</td>
<td>Lunzer</td>
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<tr>
<td></td>
<td>different size of silicone models</td>
<td></td>
</tr>
<tr>
<td>14:45</td>
<td>Briefing: Collateral circulation Indication of bypass-surgery</td>
<td>Al-Schameri</td>
</tr>
<tr>
<td>15:15</td>
<td>Refreshment break</td>
<td></td>
</tr>
<tr>
<td>15:30</td>
<td>Hands-on: Performance of end to side anastomosis 90°</td>
<td>Al-Schameri</td>
</tr>
<tr>
<td>16:30</td>
<td>Basic of cerebral hemodynamic</td>
<td>Lunzer</td>
</tr>
<tr>
<td>16:50</td>
<td>Chronic cerebral ischemic disease</td>
<td>Sherif</td>
</tr>
<tr>
<td>17:10</td>
<td>Case discussion</td>
<td>Alschr/Sherif</td>
</tr>
</tbody>
</table>

### Thursday, December 1, 2016

**Microsurgery Hands-on Part II with biological material**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Speaker(s)</th>
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</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Introduction:</td>
<td>Al-Schameri</td>
</tr>
<tr>
<td>08:10</td>
<td>Hands-on: Performance of arterial end-to-end and end-to-side anastomosis</td>
<td>Al-Schameri</td>
</tr>
<tr>
<td>09:30</td>
<td>Refreshment break</td>
<td></td>
</tr>
<tr>
<td>09:50</td>
<td>Hands-on: Performance of end-to-side with venous interponate anastomosis</td>
<td>Kral</td>
</tr>
<tr>
<td>11:00</td>
<td>Clinical applications of end-to-side anastomosis with venous graft</td>
<td>Al-Schameri</td>
</tr>
<tr>
<td>11:20</td>
<td>Nerve coaptation</td>
<td>Schubert</td>
</tr>
<tr>
<td>11:40</td>
<td>End to end nerve anastomosis</td>
<td>Schubert</td>
</tr>
<tr>
<td>12:30</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>13:30</td>
<td>Hands-on: Performance of end-to-side anastomosis using in the depth</td>
<td>Al-Schameri</td>
</tr>
<tr>
<td>14:30</td>
<td>Principle of endovascular surgery</td>
<td>Al-Schameri</td>
</tr>
<tr>
<td>14:40</td>
<td>How to coil an aneurysm</td>
<td>Kral</td>
</tr>
<tr>
<td>15:10</td>
<td>Refreshment break and the facility of endovascular simulation flow model</td>
<td>Microvention</td>
</tr>
</tbody>
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Programme

Saturday, December 3, 2016

Theoretical Part

09:00 Welcome and introduction

09:10 Cerebral aneurysm, reasons not to clip, reasons not to coil
   Al-Schameri

10:00 Case discussion
   Al-Schameri

10:30 Patient with ruptured aneurysm as surgical/endovascular emergency, clinical cases
   Sherif

11:00 Refreshment break

11:20 Carotid artery stenosis, open surgery, technical note
   Hölzenbein

12:00 Therapy of cerebrale aneurysms: Up date
   Al-Schameri

12:20 Case discussion
   Lunzer

12:30 Complications avoidance
   Al-Schameri

12:50 Microsurgical techniques in reconstructive surgery
   Wechsellberger

13:10 Evaluation und awarding of certificates
   Winkler, Al-Schameri

13:30 Lunch

14:30 End

Friday, December 2, 2016

Microsurgery Hands-on Part III with live animals

08:00 Introduction
   Al-Schameri

08:10 Experimental aneurysm, rabbit model
   Al-Schameri

10:00 Hands-on on live animals: Al-Schameri, Kral, Lunzer, Hauser A.
   Three exercises

15:00 Interactive case discussions
   Al-Schameri

18:00 End

19:30 Course Dinner

Programme

Saturday, December 5th, 2015

Theoretical Part

09:00 Welcome and introduction

09:10 Cerebral aneurysm, reasons not to clip, reasons not to coil
   Al-Schameri

10:00 Case discussion
   Al-Schameri

10:30 Patient with ruptured aneurysm as surgical/endovascular emergency, clinical cases
   Al-Schameri

11:00 Refreshment break

11:20 Carotid artery stenosis, open surgery, technical note
   Hölzenbein

12:00 Therapy of cerebrale aneurysms: Up date
   Al-Schameri

12:20 Case discussion
   Lunzer

12:30 Complications avoidance
   Al-Schameri

12:50 Microsurgical techniques in reconstructive surgery
   Wechsellberger

13:10 Evaluation und awarding of certificates
   Winkler, Al-Schameri

13:30 Lunch

14:30 End