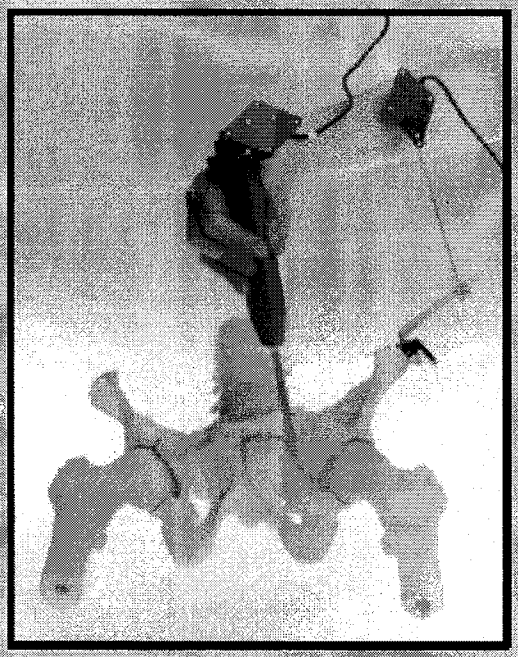
2nd CAOS - Symposium

Computer Assisted Orthopaedic Surgery

Final Program



November 7-9, 1996
M. E. Müller Institute for Biomechanics
Departement of Orthopaedic Surgery
University of Bern, Switzerland

Links to the different topics

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H. Visarius, Ph.D.	Medivision AG, Oberdorf, CH

Program

Wednesday, November 6, 1996

19.00 Pre-registration
Welcome Reception

Thursday, November 7, 1996

7.15 Continental Breakfast
On site-registration

8.00 Welcome and introduction to the 2nd CAOS-Symposium — R. Ganz, L.P. Nolte

Session I - Basic Concepts and Principles of CAS

Chairmen: K.T. Foley and S. Delp

8.15 Medical image data acquisition and visualization — G. Gerig

8.45 Surgical navigation techniques — L.P. Nolte

9.15 Registration concepts in CAS — S. Lavallée

9.45 Surgical planning and simulation — R. Kikinis

10.15 Individual templates in orthopaedic surgery — K. Radermacher

10.35 Discussion

10.50 Coffee break

1st Live Surgery - Image Guided Pedicle Screw Insertion

Moderation: U. Berlemann and L.P. Nolte
Surgeon: P. Heini

11.10 Start of live transmission
Technical and clinical aspects of image guided spine surgery — U. Berlemann

12.50 Discussion

13.20 Lunch

12.50 - 14.50 **Group A Workshop**

Session II - Clinical Experience with Spine CAS

Chairmen: A. Bauer and R. Ellis

14.50 Thoracic pedicle screw placement accuracy: Frameless stereotaxy versus conventional techniques — K.T. Foley

15.10 Image guided versus anatomy based pedicle screw technique for lumbar spine stabilization — D. Schlenzka

15.30 Interventional spine surgery — D. Grönemeyer

15.50 Discussion

16.00 Coffee Break

Session III - Computer Assistance for Fracture Treatment

Chairmen: P. Regazzoni and D. Grönemeyer

16.20 Computer assistance in pelvic and acetabular fractures — A.L. Jacob
16.35 Fluoroscopy based surgical navigation for femoral fracture fixation — R. Hofstetter
16.50 Development and clinical introduction of an 'intelligent' External Fixator — K. Seide
17.05 Computer-aided fluoroscopic image guided fracture surgery — L. Joskowicz
17.25 Surgical training using three-dimensional image overlay techniques — M. Blackwell
17.40 Computer aided craniofacial surgery — R.H. Taylor
18.00 Discussion
19.00 Conference Dinner at the Hotel Schweizerhof

Friday, November 8, 1996

7.30 Continental Breakfast

2nd Live Surgery - Computer Assisted Periacetabular Osteotomy

Moderation: S. Murphy and F. Langlotz
Surgeon: R. Ganz

8.00 Start of live transmission
Technical aspects in computer assisted periacetabular osteotomies — F. Langlotz
Diagnostic and planning aspects in computer assisted periacetabular osteotomies — S. Murphy
10.30 Coffee break

Session IV - Computer Assisted Total Hip Replacement

Chairmen: S. Lavallée and D. Schlenzka

10.50 Characterization of the anatomical variability for hip joint replacement surgery — G. Székely
11.05 Robot assisted versus handbroached hemiarthroplasty in greyhounds — A. Bauer
11.20 HipNav: Navigational guidance for acetabular implant placement in THR — A.M. DiGioia
11.35 Crigos - A novel approach to robot assisted orthopaedic surgery as exempliefied for THR — G. Brandt
12.00 Panel discussion — Moderator: A.M. DiGioia
13.00 Lunch

12.30 - 14.30 **Group B Workshop**

Session V - Accuracy, Safety, and other Related Issues in CAOS

Chairmen: B.L. Davies and A.M. DiGioia

14.30 ASTM - New standard for image-interactive stereotactic and localization systems — M. Sati

14.45 Safety issues in CAOS — B.L. Davies
15.00 Motino in vertebral bodies during spine surgery — N.D. Glossop
15.15 CAS - An essential element of a quality management system in surgery — U.G. Kliegis
15.30 A method for in vivo validation of absolute accuracy in the registration of CT images — R. Ellis
15.45 Discussion
16.00 Coffee break

Session VI - Computer Assisted Knee Surgery Replacement

Chairmen: G. Gerig and R. Kikinis

16.20 Computer assisted planning of prosthetic ACL replacement — M. Sati
16.35 Computer-based instrumentation for total knee arthroplasty — S. Delp
16.50 Computer and robot assisted total knee arthroplasty: Planning — S. Martelli
17.05 An active constraint robot for knee arthroplasty — B.L. Davies
17.20 Computer and robot assisted total knee arthroplasty: Accuracy studies on bone cutting — M. Fadda
17.35 Discussion

Special Session on Telemedicine

Moderation: M. Etter
Surgeon: S. v. Gumppenberg

17.45 Start of live transmission from the Department of Traumatology, Technical University of Munich
Introduction to the Telemedicine — M. Etter
Telepresence Surgery — J.C. Bowersox
18.45 Discussion
18.55 Final remarks — L.P. Nolte, A.M. DiGioia
19.00 End of symposium

Saturday, November 9, 1996

9.00 - 11.00 Group C Workshop
11.00 - 13.00 Group D Workshop

CAOS '96 Hands on Workshop - Group A-D

Moderation: M.Sati and H. Visarius

The workshop consists of two sections, a practical course and demonstrations of recent developments.

Section I

Participants are guided by surgeons using CAS-systems clinically. They deliver hands on experience using a simulated spine surgery setup. The training includes:

Introduction and Overview Image Acquisition Pre-operative Planning Registration Image-interactive Visualization Pedicle Screw Insertion	
TOTAL Section I	**60 min.**

Section II

Members of research and development teams present selected techniques in computer assisted orthopaedic surgery:

Implant Contouring Periacetabular Osteotomy Locking of Intramedullary Nails 'Infinite Reality': Interactive Manipulation of Complex Tomographic (CT, MRI) Data Sets	
TOTAL Section II	**50 min.**

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2nd CAOS-Symposium

Under the patronage of the Swiss Society of Biomedical Technology

The 2nd CAOS-Symposium has been approved for 24 credit hours of Category 1 credit by the Physician's Recognition Award of the American Medical Association

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Symposium Information

Venue

Auditorium of the M.E. Müller Foundation
Murtenstr. 35, Floor H
CH-3010 Bern

During the Symposium:

Phone +41-31-381-2754
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Registration

Wednesday, November 6,
7:00 - 9:00 p.m. at the venue ***(recommended)***
Thursday, November 7,
7:15 - 8:15 a.m. at the venue

Welcome Reception

Wednesday, November 6,
7:00 - 9:00 p.m. at the venue

Social Program

Conference dinner

Information

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