

DOS BULLETIN



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DOS-Bulletin

Udgiver

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ISSN 0902-8633

DEADLINES FOR NÆSTE BULLETIN

ANNONCER: Fredag den 21. november 2003

TEKST: Fredag den 5. december 2003



**Møder i forbindelse med
DOS årsmøde 2003**

Radisson SAS Scandinavia Hotel, København

Torsdag den 23. oktober

- 09:00 - 12:00 **Dansk Håndkirurgisk Selskab;**
Møde efterfulgt af generalforsamling
- 10:00 - 12:00 **Dansk Selskab for Hofte- og Knæalloplastik Kirurgi**
- 10:00 - 12:00 **SAKS**
- 10:00 – 12:00 **Dansk Børneortopædisk Selskab**
- 10:00 – 12:00 **Dansk Fod-Ankel Kirurgisk Selskab**

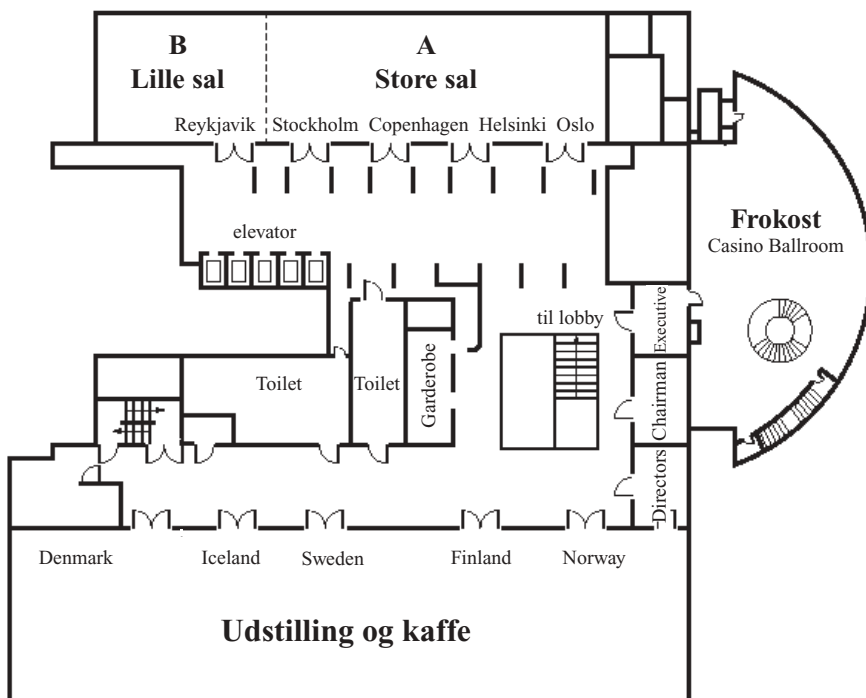
Se eventuel detaljeret annoncering under Møder i Danmark

Dansk Ortopædisk Selskabs Årsmøde

23. - 24. oktober 2003

Radisson SAS Scandinavia Hotel, København

Oversigtsplan



Mødeoversigt

Thursday 23rd October

Room A	Room B
13:00 - 14:30 Hip and Upper Extremity	13:00 - 14:30 Spine and Basic Science
14:30 - 15:30 <i>Technical exhibition, coffee</i>	
15:30 - 16:30 Guildal Lecture: “Carpal instability” <i>Dr. Marc Garcia-Elias MD, PhD.</i> <i>Kaplan Institute Barcelona</i>	
16:30 - 17:00 Uddelinger	
19:00 Gallafest	

**Indtegning på bordplan til middagen
slutter torsdag kl. 15:30!!!
Påklædning: Smoking eller mørk tøj.**

**Der fremsendes billetter til frokosterne,
men ikke til middagen.**

**Frokostbilletterne skal afleveres
til betjeningen.**

Mødeoversigt

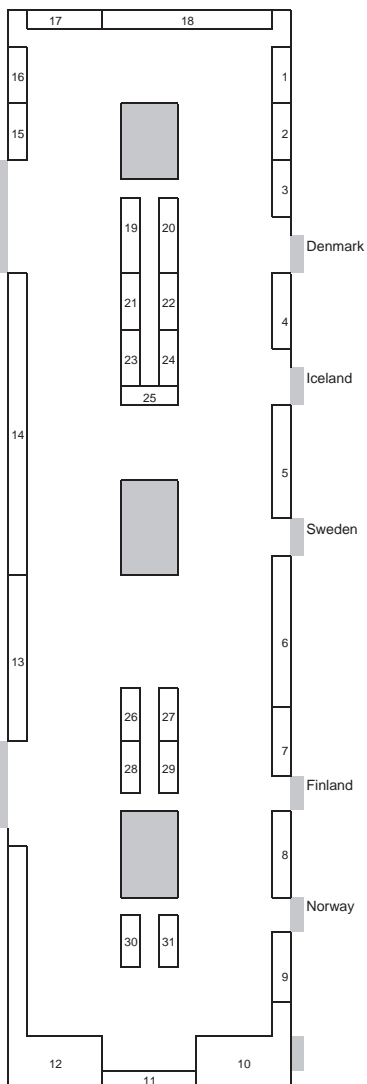
Friday 24th October

Room A	Room B
09:00 - 10:00 Best Paper	
10:00 - 11:00 <i>Technical exhibition, coffee</i>	
11:00 - 12:30 Symposium: "Tibiakondylfrakturer" v. <i>Dansk Ortopædisk Traumeselskab</i>	
12:30 - 13:30 Lunch	
13:30 - 15:00 "Referenceprogram vedr. primær knæalloplastik" Status af kapitler pr. 1.10.03	
15:00 - 16:00 <i>Technical exhibition, coffee</i>	
16:00 - 17:00 Poster Session; Best paper award, Best poster award	

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Implantec Medical	27	3
Jørgen Kruuse A/S	17	4
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Hemax Medical ApS	21	3
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Udstilling





Program
DOS Årsmøde 2003

Thursday 23rd October

13:00 - 14:30 Room A:

Hip and Upper Extremity

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Thursday 23rd October

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Thursday 23rd October

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Side

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Sune Lund Sporning, Klaus Bechgaard, Jes Bruun Lauritzen and Spacer Implant Research Group (SIR-Group)
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Thursday 23rd October

15:30 – 16:30 Room A

Guildal Lecture: “Carpal instability”

*Dr. Marc Garcia-Elias MD, PhD.
Kaplan Institute Barcelona*

16:30 – 17:00

Uddelinger fra Guildal Fonden



Friday 24th October

09:00 - 10:00 Room A

Best paper award

Side

Chairmen: *Michael Rud Lassen, Ivan Hvid,
Morten Schultz Larsen*

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Friday 24th October

09:00 - 10:00 Room A

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Chairmen: *Michael Rud Lassen, Ivan Hvid,
Morten Schultz Larsen*

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11:00 - 12:30 Room A

DOS SYMPOSIUM OM TIBIAKONDYLFRAKTURER.

DANSK ORTOPÆDKIRURGISK TRAUMESELSKAB (DOT)

Moderator: *Torben Bæk Hansen*, Holstebro

- 1) Generelt, evaluering og behandlingsprincipper.
Klaus Kjær Petersen
Aalborg
- 2) Konservativ behandling
Søren W Rasmussen
Bispebjerg
- 3) Operativ behandling:
 - Unikondylære frakturer; Teknik, efterbehandling og resultater
Frederik Ammitzbøll
Aalborg
 - Bikondylære frakturer; Åben reposition og skinneosteosyntese, teknik, efterbehandling og resultater
Kjeld Andersen
Århus
 - Perkutan reposition og osteosyntese, kombineret med ekstern fiksektion. Teknik, efterbehandling og resultater.
Knud Stenild Christensen
Aalborg
- 4) Sammenfatning, fremtiden
Morten Schultz Larsen
Odense

Friday 24th October

13:30 - 15:00 Room A

Symposium:

"Referenceprogram vedrørende primær knæalloplastik"

Disposition og status med gennemgang af de pr. 1.10.03 foreliggende kapitler.

Kan læses på: www.d246476.suite.dk/kneeallo/
fra 1.10.03.

*På vegne af Styregruppen
Henrik M Schrøder*

Friday 24th October

16:00 – 17:00 Room A

Poster session

Side

Chairman: *Michael Mørk Petersen*

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Side

Chairman: *Michael Mørk Petersen*

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Første udgave af ”de nye DOS-møder” i København står for døren. Vi er fulde af forventninger efter det fine resultat på mødet i Odense, med mange deltagere både til mødet og til festen.

Antallet af tilsendte abstracts til vores møder falder dog desværre stadigvæk. Det er blevet mindre nødvendigt at lave videnskab for at komme videre og det kan desværre mærkes. Der er stadigvæk foredrag nok til at vi har kunnet lave et godt og videnskabeligt varieret program, men mængden af parallelle sessioner er mindsket. Vi må have strammet lidt op omkring formkravene for de tilsendte abstracts. Flere bidragsydere glemmer at sende abstracts til både sekretær og redaktør (til Bulletinen), nogle glemmer at sende en elektronisk udgave, nogle sender abstracts uger efter deadline, nogle abstracts er så ordrige at de overskrider maksimum grænsen med over 200%.

Vi må overveje om det er tid til at ændre på formkravene.

Hvis man er blandt dem der har tilmeldt sig til ”Den nye MseC hjemmeside” og undret sig over hvad der sker eller ikke sker, så er Pharmacia i foråret blevet opkøbt af Pfizer (mange penge), der var nogen usikkerhed om hjemmeside projektet ville fortsætte med de nye ejere, men projektet ser ud til at blive videreført og videreudviklet. Hjemmesiden var i starten plaget af bl.a. et up-load- og funktionstempo der betød at den var meget svær at anvende. Dette problem er nu blevet ændret således at det kun tager mellem 15 og 20 sek. fra man starter sin browser til man er inde på siden (acceptabelt når det drejer sig om en lukket password baseret side).

Der er kommet nogle nye features på systemet bl.a. bliver der nu via webcaster præsenteret forelæsninger og key-note lectures med lyd og billede live direkte på skærmen. Professor Olle Svensson har afholdt en velbesøgt forelæsning om osteoporose og frakturer og Lars Lidgren fra The Bone and Joint Decade holdt den første live forelæsning på portalen før sommerferien.

Denne live-feature kan også bruges ved web-møder eller i åbne discussion-boards – kræver et web-cam.

Vi er ikke blinde for at der stadigvæk er en del navigationsmæssige og anvendelsesmæssige problemer med portalen men der arbejdes fortsat på at få det funktionelle niveau bedret.

MSeC

Vi skal bruge 3–5 medlemmer som har lyst til at deltage i den redaktionelle gruppe og være med til at gøre den nye hjemmeside levende og anvendelig og nyskabende.

Hvis dette har interesse så kontakt redaktøren på: mail: cykellaegenielsen@dadlnet.dk

Jeg ønsker at registrere på MseC-portalen:

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Arbejdssted: _____

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Sendes som snail – eller E-mail til DOS redaktør

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Abstracts

Registration in The Danish Hip Arthroplasty Registry (DHR). Completeness of total hip arthroplasties and positive predictive value of registered diagnoses and postoperative complications

*Alma B. Pedersen^{1,2}, Søren P. Johnsen², Søren Overgaard³,
Kjeld Søballe¹, Henrik T. Sørensen² and Ulf Lucht¹.*

¹Department of Orthopaedics, Aarhus University Hospital,² Department of Clinical Epidemiology, Aarhus and Aalborg University Hospital,

³ Department of Orthopaedics, Odense University Hospital, Denmark

Introduction: In the period 1995-2000 we assessed the completeness of registration of primary total hip arthroplasties (THA) and revisions in DHR which is a nationwide clinical database on THA and revisions in Denmark. In addition, the positive predictive value of registered data on diagnoses in patients undergoing primary THA and postoperative complications was analysed.

Material and methods: The completeness was assessed using Danish National Registry of Patients (NRP) as a reference, which is a nationwide and population based registry on all somatic hospital admissions since 1977. Positive predictive value (PPV) of registered data was assessed using the results of our review of medical records and x-rays on samples of patients registered in DHR as a reference. PPV is the number of patients with confirmed diagnosis after review divided by total number of reviewed patients.

Results: The overall completeness of registration of primary THAs and/or revisions was 93.2%. A lower completeness was found for revisions separately compared with primary THAs (70.8% versus 92.6%), for university hospitals when compared with other hospitals (88.1% versus 93.8%) and for low volume hospitals (84.5%), when compared with middle (90.1%) and high (94.6%) volume hospitals. Overall, the diagnoses in patients undergoing primary THA could be confirmed in 84.3% of the reviewed patients. Postoperative complications were confirmed in 66.7% of the reviewed patients.

Conclusion: The overall completeness of registration of primary THAs and PPV of most of the diagnoses in DHR was satisfactory. However, the improvement of registration in low volume hospitals, some university hospitals and revisions is necessary. In addition, registration of complications is not sufficient in the present form. Fresh fracture of the proximal femur should only be used when combined with other sources of information because of its low PPV.

Excellent results with a long extensively porous coated stem in hip revision - a prospective series.

Steen Olesen og Per B. Thomsen

Ortopædkirurgisk afdeling, Holstebro Sygehus

Introduction: Revision hip arthroplasty is encumbered with a high complication rate and an inferior clinical result. This study evaluates the performance and survival of an uncemented extensively porous coated chrome cobalt stem.

Material and methods: 128 femoral hip revisions in 105 patients performed using the Solution stem. The indication for revision was in the majority of cases aseptic loosening of a cemented stem, in 80% of hips it was the first revision.

The 128 hips are prospectively followed by a Harris Hip Score and radiographs 6 weeks, 3 months, one year, 2, 5, 8 and 10 years postoperatively.

Results: 89 hips were followed for 5 years or more leaving only 71 hips in 60 patients, 26 women and 34 men, available for clinical and radiographical evaluation 79.8 months (60-120) after the revision operation. The Harris Hip Score at latest follow-up was 88.6 points (56-100) and 84% of the hips showed an excellent or good clinical result. The Harris Pain Score was 42.2 (30-44), showing 49 hips with no pain at all and 5 hips with slight thigh pain. Radiographs revealed osseointegration of 60 stems.

Conclusion: The present study confirms the extremely good results of former publications of long extensively porous coated stems in hip revision. We strongly recommend this technique relying on distal fixation in all femurs where a tight diaphyseal fit is possible.

The influence of a centralizer in positioning the femoral stem in cemented total hip arthroplasty. A prospective, controlled study.

Thomas Falstie-Jensen & Per Kjærsgaard-Andersen

Section for Hip & Knee Replacement and
Scientific Research Unit, Vejle Hospital

Introduction: The aim of the present investigation is – in a controlled study – to evaluate the influence of a stem centralizer in positioning the femoral component in cemented total hip replacement.

Material and methods: The control group consisted of 26 consecutive hips treated with a cemented Bimetric stem without a centralizer, and the study group the next 26 consecutive cemented Bimetric stems using a stem centralizer. The control group was 21 females and 5 males, median age 75 years (63-94). The study group was 19 females and 7 males, median age 76 years (64-86). Coxarthrosis was the main indication for surgery in both groups. Postoperative roentgenograms were examined for i.e. alignment of the stem in the AP position, femoral canal diameter and cement mantle at the distal tip of the stem in two plans. Non-parametric statistics (Fisher's Exact Test) were applied the data with a significance level on 0.05.

Results: The majority of stems implanted in the two groups were #9 (control:54%; study:62%). Four #7 stems were implanted during the study – all in the control group. In the control group 10 stems (39%) were aligned 2° or more in varus/valgus. In the study group 3 stems (12%) had such an alignment ($p=0.05$). In the AP-view no stems in the study group were in distal bone-contact, and only 2 had a 1 mm thick cement mantle (8%). In contrast, in the control group 4 stems were in bone contact, and 5 stems had a cement mantle less than 2 mm (35%) ($p=0.05$). In the lateral view one stem were in bone contact in both groups, and only one stem had a cement mantle less than 2 mm (from the study group) (ns).

Conclusion: Our investigation has confirmed the benefit of using a stem centralizer in optimizing alignment and cement mantle thickness when inserting a Bimetric cemented femoral component. However, the study has also shown that the used centralizer could neither prevent malalignment or an inferior cement mantle in every case.

Do we need Navigation in positioning the acetabular component in total hip arthroplasty?

*Per Kjærsgaard-Andersen, G. Harri Gudmundsson
& Per Wagner Kristensen,*

Section for Hip & Knee Replacement and
Scientific Research Unit, Vejle Hospital

Introduction: The aim of this study is, prior to introducing Navigation in positioning the cup, to evaluate our precision when inserting the component using the company released alignment equipment combined with the surgeons judgement.

Material and methods: Total 33 cases were investigated, 15 males and 18 females. One male entered the study with both hips. 18 right and 15 left hips were operated. Median age at surgery was 71 years (56-89). All operations were performed by one of two experienced senior surgeons. The Trilogy cup was implanted in 31 hips, Trident cup in 2 hips. 12 Trilogy cups were fixed with one or two screws. Before surgery the surgeon judged any leg length discrepancy. Before wound closure the surgeon should judge anteversion and inclination of the cup, and judge any leg length discrepancy. Three senior surgeons together evaluated all postoperative two-plane x-rays of the hip and an AP-pelvic x-ray and agreed on leg length, and inclination and anteversion of the cup.

Results: During surgery 82% (27) were judged to be inserted in 45° inclination, and 66% (22) to be in 15-20° anteversion. X-ray examination showed 12 cups (36°) to be in 41-50° inclination. In 16 cups (48%) the difference between intra- and post-operative judgement of inclination was less than 5°. Calculation of anteversion from x-rays showed to be inaccurate. Two cups were found in retroversion – and 15 cups (45%) to be in 10-20° of anteversion. Total 17 cups (52%) differed within 10° between intra-operative judgment of anteversion and postoperative x-rays. X-rays showed 27 cases (82%) with equal leg length.

Conclusion: Our study has confirmed that positioning of the cup in precise inclination and anteversion using guiding systems and surgeons judgement, in our hands, only succeeded in app. 50% of cases. However, judgement of anteversion of x-rays are with high inaccuracy. We look forward to introduce navigation in positioning of the cup.

Irradiation of low density polyethylenes and relation to tensile strength

Povl Brøndsted, Sune Lund Spørring, Klaus Bechgaard, Jes Bruun Lauritzen and Spacer Implant Research Group (SIR-Group)
Danish Polymer Centre, Department of Material Physics and Chemistry, Risø. Department of Orthopaedic Surgery, Bispebjerg Hospital and Cartificial A/S

Introduction: Low density polyethylenes (LDPE) have lower mechanical strength characteristics and lower elastic modulus than the more commonly used Ultra High Molecular Weight Polyethylenes (UHMWPE). Irradiation, besides a sterilisation effect, induces covalent cross-linking of the polymer chains on their C-atom sites. We studied the effect of irradiation on various polyethylenes, as well as the effect of using a Argon- or Oxygen environment. 29 different combinations were tested.

Material and methods: 9 different low density polyethylenes were tensile strength tested, with measurement of Young's modulus, Poisson Ratio, 0,2% flow stress, Ultimate tensile strength and Strain to failure ratios, according to ISO 527-3/5/50, in an Instron test rig following irradiation of 0, 100 and 200 kGy. The tested materials were injection moulded into suitable double-spoon-shaped specimens for the test rig.

Results: For some polyethylenes a positive relationship between irradiation and strength was present, but also a negative relationship was found. Some LDPE's exhibit a mechanical strength maxima at a certain irradiation dose. The mechanical strengths varied from ~100 Mpa to ~250 Mpa, and the irradiation effect modified strength by 2,6 to 14,8 per cent. The difference between nitrous and oxygen milieu did not cause any short termed effects.

Conclusion: Low density polyethylenes show no consistent and predictable pattern between strength and irradiation, although every polyethylene has specific strength/irradiation characteristics. Basic tensile strength measurements are recommended.

Colles fractures, Older type 2 & 3, treated with non-bridging external fixation

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Introduction: In 1995 the treatment of Colles fracture Older type 2 & 3 with non-bridging external fixation was started at our ward. Today the method is first choice in our department. To evaluate the method we have investigated x-ray immediate postoperative and after 5-6 weeks of external fixation.

Material and methods: From January 2002 to December 2002, 84 consecutive patients with Colles fracture older type 1- 4, were treated. 26 were treated with closed reposition and plaster. 6 were treated with plate, 4 with K-wire and 5 with bridging. 17 Older type II and 29 Older III were treated with external non-bridging fixation a.m. Hoffmann II Compact. There were 2 males and 44 females. Mean age 69 years, (range 29 - 92 years). The evaluation was based on x-ray obtained pre-, postoperatively and at removal of external fixation. 6 patients lost for follow up.

Results: Radiographic parameters of 40 patients were evaluated. Mean radial length reduction postoperatively were 5,35 mm (range 0-24 mm). After five weeks of treatment, reduction were diminished by mean 2,05 mm (range 0-9 mm).

Dorsal angulation were reduced by mean 28,7 ° (range 5-51°) and at 5 weeks after we had lost mean 1,44° (range 0-14°) of reduction. Inclination were improved by mean 2,47° (range 0-15°) postoperatively. At five weeks control the inclination were reduced by mean 1 ° (range 0-5°). Superficial infection rate was 22 %.

Conclusion: Non-bridging external fixation offers an reliable reduction of Colles fracture.

Results after non-bridging external fixation of distal radius fractures.

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Introduction: The aim of the study was to evaluate our results after non-bridging external fixation of distal radius fractures.

Material and methods: During the period 01.07.1999 – 01.04.2002, 36 patients with 37 fractures, 31 women and 5 men with a mean age of 66 years (30-86 years) were operated. Nine patients, 1 man and 8 women were not available for follow-up, leaving 27 patients, 23 women and 4 men with a median follow-up of 21 months (15-47 months) after the operation. Seven fractures occurred in the dominant and 21 fractures in the non-dominant hand.

Results: The median VAS-score for pain at rest was 0 (0-5), and the median VAS-score for pain at ordinary daily living was 1 (0-9).

The median range of motion of the wrists were: Extension: 70 degrees (20-90 degrees) amounting to median 80% of the opposite hand (30-100%). Flexion: 80 degrees (45-90 degrees) = 100% of the opposite hand (50-100%). Radial deviation: 20 degrees (10-30 degrees) = 100% of the opposite hand (70-100%). Ulnar deviation: 30 degrees (10-30 degrees) = 100% of the opposite hand (30-100%). Supination: 70 degrees (30-90 degrees) = 80% of the opposite hand (30-100%) and pronation: 90 degrees (30-90 degrees) = 100% of the opposite hand (40-100%). Radiologically the mean ulnar variance was +1 mm.(0-5 mm.), and the mean angulation of the joint surface of the distal radius in the lateral plane was 5 degrees of volar angulation (12 degrees of dorsal angulation-10 degrees of volar angulation). The distal radio/ulnar joint was congruent in 21 wrists (75%) and non-congruent in 7 wrists (25%). Seventeen patients (60,7%) were very satisfied with the result, 6 patients (21,4%) were a little satisfied, 4 patients (14,3%) were a little unsatisfied, no patients were very unsatisfied, and 1 patient (3,6%) was neither satisfied or unsatisfied.

Conclusion: We find our results after non-bridging of distal radius fractures to be very encouraging and fully comparable to the literature with low pain scores, good ROM and high patient satisfaction.

Surgical treatment of acute & chronic acromioclavicular dislocation using Hook Plate.

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Introduction: The aim of the study was to evaluate the results of operative treatment of acute as well as chronic acromioclavicular dislocations (Tossy III-IV).

Material and method: In the period 1999-2003, sixteen patients were operated for isolated acromioclavicular dislocations. All are men with a mean age of 38 years (21-56 year). Six patients were operated within three weeks, while ten patients were operated within a mean period of 61 weeks (23-158 week) from injury time. The plates were removed after a mean period of seven months (4^{1/2}-13 month).

The follow-up was performed after a mean time of 17 months (1^{1/2} -40 month) from plate removal date.

Línsalata and Constant scores were used to evaluate the operated shoulders.

Results: The mean preoperative Línsalata score was 41(range 22 - 63). The score improved postoperatively to a mean of 95 (range 81 - 100). The patients assessed the two most important areas of improvements to be pain in 37% of the cases and daily activities in 34% of the cases. The mean Constant score postoperatively was 95 (range 84-100). There were no significant differences in scores comparing acute and chronic operations.

The majority of the patients had discomfort, while 40 % had significant decreased range of movement with the hook plate in place. They all improved after plate removal. One patient had a superficial infection postoperatively and in one patient the hook plate dislocated 3^{1/2} month postoperatively, none had consequences on postoperative results.

Conclusions: The use of Hook Plate fixation in surgical treatment of Acromioclavicular dislocations Tossy III-IV is an efficient method. The method can be used for acute as well as chronic injuries.

Applications of Botulinum Toxin A (Botox) in the treatment of spasticity of the upper extremity in children with cerebral palsy

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Introduction: The indications for use of Botulinum toxin A (BTX-A) have been preoperative evaluation, improvement of function and quality of movement, control of increasing spasticity or reduction of pain. The purpose of this study is to prospectively analyze the outcome of the use of BTX-A in improvement of function and cosmesis.

Methods: 10 children were enrolled in this study at an average age of 8.7 years (range 5-15 years).

Injections of BTX-A included 7 into the flexor carpi ulnaris (FCU), 8 pronator teres (PT), and 7 thumb adductors (Ad.P). Electromyography were used to verify location of the offending muscle. Outcomes of this intervention were assessed by eight different methods including video documentation . All patients were instructed in home therapy.

Patients were assessed pre-injection and at 4 weeks, 3 months, 6 months and 1 year post-injection.

Results: All children exhibited therapeutic response to the injection all except one with improved functional results. Functional improvement at one year post injection was documented.

Conclusions: The weaknesses of this study include the small numbers and concerns regarding accurate outcome assessment of the spastic upper extremity in CP.

It seems that BTX-A into the FCU, Ad.P and PT are effective in improving function and that video documentation is a good tool to show the functional improvement.

Combined intraarticular and extraarticular reconstruction vs isolated intraarticular reconstruction of the ruptured ACL: A comparative study

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We performed a retrospective review of 139 patients who had surgical stabilization for chronic anterior cruciate ligament instability. 65 patients had intra-articular reconstruction (Group 1) alone, while seventy-four patients had been treated with a combined intraarticular and extraarticular (Group 2). The same surgeon operated on both the groups. Patients were assessed on the basis of clinical and radiological findings using the Tegner Activity and IKDC scoring methods. The average follow-up period was 49 months in-group 1 and 52 months in group 2 patients. The average age was 28.7 years (range 26-32) in group 1 and 29 years (range 17-52) in group 2. Football and other sporting activities were the major causes of injury. IKDC scores were found to be normal or nearly normal only in 47 patients (72.3%) in group 1 and 89% (66 patients) in group 2 patients. Group 1 patients exhibited more knee symptoms, mainly instability. Moreover, only 3 patients stepped down from IKDC grade A or B in 4 years in group 2; while this change was more marked in group 1 where 8 patients deteriorated considerably in the same time. These findings, therefore, suggests that extraarticular augmentation is beneficial in terms of long term function of the knee and intraarticular reconstruction of the anterior cruciate ligament alone, may not provide sufficient stabilization in the ACL deficient knee. A long prospective study involving the use of instrumentation (arthrometer) is required for further evaluation.

Assessing quality of life in adolescent idiopathic scoliosis patients by the SRS 24, SF 36, and ODI

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Aim: To measure the quality of life in adolescent idiopathic scoliosis (AIS) patients in comparison to an age- and sex-matched control group with specific (SRS 24) and none-specific (SF 36, ODI) quality of life instruments, in order to find the instrument which truly reflects quantitative and qualitative measures of life quality.

Methods and patients: 155 patients (128 females and 27 males) were investigated, treated from January 1st 1987 to December 31st 2000 with a minimum follow-up of two years. A combination of SRS 24, SF-36, and ODI was posted in late 2002. Patient groups: 58 monitored (M), 34 brace (B), 40 surgery (S) and 23 brace before surgery (BS), 81 controls (C) (sex and age matched healthy subjects).

Results: There were no significant differences between the three actively treated groups in total SRS 24 scores. B scored significantly worse than the controls in pain, but none of the treatment groups showed significantly impairment in self general self-image, back related condition, and activity level. In the SF 36 scores S and BS had significantly worse physical function, and a physical component summary score than C. B was suffering significantly from more pain than C and M, while S only suffered significantly from more pain in relation to C. All treatment groups had clinically insignificant ODI scores lower 10%.

Conclusion: The study showed that AIS patients do well, only minor impairments were encountered. The SF 36 was most sensitive distinguishing between differences of all four treatment groups' quality of life measures. The ODI was least relevant because of pain related disability were not a major problem.

Dallas Pain Questionnaire classification predicts outcome in low back pain patients undergoing spinal fusion

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Introduction: Ozguler et al. described a classification tool for low back pain patients using the Dallas Pain Questionnaire (DPQ) (Spine 2002). Our aim was to evaluate the ability of this classification to predict outcome in spinal fusion patients.

Material and methods: 578 patients (246 men, 332 women; mean age 46, range 18-81) operated between 1992 and 2001, with a complete DPQ preoperatively and after a minimum of one year follow-up, were included. They were classified preoperatively and at follow-up into four groups: Group 1 (slight disability), Group 2 (intermediate disability), Group 3 (major disability) and Group 4 (major disability and emotional distress). 250 patients with low back pain rating scale scores at follow-up were used for prediction of back and leg pain at follow-up. Using logistic regression 7 predictor variables were investigated: Age (18-59 years/60+ years), Gender (male/female), Diagnosis (isthesis/degeneration), Previous back surgery (yes/no), Work status (working/not working), Duration of pain (less than 2 years/more than 2 years) and Disability/distress (disability (group 1-3)/disability and distress (group 4)). Outcome variables consisted of disability (low=group1+2 at follow-up/high=group 3+4 at follow-up) and for the subset of patients leg pain (low/high) and back pain (low/high).

Results: Preoperative classification was Group 1: 1%, Group 2: 14%, Group 3: 36%, Group 4: 49%. Variables found to predict high disability at follow-up were female gender OR 1.39 (p=0.083), previous back surgery OR 2.00 (p<0.0005), not working OR 2.94 (p<0.0005) and emotional distress OR 2.49 (p<0.0005). Emotional distress predicted back pain OR 2.22 (p.=0.007) and leg pain OR 2.90 (p.=0.002) at follow-up. Previous back surgery predicted leg pain at follow-up OR 1.97 (p.=0.037).

Conclusion: These results show that this classification based on DPQ-scores predicts outcome in spinal fusion patients and that the largest risk factors for inferior outcome in is emotional distress, previous surgery and a status as not working.

The influence of alendronate on bonegraft healing and pedicle screw fixation in posterior lateral spine fusion

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Introduction: Bisphosphonate treatment inhibits osteoclast-induced bone resorption. Osteoclast activity plays an important role in bonegraft healing and bone-implant fixation. The aim of this study is to investigate the influence of alendronate treatment on bonegraft healing and pedicle screw fixation in PLF.

Methods: PLF (CD Horizon) was performed on the lumbar spine using different amounts of autograft (4 or 8gram) in twenty-two pigs. Eleven pigs in the treatment group received alendronate 10mg/day P.O. postoperatively. Bonegraft healing and pedicle screw fixation were evaluated at 3 months after operation.

Results:

Bonegraft: There was no difference in fusion rate, fusion mass or trabecular bone volume between treatment and control groups. The fusion rate was 75% on the 8-gram autograft side and 45% on the 4-gram side. Treatment group showed a higher fibrous tissue ($P<0.05$) and woven bone structure ($P<0.001$) in fusion mass. The volume of fusion mass was 2.36 cm^3 on the 4g-side and 3.29 cm^3 on the 8g-side. Large amount of bonegraft accompanied a higher amount bonegraft resorption.

Pedicle screw: Maximum torque was 594.7 ± 254.2 (N-mm) for treatment group and 414.6 ± 204.5 (N-mm) for control group ($P=0.077$).

The bone-screw contact surface was 23.3 ± 10 % for treatment group and 9.8 ± 5.9 % for control group ($P<0.01$). Bone volume around the screws was $52.4\pm 8.3\%$ for the treatment group and 45.4 ± 6.9 % for the control group ($P=0.056$).

Conclusions: Alendronate treatment decreased fusion mass remodeling without inhibiting fusion rate. Large amount of bone graft improve the fusion rate. Alendronate treatment increased bone purchase of pedicle screw in this experimental study.

Dansk discusbase – outcomes after disc surgery in Denmark. Preliminary data.

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Introduction: Database surveillance of clinical practise and outcomes has become a mandatory instrument in quality assurance in modern health care. Yet there is a discrepancy between the alertness of the surgeons, departments and central health authorities to fulfil the requirements needed for this logical mission.

Since Sept 1998 a pilot investigation has been undertaken to gather sufficient information for a permanent database.

The aim of the present study was to analyse logistics, demographics and outcomes of disc surgery today.

Material and methods: 0.01 to 0.18% of the adult population i.e. 1.364 patients underwent disc surgery and were included in the study until 2000. Data sheets were collected both from surgeons and patients preop., postoperatively, 8 weeks (1118ptt) and 12 months postop (584 ptt) and stored in a central database at UNI-C.

Results: Waiting times for the first consultation in surgical department were mean 23 days (8 -38), for neuroradiological investigation 22 days (7-31), and for surgery 29 days. Fifty-one % of the patients were smokers, 64% were employed. Their preop. leg pain level was 19 and back pain 17 (scale 0 – 30), 73 % had a reported positive Laseque's test. The preop. diagnostics varied from myelogram 8%, CT 81% to MRI 22%. The surgical techniques were macro-open 71%, micro 28%, percutaneous 1%., only 62% had antibiotic prophylaxis. The reported complications were few: Dural leakage 1%, discitis 0%, new neurodeficits 1%, other complications 3%. With a 82% follow up after 2 months back –and leg pain were reported 8 and 8. After 12 months back –and leg pain was unchanged 8 and 9. General patient satisfaction with the surgery was 80%, but 28% were either on sick list (20%) or had applied for pension (8%).

Conclusion: The general success rate in Denmark following disc surgery is acceptable. The drop out rate of the study is unacceptable. The present data cannot be used for demographics except in very local areas. The general outcome confirms a high social impact following disc surgery. A closer analysis of failures is justified.

Effects of osteoprotegerin treatment on healing fractures

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Introduction: Osteoprotegerin (OPG) is an effective depressor of osteoclasts and might provide therapy of various bone degenerative diseases. The effects of OPG treatment on rat fracture healing have been investigated in the present study.

Material and methods: The influence of OPG treatment on callus formation, mechanical strength and callus tissue mechanical quality of tibia fractures in rats was investigated after 3 weeks and 8 weeks of healing. OPG was given intravenously (10 mg/kg twice weekly) during the entire observation period, and control animals with fractures received vehicle only.

Results: After 3 weeks of healing, no differences were found in callus dimensions, callus bone mineral content (BMC), fracture strength, and callus tissue mechanical quality. After 8 weeks of healing, augmented external callus volume (27%, $p=0.02$), callus dimensions (anterior-posterior diameter: 27%, $p=0.03$; medial-lateral diameter: 33%, $p=0.02$), and BMC (34%, $p=0.001$) were found in OPG-treated animals. No difference in mechanical strength of the healing fractures was found between OPG-treated and vehicle rats after 8 weeks of healing, but mechanical quality of the callus tissue was decreased in the OPG animals (ultimate stress: 51%, $p<0.001$; Elastic modulus: 42%, $p=0.03$).

Conclusions: The experiment demonstrates that OPG-mediated inhibition of RANK signaling is not essential during the early callus enlargement phase of fracture healing. However, during the subsequent period of remodeling, from 3 weeks to 8 weeks, of healing OPG treatment impairs the normal remodeling and consolidation processes

Metabolic response of bone marrow mesenchymal stem cells to biocompatible metallic surfaces

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Introduction: Successful interaction between bone cells and biocompatible metals is essential for durable constructs and implant incorporation. In this study, we investigated the osteoconductive potential of relevant plain metallic surfaces towards human mesenchymal stem cells (hMSCs) *in vitro*.

Material and methods: hMSCs were cultured on two-dimensional glass discs (diameter: 10 mm) which were coated by electron-beam evaporation with a 500 Å layer of either titanium, tantalum or chromium. Uncoated glass discs served as controls. Osteoblastic metabolic activity was assessed *in vitro* by 1.) alkaline phosphatase activity (ALP) assay, 2.) cellular proliferation (³H-thymidin incorporation), 3.) cellular adherence (Hoechst staining) and 4.) two-dimensional quantitation of the mean cellular area (C.A.S.T.-Grid software).

Results: We found that titanium, tantalum and chromium all showed statistically significant higher ALP levels compared to the glass control ($P < 0.05$). Cells on tantalum surface had a significantly higher ALP activity than those on chromium. Titanium and tantalum were superior to the control and to chromium-coated surfaces with respect to cellular proliferation. Cells attached onto tantalum occupied a statistically significant larger surface area compared to the control ($P < 0.05$) and showed a more stretched appearance under fluorescence microscopy.

Conclusion: In this study, surfaces coated both with tantalum and titanium resulted in an improved metabolic response of hMSCs. Tantalum demonstrated an interesting biocompatible property of increasing the cellular adherence area superiorly compared to all the other tested surfaces. These data could be utilized to develop optimized tissue engineering constructs composed of metallic matrices and MSCs.

Cytotoxicity assay of PE-acc1000 in mammalian cells

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Introduction: The objective of this study was to evaluate whether an extract of the test article PE-acc1000 was toxic to cultured mammalian L292 cells.

Material and methods: The ACC1000 device was tested for *in vitro* cytotoxicity in cultured mammalian cells (L 929 mouse fibroblasts). An extract of ACC1000 was prepared by incubating the test article in complete cell culture medium (HAM F12 medium with 10% foetal bovine serum) for 24 hours at 37°C. An extraction ratio of 0.2 g test article/ml medium was used. The extract was tested undiluted as well as diluted 1 + 3 in fresh cell culture medium. Untreated cultures, negative controls (polypropylene 6 cm²/ml) and positive controls (tinstabilised polyvinyl chloride, 0.2 cm²/ml) were included.

The general appearance of the monolayer and the approximate percentage of live cells were recorded for each culture, using the following toxicity scale as guidance: None: Discrete intra-cytoplasmic granules; no cell lysis SLIGHT: Not more that 20% of the cells are round, loosely attached, and without intracytoplasmic granules; occasional lysed cells are present MILD: Not more then 50% of the cells are round and devoid of intracytoplasmic granules; no extensive cell lysis and empty areas between cells MODERATE: Not more than 70% of the cell layers contain rounded cells or are lysed SEVERE: Nearly complete destruction of the cell layers

The study was performed at Scantox.

Results: The extract of the test article showed no to slight toxicity (cytotoxicity grade 0-1) and the diluted extract showed no toxicity (cytotoxicity grade 0).

Conclusion: On the basis of these results, it is concluded that ACC1000 demonstrated no cytotoxicity on mammalian cells.

Delayed contact hypersensitivity test of PE-acc1000

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Introduction: The objective of the study was to assess the dermal sensitisation potential of a 0.9% NaCl extract and a sesame oil extract of PE- ACC1000.0020

The study was conducted according to ISO 10933, part 10 “Test for irritation and sensitisation”.

Material and methods: The study included 30 animals (guinea pigs), divided into 4 groups, two test groups of 10 animals each and two control groups of 5 animals each. The study comprised induction and challenge phases. The induction procedure included intradermal injections and a topical application of the test article extract on the back of the guinea pigs, one week apart. The challenge procedure comprised a Hill Top chamber topical treatment on the flank 4 weeks after the intradermal injection. The skin reactions were evaluated 24, 48 and 72 hours after removal of the chamber at challenge. For the test groups the induction and challenge were carried out with undiluted extracts of the test article. For the control groups extraction media were used for induction and undiluted test article extracts were used for challenge. The study was performed at Scantox.

Results: The skin reactions observed in both test groups (NaCl and sesame oil) were similar to the reactions observed in the control groups, indicating no evidence of delayed contact sensitivity.

Conclusion: There was no evidence of delayed contact hypersensitivity after treatment with 0.9%NaCl extract and a sesame oil extract of PE-ACC1000, under these experimental conditions.

Genotoxicity for detection of mutagens (Ames test) by PE-acc1000

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Introduction: The objective of the study was to determine whether extracts prepared from the PE-acc1000 were mutagenic in bacterial tester strains in the Ames test.

Materials and methods: ACC1000 was tested in the Ames test using *Salmonella typhimurium* strains TA 102, TA 100, TA 98, TA 1537 and TA 1535. Unlike wild-type *Salmonella typhimurium*, these tester strains each carry a mutation in a gene required for the synthesis of the specific amino acid, histidine. Therefore, the bacteria are not able to grow in substrate without histidine. The mutations are either of the base-pair substitution or frameshift types. The strains TA 102, TA 100 and TA 1535 carry base-pair substitution mutations, while TA 1537 and TA 98 carry frame shift mutations. When the tester strains are exposed to a test article extract, mutations may be induced which revert some of the bacteria to the wild-type phenotype. The revertants will be able to grow and form colonies on selective agar plates without histidine. A measure of the mutagenic properties of the test article extracts was obtained by comparing the number of revertant colonies on plates treated with the test article extracts with the number of revertant colonies occurring on vehicle control plates.

Results: The extracts were not toxic to the test bacteria at any dose level. No biologically significant increases in the number of revertant colonies, compared to the negative control values, were observed on plates treated with extracts of the test article in either test. The study was performed at Scantox.

Conclusion: Based on the results obtained in this study, it is concluded that the extracts of ACC1000 are not mutagenic in the Ames test.

Muscle implantation study of PE-acc1000

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Introduction: The purpose of the study was to evaluate the potential local irritant or toxic response to PE-acc1000 implanted in direct contact with muscle tissue. The test article, pieces of ACC1000, was implanted in muscle tissue of the rabbit. The muscle tissue was evaluated for evidence of irritation or toxicity based on the requirements of ISO 10993, part 6 “Test for local effects after implantation”

Materials and methods: Sterile implant samples were aseptically prepared. Negative control samples were sterilized by steam.

Four rabbits were used for the study. One incision was made on each side of the back through the skin and parallel to the lumbar region of the vertebral column. Four test article sections were implanted in the right paravertebral muscle of each rabbit. In the opposite muscle, four negative control sections were similarly implanted.

12 weeks after implantation, the rabbits were euthanized. Muscle tissues were excised and the implant sites were examined macroscopically. A microscopic evaluation of representative implant sites from each rabbit was conducted to further define any tissue response.

Results and conclusion: All animals appeared clinically normal throughout the duration of the study. There was no visible reaction at any test or control site, resulting in a macroscopic reaction classification of “not significant” as compared to the negative control implant material. Microscopically, the test article was classified as a slight irritant as compared to the negative control article.

Necrotizing fasciitis: a multidisciplinary approach including hyperbaric oxygen.

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Introduction: Necrotizing fasciitis (NF) is an aggressive infection with mortality rates reported around 30%. Objective of the present study is to report the effect of aggressive multidisciplinary treatment including hyperbaric oxygen (HBO) in our centre.

Material and methods: Medical records of 33 patients admitted to the hospital from 1997 to 2003 and diagnosed with NF were reviewed. Treatment included aggressive debridement, antibiotics to cover a wide spectrum and adjusted according to flora, sequences of HBO and life support in ICU.

Results: Mean age was 54 (32 to 78) yrs, 19 males and 14 females. Nineteen had concomitant disease: 6 NIDDM, 5 hypertension, 5 obese, 4 psychiatric disorders.

Eight developed infection after surgery, 8 had a perineal or scrotal absces, 3 had recent soft-tissue trauma, 5 had no entrance for infection. The trunk was involved in 24 cases, extremities in 16 and the neck in 3 cases. Polymicrobial flora were found in 25 cases.

Debrided body surface averaged 10%. Surgery included necessary intestinal stomas, tracheostomies, amputations and skin grafting. Three potent antibiotics of various types were given.

HBO sequences were 3.6 mean (1 to 11).

Patients were in ICU for 13 days and hospitalized in our centre for 30 days averagely.

Six cases (18%) were fatal.

Conclusion: As compared to international results, an aggressive approach and HBO reduces the mortality rate of NF.

Early functional rehabilitation versus conventional immobilization after surgical repair of Achilles tendon rupture. A prospective randomized study.

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Introduction: The aim of the study was to compare the two methods of treatment and reveal any differences regarding the clinical outcome, ultrasonographic appearances, elongation of the tendon and muscular strength.

Material and methods: From 01-04-01 to 15-04-02 42 patients, 14 women and 28 men. Mean age 42 (range 22- 56). Mean follow-up 16 months (range 12-21, intermediary follow-up at 22 weeks(range 21-26). Standard surgical procedure was modified Kessler suture in local analgesia. Patients were randomized by envelope method postoperatively to either early functional rehabilitation or conventional immobilization. Clinical follow-up at 3 and 6/8 weeks. At 22 weeks and 16 months postop. ultrasonographic examination, x-ray and isokinetic strength testing were performed as well.

Results: No significant differences regarding any of the test parameters. A non-significant shorter period of sick leave in the functional treated group, 24.5 days versus 47.5 days in the conventional group. Complications included 1 rerupture in the conventional group, 2 superficial infections (1 in each group), 2 keloid reactions (1 in each group).

Conclusion: Our results are in accordance with the results in the few other studies regarding functional treatment. A shorter follow-up interval could possibly reveal differences between the groups regarding muscular strength, but with no clinical consequences.

A bandage period of 6 weeks allowing functional exercises after surgical repair of Achilles tendon rupture did not increase the risk of rerupture compared to standard immobilization in 8 weeks. The functional rehabilitation program implied a tendency to a shorter sick leave.

The Sextant percutaneous rod insertion system reduces morbidity and hospital stay of lumbar pedicle fixation.

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Introduction: The Sextant rod insertion system is designed to minimise the approach-related morbidity of traditional lumbar pedicle fixation. The aim of the study was to investigate the effect of the Sextant percutaneous technique versus conventional open technique on post-fusion pain, mobilisation and convalescence.

Material and methods: In a randomised study 16 patients undergoing combined posterior- anterior lumbar fusion were allocated to percutaneous or open posterior technique. In both groups virtual fluoroscopy navigation system were used. No neurological decompression was performed.

Use of analgesics, mobilisation and hospital stay was assessed.

Results: The Sextant percutaneous rod insertion system reduced hospital stay from 8 (7-10) to 6 (6-7) days ($P=0.01$). There was a non-significant reduction in use of analgesics.

Conclusion: A percutaneous technique in lumbar pedicle fixation may enhance post-fusion convalescence.

Ten years follow-up after initial conservative treatment of traumatic primary anterior shoulder dislocation (TPASD)

Suder P, Johannsen HV, Wulff-Jakobsen B.
Danish Society for Shoulder and Elbow Surgery.

Introduction: TPASD in young patients is associated with intraarticular osseous and soft tissue lesions.

Aim: To evaluate the clinical outcome ten years after initial conservative treatment.

Patients: 39 patients were arthroscopically examined after TPASD in the period 1990-1994. They were treated conservatively with 1/3 weeks in a fixed/loose sling and received standard re-hab. The patients were clinically evaluated at follow-up 6, 12 and 24 months and a follow-up study was conducted in 1996 and in 2003 with evaluation of the actual shoulder function with the Oxford self-assessment score. The Kaplan Meier Survival Test and the Log Rank was used for statistic evaluation with a level of significance $p < 0.05$

Results: Recurrence group : Male/female ratio was 19/5 and dominant/ non-dominant arm involvement is 14/10. Average age 21 yrs (16-29). 24 (62 %) patients have had recurrent dislocations,

54 % of the first dislocation occurred within the first 12 months traumatically (19). 19 patients have been operated. 15 (63 %) have changed sport activity due to the shoulder and only 5 (21 %) participate in shoulder demanding sport at present. Dead arm symptoms (38 %), reduced strength (42 %) and ROM (83 %) and throwing disability with dominant involvement 6 (25 %) were present.

Non-recurrence group : Male/ female ratio 12/3 and dominant/non-dominant arm involvement 12/3. Average age 23 yrs. (16-32). 12 (80 %) patients have changed sport and only 2 (13 %) take part in shoulder demanding sport. 4 patients (27 %) perform strengthening exercises due to their unstable shoulder. In this group 5 (33 %) complain of dead arm symptoms, 4 (27 %) claim about reduced strength, 6 (40 %) lack ROM and impaired dominant arm throwing ability is recorded in 6 (40 %).

No statistical correlation was found regarding type of capsulolabral lesions ($p = 0.64$), size ($p=0.57$), anatomical position ($p = 0.87$), Hill Sachs lesion ($p = 0.16$), osseous rim avulsion ($p = 0.78$), sex ($p = 0.53$) and dominant arm involvement ($p = 0.82$). Increased risk of recurrence was only correlated with lesion of the IGHL ($p = 0.04$), age < 20 yrs. ($p = 0.02$) and sport ($p < 0,01$).

Conclusion: Conservative treatment of TPASD in young patients result in a high recurrence rate (62 %). Recurrence seems statistically correlated with age below 20, lesion of IGHL and sport participation. The non-dislocators have shoulder disability, which they accept with an apprehensive way of living.

Patient's demand outside hospital from three rehabilitation therapy protocols following lumbar spinal fusion - A randomized prospective study

Rikke Soegaard, Finn Bjarke Christensen, Ida Lauersen, Cody Bünger;
Spine Section, Orthopaedic Research Group,
University Hospital of Aarhus

Introduction: Very few studies have investigated the cost-effectiveness of different rehabilitation strategies following lumbar spinal fusion. Our aim is to present a decision-analytic approach, which support the clinical findings questioning the effectiveness of hospital's usual rehabilitation regime.

Materials and methods: 90 patients were randomized, 3 months post lumbar spinal fusion, into one of three rehabilitation protocols; usual (video), behavioral (café) and training approach (training). Register data were collected from an observation period matching clinical follow up intervals of 3-6, 6-12 and 12-24 months post surgery.

Results: Highly significant difference was found among the three randomization groups concerning i) Patient's demand outside hospital but within primary sector and ii) Cost of this demand considering frequency, type and cost of treatment. Median number of patient's contacts outside hospital is shown in table 1.

Table 1: Patients demand outside hospital (median and range of contacts)

	3-6 months	6-12 months	12-24 months	Cumulative	N	%
Video	8.0 [0-106]	15.0 [1-147]	19.5 [0-297]	50.5 [2-531]	2593	53
Café	3.0 [0-24]	7.0 [0-90]	16.0 [0-90]	30.0 [0-142]	1114	23
Train.	1.5 [0-24]	5.5 [0-143]	16.0 [0-94]	24.0 [0-237]	1225	25
Total	3.0 [0-106]	8.0 [1-147]	17.5 [0-297]	31.5 [0-531]	4932	100
P	.001 -	.008 -	.278 -	.023 -	-	-

iii) Investigation of contact pattern showed no significant difference between randomization groups. 51% of all contacts were directed towards general practitioners and 45% towards physiotherapists.

Conclusion: A poor in-hospital rehabilitation regime returns a multiplied demand outside the hospital - evidently, for the inconvenience of both patients and society. The hospital's usual approach accounted for more than half of total demand outside hospital. Yet, a clinical study found the two experimental groups performing significantly better concerning function and pain. The protocol recognizing the behavioural aspect suggests the best cost-effectiveness.

Comparative analysis of single-shot local analgesic versus catheter applied local analgesic in postoperative pain management following foot surgery.

¹Walter Ulrichsen, ²Bo Krogh, ²Tommy Grøndahl Nielsen, ¹Michael Larsen, ¹Niels Wedderkopp, ¹Johnny Frøkjær, ¹Jens Wester.
¹Ortopædkir. Afd. og ²Anæstesi afd. Middelfart Sygehus, Ouh

Introduction: Postoperative pain management performed in local analgesic blocks has become routine in many departments. No study investigated the effect on postoperative pain when comparing continuous infusion with local anesthetics using a catheter to traditional pain management using oral analgesics.

Material and methods: 74 patients were randomized to either single-shot local anesthesia or to catheter technique. The total initial dose of local anesthetic in both groups was 20 ml of ropivacaine 10 mg/ml and 20 ml of mepivacaine 20 mg/ml with epinephrine 5µg per ml. At time of discharge patients with catheter were connected to a portable elastometric pump for continuous infusion of ropivacaine 2 mg/ml 5ml/hour the next 24 hours. 58 patients completed the study. Pre- per- and post-operative pain was assessed using a Visual analogue scale (VAS) ranging from 0 to 100 mm at 1, 3, 6, 12, 24, 48 and 72 hours postoperatively. In addition postoperative use of analgesics was measured. Difference between means was used in analysing postoperative analgesic data and pain data was analysed using two-way ANOVA.

Results: Postoperatively patients with catheter had significantly higher pain score than patients with single-shot analgesia ($p=0.049$). There was no difference in the postoperative use of per-oral analgesics between groups.

Conclusion: This study shows that single-shot local analgesic is more effective than catheter applied local analgesia, both combined with per-oral analgesia, in postoperative pain management during the first 72 hours after foot surgery.

Early results after Philos osteosynthesis in displaced proximal humeral fractures

Steen Bo Kalms, Jens Jarl and John Jakobsen,
Ortopædkirurgi Nordjylland

Introduction: Treatment of displaced proximal humeral fractures is still controversial. Most four part fractures, and even some three part fractures, are generally treated with athroplasties. Different devices have been developed in an effort to handle these fractures. Insufficient stability of osteosynthesis and implant failure have often been reported. The AO group have recently developed an implant called the Philos plates.

The implant is a special design for proximal humeral fractures using the principles of locking screws, it contours the proximal humerus, facilitating the fracture reduction.

The purpose of this study is to report our preliminary results after working with the implant for 18 months.

Material and methods: 35 displaced proximal humeral fractures, and two proximal pseudoarthrosis after two part fractures are reported. All patients were operated on before two weeks after the trauma, except for the two pseudoarthrosis, which were 8 and 11 months post trauma. All patients were followed with x-rays after three, six and 12 months. One patient died and one were lost for follow up. The fractures were classified according to Neer in 1 two part, 33 three parts and 1 four part fractures, there were 24 women and 13 men, the mean age were 58,6 years with a range from 26 to 82 years.

Results: Mean follow up time were 6 months (2 - 15 months). All but one case showed healing of the fractures within three months. The one without healing turned in to a humeral head collapse, and was converted to a hemiarthroplasty 45 days after primary surgery. One patient died six weeks after surgery. Mean forward elevation were 112° (60° - 180°). Mean abduction were 100° (50° - 180°). Mean external rotation were 30° (10° - 60°). All patients were able to reach the sacrum in internal rotation. One patient reported pain disturbing daily activities, 16 patients reported mild pain and 20 patients had no pain. There were no implant failures or loosening.

Conclusion: Further follow up of this patient group is needed, and further development of the implant is going on. The Philos implant seems to solve a lot of the problems we often have had in making stable osteosynthesis of displaced proximal humeral fractures, especially in two and three part fractures in younger patients. It seems to give good functional results. Maybe the plate has a place in treatment of proximal humeral pseudoarthrosis which are very difficult to handle. Osteosynthesis of displaced proximal humeral fractures is still a challenge and clearly there is a learning curve.

Peroneus brevis vs flexor hallucis longus transfer for neglected ruptured Achilles tendon: A comparative study

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**Kurnool Medical Colege, Kurnool, India

Introduction: The rupture of the Achilles tendon is a common injury. Tendon transfers are used in the treatment of old or neglected ruptures of the Achilles tendon.

AIM :In neglected tendo Achilles rupture that are difficult to manage by end to end repair or v y plasty, due to fraying of the ends and retraction of the ends, tendon transfer is good solution.

Materials and methods: We conducted a prospective randomized study on 47 patients to evaluate the outcome of treatment of the neglected ruptures of the Achilles tendon. One group comprising of 24 patients was treated with peroneus brevis transfer while flexor hallucis longus was used for transfer in 23 patients and were followed on an average period of 1.9 years

Results: The patients were assessed using the Quigley's scoring system. Indirect trauma following tripping, jumping or running was the most common mechanism of injury. Infection and scar related symptoms were seen in few patients. The results at an average of 2 years were found to be significantly better from flexor hallucis transfers.

Peroneus Brevis	Cases	Percentage
Excellent	7	29.16
Good	13	54.16
Fair	3	12.5
Poor	1	4.16
Flexir Hallucis Longus	Cases	Percentage
Excellent	15	65.21
Good	5	21.73
Fair	2	8.69
Poor	1	4.34

CONCLUSION: We recommend the use of flexor hallucis longus tendon transfer for the treatment of old or neglected ruptures of the Achilles tendon.

Multiple cultures for diagnosis of infection in knee arthroplasty revisions.

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²Department of Clinical Microbiology, Aalborg Hospital -
Aarhus University Hospital, Aalborg, Denmark.

Introduction: It is often difficult to distinguish between true pathogens and skin contaminants when examining cultures taken peroperatively. Multiple cultures taken as tissue biopsies from one site may improve the diagnostic accuracy. Kamme and Lindberg suggested isolation of one (or more) identical pathogens from at least 3 of 5 biopsies as a diagnostic threshold.

The purpose of this study was to evaluate this method in knee arthroplasty revisions.

Material and methods: Multiple cultures were routinely taken during 122 consecutive knee arthroplasty revisions in 120 patients (female: 74, male: 46; mean age 67 years, range 29-88 years). Categorization of cases was based on pre- and peroperative data in 3 groups: Infection (27 cases), aseptic loosening (58 cases) and mechanical problems (37 cases).

Results: 24 sets of biopsies were positive and 3 were inconclusive. Sensitivity was 80 % (95% confidence limits: 59 - 93 %) and the specificity 95 % (95% confidence limits: 88 - 98 %). Four of 5 patients with negative cultures and clinical signs of infection received antibiotics at the time of the revision because of sepsis.

Conclusion: Multiple biopsies provided an unequivocal diagnosis in 80% of infected knee arthroplasties. Supplementary diagnostic methods are needed, most likely DNA-based.

Bone banking - answers from a questionnaire 2. edition

*Morten Blomgren Andersen***, *Søren Larsen**,
*Henrik Toft Nielsen** and Ole Ovesen**

Department of Orthopaedics: *Odense University Hospital,
**Svendborg Hospital, Denmark

Introduction: At the DOS meeting in spring 2000 we presented a survey on bone banking in Denmark. We recommended an annual report and guidelines according to international recommendations. An increase in bone bank activity was anticipated. Therefore we have found it of interest to make a new survey to see if our recommendations have been met and if our anticipations were correct.

Material and methods: The same questionnaire as in the survey presented at the DOS meeting in spring 2000 was sent to 47 Danish Orthopaedic departments likely to use allograft or to have a bone bank.

Results: Data from the last survey are given in square brackets. 94% (44) [90%] of the departments returned the questionnaire. 68% (32) [72%] had their own bone bank, 72% [74%] were collaborating with other departments. Of the 32 departments having their own bone bank 66% (21) [20%] had done an annual audit and 100% (32) [93%] had guidelines for the use of the bone bank. 47% (15) [33%] of these bone banks discarded less than 10% of the donated bone, 16% (5) [40%] discarded 10% to 20% and 12% [13%] discarded more than 20%. 25% [13%] (8) were not able to answer the question.

From 1998 to 2002 there has been an increasing bone bank activity in Denmark with 20% more transplanted bonegrafts.

Conclusion: More bone banks in Denmark meet international recommendations, and as predicted in previous studies we have found an increase in bone bank activity (1, 2).

1.Henrik T. Nielsen,et.al. Cell and Tissue Banking 2: 179-83, 2001.

2.Jette Lohse Løje "Regional collaboration concerning bone banking"
DOS-meeting, spring 2003 (abstract).

Occurrence and risk of a second hip fracture.

*Tine Nymark, Jens M. Lauritsen, Niels Dieter Röck,
Ole Ovesen*

Section of hip surgery, Department of orthopedic surgery,
Odense University hospital

Introduction: Among numerous international studies on hip fractures only few were found to deal with the occurrence and risk of a second hip fracture (Finsen and Benum, 1986). Some studies contain information identifying patients at risk of subsequent hip fractures as well as the risk of a hip fracture following another osteoporotic fracture (Lauritzen and Lund, 1993)

Material and methods: The Funen County Hip Fracture Register contains information on every consecutive hip fracture in the county since January 1996. The register records contains general information about the patient i.e.: type of fracture, operative treatment, complications, ASA-score, living conditions, ADL, as well as information from 4 and 12 month out-patient visit and if necessary resurgery. Maximum 155 variables can be recorded about every patient. Incidence numbers were calculated based on risk of fracture from the first fracture to death or Dec 31st 2002.

Results: In the register we found 325 patients (6%) of 5573 records with two or more hip fractures (Figure 1). One third of the second fractures occurred within the first 6 months. Two thirds had occurred within the first 18 months, mean 19.83 months (C.I 17.82 - 21.84), range 0-75 months. The incidence of a second hipfracture was 2.58% (C.I. 2.32 - 2.88).

Conclusion: More research is needed to identify the high risk group with focus on immediate intervention since the majority of fractures occur within 18 months of the first hip fracture.

Reference List

Finsen V, Benum P. Acta Orthop Scand 1986; (57): 431-433.

Lauritzen J B, Lund B. Acta Orthop Scand 1993; (64): 297-300.

Admission of traumapatients to Viborg County Hospital 2000-2003

*Søren Rytter, Kathrine Birch, Louise Clemmesen, Jane Lund Jensen,
Steffen Skov Jensen, Svend Troelsen*
Orthopedic dept. Viborg county Hospital

Introduction: The objective of this study was to evaluate the scale and difficulty of the traumas, and to analyse the causal relations regarding the provoking criteria for the reception of traumapatients.

The trauma draft was based on the principles of ATLS.

Materials and methods: A retrospective analysis of a cohort of traumapatients received at Viborg County Hospital.

The study included 512 patients admitted as traumapatients in the period of 1st March 2000 to 28th February 2003.

Results: 77% of the trauma patients were admitted after traffic accidents. The remaining 23% were almost equally distributed between working, leisure and home accidents. Men in the age group of 18-40 are implicated in about 32% of all traumas.

16% were moved to a level 1 trauma center.

302 patients were CT-scanned, of those 57% received a full trauma CT-scan. 50% of all scans were positive.

In the examined period there has been a rise in the number of admitted traumapatients from 140 in the first year to about 190 in the two following years.

Conclusion: This study showed that the main cause of the traumas were traffic accidents and that young men in particular were traumapatients. Positive findings were found in 50% of all CT-scans made. These findings are not further described in this study.

A further rise of admitted traumapatients is expected in 2003.

Increasing incidence of club foot with higher population density - an epidemiological study of 936,525 births in Denmark.

Michael R. Krogsgaard, Peder Klement Jensen, Inge Kjær, Henrik Husted, Jan Lorentzen, Berit Hvass-Christensen, Steen Bach Christensen & Stig Sonne-Holm

Departments of Orthopaedic Surgery, Bispebjerg Hospital, National University Hospital, Hvidovre Hospital and Odense University Hospital, Copenhagen and Odense, Denmark.

Introduction: The occurrence of club foot (CF) varies between countries and populations, and may be related to endogenic or exogenic factors. The aim was to analyse the occurrence of CF in a whole country over a long period of time.

Methods: Patients born in Denmark with a foot deformity 1978-93 were identified from the National Patient Register and the Register of Inborn Malformations. All hospital files were studied to establish the diagnoses and obtain additional information. Demographic data were obtained from the Danish National Demographical Institute.

Results: The incidence of isolated CF was 1,2 pr. thousand live births. It increased significantly during the study period ($R = 0,7794$, $p < 0,01$). The incidence of CF as well as the relative risk for CF was significantly positive correlated to population densities in the counties ($R = 0,5357$, $p < 0,05$ and $R = 0,6473$, $p < 0,02$ respectively), and the communes ($R = 0,6848$, $p < 0,05$ and $R = 0,709$, $p < 0,05$ respectively). There was no significant increase in the relative number of children with CF born of non-Scandinavian parents during the period.

Conclusion: The increasing incidence of isolated CF with higher population density indicates that exogenic factors may be pathogenetic.

Valgus cleat correction in bicycling – an experimental analysis of the effect on normal knee function using valgus cleats during bicycling

Matthias Bjerring, Kristian Larsen & Torben Bæk Hansen

The musculo-skeletal research unit, Department of orthopaedics,
Holstebro Hospital

Overuse injuries in bicycling are very common especially in the knee. Correction of bicycle cleats in varus/valgus has been manufactured for correction of abnormal leg axis to prevent overuse injuries, but so far only minor evidence of the effect on leg axis or workload during bicycling has been presented.

The aim of this study was to investigate the effect of valgus cleats on leg function during bicycling in a experimental model using a combination of digitalized film and dynamic analysis of leg workload.

Six healthy individuals aged 9-18 years (all competitive bicyclists at national/international level) were tested.

In only two individuals the axis was changed as measured on digital film. The distribution of workload between the legs or the spinescan changed significantly in four individuals, and in the last two individuals the workload distribution or spinescan were unchanged.

The clinical relevance of the study is uncertain as it is a experimental study, but it seems, that a visible valgus correction of leg axis during bicycling was not easily obtained, and it is unclear whether this is possible in individuals with abnormal varus axis. In competitive bicyclists it seems, that valgus correction may alter workload distribution significantly and care must be taken not to induce other overuse injuries by using valgus cleats.

GeneChip analysis of cultured chondrocytes used for autologous chondrocyte implantation.

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Interface Biotech A/S, c/o Glostrup University Hospital,
DenmarkInstitute for Inflammation Research, Rigshospitalet,
Frederikssund Hospital, Sports Clinic, Gentofte Hospital,
Department of Orthopaedic Surgery, Denmark

Introduction: Autologous Chondrocyte Implantation (ACI) is becoming a method for treating defects of articular cartilage of the knee. It has been proved that ACI lead to the formation of hyaline-like cartilage in the defect area.

The aim of the present study was to validate current method for culturing human chondrocytes, using GeneChip analysis.

Materials and methods: Cartilage biopsies were obtained from the medial femoral condyles of the knee of patients participating in an “ACI-multicenter, randomised, double-blinded clinical trial”. Chondrocytes obtained from the biopsies were cultured 4-5 weeks in a “Class 100” Cell Laboratory. Prior to chondrocyte implantation, samples of 1 million chondrocytes were analysed from each patient by GeneChip (Affymetrix) analysis. The GeneChip is based on in situ synthesized oligonucleotides and interrogates about 12.000 human transcripts.

Results: Genes related to chondrocytes (e.g., Collagen Type I, II, V, VI, IX, XI, CD44, and Aggrecan) were selected from the 12000 genes for further analysis. Genes specific for articular chondrocytes were found expressed after final chondrocyte culturing.

Conclusion: The results from the GeneChip analysis demonstrate that final cultured chondrocytes maintain their genotype prior to implantation. This culture method is superior for culturing human articular chondrocytes for autologous chondrocyte implantation.

Instrumented anterior lumbar interbody fusion with a collagen based implant material.

+* *Li, H; *Zou, X; *Woo, C; *Ding, M; *Lind, M; *Bünger, C;*+
Orthopedic Research Lab, Institute for Experimental Clinical Research,
Aarhus University Hospital. Aarhus, Denmark

Introduction: Interbody spinal fusion has been performed increasingly in clinical practice, but complications with bone graft harvesting such as donor site pain, neurovascular injury, herniation of abdominal contents are still major concerns. In this study, we tested a collagen based bone graft substitute COLLOSS® (OSSACUR AG, D-71720 Oberstenfeld, Germany) in an anterior interbody spinal fusion model.

Materials and methods: 12 normal Danish landrace pigs are chosen as experimental animals. Lumbar spine interbody fusion of L3/4, L4/5 using titanium alloy cages (Ti6Al7Nb, Danfoss Bionics, DK 6430 Nordborg, Denmark) and pedicle screws instrumentation (Medtronic Sofamor Danek, Minneapolis, MN, USA) was performed on each pig. Cages packed with either autograft or COLLOSS® were randomly assigned to the two levels anteriorly. Pigs were observed for 3 months. After sacrifice, they were first examined macroscopically for micromotion, fusion mass and implant loosening. Then evaluations of x-ray, micro-CT, and histomorphometry were conducted.

Results: Two of the pigs were excluded due to infection. 10 pigs went through the observation. Implant breakage, loosening or spinal deformity were not observed upon radiograph examination. MicroCT of the bony struts inside the cages showed that cages with COLLOSS® had the same fusion rate (9/10) as those with autograft, further evaluation of bone volume (BV/TV) and trabecular thickness (Tb.Th) also showed no difference between them. Histological evaluation showed that both autograft and COLLOSS® levels had the 80%(8/10) fusion rate. Histomorphometric results revealed that only cartilage tissue volume in the COLLOSS®-filled cages were significantly higher

Conclusion: We conclude that COLLOSS® is as effective as autograft in the spinal fusion in this porcine model.

Årsmøde i Dansk Selskab for Håndkirurgi:

Afholdes: Torsdag den 23.10.03
Adresse: Radisson SAS Scandinavia Hotel København
Amager Boulevard 70, København S.
Tidspunkt: kl.09.00 - 12.00
Mødelokale: Se opslag

Emnet for det videnskabelige møde er **Dupuytren's kontraktur**. Til-
melding til det videnskabelige møde er ikke nødvendig.

Dansk selskab for håndkirurgi Præliminært mødeprogram:

Velkomst	5 min.
Patofysiologi og epidemiologi <i>Thomas Rhode, Amtssygehuset i Gentofte</i>	20 min.
Præsentation af behandlingsregimer <i>Repræsentanter for 5 håndkirurgiske sektorer</i>	30 min.
Ergoterapeutisk behandling <i>Ergoterapeuter fra Aalborg sygehus</i>	20 min.
Kaffepause	20 min.
Dupuytren's Contracture –	
Features and Consequences <i>Docent Stephan Wilbrand, Uppsala Universitetssygehus</i>	40 min.
Prognose <i>Overlæge Marianne Breddam Ortopædkirurgi Nordjylland</i>	10 min.
Metode til kvalitetssikring <i>Overlæge Michel Boeckstyns, Amtssygehuset i Gentofte</i>	10 min.
Diskussion	20 min.

Møde i Dansk Selskab for Hofte- og Knæalloplastik Kirurgi DSHK

Torsdag 23.10.2003

PROGRAM

1. Kl. 10.00-10.30: Snapping Hip v. Kjeld Søballe
2. Kl. 10.30-11.00: Rapport fra Dansk Knæalloplastik Register
v. Bjarne Lund
3. Kl. 11.00-12.00: Rapport fra Dansk Hoftealloplastik Register
v. Ulf Lucht.

Jens-Erik Varmarken
DSHK

Jeg ønsker at melde mig ind i DSHK:

NAVN: _____

Arbejdssted: _____

E-Mail: _____

Sendes til: Overlæge Jens-Erik Varmarken
Ortopædkirurgisk afd.
Storstrømmens Sygehus Næstved
Ringstedgade 61
4700 NÆSTVED
eller: jva@cn.stam.dk



SAKS

Efterårsmøde d. 23. oktober kl. 10-12.

Program:

10.00 – 10.20: Orientering fra bestyrelsen

10.20 – 10.35: Behandling af ACL-læsioner hos børn og unge.
Magnus Forssblad, Arthro Clinic, Stockholm

10.53 – 10.50: Diskussion

10.50 – 11.00: Kaffepause

11.00 - 11.30: IT-totalløsning til artroskopisk kirurgi
Magnus Forssblad, Arthro Clinic, Stockholm

11.30 – 12.00: Diskussion



SAKS symposium Groin, hip and sport

**Diagnosing and treating problems in the groin and hip
hip-arthroscopy from A-Z**

H:S Bispebjerg University Hospital November 13 and 14, 2003

Topics:

Epidemiology of groin and hip problems – in particular related to sport
Clinical examination, radiology, MRI and ultrasound
Muscle- and tendon problems, calcifications, hernia

Conditions in bone

Hip joint problems
Planning hip arthroscopy (positioning of patient, instrumentation)
Portals and visualization
Labral lesions, labral problems, cartilage problems, impingement, stiffness, loose bodies, rupture of the teres ligament, instability and other conditions
Patient demonstration, demonstration of hip arthroscopy

Registration fee: Before October 1, 2003:
Members of SAKS: 1.800,- DKK, non-members: 2.400,- DKK
After October 1, 2003: Add 500,- DKK

Faculty: Roger Hackney, Richard Villar, Michael Dienst,
Per Hölmich, Michael Bachmann, John Verner

Committee: Anette Holm Kourakis, Peter Lavard, Torsten Warming, Henna-Lisa Chenoufi, Marianne Backer, Per Nyvold, Per Hölmich and Michael Krogsgaard

Symposium secretary – registration:

Anette Holm Kourakis, Department of Ortopaedic Surgery M,
H:S Bispebjerg University Hospital, Bispebjerg Bakke 23,
DK-2400 Copenhagen NV, Denmark, Phone +45 35 31 24 40,
Fax: + 45 35 31 39 56, E-mail: AHK01@bbh.hosp.dk.

Efterårsmøde i Bevægeapparatets Årti 2003 Motion blandt 12 til 16-årige - hvem har ansvar?

*Afholdes torsdag d. 20. november 2003 kl.10-16
Odense Kongrescenter, Ørbækvej 350, 5220 Odense SØ.*

Mødets formål er at sætte fokus på betydningen af motion blandt børn og unge i aldersgruppen 12-16 år og at initiere debat om, hvordan man kan fastholde unge til sportsaktivitet.

Program:

- 10.00 -10.05 Velkomst
Overlæge, PhD Berit Schiøttz-Christensen
- 10.05 -10.10 Indledning
*Professor, overlæge, dr.med. Ivan Hvid, formand,
Bevægeapparatets Årti*
- 10.10 -10-30 Hvilken betydning har motion blandt unge, hvordan og hvor meget?
*Professor, overlæge, dr.med. Bente Klarlund Pedersen,
Rigshospitalet*
- 10.30 -10.50 Hvordan er det fysiske niveau blandt unge?
*Professor, dr.med Lars Bo Andersen, Norges Idretts
Høgskole*
- 10.50 -11.05 Pædagogik og fysisk aktivitet – skal underviserne være lærere eller skal der idrætspædagoger til?
Fagkonsulent Jette Engelbrecht Holm,
- 11.05 -11.20 Aktivitets-pause

- 11.20 -11.35 Motiver og barrierer for børn og unges idrætsdeltagelse?
*Lektor, PhD Laila Ottesen, Institut for Idræt,
Københavns Universitet*
- 11.35 -11.50 Har Idrætsforeningerne et ansvar for at aktivere alle
børn og unge og ikke kun eliten?
Forstander Henning Løvschall, Idræts højskolen, Århus
- 11.50 -12.05 Har politikerne et ansvar for at støtte aktiviteter, der
skal aktivere børn og unge til at være fysisk aktive?
Sundhedsudvalgsformand Bent Poulsen, Ribe Amt
- 12.05 -12.20 Hvad har aktuelle kampagner for fysisk aktivitet blandt
unge indeholdt og flytter det holdninger?
*Karen Lorentzen, Center for Forebyggelse,
Sundhedsstyrelsen*
- 12.20 -13.00 Paneldebat: Hvordan kan vi udnytte fælles ressourcer?
- 14.00 -14.30 Uddeling af Bevægeapparatets årspris
- 14.30 -14.55 Offentliggørelse af plakat
- 14.55 -15.45 Foretagskonkurrence
- 15.45 -16.00 Overrækkelse af prisopgave
Formand, overlæge dr.med. Ivan Hvid

Alle med interesse for mødets emne er velkomne. Der kan indhentes information på Bevægeapparatets årtis hjemmeside: www.bjd.suite.dk
Tilmelding ved indbetaling af 100 kr. på konto nummer 1199 006 000 7810 senest d. 1. november 2003. Tilmeldingsgebyret inkluderer program, formiddagskaffe og sandwich til frokost.

Evt. spørgsmål kan rettes til selskabets sekretær: bmm@shf.fyns-amt.dk
eller Berit Schiøttz-Christensen: berit@dadlnet.dk

Håndkirurgisk dissektionskursus

Torsdag d. 4. og fredag d. 5. december 2003.

Panum Instituttet, Anatomisk sektion.

Københavns Universitet, Blegdamsvej 3, 2200 Kbh. N

Kurset afholdes for 8. gang, også denne gang i samarbejde med håndkirurgisk afdeling Malmö, Lunds Universitet, Sverige.

Målgruppe: Kurset henvender sig specielt til ortopædkirurger i Danmark med interesse eller arbejdsområde indenfor håndkirurgien samt svenske læger, håndkirurgisk uddannede eller i håndkirurgiske uddannelsesstillinger.

Kursusleder: Overlæge Niels Søe Nielsen, afdelingsleder dr. med. Finn Bojsen-Møller og overlæge dr. med. Lars Dahlin.

Indhold: Kurset består af primær intensiv instruktion og efterfølgende kursist- dissektion under supervision. De enkelte anatomiske regioner og strukturer gennemgås sammen med operationsadgange.

Kurset afholdes over 2 dage med sammenlagt 12 timers undervisning.

Kurset er inkl. dissektionsmappe, materiale, kaffe/the, brød, frokost. Torsdag aften middag.

Råder man over lup-briller til finere dissektionsarbejde, vil det være en fordel at medtage disse.

Kursusform: Teoretisk + præp. hånd, underarm og albue.

Kursuspladser: 16 deltagere fra Danmark og Sverige.

Akkreditering: DK 12 CME-point S 10 CME-point

Kursusafgift: 2.850,00 DKK

Tilmelding: Yderligere oplysning, anmodning om tilsendelse af kursusprogram og tilmelding fås ved henvendelse til sygeplejerske Nina Vendel

e-mail n.vendel@get2net.dk

Tilmeldingsfrist: 1. november 2003.

Niels Søe, Finn Bojsen-Møller, Lars Dahlin, Nina Vendel



SAKS og Dansk Selskab for Fod- og Ankelkirurgi

Arrangerer i samarbejde med Medicinsk Anatomisk Institut, Panum

Dissektionskursus for ortopædkirurger i:

Knæ-underben-ankel-fod

*torsdag 18. og fredag 19. december 2003
på Panum Institut, København*

Under demonstration og vejledning visualiseres anatomien i knæet og nedefter, og betydningen for kirurgiske procedurer gennemgås. En række operationer i knæ, underben, ankel og fod gennemgås og trænes.

Kurset henvender sig til såvel læger under ortopædkirurgisk uddannelse samt erfarne ortopædkirurger, idet dissektion og operationstræning vil blive justeret individuelt.

Kursusledere: Finn Bojsen-Møller, Frank Linde & Michael Krogsgaard
Udførligt program findes på www.saks.nu.
Maximum 24 kursister. Pris 2.000.- for medlemmer af et eller begge selskaber, 2.400.- for ikke medlemmer.

Tilmelding: Michael Krogsgaard, Ortopædkirurgisk afd. M,
H:S Bispebjerg Hospital, Bispebjerg Bakke 23, 2400 København NV,
mail: mk04@bbh.hosp.dk