

DOS BULLETIN



NR. 6 OKTOBER 2002 31. ÅRGANG

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DOS BESTYRELSE

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DOS-Bulletin

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DEADLINES FOR NÆSTE BULLETIN

ANNONCER: Fredag den 27. november 2002

TEKST: Fredag 6. december 2002



**Møder i forbindelse med
DOS årsmøde 2002**

Radisson SAS Scandinavia Hotel, København

Torsdag den 24. oktober

- 15:00 - 18:00 Dansk Håndkirurgisk Selskab; Møde efterfulgt af generalforsamling kl. 18:00 - 19:30
- 16:00 - 18:00 Dansk Selskab for Hofte- og Knæalloplastik Kirurgi
- 16:00 - 18:00 Dansk Børneortopædisk Selskab. Møde efterfulgt af generalforsamling. Dagsorden ifølge lovene.
- 16:00 - 18:00 Dansk Ortopædkirurgisk Traumeselskab
Indkaldelse til generalforsamling

Fredag den 25. oktober

- 17:15 - 18:00 Yngre Ortopædkirurgers Selskab

Se eventuel detaljeret annoncering under Møder i Danmark

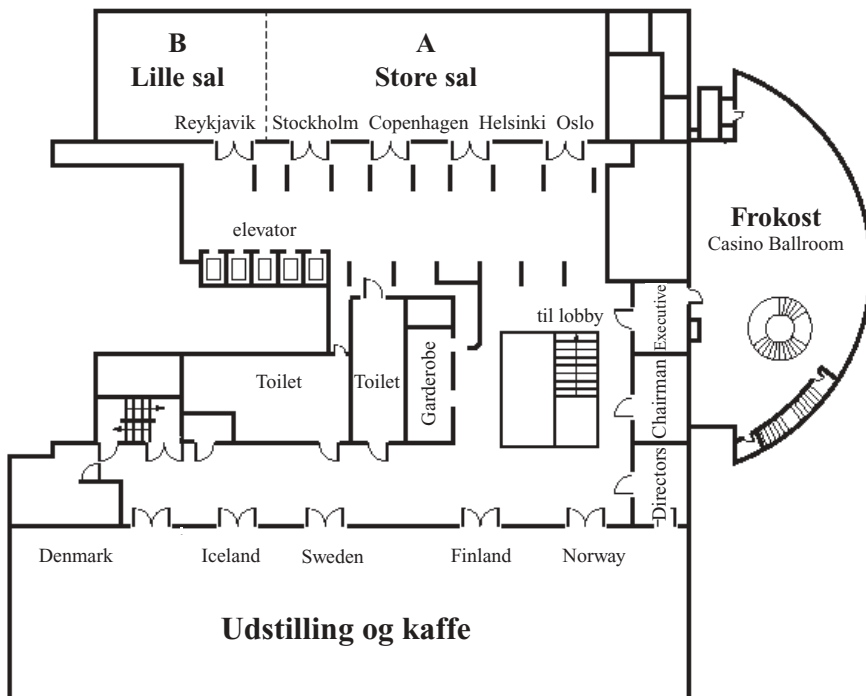
S/H Annonce

Dansk Ortopædisk Selskabs Årsmøde

25. - 26. oktober 2002

Radisson SAS Scandinavia Hotel, København

Oversigtsplan



Programme

Friday 25th October

Room A	Room B
09:00 - 10:30 Symposium: "Pes Cavus" Danish Paediatric Orthopaedic Society Dansk Fod - Ankel Kirurgisk Selskab	
10:30 - 11:15 Technical exhibition, coffee	
11:15 - 12:45 Upper extremity and Spine	11:15 - 12:45 Free papers
12:45 - 13:45 Technical exhibition, lunch	
13:45 - 15:15 Symposium: "Ikke-alloplastisk behandling af degenerative knælidelser " SAKS	
15:15 - 16.00 Technical exhibition, coffee	
16:00 - 17:00 Guildal Lecture: Leon Root "Hip- and foot problems in cerebral palsy"	
17:00 - 17:15 Donations	
19:00 - 01:30 Dinner	

Programme

Saturday 26th October

Room A	Room B
09:00 - 10:00 Best Paper	
10:00 - 11:00 Technical exhibition, coffee	
11:00 - 12:30 Postersession Best paper award, Best poster award	
12:30 - 13:30 Lunch	

**Indtegning på bordplan til middagen
slutter fredag kl. 16:00!!!**

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

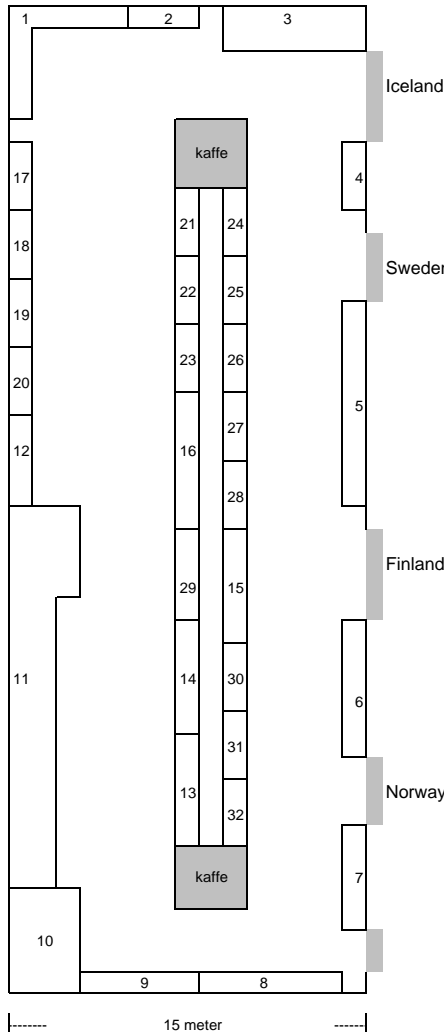
**Frokostbilletterne skal afleveres
til betjeningen.**

Påklædning: Smoking eller mørk tøj.

Udstillere

<i>Udstiller</i>	<i>Stand nr.</i>	<i>Areal</i>
Aircast KB	22	1 x 3 m
Apgar Danmark A/S	21	1 x 3 m
Artek A/S	9	1 x 5 m
Astra Tech A/S	4	1 x 3 m
B. Braun Medical A/S	13	1 x 5 m
Biomet Merck	1	1 x 8 m
DePuyAcroMed	12	1 x 4 m
erimed international kb	23	1 x 3 m
Fischer Medical ApS	17	1 x 3 m
Hemax Medical ApS	25	1 x 3 m
Horus Medical	26	1 x 3 m
Implantec Medical	27	1 x 3 m
Karl Storz Endoskopi Danmark A/S	20	1 x 3 m
KCI Medical ApS	18	1 x 3 m
KD Innovation A/S	28	1 x 3 m
KEBO CARE DEMA A/S	6	1 x 6 m
L J Medical ApS	14	1 x 5 m
Medical Vision Group MVG AB	31	1 x 3 m
Medtronic-ViCare AS	16	1 x 6 m
N.C. Nielsen Hospitalsudstyr A/S	30	1 x 3 m
Nordic Medical Supply	10	3 x 5 m
Ortotech	32	1 x 3 m
Osmedic ApS	29	1 x 4 m
Pharmacia A/S	19	1 x 3 m
ProMeduc A/S	24	1 x 3 m
Protesekompagniet	5	1 x 9 m
sanofi-synthelabo	15	1 x 5 m
Smith & Nephew A/S	8	1 x 6 m
Stratec Medical A/S	7	1 x 5 m
Stryker Howmedica	3	6 x 2 m
Verigen	2	1 x 3 m
Zimmer Scandinavia	11	2 x 13 m

Udstilling



DOS ÅRSMØDET 2002



Program
DOS Årsmøde 2002

Friday 25th October

09:00 - 10:30 Room A

Symposium: "Pes Cavus"

Danish Paediatric Orthopaedic Society
Dansk Fod- Ankel Kirurgisk Selskab.

Chairman: *Bjarne Møller-Madsen*

- | | |
|---|--------|
| 1) Introduktion | 5 min |
| <i>Frank Linde</i> | |
| 2) Fodens anatomi inkl. udvikling | 10 min |
| <i>Bjarne Møller-Madsen</i> | |
| 3) Behandling af den non-neurologiske pes cavus | 20 min |
| <i>Ivan Hvid / Frank Linde</i> | |
| 4) HSMN- fodens patogenese, diagnosticering og prognose | 20 min |
| <i>Johannes Jakobsen</i> | |
| 5) Behandling af den neurologiske pes cavus | 15 min |
| <i>Frank Linde</i> | |
| 6) Diskussion | 20 min |

(HSMN = hereditær sensomotorisk neuropati)

Friday 25th October

11:15 - 12:45 Room A

Upper extremity and spine

Side

Chairman: *Allan Ibsen Sørensen*

- Remodeling after Salter-Harris type II fracture of distal radius: 2,5-15 years clinical & radiological follow-up of 86 cases 17
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- Dupuytren's contracture: an evaluation. 18
Hanne Dalsgaard, Jens Ulrik Petersen, Marianne Breddam.
- Biphosphonate therapy of reflex sympathetic dystrophy syndrome 19
Peter Basse, Jesper Graff
- Treatment of established Volkmann's contracture in children with displaced supracondylar fractures of the humerus. A case report 20
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- Displaced fractures of the humeral surgical neck treated with titanium helix wire. 21
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- Exsanguination of limbs in elderly subjects before application of a tourniquet 22
Lars Blønd and Jan Lysgård Madsen.
- A new technique for C1-C2 fixation with polyaxial screws 23
Søren Eiskjær & Morten Buhl
- Sf-36 and oswestry disability index in patients with osteoarthritis of the hip compared to segmental lumbar instability. 24
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Friday 25th October

11:15 - 12:45 Room B

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- Ludloff's medial approach for congenital dislocation
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Bjørn Thorup, Keld Daubjerg Nielsen, Ivan Hvid.
- 13 year results of 128 uncemented hip replacements
(CLS Spotorno/HarrisGalante 1) 27
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- Compaction enhances fixation of hydroxy-apatite coated
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- Sport- and leisure activities after total hip arthroplasty 29
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- Reconstruction of the posterolateral corner. A new
surgical procedure. 30
Jakobsen BW, Lund B, Kjeldsen S and Christiansen SE.
- Achilles tendon rupture, experiences with
nonoperative treatment. 31
Christina Tinghus, Lilli Sørensen, Otto Langhoff.
- Two Danish Trauma Registers
- comparison of data from Odense and Copenhagen 32
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Weitemeyer, Lars Hansen, Morten Boesen, Shirzad Houshian*
- Application of microdialysis to corticocancellous bone tissue 33
*Lars Bjørn Stolle, Magnus Arpi, Peter H Jørgensen,
Per Riegels-Nielsen & Johnny Keller*

Friday 25th October

13:45 - 15:15 Room A

Symposium:

"Ikke-alloplastisk behandling af degenerative knælidelser"

SAKS

Chairman: *Allan Buhl*

Program:

1. Introduktion
Allan Buhl, Viborg Sygehus

2. Klinisk/artroskopisk artrosediagnostik. Evaluering af degenerative forandringer i brusk og menisk. 15 min.
Uffe Jørgensen, Amtssygehuset i Gentofte

3. Radiologisk artrosediagnostik (standard, CT- & MR-scan) 10 min.
Frank Kronenberg, Kolding Sygehus

4. Artroskopisk behandling (shaving, inforatio/mikrofraktur, samtidig meniskkirurgi) 10 min.
Michael Krogsgaard, Bispebjerg Hospital

5. Brusktransplantation - celle (ACI), mosaik, vækstfaktorer. Har brusktransplantationen en plads i artrosekirurgien?. 10 min.
Martin Lind, Aalborg Sygehus

6. Proximale tibia-osteotomier - Indikationer og operativ teknik.
a.) åben eller lukket teknik, fibularesektion, intern eller ekstern fiksatation. 15 min.
Poul Torben Nielsen, Aalborg Sygehus

- b.) Osteotomier i relation til ACL-rekonstruktion. 10 min.
Allan Buhl, Viborg Sygehus

7. Diskussion 15 min.

Friday 25th October

16:00 - 17:00 Room A

Guildal Lecture

**"Hip and foot problems
in cerebral palsy"**

Professor Leon Root,
Hospital for Special Surgery, New York, USA

17:00 - 17:15

Donations

Saturday 26th October

09:00 - 10:00 Room A

Best paper award

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- Improved interobserver agreement after training.
Neer's classification for proximal humeral fractures. 35
*Stig Brorson, Asbjørn Hróbjartsson, Jens Bagger
Annette Sylvest*
- Fixation of allografted revision implants is improved
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*Brian Elmengaard, Søren Kold, Joan Bechtold,
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- Effect evaluation of 3 rehabilitation programs after
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with a 2-year follow-up. 37
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Spine Unit, Dept. of Orthopedics, University Hospital of Aarhus,*
- Hypermobility is not a problem in male soccer 38
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Saturday 26th October

11:00 - 12:30 Room A

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- tourniquet pain and patient satisfaction 47
Nina Vendel Jensen, Niels H. Søe Nielsen

Saturday 26th October

11:00 - 12:30 Room A

Poster session (fortsat)

Side

Chairman: Jens Stürup

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- Cervical osteotomy for ankylosing spondylitis using Cervifix and a custommade hinge joint 51
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Søren Overgaard, Ulf Bromose, Martin Lind, Cody Bünger, Kjeld Søballe

Remodeling after Salter-Harris type II fracture of distal radius: 2,5-15 years clinical & radiological follow-up of 86 cases

*Shirzad Houshian**, *A. Holst***, *Morten S. Larsen** & *T. Torfing***

Department of Orthopedics* & Radiology**,

Odense University Hospital, Denmark

Introduction

Remodeling after fracture is well known in children, but little is known about remodeling after Salter-Harris type II (SH II).

We studied the relation between residual angulation at the time of healing and final orientation of the distal radius as well as clinical outcome in patients after SH II .

Material & methods

Between 1987-1999 104 children with SH II of distal radius treated in our department. Six patients were excluded (4 bilateral, 2 previous fracture) from the study. 86 (87%) of 98 patients were reviewed for clinical and radiological examination. At follow-up radiographs AP and lateral views of both the fractured and opposite normal wrist were obtained as well as clinical evaluation of pain with VAS, mobility, grip strength and deformity.

Results

56 were male. Median age 10 (4-15) years. The median follow-up time was 8 (2,5-15) years. Only in 63 patients the fracture was reduced. The residual angulation at the time of healing was < 5 degree in 41 patients, between 6-10 degree in 25 patients and > 11 degree in 20 patients. At the time of follow up 73 patients (85%) were anatomically remodeled, the remaining 13 patients had an abnormal inclination of distal radius of 0-24 degree. 4 patients had pain during activity, two of whom had abnormal inclination at follow up, the third patient had exostosis at the ulnar head and the fourth patient had no radiological explanation.

Conclusion

Our study showed that remodeling occurs in the majority of cases of SH II, residual angulation up to 20 degree does not seem to have any long term negative effect in SH II fracture of distal radius.

Dupuytren's contracture: an evaluation.

Hanne Dalsgaard, Jens Ulrik Petersen, Marianne Breddam.

Department of orthopaedic surgery, Aalborg and Aarhus Hospitals.

Introduction:

The aim of the study is to evaluate the results after operation for Dupuytren's contracture, primaries and recurrences.

Material and methods:

The material consisted of 79 cases operated for Dupuytren's contracture by means of fasciectomy of all pathological tissue and a standardized rehabilitation program. At a median follow-up of 41 months the patients were interviewed, examined and DASH-scores were obtained.

Thirteen patients were lost at follow-up, leaving 66 cases, 42 primaries and 24 recurrences and a total of 103 fingers with 83 MP-joints and 70 PIP-joints involved.

Results:

In the group of primary operations the mean improvement of ROM was 41 degrees in the MP-joints (-15 - 80 degrees) and 24 degrees (-60 - 80 degrees) in the PIP-joints and in the group of recurrences it was 18 degrees in the MP-joints (-70 - 85 degrees) and 25 degrees (-75 - 105 degrees) in the PIP-joints.

In the primary group there were 5 (12 %) complications and in the recurrence group there were 5 (20 %) complications.

In 46 cases (70 %) the patients were very satisfied or satisfied and in 58 cases (88 %) the patients stated that knowing the end result, they would still have chosen the operation.

Conclusion:

Our results are comparable to the literature with 70 % very satisfied and satisfied so we continue to perform the same type of operation and to conduct the same rehabilitation program.

Biphosphonate therapy of reflex sympathetic dystrophy syndrome

Peter Basse, Jesper Graff

Ortopædkirurgisk afdeling Hvidovre hospital

Introduction:

Reflex sympathetic syndrome (RSDS) is a painful limp disorder for which a consistently effective treatment has not yet been identified. The disorder is associated with increased bone resorption and patchy osteoporosis, which might benefit from treatment with bisphosphonates, powerful inhibitors of bone resorption. Only 3 prior studies have described the positive effect of pamidronate therapy given during hospital stay. This pilot study describes the effect of pamidronate in the treatment of RSDS given in an outdoor clinic.

Material and methods:

In an open prospective study, the efficacy of pamidronate, in the treatment of RSDS was evaluated. Randomizing was not possible due to the number of patients. Nine consecutive patients with RSDS and positive bone scans, were included in the study. Pamidronate was given intravenously, initially 20 mg dissolved in 1000 ml of saline infused over 2 hours. The treatment was repeated after 2 and 4 weeks with double doses of pamidronate. After 3 month a control bone scan was performed. VAS for pain ROM, assessment of improvement and a pending claim of disablement pension was recorded.

Results:

All patients improved during treatment. The mean VAS decreased from 8,2 to 3,6 (max 10). 3 patients had excellent improvement, 2 significant, 2 moderate and 2 minimal. All patients had improved ROM. Control bone scans all showed reduced or no pathological activity. 2 patients received disablement pension.

Conclusion:

These results indicate that bisphosphonates should be considered for the treatment of RSDS. Double-blind placebo controlled studies are required to document these preliminary results.

Treatment of established Volkmann's contracture in children with displaced supracondylar fractures of the Humerus. A case report

Niels H. Sjø Nielsen, Nina Høffding, Maria Hasselquist, Christen Krag
Department of Orthopaedics, Section of Hand Surgery and Department of Occupational Therapy, Gentofte Hospital, Department of Diagnostic Radiology and Department of Plastic Surgery, Herlev Hospital, University of Copenhagen, Denmark.

The supracondylar fracture of the humerus is a common injury in children, comprising 3%-18% of all pediatric fractures and most frequently seen between the ages of 3 and 10 years. The potential for neurovascular complications make supracondylar humeral fractures a serious injury. The incidence of compartment syndrome may be estimated from the literature to be 1 to 3 per 1000 fractures.

Case report

A 4-year old boy developed a fulminant Volkmann's contracture after a left type III extension supracondylar fracture. MR showed sequelae after necrosis with fatty degeneration and atrophy. The area involved almost the whole flexor compartment of the forearm. The EMG showed median nerve damage. Intensive hand therapy and a neurovascular transfer of the m. gracilis to the digital flexors combined with a saphenus cable graft to the median nerve defect were used, fifteen month after injury. Two years after surgery he had a good handgrip.

Conclusion

The goal of treatment of supracondylar humeral fractures is to "avoid catastrophes" but when it happens excision of the necrotic tissue and a free neurovascular transfer of the gracilis and a nerve transplantation for the reconstruction of the hand function is a good choice. This treatment can restore useful function to a hand that would otherwise be almost useless.

Displaced fractures of the humeral surgical neck treated with titanium helix wire.

Otto Falster, Peder Klement & Anders Philipson
Dept. of orthopedics, Holbæk Sygehus

Introduction

Since January 2000 we have used the helix wire in the treatment of the displaced fractures of the humeral surgical neck. Osteosynthesis with this implant gives an elastic, semirigid three-point fixation of the fracture which ideally avoids earlier problems with migrating pins and rods.

Material and methods

A total of 30 patients were treated. Median age 74 years (20-91). 8 male, 22 female. Neer classification, 16 two-part, 8 three-part, 6 four-part. If rotational stability was not obtained with one wire, two wires were used. In ten patients one wire was used, in 20 patients two wires. Operation time was median 30(20-90)minutes. The operations were performed by nine surgeons, of which five only performed one or two operations, only two surgeons performed more than three operations. Only 20 patients were available for follow-up. Two patients had died, three were excluded because of technical failure leading to reoperation, five could not participate because of senility.

Results

Median follow-up was 14 months(5-30). Median Constant score fractured/healthy shoulder was 67(23-88)/83(75-97) points, disability quantification: 14 mild, 4 moderate, 2 severe. Two-part fractures (ten patients) scored 74(23-88)/85(75-97). Three-part fractures (six patients) scored 67(29-86)/84(78-88). Four-part fractures (four patients) scored 51(38-72)/81(76-84).

Conclusion

Osteosynthesis of fractures of the humeral surgical neck using helix wires seems to give results comparable to other known methods of operative treatment. We will continue to use helix wire in the treatment of two- and three-part fractures of the humeral surgical neck.

Exsanguination of limbs in elderly subjects before application of a tourniquet

Lars Blønd1 and Jan Lysgård Madsen2.

Dept. Orthopaedic Surgery1 & Dept. Clinical Physiology and Nuclear Medicine2. Hvidovre Hospital

Introduction

Until now, no study have compared the efficacy of different methods for exsanguination of limbs in elderly subjects before surgery. This was done in the present study by means of a scintigraphic technique.

Materials and methods

Gamma camera scintigraphy after autologue injection of ^{99m}Tc -labelled erythrocytes was used to evaluate the percentage reduction of blood volumes in both lower and upper limbs after different exsanguination procedures in 10 healthy individuals with a mean age of 82 years (range 76-86). The exsanguination methods were elevation for various time periods or Esmarch bandage.

Results

The different exsanguination procedures gave rise to the following median percentage reduction of blood volumes. In the lower limbs: Elevation 5 sec 42 %, 15 sec 46 %, 30 sec 45 %, 60 sec 46 %, 120 sec 47 %, and Esmarch bandage 61 %. In the upper limbs: Elevation 5 sec 31 %, 15 sec 33 %, 30 sec 35 %, 60 sec 34 %, 120 sec 32 %, and Esmarch bandage 53 %. Elevation of the lower limbs for 15 sec was significantly more effective than elevation for 5 sec ($p < 0.02$). For the upper limbs no significant differences were found between the effects of elevation for the various time periods. Esmarch bandage was significantly more efficient than elevation in both upper limbs ($p < 0.001$) and lower limbs ($p < 0.001$).

Conclusions

When using elevation alone 15 sec is needed for the lower limb and 5 sec is needed for the upper limb. Esmarch bandage are significantly more effective the elevation alone.

A new technique for C1-C2 fixation with polyaxial screws

*Søren Eiskjær & Morten Buhl**

Dept. of Orthopedics and Neurosurgery*, Aalborg Sygehus Syd

Introduction:

Harms has recently introduced a new technique for C1-C2 fixation using lateral mass screws (polyaxial screws) in C1 and C2. This technique is advantageous because complete reduction of C2 on C1 is not required. Transverse connectors can add further stability and transfix or hold the bone graft or only cancellous bone can be used as bone graft. In addition further reduction can be achieved by manipulation of the implants.

Aim:

To describe the technique and the initial clinical and radiological results in the first 5 patients.

Materials and methods:

After posterior exposure of the C1-C2 complex 3.5 mm polyaxial screws (Vertex®) are inserted in the lateral masses of C1 and the pars intertarsularis of C2. Drilling is guided by anatomic landmarks and lateral view fluoroscopy. Rods and transverse connectors are fixed and bone graft placed. 5 patients aged 60 to 79 years (4 women) were treated using the new technique. 3 had non united C2 fractures, one had a pathological fracture and the last patient had C1/C2 instability caused by rheumatoid arthritis.

Results:

5 patients underwent surgery using the new technique. No neural or vascular damage related to the new technique were observed. The early clinical and radiological follow-up data indicate solid fusion. Conclusion: Fixation of the atlantoaxial complex using polyaxial screws and rods seems to be a reliable technique and offers some advantages compared to transarticular screws and wiring.

References: Harms et al. Spine 2001;26:2467-71.

Sf-36 and oswestry disability index in patients with osteoarthritis of the hip compared to segmental lumbar instability.

Ole Juul, Finn Andersen-Ranberg, Mikkel Andersen, Carsten Ernst, Ole Ovesen, Karsten Thomsen.* Departments of Orthopaedic Surgery, Odense University Hospital and *Svendborg Hospital

Introduction

In orthopaedic surgery osteoarthritis of the hip is generally thought to be a well-defined entity compared to segmental lumbar instability. In the latter group the clinical picture may to a greater extent be affected by the psychosocial impact on the patients. The SF-36 and Oswestry Disability Index (ODI) were constructed for group comparisons of the general health concepts including the mental health variance. The aim of the present study was by the SF-36 and the ODI to compare these two groups patients before and after THR and spinal fusion (LF).

Materials and methods:

Thirty-five patients with hip arthritis (mean-age 64,7 yrs (56 - 87 yrs)) and 35 patients with degenerative segmental lumbar instability (mean 52,5 yrs (20 - 71 yrs)) prospectively filled in preoperatively and at one year postoperatively the SF-36 and the ODI. They were operated on between September 1999 and May 2000 in the above department.

Results

(PCS = physical component scale, MCS = mental component scale,

	PreopTHR	PreopLF *		PostopTHR	PostopLF *	
SF-36	32,6	31,0	NS	37,6	40,4	P<.05
PCS						
Sf-36	36,6	51,1	p<.05	49,5	58,9	P<.05
MCS						
ODI	233	249	NS	166	158	NS

* = difference between the two groups of patients at pre- and postop.).

Both groups of patients scored significantly better for SF-36 PCS, SF-36 MCS, and ODI at one year after surgery.

Conclusions

The present study does not support the theory of a poorer psychosocial profile in patients with degenerative lumbar instability compared to patients with osteoarthritis of the hip.

Revision total knee arthroplasty Coordinate/TC3 knee

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Introduction: Results at follow-up after revision of total knee arthroplasty using either the Coordinate knee revision system or the TC-3 knee revision system, later changing to TC3 knee.

Material and methods: 27 patients with a total of 28 knees, had a total knee revision through the period from 1994 to 2002. 4 patients were excluded because of a follow-up less than six months. This leaving 24 knees for clinical and radiographic follow-up. Indications for revision were instability in 46%, radiographic loosening in 25% and infection in 29%. Preoperatively evaluation included knee- and functional scores according to the national Danish knee register. During operation we noted insertment of femoral and tibial wedges as well as type of bone grafting. The follow-up included knee- and functional scores. We tested instability, noted radiographic loosening and the patients satisfactory.

Results: The follow-up period had a median of 3 years (1 -8 years). Male/female ratio 1:2. Average age at operation was 66 years (41 - 85 years). Operating time was in average 193 minutes (88 - 390 minutes) In femur we used distal or posterior wedges in 9 cases and both distal and posterior wedges in 17 cases . In tibia wedge was used only one time. Bonegrafting were used in 4 cases in femur and 14 in tibia. In tibia we used a structural graft in 3 cases, the rest of the bonegrafts were morze-lised. The kneescore increased from 20 to 77 and the functional score increased from 30 to 60 at follow-up. 3 patients showed radiographic signs of loosening and one of these went through rerevision because of pain. No patients showed signs of instability or infection. Almost 80% of the patients were satisfied or very satisfied with the result.

Conclusion: Revision of total condylar knee arthroplasties with a knee revision system using a total condylar knee with rods, wedges and bonegrafting in all have good clinical results in a short time follow up. There was an increase in kneescore from 20 to 77, in functional score from 30 to 60 and a patient satisfaction score of 80% .We noticed 3 cases of radiologic loosening and one knee revision.

Ludloff`s medial approach for congenital dislocation of the hip.

Bjørn Thorup, Keld Daubjerg Nielsen, Ivan Hvid.

Orthopaedic department, Childrens Section, Århus University Hospital

Introduction:

Congenital dislocation of the hip can be treated with closed reduction. Where this is not achieved open reduction is necessary. The procedure chosen by us is Ludloff`s medial approach for patients until 18 months of age.

Material and methods:

13 children (15 hips) mean age 9,5 months follow-up period from 12 to 36 months were operated on with Ludloff`s medial approach from 1997-2002.

Postoperatively immobilisation in a cast for 20 weeks.

Results:

We had 12 to 36 months of follow- up on 11 out of 15 hips.

On the first 12 months the mean AC-angel went from 36 degrees to 28 degrees.

Seven out of eleven hips had a clinical good response from the operation with unchanged stadium 1 (Kalamchi).

-One hip had stadium 2 and a clinical good response. -

-One hip was rated from a Kalamchi 1 to 2 but with a clinical good result.

-One hip with a Kalamchi stadium 2 required secondary operation.

-One hip relaxed .

The last 4 hips with less than 12 months of follow-up had no complications at present stage.

Three patient subluxated postoperatively an was treated successfully with closed reduction and reapplication of the spica.

Conclusion:

The ludloff medial approach for congenital dislocation of the hip is a simple operation that leaves the anterior part of the hip intact for eventually later surgery. In our small material the complications have been on an acceptable level and the short-term results have been good.

13 year results on 128 uncemented hip replacements (CLS spotorno/HarrisGalante 1)

*Kim Engfred, Steen Mejdahl, Vivian Petersen, Tom Lemser.
Ortopædkirurgisk afdeling, KAS Herlev*

Introduction:

The purpose of this paper is to analyse the clinical results and survival of an uncemented hip prosthesis.

Material and Methods:

Retrospective study on patients who underwent operation with uncemented total hip replacement (THR) in the period 1986 to 1989. There were 114 patients with 128 THR. Eighty patients with 93 THR were evaluated, as 24 patients had died and 11 could not attend.

Results:

The average age of the patients at operation was 55 years(18-72), and the average follow-up 13 years(11.5-14.5). The primary diagnosis was osteoarthritis in 78 hips, hip dysplasia in 11, others in 4. Eight patients were not seen at follow-up: 5 had had a revision of the femur - 3 because of aseptic loosening after 7, 10 and 12 years. Two had had a revision of the acetabular cup - 1 because of aseptic loosening and 1 dislocation. Radiologically none of the remaining 85 acetabular cups were loose, and only one had loosening of the femoral stem. Subsidence of the stem was seen in 37 patients (1-10mm), all were stable and their degree of pain and satisfaction was comparable to the rest of the patients . In 4 patients there was thigh pain and 3 patients had had dislocation of the hip.

Conclusion:

We had a survival rate of 93% for the femoral stem and 98% for the acetabular cup after 13 years.

Compaction enhances fixation of hydroxy-apatite coated implants in a gap-model.

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Orthopaedic Research Lab., University Hospital of Aarhus

Introduction:

We have previously shown that compaction provides superior fixation of grit-blasted implants inserted with a gap to surrounding bone, when compared with conventional drilling (DOS, fall 2001). However, it is unknown whether the benefits of compaction might be overpowered by the strong osteoconductive properties of HA coated implants.

Materials and methods

HA coated titanium implants (diameter 6 mm) were inserted bilaterally in the proximal humerus of 7 dogs for 2 weeks. The implant cavity was randomized to either drilling with a 8 mm drill or to compaction by radial enlarging an initial 5 mm drill hole to 8 mm. Implants were tested to failure by push-out test, and histomorphometry was performed. Data are presented as medians with interquartile range in brackets. The Wilcoxon Signed Ranked Test tested differences between compaction and drilling. P-values < 0.05 were considered significant (*).

Results:

Surgical technique	Ultimate Shear Strength (MPa)	Apparent Shear Stiffness (MPa/mm)	Energy Absorption (kJ/m ²)	Bone Implant Contact (%)
Compaction	2.9 (2.2–3.7)*	13 (11–15)*	0.4 (0.2–0.4)*	56 (52–77)*
Drilling	1.7 (1.6–2.0)	8 (6–9)	0.2 (0.2–0.4)	45 (39–61)

The bone covering all implants was de novo formed woven bone.

Conclusion:

Compaction was superior drilling in providing mechanical and histological fixation of HA coated implants. Thus, the osteoconductive properties of HA implants did not overpower the beneficial effects of compaction, and the compaction technique also seems relevant for insertion of HA coated implants.

Sport- and leisure activities after total hip arthroplasty

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Introduction: The purpose of this study was to evaluate sports- and leisure activities after total hip arthroplasty (THA).

Material and methods: In a 3 year period from Sept. 1. 1997 to Aug. 31. 2000 - 257 patients underwent THA. A questionnaire was sent to 216 patients alive at followup. They were asked to list the type, degree and frequency of participation in sports- and leisure activities 5 years, six month before surgery and after surgery. Any problems they encountered upon returning to their activities were registred along with the SF36 Health Survey.

Results: 144 (66,7%) patients, 68 women, 76 men, median age 72,5 years, range (40-95) returned the questionnaire. Activity/ number of patients see fig. 17 of the patients have had revision surgery. Pain on VAS climbing stairs after surgery median 0,6 (0-10) and pain in activities median 0,6 (0-10) was noted. 12 patients (8,3%) use painkillers while active, 6,9% are member of a sportsclub and 11,6% have a job. In SF36 PF out of ten scores Standardized Physical Component was mean 40,96 (SD11,28) and Standardized Mental Component 50,94 (SD14,10).

Conclusion: The patients after having THA are very active taking a walk, bicycling, swimming and dancing after surgery. They show a significant increase in daily or frequent walking after arthroplasty. A prospective investigation is necessary to determine which factors influence their return to sports.

	Walking (Number)	Bycycling	Swimming	Dancing	Hunting/ Fishing	Jogging	Badminton
5 y < surgery	93	52	29	17	12	9	9
½ y < surgery	55	35	2017	9	7	3	4
Follow up	84	41	17	21	6	4	1
p.value	0,0007*	0,5	0,72	0,0,32*	0,75	1,0	0,37

Reconstruction of the posterolateral corner. A new surgical procedure.

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Introduction: Lesion of the popliteus fibular ligament and the popliteus tendon with or without rupture of the lateral collateral ligament is often referred to as lesion of the postero-lateral corner of the knee. The postero-lateral corner is involved in 4% of all knee-ligament injuries giving an incidence of less than 0.1 per 1.000 per year. Untreated lesion of the postero-lateral corner will lead to rotatory instability. Undiagnosed lesion can lead to failure of primary anterior cruciate ligament reconstruction.

Material: In the period from May 1997 to Jan 2001 51 patients with posterolateral instability were treated with primary repair with augmentation or reconstruction. Median age were 30 years, 29 were males. Chronic cases constituted 72,5% and 31.4% had previous surgery. Cause of injury were RTA in 35% and sport in 41%.

The concomitant ligament lesions were:

Isolated PLC/LCL	6
PLC & ACL	20
PLC & PCL	15
PLC & ACL & PCL	9
PLC & ACL & PCL & MCL	1

Method: All had reconstruction of the lateral structures with a new procedure using hamstring grafts. Through a lateral hockey stick approach the proximal tibia and fibula were exposed as well as the anatomical insertion points of the lateral collateral ligament and the popliteus tendon at the femoral epicondyle. Drill-holes through head of fibula, proximal tibia and femur were done and a reconstruction of the lateral collateral and the popliteus tendon with semitendinosus and gracilis graft were performed. Concomitant ligament instability were treated with reconstruction using either autografts or allografts.

All were evaluated with subjective assessment and objectively using KT1000 according to the IKDC form >12 months post-op.

Results: Preop 93% had > 10° lateral rotatory instability at 90° prone examination; postop all were stable (74% grade A, <5°; 26% grade B, 6-10°).

Conclusion: It can be concluded a double bundle reconstruction of the LCL and PLC results in good objective stability with low complication risk.

Achilles tendon rupture, experiences with nonoperative treatment.

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Introduction:

The best method of treatment in rupture of the achilles tendon is still fiercely debated. For several years the department has preferred nonoperative treatment with plaster cast and camp-walker. Immobilization for 8 to 12 weeks.

We wish to evaluate the frequency of rerupture, time of rerupture, age at injury, influence on the ability of working and sports activity.

Material and methods:

A questionnaire was sent to all patients(196) with achilles tendon rupture diagnosed at Horsens Hospital between 01.01.1995 and 31.12.2001.

Results:

156 returned the questionnaire, 20 of these were excluded by death, operative treatment or a wrong primary diagnose.

Age at injury median 41 years, range(13-78). Rerupture rate was 5.1%.

Time of rerupture was median 14 weeks, (4-26).

At follow-up 15,4% indicates abnormal gait, 27,2% were not able to run.

Sick leave from work median 4 weeks (0-52).

Absence from sport activities was median 40 weeks (4-208). 74 of the patients has returned to sport, 58 at the same level. 14,0% complained of insufficient instruction in rehabilitation after removal of the cast. 6 patients (4.4%) got small wounds after use of plaster cast.

Conclusion:

With the use of nonoperative treatment at our department we find an acceptable rate of rerupture. As a nonoperative treatment postoperative complications are avoided and with a better information to the patients it could be possible to eliminate problems from the plaster cast.

Two Danish Trauma Registers - comparison of data from Odense and Copenhagen

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Group Department of Orthopedics

Introduction

Trauma registers have been in function for several years in Copenhagen (RH) and Odense (OUH). We present a comparison of data from the period 1999-2001.

Material and methods

Inclusion criterias:

Trauma patients received by the trauma team with

Length of stay > 72 hours and/or

ICU admission and/or

Dead

Patients transferred from other hospitals were excluded (387 patients (RH) and 195 patients (OUH)).

Results:

There were a total of 699 patients in RH and 499 patients in OUH.

Table 1. Trauma patients brought in primarily (not transferred)

	ISS > 15	Road Traffic	Penetrating	Fall
Copenhagen	219 (31%)	338 (48%)	78 (11%)	230 (33%)
Odense	214 (43%)	374 (75%)	8 (2%)	97 (19%)

Emergency room (ER) ultrasonography was performed in 24% of the patients in RH, and in 77% in OUH.

44% of the patients in Copenhagen had completed treatment in the ER within 60 min. In Odense the number was 74%.

Conclusion: The number of severely injured patients treated in the two centers was similar, whereas the total number and the number of transferred patients was larger in Copenhagen. The trauma population in Copenhagen and Odense revealed significant differences in distribution of cause of injury. Ultrasonography in the ER is not used to the same extend in the two centers.

Application of Microdialysis to Corticocancellous Bone Tissue

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Institute of Experimental Clinical Research, Skejby University Hospital

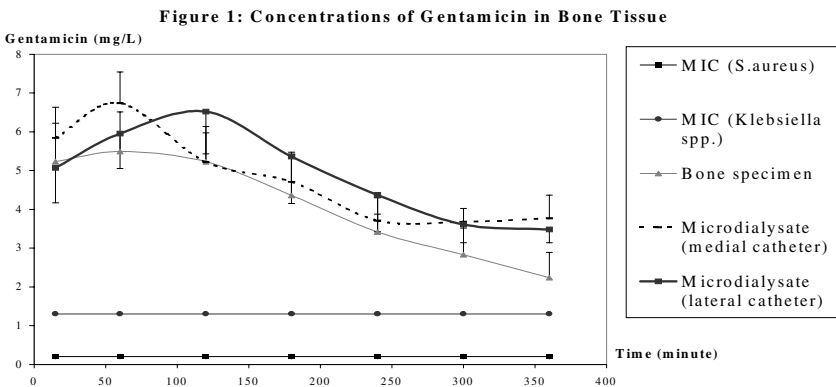
Introduction

Knowledge concerning the distribution of antimicrobial agents (AA) in bone tissue would be valuable for pharmacokinetic and clinical use. The aim of this investigation was to introduce microdialysis to cortico-cancellous bone tissue for the evaluation of gentamicin.

Material and Methods 8 healthy pigs received a therapeutic bolus of 240 mg gentamicin. Samples of microdialysates and bone specimens were obtained over a period of 6 hours and drug concentrations were measured.

Results The results are shown in fig.1. The area under the curve from 0 to 6 hours (mean±SEM) were for the two microdialysates and bone specimens 1569±198 mg /minute/L, 1721±248 mg/minute/L and 1390±121 mg/ minute/L (ANOVA, P=0,5).

Conclusion This is the first study applying microdialysis to corticocancellous bone tissue for the evaluation of AA. It seems that microdialysis is a suitable technique for quantitative and dynamic measurements of AA.



Platelet concentrate enhances fixation of bone grafted cementless implants

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Orthopaedic Biomechanics Laboratory, Minnesota, USA

Introduction:

Morsellized bone allograft (BA) is known to increase fixation of uncemented implants. If a platelet concentrate (PC) added to bone allograft further improves fixation, implant longevity may thereby be increased.

Materials and Methods:

One plasma sprayed unloaded stable cylindrical titanium implant (6x10mm) was inserted extraarticularly in each proximal tibia of eight dogs. Each implant was centralized by a footplate and a washer and was surrounded by a 2 mm concentric gap. The gap on one side was grafted with BA alone while the gap on the contralateral side was grafted with BA+PC. PC was prepared using the Platelet Concentrate Collection System from Biomet. Platelet counts were determined for blood and PC from all dogs.

After 4 weeks, push-out test was performed. Students paired t-test was applied and data are presented as mean \pm SEM, n=8.

Results: Mean platelet count was increased from $130 \pm 18 \cdot 10^3$ cells/ μ l in whole blood to $645 \pm 178 \cdot 10^3$ cells/ μ l in PC.

PC significantly increased ultimate shear strength and energy absorption (table I).

TABLE I: Implant fixation (mean \pm SD), *: P<0.05 compared to bone allograft alone

Treatment	Ultimate shear strength (Mpa)	Energy abs.	Stiffness (MPa/ mm)
BA, n=8	1.45 \pm 1.04	314 \pm 192	5.74 \pm 4.44
BA+PC, n=8	2.18 \pm 0.95*	541 \pm 228*	7.39 \pm 3.68

Conclusion:

This study shows that platelet concentrate is capable of increasing fixation of bone allografted implants surrounded by a gap. Since bone graft is often used on sites with impaired bone healing potential such as revision of failed arthroplasties, stimulation of bone healing is clinical relevant. The platelet concentrate in this study is of autologous origin and is accepted for clinical use.

Improved interobserver agreement after training. Neer's classification for proximal humeral fractures.

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Introduction:

The Neer classification is the most widely used system for classifying proximal humeral fractures. Previous studies of observer variation within the Neer system have used a selected group of observers and cases. We conducted a large study with unselected cases and observers to study whether training of doctors could improve interobserver agreement.

Materials and methods:

Fourteen doctors classified 42 unselected pairs of plain radiographs of fractures of the proximal humerus according to the Neer system. Subsequently, the staff was randomly allocated to a training group or a control group. The training group received 45 minutes of training in the Neer system. The training session was repeated prior to a reclassification two weeks later. The doctors classified according to the 16-group Neer classification. The cases were a consecutive and unselected series of x-ray pictures collected from the emergency room within an eight week period. Agreement between observers was calculated using kappa-statistics.

Results:

14 doctors classified twice, 5 doctors dropped out (two non-specialist and one specialist from the training group and two non-specialists from the control group) leaving 4 specialists and 3 non-specialists in each group. Overall agreement within the training group increased from mean kappa 0.27(0.23-0.31) to 0.62(0.57-0.67). In the control group overall agreement increased from mean kappa 0.28(0.24-0.31) at baseline to 0.33(0.29-0.36). Thus, the increase in post-training mean kappa was 0.30(0.10-0.50, $p = 0.006$)

Conclusions:

The overall agreement between untrained doctors classifying proximal humeral fractures according to Neer system is unsatisfactory from a clinical perspective. Our results suggest that formal training in the Neer system is a prerequisite before its use in clinical practice and research.

Fixation of allografted revision implants is improved by a surgical technique to crack the sclerotic bone rim.

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Introduction:

Revision joint replacement implants have shorter longevity, poorer functional outcome, higher costs, and longer rehabilitation time than primary implants. We have previously showed that a new, low energy surgical technique, that locally cracks the sclerotic bone (SB) rim, significantly improved implant fixation of non-grafted implants. In this study we evaluate the cracking technique with the addition of allograft.

Materials and methods

Our previously established controlled revision protocol was implemented in both knees of 8 canines. At the revision operation, one of two surgical techniques was used to prepare the revision cavity.

Standard revision: The fibrous membrane was removed, and the sclerotic surface of the SB rim was scraped and lavaged.

Crack revision: Following cleaning and lavaging, a tool with 12 evenly spaced pointed splines was advanced over a guidewire into the cavity, thereby producing controlled cracking of the SB rim.

After both procedures, a stable plasma sprayed titanium implant, surrounded by tightly packed morsellized bone allograft, was inserted for 4 weeks. Push-out test was performed. Wilcoxon signed ranks test was applied.

Results:

Cracking the SB rim increased energy absorption 69-fold and ultimate shear strength 38-fold ($p < 0.05$).

Discussion and conclusions:

This study demonstrates that the simple technique of cracking the sclerotic bone rim markedly improve fixation of allografted revision implants.

Effect evaluation of 3 rehabilitation programs after lumbal spinal fusion. A randomized prospective study with a 2-year follow-up.

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Introduction: 70-85% of patients that undergo fusion are expected to improve significantly over a 2-year period. Optimization of present forms of rehabilitation could possibly further improve the outcome. The aim of the present study was to analyze the effect of 3 different strategies for the rehabilitation of patients who have undergone lumbar spinal fusion.

Methods: From 1996 - 1999, 90 patients having undergone lumbar spinal fusion were after 3 months randomized to one of 3 different rehabilitation groups. *Video-group* participants watched a video of exercises designed for further training and were subsequently and only once provided instruction regarding their use. *Back-café group* was provided the same program as video-group, but it was supplemented with a 'back-café' with other fusion-operated patients (3 meetings over an 8-week period). *Training group* were provided physical therapy training twice weekly for 8 weeks. Functional outcome was evaluated at 6, 12 and 24 months following surgery by use of Low Back Pain Rating scale and a questionnaire concerning daily functions, work status and the individual patient's contact with the primary sector. Results: By 2-year follow-up the Back-café group had less pain compared with the 2 other groups ($p < 0.03$). The Back-café group was better at performing daily functions such as: carrying bags of market items ($p < 0.01$), getting up from a chair ($p < 0.01$), and ascending staircases ($p < 0.01$) compared with both the Video and Training groups. More in the Back-café group were working after surgery compared with the 2 other groups ($p < 0.04$). The Video-group had significantly more contacts with general practitioners, physical therapists, etc. compared to the Back-café-group and Training group ($p < 0.05$). Conclusion: The patients in the Back-café group were significantly better at accomplishing a succession of daily tasks and had moreover less pain compared with both the Video and Training groups 2-years after lumbar spinal fusion. The Video group had significantly greater treatment demands outside the hospital system.

Hypermobility is not a problem in male soccer

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Introduction:

It is a widespread theory that male soccer players are not hypermobile and if so they will have an increased risk of injuries especially to the joints. This theory might influence the diagnosis and advice given to athletes. The purpose of this study was to find the prevalence of hypermobility in male soccer and to evaluate if hypermobility represents an injury risk factor.

Material and Methods:

998 male adult soccer players were followed during an 8-month soccer season, after informed consent. Pre-season demographic information was collected and physiotherapists using Beightons hypermobility score examined all players. All injuries, injury mechanisms, types of injury and time lost from soccer were registered during the 8-month period.

Results:

Using 4 of 9 Beighton-criteria the prevalence of hypermobility was 10.7% compared to 5% in the background population. The hypermobile players did NOT have more injuries than normals. The injury mechanisms and the types of injuries did not differ significantly from normals. We found a trend that more traumatic/acute injuries could be found among the hypermobile group, and more overuse injuries among the normals. No significantly different results were found using 5 of 9 Beighton criteria. Looking at athletes with hyperextension of the knees alone did not show any significant differences in the number of knee injuries.

Conclusion:

Hypermobility is common among male soccer players and it does not seem to be an injury risk factor.

A multicenter, randomised, placebo-controlled, double-blind study of fondaparinux for the prolonged prevention of venous thromboembolism in hip fracture surgery.

Lassen MR Dept. of Orthopaedics, Hillerød Hospital, University of Copenhagen, Hillerød; On behalf of the Penthifra-Plus investigators.

Introduction:

The benefit of prolonged thromboprophylaxis in hip fracture surgery has never been evaluated. We assessed the benefit-risk-ratio of prolonged thromboprophylaxis with Fondaparinux (Arixtra®), a new synthetic selective factor Xa inhibitor, in patients undergoing hip fracture surgery.

Materials and methods:

We conducted a double-blind randomized multicentre trial in patients undergoing surgery for fracture of the upper third of the femur. After an initial open period of 7 ± 1 days of treatment with fondaparinux 2.5 mg once daily given subcutaneously, 656 patients were randomly assigned to receive extended prophylaxis with either the same fondaparinux regimen or placebo for 21 ± 2 additional days. The primary efficacy outcome was venous thromboembolism (VTE) occurring during the double-blind period, defined as deep-vein thrombosis detected by mandatory bilateral venography, or documented symptomatic deep-vein thrombosis or pulmonary embolism. The main safety outcomes were major bleeding and death.

Results:

Fondaparinux reduced the incidence of all VTE events (1.4%, [3/208] versus placebo (35.0%, [77/220]), with a relative reduction in risk (RRR) of 96% ($p=4 \times 10^{-22}$). Similarly, fondaparinux significantly reduced the incidence of symptomatic VTE (0.3%, [1/326] versus 2.7%, [9/330], with a RRR of 89% ($p=0.021$). There were no significant differences between the two groups in the incidence of major bleeding and death.

Conclusions:

The risk of VTE remains elevated in hip fracture surgery patients during four weeks postoperatively. Extending thromboprophylaxis with fondaparinux from one to four weeks resulted in a major reduction of asymptomatic and symptomatic VTE compared with placebo without significantly increasing the risk of major bleeding.

Madelung's deformity treated with Ilizarov - 1 - 5 years follow-up of 8 cases

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Introduction:

The Madelung deformity consists of a growth arrest in the ulnar part of the distal epiphysis of the radius resulting in radial shortening, dorsal subluxation of the ulnar head, and palmar and ulnar angulation of the radial epiphysis. It may result in pain and decreased function of the wrist. Various treatment modalities have been proposed. The aim of this study was to evaluate our results using Ilizarov technique in eight cases.

Material and methods:

Seven patients with eight Madelung deformities (5 females & 2 males) were treated between August 1997 and October 2000 by osteotomy of the radius and subsequent angular correction and bone lengthening as described previously (1). The indications for operation were persistent pain and or reduced range of motion and deformity.

Results:

All patients were reviewed with a mean follow-up time of 24 months. The mean age at the time of surgery was 19 years. All except one patient were free of pain at follow-up. One patient had slightly pain at activity but the pain was significantly reduced after the operation. The mean lengthening of radius was 13,8 mm (range 10-20). The mean improvement in supination was 33 degrees (range 15-60).

Complications encountered in one patient with traumatic fracture through the distal pinhole during the consolidation phase.

Conclusion:

The Ilizarov technique should be considered for the surgical treatment of Madelung's deformity when a large angle or/and length correction is needed in patients suffering persistent pain.

1) S. Houshian, P. Jørgsholm, M. Friis, H. Schrøder & R. Weeth. Madelung's deformity treated with Ilizarov technique. *Journal Hand Surg* 2000; 25B; 396-399.

Cyst-like lesions of bone in children after greenstick fracture: report of two cases

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Introduction:

Cyst-like lesions in the radius and tibia were observed away from the fracture site in two children after a greenstick fracture. A review of the literature identified only 20 previously reported cases. The possible pathogenesis of these lesions is discussed with report of two additional cases.

Material:

Case 1: An eight year old girl sustained a greenstick fracture in the distal part of the radius in July 1999 treated with dorsal backslap for 3 weeks. A follow-up x-ray in October 2001 showed a cyst-like lesion of the radius 3 cm proximal to the previous fracture site.

Case 2: A one year old boy sustained a greenstick fracture in the distal part of the tibia and fibula in January 2001 treated with plaster cast for four weeks. A follow-up x-ray 9 months later showed multiple cyst-like cortical lesions of the tibia 7 cm proximal to the previous fracture site. Bone scintigraphy was negative.

Discussion:

Previous reports have divided postfracture cystic lesions into two groups: 1) transient cortical cysts seen only in children, and 2) central expanding lesions found in both adults and children.

A possible pathogenesis of transient cortical cysts is release of intramedullary fat at the fracture site. The fat leaks to the subperiosteal hematoma. As the hematoma is replaced by callus the fat appears as cystic lesions. Most of these cyst lesions are transient and resolve spontaneously. The cyst-like lesions are of no clinical importance, however recognition of these bony changes makes further investigation unnecessary.

Data collection and TRISS calculations in two trauma populations in Odense and Copenhagen

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Introduction:

We describe the importance of a complete data collection and the use of the TRISS methodology in comparing outcome in two trauma centers.

Material and methods:

All trauma patients received by a trauma team with length of stay > 72 hours, ICU admission, and patients who died were included. Transferred patients from other hospitals were excluded. TRISS analysis was based on coefficients from the British trauma database "Trauma Audit and Research Network" (TARN).

Results:

76 of 699 patients (11%) died in Copenhagen (RH) and 74 of 499 patients (15%) died in Odense (OUH). Median ISS was 9 in RH and 14 in OUH. 271 patients (39%) were eligible for TRISS analysis in RH and 419 patients (84%) were eligible in OUH. Most frequently missing value in RH data was respiratory rate: 417 (60%) and 35 (7%) in OUH data. Z-values were 0,091 for RH and -3,301 for OUH.

Conclusion:

Mortality was higher in OUH than in RH, but OUH had a higher proportion of severely injured patients. TRISS analysis showed no significant difference in outcome from RH compared to TARN, whereas OUH had significantly fewer deaths compared to TARN. However, these findings must be reviewed cautiously, due to the bias introduced by the uneven distribution of eligible cases for TRISS analysis. If data quality is improved, data can be combined to provide an overview of the performance of a hospital or a region and thus permitting comparisons between institutions or over time.

Treatment of the wrist related ganglion in Denmark - based on a questionnaire

Henrik Daugaard, Peter Revald, Anne Christensen, Claus Möger

Department of Orthopaedic Surgery, Section for Hand surgery,
Aarhus University Hospital

Introduction

Ganglion of the wrist is one of the most common hand lesions. The aim of the study was to evaluate the diagnostic, surgical and postoperative management of wrist ganglion at orthopaedic departments and clinics in Denmark.

Material and methods

All 61 orthopaedic departments and clinics in Denmark were included. Eighty-five percent of the questionnaires were returned. The enquete contained questions about diagnostic, surgical and anaesthetic procedures, outpatient control and charge of the surgeon. Specific surgical techniques were related to dorsal or volar localisation of the wrist ganglion.

Results

Eighty-three percent of the departments and clinics did not have any printed guidelines concerning surgery of dorsal or volar wrist related ganglions. Ninety percent always or frequently totally excise the dorsal and volar ganglion at the base. Aspiration and combination with steroid installation is rarely used. Only one clinic used hyaluronidase instillation. Local infiltration analgesic is preferred for dorsal surgery and regional or general anaesthesia for volar surgery. Senior surgeons are preferred for these operations. The majority rarely or never see patients for postoperative follow-up.

Conclusion

Guidelines for wrist ganglion surgery in Denmark are needed. A surprisingly high rate of orthopaedic departments and clinics use total excision of the ganglion, and very few use simple aspiration. New studies concerning patient perception, describe low patient demands for surgery after sufficient information about the benign nature of the ganglion. Further investigations are in progress of the study group.

Allograft tissue in ACL-reconstruction

Preben Duun, Søren Winge, Claus Hjorth Jensen.

Dept. of Orthopedics, Hvidovre Hospital, University of Copenhagen.

Introduction

After approval by the National Board of Health in March 1998 we have used allografts in selected patients for primary ACL-reconstructions. Our short term results are presented herewith.

Material and methods

Tendons were harvested from organ donors under sterile conditions and stored at -80(C in the bone bank at H:S Hvidovre Hospital. Viral and bacterial screening of donors was performed.

11 patients, 8 males and 3 females, median age 35 years (30-44) with symptomatic anterior knee instability were operated on after failed conservative treatment. BPTB allografts were used in 9 patients, achilles tendon was used in 1 patient, and hamstrings tendons in 1 patient. 8 patients had additional meniscal or cartilage surgery. All procedures were performed arthroscopically. Median operation time was 65 (50-120) minutes.

Observation time was median 33 (22-48) months.

Results:

No intra- or postoperative complications were encountered and no immunization was observed. The median Tegner score increased from 3 to 5, the median Lysholm score increased from 57 to 91. The median KT-1000 side to side difference dropped from 7 mm preoperatively to 2 mm postoperatively. All had a firm endpoint in Lachmann's test. Range of movement was unaltered.

Nine patients were very satisfied and 2 were satisfied. All would opt for the operation again should the need arise.

Conclusion:

Our short term results with allograft reconstruction for ACL deficient knees show a high patient satisfaction, low intra and postoperative morbidity and good stability without complications related to immunization. Allograft ligament reconstruction of ACL seems to be a good alternative to autograft.

Accuracy and precision of Ein Bild Roentgen Analysis (EBRA) of femoral component migration in total hip arthroplasty.

Thomas K. Poulsen¹, Ole Ovesen¹, Jens Lauritsen¹ og Kjeld Søballe²

¹Dep. of Orthopaedics, Odense University Hospital and

²Dep. of Orthopaedics Aarhus University Hospital.

Introduction:

Early migration can predict failure of the components in total hip arthroplasties (THA). We present a non-inventor evaluation of Ein Bild Roentgen Analysis - Femoral Component Analysis (EBRA-FCA) in measurement of femoral component migration.

Material and methods:

Series of radiographs of 9 patients having a non-cemented THA were examined for femoral component migration using RSA at one department and EBRA-FCA by two independent observers at the other department. Accuracy was analysed towards RSA (gold standard) and expressed in terms of correlation (Spearman's rho r_s) and the mean error with 95% CI. Precision was assessed by inter- and intraobserver reliability and expressed in terms of correlation (r_s) and the mean error with 95% CI.

Results:

Accuracy analysis showed good correlation between both observers' EBRA-FCA measurements and RSA, $r_s=0.47$ and $r_s=0.36$ respectively. The mean error was 0,78 mm (95% CI 0,29-1,26) and 0,60 mm (95% CI 0,17-1,02). Precision was excellent with an interobserver correlation $r_s=0.93$ and an intraobserver correlation $r_s=0.84$ and $r_s=0.92$. The mean interobserver error was 0,23mm (95% CI 0,09-0,37). The mean intraobserver error was 0,27mm (95% CI 0,11-0,43) and 0,02mm (95% CI \div 0,18-0,15).

Conclusion:

EBRA-FCA has good/acceptable accuracy and excellent precision. In contrast to RSA, it can be used retrospectively, there is no need for bone markers and therefore studies on greater number of patients can be done both for quality- and research purposes.

Rgd peptide surface treatment increases bone ingrowth to press-fit implants. a study in canines

Brian Elmengaard, Joan Bechtold, Kjeld Søballe

Orthopaedic Biomechanics Lab. HCMC, Minneapolis, Minnesota, USA and Dept. of Orthopaedics, University Hospital of Aarhus

Introduction

Early bone ingrowth is known to increase primary implant fixation and reduce the risk of early implant failure.

Recent studies have shown that RGD peptide (Arg-Gly-Asp), commonly found in the extracellular bone matrix proteins, plays a key role in osteoblast attachment and proliferation on various metal surfaces. The aim of this study is to test whether RGD treatment on press-fit implants increases bone ingrowth.

Materials and methods

A paired canine study (n=8). In the proximal tibia, porous coated titanium implants (+/- RGD peptide) were inserted in cancellous bone as press-fit, non loaded. Observation period was 4 weeks.

The implants were coated in a 100 mikrom solution of RGD peptide in PBS Buffer (pH 8.3) for 24 hours (Biomet-Merck, Damstadt, Germany). Two dogs was excluded due to implant placement in primarily cortical bone.

Results are presented as median and range.

Results

A significant increase in bone fraction at the interface was seen for the RGD treated group 0.18 (0.10-0.45) compared to 0.09 (0.05-0.14) in the control group ($p < 0.05$).

Discussion and conclusions

This study shows that implant surface treatment with RGD peptide enhances early bone ingrowth, when implants are inserted as press-fit. However, future studies will be performed regarding coating integrity and long-term effects, as well as its performance under loaded conditions.

Intravenous regional anaesthesia for outpatient hand surgery - tourniquet pain and patient satisfaction.

Nina Vendel Jensen, Niels H.Søe Nielsen

Department of Orthopaedics , Section of Hand Surgery,
Gentofte University Hospital

Introduktion: Intravenous regional anaesthesia (IVRA) is established by administration of local anaesthetics in a vein on the extremity, isolated from the rest of the body by a pneumatic tourniquet. The most important disadvantage is the tourniquet pain that limits the operating time. Few studies have dealt with the patient acceptance of the tourniquet pain.

Material and methods: A prospective study was undertaken in 69 patients undergoing hand procedures using IVRA. IVRA was administered using 20 ml Carbocain® 1/2% and 20 ml Carbocain® 1%. A two-chamber tourniquet inflated to 300 mm Hg was used at the upper arm level with shift from proximal level to distal level at major discomfort. Minimal tourniquet time was set at 30 min. All patients were monitored on a pain score recorded on a VAS scale and they were asked for discomfort during the procedures and whether they would accept the same anaesthesia again.

Results: All 69 patients completed the procedures at the outpatient surgical unit without requiring conversion to other forms of anaesthesia. Fifty-two of the 69 patients (75 %) tolerated the procedures with little or no discomfort. The proximal tourniquet was changed to the distal level at a mean pain score of 5.2 (range, 0.1-9.5) and a mean tourniquet time of 39.5 minutes (range, 26-70). Fourteen of the 69 patients (20%) had major or worst discomfort. The proximal tourniquet was changed to the distal level at a mean pain score of 7.1 (range, 5-10). Sixty-one of the 69 patients would accept the same anaesthesia again and 4 would not. The mean surgical time was 36 minutes (range, 10-79 min)

Conclusion: Fourteen of the 69 patients (20 %) had major or worst discomfort. Four of the 69 patients (6 %) would not try the same anaesthesia again. The methods appears to be less suitable for a fifth of our patients and we speculate that they may have a lower threshold for pain. Ideally, these patients will be identified preoperatively and alternative methods applied. This requires further investigations.

In vivo Microdialysis for the Investigation of the Metabolism in the Diabetic Foot

Lars Bjørn Stolle, Thomas Jakobsen, Per Riegels-Nielsen

Introduction

Many amputations could be delayed or prevented by more effective clinical supervision of the diabetic foot ulcer. The aim of this investigation was to measure the local metabolism on the edge of a diabetic ulcer and compare it to healthy skin.

Material and Methods

In five non-fasting diabetic patients ($54,8 \pm 6,5$ years, mean \pm SEM) a microdialysis catheter was inserted at the edge of an diabetic ulcer. A control catheter was inserted into healthy abdominal skin. Local tissue concentrations of glucose, lactate and glycerol were recorded in resting position. Data were compared using a Rank Sum Test.

Results

The interstitial glucose concentration in the ulcers were $7,8 \pm 1,9$ mM. vs. in healthy skin $10,6 \pm 1,8$ mM. ($p=0,42$). The lactate concentration were $2,9 \pm 0,7$ mM. and $2,1 \pm 0,7$ mM. respectively ($p=0,22$). The interstitial concentration of glycerol in the ulcers were $289,7 \pm 83,6$ μ M. vs. in healthy skin $98,2 \pm 7,2$ μ M. ($p<0,01$). Blood glucose were $11,8 \pm 2,7$ mM.

Conclusion

We found a higher concentration of glycerol in the foot ulcers compared to healthy abdominal skin. The study shows that there are local differences in tissue metabolism of diabetic ulcers compared to healthy skin. If these differences are guilty of slow healing of the ulcers remains unknown. It seems that microdialysis can give valuable information concerning the local metabolism in the diabetic foot ulcer.

No effect of locally delivered rhGH on implant fixation in a canine gap model

Berit Zippor; Søren Kold; Ole Rahbek; Kjeld Søballe; Søren Overgaard, Ortopædkirurgisk Afdeling, Århus Amtssygehus

Introduction: There is a great need for bone graft materials. The aim of this study was to decide the optimal dose, when bone formation is considered, of human recombinant growth hormone (rhGH) in combination with a calciumphosphate bone substitute in a canine model.

Material and methods: 16 dogs were included in the study. HA/TCP in the form of porous granulae, diameter max. 1.4 mm, was used. The study design was :

a. HA/TCP granulae combined with 0,2 ml of saline.

b.-d . HA/TCP granulae combined with 0,2 ml of 3 different concentrations of rhGH

In all 4 groups a non-loaded plasmasprayed titanium-implant was inserted in the proximal humerus bilaterally surrounded by a 2 mm gap (critical size) secured by a footplate and a washer. The gap was filled with the above mentioned granulae. Observation time was 4 weeks. The specimens were cut horizontally in two after harvesting. The distal part (3.5 mm) was mechanically tested to failure by push-out test with an Instron universal testing machine.

The proximal part was used for histomorphometry.

Results: Apparent shear stiffness, energy absorption and ultimate shear strength all showed a tendency to be higher in one of the rhGH groups, but no significance was obtained. There was no bony ingrowth to any of the implants, instead a thin fibrous membrane was seen. When analysing the bone volume fraction in the gap, two zones were considered, each 500 µm. The inner zone was just outside the implant - the outer zone was at the edge of the gap. There was no significant difference between the groups neither in the inner nor the outer zone.

Conclusion: The ceramic component did induce bony ingrowth to a critical size gap, but no effect of adding rhGH was seen.

Acknowledgement

This work has been carried out with the financial support from the European Commission under contract G5RD-CT-1999-00044.

The Walter Reed Visual Assessment Scale: Is the scale sensitive to changes in curve magnitude induced by surgery

Juozas Petruskevicius, Malene Laursen Peter Lemche, & Søren Eiskjær
Department of Orthopedics, Aalborg Sygehus Syd

Introduction: The patients own perception of their scoliotic deformity is difficult to measure. A new visual scale the Walter Reed Visual Assessment Scale (WRVAS) has been constructed to do this. Preliminary results indicates that the scale correctly discriminates between curves of different magnitude. However, it is not known whether the WRVAS is sensitive to curve changes induced by surgery and how the WRVAS correlates to other non-visual scales especially the Scoliosis Research Society Assessment Instrument.

Aim: To evaluate the sensitivity of the WRVAS to changes in curve magnitude induced by surgery and to evaluate the correlation between the Scoliosis Research Society questionnaire and the WRVAS.

Materials and methods: 26 patients with idiopathic scoliosis who had previously undergone surgery (pedicle screw instrumentation) were asked to describe their deformity preoperatively and postoperatively using the WRVAS. Radiographic and clinical variables including the Scoliosis Research Society questionnaire had been prospectively registered. The results of the WRVAS were compared to the changes in Cobb angle and to the results from the Scoliosis Research Society questionnaire.

Results: The WRVAS correlated well with changes in curve magnitude induced by surgery. Some parts of the Scoliosis Research Society questionnaire (self image) showed good correlation with the WRVAS.

Conclusion: The WRVAS is a useful adjunct to the other instruments for patient based evaluation of the results of scoliosis surgery and it is recommended that the WRVAS should be used in conjunction with the Scoliosis Research Society Assessment Instrument as it is the only scale, which uses visual assessment.

Cervical osteotomy for ankylosing spondylitis using Cervifix and a custommade hinge joint

*S. Eiskjaer, P Lemche & M Buhl **

Dept. of Orthopedics and Neurosurgery*, Aalborg Sygehus

Introduction: Ankylosing spondylitis has the potential for producing severe fixed flexion deformity of the cervical spine. This deformity can produce marked restriction in forward vision. New innovations in posterior rod-screw systems and improvements in neuromonitoring offers the potential for safe and stable deformity correction. The purpose of this case story is to describe the use of a posterior fixation system (Cervifix, Stratec) and a new custommade hinge joint (Stratec) enabling secure and smooth intraoperative correction and stable fixation.

Case story: The patient a 57-year old man with long lasting ankylosing spondylitis had previously sustained a fracture of the cervicothoracic spine producing a fixed deformity with a chin brow to vertical angle of 70 degrees. Before surgery a halo-ring had been applied. SEP monitoring was performed continuously during the surgical procedure. The posterior osteotomy was done according to Simmons. Before this the cervical (C4-C6) and thoracic (Th1-Th3) part of the Cervifix system had been applied using respectively lateral mass screws and pedicular screws. Two cervical rods and two thoracic rods was used and connected using a custommade hinge joint allowing 90 degrees of continous deformity correction. At this point the cervical part of the system was locked (rod-screw interface). Using the halo ring as a grasping point the deformity was corrected in one smooth movement with the hinge as center of rotation and allowing for sliding of the rod in the thoracic part of the Cervifix system. The hinge joint was then locked in the desired position. Decortication and bone grafting was performed and the wound closed. The patient was managed in a halo vest for six weeks and for another six weeks in a Yale brace. The surgical procedure was uncomplicated with no neurological damage and a substantial improvement in forward gaze. 6 months postoperatively the radiographs showed healing and unchanged deformity correction (chin brow to vertical angle of 10 degrees).

Discussion and conclusion: The extension osteotomy of the cervical spine undoubtedly remains one of the most technically difficult and potentially dangerous operations a spine surgeon can face. The combination of the Cervifix with the custommade hinge joint makes the procedure very controllable in every phase of the operation as well as after the operation. The correction can be done in one smooth movement and stopped and locked whenever wanted. After the operation the osteotomy is securely fixed obviating the need for a prolonged halo vest fixation period.

Low crystalline hydroxyapatite coating accelerates mechanical fixation of unstable but not stable implants

*Søren Overgaard, Ulf Bromose, Martin Lind, Cody Bünger,
Kjeld Søballe*

Orthopedic Research Laboratory, Institute of Experimental
Clinical Research, Stereological Research Laboratory;
Aarhus University Hospital, Denmark

Introduction.

The aim of the current study was to evaluate the effects of HA coating crystallinity, HA-50% versus HA-75% on implant fixation during stable and unstable conditions (Data from unstable implants have been published : JBJS Br 1999;81:725).

Materials and methods.

16 skeletally mature dogs were included. They were allocated into two groups with implantation periods of 16 and 32 weeks, respectively. Implants with HA crystallinities of 50% and 75 % were used. Each animal had one implant of each type randomly allocated, bilaterally, to the medial femoral condyles of the knees and the proximal humerus. Knee implants were subjected to micromotion of 250 μm during each gait cycle, whereas humerus implants were stable and surrounded by a 2 mm gap.

Results.

Push-out test. Ultimate shear strength and apparent shear stiffness for HA-50% after 16 weeks was increased 2-fold compared with HA-75% ($p=0.06$ and $p=0.09$, respectively), whereas energy absorption was increased 3-fold ($p=0.02$) for knee implants. No difference was shown between stable implants in humerus. After 32 weeks no difference between HA-50% and HA-75% was shown. HA-75% and HA-50% humerus had better anchorage after 32 weeks than after 16 weeks. Fixation of HA-50% was equal after 16 and 32 weeks in the knee.

Conclusion:

Low crystalline HA coating accelerated mechanical fixation during unstable but not stable conditions suggesting that HA coating quality is an important factor for HA-coated cementless implants.

MØDER I FORBINDELSE MED ÅRSMØDET 2002

Dansk Håndkirurgisk Selskab

Torsdag den 24.10.02 kl.15.00 - 18.00

Årsmøde

Emne: **Refleksdystrofi.**

Velkomst

"Diagnostik, terminologi, patofysiologi og klinik" 20 min.
Overlæge Niels Søe Nielsen, Amtssygehuset i Gentofte

"Medicinske aspekter ved behandlingen af refleksdystrofi.
BMD (knogletæthed) målinger og refleksdystrofi." 20 min.
Overlæge Niels Fanø, Roskilde Amts Sygehus Køge
Læge Marianne Rex

"Anæstesiologiens bidrag til behandling af refleksdystrofi." 20 min
Niels-Henrik Jensen, Amtssygehuset i Herlev

Kaffepause 30 min

"Ergoterapeutisk behandling og profylakse." 20 min
Ergoterapeut Ellen Rasmussen, Rigshospitalet

"Psykologiske mekanismer hos den kroniske smertepatient"
Klinisk psykolog Inge Albrecht,
Tværfagligt Smertecenter, Rigshospitalet

"Forsikringsmæssige aspekter ved refleksdystrofi."
Overlæge Bent Mathiesen, Arbejdsskade styrelsen

"Betragtninger over det præsenterede og evt. konklusioner." 30 min.
Overlæge, dr. med. Uffe Jørgensen, Parkens Privathospital

Paneldiskussion

Dansk Børneortopædisk Selskab

Torsdag den 24. oktober 2002, kl. 16 - 18
København (Radisson SAS Scandinavia)

Program:

- Dansk Børneortopædisk Selskabs Målbeskrivelse
- Fagområdets forslag til en fase-4 uddannelse i børneortopædi
- Udvalgsstatus
 - Plexuslæsioner
 - Diagnose- og behandlingskoder
 - CTEV
- Forslag til emner for kommende Symposier
- Troublesome cases - til diskussion blandt kollegerne

Kolleger med interesse i Børneortopædi er velkomne.

Jess Hedeboe
sekretær

Dansk Selskab for Hofte- og Knæalloplastik Kirurgi (DSHK)

Nyhedsbrev:

I forbindelse med DOS forårsmødet stiftedes ovenstående selskab. Referat fra den stiftende generalforsamling er tidligere publiceret i Bulletinen. Selskabet har nu eksisteret i 4 måneder og det første bestyrelsesmøde er afholdt. Baggrunden for herværende nyhedsbrev er på bedste vis at holde medlemmer af DOS detaljeret informeret om hvad der pågår af initiativer og aktiviteter i selskabet - specielt da vi er så "unge" - og endnu ingen medlemmer har.

Medlemskab:

Bestyrelsen har vedtaget at man allerede nu kan melde sig ind i selskabet ved skriftlig henvendelse til sekretæren (overlæge Jens-Erik Varmarken, Ortopædkirurgisk afdeling, Centralsygehuset i Næstved, 4700 Næstved; e-mail: JVA@cn.stam.dk). Frem til næste generalforsamling i maj 2003 er medlemskabet kontingentfrit.

Kursusaktivitet:

Bestyrelsen har vedtaget at selskabet skal være særdeles aktivt på dette område for på bedste vis at tilbyde medlemmerne nyeste udvikling og information indenfor hofte- og knæalloplastik. Dette sikres aktuelt ved E-kurser som afvikles hver 2. år (2. onsdag i september) - næste gang onsdag den 8. september 2004, Munkebjerg Hotel, Vejle; Emne: Hoftealloplastik - samt ved møder i forbindelse med DOS-møderne. Den nye mødestruktur på DOS-møderne vil medføre at selskabet er medarrangør af symposier samt ansvarlig for at Knæalloplastikregistret og Hoftealloplastikregistret får mulighed for at fremlægge deres resultater og observationer til diskussion.

Uddannelse: Bestyrelsen arbejder aktuelt med følgende emner:

- Bearbejdning af den nye målbeskrivelse (sammen med DOS Uddannelsesudvalg)
- Oplæg til beskrivelse af indholdet i Fase 4 uddannelsen
- Etablering af formelle "Åbne afdelinger" hvor selskabet medlemmer efter aftale på 1-2 dages besøg kan observere hvorledes ambulatorium, operationer m.m. afvikles i "fremmede" afdelinger.

International udbredelse: Selskabet ønsker at opnå en international udbredelse for på den vis at indhente inspiration og viden til selskabets medlemmer. Dette tænkes aktuelt etableret via

- Direkte kontakt til Hofte- og Knæregistre i de øvrige Nordiske lande
- Kontakt til etablerede Hofte- og Knæalloplastik selskaber i andre lande
- Etablering af webside

Andre aktiviteter: Herudover har bestyrelsen mange andre ideer " i kog", bl.a.:

- Er der behov for Konsensuskonferencer - eller er Referenceprogrammer dækkende?
- Aktiviteter hvor medlemmerne stimuleres til nationale multicenter studier
- Skabe forum hvor medlemmerne kan debattere aktuelle og kommende forskningsaktiviteter inden for Hofte- og Knæalloplastik

Vi modtager gerne inspiration til vores videre aktiviteter - og ser frem til stor deltagelse i symposiet på Hotel Radisson SAS Scandinavia torsdag den 24. oktober 2002 kl. 16:00-18:00.

*Per Kjærsgaard-Andersen, formand
Henrik Schrøder, næstformand
Jens-Erik Varmarken, sekretær
Niels Wisbech Pedersen, kasserer
Kjeld Søballe*

YOS

Fredag d. 25.10.02 kl: 17:15 - 18:00

Yngre Ortopæders Selskab

Idet jeg vil henvise til formandsberetningen fra forårsmødet i Aalborg, skal jeg hermed indkalde interesserede til fortsat bestyrelsesarbejde i YOS.

Mødet vil finde sted fredag den 25. oktober i umiddelbar forlængelse af Guildal-forlæsningen.

Såfremt der ikke er interesserede i foreningens fremtid nedlægges foreningen og formuen overføres til DOS-fonden til støtte for yngre ortopæder.

*Med venlig hilsen
Kim Holck*



ISPO Tværfagligt Kursus

Sårbehandling · Sårheling · kroniske sår

Fredag d. 15. november 2002

Arrangeret i samarbejde med Sårhelingscentret Bispebjerg.

Sted - Store Auditorium KAS Gentofte.
Niels Andersensvej 65, 2900 Hellerup.

Registrering · Udstilling · kaffe.

10.00-10.10 Velkomst v. formand Ellen Appelquist

Sessionsleder Michael Lohmann

10.10-10.40 Basal fysiologi i sårheling samt centerfunktion og sårheling; *Prof. dr.med. Finn Gottrup, H:S Videnscenter for sårheling*

10.40-11.00 Kroniske sår - årsager
Ovl. Michael Lohmann, H:S Videnscenter for sårheling

11.00-11.30 Venøse bensår og kompressionsbehandling
Ovl. Bo Jørgensen, H:S Videnscenter for sårheling.

11.30-12.00 Lymfødem
Ovl. Bo Jørgensen

- 12.00-13.00 Frokost
- 13.00-13.30 Tryksår, graduering, profylakse, aflastning
Afd. sygeplejerske Susan Bermark H:S Videncenter for sårheling
- 13.30-14.00 Det diabetiske fodsår
Ovl.dr.med. Per Holstein, H:S Videncenter for sårheling
- 14.00-14.40 Aflastning + skoforsyning af diabetespatienten
*Ledende fodterapeut Jane Bremer,
H:S Videncenter for sårheling og skomagermester
Lisbeth Sonne, Skomageriet Diabetescenter*
- 14.40-15.00 Kaffe
- 15.00-15.20 Fysioterapi i sårbehandling. Forebyggelse af sår.
*Fysioterapeut Dorthe Lind Nielsen,
H:S Videncenter for sårheling*
- 15.20-15.40 Problematiske fodsår. Samarbejdet mellem sårcenter og bandagist.
Ovl. Michael Lohmann og bandagist Jan Nielsen.
-

Tilmeldingskupon på bagsiden!

Udfyldes og sendes *vedlagt check* senest **d. 1. november 2002** til:

**Bodil Jensen
Birkeallé 34
3630 Jægerspris**

- 15.40-16.20 Specielle sårbehandlingsprincipper:
Vaccum-terapi i sår
*Klinisk sygeplejerske Merete Hartung, H:S Videncenter
for sårheling.*
Larve-terapi i sår
*Klinisk sygeplejerske Britta Østergård, H:S Videncenter
for sårheling*
- 16.20 Afslutning

Tilmelding til Bodil Jensen, Birkeallé 34, 3630 Jægerspris.
Tlf. 47531943. **Tilmeldingsfrist 01.11.2002.** Check eller giro 2333260

Kursusafgift incl. forplejning:
Mdl af ISPO Kr. 500,00.
Ikke-mdl af ISPO: Kr. 700,00.
Adgangsbevis tilsendes før kurset.

Ellen Appelquist

Navn

Stilling

Adresse

Tlf.

ISPO medlem: ja

ISPO-medlemsnr.

nej