

DOS BULLETIN



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Formand

Overlæge, professor, dr.med.
Cody Bünger
Ortopædkirurgisk afdeling E
Århus Sygehus, Nørrebrogade 44,
8000 Århus C.
E-mail: cbung@as.aaa.dk

Næstformand

Overlæge
Per Kjærsgaard-Andersen
Ortopædkirurgisk afdeling
Vejle Sygehus, Kappeltoft 25,
7100 Vejle.
E-mail: pka@dadlnet.dk

Kasserer

Overlæge ph.d.
Bo Sanderhoff Olsen
Ortopædkirurgisk afdeling T
Herlev Hospital, Herlev Ringvej
2730 Herlev
E-mail: bosolsen@jubii.dk

Redaktør

Afdelingslæge
Sajida Afzal
Ortopædkirurgisk afdeling 333
Hvidovre Hospital, Kettegård allé 30
2650 Hvidovre
E-mail: sajida@dadlnet.dk

Sekretær

Overlæge, dr. med., ph.d, klinisk lektor
Benny Dahl
Rygsektionen, Ortopædkirurgisk
Klinik 2162
Rigshospitalet, Blegdamsvej 9, 2100
København Ø
E-mail: bennydahl@gmail.com

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DOS-Bulletin

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c/o Annette van Hauen
HovedOrtoCentret, 2-10-1
Rigshospitalet
Blegdamsvej 9
2100 København Ø
e-mail: annette.van.hauen@rh.regionh.dk

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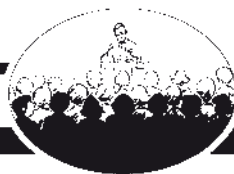
Kandrup Bogtryk
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Tlf. 3543 6000 · Fax 3543 6008
tryk@kandrup.dk · www.kandrup.dk

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DEADLINES FOR NÆSTE BULLETIN

ANNONCER: Fredag den 16. november 2007

TEKST: Fredag den 7. december 2007



**Møder i forbindelse med Årsmødet
Radisson SAS Scandinavia Hotel
København**

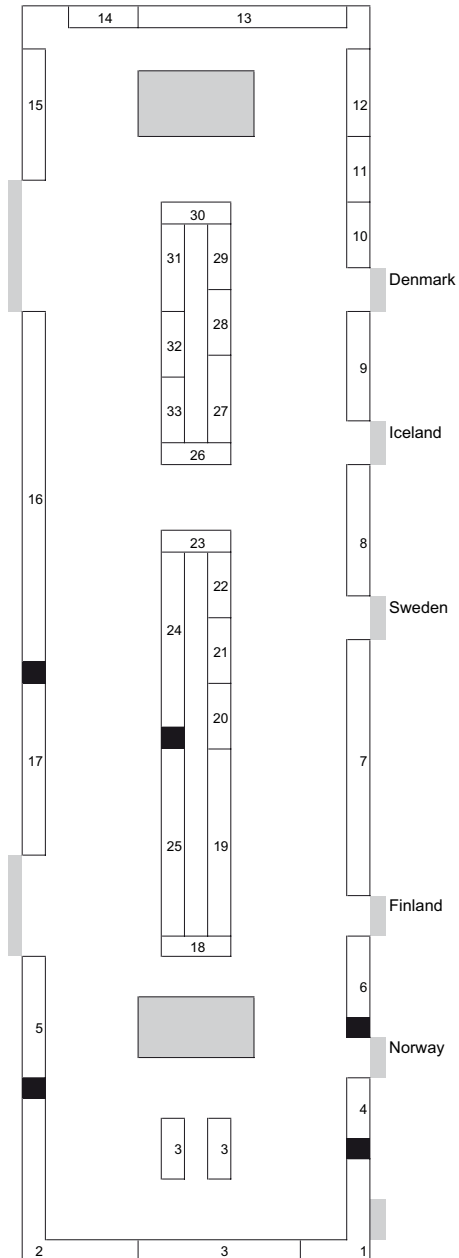
Torsdag d. 25.10.2007

DOT: Dansk Ortopædisk Traumeselskab	10:00 - 12:00
Ryginteressegruppen	10:00 - 12:00
Dansk Fod- og Ankelkirurgisk Selskab (DFAS)	10:00 - 12:00
DSHK (Dansk Selskab for Hofte- og Knæalloplastikkirurgi)	09:30 - 12:00
Dansk Børneortopædisk Selskab:	10:00 - 12:00
SAKS	09:30 - 12:00
Dansk Selskab for Håndkirurgi	09:00 - 12:00
Dansk Korsbåndregister	12:00 - 13:30

Udstillere

<i>Firma</i>	<i>Stand nr.</i>	<i>Areal</i>
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Hemax Medical ApS	6	4
Interface Biotech A/S	23	3
Karl Storz Endoskopi Danmark	8	6
KEBO MED A/S	22	3
Medtronic Danmark A/S	32	3
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Nordic Medical Supply OP	1	7
Nordic Medical Supply ORTO	3	13
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Udstilling



Mødeoversigt

Torsdag 26.10.07

Room A	Room B
13:00 - 14:30 Hoftekirurgi (Foredrag)	13:00 - 14:30 Rygkirurgi og overekstremitetskirurgi (Foredrag)
14:30 - 15:30 Udstilling og Kaffe	
15:30 - 16:30 Guildal forelæsning ”Behandling og evaluering af resultater efter albuekirurgi” <i>Professor Andrew Carr, Oxford</i>	
16:30 - 17:00 Guildaluddelinger	
19:00 - ?? Gallafest	

**Indtegning på bordplan til middagen
slutter torsdag kl. 15:00!!!**

Påklædning: Smoking eller mørk tøj.

**Der fremsendes billetter til frokosten torsdag,
men ikke til middagen.**

Frokostbilletten skal afleveres til betjeningen.

Mødeoversigt

Fredag 27.10.07

Room A	Room B
08:30 - 10:00 Knækirurgi (Foredrag)	08:30 - 10:00 Sportstraumatologi og hoftekirurgi (Foredrag)
10:00 - 11:00 <i>Udstilling og Kaffe</i>	
11:00 - 11:30 Presidential Guest Lecture ”The best option at total hip replacement in the young population” <i>Professor Laurent Sedell, Paris</i>	
11:30 - 12:30 Foredragskonkurrence	
12:30 - 13:30 <i>Frokost</i>	
13:30 - 14:30 Referenceprogram Hoftefrakturer	
14:30 - 15:15 <i>Udstilling og Kaffe</i>	
15:15 - 16:15 Poster Session	
16:15 - 17:00 Uddelinger: DOS Fonden Bedste foredrag og bedste poster	

Torsdag 25. Oktober

13:00 - 14:30 SAL A

Hoftekirurgi

Chairmen: Per Kjærsgaard-Andersen & Steen Mejdahl	Side
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13:00 - 14:30 SAL A (cont.)

Hoftekirurgi

Chairmen: Per Kjærsgaard-Andersen & Steen Mejdahl	Side
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Torsdag 25. oktober

13:00 - 14:30 Sal B

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Torsdag 25. oktober

15:30 - 16:30 Sal A

**Guildal forelæsning:
Professor Andrew Carr**

*Professor Orthopaedic Surgery
University of Oxford*

**"Behandling og evaluering af
resultater efter albuekirurgi"**

16:30 - 17:00

Uddelinger fra Guildal Fonden

19:00 - ???

Galla fest !!!

Fredag 26. oktober

08:30 - 10:00 Sal A

Knækirurgi

Chairmen: Anders Odgaard & Snorre Stephensen	Side
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Knækirurgi

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08:30 - 10:00 Sal B

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08:30 - 10:00 Sal B (cont.)

Sportstraumatologi & hoftekirurgi

Chairmen: Niels Mortensen & Bent Wulff Jakobsen **Side**

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Fredag 26. oktober

11:00 - 11:30 Sal A

**Presidential Guest Lecture:
Professor L. Sedell**

*Professor Orthopaedic Surgery
Paris, France*

“The best option at total hip replacement in the young population”

Fredag 26. oktober

11:30 - 12:30 Sal A

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Fredag 26. oktober

13:30 - 14:30 Sal A

Referenceprogram Hoftefrakturer

Chairmen: Cody Bünger & Sajida Afzal

Fredag 26. oktober

15:15 - 16:15 SAL A

Poster session

Chairmen: Stig Sonne-Holm & Poul Torben Nielsen Side

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Poster session

Chairmen: Stig Sonne-Holm & Poul Torben Nielsen **Side**

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Fredag 26. oktober

16:15 - 17:00 Sal A

Uddelinger:

DOS-Fonden

Bedste Foredrag

Bedste Poster

Kl: 17:00 DOS-mødet er slut



Forum for uddannelsesansvarlige overlæger

Forum for de uddannelsesansvarlige overlæger og alle andre interesserede, vil blive placeret dagen før selve DOS mødet så vi kan holde et langt uforstyrret møde uden alt for mange konkurrerende møder og subspeciale forsamlinger.

Onsdag d. 24.10.07 kl: 13:00 - 16:00
Radisson SAS Scandinavia Hotel

Emner: Uhensigtsmæssige uddannelsesforløb

Oplæg v/ Inger Fog

Ledende overlæge Radiologi, Sønderjylland

**Udfordringer i forbindelse med uddannelsessøgende af
anden etnisk herkomst end dansk**

Oplæg v/ Sajida Afzal

Afdelingslæge, ortopædkirurgisk afdeling, Hvidovre Hospital

Cases, hvor det er lykkedes at løse evt. problemer med positivt resultat, kan indsendes til DOS's Uddannelsesudvalg. Oplæg samt cases vil danne grundlag for diskussion og løsningsforslag.

Forum er et åbent møde hvor alle der ønsker det vil have mulighed for at komme med spørgsmål, meddelelser, information og specielt fortælle om gode eller besværlige uddannelsesforløb og løsningen af disse.

MØD TALSTÆRKT OP

UDDU

ABSTRACTS

Patient Positioning and the Radiographic Assessment of Hip Dysplasia

Anders Troelsen, Steffen Jacobsen, Lone Rømer, Kjeld Søballe
Orthopaedic Research Unit, University Hospital of Aarhus.
Dept. of Orthopaedic Surgery, University Hospital of Hvidovre.
Dept. of Radiology, University Hospital of Aarhus.

INTRODUCTION: Several studies have investigated the influence of pelvic tilt on AP-radiographic parameters of hip dysplasia (HD). No clear-cut consensus or recommendations have been issued. AP-radiographic parameters of HD do not seem to be affected beyond implicit measuring errors unless the recording was severely distorted. Recent studies have recommended a neutral pelvic positioning with the patient supine for precise interpretation of the acetabular version. The aim of this study was to describe the change in pelvic tilt and AP-radiographic parameters when changing position from supine to weight-bearing. Finally we will give our recommendation on recording of AP-pelvic radiographs.

MATERIAL AND METHODS: We assessed sets of supine and weight-bearing radiographs of 31 HD patients (24F/7M). The assessment of radiographic parameters was performed by one blinded observer. The intra observer variability was assessed in a blinded manner.

RESULTS: Unilateral HD was present in 5 patients (4F/1M) and bilateral HD in 26 patients (20F/6M). The pelvis was significantly reclined when subjects changed position from supine to weight-bearing, and increase in reclination was significantly more pronounced in women (8-9 degrees) compared to men (5-6 degrees). The Center Edge angle, the Acetabular Index, the hip joint space width, and the x- and y-coordinates of lateral translation showed minor changes with varying significance. These minor changes could be attributed to measuring error.

CONCLUSION: We observed a significant change in pelvic tilt when subjects repositioned from supine to weight-bearing. In contrast to recommendations given in recent studies we recommend that weight-bearing AP pelvic radiographs are obtained. This will allow for a clinically more accurate and relevant assessment of acetabular pathomorphology.

Risk of revision after sustaining intraoperative femoral fracture during primary total hip arthroplasty

Theis Thillemann

Ortopædkirurgisk afdeling og Klinisk epidemiologisk afdeling,
Århus Sygehus

INTRODUCTION: Intraoperative femoral fracture is a well-known complication to primary total hip arthroplasty (THA). Experimental studies have suggested that intraoperative fractures may affect implant survival. However, available clinical data are sparse.

MATERIAL AND METHODS: We used data from the Danish Hip Arthroplasty Registry to identify patients treated with a primary THA due to primary osteoarthritis in Denmark between 1995 and 2005 (n=39478). Implant survival and relative risk estimates were calculated for patients treated conservatively and patients treated with osteosynthesis after sustaining intraoperative femoral fractures during THA surgery. The reference group was THA's performed without sustaining intraoperative femoral fracture.

RESULTS: 282 patients (0.7%) were treated conservatively due to intraoperative femoral fracture and 237 patients (0.6%) were treated with osteosynthesis. The Kaplan-Meier survival plots revealed a significant inferior THA survival after osteosynthesis of intraoperative femoral fractures. In the 0-6 months postoperative period the adjusted relative risk (RR) for revision was 1.5 (95% CI: 1.1-1.7) for patients treated conservatively. In the same period the adjusted RR for revision was 5.7 (3.3-10.0) for patients treated with osteosynthesis. In the period 6 months to 11 years postoperative we did not find any significant differences in the RR for revision among the groups.

CONCLUSION: Intraoperative fractures increase the relative risk for revision the first 6 postoperative months. Therefore, some measures should be taken during and after surgery in order to prevent revision the first 6 months postoperatively. I.e. immediate revision of the stem to a larger stem with distal fixation and restricted weight bearing.

Radiographic case definitions and prevalence of CAM-type femoroacetabular impingement

*Kasper Gosvig, Steffen Jacobsen, Stig Sonne-Holm,
Henrik Palm, Erland Magnusson*
Department of Orthopaedic Surgery,
Copenhagen University Hospital of Hvidovre

INTRODUCTION: Cam-type femoroacetabular impingement (FAI) is a pre-osteoarthritic condition causing premature joint degeneration. Cam-deformities are characterised by decreased cranial offset of the femoral head/neck junction and asphericity of the femoral head causing delamination of the acetabular cartilage and detachment of the acetabular labrum. To assess the epidemiological aspects of cam-type FAI we evaluated Nötzlis alpha angle and our own Triangular index (TI) for use on plain AP pelvic radiographs.

MATERIAL AND METHODS: Cam malformation was assessed in 2.803 pelvic radiographs by the alpha (α) angle and the TI to define pathological cut off values. The α -angle and TI were assessed in AP and lateral hip radiographs of 164 patients scheduled for THR and the influence of varying rotation on the α -angle and TI was assessed in femoral specimens. The distribution of Cam-deformities was assessed in 3.712 standardized AP pelvic radiographs using the α -angle and TI.

RESULTS: Mean AP α -angle male/female was 55 /45. The α -angle and TI was highly interrelated, OR 8.6-35 ($p < 0.001$). Almost all cam-malformations were identifiable in AP projections, sensitivity 88-94%, compared to axial view. The TI proved robust for cam identification during rotation ($\pm 20^\circ$) compared to the α -angle (-10° to $+20^\circ$). The distribution of pathologic TI and α -angle (Right/Left) were 11.6/12.5% and 6.1/7.4% in males and 2.1/3.8% and 2.2/3.2% in females. We found a pronounced sexrelated difference in cam-deformity distribution, OR 2.0-6.3 ($p < 0.001$).

CONCLUSION: The triangular index and the α -angle were found reliable for epidemiological purpose. Overall prevalence of definite cam-deformity was app. 10 % in men and 2.5 % in women.

Survival of Primary Total Hip Arthroplasty in Patients with Rheumatoid Arthritis

Christoffer Rud-Sørensen, Alma B. Pedersen, Søren Paaske Johnsen, Anders Riis, Søren Overgaard

Department of Orthopaedic Surgery, Odense University Hospital, University of Southern Denmark, Denmark, and Department of Clinical Epidemiology, Aarhus University Hospital, Denmark

INTRODUCTION: We studied the survival of primary total hip arthroplasty (THA) in patients with rheumatoid arthritis (RA) and compared the results to patients undergoing THA due to osteoarthritis (OA). Furthermore, we evaluated the effects of several confounders (age, gender, comorbidity, and cemented/uncemented) on THA-survival in RA-patients.

MATERIAL AND METHODS: Using the Danish Hip Arthroplasty Register we gathered info concerning 1.302 primary THA's in 1.106 RA-patients and 41.848 primary THA's in 35.729 OA-patients. The patients underwent surgery from 1995 to 2004. Using the Cox regression model we estimated the relative risk (RR) for revision due to aseptic loosening, other reasons, and all reasons and adjusted for the confounders. Data is presented as RR with 95 % confidence interval in brackets.

RESULTS: The adjusted RR's for cup-revision of primary THA's in patients with RA (compared to OA) were 1.22 (0.75-1.99) for aseptic loosening, 0.90 (0.61-1.32) for other causes for revision, and 1.00 (0.74-1.35) for all revisions. For the stem the RR's were 0.50 (0.25-0.99) for aseptic loosening, 0.58 (0.35-0.95) for other causes for revision, and 0.54 (0.36-0.80) for all revisions. RR for all revisions (both cup and stem) was 0.83 (0.64-1.09). The RA-subanalysis showed an increased RR (all revisions) for men compared to women (RR 2.60; 95 % CI 1.19-5.66). No significant result concerning all revisions for age, comorbidity, and cemented/uncemented prosthesis was found.

CONCLUSION: The overall survival of primary THA's in RA was not associated with any increased risk for revision when compared to OA, but the risk for stem-revision alone was reduced in RA-patients. However, male gender seems to be a risk factor for undergoing revision-THA in the RA-subgroup.

Component Position and Cement Mantle in Anterior Versus Posterior Approach in Total Hip Arthroplasty (THA)

*Christen Ravn, Mia Jepsen, Thomas Poulsen, Peter Revald,
Per Kjærsgaard-Andersen og Søren Overgaard*

Departments of orthopedic surgery at Vejle Hospital and
Odense University Hospital

INTRODUCTION: Stem alignment and quality of cementation using a straight stem through a minimally-invasive direct anterior approach (DAA) has been questioned

MATERIAL AND METHODS: 31 cemented THA were performed with DAA by 3 experienced surgeons. At one institution we operated a selected group (A) of 13 DAA THA with BMI<25 (median 22). This group was compared with a matched group (B) of 13 THA operated through a posterior approach by the same surgeons. At another institution we performed 18 DAA THA on a non-selected group of patients (C) with median BMI of 28 (range 21-34). The Exeter stem and Contemporary cup were used. Postoperative x-rays were examined for cement mantle quality and positioning of stem and cup

RESULTS: In group A, we found neutral stem ($\pm 2^\circ$) alignment in 11 (85%), median cup inclination of 41° (range: 33-60) and median cup anteversion of 16° (range: 12-29). In group B we found neutral stem alignment in 9 (69%) and slight varus position of the stem (2° - 5°) in 3 cases (23%). The median cup inclination and anteversion were 42° (range: 37-50) and 12° (range: 4-22), respectively, and was not significantly different from group A. In group C we found neutral stem alignment in 15 (83%) and slight valgus position (2° - 5°) in 2 stems (11%). The median cup inclination and anteversion were 48° (range: 35-55) and 17° (range: 7-45) respectively, and were not significantly different from group A or B. Femoral cementing showed acceptable mantle thickness and distribution in group A and B, but a tendency to thinner cement mantle in more zones in group C.

CONCLUSION: These findings suggest that using a straight stem through a minimally-invasive DAA does not compromise stem or cup positioning when compared to the standard posterior approach. A tendency was shown towards better quality of cementation in patients with lower BMI.

Direct Anterior Versus Standard Posterior Approach in Cemented Total Hip Arthroplasty

*Mia Jepsen, Christen Ravn, Peter Revald, Thomas Poulsen,
Per Kjærsgaard-Andersen*

Departments of Orthopedic Surgery at Vejle Hospital and
Odense University Hospital

INTRODUCTION: Is minimally-invasive (MI) total hip arthroplasty (THA) a safe and clinical good procedure through a direct anterior approach (DAA) using the straight cemented Exeter stem when compared to the standard posterior approach (SPA)? The aim of this study was to compare the intra- and postoperative results of MI DAA and SPA with a minimum follow up of 3 months.

MATERIAL AND METHODS: Total 31 cemented THA inserted via DAA were evaluated. At one institution we operated a selected group (A) of 13 DAA THA with BMI less than 25 (median 24). All were females, median age 68 years. This group was compared with a matched group (B) of 13 THA operated through a SPA by the same surgeons. At another institution the same surgeons performed 18 DAA THA on a non-selected group of patients (C) (3 male and 15 females, median age 78 years) median BMI 28 (range 21-34).

RESULTS: Group A showed more peroperative bleeding (median 400 ml), longer operation time (median 120 minutes) when compared to the matched control group (B) (median 200ml and 65 minutes). In group A, there were 9 cases with sensoric changes related to n. cutaneous femoris lat. and 1 case with a dislocation. Group A had a lower VAS score 1, 2 and 3 days postoperatively compared to group B. No differences were observed in day of mobilization or discharge. In group C median bleeding was 625 ml, and median operation time 98 minutes. There were 6 complications, 3 trochanteric fractures, 1 infection, 1 dislocation and 1 peroperative perforation which did not require additional surgery.

CONCLUSION: The study demonstrates that MI-DAA with a cemented straight stem may have a long learning curve and at this stage MI-DAA in comparison to SPA carries some risks. From our early experience MI-DAA should mainly be considered in patients with a low BMI.

Fracture angulation in lateral radiographs of Garden I-II femoral neck fractures: An important predictor of a reoperation

Henrik Palm, Michael Krasheninnikoff, Steffen Jacobsen, Peter Gebuhr
The Hip Fracture Study Group, Department of Orthopaedic Surgery,
Copenhagen University Hospital of Hvidovre

INTRODUCTION: Garden I-II femoral neck fractures are usually treated with two parallel implants (PI) or alternatively a hemiarthroplasty (HA) based on pre-operative anterior-posterior radiographs. We retrospectively investigated the importance of fracture angulation in pre-operative lateral radiographs for post-operative results after PI-osteosynthesis. For the laterally angulated fractures, we then compared the post-operative results of patients receiving a PI-osteosynthesis or a HA.

MATERIAL AND METHODS: 158 unselected consecutive patients with Garden I-II fractures operated on with PI (Olmed: 38 + Hansson: 86) or HA (Ultima: 14 + Bfx: 20) were included. Demographic parameters and re-operations were assessed from patient journals. Re-operations due to technical failures were recorded after one year.

RESULTS: 21 % (26/124) of patients operated on with PI were re-operated. Increased lateral angulation was found to predict re-operation ($p=0.001$ Mann-W.) 49% (17/35) of patients with lateral angulation above 20 degrees were re-operated, compared to 10% (9/89) of patients with less angulation ($p<0.001$ X²). In logistic regression analysis combining sex, age, ASA, cognitive function, new mobility score, time from admission to operation, and surgeon's expertise, we found that lateral angulation above 20 degrees was the only significant predictor for re-operation ($p<0.001$ log. reg.) When comparing operation methods for patients with a lateral angulation above 20 degrees, we found that only 6% (2/34) were re-operated if operated on with HA compared to the 49% (17/35) of patients operated on with PI ($p<0.001$ X², $p=0.001$ log. reg.)

CONCLUSION: In Garden I-II cases where the lateral angulation exceeds 20 degrees, HA should be considered.

RISK FACTORS FOR REVISION DUE TO INFECTION AFTER PRIMARY TOTAL HIP ARTHROPLASTY

*Jens Svendsson, Alma B Pedersen, Søren P Johnsen,
Anders Riis, Søren Overgaard*

Dept. of orthopaedic Surg, OUH, Clinical Institute, SDU + Århus

INTRODUCTION: We studied patient related and surgery related risk factors for revision due to deep infection after primary total hip arthroplasty (THA).

MATERIALS AND METHODS: Using the Danish Hip arthroplasty Register (DHR), we identified the primary THA during the period of 1995 – 2005. A total of 52,269 patients undergoing THA were reported. In the same period we identified 373 revisions due to deep infection. The relative risk (RR) for revision for infection adjusted for possible confounders (age, co-morbidity, diagnosis, fixation technique, duration of surgery, ossification prophylactic treatment, type of anaesthesia and type of operating theatre) was estimated.

RESULTS: We found an adjusted RR for revision for males due to deep infection at 1.65 (1.34-2.03) compared with females. Patient with any co-morbidity had an adjusted RR for revision due to deep infection at 1.34 (1.08-1.67). Cemented hips with cement containing antibiotics had an adjusted RR 1.49 (1.00-2.23) for revision due to deep infection (Ref.: cementless). The adjusted RRs for cemented hips without antibiotics in the cement and hybrid were 1.93 (1.28-2.90) and 2.08 (1.45-2.99), respectively. The adjusted RR for surgery duration at 121+ minutes was 2.13 (1.44-3.14) (Ref.: duration ≤60 minutes).

CONCLUSION: Several factors were associated with increased risk of deep infection after primary THA; male, patients with co-morbidity, patients with atraumatic femoral head necrosis, cemented and hybrid THA, bone cement without antibiotics, duration of surgery > 120 min. We could not detect any risk of patient age, ossifications prophylactic and type of anaesthesia.

**The effect of resorbable versus non resorbable cement restrictor(CR) on migration and cementation quality in cement total hip arthroplasty (THA).
A prospective randomised study**

Jakob Ahrndt Lorenzen, Søren Overgaard & Ole Ovesen

Department of Orthopaedic Surgery, Odense University Hospital,
Clinical Institute, University of Southern Denmark, Denmark

INTRODUCTION: The purpose of this prospective randomized is to compare a resorbable versus a non resorbable CR regarding restrictor migration and cementation quality in cemented THA.

MATERIAL AND METHODS: 91 patients were randomized to either a resorbable Imset (Aesculap) or a non-resorbable Hardinge (De Puy) CR. Surgery and postoperative regime were identical in the two groups . CR-migration during cementation and stem insertion was calculated and the quality of cementation was evaluated on the post-operative X-ray according to the criteria by Barrack et al. (1) Mean values are presented with 95% CI. An un-paired T-test was used to analyse the differences in CR migration and the quality of cementation quality.

RESULTS: The mean CR-migration in the Imset group was 9.8mm (CI: 6.1mm-13.5mm) compared with 3.7 mm (CI: 1.8mm-5.5mm) in the Hardinge group (P=0.042) Regarding quality of cementation the mean value in the Imset group were 2.8 which was significantly better in the Hardinge group=2.1 (P=0.003)

CONCLUSION: The resorbable CR was associated with significantly greater migration and inferior quality of cementation compared with our standard non-resorbable restrictor.

Ref: 1. Barrack RL, Harris WH. J Bone Joint Surg 1992; 74B: 385

The effect of hip rotation after resurfacing total hip arthroplasty (RTHA) on femoral neck bone mineral density (BMD)

*Jeannette Østergaard Penny, Ole Ovesen, JensErik Varmarken,
Kim Brixen, Søren Overgaard*

Dept. of Orth. OUH, Clinical Institute, SDU , Dept. of Orth. Næstved
and Dept. of endocrinology. OUH, Clinical Institute, SDU

INTRODUCTION: RTHA has been claimed to reduce loss of BMD postoperatively. DEXA is used in order to detect BMD changes at an early stage before it's evident on conventional X-rays, however the effect of position of the proximal femur is not known. The aim of this study is to investigate the reproducibility of BMD in the femoral neck surrounding a resurfacing femoral head component, and to establish whether rotation of the hip affects the outcome.

MATERIAL AND METHODS: 15 subjects (11 men and 4 women), aged 38 to 73 with an ASR (DePuy®) RTHA had their BMD measured on a Hologic 4500A DEXA scanner. Positioned supine on the table, the leg was strapped in a shell designed to ensure hip rotation in 0 (toes up), 15 in and 15 out. Measurements were repeated for accuracy. BMD was analysed in 6 zones, 3 medial(M1-3) and 3 lateral(L1-3) to the stem.

RESULTS: Median BMD and (range) for the combined rotations measured in gr/cm². M1: 1,217 (1,03-1,503), M2: 1,197 (1,003-1,504) M3: 1,192 (0,667-1,575), L1: 0,711 (0,69-0,997), L2: 0,715 (0,669-1,279) and L3: 0,791 (0,747-1,499). The reproducibility from 1st. to 2nd. scan was good with a median SD of the differences of 0,039 (0,027 - 0,074), best in 15 in and neutral, allowing us to diagnose median BMD changes of 7,9% (range 4,5 to 11,9) in these positions. When comparing BMD within the same region but in different rotations, the median SD of the differences more than doubled to 0,088 (0,034-0,313). The differences were statistically significant for the distal collum(zones M3, L2 and L3).

CONCLUSION: With accurate positioning of the limb, the method can detect individual BMD changes around a resurfacing THA above 11,9%. The neutral rotation(0) may be preferential. Several zones were sensitive to rotation which advocates for standardized procedures in future longitudinal studies

Arthroscopic stabilization of SLAP lesions of the shoulder

Lars Henrik Frich, Jens Eggers

Orthopaedic Dept.. Odense University Hospital

INTRODUCTION: Previous studies have suggested that SLAP (superior labrum anterior posterior) lesions are a distinct clinical entity. The purpose of this study was to evaluate prospectively the surgical outcomes of arthroscopic repair of SLAP lesions.

METHODS: Forty-eight patients undergoing shoulder arthroscopy for instability diagnoses were prospectively included in this consecutive case series. The mean age at the time of the operation was twenty-eight years. Patients with SLAP lesions were grouped with use of the Snyder classification. The patients were assessed with Woosi score (Western Ontario shoulder instability score) which includes subjective measurement tools (Physical symptoms, Sports/recreation/work, Lifestyle and emotions visual analogue scales).

RESULTS: Of 48 shoulder arthroscopy procedures, 10 (20%) demonstrated a SLAP lesion. Most (8) of the SLAP lesions were found to be associated with other intra-articular lesions. The findings associated with Type-II lesions were a Bankart lesion (6), whereas those in patients older than forty years of age were associated with a partial supraspinatus tear (2). SLAP lesion repair overlapping Bankart lesions scored significantly lower than the isolated Bankart instability repair.

CONCLUSIONS: This study demonstrated that the clinical features and pathological findings associated with the SLAP lesions often overlap. Isolated SLAP lesions with no associated pathological findings are uncommon, and care must be taken when ascribing symptoms to a SLAP lesion when other lesions are present.

Traumatic Separation of the Distal Humeral Physis Sustained at Delivery

*F. Stig Jacobsen, MD, Göran Hansson MD and
Johan Naathorst-Westfelt, MD*

- 1) Marshfield Clinic Orthopaedics, WI, USA
- 2) Queen Silvias Children's Hospital, Gothenburg, Sweden

INTRODUCTION: Fracture dislocation of the distal humeral physis is a rare fracture usually seen after birth trauma or child abuse. Treatment recommendations are controversial ranging from closed reduction to open reduction and pinning. The orthopaedic literature also notes a secondary varus deformity in up to one third of cases. The purpose of this study is to define the complications and treatment in fracture sustained after birth injury.

MATERIAL AND METHODS: Six patients presented with severely displaced distal humeral fractures after difficult deliveries, which is the largest series published. Only three out of six were referred with the correct diagnosis. MRI, ultrasound or arthrogram were further done in five of the six patients. Three patients presented late and were casted in flexion and pronation while the other three had closed reduction and casting without pinning.

RESULTS: At follow-up (1-18 years) all patients had a normal range of motion and five of the six had a normal carrying angle. One patient with only one-year follow-up had 10 degrees of varus deformity.

CONCLUSION: Closed reduction and casting seem to be sufficient treatment even in fractures with significant displacement after reduction. There does not seem to be a need for pinning or open reduction.

Acute supraspinatus tendon tears – do they heal?

*Anne Kathrine B. Sørensen(1), Hans Gottlieb(1), Bo S. Olsen(1),
Michel Court-Payen(1), Klaus Bak(2)*

1 Herlev Hospital, 2 Parkens Privathospital

INTRODUCTION: In a recent study we demonstrated a high incidence of rotator cuff tears in patients with shoulder pain and decreased active abduction seen in the Emergency Ward after a minor shoulder trauma. The aim of this study was to evaluate the natural history of acute rotator cuff lesions in patients who received non-operative treatment.

MATERIAL AND METHODS: 104 patients were included in a prospective investigation of soft tissue injuries after an acute shoulder trauma, 37 patients with either a small full thickness tear FTT (10), a partial thickness tear PTT (19) or changes in the supraspinatus tendon without tear CSP (8) were followed for 1 (33 patients) and 5 years (24 patients) with Constant score, WORCI and Ultrasonography.

RESULTS: In 10 patients with FTT the tear size progressed in 50%, thus the average tear size raised from 10,8 to 20,6 mm. In 19 patients with PTT the lesions healed in 89% with lesions at the insertion site (12 patients) and in the 7 patients with lesions within the tendon substance; 33% healed, 33% were unchanged and 33% progressed. For the CSP group the prognosis was good in young patients (average age 34 years) with thickening of the tendon; in these 4 cases all tendons healed. Other 4 patients with degenerative changes in the cuff (average age 59 years) had a worse prognosis, in 2 patients the changes progressed to full thickness tears, however both patients were asymptomatic!

CONCLUSION: Acute traumatic full thickness tears of the supraspinatus tendon progressed in tear size in 50%. Partial and small full thickness tears at the insertion site have a good potential for healing in younger patients. Contusion of the rotator cuff has a good potential of healing if no degenerative changes are found in the cuff.

Total wrist replacement - the prospective follow-up of 8 years experience

Michel Boeckstyns, Allan Ibsen Sørensen

Section for Hand Surgery, Gentofte Hospital and Rigshospitalet

INTRODUCTION: The introduction of the KMI total wrist was a breakthrough. We present the first danish experience with the KMI and a related implant.

MATERIAL AND METHODS: We followed 38 consecutive cases prospectively with a follow-up of at least 1 year, to analyze the technical problems and the results at medium and long term. First we used the cemented KMI in 9 cases, thereafter the noncemented Avanta in 29. The patients were examined clinically and radiologically at 6 weeks, 3 months, 6 months and once yearly, according to a standardized protocol.

RESULTS: Diagnosis was rheumatoid arthritis in 28, osteoarthritis in 5 and posttraumatic arthritis in 5. Mean age was 59.7 (37-77) years. Follow-up time averaged 2.7 (1-8) years: 5.6 (3-8) years for the KMI and 1.8 (1-4) years for the Avanta. Wrist motion was in average the same at follow-up compared to preoperatively: volar/dorsal 67.4 degrees at follow-up vs. 67.4 preoperatively. There was a clear tendency towards poor motion at follow-up when preoperative motion was bad and viceversa. Grip strength improved from an average of 10.9 kgF preoperatively to 15.7 kgF at follow-up. Perioperative complications: 1 crack fracture of the radius, managed by wiring. 1 perforation of the radial shaft, not causing further problem. Postoperative complications: 1 early dislocation of a KMI, managed by reinsertion of the volar capsule. 1 loosening of the cemented radial component of a KMI at 4 years follow-up. 1 loosening of Avanta carpal fixation screws. 1 cystic bone loss around the radial Avanta component. 1 Avanta converted to wrist fusion because of ankylosis in flexion.

CONCLUSION: We find the long term results with the cemented KMI satisfying and the short/medium term results with the Avanta promising. We find that the design of the Avanta has some advantages compared to the KMI.

Arthroscopic anterior stabilization of the shoulder

Jens Eggers, Søren Skødt Kristensen, Lars Henrik Frich
Orthopaedic Dept. Odense University Hospital

INTRODUCTION: The purpose of this study was to evaluate prospectively the surgical outcomes of arthroscopic repair of anterior capsulolabral lesions (Bankart lesions)

MATERIAL AND METHODS: We evaluated the results of arthroscopic Bankart repair with use of suture anchors (Mitek GII) and nonabsorbable sutures in 48 patients with traumatic recurrent instability of the shoulder. The mean age at the time of operation was 28 years (15 and 50 years). There were 35 male and 13 female patients. The patients were assessed with the WOSI-score (Western Ontario Shoulder Instability Index) which includes subjective measurement tools (Physical symptoms, Sports/recreation/work, Lifestyle and emotions visual analog scales). Follow-up was 11 to 44 month. 44 out of 48 replied to the questionnaire. Furthermore we determined the rate of redislocations after operation.

RESULTS: The overall WOSI-score was 64% (satisfied = 100%, dissatisfied = 0%). Shoulder dislocation recurred in 3 out of 48 patients. WOSI-physical symptoms score (stability) averaged 72%. No postoperative complications were observed.

CONCLUSION: We found that the results of arthroscopic capsulolabral repair with the use of suture anchors can provide satisfactory outcomes in terms of recurrence rate, absence of instability and activity.

Significant disc degeneration needs anterior spinal fusion. Results from an RCT with a long-term follow-up

*Tina Senholt Videbaek, Cody Bünger, Ebbe Stender Hansen,
Peter Helmig, Kristian Høj, Bent Niedermann,
Søren Eiskjær, Finn Bjarke Christensen*
Spine Unit, Dept. of Orthopaedics,
University Hospital of Aarhus, Denmark

INTRODUCTION: The choice of spinal fusion procedure for patients with chronic low back pain is still of major debate. Newly published studies indicate an overall better long-term outcome obtained by anterior column support. The Purpose was to identify patients fused with an instrumented lumbar posterolateral fusion that would have benefited from a circumferential fusion.

MATERIAL AND METHODS: From 1996-1999 a total of 148 patients with severe chronic low back pain were randomly selected for either posterolateral lumbar fusion or circumferential fusion. Outcome measures: Dallas Pain Questionnaire (DPQ), Oswestry Disability Index (ODI). Patients in the posterolateral group with a poor outcome (ODI>40) were selected for investigation. The variables taken into account were: sex, age, duration of pain preoperative, previous spinal surgery, diagnose and diagnosed level preoperative.

RESULTS: Follow-up rate of the original study was 86%. Patients achieving a poor outcome (ODI>40) in the posterolateral group were defined by: preoperative pain duration for more than 2 years, previous spine surgery, diagnose level above L5-S1 and no decompression during surgery. This group of patients (n=10) were compared to a group of patients in the circumferential group (n=12) with the same preoperative characteristics. Comparing the two treatments based on patients containing the above mentioned characteristics and a poor outcome, a tendency was found towards a better outcome for the patients who have had a circumferential fusion.

CONCLUSION: Recent studies have concluded that significant disc degeneration needs anterior spinal support. Patients with previous spine surgery, duration of pain for more than 2 years and diagnose level above L5-S1 are suggested candidates for circumferential fusion.

The Cementless AGC 2000 Knee Prosthesis: A 20-ear follow-up

*Jamila Eriksen, Jan Kim Christensen, Henrik Schrøder, Søren Solgaard
Hillerød Hospital*

INTRODUCTION: 114 AGC 2000 porous-coated, cementless total knee arthroplasties were performed in 102 patients between 1984 and 1986.

MATERIAL AND METHODS: We report the 20 year results of these knee arthroplasties with patient assessment, Hospital for Special Surgery knee score, weight-bearing radiographs done under fluoroscopic control and survivorship analyses. All patients could be accounted for.

RESULTS: With prosthesis revision as a failure criterium, the cumulative prosthesis survival rate at 20 years was 84.4%. No significant radiographic changes were found. 94% were enthusiastic and 6% satisfied. 78% had no pain during walking, while 11% complained of mild and moderate pain respectively.

CONCLUSION: In spite of some problems with the metal-backed patella, the overall results support the continued use of the cementless AGC 2000 knee prosthesis

Early Health Technology Assessment (HTA) of Computer Assisted-Surgery (CAS) in orthopedic surgery - with focus on Total Knee Arthroplasty (TKA)

*Anders Wallin Poulsen, Claus Munk Jensen, Thomas Rohde,
Peter Bo Poulsen, Maja Aaquist, Brian Bekker Hansen*

Ortopædkirurgisk afd. T Herlev Hospital,
MUUSMANN Research & Consulting

INTRODUCTION: Computer assisted surgery (CAS) is a technology that has the potential to increase correct placement of a prosthesis. This is done by continuous feedback, especially when the surgeon makes the bone cut for the prosthesis. Our goal was to evaluate the present knowledge of CAS when used for total knee arthroplasty (TKA). Our predefined focus was on the technology used in CAS, the patient's experience, the organization and the economical aspects of CAS.

MATERIAL AND METHODS: In the fall of 2006 a thorough literature search in PubMed was done, specialized for each area of focus. Only studies published in English or Scandinavian journals were included.

RESULTS: 17 randomized prospective studies, comparing conventional TKA with CAS TKA, were found that had relevance to the technology and the patient's experience. 14 studies showed that CAS takes a significantly longer time. 14 studies showed that CAS reduces the number of outliers. One study shows an advantage in CAS when used for revision surgery. 3 studies show no difference in range of movement. 8 studies show no difference in the rate of complications after surgery. No studies were published regarding the organization, and only one study was directly relevant to the economy. Our economical analysis and the published study have different conclusions regarding the economical feasibility of CAS when used for TKA.

CONCLUSION: CAS is a safe technology, it allows for less outliers, is it more time consuming and at present also more expensive when used for TKA. CAS however, could be used more broadly, for example in revision TKA/resurfacing and in the future total hip replacements / anterior cruciate ligament reconstructive surgery and selected types of trauma surgery.

Cost efficacy of an accelerated perioperative care and rehabilitation intervention for hip and knee replacement

*Kristian Larsen, Torben B Hansen, Per B Thomsen,
Terkel Christiansen, Kjeld Søballe*

Ortopædkirurgisk afdeling, Klinik Holstebro,
Regionshospitalet Holstebro

INTRODUCTION: In Denmark the total hospital costs for hip and knee replacements were close to US\$ 110.000.000 in 2005. Accelerated perioperative interventions are currently implemented, though the cost efficacy of the intervention in a societal perspective is not known. Especially there is no knowledge of the consequences outside the hospital, when accelerated procedures are used perioperatively. We therefore performed a cost efficacy study of an accelerated perioperative care and rehabilitation intervention in patients receiving primary hip and knee replacement.

MATERIAL AND METHODS: A cost efficacy study as a piggyback study to a randomized clinical trial was undertaken. Costs from diagnostics to first year postoperatively were calculated using activity based costing analysis. Quality-adjusted-life-year (QALY) postoperatively was calculated from diaries and questionnaires. Primary outcome was to determine the incremental cost efficacy ratio between the accelerated and the current intervention during a 12-months postoperative period.

RESULTS: The accelerated intervention dominated the current intervention for the hip patients, being both less costly and more effective. The accelerated intervention was significantly less costly for the knee patients, but no difference in effect was observed.

CONCLUSION: An accelerated perioperative care and rehabilitation intervention in patients undergoing primary hip and knee replacement is cost effective in a societal perspective.

Success in implementing an accelerated perioperative care and rehabilitation intervention for hip and knee replacement using the Breakthrough Series and research

*Kristian Larsen, Karen Hvass, Torben B Hansen,
Per B Thomsen, Kjeld Søballe*
Ortopædkirurgisk afdeling, Klinik Holstebro,
Regionshospitalet Holstebro

INTRODUCTION: In Denmark approximately 12,000 hip and knee replacements were performed in 2006. Accelerated perioperative interventions are currently implemented, but only few studies have documented the implementation processes for orthopedic patients. We therefore performed a documented effectiveness study of an accelerated perioperative care and rehabilitation intervention in patients receiving primary total hip, total knee, and unicompartmental knee replacement.

MATERIAL AND METHODS: A before-after trial was undertaken where patients were divided into a before implementation group receiving the current perioperative procedure, and an after implementation group receiving a new accelerated perioperative care and rehabilitation procedure. Implementation procedures were implemented using the Breakthrough Series in combination with research. The implementation process was prospectively documented. Primary outcome measure was in hospital length of stay (LOS), and secondary outcome measure was adverse effects.

RESULTS: The new accelerated care and rehabilitation procedure could successfully be implemented in full scale from one year to another. Mean LOS was significantly ($p < 0.001$) reduced with 4.4 (95% CI 3.9-5.0) days after implementation of the accelerated intervention, from 8.8 (SD 3.0) days before implementation in 2005 to 4.3 (SD 1.8) days after implementation in 2006. No significant or clinically relevant differences in adverse effects were observed.

CONCLUSION: An accelerated perioperative care and rehabilitation intervention in patients undergoing primary total hip, total knee, and unicompartmental knee replacement could successfully and effectively be implemented.

Early bone infection in a rat knee prosthesis osteomyelitis model using 2 strains of bacteria with different *ica:tet*

Niels H. Søe (1), Nina Vendel Jensen (1), Birgit Meinecke Nürnberg (2), Asger Lundorff Jensen (3), Janne Koch (4), Helle Krogh Johansen (5)
Department of Orthopaedic Surgery, Gentofte University Hospital (1),
Department of Pathology, Roskilde University Hospital (2),
Faculty of Life Science, University of Copenhagen (3),
Department of Experimental Medicine, Panum Institute, Copenhagen University (4), Department of Clinical Microbiology, Rigshospitalet, Copenhagen University (5), Denmark

INTRODUCTION: Implant-related infection and osteomyelitis are feared complications in orthopaedic surgery. The purpose of the present study was to find the optimal bacteria and dosage, which cause significant radiographic, biochemical and histopathologic signs of disease and to analyse the importance of the *ica:tet* for the virulence (the gene that is used for synthesis of polymeric N-acetyl-glucosamine, PNAG).

METHODS: In thirty-three Sprague-Dawley rats, infection was induced to the medullary canal of the femur and tibia before a non-constrained knee prosthesis was implanted. Two wild type strains of *S. aureus* in different doses and *ica:tet*, were initially screened. We used three different doses for the MN8 *ica+* and for the UAMS-1 *ica+*. Afterwards we used two *ica*-minus mutants for the same two strains and a control group.

RESULTS: There were no signs of infection in the control group and the prosthesis were in situ. In the *ica+* group the MN8 bacteria were much more virulent than the UAMS-1 strain. The blood analysis and the radiological findings supported the histopathology and the bacteriological findings and in most of the rats the prosthesis were loose or pushed out with severe inflammatory findings in the MN8 group but not in the UAMS-1 group. In the *ica*-minus group we found a moderate to severe evidence of infection with two of five prosthesis in situ in the MN8 group and all in the UAMS-1 group. Also in this case the MN8 was more virulent than the UAMS-1 but both groups had positive bacterial culture.

CONCLUSION: It may be concluded that the chosen rat model is suitable to reliably induce experimental implant-associated osteomyelitis with the prosthesis in situ with a small inoculum of 10E3 CFU. It seems that the virulence could be linked to the *ica:tet*. This model is suitable for vaccination studies.

Animal knee prosthesis model of osteomyelitis in rats

N. Vendel Jensen N.H. Sørensen, K. Rieneck, J. Koch, H. Krogh Johansen
Department of Orthopedic Surgery, Hand Section, Gentofte Hospital1,
Department of Clinical Immunology, Rigshospitalet12, Department of
Experimental Medicine, Panum Institutet, Copenhagen University3,
Department of Clinical Microbiology, Rigshospitalet, 4

INTRODUCTION: There are numerous reports in the literature using animal models of osteomyelitis for investigation of pathogenesis, diagnosis, and treatment of bone infections that still remains a feared and probably one of the most serious complications in orthopaedic surgery. Several animal models have been established by using e.g. rabbits, dogs and rats. The models are either total joint replacement, skeletal implant or soft tissue models.

MATERIAL AND METHODS: A rat knee prosthesis model is created by implantation of a non-constrained knee-prosthesis with a specially designed femoral implant and a tibia implant in metal and polyethylene with smooth surfaces. Two *S. aureus* isolates, MN8 and UAMS 1 isolated from human infections, is injected directly into the long bone marrow of femur and tibia before the prosthesis is implanted, with an inoculum size of 10³ to 10⁵. The prosthesis is not cemented. The surgical procedure does not differ from the one used in humans and the knee has nearly normal range of motion.

RESULTS: After 4-5 weeks radiographic osteolysis was visible and loosening of the prosthesis was noted in the groups that were given 10⁴-10⁵ CFU/ml. No loosening was noted in the uninfected control group. Clinical features, laboratory tests, bacteriological cultures and histopathological findings resembles human osteomyelitis.

CONCLUSION: We have established a robust rat model of osteomyelitis that will be explored further in an effort to try to understand the mechanisms of bacterial prosthetic adhesion and subsequent biofilm formation. This model may prove fruitful in trying to find ways to prevent biofilm formation and subsequent prosthesis infection and loosening.

Contamination of surgical gloves during knee and hip arthroplasty

Henning Nielsen, Cilius Fonvig, Frank Madsen og Anders Odgaard
Knækirurgisk sektor, ortopædkirurgisk afd., Aarhus Sygehus,
Tage Hansens Gade. Klinisk Mikrobiologisk Afd. Skejby sygehus

INTRODUCTION: We conducted a study to determine the extent of bacterial contamination of gloves worn by operating theatre staff during ultra sterile procedures. In this case hip- and knee arthroplasty and Ganz-osteotomy. In addition we conducted a randomized trial to determine the effects of Ioban® incisional drape on glove contamination.

MATERIAL AND METHODS: Contamination was assessed by sampling the surface of the outer gloves after 30 minutes of surgery. Sampling was done by turning the glove inside-out, applying 20 ml of sterile saline and sealing it. After massaging the glove, to ensure even distribution, 200 micro liters was incubated for 24 hours on culture plates. Effects of incisional drape were assessed by randomizing the knee patients in two groups. One with and one without use of drape.

RESULTS: We included 86 operations in which 539 single gloves were examined. Contamination was found on 14 out of 539 examined gloves (2,6% 95%CI: 1,3%;3,9%). Of the 86 included operations we found glove contamination in 9 (10,5% 95%CI: 4,0%;16,9%). We found no significant difference in the extend of bacterial contamination between knee- and hip arthroplasty. In the randomized trial we included 19 operations with Ioban® (109 gloves) and 14 without (96 gloves). In the group without Ioban® we found contamination in 3 operations (5 gloves) and none in the group using Ioban® ($p < 0,05$ calculated on operations as well as number of gloves using Yates correction).

CONCLUSION: We found contamination in 10,5% of the included operations and in 2,6% of the gloves. Use of Ioban® incisional drape significantly lowers the rate of glove contamination. Whether or not this also lowers the rate of infection is undetermined as no patients in our study group developed infection.

Knee Range of Motion after Knee Arthroplasty

Torben Sandberg Sørensen, Snorre Stephensen, Lars Møller
Ortopædkir. Klinik, Frederiksberg Hospital

INTRODUCTION: Knee range of motion (ROM) is significant for patient satisfaction following knee arthroplasty. We have analysed factors of possible significance for the postoperative ROM following knee replacement.

MATERIAL AND METHODS: Patients with knee arthroplasties performed at our department since 1997 have been assessed according to Knee Society Clinical rating system preoperatively and at 6-month follow-up. Data has been stored in a database, which also included data concerning indication, previous operations, patient function group and type of implant. Selected for the study were patients with osteoarthritis operated in the period 1997-2005 with primary arthroplasty, either total (AGC) or unicompartmental (Oxford) replacement. For the statistical analyses a general linear model was used with postoperative ROM as the dependent variable.

RESULTS: 2162 arthroplasties in 1824 patients fulfilled the criteria for inclusion, 2089 knees were seen at 6-month follow-up, and for 1960 knees both pre- and postoperative ROM were recorded. Extension deficiency at $\geq 5^\circ$ were seen in 957 knees prior to the operation and in 117 knees at the 6-month follow-up. Mean knee flexion was 112° preoperatively and 114° postoperatively. Mean increase in ROM was 6° (range: $-55^\circ - 65^\circ$). Postoperative ROM was significantly correlated to preoperative ROM, type of implant (total or unicompartmental replacement) and patient function group (disability due to only the operated knee, due to both knees, or due to also other diseases). Patient age and gender as well as previous surgery, preoperative degree of malalignment, preoperative pain and functions score was of no significance for postoperative ROM.

CONCLUSION: Knee ROM following knee arthroplasty was significantly affected by preoperative ROM, type of implant and patient function group.

Thromboprophylaxis after total knee arthroplasty with oral rivaroxaban – a direct Factor Xa inhibitor: results of the RECORD 3 study

*MR Lassen*¹, *AGG Turpie*², *N Rosencher*³, *LC Borris*⁴, *W Ageno*⁵, *JR Lieberman*⁶, *T-J Bandel*⁷, *F Misselwitz*⁷

Dept Orthopaedics, Hoersholm Hospital, Denmark, 2McMaster University, Hamilton, Canada, 3Dept Anaesthesiology, Cochin Hospital, Paris, France, 4Dept Orthopaedics, Aarhus University Hospital, Aarhus, Denmark, 5Dept Clinical Medicine, University of Insubria, Varese, Italy, 6Dept Orthopaedic Surgery, UCLA, Los Angeles, CA, USA, 7Bayer HealthCare AG, Wuppertal, Germany

INTRODUCTION: Rivaroxaban is a novel, oral, direct Factor Xa inhibitor. The phase III RECORD3 study compared oral, once-daily rivaroxaban with the current standard of care (enoxaparin) in patients undergoing total knee arthroplasty (TKA).

Methods: Patients undergoing TKA (N=2531) were randomized to receive rivaroxaban 10 mg once daily, beginning 6–8 hours after surgery, or enoxaparin 40 mg once daily, beginning the evening before surgery. Study drugs were given double-blind, double-dummy, and were continued for 10–14 days. The primary outcome was the composite of venous thromboembolism (VTE: deep vein thrombosis [DVT] diagnosed by mandatory venography, and symptomatic pulmonary embolism [PE]) and all-cause mortality. Secondary efficacy outcomes included major VTE (proximal DVT + PE + VTE-related death) and symptomatic VTE. The main safety outcome was major bleeding, with secondary outcomes including all bleeding events.

RESULTS: The primary outcome occurred in 9.6% (79/824) of patients receiving rivaroxaban and 18.9% (166/878) of those receiving enoxaparin (relative risk reduction [RRR] 49%; $p < 0.001$). Major VTE occurred in 1.0% and 2.6% of patients receiving rivaroxaban and enoxaparin, respectively (RRR 62%; $p = 0.01$), and symptomatic VTE occurred in 1.0% and 2.7%, respectively. The incidence of major bleeding was similar in both groups: 0.6% and 0.5% for rivaroxaban and enoxaparin, respectively, as was the incidence of any bleeding: 4.9% and 4.8%, respectively.

Conclusions: Rivaroxaban had superior efficacy to enoxaparin for the prevention of VTE after TKA, with a similar, low risk of bleeding. This study with rivaroxaban is the first to show the antithrombotic efficacy and safety of a fixed, unmonitored regimen of an oral Factor Xa inhibitor.

In vivo implantation of silicate substituted calcium phosphate scaffolds loaded with immortalized human mesenchymal stem cells.

Emilie Glavind, Lea Bjerre, Michael Bendtsen and Cody Bünger
Orthopaedic Research Laboratory,
Aarhus University Hospital NBG, Aarhus, Denmark

INTRODUCTION: Skeletal reconstruction is required in many orthopaedic surgical procedures involving large bone defects. The aim of this study was to develop an alternative approach to bone grafting by culturing human mesenchymal stem cells (hMSC) dynamically or statically on scaffolds for subsequent implantation. We hypothesized that ectopic bone formation would depend on the *in vitro* preculturing method.

MATERIAL AND METHODS: Immortalized hMSCs were seeded onto silicate substituted calcium phosphate scaffolds, Skelite ($\emptyset = 10\text{mm}$, height = 5mm, poresize = 300-500 μm , Millenium Biologix Inc.). 2×10^6 cells were seeded per scaffold and cultivated statically or dynamically in a perfusion bioreactor (PB) in 10%FCS-DMEM supplemented with calcitriol or dexamethasone, β -glycerophosphate and ascorbic acid to induce osteogenic differentiation. The PB was set to a flowrate of 0.1 ml/min and the constructs were cultured for up to 14 days before subcutaneous implantation into female NOD/SCID mice. A mixture of hMSCs and HA granules served as positive and empty scaffolds as a negative control. 13 mice received two constructs each, each *in vitro* condition present in duplicates. On day 10 and 5 prior to termination, the mice received an IP bolus of tetracycline and calcein, respectively. After 8 weeks the mice were killed and the constructs analysed. The constructs were embedded in MMA, cut into sections and histologically evaluated.

RESULTS: Homogeneous distribution of matrix and cells was achieved in constructs cultured dynamically. But the morphology of cells and ECM resembled fibrous tissue and minimal calcification was observed in the constructs independent of preculturing method.

CONCLUSION: Static and dynamic preculture were insufficient to induce ectopic bone formation by hMSCs on Skelite bone substitute alone.

Discrepances in the urinary output of prothrombin fragment 1+2 after total hip arthroplasty

Lars Borris, Morten Breindahl, Michael Lassen, Akos Pap and Frank Misselwitz

Department of Orthopaedics, Århus University Hospital; R&D BESST-TEST ApS, Kgs. Lyngby,; Department of Orthopaedics, Nordsjællands Hospital Hørsholm; Bayer HealthCare AG, Wuppertal, Germany

INTRODUCTION: Prothrombin fragment 1+2 excreted in urine (uF1+2) arises from thrombin generation. Differences in uF1+2 levels were assessed after total hip arthroplasty (THA), in patients with venous thromboembolic (VTE) events, patients with bleeding events and matched control patients.

Patients/Methods: This study was conducted in parallel with a prospective, dose-finding study evaluating the thromboprophylactic efficacy and safety of different doses of rivaroxaban relative to enoxaparin. Deep vein thrombosis was diagnosed by mandatory venography performed 5–9 days after THA. Pulmonary embolism was diagnosed by objective testing in cases of symptom occurrence. Bleeding complications were registered and stratified into major, non-major clinically relevant and minor bleeding, using predefined criteria.

RESULTS: Eighty-four patients experienced a VTE event and 57 patients experienced a bleeding event. Logistic regression analysis showed no treatment effect on the uF1+2 levels. Although increased levels of uF1+2 were seen in both groups post-operatively, there was a clear trend towards higher uF1+2 levels among VTE event patients compared with control patients especially on day 3 ($p=0.03$). Comparison of the median uF1+2 levels in the VTE event patients and patients with major or non-major clinically relevant bleeding showed that the uF1+2 level in the bleeding event group was significantly lower on day 3 and on the day of venography ($p<0.0001$ and $p=0.009$, respectively).

CONCLUSIONS: Based on measurement of uF1+2, different coagulation intensities were found in patients experiencing VTE events compared with patients experiencing bleeding events after THA. uF1+2 measurements can be used to assess real-time coagulation status in newly operated patients.

FIVE DIFFERENT WAYS TO ASSESS DYNAMIC KNEE CONTROL DURING SINGLE-LEGGED SQUAT – A RELIABILITY STUDY

Christoffer Brushøj, Niels Bo Schmidt, Klaus Larsen, Michael Bachmann Nielsen and Per Hölmich

Department of Orthopaedic Surgery, Amager Hospital, Department of Radiology, Rigshospitalet, Clinical Research Unit, Hvidovre Hospital, Forvarets Sundhedstjeneste, Jægersborg Kaserne

INTRODUCTION: Poor dynamic knee control has been linked to serious knee conditions including ACL injuries, Patellofemoral Pain Syndrome (PFPS) and runner's knee. Existing methods to determine dynamic knee control are either demanding in terms of instrumentation and time of analysis, or not reproducible. The purpose of this study was to examine the reproducibility of clinical tests to assess dynamic knee control during single legged squat (SLS), when a vertical laser beam was used as a reference.

MATERIAL AND METHODS: On 98 subjects 3 testers evaluated the reproducibility of 5 different test protocols, all using the laser beam as reference, to assess the degree of knee varus/valgus during SLS. Observing the same subject simultaneously the testers evaluated intertester reproducibility, while for intratester reproducibility the test was repeated no more than a week later. In the different protocols, different number of repetitions and instructions to the subjects were given.

RESULTS: The results showed that generally the intertester reproducibility was high, and higher than intratester reproducibility, due to variations in execution of SLS between trials. When the subjects were scored on a scale from -15 to 15 while performing 15 repetitions and were instructed to maintain the knee over 2. toe and to stabilize the upper body, intertester and intratester SEM were 1.05-1.11 (ICC 0.97-0.98) and 3.09-3.12 (ICC 0.79-0.81) respectively.

CONCLUSION: Using this protocol the SLS test holds promise as a clinical test to determine between-subject variation in knee varus/valgus movements. This could be used when screening for risk factors or evaluating the rehabilitation in subjects with ACL injuries, PFPS or runner's knee.

The Biomechanics of Step Descent under Different Treatment Modalities used in Patellofemoral Pain

J Richards, J Selfe

Department of Allied Health Professions, UCLan, UK

INTRODUCTION: Much of the previous work conducted on the use of bracing and taping has focussed on the sagittal plane movement, however most bracing and taping techniques aim to move the patella in the coronal and transverse planes. This study investigated the effect of patellar bracing and taping on the three dimensional mechanics of the knee controlled eccentric step down task.

MATERIAL AND METHODS: 12 healthy subjects were asked to conduct a slow step down exercise to assess the control of the knee during a slow eccentric controlled exercise. The step down was conducted under three randomised conditions a) no intervention, b) placebo patella taping, c) a patellofemoral brace. A step was built to accommodate an AMTI force platform to produce a step height of 20 cm. Kinematic data were collected using a 6 camera ProReflex motion analysis system. Reflective markers were placed on the foot, shank and thigh using the CAST technique.

RESULTS: A repeated measures one-way ANOVA test was performed together with posthoc Pairwise comparison with Bonferroni adjustment to examine the difference in three dimensional movement and moments under the different conditions. The patellofemoral brace and taping had a significant effects on the coronal and torsional movement and moments of the knee with the brace having the largest effect.

CONCLUSION: Bracing and taping allow considerably more coronal and torsional control of the knee during eccentric step descent. Coronal and torsional mechanics should not be overlooked when studying patellofemoral pain.

Isolated reconstruction of the posterolateral corner

*Jakobsen BW, Christiansen SE, Lund B, Lind MC, Hansen MS,
Rasmussen GH*

Division of Sports Trauma, Department of Orthopaedic surgery, University Hospital of Aarhus, Denmark

INTRODUCTION: Lesion of the popliteus fibular ligament and the popliteus tendon with or without rupture of the lateral collateral ligament is referred to as lesion of the postero-lateral corner of the knee. Lesion of these structures is often related to rupture of the one or both of the cruciate ligaments, but isolated lesion of the lateral structures of the knee may occur. Untreated lesion of the postero-lateral corner may lead to rotatory instability, lateral instability or varus thrust.

MATERIAL: In the period from October 1997 to May 2005 40 patients with isolated postero-lateral instability were treated with primary repair with augmentation or reconstruction. Median age were 30 years, 28 were males. 23% had remaining instability after anterior –or posterior cruciate ligament reconstruction. Causes of injury were RTA in 25% and sport in 53%.

METHOD: All had reconstruction of the lateral structures using hamstring grafts. Through a lateral hockey stick approach the proximal tibia and fibula were exposed and the anatomical insertion points of the LCL and popliteus tendon at the femoral epicondyle were identified. 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 grafts were performed. 27 were available for follow-up more than 24 mths post-op and were examined by an independent observer using the IKDC form and subjective KOOS score.

RESULTS AND CONCLUSION: In our series 95% of ptt with isolated lateral rotatory instability were rotatory stable after PLC reconstruction – at f-up more than 24 mths (IKDC A or B). 71% were over-all normal or nearly normal Subjective KOOS score were comparable to scores in the menisected knee. One patient sustained a deep infection, but none had any peroneus nerve affection.

Multiple ligament reconstruction in the knee

*Jakobsen BW, Christiansen SE, Lund B, Lind MC, Hansen MS,
Rasmussen GH*

Division of Sports Trauma, Department of Orthopaedic surgery, University Hospital of Aarhus, Denmark

INTRODUCTION: Lesion of the popliteus fibular ligament and the popliteus tendon with or without rupture of the lateral collateral ligament is referred to as lesion of the postero-lateral corner of the knee. Lesion of postero-lateral corner is often induced by knee dislocation and concomitant with lesion of the cruciates and medial collateral ligament.

MATERIAL: In the period from August 1997 to May 2005 154 patients with postero-lateral instability combined with lesion or other ligaments of the knee were treated with primary repair with augmentation or reconstruction. Median age were 30 years, 102 were males. 27 % had previous surgery. Causes of injury were RTA in 33% and sport in 54%.

METHOD: All had reconstruction of the lateral structures using hamstring grafts. All concomitant ligament instability were treated with reconstruction using either autografts or allografts. 98, available for follow-up more than 24 mths post-op, were evaluated according to the IKDC form, objective stability measure and subjective KOOS score. Patients were examined by an independent observer.

RESULTS: In our series 36% of PLC-ACL reconstructions were revision cases, indicating that Non-diagnosed PLC instability concomitant to ACL instability may lead to failure of ACL reconstruction Median 60 mths after multiple ligament reconstruction 63% were normal or nearly normal (IKDC A and B). Subjective KOOS scores were lower than scores 1 year after primary ACL reconstruction especially on pain, ADL, Sport and QOL. Subjective KOOS scores were comparable scores in postmenisected OA in pain, ADL and sports activity.

Impact of graft and implant choice at anterior cruciate ligament reconstruction. Results from the Danish ACL registry

Bjarne Mygind-Klavsen, Martin Lind
Idrætssklinikken, Ortopædkirurgisk afd, Århus Sygehus

BACKGROUND: Fixation methods and graft choices have potential impact on clinical outcome after anterior cruciate ligament (ACL) reconstruction. The national clinical database for knee ligament surgery (Danish ACL Registry) is a potential source for data that describes outcome with numerous surgical techniques and implants. This study presents patient assessed outcome and objective knee stability data after ACL reconstruction with the major implant principles and graft choices.

METHODS: All clinics performing ACL reconstructions in Denmark reports to the Danish ACL Registry. The surgeon reports anamnestic, objective knee laxity and operative data including graft and implant choices. At one-year control, complications, reoperations and objective knee laxity are recorded. The patient registers the KOOS knee score and Tegner function score preoperatively and at follow-up. A comparison between hamstring tendon and patella tendon graft and comparison between 3 major femoral fixation implants was performed. The femoral implants were RigidFix, Endobutton types, Transfemoral devices.

RESULTS: The data is based on 156 Rigidfix, 18 Endobutton and 30 Transfemoral implants. The graft choice comparison was based on 212 hamstring and 75 patella-tendon reconstructions at 1 year follow-up. No significant differences in KOOS and Tegner scores were found. The mean follow-up side-to-side difference in knee-laxity ranged from without significant differences between groups.

CONCLUSION: This study confirms several RCT's, that choice of graft and well proven implants have no major impact on clinical outcome after ACL reconstruction. However, the group size in some of the study subgroups are still small and minor differences could be found when the database size increase.

Gait Analysis, Postural Balance and Maximal Muscle Strength of Patients with metal-on-metal Resurfacing Total Hip Arthroplasty (RTHA) 12 months post surgery

Carsten Jensen, Per Aagaard, Niels W. Pedersen, Søren Overgaard
 Dept. of Orthopaedic Surgery, OUH, Clinical institute. Institute of Clinical biomechanics and Sports Science, University of Southern Denmark

INTRODUCTION: RTHA is a bone-sparing procedure that preserves normal anatomy of the hip joint and possibly reduced dislocation rates. The aim of present ongoing study is to examine whether RTHA leads to a faster recovery of gait and neuromuscular capacity.

MATERIALS AND METHODS: Preliminary cross-sectional data for RTHA (ASR, DePuy) functionality were obtained in 5 patients (53±11 years of age, 10.8±1.9 months post surgery). *Gait analysis:* 3D gait analysis were conducted (Vicon) at self-selected and maximal walking velocity. *Postural Balance:* Patients performed bilateral and unilateral postural balance tests (15-s, AMTI). *Muscular strength:* Peak torque and rate of torque development (RTD = Δ torque/ Δ time) were obtained for the affected (aff) and the non-affected (n-aff) leg.

RESULTS:

Table 1: Maximal Muscle Strength and side-to-side deficits

Exercise (Mean±SD)	Knee Ext (Nm/kg)	Knee Flex (Nm/kg)	Hip Add (Nm/kg)	Hip Abd (Nm/kg)	Hip Ext (Nm/kg)	Hip Flex (Nm/kg)
Affected leg	3.03±1.02	1.25±0.38	2.04±0.38	1.93±0.28	3.12±0.61	2.12±0.59
Non affected leg	2.71±0.33	1.18±0.24	2.21±0.25	2.02±0.70	3.01±0.65	2.58±0.49
Diff. (aff/non-aff)	112%	106%	92%	96%	104%	82%

Table 2: Rate of Torque Development

Exercise (Mean±SD)	Knee Ext (Nm/kg)	Knee Flex (Nm/kg)	Hip Add (Nm/kg)	Hip Abd (Nm/kg)	Hip Ext (Nm/kg)	Hip Flex (Nm/kg)
Affected leg	16.42±5.69	4.29±2.02	8.69±4.20	7.35±1.53	12.02±4.33	8.49±4.01
Non affected leg	14.34±3.26	3.47±1.25	10.35±2.80	8.01±4.12	10.51±4.31	14.48±4.92
Diff. (aff/non-aff)	115%	124%	84%	92%	114%	59%

Data on gait and postural balance will be presented at the meeting.

CONCLUSIONS: Differential strength deficits were observed for various muscle groups crossing the knee and hip joint in response to RTHA. Further data are needed to verify whether this represents a statistically stable trend.

Presentation and outcome of conservatively treated patients with Legg-Calvé-Perthes disease

Froberg, Lonnie; Christensen, Finn; Wisbech Pedersen, Niels and Overgaard, Søren

Department of Orthopaedic Surgery, Odense University Hospital, Denmark. Department of Orthopaedic Surgery Fredericia and Kolding Sygehuse, Denmark

INTRODUCTION: In Legg-Calvé-Perthes disease (LCP) the degree of femoral head involvement and age of onset have been identified as the most important variables for the outcome of LCP. We aimed to compare the modified lateral pillar classification with the results of the Stulberg outcome.

MATERIAL AND METHODS: From 1941 to 1962, 167 patients with LCP were referred and treated at The Community of Disabled in Kolding. The medical records of the patients were retrieved. All hips were treated conservatively by a Thomas splint. Patients with bilateral involvement or insufficient or missing radiographs were excluded (n=93). Thus, 74 patients, 61 boys and 13 girls, with unilateral involvement were included in this retrospectively study. The average age at onset of the disease was 6.2 years. Anteroposterior radiographs of the pelvis were classified according to the modified Herring lateral pillar classification and head-at-risk signs were noted. At skeletal maturity the radiographs were classified according to the Stulberg classification system.

RESULTS: 26% of the hips in Herring A and B, and 44% of the hips in Herring group B/C and C ended in Stulberg class III, IV and V. In patients >9 years at onset 71% ended in Stulberg III, IV and V. In patients <9 years at onset only 28% ended in Stulberg III, IV and V. Presence of head-at-risk signs correlated with the Herring group. The mean number of head-at-risk signs was increasing the worse Herring group. 64% of the boys were classified to Herring A and B and 70% in Stulberg class I and II. In the 13 female patients 62% were in Herring A and B, and Stulberg I and II.

CONCLUSION: We found that Herring group, patient age at onset and head-at-risk signs seem to correlate to the Stulberg classification. Gender did not influence on the prognosis.

A Quantitative Mouse Model of ImplantAssociated Osteomyelitis and the Kinetics of Microbial Growth, Osteolysis and Humoral Immunity

Kirill Gromov, Dan Li, J. Edward Puzas, Regis J. O'Keefe, Hani Awad, Hicham Drissi, Edward M. Schwarz and Kjeld Søballe
Orthopedic Dept, University of Rochester, USA.
Orthopedisk afdeling E, Århus Sygehus, Århus

INTRODUCTION: Although osteomyelitis (OM) remains a serious problem in orthopaedics, progress has been limited by the absence of an in vivo model that can quantify the bacterial load, metabolic activity of the bacteria over time, immunity and osteolysis. To overcome these obstacles, we developed a murine model of implant-associated OM.

MATERIAL AND METHODS: Radiological and histological analysis were used for visualizing the infection. micro CT was utilized for quantification of bone resorption. Immune response was assessed using ELISA, and in vivo bioluminescence as well as rtq-PCR were used to determine the bacterial load.

RESULTS: X-ray and micro-CT demonstrated concomitant osteolysis and reactive bone formation, which was evident by day 7. Histology confirmed all the hallmarks of implant-associated OM, namely: osteolysis, sequestrum formation and involucrum of Gram-positive bacteria inside a biofilm within necrotic bone. Serology revealed that mice mount a protective humoral response that commences with an IgM response after one week, and converts to a specific IgG2b response against specific *S. aureus* proteins by day 11 post-infection. Real-time quantitative PCR (RTQ-PCR) for the *S. aureus* specific *nuc* gene determined that the peak bacterial load occurs 11 days post-infection. This coincidence of decreasing bacterial load with the generation of specific antibodies is suggestive of protective humoral immunity. Longitudinal in vivo bioluminescence imaging (BLI) of *luxA-E* transformed *S. aureus* (Xen29) combined with *nuc* RTQ-PCR demonstrated the exponential growth phase of the bacteria immediately following infection that peaks on day 4.

CONCLUSION: Collectively, these studies demonstrate the first quantitative model of implant-associated OM that defines the kinetics of microbial growth, osteolysis and humoral immunity following infection.

Anti-resorptive agents alter bacterial growth during the establishment of osteomyelitis by altering lymphatic drainages without affecting angiogenesis or protective immunity

Kirill Gromov, Dan Li, Steven Proulx, J. Edward Puzas, Regis J. O'Keefe, Hani Awad, Hicham Drissi, Edward M. Schwarz and Kjeld Søballe
Afd E, Århus Sygehus, samt Dept of Orthopedics,
University of Rochester, USA

INTRODUCTION: Massive osteoclastic bone resorption around orthopaedic and dental implants is an adverse event that could potentially be avoided by the use of anti-resorptive agents like bisphosphonates (i.e. alendronate, Aln) or biologic antagonist (i.e. osteoprotegerin, OPG). However, effects of these drugs on the infection process is unknown. Furthermore, the enigmatic emergence of osteonecrosis of the jaws (ONJ) in patients on bisphosphonates therapy following oral surgery also begs the investigation of interactions between anti-resorptive agents and bone infection

MATERIAL AND METHODS: The effects of Alandronate and OPG were investigated using PBS (placebo), gentamycin and etanercept (TNFR:Fc) controls. Infection was evaluated using X-ray, micro-CT, histology, MRI, bioluminescence and rtq-PCR.

RESULTS: While none of the drugs affected humoral immunity or angiogenesis, leading to bacteria levels that were similar to PBS controls on day 18, the significant inhibition of cortical osteolysis by Aln and OPG vs. PBS was associated with a significant increase in the incidence of high-grade infections during the establishment of OM on days 7 and 11, as determined by BLI and nuc RTQ-PCR. We also found that Aln significantly decreased Lymph Node Volume compared to PBS which is consistent with its inhibition of cortical osteolysis and in ability of lymph to efficiently drain out of the infected medullary canal.

CONCLUSION: Collectively, these findings indicate that while anti-resorptive agents do not exacerbate chronic OM, because they do not interfere with protective immunity, they can increase bacterial growth during early infection by decreasing lymphatic drainage and preventing the removal of necrotic bone that harbors the bacteria.

The New Mobility Score as a Predictor of Early Independency in Basic Mobility after Hip Fracture Surgery

Morten Tange Kristensen, Nicolai Bang Fos, Henrik Kehlet

Department of Physiotherapy, Orthopaedic surgery, Division of Physiotherapy, Department of Health Sciences Department, Anaesthesiology and Section of Surgical Pathophysiology, The Juliane Marie Centre. Hvidovre University Hospital, Copenhagen, Denmark, Lund University, Lund, Sweden and Rigshospitalet, Copenhagen, Denmark

INTRODUCTION: If hip fracture patients are to return directly to their own home, the regain of independency in basic mobility is necessary. Therefore a method for an early prediction of short-term rehabilitation outcome is important for ward personnel to adjust and plan expectations for each patient. This study validates the New Mobility Score (NMS) as a predictor of postoperative day of independency in basic mobility, functional mobility and discharge status.

MATERIAL AND METHODS: 601 consecutive hip fracture patients admitted to a special hip fracture unit. The NMS that describes the pre-fracture functional level is a composite score of the patient's ability to perform: indoor walking, outdoor walking and shopping before the hip fracture, providing a score between 0 and 3 for each function, resulting in a total score from 0 to 9, with nine indicating a high level. The intertester reliability of the NMS was assessed in 48 patients. The correlations and predictive values of the NMS to all outcome parameters were calculated. Spearman's rho with a level of significance of .05 and ICC 1.1 were used.

RESULTS: The New Mobility Score was assessed on all 601 patients, but only those 436 (73 %) admitted from own home were included in analyses. The NMS was a significant predictor for postoperative day of independency in basic mobility, functional mobility at discharge and length of stay. A cutoff point of 7 gave the highest negative predictive value (95%) and sensitivity (91%) of the NMS to patients not achieving independency in basic mobility during admission. The intertester reliability was very high (ICC .98).

CONCLUSION: The New Mobility Score is a valid and easily applicable score that on admission provides the ward personal with a predictive value of the short-term potential of functional mobility during admission.

Positron Emission Tomography for Monitoring Interbody Fusion with Equine Bone Protein Extract, rhBMP-2 and Autograft

Casper Foldager, Michael Bendtsen, Xuenong Zou, Lijin Zou, Åge Kristian Olsen, Ole Lajord Munk, Cody Bünger

1. Orthopaedic Research Lab, Aarhus University Hospital.
PET-Center, Aarhus University Hospital.

INTRODUCTION: The widespread use of fusion procedures in the management of spinal disorders has led investigators to explore the use of growth and differentiation factors in such procedures. The assessment of bone regeneration, from equine collagen lyophilisate or rhBMP-2, is important in better understanding of the mechanism of action of these materials currently being developed as bone graft alternatives. The tracer fluoride ion, ^{18}F , is known to accumulate at sites of osteoblastic activity by exchange with the hydroxyl group of hydroxyapatite crystals.

MATERIAL AND METHODS: An anterior lumbar interbody fusion (ALIF) was performed on 10 Danish female landrace pigs. A PEEK cage containing autograft, InductOS (rhBMP-2) dissolved on a quarter of the enclosed collagen sponge or COLLOSS E was inserted in the intervertebral space. They were divided into two groups. 6 pigs were observed for 4 weeks and 4 pigs for 8 weeks postoperatively. Before sacrifice, the pigs were scanned by means of PET/CT with ^{18}F tracer.

RESULTS: The activity of the incorporated fluoride corresponding to the metabolic activity inside the cage was evaluated using a Gjedde-Patlak plot. Two-way ANOVA analyses showed significant difference in the main effects ($P < 0.0001$). Paired T-test revealed difference in the activity of the InductOS level compared with both autograft ($P < 0.01$) and Colloss E ($P < 0.05$) after 4 weeks with no difference between the latter two. 8 weeks postoperatively, there was no significant difference between the treatments.

CONCLUSION: This non-invasive technique provides important information about the ongoing metabolic status of the osteogenesis. InductOS shows a different metabolic pattern than Colloss E and autograft.

Introducing an operative and supervision guideline for hip fracture surgery reduced the rate of re-operation from 15% to 10%

*Henrik Palm, Michael Krasheninnikoff, Kim Holck, Tom Lemser,
Nicolai Foss, Henrik Kehlet, Steffen Jacobsen,
Stig Sonne-Holm, Peter Gebuhr*

The Hip Fracture Study Group, Departments of (1) Orthopaedic Surgery and (2) Anaesthesiology, Copenhagen University Hospital of Hvidovre and (3) Section of Surgical Pathophysiology, the Juliane Marie Centre, Rigshospitalet, Denmark

INTRODUCTION: We derived an exhaustive operative and supervision guideline for the treatment of hip fractures from the current international literature, and implemented the guidelines in our department.

MATERIAL AND METHODS: 1274 unselected consecutive patients admitted with a hip fracture were included, 336 of these prospectively after implementation of the new guideline. Demographic parameters, hospital treatment and re-operations were assessed from patient journals. Re-operations were recorded after six months.

RESULTS: 95% (320/336) of operative procedures were found to have followed the new guideline compared to 78% (733/938) prior to its introduction ($p < 0.001$ χ^2). Retrospectively we found that only 12% (121/1053) of operative procedures performed as the new guideline prescribes were re-operated compared to 24% (53/221) of operative procedures performed with other methods ($p < 0.001$ χ^2). In logistic regression analysis combining sex, age, ASA, cognitive function, new mobility score, time from admission to operation and level of surgeon's experience, not following the guideline was the only significant predictor for re-operation ($p < 0.001$ log. reg.) After implementing the guideline, the rate of unsupervised junior registrars performing operations declined from 20% (188/938) to 6% (21/336, $p < 0.001$ χ^2). The rate of re-operations declined from 15% (139/938) to 10% (35/336, $p = 0.044$ χ^2 , $p = 0.043$ log.reg.), with a 20% (85/436) to 13% (23/174) decline for intracapsular and an 11% (54/502) to 7% (12/162) decline for extracapsular fractures.

CONCLUSION: An exhaustive operative guideline for hip fracture treatment can be implemented. In our case, the guideline both raised the rate of supervision and reduced the rate of re-operations.

Treatment of thumb basal joint osteoarthritis - Joint prosthesis versus tendon interposition arthroplasty

Michael Ulrich-Vinther and Bent Lange

Division of Hand Surgery, Aalborg Hospital, Denmark

INTRODUCTION: Osteoarthritis of the thumb basal joint is a common and disabling condition. This clinical follow-up study compares the efficiency of total basal joint replacement surgery with tendon interposition arthroplasty.

MATERIAL AND METHODS: 98 patients (86% females, mean age of 60 ± 1 years) with severe CMC-1 osteoarthrosis (Eaton-Littler Stage 3.3 ± 0.1) were included in this quasi-randomized, follow-up study. The patients received either a cement-less, unconstrained, hydroxy-apatite-coated trapezio-metacarpal joint prosthesis or tendon interposition arthroplasty. Clinical outcome parameters were determined preoperatively, 3 months, 6 months, and 12 months postoperatively. Furthermore, osteointegration and fixation of the implants were radiologically analysed after 12 months.

RESULTS: Joint replacement surgery resulted in less pain, higher strength and better mobility than tendon interposition arthroplasty throughout the study period. After 12 months, patients with joint-prosthesis had regained same strength and mobility as in the asymptomatic contralateral thumb. Additionally, joint-prosthesis yielded shorter rehabilitation (6 ± 1 weeks versus 14 ± 4 weeks). After 12 months, osteolysis had developed at the vicinity of two cups, but there were no signs of implant loosening. The prosthesis surgery was not associated with more complications than tendon interposition arthroplasty.

CONCLUSION: This paper compares the efficiency of a cement-less, hydroxy-apatite-coated trapezio-metacarpal joint prosthesis with tendon interposition arthroplasty. It is a short-term quasi-randomized follow-up study demonstrating that patients with joint-prosthesis achieve higher patient comfort, improved strength and mobility without increased risk of complications. However, a randomized clinical trial with long-term follow-up is required.

The results of a fully implantable programmable distraction nail for femoral and tibial lengthening

Knud Stenild Christensen, Kristian Guldbæk Bundgaard
Ortopædkirurgisk Klinik, Aalborg University Hospital

INTRODUCTION: Limb lengthening by external fixation has a high rate of discomfort, pain and infections. We present our results using an intramedullary nail (Fitbone) for distraction osteogenesis and correction of associated deformities.

MATERIAL AND METHODS: From 09/2005 to 04/2007, 24 Fitbone TAA systems were implanted in 24 patients. 22 received a femoral nail, 20 were inserted retrograde and 2 antegrade. 2 patients received a tibial nail. The mean age was 27 years (17-58). The indications were post-traumatic shortening (17), congenital (6) and short stature (1). All patients had long standing AP and lateral X-rays. The reverse planning method was used. 13 patients had associated deformities (malrotation, angulation and translation). The mean shortening was 4 cm (2,2-7). The osteotomy was located in the metaphyseal region in 20 and diaphysis in 4. The mean follow up was 1? year (1/2-2).

RESULTS: All patients received the anticipated lengthening and correction. No intraoperative complications occurred. The mean operating time was 122 min. There was one DVT. One patient developed deep slow implant infection after 1 year with pseudomonas. He was cured after removing the nail and reaming. Two patients had planned bonegraft. The gear stopped in two patients after 25 and 20 mm. Both nails were exchanged and the goal was reached. In two patients a lose locking screw was replaced. The mean VAS pain score was 2 (0-7) during distraction. The mean bone healing index was 34 days/cm. All patients reported they would repeat surgery if needed.

CONCLUSION: The Fitbone system for lengthening and deformity correction is a clinical success. Complication rates, pain and infections are very low compared to external fixation. The Fitbone surgery should be restricted to one centre in order not to compromise the efficiency and quality of the system.

NO DIFFERENCE BETWEEN CHONDROCYTES IN COLLAGEN SCAFFOLD AND MINCED CARTILAGE UNDER A COLLAGEN SCAFFOLD. AN IN VIVO STUDY IN GOATS

*Martin Lind, Allan Larsen; **

University Hospital of Aarhus, Sportstrauma Clinic,

*Artros Clinic Aalborg

INTRODUCTION: Cell free methods for cartilage tissue engineering have recently gained increased focus. The present study aims to investigate the cartilage regenerative response of autologous cartilage chips and chondrocytes in combination with a collagen membrane in a goat femoral condyle full thickness cartilage defect model.

METHODS: 8 adult goats were used for the study. At primary surgery 5 mm defects were created at the weightbearing part of both medial femoral condyles. Cartilage tissue from the defects was used for chondrocyte cultures. At secondary surgery 4 weeks later, the defects were enlarged to 6 mm and randomized to. 1: Collagen membrane scaffold with autologous chondrocytes. 2: Minced cartilage placed under collagen membrane scaffold. Animals were followed for 4 month. Analyses: ICRS macroscopic scoring. Mechanical test and quantitative histological analyses.

RESULTS: No difference was found in any of the tested parameters between the two groups. Generally the tissue filling in the defects were limited (35 %), and the macroscopic and histological scores were in the mid range indicating limited regeneration tissue with only minor cartilage characteristics. Mechanical testing demonstrated that the regenerated tissue was slightly stiffer than the normal cartilage.

CONCLUSION: In this animal study no difference in cartilage regeneration was found between using minced cartilage and cultured chondrocytes when combined with a collagen membrane. The general tissue regeneration was limited probably due to the early time point of investigation and due to the challenging mechanical environment at the weight bearing part of the femoral condyle.

Backyard trampoline related injuries

Linda Hardisty Bramsen, Henrik Daugaard
Ortopædkirurgisk afdeling K

INTRODUCTION: In recent years the popularity of backyard trampolines has increased. Trampolines as recreational activity are widely distributed not only in public places but also in private homes. The marked increase in emergency room visits related to trampoline injuries might reflect the increased number of trampolines now available for recreational use or the creative way in which they are being used. The aim of this study was to describe the types of injuries associated with the use of backyard trampolines.

MATERIAL AND METHODS: Data were collected from emergency room records and a standard questionnaire given to all patients at their first visit to the hospital. The study includes all backyard trampoline injuries from 01.05.07 to 14.08.07 treated in the K, P and M Department at Silkeborg Hospital. A total of 72 injuries were registered in 68 patients. 35 were male, 33 female. Median age 11 years (range 1-61).

RESULTS: The injured body regions were upper extremity: 26 (36%), lower extremity 42 (58%), cerebrum/cervical spine 4 (4%) and thorax/abdomen 1 (1%). The severity of the injuries was classified according to ISS with all 72 injuries scoring below 7. 1 patient was admitted to hospital (1%). 72 % of the trampolines were without a safety net and 10% were submitted into the ground. 78 % of the injuries happened while > 1 user was on the trampoline. 43% of the injured spends more than 2 hours/week on the trampoline.

CONCLUSION: All of the injuries are according to ISS less severe. It is important to follow the development of injuries related to the use of backyard trampolines closely.

The first results from the Danish registry for knee ligament reconstructions

Martin Lind

Idrætssklinikken, Ortopædkirurgisk afdeling, Århus Sygehus

BACKGROUND: Anterior cruciate ligament (ACL) reconstruction is presently evolving rapidly. In order to monitor the development in surgical methods and clinical outcome, a national clinical database for knee ligament surgery (Danish ACL Registry) was established in 2005. This study presents the first data with 1 year follow-up from the Danish ACL registry

METHODS: All clinics performing ACL reconstructions in Denmark reports to the database. The database is divided into surgeon data and patient data. The surgeon reports anamnestic, objective knee laxity and operative data including graft and implant choices. At one year control, complications, reoperations and objective knee laxity are recorded. The patient registers the KOOS knee score and Tegner function score preoperatively and at 1, 5 and 10 years follow-up. A specific set of indicators that define good diagnostic procedures and clinical outcome have been specified.

RESULTS: During the first 18 months, 3378 knee-ligament reconstructions were registered. 2841 were primary ACL reconstructions, 257 were ACL revisions and 280 were multiligament reconstructions. 90 % of all departments reported to the database. 71 % of primary ACL reconstruction used hamstring tendon grafts and 21 % used patella tendon graft. Meniscus injuries were treated in 35 % of all patients. 17 % had significant cartilage lesions. Follow-up KOOS scores demonstrated specific differences between primary ACL, revision ACL and multiligament reconstructions.

CONCLUSION: This study presents the first follow-up data from a national ACL registry. These data will become new international reference materials for outcome measures before and after ACL surgery. The database will enable future monitoring of ACL reconstruction techniques and outcome.

Ceramic-on-ceramic total hip arthroplasty: Frequency and type of noises

*Claus Varnum, Thomas Vester, Jane S. Leonhardt, Henriette A. Holm,
Per Kjærsgaard-Andersen*
Ortopædkirurgisk afdeling, Vejle Sygehus

INTRODUCTION: Audible noise in total hip arthroplasty (THA) with ceramic-on-ceramic (COC) bearing surfaces is a well known problem. Our hypothesis is that part of these noises could be due to acetabular component orientation.

MATERIAL AND METHODS: All COC THA with a minimum of one year follow-up were identified in our local database. Total 135 cases were operated between June 2004 and May 2006 in 116 patients. 20 patients were bilaterally operated with COC THA, 12 as one-stage and eight with months between. One patient with two hips had died, and six patients did not respond to our contact. Thereby 107 patients with 126 hips did enter the analysis. All patients were interviewed by telephone from a standardized questionnaire. Patients were asked whether they have observed any noise from the operated hip. If confirmed, they were asked to characterize the type of noise. All x-rays were examined to determine the inclination and anteversion of the cup (safe zone: $25^{\circ} \pm 10^{\circ}$ anteversion and $45^{\circ} \pm 10^{\circ}$ inclination).

RESULTS: Total 13 hips (10%) produced a noise at the time of the interview (group A). Nine hips (7%) had earlier had a noise which had disappeared (group B). Total 104 hips (83%) had never been noisy (group C). In group A the noise was characterized as: Clicking (54%), clicking and squeaking (23%) and grating (23%). In group A 69% were positioned in the safe zone, in group B+C 58%. In group A one hip had an anteversion more than 35° , in group B+C six hips. None of the results are statistical significant. Three hips with noises had undergone revision.

CONCLUSION: Noises in COC THA seem to be a frequent phenomenon. The reason for noises is reported to be multifactorial with positioning of the cup as an important item. In this study only severe anteversion showed to be of importance.

Low levels of free testosterone index are significantly associated with osteoporosis in men with hip fractures

Jesper Ryg, Torben Leo Nielsen, Søren Overgaard, Marianne Andersen, Kim Brixen

1Department of Endocrinology,

2Department of Orthopedic Surgery, Odense University Hospital,

3Institute of Clinical Research, University of Southern Denmark

INTRODUCTION: Hypogonadisme (HG) is a risk factor for male osteoporosis and osteoporosis is highly prevalent in patients with hip fractures (HFx). The aim was to elucidate the prevalence of HG and the relationship between free testosterone index (FTI) and osteoporosis in males with HFx during 2005.

MATERIAL AND METHODS: Excluding patients with dementia, severe co morbidities, and pathological fractures, 106 patients (74%) were referred for evaluation by DXA, Instant Vertebral Assessment (IVA), biochemical screening, and clinical assessment. Osteoporosis was defined as prevalent vertebral fracture (VFx) and/or BMD T-score < -2.5, defining VFx as a reduction of vertebral height by IVA of at least 25%. A population based cohort of 783 males, aged 20-39 years, served as controls. FTI was calculated as serum total testosterone (TT)/Sex Hormone-Binding Globulin. Hypogonadisme were defined as TT below the 2.5 percentiles of the values in healthy, non-obese men of the young cohort.

RESULTS: A total of 78 patients aged 77 [46-94 years] showed up for evaluation. Of these patients 67% had T-score<-2.5 and 63% had at least one VFx making the overall prevalence of osteoporosis 85% in males with HFx. 55 % of the HFx patients had HG. Patients (93%) with FTI below the 2.5 percentile had significantly more often osteoporosis compared to patients with normal FTI (OR=10.67, p<0.05). No significant difference was seen between the 2 groups regarding current smoking, alcohol intake, BMI, previous fractures or prevalent VFx.

CONCLUSION: Our study shows that osteoporosis, hypogonadisme and low FTI are prevalent in men with HFx and that FTI is significantly associated with osteoporosis. In order to evaluate the importance of this finding we suggest initiation of intervention studies.

Laser Doppler Flow measurements during insertion of a total Resurfacing Hip Arthroplasty

Morten Foged Bøgehøj, Ole Ovesen, Søren Overgaard

Dept. of orthopaedics hip and knee section OUH,
Clinical Institute, SDU

INTRODUCTION: Resurfacing THA (RTHA) is an alternative to the traditional THA in the younger patients with osteoarthritis. One of the known complications to RTHA is 1-2% femoral neck fractures lateral to the femoral component. In 13 femoral heads retrieved during revision, for fracture or aseptic loosening, avascular necrosis has been found in all but one (Little et al., 2005). The aim of the present study was to investigate the blood flow in the femoral head during surgery.

Methods and Materials: 5 patients undergoing RTHA (ASR, DePuy®) were included, mean age 55 SD 10 years. The posterior surgical approach was used. Laser Doppler flow was measured using a flexible endoscopic probe inserted in a 2 mm drill hole from the greater trochanter to the equator of the femoral head in the proximal part of the femoral head. Measurements were made at specific time points during surgery.

RESULTS: In 3 of the 5 femoral heads it was possible to demonstrate pulsatile flow at the start of the operation. In 2 the flow signal was not sufficient indicating, lack of blood flow or very low perfusion in the femoral head in these patients. In the 3 patients with initial flow, the pulsatile flow disappeared after the external rotators and the medial femoral circumflex artery were cut, and did not reappear after the hip was relocated.

Discussion and CONCLUSION: This study indicates that the posterior surgical approach disrupts the pulsatile blood flow to the femoral head. Whether this is play a role in the fracture risk following RTHA has to been investigated in a larger series of patients.

Little C P, Ruiz A L, Harding I J, McLardy-Smith P, Gundle R, Murray D W, Athanasou N A. Osteonecrosis in retrieved femoral heads after failed resurfacing arthroplasty of the hip. *J Bone Joint Surg Br* 2005; (87): 320-323.

Effect of lateral positioning on pelvis tilt in total hip arthroplasty (THA)

*Niels Bjørn, Per Kjærsgaard-Andersen, Thomas Skjødt,
Søren Overgaard*

Department of Orthopaedic Surgery, Vejle Sygehus, OUH,
Clinical Institute, University of Southern Denmark, Denmark

INTRODUCTION: Cup positioning in THA relies on pelvis orientation at the time of cup insertion during surgery. The aim of the present study was to evaluate whether neutral pelvis orientation was achieved immediately following patient positioning and maintained until cup insertion.

MATERIAL AND METHODS: Our study was designed as a prospective cohort study involving 26 THA patients. 2 peroperative x-rays were taken during surgery: one after lateral positioning on the table, and one before cup insertion. Pelvis inclination was measured by a line between the two inferior edges of tubera ischiadici, the angle between this and a horizontal line gives the inclination. To measure rotation around the vertical axis we used Tönis' foramen obturatorium index (FOI). All measuring was performed using PACS computerized x-ray technologies. Data are presented as mean values with range in brackets

RESULTS: Pelvis inclination after patient positioning was 4.8 degrees (0.1 degrees tilt in caudal direction to 11 degrees cranial). 96% of the pelvis' tilted in cranially with inclination of 5 degrees(0,2-11,3 degrees). Before insertion of the cup 85% tilted into more neutral position with an inclination of 3.7 degrees (7.7 degrees caudal - 8.6 degrees cranial). After patient positioning FOI was 0,87(0,33-1,86). 77% were rotated towards anteversion of the pelvis. Prior to cup insertion, 58%(15 patients) is rotated towards anteversion, mean value 0,85(0,43-0,98). ($p < 0.05$) There was no statistically significant correlation of age, weight, height or BMI on changes in position.

CONCLUSION: In general pelvic inclination was very close to the expected with small changes in position during surgery, whereas pelvis rotation, important for cup anteversion, changed significantly towards less anteversion of the pelvis.

Radiation exposure to the orthopaedic surgeon during periacetabular osteotomy

Inger Mechlenburg, Henrik Daugaard, Kjeld Soballe

Department of Orthopaedics, University Hospital of Aarhus, Denmark

INTRODUCTION: Orthopaedic surgeons are exposed to ionising radiation during intraoperative fluoroscopy at procedures such as periacetabular osteotomy (PAO). PAO is performed by only few surgeons and at our institution the same surgeon performs approximately eighty such operations per year. The purpose of this study was to directly measure the radiation exposure to the orthopaedic surgeon and to measure dose points to surgeon's hands, thyroid gland and glabella during intraoperative fluoroscopy.

MATERIAL AND METHODS: In a series of twenty three consecutive PAO procedures, exposure monitoring was carried out using thermo luminescent dosimeters. The dosimeters were secured to the operating surgeon's index fingers above and under the lead gloves, the glabella and the thyroid gland above and under the lead collar. Furthermore, a personal dosimeter was carried on the chest under the lead apron. Mean operation time was 69 min. and mean exposure time was 37 sec.

RESULTS: The effective dose received by the operating surgeon was 0.008 mSv per operation which adds up to a yearly dose of 0.64 mSv from PAO. The median point dose (mGy) exposure under PAO is shown in the table. The exposure to the thyroid gland was significantly reduced by the collar ($p < 0.001$) while the exposure to the surgeon's hands was not reduced by wearing lead gloves.

	Glabella	Thyroid	Thyroid collar	Right hand	Right glove	Left hand	Left glove
Median	.009	.009	.023	.045	.032	.039	.031
Minimum	.000	.000	.000	.007	.010	.013	.011
Maximum	.057	.059	.087	.142	.231	.141	.167

CONCLUSION: The effective estimated yearly dose received by the operating surgeon was very low (comparable to half the dose of 1 hip x-ray) and this low dose is explained by the short exposure time. Wearing a lead collar reduces radiation exposure to the thyroid gland while the lead gloves do not protect the surgeon's hands.

MØDER I FORBINDELSE MED ÅRSMØDET 2007

Dansk Ortopædisk Traume Selskab Efterårsmøde 2007

**DOTS generalforsamling
torsdag den 25. oktober 2007, kl. 10:00 - 12:00**

1. Valg af dirigent og referent
2. Godkendelse af referat fra sidste møde.
3. Formandens beretning.
4. Indkomne forslag.
 - a. Specialeplanlægning. Referat af møde med DOS bestyrelse 25/9-2007
 - b. Forslag til symposier.
 - c. Forslag til Guildal forelæser 2010.
 - d. Fagområde beskrivelse traume.
 - e. Bestyrelsesmøde jan 2008.
5. Fremlæggelse af regnskab.
6. Evt. fastsættelse af kontingent.
7. Valg til bestyrelsen.
8. Eventuelt.

DFAS-møde

Torsdag den 25. oktober 2007

Kl. 10:00 - 11:00

Wolfgang Wenz fra Heidelberg fortæller om:
“Correction of severe foot deformities using soft tissue procedures”

Kl. 11:10 - 12:00 Generalforsamling i DFAS:

Dagsorden

Valg af dirigent

Formandens beretning

DSHK

Dansk Selskab for Hofte- og Knæalloplastikkirurgi

DSHK Symposium
25. oktober 2007 kl. 09:30 - 12:00
Radisson SAS Scandinavia Hotel, København

Program

- Moderator: *Jens-Erik Varmarken*
09.30-10.00 Årsrapport fra DHR ved *Søren Overgaard*
10.00-10.20 Årsrapport fra DKR ved *Bjarne Lund*

Pause

10.30-12.00 Ledbevarende hoftekirurgi:

Femoroacetabular impingement

Arrangør: *Kjeld Søballe og Anders Troelsen*

Moderator: *Jens-Erik Varmarken*

Patoanatomi, impingementtyper og labrumlæsion.
ved *Anders Troelsen* 20 min

Slidgigtskaskaden og epidemiologi.
ved *Steffen Jacobsen* 20 min

Artroskopisk kirurgisk behandling.
ved *Bent Lund* 20 min

Klinik, udredning, henvisning og åben kirurgisk
behandling.
ved *Kjeld Søballe* 20 min

Spørgsmål og diskussion 10 min

Jens-Erik Varmarken, Formand DSHK



DANSK SELSKAB FOR ARTROSKOPISK
KIRUGI OG SPORTSTRAUMATOLOGI

Dansk Selskab for Artroskopisk Kirurgi og Sportstraumatologi

Efterårsmøde

25. oktober 2007 kl. 10.30 - 12.30

I forbindelse med DOS-mødet

Emne: "Achillesene tendinopati"

10.30-10.45: STATUS ACL-DATABASE

Overlæge Martin Lind

10.45-12.00: ACHILLES TENDINOPATI: Current concept

Udredning, konservativ og kirurgisk behandling.
v. Professor i Idrætsmedicin Håkan Alfredson

12.00-12.30: ACHILLES - GUIDELINES

Overlæge Lars Konradsen

Bestyrelsen i SAKS



Dansk Selskab for Håndkirurgi

Møde i forbindelse med årsmødet i DOS
torsdag 25.10.2007 09:00 - 12:00

Håndens tumorer

Program:

- 09.00-09:30 Udredning af tumorer i hånden
Overlæge Michael Mørk Petersen
Overlæge Pernille Leicht
- 09:30-10:00 Benigne tumorer
Overlæge Niels Sørensen
Afdelingslæge Michael Ulrich Winter
- 10:00-10:30 Maligne tumorer
Overlæge Michael Mørk Petersen
Overlæge Pernille Leicht
- 10:30-11:00 Kaffepause
- 11:00-12.00 Frie foredrag

Abstracts til frie foredrag skal fremsendes til Henrik Schrøder på flg.

E-mail adresse:

henrik.schroeder@dadlnet.dk senest 4.10.2007



Generalforsamling i Dansk Selskab for Håndkirurgi

afholdes onsdag 24.10.2007 kl. 18:00

Sted: Rigshospitalet, auditoriet på ortopædkirurgisk kontorafsnit
2161/2162 (opgang 2, 16. etage)

Dagsorden i henhold til vedtægterne.

Der vil blive arrangeret spisning efter generalforsamlingen for
evt. interesserede.

Pernille Leicht
Dansk Selskab for Håndkirugi

Symposium om behandling af proksimale humerusfrakturer

Onsdag 24. oktober 2007, 9:30 - 16:00

Formål

En kritisk gennemgang af behandlingsmulighederne ved proksimale humerusfrakturer.

Der er afsat god tid til diskussion af behandlingsprincipper, operationsteknikker og medbragte cases. Vi håber på aktiv deltagelse!

Sted: Radisson SAS Scandinavia Hotel, København S.

- 09.30-11.00 Indledning. *Hans Viggo Johannsen, Kjeld Hougaard*
Anatomi og biomekanik. *Finn Bojsen-Møller*
Historik, radiologisk udredning. *Stig Brorson*
Frakturklassifikationer. *Stig Brorson & Lars Henrik Frich*
Epidemiologi. *Søren W Rasmussen*
Diskussion; udredning og klassifikationssystemer
- 11.00-11.15 Kaffe
- 11.15-12.00 Rehabiliteringsprincipper. *John Jakobsen*
Konservativ behandling og rehabilitering. *Michael Krogs-
gaard*
Diskussion; Hvilke patienter/frakturtyper bør behandles
konservativt
Valgus impacted. *Lars Henrik Frich*
- 12.00-13.00 Frokost
- 13.00-14.30 Helix wire. *Suhab Ali Khan*
Haukeland pinns. *John Jakobsen*
Marvsøm. *Kjeld Andersen*
RCT skinner. *Martin Rathcke*
Skinneosteosyntese m vinkelstabile skruer. *Steen Bo
Kalms*

Skinneosteosyntese m vinkelstabile skruer. Cases. *Kjeld Andersen*
Hemialloplastik. *Hans Viggo Johannsen & Anne Katrine B Sørensen*
Hemialloplastik – data fra det nationale alloplastikregister. *John Jakobsen*
Diskussion & case præsentation

14.30-15.00 Kaffe

15.00-16.00 Patientforsikringen. Principper og praksis. *Michael Krogsgaard*
Diskussion af cases.
Fælles projekter?

Organisation

Dansk Selskab for Skulder- og Albuekirurgi; *Lars Henrik Frich, Hans Viggo Johannsen*
Dansk Traumatologisk selskab; *Kjeld Hougaard*

Tilmelding

Deltagelse er gratis idet udgifterne afholdes af DOS. Frokost er for egen regning.

Husk venligst tilmelding aht kaffe mm - per mail mærket "DOS symposium PHF" til cholm@as.aaa.dk - anfør venligst navn.

Vel mødt. Hans Viggo Johannsen



Håndkirurgisk dissektionskursus

Mandag den 17. og tirsdag den 18. december 2007.

**Panum Institutet, Anatomisk Sektion, Københavns Universitet,
Blegdamsvej 3, 2200 København N.**

Kurset afholdes for 12. 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, lektor, dr.med. Finn Bojsen-Møller, professor, dr.med. Lars Dahlin og operationssygeplejerske Nina Vendel.

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. Mandag 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: 16-18 deltagere fra Danmark og Sverige.

Akkreditering: DK 12 CME-point, SE 10 CME-point

Kursusafgift: 3.775,00 DKK.

Tilmelding: Dette års kursus er på nuværende tidspunkt overtegnet. Der er mulighed for at blive noteret på venteliste via hjemmeside:

www.handdissection.dk

Med venlig hilsen

Niels Søe, overlæge
Håndkirurgisk afsnit T-1
Gentofte Hospital
tlf: +45 3977 3962
e-mail: nini@geh.regionh.dk

Finn Bojsen-Møller, lektor, dr.med.
Panum Institutet
Københavns Universitet
e-mail: f.moller@mai.ku.dk

Lars Dahlin, professor, dr.med.
Håndkirurgisk afdeling
Malmø
e-mail: lars.dahlin@hand.mas.lu.se

Nina Vendel, operations- og
forskningssygeplejerske
Ortopædkirurgisk
afdeling T
e-mail: nina@handdissection.dk



Fagforum for Idrætsfysioterapi

Fod, ankel og løbestilskursus

Dansk Idrætsmedicinsk selskab (DIMS) og Fagforum for Idrætsfysioterapi (FFI) inviterer til kursus.

Fokus på fodens funktionelle anatomi med stødabsorption, overbelastningsskader, skadesforekomst, traumer, løbets biodynamik, løbestilsanalyse med video, undersøgelsesteknik af fod. Fodens biomekaniske betydning for knæ-, og hofted, forfodssmerter samt behandling af fodens belastningsskader og den instabile ankel. Løbefysiologi og ernæring, psykologi.

Målgruppe: DIMS medlemmer, ortopæder, læger, der arbejder med idrætsmedicin, børnelæger, almen praktiserende. Fysioterapeuter, der er medlem af FFI og fysioterapeuter, der i øvrigt arbejder med idrætsfysioterapi.

Målsætning: Øget kendskab til anatomi, biomekanik og overbelastningsskader, relevante differentialdiagnoser og løbestilsanalyse.

Kursusform: 2 dages eksternatkursus som en kombination af teori og praktiske øvelser.

CME Points: 10 CME points i DIMS regi.

Tid og sted: Aalborg d. 10. og 11. januar 2008, Forskningens Hus, auditoriet, Aalborg Sygehus, Sdr. Skovvej 15, 9000 Aalborg.

Kursusleder/underviserer: Kursusledere: Søren Kaalund og Marianne Nygaard.

Undervisere: Ressourcepersoner inden for området.

Pris: 2300 kr. for medlemmer og 2700 kr. for ikke medlemmer. Frokost, kaffe inklusive. Socialt aftenarrangement.

Tilmelding: Senest d. 12. december 2007. Send e-mail med navn, adresse og eventuelt medlemskab af DIMS til kursussekretær Charlotte Blomberg, e-mail: jenoe@get2net.dk. Du kan også tilmelde dig via DIMS hjemmeside www.sportsmedicin.dk under kurser (det røde link i øverste højre hjørne). Betaling ved tilmelding på BG bank reg. 1551 konto-nr. 16023337. Først tilmeldte har fortrinsret og vær opmærksom på, at tilmeldingen først gælder, når kursusafgiften er betalt. Husk ved betaling at anføre dit navn og navnet på kurset.

Arrangør: Dansk Idrætsmedicinsk Selskab (DIMS), Fagforum for Idrætsfysioterapi (FFI).

Ortopædkirurgiske Infektioner

Temadag d. 24. januar 2008 i Rigshospitalets auditorium 1

**Dansk Selskab for Infektionsmedicin,
Dansk Selskab for Klinisk Mikrobiologi og
Dansk Ortopædisk Selskab**

Program

09:30-10:00 **Registrering, kaffe**

10:00-10:15 **Velkomst, interaktive spørgsmål**

10:15-12:00 **Diagnostik af ortopædkirurgiske infektioner**

Mikrobiologisk diagnostik – konventionel vs.
molekylærbiologisk diagnostik,
Claus Moser, KMA, Rigshospitalet

Billeddiagnostik,
Anne Grethe Jurik, Radiologisk Afd., Århus Sygehus

Klinisk Fysiologi,
Andreas Kjær, Klinisk Fysiologisk Afd, Rigshospitalet

Forekomsten af proteseinfektioner bedømt ud fra det danske hofteregister,
*Søren Overgaard, ortopædkirurgisk afdeling,
Odense Universitetshospital*

12:00-12:45 **Frokost med posterpræsentationer**

12:45-13:45 **Key note lecture:**

Orthopaedic prosthetic joint infections
Werner Zimmerli, Basel

13:45-14:30 **Danske erfaringer med ortopædkirurgiske infektioner**

Antibiotikastrategi, antibiotikaproylaks, lokalbehandling
baseret på resistensmønstre hos danske bakterier,
Jørgen Kurtzhals, KMA, Rigshospitalet

Kirurgisk håndtering af proteseinfektioner

Knæalloplastikker

*Henrik M Schröder, Ortopædkirurgisk Klinik,
Rigshospitalet*

Hoftealloplastikker

*Ole Ovesen, ortopædkirurgisk afdeling,
Odense Universitetshospital*

14:30-15:00 **Kaffe**

15:00-15:45 **Andre infektionsproblemer i ortopædkirurgien**

Spondylitis

*Jan Gerstoft og Benny Dahl, Infektionsmedicinsk
og Ortopædkirurgisk Klinik, Rigshospitalet*

Nekrotiserende fasciit og andre svære bløddelsinfektioner
herunder hyperbar iltbehandling

Finn Warburg, TraumeCentret, Rigshospitalet

15:45-16:00 **Interaktive spørgsmål post, afslutning**

Tilmelding: dorte.schioedt@rh.regionh.dk

Evt. gebyr: Annonceres i næste Bulletin samt på hjemmesiden

Spørgsmål: Henrik M Schröder på mail:
henrik.schroeder@rh.regionh.dk

Referenceprogram for knæartrose

Sundhedsstyrelsen har nu udgivet et tværfagligt referenceprogram vedr. knæartrose, som dækker billeddiagnostik, non-farmakologisk og farmakologisk behandling, kirurgi, profylakse og økonomi.

Undertegnede har skrevet om ortopædkirurgi, og har efter bedste evne besvaret i alt 9 fokuserede spørgsmål ud fra den foreliggende evidens. De kirurgi-relaterede emner, der diskuteres i referenceprogrammet, er:

- artroskopisk oprensning
- korrigerende osteotomi
- knæalloplastik

Inden for hvert emne er der nået anbefalinger baseret på den foreliggende evidens.

Programmet kan ses på/downloades fra: www.sst.dk

Der er link på DOS og DSHK's hjemmesider.

Anders Odgaard og Henrik M Schrøder



NOF – Nordic Orthopaedic Federation

54th Nordic Orthopaedic Federation Congress, NOF afholdes

11 - 13 juni 2008

Amsterdam, Holland

Deadline for indsendelse af abstracts: 8. januar 2008

Tilmelding til kongressen kan ske fra 1. september 2007 til 1. april 2008.

Yderligere information kan indhentes på NOF's hjemmeside:
www.nof2008.org

9th EFORT Congress

29 May - 1 June 2008, Nice, France

The scientific programme includes symposia and instructional Course lectures delivered by distinguished speakers from all across Europe, free papers, e-posters, workshops, controversy case discussions, meet the expert sessions (ExMex) and industry exhibits. **The highlights of this all-round scientific programme** are the following topics:

- The Complex Arthroplasty
- Osteoporosis and Fragility Fractures
- Inflammation
- Trauma
- The difficult Spine
- Paediatric Update in Orthopaedics
- The Foot: New developments

As mentioned above, as a component of the scientific programme, **we will innovate in Nice six different “ExMEEx” (Expert Meets Expert) sessions** to topics such as

- Spine Fixation techniques
- Fragility Fractures
- The New Arthroplasties
- Mid and hind Foot Arthrosis
- Fractures in Children: tricks and hints
- Upper Extremity

Please remember the upcoming Abstract submission deadline for free papers and posters: 15th September 2007!

On our website: www.effort.org you can:

- **Sign up for this congress** (as of August 15th)
- **Submit your abstracts**
- **Find more information about the Congress and EFFORT Instructional Courses**

We look forward to welcoming you to Nice in May 2008!

*For the EFFORT Executive Committee
Prof. Karl-Göran Thorngren*

*For the Local Organizing Committee
Prof Therry Bégué*

**VI International
course in
Arthroplasties**

Barcelona, 8 - 11 April 2008

Directed by: Antonio Navarro Quilis

www.artoplastias.com

Organizing secretariat:

Active Congress

Rda. Gral. Mitre 17, Entlo. 4a

08017 Barcelona

Tel. +34 93 205 09 71

Fax +34 93 205 38 52

e-mail: info@activecongress.es

Scientific secretariat:

Hospital Universitario

Vall d'Hebron Srta. Anna (2a planta)

Pso. Vall d'Hebron

119-129-08035 Barcelona

Tel. +34 93 489 34 80

Fax. +34 93 489 34 12

e-mail: anavarroo@vhebron.net

The 5th International Baltic Congress of Sports Medicine (BASM) 2007, will take place in Vilnius, Lithuania

After the summer holiday then the new job starts and old one continues on behalf of the Lithuanian Sports Medicine Federation we would like to invite you to the **5th International Baltic Congress of Sports Medicine (BASM) 2007**, which will take place in **Vilnius, Lithuania, on December 7 - 8th**.

The objective of the Congress is to present up-to-date clinical and scientific information that will help advancing your clinical practice and patient care skills. During the **BASM plenary lectures, oral presentations and poster sessions** we hope to provide a broad range of topics and permit a fine balance between the theoretical and practical information.

Main topics of the Congress are:

- Sport Trauma
- Rehabilitation
- Sport and Health Disorders
- Sport and Heart
- Sport Biomechanics
- Sport Physiology
- Sport, Genetic and Psychology
- Sport, Genetic and Psychology
- Sport, Nutrition and Immunology
- Movement and Health

In between and after the lectures and sessions we hope that you will also take time to enjoy social program and some of Vilnius unsurpassed attractions.

For more information about the Congress please visit:

www.basm2007.com

You will be able to **register** and **submit your abstract on-line** at this website.

Please note that deadline for Abstract Submission and Early Registration is 1 of October!

If you have any questions or comments, do not hesitate to contact us.

Please accept our apologies if this information is irrelevant to you. We kindly ask you to forward it to your colleagues who might be interested in participating.

Sincerely,

***BASM Congress Secretariat
Agne Ambrazeviciute***