83rd AO Course - DAVOS 2005

AO Masters Course

11 - 16 December 2005

Course Chairmen: T Rüedi, Davos (CH)
                 C Ryf, Davos (CH)

Day Moderators:  D Helfet/ C Sommer
                 D Höntzsch/ P Grützner
                 C Ryf/ K Wenda
                 S Bavonratanavech/ R Pesantez-Hoyos
                 D Lorich/ S Nork

Convention Center - Forum
Monday, December 12, 2005

07:30  Bus hotels - Convention Center

08:00  Introduction to the Masters Course  
       C Ryf/T Rüedi

       Session 1: locked internal fixators: advantages, limits and hazards  
       Day Moderators: D Helfet, C Sommer

08:05  Welcome  
       D Helfet

       Part 1: development and application of LISS and LCP  
       Moderators: D Helfet, C Sommer

08:10  Development and biomechanical principles of locked internal fixators  
       M Altmann

08:25  Discussion

08:30  Clinical application and results of LISS  
       P Kregor

08:50  Clinical application and results of LCP  
       C Sommer

09:10  Discussion

09:25  Coffee break

       Part 2: specific applications of locking plates  
       Moderators: D Helfet, P Kregor

09:50  Proximal humerus  
       N Südkamp

10:05  Discussion

10:15  MIPO humeral diaphysis  
       E Queipo de Llano

10:30  Discussion

10:40  Distal radius  
       J Jupiter

10:55  Discussion

11:05  Proximal femur  
       D Lorich

11:20  Discussion

11:30  Distal tibia (+pilon )  
       C Sommer

11:50  Discussion

12:00  Break for Lunch

       Part 3: problems with locking plates  
       Moderators: D Helfet, M Schütz

16:00  Complications/reoperation after LISS  
       M Schütz

16:20  Discussion

16:30  Complications/reoperation after LCP  
       C Sommer

16:50  Discussion

17:00  Problems with removal of LISS/LCP  
       M Altmann

17:20  Discussion

17:30  Coffee break
Part 4: discussion of failed cases salvaged or as a result of with LISS and LCP
Moderator: D Helfet

18:00 Discussion of cases - interactive debate with participants
     All Faculty send 2 cases in advance to D Helfet
     D Helfet/all Faculty

19.30 End of the day
Tuesday, December 13, 2005

07:40 Bus hotels - Convention Center

Sessions 2 and 3 will be given twice (Tuesday and Wednesday). Participants will be split into 4 groups.

Session 2: MIS and navigation
Day Moderators: D Höntzsch, P Grützer

08:00 Introduction (Forum)  D Höntzsch/P Grützer

**Group 1 (Forum)**

**MIS**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Facilitator</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30</td>
<td>Basic principles of MIS</td>
<td>R Babst</td>
</tr>
<tr>
<td>08:45</td>
<td>MIS tools</td>
<td>D Höntzsch</td>
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<tr>
<td>09:00</td>
<td>MIPO tibia/introduction</td>
<td>D Höntzsch</td>
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<tr>
<td></td>
<td>Practical exercise 1</td>
<td>R Babst</td>
</tr>
<tr>
<td></td>
<td>- MIPO tibia: manual reduction</td>
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<td></td>
<td>(video to be done/MIPO model tibia)</td>
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</tr>
</tbody>
</table>

10:00 Coffee break

10:15 Practical exercise 2  R Babst

- MIPO distal femur: LISS
  (video to be done)

Practical exercise 3  D Höntzsch/R Babst

- MIPO femur shaft: LCP
  (incl. use of collinear reduction clamp)
  (MIPO model femur)

11:45 Break for lunch

**Navigation**

16:00 The navigation system: basic principles  C Schaffrath

16:20 Clinical rationale of navigation  P Grützer

16:40 Navigation in long bone fracture treatment  D Kahler

16:55 C-arm based navigation in pelvic fracture treatment  T Hüfner

17:10 CT based navigation in pelvic fracture treatment  P Messmer

17:30 Coffee break

**Group 2 (Chalet North 1-2)**

**Navigation**

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<td>The navigation system: basic principles</td>
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<td>09:40</td>
<td>CT based navigation in pelvic fracture treatment</td>
<td>P Messmer</td>
</tr>
</tbody>
</table>

10:00 Coffee break

10:15 Practical exercise 1  P Grützer

- SI screw placement (7.3mm can. screw) (video, foam model, BrainLab system)

Practical exercise 2  D Kahler

- Femur nailing (UFN)
  (video, foam model, BrainLab system)

11:45 Break for lunch

**MIS**

16:00 Basic principles of MIS  R Babst

16:15 MIS tools  D Höntzsch

16:30 MIPO tibia/introduction  D Höntzsch

Practical exercise 1  R Babst

- MIPO tibia: manual reduction
  (video to be done/MIPO model tibia)

17:30 Coffee break
<table>
<thead>
<tr>
<th>Time</th>
<th>Practical Exercise</th>
<th>Instructor(s)</th>
<th>Details</th>
</tr>
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<tr>
<td>17:45</td>
<td>Practical exercise 1</td>
<td>P Grützner</td>
<td>SI screw placement (7.3mm can. screw) (video, foam model, BrainLab system)</td>
</tr>
<tr>
<td>17:45</td>
<td>Practical exercise 2</td>
<td>R Babst</td>
<td>MIPO distal femur: LISS (video to be done)</td>
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<td></td>
<td>Practical exercise 2</td>
<td>D Kahler</td>
<td>Femur nailing (UFN) (video, foam model, BrainLab system)</td>
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<tr>
<td>19:15</td>
<td>Discussion</td>
<td></td>
<td>(Forum)</td>
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<tr>
<td>19:45</td>
<td>End of the day</td>
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</table>
Tuesday, December 13, 2005

07:40  Bus hotels - Convention Center

**Groups 3/ 4  (AO Center)**

Session 3: advances in intramedullary nailing technologies
Day Moderators: C Ryf, K Wenda

08:00  Importance of nailing in osteosynthesis  
K Wenda

**Controversis**

08:20  Reamed versus unreamed  
M Bhandari
08:35  Antegrade versus retrograde in femoral nailing  
L Bone
08:50  MIPO or nail in femoral fractures  
S Nork
09:05  Is dynamization necessary?  
C van der Werken
09:15  Nail versus plate in proximal and distal tibia  
M Wagner
09:30  Case discussion – ARS  
C Ryf

10:00  Coffee break

**Failed nail osteosynthesis and non union**

10:30  Malignment  
W Strecker
10:50  Nonunion  
K Wenda
11:10  Case discussion – ARS

11:45  Break for Lunch

**New nailing technologies**

16:00  Trochanteric nail fixation  
D Lorich
16:15  Modified proximal femoral nail  
C van der Werken
16:30  Antegrade femoral nail  
C Frey
16:45  Tibial expert nail  
M Blauth
17:00  Fully implantable distraction nail  
M Baumgart
17:15  Latest development in nails  
N Haas

17:30  Coffee break

**State of the art including the new technologies**

17:50  Femoral nailing  
C Krettek
18:10  Tibial nailing  
L Bone
18:30  Case discussion – ARS  
C Ryf

19:00  End of the day
Wednesday, December 14, 2005

07:40 Bus hotels - Convention Center

Session 2: MIS and navigation
Day Moderators: D Höntzsch, P Grützner

08:00 Introduction  (Forum)  
D Höntzsch/P Grützner

Group 3  (Forum)  
MIS

08:30 Basic principles of MIS  
R Babst
08:45 MIS tools  
D Höntzsch
09:00 MIPO tibia/introduction  
D Höntzsch

Practical exercise 1  
R Babst
- MIPO tibia: manual reduction  
(video to be done/MIPO model tibia)

10:00 Coffee break

10:15 Practical exercise 2  
R Babst
- MIPO distal femur: LISS  
(video to be done)

Practical exercise 3  
D Höntzsch/R Babst
- MIPO femur shaft: LCP  
(incl. use of collinear reduction clamp)  
(MIPO model femur)

11:45 Break for lunch

Navigation

16:00 The navigation system: basic principles  
C Schaffrath
16:20 Clinical rationale of navigation  
P Grützner
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D Kahler
16:55 C-arm based navigation in pelvic fracture treatment  
T Hüfner
17:10 CT based navigation in pelvic fracture treatment  
P Messmer

17:30 Coffee break

Group 4  (Chalet North 1-2)  
Navigation

08:30 The navigation system: basic principles  
C Schaffrath
08:50 Clinical rationale of navigation  
P Grützner
09:10 Navigation in long bone fracture treatment  
D Kahler
09:25 C-arm based navigation in pelvic fracture treatment  
T Hüfner
09:40 CT based navigation in pelvic fracture treatment  
P Messmer

10:00 Coffee break

10:15 Practical exercise 1  
P Grützner
- SI screw placement (7.3mm cannulate screw)  
(video, foam model, BrainLab system)

Practical exercise 2  
D Kahler
- Femur nailing (UFN)  
(video, foam model, BrainLab system)

11:45 Break for lunch

MIS

16:00 Basic principles of MIS  
R Babst
16:15 MIS tools  
D Höntzsch
16:30 MIPO tibia/introduction  
D Höntzsch

Practical exercise 1  
R Babst
- MIPO tibia: manual reduction  
(video to be done/MIPO model tibia)
Practical exercise 1
- P Grützner
- SI screw placement (7.3mm can. screw)
  (video, foam model, BrainLab system)

Practical exercise 2
- D Kahler
- Femur nailing (UFN)
  (video, foam model, BrainLab system)

Practical exercise 2
- R Babst
- MIPO distal femur: LISS
  (video to be done)

Practical exercise 3
- D Höntzsch/R Babst
- MIPO femur shaft: LCP
  (incl. use of collinear reduction clamp)
  (MIPO model femur)

Discussion
(Forum)

End of the day
Wednesday, December 14, 2005

07:40 Bus hotels - Convention Center

**Groups 1/2 (AO Center)**
**Session 3: advances in intramedullary nailing technologies**
Day Moderators: C Ryf, K Wenda

08:00 Importance of nailing in osteosynthesis

**K Wenda**

**Controversis**

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**M Wagner**

09:30 Case discussion - ARS

**C Ryf**

10:00 Coffee break

**Failed nail osteosynthesis and non union**

10:30 Malalignment

**W Strecker**

10:50 Nonunion

**K Wenda**

11:10 Case discussion - ARS

11:45 Break for Lunch

**New nailing technologies**

16:00 Trochanteric nail fixation

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17:00 Fully implantable distraction nail

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**N Haas**

17:30 Coffee break

**State of the art including the new technologies**

17:50 Femoral nailing

**C Krettek**

18:10 Tibial nailing

**L Bone**

18:30 Case discussion - ARS

**C Ryf**

19:00 End of the day
### Session 4: salvage of failed and neglected fractures

**Day Moderators:** S Bavonratanavech, R Pesantez

#### General considerations

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Why a session on failed/neglected fractures</td>
<td>S Bavonratanavech</td>
</tr>
<tr>
<td>08:05</td>
<td>Why a fracture does not heal? Lessons to learn</td>
<td>S Perren</td>
</tr>
<tr>
<td>08:20</td>
<td>Failures of internal fixation: engineering point of view</td>
<td>N Suhm</td>
</tr>
<tr>
<td>08:35</td>
<td>Fracture care in developing countries</td>
<td>H Oberli</td>
</tr>
<tr>
<td>08:50</td>
<td>Neglected fractures in the first world</td>
<td>J Schatzker</td>
</tr>
<tr>
<td>09:05</td>
<td>Preoperative planning in malunion/nonunion surgery</td>
<td>R Buckley</td>
</tr>
<tr>
<td>09:20</td>
<td>Questions/floor discussion</td>
<td></td>
</tr>
</tbody>
</table>

#### Upper extremity

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:35</td>
<td>Malunion/nonunion of the clavicle</td>
<td>N Südkamp</td>
</tr>
<tr>
<td>09:50</td>
<td>Reconstruction of failed neglected proximal humerus</td>
<td>R Marti</td>
</tr>
<tr>
<td></td>
<td>- fixation (7 minutes)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- arthroplasty (7 minutes)</td>
<td></td>
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<tr>
<td></td>
<td>- rebutal (1 minute)</td>
<td></td>
</tr>
<tr>
<td>10:05</td>
<td>Humeral shaft reconstruction: what are the options?</td>
<td>J Quintero</td>
</tr>
<tr>
<td>10:20</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>10:50</td>
<td>The management of failed/neglected fracture dislocations of the elbow and their sequelae</td>
<td>J Jupiter</td>
</tr>
<tr>
<td>11:10</td>
<td>Forearm: neglected fractures and fixation failure</td>
<td>E Johnson</td>
</tr>
<tr>
<td>11:25</td>
<td>Failed and neglected distal radius: the principles of corrective surgery</td>
<td>J Jupiter</td>
</tr>
<tr>
<td>11:55</td>
<td>Ask the experts (cases from participants; upper extremity)</td>
<td></td>
</tr>
</tbody>
</table>

#### Lower extremity 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00</td>
<td>Long term results of corrective surgery for femoral neck malunions and nonunions</td>
<td>R Marti</td>
</tr>
<tr>
<td>16:20</td>
<td>Malunion and nonunion of the proximal femur: fixation, osteotomy, or arthroplasty</td>
<td>E Johnson</td>
</tr>
<tr>
<td>16:45</td>
<td>Problems and options for neglected/failed femoral shaft reconstructions</td>
<td>S Bavonratanavech</td>
</tr>
<tr>
<td>17:10</td>
<td>Decision making, implant choice, and salvage of distal femur failed fixations/malunion</td>
<td>R Pesántez</td>
</tr>
<tr>
<td>17:30</td>
<td>Coffee break</td>
<td></td>
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</table>
## Lower extremity 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
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<tbody>
<tr>
<td>17:50</td>
<td>Salvage of failed/neglected tibial plateau fracture</td>
<td>J Schatzker</td>
</tr>
<tr>
<td>18:05</td>
<td>Malunion and nonunion of the extraarticular proximal tibia fractures: decision making and treatment options</td>
<td>C Krettek</td>
</tr>
<tr>
<td>18:20</td>
<td>Lessons from complex tibia shaft reconstruction (incl. bone transport)</td>
<td>W Smith</td>
</tr>
<tr>
<td>18:40</td>
<td>Ankle malunions/nonunions</td>
<td>R Marti</td>
</tr>
<tr>
<td>18:55</td>
<td>Posttraumatic deformities of the foot</td>
<td>H Zwipp</td>
</tr>
<tr>
<td>19:10</td>
<td>Ask the experts (cases from participants; lower extremity)</td>
<td></td>
</tr>
</tbody>
</table>

19:20 End of the day
Friday, December 16, 2005

07:40  Bus hotels - Convention Center

Session 5: fractures and osteotomy around the knee
Day Moderators: D Lorich, S Nork

Acute trauma
Moderators: D Lorich, S Nork

08:00  Treatment of complex fractures of the distal femur  S Nork
08:20  Discussion
08:30  Treatment of complex fractures of the proximal tibia  D Lorich
08:50  Discussion
09:00  Evaluation and treatment of knee dislocations  J Stannard
09:15  Case discussion  P Kregor/M Reilly

11:00  Coffee break

Post traumatic reconstruction about the knee

11:15  Osteotomies for lower limb deformity  C De Simoni
11:35  Planning of deformity correction of the lower limb  D Paley

12:00  Break for Lunch

Reconstruction about the knee
Moderators: R Marti, P Lobenhoffer

16:00  Osteotomies for posttraumatic deformities of the femoral shaft and distal femur  J Mast
16:15  Osteotomies for posttraumatic instability about the knee  P Lobenhoffer
16:30  Intraarticular osteotomies for posttraumatic deformities about the knee  R Marti
16:45  Questions
16:55  Case discussion  R Marti/P Lobenhoffer
17:25  Distal femoral and proximal tibial nonunions  E Johnson
17:40  Quadriceps plasty  S Nork

Debate:
Moderators: E Johnson, W Smith

Internal fixation versus ring fixators in the treatment of periarticular malunions/nonunions
17:50  Ring fixators  D Paley
18:05  ORIF  J Mast
18:20  Discussion  E Johnson/W Smith/D Paley/J Mast

19:00  End of the course

19:45  Bus Hotels - Convention Center

20:00  Banquet

from 23:00 Bus Convention Center - Hotels