

DOS BULLETIN



NR. 3

APRIL 2007

36. ÅRGANG

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Betingelser for optagelse i DOS

Alle læger med dansk autorisation kan optages i Dansk Ortopædisk Selskab. Anmodning om indmeldelse skal ske skriftligt eller via DOS's hjemmeside www.ortopaedi.dk, anmodningen skal stiles til bestyrelsen og indsendes sammen med oplysninger om personlige data til sekretæren Bjarne Møller-Madsen.

DOS-Bulletin

Udgiver

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DEADLINES FOR NÆSTE BULLETIN

ANNONCER: Fredag den 3. maj 2007

TEKST: Fredag den 18. maj 2007



DOS Forårsmøde 2007

10. - 11. maj

**Radisson SAS Scandinavia Hotel, Århus
Scandinavian Center, Århus
Margrethepladsen 1, 8000 Århus C**

Ortopædkirurgisk afdeling, Århus Sygehus, glæder sig til i samarbejde med DOS' bestyrelse at kunne byde deltagerne og ledsagere velkommen til DOS Forårsmøde 2007 i Århus.

Vi ser frem til gode dage med et spændende, videnskabeligt program, udstillinger samt socialt samvær centreret i et forårsklædt Århus.

Afdelingen vil være med til at sikre de gode rammer og glæder sig til at se jer alle til nogle hyggelige dage.

Mødet afholdes i Scandinavian Center midt i Århus med naboskab til Aros museet og klods op ad et bycenter, der rummer mange kulturelle muligheder. For at koncentrere midlerne omkring kongressen, vil vi derfor afstå fra at arrangere ledsagertur.

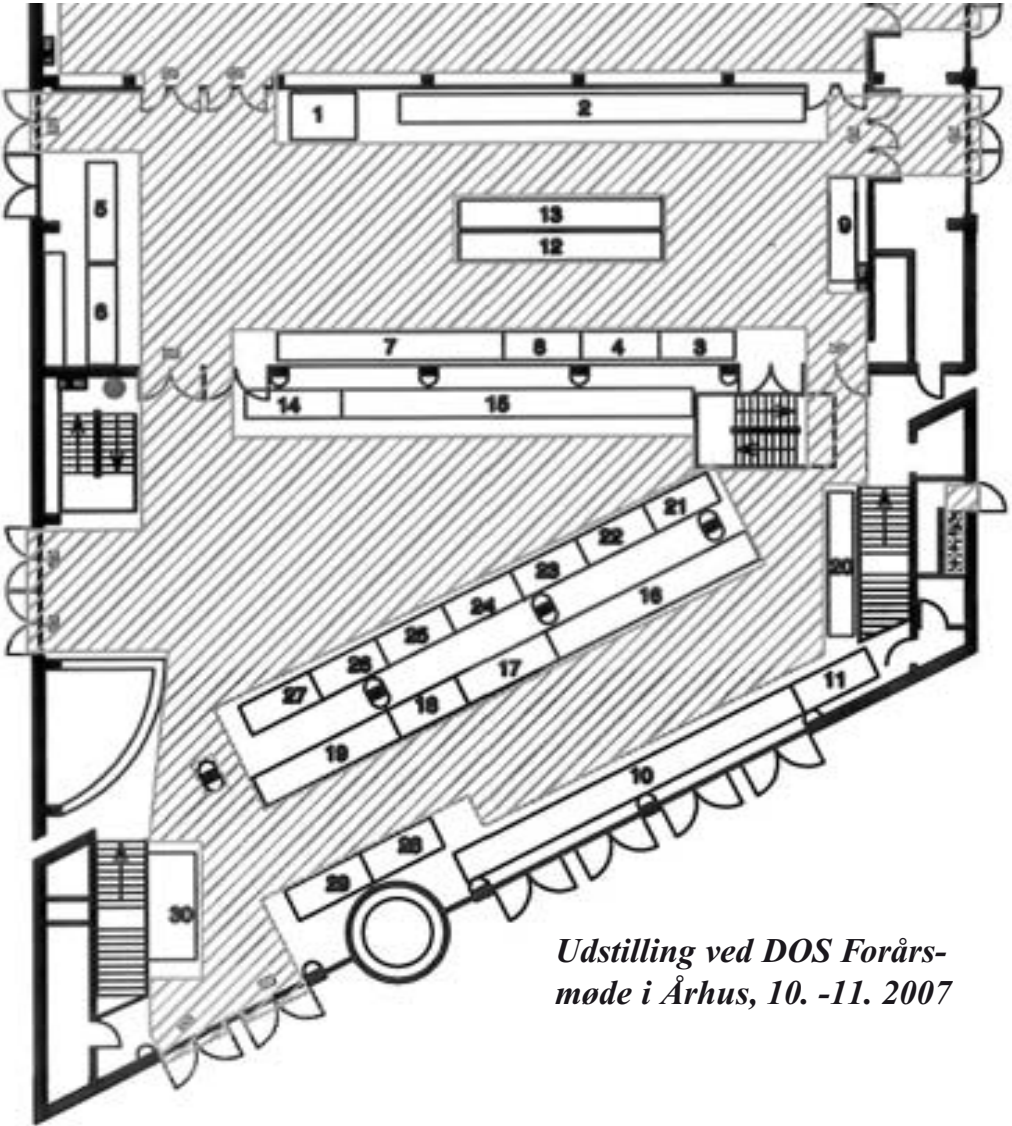
På gensyn

***Ortopædkirurgisk afdeling
Frank Farsø Nielsen***

Udstillere

<i>Firma</i>	<i>Areal</i>	<i>Stand nr.</i>
Allergan	1 x 3	8
Biomet Danmark ApS	1 x 14 m	15
B. Braun / Aesculap	1 x 4 m	9
Creamer Medical	1 x 3 m	11
dj Orthopedics Norden A/S	1 x 4 m	17
Ferdinand Medical	1 x 3 m	22
Fischer Medical ApS	1 x 3 m	27
GlaxoSmithKline Pharma A/S	2 x 3 m	1
Hemax Medical ApS	1 x 3 m	4
KEBOMED A/S	1 x 4 m	14
Medtronic Danmark A/S	1 x 3 m	26
Mærsk-Andersen as	1 x 3 m	18
N.C. Nielsen Hospitalsudstyr A/S	1 x 3 m	30
Nordic Medical Supply A/S	1 x 15 m	10
Norpharma a/s	1 x 3 m	25
Olympus Danmark A/S	1 x 3 m	3
Ortoconcept Scandinavia	1 x 6 m	20
Ortotech	1 x 8 m	12
Osmedic ApS	1 x 4 m	6
Pfizer ApS	1 x 3 m	23
Proteskompagniet	1 x 16 m	2
sanofi-aventis Denmark	1 x 3 m	28
Scandinavian Customized Prosthesis	1 x 3 m	24
Sectra Danmark A/S	1 x 3 m	29
Smith & Nephew A/S	1 x 9 m	7
Sports Pharma Ortosupport ApS	1 x 3 m	21
Stryker Danmark	1 x 9 m	16
Swemac Orthopaedics AB	1 x 6 m	19
Synthes A/S	1 x 8 m	13
Viking Medical Scandinavia ApS	1 x 6 m	5

Udstilling



Udstilling ved DOS Forårsmøde i Århus, 10. -11. 2007

Dansk Ortopædisk Selskabs Forårsmøde 10 - 11 maj 2007

Mødeoversigt

Torsdag 10.05.07

Room A	Room B
12:00 - 13:00 Frokost	
13:00 - 14:00 Ryg foredrag Chairmen: Lars Nimb og Kristian Høy	13:00 - 14:00 Overekstremitet - foredrag Chairmen: Janne Ovesen og Ole Søbjerg
14:00 - 15:00 Kaffe og Udstilling	
15:00 - 17:00 Generalforsamling	
19:00 - ? Galla middag	

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

Påklædning: Smoking eller mørk tøj.

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

Frokostbilletterne skal afleveres til betjeningen.

Mødeoversigt

Fredag 11.05.07

Room A	Room B
09:00 - 10:30 SAKS Symposium	09:00 - 10:30 Ortopædkir. grundforskning <i>Chairmen: Ebbe Stender Hansen og Benny Dahl</i>
10:30 - 11:30 Kaffe og Udstilling	
11:30 - 12:30 DOS – Honorary Lecture: <i>Prof. Stefan Lohmander, Lund:</i> „Perspectives in Articular Cartilage Degeneration and Repair“	
12:30 - 13:30 Frokost	
13:30 - 14:30 Posters: <i>Chairmen: Sajida Afzal og Bo Sanderhoff Olsen</i> Uddelinger fra DOS-fonden Poster prisen - uddeling	
14:30 - 15:30 Kaffe og Udstilling	
15:30 - 16:30 Hoftekirurgi foredrag <i>Chairmen: Peter Lyndrup og Søren Kold</i>	15:30 - 16:30 Traumatologi <i>Chairmen: Marianne Breddam og Morten Schultz-Larsen</i>

Dansk Ortopædisk Selskabs Generalforsamling

Torsdag den 10. maj 2007 kl. 15:00

Der indkaldes hermed til Generalforsamling med følgende

DAGSORDEN

- 1) Valg af dirigent
- 2) Formandsberetning
DOS
Uddannelsesudvalget
- 3) Beretning fra Fagområderne
- 4) Valg
- 5) Kassererens beretning
 - a) Regnskab
 - b) Kontingent 06 - 07
- 6) Dansk Ortopædisk Selskabs Fond
 - a) Regnskab
- 7) Eventuelt

Bestyrelsen

Formandens beretning til generalforsamlingen i Dansk Ortopædisk Selskab den 10. maj 2007

1. april 2007

Efter generalforsamlingen 2006 kunne bestyrelsen byde Per Kjærsgaard-Andersen varmt velkommen som næstformand. Bestyrelsen må i år tage afsked med DOS Bulletin redaktør Michael Nielsen og vor sekretær Bjarne Møller-Madsen. De har været præcise, dygtige og innovative og har igennem 6 år gjort bestyrelsen til et dejligt sted at være. Bjarne fortsætter som generalsekretær i NOF, og vi glæder os til det fortsatte samarbejde.

Året har været mættet med vigtige opgaver ud over de ”daglige forretninger”: *NOF 2006 Oslo, EFORT, DOS Strategiplan, Regionsstruktur, akut beredskab, DRG systemet, dimensionering af speciallægeuddannelsen og specialeplanlægning*. En stor tak til hovedkursusleder Micael Haugegaard, der stopper efter mange års uegennyttigt arbejde. Han erstattes af overlæge Per Wagner Kristensen fra Vejle. DOS Fondens advokat Lett har ligeledes valgt at stoppe. Vi takker han for hans vigtige arbejde og gode råd. Bestyrelsen peger på hans kompagnon Artur Bugsgang som ny advokat.

I årets løb er følgende medlemmer afgang ved døden: overlæge John Gregor Pedersen og overlæge Erik Andersen. Æret være deres minde.

DOS ”daglige forretninger” er ganske betydelige og via funktionsbeskrivelser for de enkelte poster i bestyrelsen er forretningsgangen rationaliseret. Hjemmesiden er markant forstærket med indtrædelse af overlæge Klaus Hindsø som webmaster. Det videnskabelige input til vore møder er øget gennem de sidste år, der er stigende interesse fra industrien for at deltage, ligesom vi samtidig ønsker at forbedre DOS rolle som rekrutterings- og uddannelsesplatform for nye ortopæder. **Uddannelsesudvalget** har gennemført et successfuldt arbejde med Forum for uddannelsesansvarlige overlæger og workshops for prækursister på onsdagen før vore officielle

møder. **DOS Fonden** har doneret betydelige beløb 2 gange årligt. Det har været nødvendigt at stramme de praktiske rammer for uddelingerne jævnt før vor aktuelle generalforsamlings godkendelse og DOS Fonden vil fra efteråret yderligere donere midler til DOS fellowships efter annoncering i Bulletinen og på hjemmesiden. Der er naturligvis udfordringer i fremtiden, med EFORT som en aktuell potentiel konkurrent- et forhold bestyrelsen skal beklage i år, men placeringen af EFORT bestyrelsesmøder og generalforsamling i Firenze blev først kendt i de sidste måneder. DOS har haft forhandlinger med industrien vedr. fortsættelse af det gode samarbejde. Det er klart at møde-kollision svækker vore muligheder for at fastholde 2 årlige møder. Vore udstilingsfaciliteter uden for årsmødet er ligeledes genstand for kritik

NOF- 2006 Oslo.

En velbesøgt kongres, der indikerer en god opbakning til NOF i de nordiske lande og i Holland, som nu er medlem. Nyt medlem bliver sandsynligt Estland, som specielt vor afgående generalsekretær Olle Svensson har været fortaler for. Vi har valgt at se tiden an med hensyn til en anbefaling af inklusion af Det flamsktalende belgiske selskab, som ønsket af hollænderne. På generalforsamlingen valgtes Bjarne Møller Madsen som ny generalsekretær, og vi fik NOF til Danmark i 2010 med Kjeld Søballe som kongrespræsident.

Strategiplan:

Bestyrelsens rolle i Selskabet og DOS' rolle for medlemmerne, ortopædisk forskning, patienterne, subspecialerne og samfundet har været genstand for diskussion og revurderinger. Tankerne er samlet i en strategiplan, der lagt ud på DOS hjemmeside. Vi forestiller os en løbende debat med input fra medlemmer, uddannelsesudvalg og specielt fagområderne. Med den stigende subspecialisering har bestyrelsen fundet det nødvendigt at øge samarbejdet med fagområderne og vi har i år haft flere møder med diskussion af specialeplanlægning og DRG takster. I den forbindelse er det vigtigt, at fagområderne konstituerer sig stærkt for til tiden at kunne klare det betydelige krav, der stilles fra de centrale myndigheder. Justeringer kan ske med efterfølgende godkendelse på generalforsamlingen. Andre satsningsområder skal nævnes: Kommunikation til samfundet om Dansk Ortopædis fremskridt og vigtige holdninger i relation til sundhedspolitikken, nye medlemskaber iøvrigt.

DRG-udvalget:

Dette længst siddende udvalg har gjort et stort stykke arbejde gennem årene. Vi har ofte været frustrerede, når de nye DRG-takster kom og særligt i år, hvor bestyrelsen klagede til medicinaldirektøren over besynderlige takster, trods et grundig forarbejde af DRG udvalget. Undertegnede, næstformanden og Svend Østgård blev herefter inviteret til såkaldte kvalitetssikrings møder, der viste, hvorfor der er problemer med taksterne i Danmark. Det var forbløffende at se hvor spinkelt SST's baggrund er for fastsættelse af og håndtering af nye takster. Vi fik rettet de værste fejl med virkning fra 2008. Man satser på en gennemgang af systemet og håndtering af LL funktioner i 2008, således at systemet fremtoner ”logisk og intelligent” Det er vores opfattelse, at en revision af de ortopædiske DRG takster er tiltrængt, og at man bør stille mod ensartede scoringssystemer. Fremover vil fagområderne være nødvendige medspillere i denne proces, som vil løbe hvert år i januar – marts. Vore internatmøder med fagområderne vil kunne gribe fat i de uforståelige takster på dette tidspunkt. En særlig tak til Svend Østgaard for hans vedvarende bistand i håndteringen af dette vanskelige område.

Akutberedskabet:

Efter et grundigt forarbejde lancerede Sundhedsstyrelsen en ny plan for forbedring af akutberedskabet. Forud var der gået en periode, hvor specielt DADL havde fremført kritik af den nuværende skadestuebehandling, med forslag om nye visitationsprincipper og ny ledelse af skadesbehandlingen. Som en kvalitetsudvikling på området afholdt vi et symposium vedr. multitraumebehandling på forårsmødet i Odense, og forud havde et tværfagligt udvalg under Kirurgisk Forum med DOS Traumeselskab v/ Kjeld Hougaard i spidsen forfattet en rapport vedr. håndtering af den svært tilskadekomne patient. Rapporten er nu tilgængelig på DOS-hjemmeside. Bestyrelsen følte det yderligere nødvendigt at oprette på området via nedsættelse af et ad hoc ekspertgruppe bestående af Claus Falck Larsen, Dieter Røck; Bent Erling Lindblad, Svend Østgård og Leif Berner Hansen. Udvalget var repræsenteret i Sundhedsstyrelsens arbejdsgruppe vedr. akutberedskabet. Vi responderede til SST, at DOS fortsat ønsker at deltage i udvikling på akutområdet og i de pågående uddannelsesaktiviteter.

Overordnet kunne vi anbefale at den primære visitation sker i primær-

sektoren, at behandlingen af akutte medicinske patienter, der ikke kan håndteres af primærsektoren varetages af det internt medicinske speciale. Den primære behandling af akut tilskadekomne, der ikke kan håndteres af primærsektoren, sker i skadestuer i ortopædisk regi. Det findes vigtigt, at der fortsat pågår en tæt tværfaglig dialog med det anæstesiologiske speciale. Vi ønsker at være med i ledelsen af de nye enstrengede modtage enheder.

I forbindelse med reorganisering af akutområdet i regionerne skal vi passe på ikke at sælge det ortopædiske arvesølv. Der er store uddannelsesmæssige resurser knyttet til akutområdet, ligesom vor målbeskrivelse fastsætter vor forankring i området.

Der er dog behov for en yderligere begrebsafklaring vedr. kategorisering og differentiering af håndteringen af den akutte patient.

Reorganiseringen af traumeområdet i Danmark med oprettelse af level 1 og level 2 traumecentre er også fulgt tæt. Som bestyrelse har vi ikke blandet os i debatten, hvor lokale forhold fordrer forskellige holdninger. Bestyrelsen er enige med Sundhedsstyrelsen i ønsket om et forbedret grundlag for behandlingen af den enkelte traumepatient. Vi har samtidig tilrådet en fastholdelse af 4 uddannelsessteder for traumebehandling i Danmark på vore universitetshospitaler.

Høring vedr. dimensionering af den ortopædiske speciallægeuddannelse 2008-2012

Med den ændrede befolknings sammensætning med hensyn til stigende alder, den ændrede aldersprofil af uddannede ortopæder, der også bliver ældre, har vi peget på en øgning af antallet af ortopædiske kursusstillinger. DOS bestyrelse anbefaler at antallet af uddannelsesstillinger i ortopædisk kirurgi øges fra de nuværende 33 til 40 stillinger per år fra 2008 til 2012 ud fra ovennævnte argumenter med især den øgede frekvens af ældre i befolkningen, det store efterslæb, alderssammensætningen af nuværende ortopædkirurger og ønsket om en maksimeret kompetence hos erhvervsaktive ortopæder. Sundhedsstyrelsen har offentliggjort hørings svarene på hjemmesiden:

<http://www.sst.dk/Uddannelse/Laeger/Prognose.asp?lang=da> .

SST har efterfølgende anbefalet en stigningstakt i antallet af uddannel-

sesstillinger, der er ca 13% per år (38 uddannelsesstillinger i 2008. Vi påregner en fornyet henvendelse vedr. vort høringsvar.

Specialeplanlægning

Den nok største udfordring for DOS som fagligt selskab i øjeblikket ligger i SST's store flagskib "specialeplanlægning". Alle specialer skal gennemgås. Dansk Medicinsk Selskab har udpeget 4 repræsentanter til en arbejdsgruppe i SST. Gruppen skal dække alle specialer. Arbejdet er i gang. Dansk Kirurgisk Selskab er i forhandling i øjeblikket, mens DOS skal gennemgås i efteråret 2007/foråret 2008. I forbindelse med definition af udlands-, universitets-, regional- og basisbehandling ønsker man kvalitetsmarkører og beskrivelse af typiske behandlinger for alle ortopediske subspecialer for at kunne beskrive det fremtidige sundhedssystem. DOS har afholdt flere møder med specialselskaberne og koordineret informationerne, således vi forhåbentlig får en brugbar beskrivelse af specialet til SST. Specialeselskaberne skal melde tilbage til DOS den 15/5-2007 efter forårsmødet, hvor de forventes at have opnået bedst mulig enighed. Bestyrelsen vil afstemme sit forarbejde efter Dansk Kirurgisk Selskabs erfaringer.

Samarbejdet med DKS i Kirurgisk Forum har været godt i det forløbne år, og man skal henvise til DKS hjemmeside med henblik på evt. deltagelse i uddannelsesaktiviteter i foråret og jubilæumsmøde i november 2007.

Bestyrelsen ser med spænding frem til det næste år med store udfordringer i relation til Specialeplanlægning og EFORT, hvor vi har lagt billet ind på en bestyrelsespost (PKA), og et værtskab for EFORT kongressen i 2011 i Bella Centret. Samtidig er vi bekymrede over EFORT's sidste udspil med årlige storkongresser, der vil være en trussel for nationale og regionale selskabers mødeaktivitet, herunder NOF.

Cody Bünger

Formandens skriftlige beretning

**Uddannelsesudvalget, Dansk Ortopædisk Selskab
Generalforsamlingen d. 10. maj 2007, Aarhus**

Efter generalforsamlingen i 2006 måtte uddannelsesudvalget sige farvel til Søren Overgaard, som med stor flid, engagement og indsigt har arbejdet for udvalget i 7 år, heraf de sidste 4 år som formand. Ligeledes stoppede Claus Hjorth Jensen efter 6 år i udvalget med hovedvægten på arbejdet med CME/UEMS. Claus' evne til at se de skæve vinkler på tingene og hans til tider løjerlige humor har foruden det store arbejde han har lagt i udvalget bidraget til at bibeholde og forøge dynamikken i udvalget. Tak for jeres tid i udvalget. I vil blive savnet.

Nyvalgte i udvalget er Thomas Lind, som har E-kurser og Forum for uddannelsesansvarlige overlæger som ansvarsområde og Niels Wisbech, som har de specialespecifikke kurser (tidligere A-kurser) som ansvarsområde. I har på meget kort tid skabt jer indsigt og kompetencer indenfor jeres arbejdsområder og taget initiativer til forbedringer. Så godt begyndt kan det næsten kun blive fuldendt. Stort velkommen til jer.

I 2006 gennemførte vi for første gang den nye kursusrække, hvor de specialespecifikke kurser er knyttet tættere på fagområderne med det formål, at der dels for kursisterne er en klarere sammenhæng mellem målbekrivelsernes inddeling i fagområder og de dertil knyttede kurser, og dels er det et signal til fagområderne om at kurserne i tiltagende grad er et joint venture mellem det enkelte fagområde og uddannelsesudvalget. Fagområderne er ansvarlige for kursernes indhold under hensynstagen til de i målbeskrivelsen definerede kompetencer, og desuden tages fagområderne med på råd i forbindelse med udpegningen af delkursusledere. De tilbagemeldinger vi har fået fra fagområderne og kursisterne tyder på, at den nye kursusrække er en succes og vi takker fagområderne for deres engagement og delkursuslederne for deres store arbejde:

Hofte- og knækirurgi: Steffen Jacobsen/Stig Sonne-Holm.

Børneortopædi: Klaus Hindsø.

Rygkirurgi: Karsten Thomsen.

Omkologi og tumor: Johnny Keller.

Håndkirurgi: Henrik Schrøder.

Statistik: Jens Lauritsen.
Fod-og ankelkirurgi: Preben Lass.
Traumatologi: Henrik Grønborg.
Skulder- og albuekirurgi: Jens Ole Søjbjerg.
Idrætstraumatologi: Michael Krogsgaard.
Færdighedskurser: Ebbe Stender Hansen.

I efteråret 2006 afholdt vi for anden gang work-shops for de helt unge kolleger i forbindelse med Årsmødet. Formålet med disse work-shops har været rekruttering af yngre læger til vores speciale, og da de både har været velbesøgte og fået gode evalueringer, vælger vi indtil videre at gøre disse work-shops til en fast del af Årsmøderne, og seniøre kolleger opfordres til at stimulere deres helt unge kolleger til at deltage. Det er jo i vores alles interesse, at de kommende ortopæder, som en dag skal behandle vores collum femoris frakturer har så høj en kvalitet som muligt. For fremtiden ligger ansvaret for afviklingen af work-shops hos kursistrepræsentanten og hovedkursuslederen i uddannelsesudvalget. Tak til Marianne Lind som sammen med Micael Haugegaard var tovholder i 2006, og tak til industrien som stillede op og hjalp de unge kolleger og også tak til oplægsholderne som helt gratis stillede op og delte ud af deres ekspertise.

Et andet nyere tiltag er Forum for uddannelsesansvarlige overlæger, som indtil videre har holdt to meget velbesøgte møder. Uddannelsesudvalgets formål med at oprette dette forum er, at den uddannelsesansvarlige overlæge er krumtappen i, at den nye uddannelsesreform implementeres i afdelingerne. Desværre har denne gruppe kolleger ikke altid de bedste arbejdsforhold: Ledelserne afsætter ikke altid tilstrækkelig megen tid til at løse opgaverne og visse kolleger, specielt af den lidt ældre generation har den holdning, at de ikke har nogen forpligtelse til at deltage i uddannelsen af de yngre kolleger. Men det skal slås fast, at uddannelse er et fælles ansvar som ingen kan frasige sig, og de uddannelsesansvarlige overlæger er helt centrale og uundværlige som ressourcepersoner. I den forbindelse skal lyde en opfordring til alle om at deltage i mødet ”Implementering af uddannelse i en produktionsvirksomhed”, som afholdes onsdag 9/5 kl.13-15.30 i forbindelse med Forårsmødet i Århus. Programmet ligger på hjemmesiden og er annonceret i Bulletinen.

Et emne som fylder meget overalt i øjeblikket er Sundhedsstyrelsens udmeldinger ift akutberedskaberne. Man beskriver en model, hvor de store specialer i vagten skal være repræsenteret med speciallæger i tilstedeværelsesvagt. I forhold til uddannelsen af ortopædkirurger vil det betyde, at kolleger i hoveduddannelse ikke som nu kan gå i bagvagt i den sidste del af uddannelsen.

Uddannelsesudvalgets holdning er, med afsæt i målbeskrivelsen som er godkendt af Sundhedsstyrelsen, at det må være et krav, at man i den sidste del af hoveduddannelsen kan gå i bagvagt. Kun ved at gå i bagvagt kan man ”få hår på brystet” i forhold til at være traumeleder og have ansvar for afviklingen af vagten. Hvordan den enkelte afdeling vælger at tackle problematikken ved f.eks. at dobbeltdække vagten og have en speciallæge til at sove på vagtværelse, når kollegaen i hoveduddannelse har bagvagt, eller om man centralt vælger at prøve at påvirke Sundhedsstyrelsen til at lade disse kolleger gå i bagvagt med en speciallæge som bag/bagvagt ligger udenfor uddannelsesudvalgets kommissorium. Men det er essentielt for uddannelsesudvalget, at man går i bagvagt i den sidste del af hoveduddannelsen, og en model hvor bagvagten i stedet bliver reduceret til en form for mellemvagt med en speciallæge som bagvagt, finder vi ikke acceptabel. Slet ikke hvis man vælger at spare mellemvagten væk for at kompensere for fordyrelsen ved at have en speciallæge i huset foruden kollegaen i hoveduddannelse.

Der er således fortsat mange spændende opgaver at tage vare på i uddannelsesudvalget, og jeg ser med fortrøstning frem mod mit næste år som formand for uddannelsesudvalget.

Marianne Breddam

Valg

Ved DOS Generalforsamling 2007 afholdes valg:

Bestyrelse:

Sekretær **Bjarne Møller-Madsen** er på valg - kan ikke genvælges.
Bestyrelsen indstiller **Benny Dahl** til ny sekretær.

Redaktør **Michael Nielsen** er på valg – kan ikke genvælges
Bestyrelsen indstiller **Sajida Afzal** til ny redaktør.

Uddannelsesudvalg:

Hovedkursusleder **Micael Haugegaard** har ønsket at trække sig fra posten.

Bestyrelsen og uddannelsesudvalget anbefaler **Per Wagner Kristensen** til posten.

Hoveduddannelsesrepræsentant **Marianne Vestergaard Lind** er på valg - Kan ikke genvælges.

Den ledige plads besættes efter valg blandt de interesserede i hoveduddannelsen.

Selskabets advokat **Ulrik Lett** har ønsket at trække sig fra hvervet efter mange års virke.

Bestyrelsen indstiller advokat **Artur Bugsgang** fra (Lett Advokatfirma) til posten som selskabets advokat.

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Patellofemoral instabilitet

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Preoperative investigations
Dr. med. Philip Schöttle
Abteilung für Sportorthopädie, München
- 09.25 – 09.55 Surgical interventions
Dr. med. Philip Schöttle
- 09.55 – 10.05 Reinsertion af det mediale patellofemorale
ligament ved førstegangs patellaluksation
Svend Erik Christiansen, Århus
- 10.05 – 10.15 Resultater efter rekonstruktion af det mediale
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- 10.15 – 10.20 Trochleoplastik 3 danske cases
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- 10.20 – 10.30 Discussion 10 minutes

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**„Perspectives in Articular Cartilage
Degeneration and Repair“**

Professor Stefan Lohmander, Lund



Læs abstract for forelæsningen og CV for Stefan Lohmander på side 73 i denne Bulletin.



Fredag 11. maj 2007

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Her kommer annonce

Abstracts

The impact of COPM on ADL after spinal fusion – a prospective randomized clinical study

*Lisa G. Østergaard, Thomas Maribo, Cody Bünger,
Finn Bjarke Christensen*

Ergoterapi- og Fysioterapiafdelingen og Ortopædisk Forskningsenhed,
Århus Sygehus

INTRODUCTION The activity level of patients, who have undergone a lumbar spinal fusion, has only been examined in a few studies. These studies solely refer to activities of daily living (ADL) carried out at least two years after surgery. The aim of the present study was to examine the semi-structured interview Canadian Occupational Performance Measure (COPM) impact on: 1. ADL problems most important to the patients, 2. the number of defined treatment goals and plans of action, 3. The patients' evaluation of their ADL performance during the post-discharge period.

MATERIAL AND METHODS From September 15, 2003, through June 15, 2004, a total of 87 patients with degenerative disc diseases who had undergone a lumbar spinal fusion, were randomly assigned to occupational therapy with and without use of COPM. There were follow up after one week, one month, three months and two years.

RESULTS COPM was found to identify the ADL problems most important to the patients within self-care, household work and work outside the home ($p < 0.05$). By using COPM, more ADL problems ($p < 0.05$), treatment goals ($p < 0.01$) and plans of action ($p < 0.05$) were defined. Furthermore the problems were defined within more categories of ADL ($p < 0.001$). Use of COPM caused no significant difference in neither the patients' evaluation of ADL performance during the first three months, nor in their satisfaction with this performance ($p > 0.05$).

CONCLUSION COPM seems to be a good instrument for identifying ADL problems, treatment goals and plans of action, however new studies are necessary to examine different rehabilitation programs aiming to achieve the patients' goals.

A multi-centre prospective study of 223 patients with extradural osseous spinal metastasis treated surgically

C Bünger, A Greis, K Høy, ES Hansen, P Helmig, B Niedermann, A Ibrahim, A Crockard, P Mazel, J Harms, M Boriani, K Tomita,
Spine Center Aarhus and GSTSG international Group.

INTRODUCTION In a multi-centre prospective observational cohort study we assess the feasibility of carrying out radical surgical excision of tumours and measure improvement of quality of life of patients.

MATERIALS AND METHODS Patients with a histologically confirmed diagnosis of spinal metastasis of epithelial origin treated with radical instrumented surgery at six centres were included. Surgery carried out was categorised into enbloc, total removal of tumour; debulking, removal of most of tumour and palliative, minimal amount of surgery.

RESULTS We studied 223 patients with a mean age of 61 years and a M:F ratio of 1:1. 43% had multiple metastasis with breast, renal, lung and prostate being the most common tumours. 92% presented with pain, 24% were paralysed (Frankel A-C), 22% had abnormal urinary sphincter and 5% were incontinent. At presentation 2/3 were unable to work or carry out normal activities of daily living. Patients were hospitalised for 20 days, 74% underwent enbloc or debulking surgery and 92% were instrumented. 73% achieved good pain control was achieved, 53% regained ability to walk, 39% with impaired sphincter regained normal function and the proportion of bed bound patients was reduced from 18% to 5%. Perioperative mortality rate was 5.8%, wound complication arose in 4% and implants failed in only 2.2%. Patients survived for an average of 352 days.

CONCLUSION Radical surgical excision of spinal metastatic tumour with acceptably low mortality and morbidity, resulted in remarkable rescue of neurological function. It is a good form of analgesia and improves sphincter disturbance. Thus, the procedure improve the quality of life of patients and enabling them to remain independent for longer.

Structural endplate changes in early experimental intervertebral disc degeneration evaluated by μ CT.

Michael Bendtsen, Zou Xuenong, Li Haisheng,

Hans Stødtkilde Jørgensen, Cody Bünger.

Ortopædisk Forsknings Laboratorium, Århus Sygehus NBG;
MR-Center, Skejby Sygehus.

INTRODUCTION Intervertebral disc degeneration (IDD) is a multifactorial chronic disease with changes in disc structure, function, cell and matrix composition. IDD is the most common cause of low back pain. In IDD there is sclerosis of the endplates with decreased perfusion and diffusion of nutrients into the avascular intervertebral disc space.

MATERIAL AND METHODS 10 Göttingen minipigs were included. IDD was induced. Levels were randomized to degenerative controls and autologous stem cell transplantation 12 weeks post-operatively. μ CT (Scanco μ CT40) of the vertebral endplates performed 18 weeks after stem cell transplantation. Resolution was 18 μ m isotropic. 3D reconstruction was performed and evaluated with regard to surface smoothness and margin irregularity. Analysis of perfusion weighted MRI is currently being performed and correlated μ CT data.

RESULTS Only two motion segments with severe degeneration revealed surface roughness and margin irregularities. All endplates had a solid bony endplate without any vascular penetrations into the disc. There was a trend towards an increased trabecular to bone volume ratio (TV/BV) in degenerative control levels compared to levels with stem cell transplantation (0.245 ± 0.058 vs. 0.221 ± 0.050 , $p=0.0624$). There was a significant increase in trabecular thickness in degenerative controls compared to stem cell transplantation levels (0.132 ± 0.018 vs. 0.123 ± 0.020 , $p=0.0348$). No other significant differences were found between normal control, degenerative control and stem cell transplantation levels.

CONCLUSION Structural changes in the vertebral endplate were found in degenerative discs eventhough degenerative changes on MRI were mild to moderate. It seems that stem cell transplantation can stop/reverse these changes. Perfusion of endplates will be calculated and correlated to μ CT data.

The positive effect of posterolateral lumbar spinal fusion is preserved at long term follow-up.

*Tina S. Videbæk, Thomas Andersen, Ebbe S. Hansen, Cody Bünger,
Finn Bjarke Christensen*
Rygsektionen, Ortopædkirurgisk Afdeling, Århus Sygehus

INTRODUCTION: Few studies have investigated the long term effect of posterolateral lumbar spinal fusion on functional outcome. Aim: To investigate the long term result after posterolateral lumbar spinal fusion with and without pedicle screw instrumentation.

METHODS: Questionnaire survey of 129 patients originally randomised to posterolateral lumbar spinal fusion with or without pedicle screw instrumentation. Follow-up included Dallas Pain Questionnaire (DPQ), Oswestry Disability Index (ODI), SF-36 and a question regarding willingness to undergo the procedure again knowing the result as global outcome parameter.

RESULTS: Follow-up was 83% of the original study population (107 patients). Average follow-up time was 12 years (range 11-13 years). DPQ-scores were significantly lower than preoperatively in both groups ($p < 0.005$) and no drift towards the preoperative level was seen. No difference between the two groups were observed (instrumented vs non-instrumented): DPQ Daily Activity mean 37.0 vs 32.0, ODI mean 33.4 vs 30.6, SF-36 PCS mean 38.8 vs 39.8, SF-36 MCS mean 49.0 vs 53.3. 71% in both groups answered positively to the global outcome question. Patients who had retired due to low back pain had poorer outcome than patients retired for other reasons, best outcome was seen in patients still at work ($p = 0.01$ or less in all questionnaires, except SF-36 MCS $p = 0.08$).

DISCUSSION: Improvement in functional outcome is preserved for 10 or more years after posterolateral lumbar spinal fusion. No difference between instrumented fusion and non-instrumented fusion was observed. Patients who have to retired due to low back pain have the smallest improvement.

Risk estimation of pulmonary neoplastic embolism during vertebroplasty

Martin Axelsen, Line Dahl Thomassen, Michael Bendtsen, Zou Xuenong, Christian Flo, Michael Rehling, Cody Büniger
Orthopedic Research Laboratory, Aarhus University Hospital,
Aarhus, Denmark

INTRODUCTION: Patients suffering from osteolytic fractures caused by osteoporosis and lately as well metastatic lesions of the spine have been treated with vertebroplasty. The most commonly reported side effects includes cement leakage into the spinal canal and into the extravertebral veins. The aim of this study was to estimate the risk of neoplastic tissue migration into the lungs during vertebroplasty in an experimental pig model.

METHODS: We used a cancer simulation model in 11 Landrace pigs (50 kg) with injection of ^{99m}Tc labeled albumin macroaggregates into the center of L5 and L6 guided by bi-plane fluoroscopy before doing vertebroplasty. Continuously scintigraphic imaging was performed with 1 minute frames over the lungs and vertebrae before and after injection to ensure steady state and base-line. We surveyed free TcO_4^- in thyroid. Two level vertebroplasty was done in L5 and L6 20 min after ^{99m}Tc injection, with 3 Jamshidi needles in each vertebra. $2,5 \text{ ml} \pm 0,5 \text{ ml}$. PMMA cement (Depuy) was injected into each vertebra. Quantitative scintigrams were obtained within 90 min. Conventional x-rays and QCT scans quantified cement distribution. Means of ^{99m}Tc activity before and after vertebroplasty were compared in a paired T-test.

RESULTS We found a small but significant risk of spread of macroaggregates to lungs of 1,7 %, total range 0 – 8% (CI 0.04% - 3.36%) with a $p = 0.046$ doing vertebroplasty in this cancer simulation model. There was no free TcO_4^- in the thyroid. We found a large interindividual variation of pulmonary embolism despite the standardized procedure.

DISCUSSION: This study underlines a significant risk of exporting neoplastic disease to the lungs and also to other extravertebral locations during vertebroplasty and justifies further investigations.

Does Embolization significantly lowers the amount of blood loss during surgery in metastatic hypernefroma spinal disease?

*Kristian Høy, Niels Jacob Bartholdy, Ebbe Stender Hansen,
Peter Helmig, Cody Büniger.*

Spine Section, Orthopedic Department E, Department of Neuroradiology P, Aarhus University, Hospital, Denmark.

INTRODUCTION: Embolization has prior been reported as a treatment modality in spinal hypernefroma metastatic disease , in order to reduce excessive bleeding. However none had to our knowledge shown that this intervention significantly reduces the amount of blood loss. Our aim was to test if preoperative embolization significantly could reduce blood loss in hypernefroma metastatic spinal disease.

MATERIALS AND METHODS: Since 1997 all extradural osseous metastasis had been prospectively registered according to a well defined algorithm for surgical treatment according to their Tokuhashi score and Tomita Classification. A total of 393 patients were prospectively registered, 34 patients had hypernefroma, 18 patients in this group were embolized prior to operation, however only 16 patients had successfully embolization .The last 16 patients was not embolized prior to the surgery. The 2 groups were equal, according to sex, operative strategy, age and Tokuhashi score representing a prospective Cohort study of 2 equal groups with variable +/- embolization.

RESULTS: The amount of blood loss was 2545 ml (Range 700-9000 ml),(std 2220 ml) in the embolized group and 5062.5 ml (Range 500-18000ml),(std 5516) in the non embolized group. Due to the high standard deviation no significant difference among groups using nonparametric test could be detected, however calculating the equation of sample size it was shown that if this patteredn was proposed to continue,significance would appear if a higher amount of patients had been included.

CONCLUSION: Preoperative Embolization might significantly reduce the amount of blood loss during surgery for Hypernefroma Metastatic Spinal Cord Compression (MSSC) and should be available in all Spine Centers on call.

Fracture dislocation of the elbow; Results after reconstruction of stability and early postoperative mobilisation using an articulated external fixator

Anne Kathrine B. Sørensen, Jens Ole Søjbjerg,
Shoulder and elbow clinic, Aarhus University Hospital

INTRODUCTION: The results after treatment of fracture dislocations in the elbow have often been disappointing, due to posttraumatic instability, stiffness and early arthrosis. We present the results after surgical restoration of stability in complex fracture dislocations of the elbow and early postoperative mobilisation using an articulated external fixator.

MATERIAL AND METHODS From 1998 to 2006 19 patients were treated at mean 8 weeks after the injury. 15(18) patients, mean age 45 years, were evaluated clinically using the Mayo Elbow Performance Score (MEPS), Functional Elbow Score (FES) and radiological examination, at mean 48 month after the surgical procedure.

RESULTS Overall 9/15 had a good or excellent and 6/15 a fair or poor result. The average range of motion was 96 degrees, with an average extension defect of 33 degrees. Mean MEPS was 74 and mean FES was 68. When treated within 6 weeks, 3 had excellent, 6 good and 2 poor results. When delayed more than 6 weeks, 2 had fair and 2 poor results. No patients had recurrence of dislocation, and all x-rays showed joint congruency, but 4 patients still had some instability. Complications were seen in 6/19 cases. 1 patient suffering from diabetes developed severe deep infection, radial nerve palsy and had the arm amputated 10 months after the injury. 3 patients had superficial pin infection and 2 patients some affection of the ulnar nerve.

CONCLUSION Surgical stabilisation and articulated external fixation of complex fracture dislocations in the elbow gives satisfactory results when performed within the first 6 weeks after the injury. When definite surgical stabilisation is delayed more than 6 weeks, the results are disappointing.

Delay in primary operation of open hand injuries

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Rigshospitalet, Ortopædkirurgisk Klinik, Håndkirurgisk Sektion

INTRODUCTION Due to limited capacity in our department, it is often necessary to postpone operation for open hand injuries - sometimes for days. To minimize the risk of infection we daily change the dressings on the wound until surgery. It is our opinion that the postoperative infection rate is acceptable. The purpose of this study was to investigate whether a delay beyond the traditionally accepted six hours leads to an increased infection rate

MATERIAL AND METHODS Patients admitted to Copenhagen University Hospital Rigshospitalet in the period 2000-2004 demanding operation for open hand injury. Patients received a questionnaire and their medical records were reviewed for information about type of injury, time to operation, use of antibiotics and suspected postoperative infection. Infection was suspected if antibiotics were administered pre- or postoperatively due to signs of infection, if primary operation was changed due to signs of infection, if the postoperative treatment was altered and/or the patient was reoperated due to signs of infection.

RESULTS 134 patients out of 175 (76%) answered the questionnaire. Five patients were postoperatively classified as infected according to the criteria. One patient was reoperated because of infection (time from trauma to primary operation = 50 hrs). Four patients had extra outpatient controls and/or antibiotics because of infection but no additional surgery. 129 patients were non-infected. Time from injury to operation without suspected infection: 51 +/- 9 hrs. Time from injury to operation with suspected infection: 39 +/- 32 hrs. There was no statistical difference in the two groups. (t-test on two groups with unequal variance: p=0.45)

CONCLUSION We found that the patients with suspected postoperative infection did not wait longer for surgery than the non-infected patients.

Short term experience with the Moje prosthesis for treating osteoarthritis of the trapezio-metacarpal joint.

Dovydas Vainorius, Torben Bæk Hansen

Department of orthopaedics and The Musculoskeletal Research Unit,
Holstebro Hospital, Denmark

INTRODUCTION The Moje tmc-implant is made of a ceramic material coated with a bioactive coating (Biovit) for osseous fixation, and the design is a large ball and socket joint ensuring stability of motion in all directions. Implantation is done using no-cement press-fit-technique.

MATERIALS AND METHODS From January 2006 till June 2006 Moje tmc prostheses were implanted into 9 patients. All patients were healthy and without complicating diseases. Main diagnosis in all cases was primary osteoarthritis of the basal joint of the thumb. There were 6 females and 3 males with average age of 58.3 years (48-64). The DASH score (34 questions about daily activities using hands and work) were registered preoperatively and after 3, 6 and 12 months together with x-ray evaluation for implant fixation. Average observation period was 5.7 months (3-12).

RESULTS Dash score was 3.29 (2.18-4.5, 9 cases) preoperatively, 2.53 (1.65-3.82, 8 cases) after 3 months, 3.00 (2.38-3.52, 6 cases) after 6 months, 2.41 (1 case) after 12 months. X-ray evaluation showed progressive osteolysis around both implants in 7 cases, one case is probably loose, and only in one case the implants seems to be without migration or radiolucent zones around the implant. Eight patients complained about pain in the basal joint of the thumb on last examination. Three patients (33%) has so far been re-operated because of progressing pain and osteolysis, and in all 3 cases the implants were both found loose and removed.

CONCLUSION The results of treating osteoarthritis of the tmc joint with Moje tmc prosthesis has in this study been clearly inferior to both our own previous results with an other implant (Elektra), and to other published studies with other types of implants. As a consequence we have discontinued the use of The MOJE implant in our clinic.

Helix wire osteosynthesis for proximal humerus fracture-unacceptably high rate of failure

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INTRODUCTION: Fractures of proximal humerus remains to be a problem, with a controversy among treatment techniques, ranging from conservative treatment to primary hemialloplastic surgery. One of the methods is Helix wire osteosynthesis, based on three point fixation technique.

MATERIAL AND METHODS: In a retrospective study, charts of 37 pts. were reviewed, who were operated with helix wire, from June 2003 till June 2006. Three pts. were excluded because of insufficient details of admission and follow-up. Fractures operated were Neers 3-fragment severe displaced (2), Neers 2-fragment (30) and Neers undisplaced (2). Median age was 64yrs (22-89). 2 high energy fractures and rest 32 low energy fractures. Operated on an average of 2,5 days after trauma. Based upon stability of fracture either 1 (18) or 2 (16) helix wires were used. Followed by an average immobilisation for 2 weeks in a fixed arm sling and 2 weeks in Collar n'cuff. First follow-up was at 10-14 days. Then depending upon symptoms and radiological healing were follow-ups either ended at 6,4 weeks (2-8) in 12 pts. or at 6 months (2,5-18) in 16 pts.

RESULTS: Already with first radiological control 9 fractures were displaced. Further follow-up showed a total of 15 (44,1%) confirmed failures among 34 pts. In 19 pts. (55,8%) there was healing of fracture(success group), with an average of 73(10-160) degrees of flexion and 66(10-120) degrees of abduction. Among these 19 pts. 78% were pain free and 21% with moderate to severe pain.

CONCLUSION: Helix wire osteosynthesis is a less invasive technique and can be used in severely ill pts. A failure rate at 44,1% overshadows the advantages of helix wire use. A more rigid method of fixation like Philos-plate can be a good option for better results as compared to more flexible nature of helix wire as a method of osteosynthesis.

Posterior dislocation of the shoulder - Treatment and outcome

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INTRODUCTION: Different procedures for operative treatment of posterior shoulder dislocation have been reported. We report the results in 7 consecutive posterior shoulder dislocations, treated surgically with the modified McLaughlin procedure.

MATERIAL AND METHODS: Since 2001 we have treated 6 consecutive patients with 7 locked posterior shoulder dislocations, using the Neer modification of the McLaughlin procedure. Mean age of the patients were 60 years. There were 5 men and 1 woman. One patient with one dislocated shoulder was diagnosed and operated without delay, the other 6 dislocations were operated with a mean delay of 16 weeks. Post-operatively the arm was immobilised in external rotation for 6 weeks followed by physiotherapy. The Patients were reviewed at a mean follow-up of 20 months, using the Constant score excluding the data for strength since three shoulders were unable to abduct to 90 degrees.

RESULTS: Reduction was obtained in all cases. The patients reported little or no pain for 6 shoulders and moderate pain for 1 shoulder. Mean VAS pain score was 2,3. 3 shoulders exhibited no or slight functional restriction in the activities of daily living and 4 shoulders had moderate dysfunction. Mean range of motion at follow-up was: Flexion 113 ; abduction 94 ; external rotation 50 . The 7 shoulders averaged 52,4 on the Constant score (max 75 p). All patients considered the result to be satisfactory. There were no postoperative infections or neurologic deficits. None of the patients experienced redislocations or the need of arthroplasty in the follow-up period.

CONCLUSION: All patients obtained good stability and a better ROM than they had preoperatively. The modified McLaughlin procedure is reliable and produces acceptable and predictable results concerning stability and ROM.

Retrospective study of 29 patients treated with the Clavicle Hook Plate

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INTRODUCTION A retrospective study of 29 patients treated for Acromio-Clavicular Dislocation (ACD) or Lateral Clavicular Fracture (LCF) with the Clavicle Hook Plate (CHP), Synthes®.

MATERIAL AND METHODS Thirtythree patients were treated with CHP since introduced at Rigshospitalet October 1998 to April 2005. In all cases, the CHP served as the primary surgical management. Four patients were excluded (one multitraumatized, one with myasthenia gravis, one paediatric and one treated for pseudarthrosis). The study group included 25 males and 4 females (median age 34 years [19-67]). Median follow-up time was 60 months [14-98]. Eleven patients had ACDs, 18 patients had LCFs. ACDs were classified with the Rockwood classification, LCFs with the Allman/Neer classification. Median interval from plate insertion to removal was 24 months [13-44]. One patient had died before follow-up. Seven patients were unavailable for follow-up. Twentyone patients received clinical and radiographic follow-up. Shoulder function was assessed using Constant Score (CS), which included use of the Nottingham Mecmesin Myometer®, (Atlantech Medical Devices Ltd., UK). An SF-36 questionnaire was completed for each patient.

RESULTS The six patients with ACDs had a median CS of 97 [87-100] and the 15 patients with LCFs had a median CS of 100 [87-100]. Fifteen patients had no pain in the affected shoulder, 6 had mild pain. No deep infections were recorded. The deceased patient had loosening of the CHP and failure to heal. One out of the 20 working patients changed jobs after sustaining the LCF. One patient was satisfied and 20 patients were very satisfied with the results.

CONCLUSION Almost all patients investigated had normal shoulder function as assessed by the Constant Score. Treatment with the CHP yielded high patient satisfaction.

Replicative capacity and multilineage differentiation potential of porcine bone marrow stromal cells during long-term cultivation

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INTRODUCTION Given the large number of bone marrow stromal cells (BMSC) necessary for therapeutic applications and their low frequency in bone marrow aspirates, a continual in vitro expansion is required. Therefore, the utility of BMSC relies on their ability to retain, after expansion, the potential of differentiate. The aim of this study was to investigate the maintainance of proliferation and multilineage differentiation potential during long-term passage of porcine BMSC.

MATERIAL AND METHODS The BMSC were isolated by Ficoll density gradient centrifugation combined with adherent culture method. Cells were cultivated for 21 passages. Replicative capability was evaluated by means of Thymadine assay. The 1st, 4th, 8th, 15th passage cells were induced to osteogenesis, adipogenesis and chondrogenesis, respectively. Osteogenesis was evaluated by ALP activity assay and quantitative calcium deposit. Adipogenesis was confirmed by Oil Red O staining. Chondrogenesis was confirmed by Toluidine blue staining.

RESULTS The average number of population doublings was 81 ± 8 , at which time the cells maintained proliferation potential. The osteogenic and chondrogenic potential of cells was conserved as evidenced by the ALP activity, calcium deposits, and proteoglycan positive staining. However, the adipogenic potential was decreased in the late passage.

CONCLUSION These results indicate that long-term cultivated porcine BMSC remain replicative capability and undergo the osteogenic and chondrogenic lineage.

Compaction by serial dilation versus extraction drilling in reconstruction of the anterior cruciate ligament; a biomechanical study.

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INTRODUCTION: The hamstring tendon graft has become increasingly popular in anterior cruciate ligament (ACL) reconstruction because of low donor-site morbidity, but especially the tibial fixation is considered difficult, mainly because the tibial mineral bone density is inferior to the femoral bone density. Therefore, we hypothesize that compaction by serial dilation provides a stronger anchorage of the graft-fixation-device complex than does traditional extraction drilling of the tibial tunnel.

MATERIAL AND METHODS: In twenty bovine tibiae, the bone tunnels were created with either extraction drilling (group one) or compaction by serial dilation (group two). Twenty bovine digital extensor tendons were fixated in the bone tunnel with an Intrafix device. The graft-fixation-device complexes were mounted in a hydraulic test machine. The fixation strength was evaluated after cyclic loading.

RESULTS: We found no significant difference in slippage of the graft-fixation-device complex after 1600 cycles. However with an increase in applied load and number of cycles, we saw a tendency of a steady increase in difference between the two groups (ranging from a Δ slippage of 0.01 mm (p:0.90) at 70-220 N to a Δ slippage of 0.12 mm (p:0.54) at 70-520 N), favouring group two.

CONCLUSION: This study failed to show a significant difference between compaction by serial dilation and extraction drilling of the tibia bone tunnel in ACL reconstruction. However the serial dilation group tended to perform better with an increase in number of cycles and load.

Chondrogenic Differentiation of Porcine Mesenchymal Stem Cells from Bone Marrow

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OBJECTIVE: To establish a method to induce chondrogenic differentiation from isolating pig bone marrow mesenchymal stem cells (MSCs).

METHODS: Bone marrow from 3-month-old about 50 kg landrace pigs, was aspirated from the medullary cavity of the proximal tibia. The MSCs were isolated and purified by Ficoll density gradient centrifugation combined with adherent culture method. The MSCs from passage 1 were cultivated as pallets in DMEM with 37.5 μ /ml ascorbic acid, 10 nM dexamethasone, 1:100 ITS premix, 10 ng/ml human recombinant TGF- β 1 up to 21 days. The MSCs were cultivated in DMEM with 10% inactivated fetal bovine serum as a control. Cell morphology was observed by microscope after histochemical staining. Presence of proteoglycan was analysed by means of Toluidin blue staining.

RESULTS: Characterization of primary MSCs: At day 1, most cells depicted round and floating hematopoietic cells. Colonies consisting of fibroblast-like cells were observed at day 3 after removal of non-adherent cells, which grew to various sizes at day 7. □Chondrogenic differentiation: The cell pallets exposed to chondrogenic stimulation medium had an increased cellular density and increased in size over the course of 3 weeks compare to the control. Proteoglycans appeared within 21 days in chondrogenic stimulation medium. Proteoglycans were not be detected in the basic medium.

CONCLUSION: Porcine MSCs harvested from bone marrow by density gradient centrifugation are capable of chondrogenic differentiation in vitro. The combination of TGF- β 1, ITS premix and ascorbic acid has fine capacity of inducing MSCs chondrogenic differentiation.

Chitosan scaffold coated on orthopedic implants in vivo

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INTRODUCTION: Adjuvant therapies such as local delivery of osteogenic growth factors have showed promising effects on bone healing around orthopaedic implants. The aim of this study was to establish the baseline effect of a chitosan scaffold coated on titanium implants, with intentions to integrate growth factors in the coating in a later study.

MATERIALS AND METHODS: porous chitosan scaffold was produced on titanium alloy implants. A standard porous coated titanium alloy implant without chitosan was used as control. The implants were inserted in the proximal tibia of dogs for 4 weeks, surrounded by a gap. We evaluated the effect by mechanical push out test and histomorphometry.

RESULTS: The chitosan scaffold was converted to a thick fibrous membrane that caused the implants to have very poor mechanical fixation compared with the uncoated controls. There was 3-fold more bone around the chitosan coated implants outside of the fibrous membrane compared with the controls.

CONCLUSION: We conclude that the chitosan scaffold employed in this study is unfit for use as a growth factor carrier.

Flow perfusion culture of human mesenchymal stem cells on synthetic bone graft scaffolds

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INTRODUCTION: The available amount of autologous bone for bone grafts is limited because of issues concerning donor site morbidity. A bone-saving method to replace the use of bone grafts has hence been developed.

MATERIALS AND METHODS: Silicate-substituted hydroxy apatite scaffolds, Skelite, ($\varnothing=10$ mm, height=5mm, from Millenium Biologix Corporation, Kingston, Canada) were seeded with 2E6 hMSC-TERT. Scaffolds had pore size of 300-500 μm and a rough surface nano-topography with excellent biocompatibility. A perfusion bioreactor was developed for dynamic culturing of cell/scaffold constructs. A flow rate of 0.1 ml/min was applied and constructs were cultured (Flow) for up to 21 days in DMEM supplemented with 10% FBS and 10-8M calcitriol. An equal number of statically cultured constructs (Static) served as controls. Post culture analysis included assays on DNA and alkaline Phosphatase (ALP) activity and histomorphological evaluation.

RESULTS: DNA and ALP assays revealed increased proliferation and differentiation in the constructs cultured under flow as compared to static cultured constructs. The histological evaluation also showed a more regular dispersion of cells in constructs cultured under flow day 21. A dense cell layer had formed on the surface of the statically cultured constructs, probably due to limited transport of nutrients to deeper situated layers of the constructs. Staining by H&E showed increasing amounts of ECM proteins in flow cultured compared to statically cultured constructs, indicating more osteogenic differentiation. Active focal adhesions indicating biocompatibility between cells and scaffold were clearly visible by SEM.

CONCLUSION: Dynamic culturing of cell/scaffold constructs increases the proliferation and differentiation of hMSC-TERT as compared to conventional, static culturing.

Changes in serum YKL-40 and IL-6 in patients during bone regeneration.

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INTRODUCTION: YKL-40 is a signal protein involved in activating several types of cells in regeneration of different tissues. IL-6 plays an important role in inflammatory processes. The aim was to investigate changes in serum YKL-40 and IL-6 during bone healing in patients with bone damages.

MATERIAL AND METHODS: Three groups were studied: 10 patients with traumatic hip fractures (5M, 5F, mean age 77, range 60-89); 9 patients with planned hip operations due to osteoarthritis (2M, 7F, 70, 44-84); and 13 patients with traumatic ankle fractures (7M, 6F, 47, 22-68). Serum YKL-40 and IL-6 were determined by ELISA on day 1, 3, 7, 14, 21, 28, 42 and 84 after bone damage.

RESULTS: Patients with hip fractures had higher serum YKL-40 (median 710 µg/l, range 102-1478) compared to patients with ankle fractures (77, 38-345) $P=0.0004$. There were significant differences ($P=0.04$) in serum YKL-40 changes from day 7 to 42 between patients with hip fractures and patients with planned hip operations. At day 3 90% of the patients with hip fractures had elevated serum YKL-40 compared to age matched controls, 50% at day 7, 60% at day 42 and 25% at day 84. At day 3 only 15% of the patients with ankle fractures had elevated serum YKL-40 compared to controls, 8% at day 7, 0% at day 42 and 84. At day 3 56% of the patients with planned hip operations had elevated YKL-40 compared to age matched controls, 33% at day 7, 0% at day 42 and 22% at day 84. Serum IL-6 was significant ($p<0.0001$) elevated in all three patient groups at day 1 compared to controls and normalized in a similar pattern within the first 3 weeks. There were no correlations between YKL-40 and IL-6 during regeneration.

CONCLUSION: As expected YKL-40 may be a biomarker of bone damage and tissue regeneration and its exact function in the pathogenetic process needs to be determined.

Reliability of the Oxford kinematic foot model in three dimensional clinical gait analysis of healthy children – preliminary results

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INTRODUCTION Unlike traditional routine gait analysis, the Oxford foot model is able to provide details of relative movement between functional segments of the foot. The model is simple, has shown good repeatability at the Oxford Gait Laboratory (Carson et al. 2001; Stebbins et al. 2006) and gives clinically relevant data. The aim of this study was to determine the reliability of this method in healthy children at the Hvidovre Hospital Gait Laboratory.

MATERIAL AND METHODS Eight healthy children (5 female, 3 male, aged 9-18 years) with no lower leg or foot pathology were included in the study. The study was designed as an intra-tester inter-day reliability study with a test-retest period of 1 week. Data was collected in a Vicon 3D gait analysis laboratory. A range of events and parameters relevant to clinical gait analysis were identified and test-retest values determined.

RESULTS There was no systematic bias in the selected parameters from test to retest. High intra-class correlations (ICC 0.70-0.89) were achieved for four variables, principally in the sagittal plane and moderate correlations (ICC 0.50-0.69) for four variables, principally in the transverse plane. Typical errors of measurement varied between 1.89 and 3.90 .

CONCLUSION The Oxford foot model is able to quantify relative movement in the three functional segments of the foot with a test-retest SD of between 2.64 and 5.51 giving a typical error of between 1.89 and 3.90 . The low ICC values in some of the parameters reflect the small sample size, the small range of data, biological variation in paediatric gait and the inexperience of the tester in marker placement. Reliability could be improved with greater experience in marker placement and an improved marker placement protocol, especially for the hindfoot segment.

Regional Variation of Articular Cartilage on T1rho and T2 MR imaging and quantitative analysis

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INTRODUCTION To investigate the laminar appearance in MR images of patellar cartilage specimens obtained from pigs. And to quantify the spin-lattice relaxation time in the rotating frame (T1rho) and T2 transverse relaxation time in various regions of porcine patella cartilage.

MATERIAL AND METHODS Patellar cartilage specimens were obtained from 8 pigs treated with intra-articular interleukin-1beta (IL-1beta) and sacrificed 6 hours after injection. T1rho- and T2-maps were obtained on a 7.0 Tesla Varian scanner. Using a home-built analysis program, the cartilage from each sample was manually segmented by drawing regions-of-interest. This segmentation separated the patellar cartilage into superficial, medium, deep, calcified regions, approximately of equal thickness.

RESULTS T1rho values in superficial, medium, deep, calcified regions of cartilage specimens were found as 115, 110, 105, 97 msec in the IL-1beta treated cartilages; 102, 101, 94, 93 in the IL-1beta untreated cartilages, respectively. T2 values in superficial, medium, deep, calcified regions of cartilage specimens were found as 45, 46, 44, 35 msec in the IL-1beta treated cartilages; 40, 50, 43, 37 msec in the IL-1beta untreated cartilages, respectively. T1rho values are no statistically significant differences in different cartilage regions ($p=0.456$), however, T2 values have significant differences ($p=0.001$).

CONCLUSION Preliminary results demonstrate the feasibility of acquiring high resolution three-dimensional images of patellar cartilage specimens at 7.0T scanner. Both T1rho and T2 mapping can be used to quantify the laminar appearance in MR images of articular cartilage, which could be promising in evaluating cartilage degeneration or regeneration.

Acute effect of vertebroplasty on nucleus pulposus cells.

An experimental in pigs

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INTRODUCTION Vertebroplasty has received much attention as a mechanical supplement in the management of impending failure of the spinal column. Theoretically vertebroplasty may impair end plate perfusion and thus affect disc metabolism. The aim of this study was to elucidate the acute effect of vertebroplasty on the metabolic milieu of the nucleus pulposus by microdialysis compared to an intraindividual control disc.

MATERIAL AND METHODS Thirteen 45kg 3-month-old Danish landrace pigs were included. The spine was exposed through a retroperitoneal approach. Two microdialysis catheters were placed, one in the L5/6 disc and one control disc in L3/4. After baseline measurements of the microdialysis, vertebroplasty with PMMA cement was performed on the vertebrae L5 and L6. The animals were terminated four hours after vertebroplasty. Based on the microdialysis data a multiple ANOVA test was employed to investigate a potential correlation between the change over time (done by Müller, 1995) for the metabolites (glucose, glycerol, pyruvate, lactate), time after vertebroplasty, and quality of cementation as assessed by QCT.

RESULTS One animal died prematurely before data was obtained. The most striking result was a significant increase in glycerol as an indication of cell membrane disintegration (Table 1). Lactate also increased following vertebroplasty. Table 1 Microdialysis results (MEAN±SEM)

Glycerol (%)	Lactate (%)	NP at L5/6	NP at L3/4
115 ± 18	18 ± 9	-8 ± 6	7 ± 2

P-value < 0.001 0.002

CONCLUSION This study demonstrates for the first time a clear negatively effect by vertebroplasty on nucleus pulposus cells. Whether it is a transient influence which can be compensated by repair mechanisms or it has more severe long term consequences need further analysis in chronic studies

Cadaver study of osteosynthesis material for distal radius fracture combined with the use of tantalum beads for RSA analysis.

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INTRODUCTION The use of internal fixation in distal radius fracture is becoming increasingly popular, though there is no valid evidence for this shift in treatment. The aim of fixation of a distal radius fracture is to secure a normal anatomic position, and to use the most stable fixation method to hold it in place. Radiostereometric analysis (RSA) has in earlier studies proven as a valid and reliable tool to detect micro motions in distal radius fracture. The purpose of this study was to test if tantalum beads and RSA analysis are compatible with external fixation non-bridging technique and Micronail.

MATERIAL AND METHODS Chemical preserved cadaver forearms underwent osteosynthesis with external fixation non-bridging technique and Micronail. Then tantalum beads (1 mm) were implanted in a simulated proximal and distal fracture segment, 5 in each segment. RSA radiographs were taken according to manufacturers recommendations and analysed on a computer with ModelBasedRSA software. Radiographs were taken at different expositions: 50 KV–0,8 mAs, 50 KV–1,6 mAs, 50 KV–3,2 mAs.

RESULTS External fixation non-bridging technique showed easily visible beads in both the proximal and distal segment. The beads were placed along the ulnar and radial border. Micronail showed visible beads at the ulnar border over the buttress screws, but not over the nail itself. Furthermore it showed the best quality of pictures at 50 KV–3,2 mAs, whereas it was not possible to distinguish the beads from the screws at 50 KV–0,8 mAs. Only 1 forearm was successful in Micronail due to poor cadaver material. 3 forearms succeeded with external fixation.

CONCLUSIONS Tantalum beads and RSA analysis are compatible with external fixation non-bridging technique and Micronail with the above mentioned restrictions. The next step is to imply this in a randomized study.

LISS plate in femoral fracture. Results of 50 first cas

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INTRODUCTION: The treatment of fractures around or just below hip arthroplasties has always been a major challenge. The standard method of dealing with these fractures has been with plates and cerclage using a wide exposure of the fracture. The LISS system is designed for plating with minimal exposure of fractures in femoral fractures typically near hip arthroplasties but also for treatment of supracondylar fractures with or without the presence of a knee arthroplasty.

MATERIAL AND METHODS: Patients suffering from fractures around and under hip arthroplasties in which the arthroplasty is judged stable and supracondylar fractures with a stable knee arthroplasty are operated upon using the LISS system. We have also used the LISS system when cable and wire systems have failed. Patients are followed with radiographs regularly, first time after 6 weeks. Patients are allowed weight bearing within the limits of reasonable pain.

RESULTS: These are the results of the first 50 femoral plates. So far we have experienced only one failure in a patient who had previously been operated with plates and cable and one deep infection in a patient who had previously undergone substantial plastic surgery after a car accident. All of our patients have been to a 6 week follow-up. 48 patients have shown full healing at the radiographs. All patients but two have been allowed weight bearing according to our scheduled plan and both of these patient were allowed weight bearing after six weeks

CONCLUSION: Based upon our experience, even though it is limited we can recommend the use of the LISS system. However, it is important that in this series the vast majority of the fractures (34 out of 50) have been operated by the same surgeon

Psychological profiling of the shoulder patients: A pilot study

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INTRODUCTION: The purpose of this study was to assess the psychological profile of patients with shoulder problems.

MATERIAL AND METHODS: The Psychological Profile Questionnaire (ppq, see www.psykisksund.dk/csb) was administered to 260 shoulder patients. The PPQ is a paper-pencil test consisting of 90 questions. It provides a comprehensive evaluation of a person's psychological health status and resilience. The profiles are subsequently linked to a set of written self-help programs based on cognitive-behavioural principles that are geared to the particular kinds of problems revealed in the profile. Between September 2006 to January 2007 a total of 149 women and 111 men was evaluated. Pain score on a visual analog scale was 47 for women and 33.5 for men. The most frequent diagnosis was impingement 116. Most of the patients were receiving the traditional conservative treatment (physiotherapy and steroid injections). Thirty patients underwent surgery.

RESULTS: The results of the psychological profile assessment showed that 56 patients (39 women and 17 men) clearly might benefit from some sort of psychiatrically intervention: Antidepressive medication and/or psychotherapy or, in some instances, our cognitive-behavioural self help program. In the cases where we identified an unrecognised depression, we contacted the general practitioner.

CONCLUSION: Most of the cases of depression in our sample might have remained unrecognised if it were not for the results of the PPQ. It seems very important to identify the psychological functioning and personality of shoulder patients in order to provide an enhanced and more comprehensive treatment strategy. Special attention regarding the timing of surgery must be taken towards patients with depression or other severe psychological symptoms.

Spinal Mouse/Device for measuring the curvatures of the lumbar spine/Reliability of measurement

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INTRODUCTION: Evaluation of the lumbar spine is a standard procedure when treating lumbar pain. However the clinical evaluation is very uncertain and differs from examiner to examiner. The aim of this study is to evaluate the reliability using Spinal Mouse in measuring the curvatures in the sagittal plane.

MATERIALS AND METHODS: 15 patients, mean age 52(25-81) years, were measured preoperatively with Spinal Mouse in standing position, flexion and extension. The measurements were repeated at the same day. The patients were reexamined 3 months after operation in the same way as preoperatively.

RESULTS: The interclass correlation coefficient varies depending on the position examined. A high coefficient was found on measuring the lumbar lordosis in upright position and with maximal flexion. The coefficient when extending the lumbar spine was only 0.42 and without a significant correlation. However postoperatively when the movement has increased, there was a correlation coefficient of 0.87. [Tabel]

CONCLUSION: The Spinal Mouse has a high reliability when investigating the lumbar spine in the sagittal plane. As it's a very easy method of investigation, it might become a supplement for the clinical examination.

Patients with a hip fracture die fast!

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INTRODUCTION: Hip fracture mortality is high. Only few studies report on mortality in a case-cohort setting. The aim of this study was to estimate short and long term mortality following a hip fracture compared to the mortality in an age and sex frequency matched cohort.

MATERIAL AND METHOD: Cases: The Funen County hip fracture Register. Cohort: Residents of Funen County. Survival analysis was performed using Kaplan Meier estimates.

RESULTS: In cases the cumulative mortality in men at 30 days was 15.4% (95% CI 14.1-16.8), at 12 months; 37.7% (35.9-39.5), at 2 years 50.2% (48.3-52.1), at 5 years 73.6% (71.8-75.4), and at 10 years 89.8% (88.3-91.2). In women the cumulative mortality at 30 days was 7.6% (95% CI 6.9-8.2), at 12 months; 24.6% (23.6-25.7), at 2 years 35.6% (34.4-36.7), at 5 years 61.2% (59.9-62.5), and at 10 years 82.8 (81-83.9). The overall mortality rate was significantly higher in cases; men 297 per 1000 py (95% CI 283-312) and women 192 per 1000 py (95% CI 186-198) compared to references; men 98 per 1000 py (95% CI 95-101) and women 81 per 1000 py (95% CI 79-83). In men and women, in every age groups, and any time after the inclusion the mortality rate was higher in cases than references (log-rank test: $p < 0.000$ in all).

CONCLUSION: Hip fracture mortality is high and significantly higher than mortality seen in an age and sex matched cohort. Several years after inclusion hip fracture mortality remains higher compared to the cohort. A different pattern of excess mortality is seen in the age-group 50-59 years and 60-69 years compared to the older age-groups which resemble that of the cohort. With the continued high mortality following a hip fracture the question still remains; is it at all possible to delay death and at what cost. How do we assure quality of life to the hip fracture patient?

No variation in mortality by season and day-of-week. The Funen County Hip Fracture Study.

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INTRODUCTION: Concerns have been raised whether the immediate and short term mortality patterns shows variation in relation to which day during the week the patient was admitted to hospital. Analysis of other Danish wards have indicated that there is a higher short term mortality if the patients is admitted during week-ends and vacation periods where adherence to special treatment regimens in focused wards could not take place. This study aims at validating a hypothesis of no variation in mortality with week-end, vacation and seasonal periods expected to have a high probability of staff in interim positions.

MATERIAL AND METHODS: Patients with first fracture of the proximal femur (ICD-10: s720, s721, s722) from the Funen County Hip Fracture Registry for the period 1996-2005, all ages, N=8,231. Exposure was defined as weekend (Friday at 1500h to Sunday 2400h), summer vacation (July), pre- and post summer (June 15th-or Aug 1st-15th), autumn (week 42), Christmas (Dec. 22nd – jan 1st) Winter (week 8) or any vacation (all vacation periods). Vacation periods include weekends during those periods. Vitality status was ascertained at 7 days, 30 days, 12 months and 5 years after admittance to the hospital. Analysis performed as Chi² analysis, and log rank test.

RESULTS: No difference in mortality with vacation in general, summer vacation, pre- and post summer period, autumn vacation, Christmas or winter vacation period (p=0.2-0.9). No difference in mortality with weekday vs weekend admittance (p=0.4-0.8). The hypothesis of no variation could not be rejected.

CONCLUSION: The analysis shows no indication of difference in immediate, short or long term mortality with any of the period indicators.

Hydroxyapatite coated surfaces activate macrophages and increases pro-inflammatory cytokine response in murine J.774 macrophages

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INTRODUCTION: Delaminated hydroxyapatite (HA) ($\text{Ca}_{10}(\text{PO}_2)_6(\text{OH})_2$) has been associated with bone-resorbition by two mechanisms; third body polyethylene-wear and macrophage activation by HA particles. We hypothesized, that HA generates a larger pro-inflammatory and proliferate response than titanium alloy.

MATERIAL AND METHODS: A murine macrophage cell line (J774) was incubated 6 or 24 hours with either plasmaspray coated titanium discs or porous coated titanium discs with or without HA. Empty wells with macrophages served as controls. Changes in cytokines secretion of [TNF- α IL-6, IL-1 β , IL-4, M-CSF] were determined with ELISA.

RESULTS: HA on plasmaspray coated titanium induced an increase in TNF- α and IL-6 after both 6 and 24 hours incubation compared to plasmaspray coated titanium without HA. (TNF- α - 6 hours: 203 pg/ml vs. 64 pg/ml, $p < 0.05$; 24 hours: 1019 pg/ml vs. 256 pg/ml, $p < 0.05$) (IL-6- 6 hours: 1.5 pg/ml vs. undetectable low, $p < 0.05$; 24 hours: 4.0 pg/ml vs. 1.2 pg/ml, $p < 0.05$) HA on porous coated titanium induced increase in TNF- α after both 6 and 24 hours compared to porous coated titanium alone. Only a statistically significant increase in IL-6 was observed after 24 hours. (TNF- α - 6 hours: 111 pg/ml vs. 64 pg/ml, $p < 0.05$; 24 hours: 381 pg/ml vs. 114 pg/ml, $p < 0.05$) (IL-6 – 24 hours: 2.1 pg/ml vs. 1.2 pg/ml, $p < 0.05$)

Undetectable low levels of IL-1 β , M-CSF, IL-4 were secreted.

CONCLUSION: HA on plasmaspray- and porous coated titanium discs generated a larger pro-inflammatory response from macrophages compared to discs without HA. Another recently published study by Takabe et al shows that macrophages secrete BMP-2 when incubated with hydroxyapatite coated titanium. Our results emphasizes the fact that hydroxyapatite play an active role in the bone-remodelling process through macrophages cytokine production.

Retrospective research of new clinical guidelines for pin-hygiene for external fixation treatment.

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INTRODUCTION: In August 2005 Orthopaedic Surgery Nordjylland introduced new clinical guidelines regarding pin-hygiene for patients, who are under external fixation treatment. The new clinical guidelines has decreased the number of infections, the number of patient phone calls, the number of visits in the outpatient clinic as well as reduced the use of antibiotics.

MATERIAL AND METHODS: The report is a retrospective research, in which all 275 included patients have been under an external fixation treatment in the period 2004-2006. The journal and nursing notes from each patient, who in the treatment period had developed pin-hole infection was examined and registered, and the patients became a more intensive pin-hygiene treatment either according to former and or the new implemented guidelines. Earlier all patients were treated with isotonic NaCL 0,9 % and closed treatment. The new guidelines apply chlorhexidine 0,5 % and closed treatment. Antibiotic treatment was implemented depending of the degree of pin-hole infection

RESULTS and CONCLUSION: The research has shown that the new guidelines offer a significant reduction ($p < 0.05$) in the number of infections using of chlorhexidine 0,5 % in the pin-hygiene treatment.

Nanostructure of growing bones in alendronate treated pigs

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INTRODUCTION Scanning small angle X-ray scattering (sSAXS) have been applied to investigate the nanostructure of bone and cartilage in and near the proximal femoral growth plate (PFGP) in 12 nine month old female Danish landrace pigs. To reveal any possible long term effect of biphosphonate treatment on the PFGP, six of the pigs had received alendronate (10 mg/day) from when they were 3 to 6 months old.

MATERIAL AND METHODS A total of 3148 individual position resolved SAXS measurements in bone sections from the 12 animals. The data provides detailed information about the size and orientation of the hydroxy apatite mineral crystals in the bone.

RESULTS Several general features were identified that provide new insights into the nanostructure of the PFGP: A significant fraction of the mineral plates are in fact oriented perpendicular to the direction of the growth plate in the calcified cartilage and the crystal found here are thinner compared to the old bone with average thicknesses ranging from 1.65 nm (1.63-1.67) to 1.8 nm (1.75-1.85). From the mineralization front the thickness of the crystallites increases in a manner reminiscent of logistic growth that saturate at a value of around 2.6 nm at a distance of about 3 - 4 mm from the mineralization front, coinciding with a systematically increase in trabecular thickness determined by micro-CT. No difference in mineral plate thickness was found between alendronate treated animals and controls.

CONCLUSION On the basis of these findings we conclude that alendronate treatment have no lasting effects on the material properties of the bone in the present pig model. Discontinued treatment in children with OI or JIA is therefore likely to reverse any possible harmful effect of alendronate treatment on bone.

Strontium and bone nanostructure in a rat osteoporosis model

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INTRODUCTION The use of Strontium ions (Sr^{2+}) has attracted strong interest for the treatment of osteoporosis. However, detailed knowledge about possible effects of Sr^{2+} treatment on the bone nanostructure is limited. Therefore, we have applied scanning small angle X-ray scattering (sSAXS) to investigate the influence of SrCl_2 on HA mineral plate thickness and orientation in a rat bone.

MATERIAL AND METHODS The effect of SrCl_2 on the treatment of ovariectomy induced osteoporosis was examined in twelve 6-month-old female Wistar rats. The animals were treated with 4 mmol SrCl_2 (aq)/kg/day or placebo for a period of 140 days and labeled with fluorochemicals at days 7, 126 and 136. Cross sections from the femoral midshaft from three animals in each group (-ovx/ Sr , +ovx/ Sr , +ovx/ Sr and +ovx/ Sr) were studied using fluorescence microscopy, sSAXS and element mapping by energy dispersive X-ray analysis (EDAX). The sSAXS study comprised 5500 measurement points in new and old bone in 3 different samples from each of the four groups.

RESULTS The newly bone was found to contain increased levels of Sr^{2+} by EDAX analysis in the Sr^{2+} treated animals. Mineral plate thicknesses were significantly larger in old bone 2.62 nm [2.58-2.65 nm] compared to new bone 2.41 nm [2.36-2.46 nm] (95% confidence intervals, $P < 0.05$, linear mixed effect statistical model). The mineral plates in the new bone of +ovx rats were significantly thicker (2.52 nm [2.47-2.57 nm], $P = 0.017$) compared to new bone in the other groups. No significant effect of SrCl_2 on the mineral plate thicknesses in new bone was found.

CONCLUSION Thus, we conclude that no deleterious effects of Sr^{2+} on the minerals in the new bone are found with the SrCl_2 dosage in the present study

Total Joint Replacement in Proximal Hip Fractures: A Need for More Stable Cup Systems?

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INTRODUCTION: Arthroplasty following a proximal hip fracture is always a challenge when undertaken, and requires special considerations regarding stability, as patients in this category frequently suffers from dementia, other cognitive impairments and physical disabilities. This translates into a higher rate of dislocations among patients fitted with total hip arthroplasty when osteosynthesis fails, compared to elective primary total hip joint replacement. The aim of this study was to compare dislocation frequency of two different cementless cup systems in this patient population

MATERIALS AND METHODS: 59 cases (58 patients), median age 76,4 years, challenged with total hip joint replacement following proximal hip fracture from 2002 to late 2005 were included in this study. The observation period ranged from 12 to 48 months. Data on dislocation incidences in two comparable groups consisting of 37 Saturn double mobility cups and 22 Trilogy cups was evaluated. In addition ASA scores, initial stability of the fractured hip, hours from fracture until osteosynthesis, duration of primary hospital admittance and choice of stem was evaluated as possible cofounders. All included operations were performed exclusively by the same surgeons.

RESULTS: For Saturn cups the dislocation rate was 5,4%, compared to 27,3% in the Trilogy cup group ($p < 0,05$), 2 dislocations/37 cups compared to 6 dislocations/22 cups respectively. There was a tendency of higher ASA scores, less initial stability, as well as higher age, in the group fitted with Saturn cups, but no significance regarding choice of stem.

CONCLUSION: The higher risk of dislocation after total hip replacement, in this challenging patient population, advocates use of more stable cup systems. The low dislocation frequencies of elective, non fracture patients, does not seem to apply.

Ultrasound versus MR-Arthrography in Acetabular Labral Tear Diagnostics. A Prospective Comparison in 20 Dysplastic Hips.

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INTRODUCTION Acetabular labral tears are tightly associated with hip dysplasia. Due to the growing recognition of a labral tear as a source of groin pain and as a critical event in the development of osteoarthritis, there has been increased focus on both diagnostic and therapeutic aspects of these conditions. Gadolinium enhanced magnetic resonance arthrography (MRA) is the expensive and time consuming contemporary gold standard method in the radiologic assessment of acetabular labral tears. The aim of the present study was to assess the diagnostic ability of non-invasive ultrasound (US) examination compared to gadolinium enhanced MRA in diagnosing acetabular labral tears in dysplastic hip joints.

MATERIAL AND METHODS The study compared US examination and gadolinium enhanced MRA diagnosis of labral tears in 20 consecutively referred symptomatic dysplastic hip joints. None of the patients had radiological osteoarthritis at the time of index examination. The study group consisted of 15 females and 5 males with a median age of 26 years (range, 14-56 yrs). The median CE-angle was 17° (range, 1°-24°), and the median Acetabular Index angle was 16° (range, 8°-25°).

RESULTS In 16 of 20 hip joints MRA visualized an acetabular labral tear. Labral tears were most frequently located in the antero-lateral quadrant. US examination visualized acetabular labral tears in 8 of 20 hip joints. The ability to diagnose acetabular labral tears upon US examination was calculated: Sensitivity 44%, specificity 75%, positive predictive value 88% and negative predictive value 25%.

CONCLUSION Non-invasive US examination has the potential of improving cost-effectiveness of labral tear diagnostics. With increased experience and improved sensitivity and specificity, US can be an important diagnostic tool in patients with suspected labral tears.

Early post operative complications in patients with primary THA.

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INTRODUCKTION. In Denmark approximately 7200 total hip alloplastics(THA) was performed in 2005. 5,4 % of the patients have early post operative complications(1). At Kolding Sygehus this number was according to Danish Hip Register(DHR) in 2005, 190 performed THA and 7,9% of the patients had early post operative complications. We wanted to find out what these complications were.

MATERIAL AND METHODS. The study was post prospective and we searched 379 journals from 2004 and 2005. We have investigated all patients who had a primary THA Two types of proteases was inserted, either non-cemented THA or Hybrid THA, both was included in the investigation. The majority of the patients had primary arthrosis, but about 10 % had other indications.

RESULTS. 33 patients were found having early post operative complications. Almost 50 % were luxation of the hip, saying that 4,2% of primary THA had a luxation within the first three months. Infection, defect cicatrise and low Hgb. was seen in under 1% of the patients(two cases each). Under 1% of the patients had a fracture post operative. Three Patients was embedded with medical problems, two with AMI and one with possible DVT. Two patients were hospitalized of other reasons, one with gallstone and one to total knee alloplastick. Overall 8,7% of the patients had early post operative complications.

CONCLUSION. The main problem THA patients have in terms of early post operative complications, is luxation of the hip. According to earlier researches the incidence is between 2-4% and of which 75% happens in the first year post operative. We found an incidence 4,2%. Other complications is found at a level which can be expected.

Long term follow-up of cemented titanium Bi-metric femoral component in combination with Müller acetabular component.

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INTRODUCTION In the period from 1988 to 2002 all total cemented hip arthroplasties at Horsens Hospital were the combination Bi-metric titanium femoral component and Müller acetabular component. This cohort was re-examined because there was an interpretation of many cases with aseptic loosening.

MATERIAL AND METHODS 774 consecutive cases, average age at surgery 74 years. Surgery performed by 29 different surgeons. All diagnosis were included, 83 % due to osteoarthritis. Follow-up period was average 7.6 years. (3 – 17 years) 289 hips was re-examined, 120 did not participate but were interviewed by phone. 48 hips underwent revision. 317 cases were dead at follow-up. Patient records were checked and compared with data from Danish National Patient Registry and the Danish Hip Arthroplasty Register.

RESULTS Ten years implant survival was found to be 92.1 percent. Postoperative deep infection was seen in four cases (0.5 %). Dislocation was a problem in 41 cases (5.3 %) Re-operation was performed in 48 patients, aseptic loosening was the reason to revision in 24 cases. Small femoral size was associated with a fivefold revision rate. 88 % of the re-examined assessed the result as most satisfactory or satisfactory. Median Harris Hip Score was 85 (3 – 17 years after primary surgery). Radiolucent zones at the interface between femoral component and bone were seen in 82 of 291 cases. According to criteria of Harris five stems was probable loose, and nine stems possible loose.

CONCLUSION Implant survival correspond to results for identical combination of components in the Danish and Swedish Hip Arthroplasty Register. There was a remarkable high frequency of aseptic loosening when the smallest femoral component was used.

Dislocations of primary hip arthroplasties in Denmark

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INTRODUCTION: Varying estimates of the incidence of dislocation following primary total hip arthroplasty (THA) have been reported and data from large scale population-based studies are sparse.

MATERIAL AND METHODS: Using data from The Danish Hip Arthroplasty Registry between 1 January 2001 to December 31 2003, we identified 18.289 primary THA procedures. From the nationwide National Registry of Patients, we identified all admissions with any type of hip dislocation including dislocations only requiring closed reposition. Accurate record linkage between the registries was done using the civil registry number of the patients and information on laterality of the THA and the dislocations.

RESULTS: We identified a total of 15.722 primary THA procedures, which were registered in both the Hip Registry and The National Registry of Patients. Of these, 589 patients had been admitted with a dislocation on the relevant side during follow-up. The number of admissions with dislocation for each individual patients ranged from 1 to 11. The total number of dislocations was 1165. The cumulative incidence of a first-time dislocation during the study period was 3.80%. No differences in incidence were found according to sex. As expected the cumulative incidence of dislocation was lower in THAs performed through a lateral access (1.79%) compared with procedures performed through a posterior access (4.00%) (Relative Risk 0.46, 95% Confidence Interval: 0.30-0.68).

CONCLUSION: Using Danish population-based health registries it appears possible to estimate the incidence of dislocation following THA in routine clinical settings. Validation studies of the dislocation diagnosis in the National Registry of Patients are required before more firm conclusions can be drawn.

Postoperative complications in uncemented bipolar hip hemiarthroplasty

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INTRODUCTION We studied the uncemented bipolar hip hemiarthroplasties operated at Bispebjerg Hospital in a two-year period between 2004 and 2006 to see if any differences in postoperative complications.

MATERIAL AND METHODS The femoral stems studied were Ultima and hydroxyapatite coated Biomet Fracture Stem (BFX). We used the DOMUS database to select the patients categorized according to the operation-classification code: Primary insertion of uncemented hip hemiarthroplasty (KNFB02). An in-ward briefcase containing labels from the implants was crossed with the number of patients. The medical records from the patients undergoing revision surgery were reviewed. Only the first reoperation was included. In five cases, the classification codes were misclassified according to the operation records. Two patients were excluded. The end-point parameters were luxations, periprosthetic fractures and revision requiring cement fixation.

RESULTS During the two-year period, 125 Ultima and 133 BFX hemiarthroplasties were inserted. Thirty-five reoperations were performed: 18 and 17 respectively. A total of 6 (4,8%) Ultima and 11 (8,3%) BFX were observed for luxation while 7 (5,6%) and 3 (2,3%) were quoted for periprosthetic fractures. None of the differences reached significance at a 5% level (Chi-squared test. $P > 0,05$). Using Kaplan-Meier curves to analyze the time to reoperation, no significant difference between the Ultima and BFX hemiarthroplasties was found ($p = 0,6$, log-rank test).

CONCLUSION No statistical significant differences in the postoperative rate of complications or in the time to reoperation were seen during a two-year period of observation. There was a tendency towards a higher luxation rate of BFX and a higher rate of periprosthetic fracture with Ultima.

Traumatic aortic rupture: initial priorities and treatment.

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INTRODUCTION Many traumapatients appear to have various rare, life threatening lesions. 85% of patients suffering from traumatic aortic rupture(TAR) die at the scene or shortly after arrival. The remaining 15% are hemodynamically stable on arrival. The challenge is how to distinguish patients with ongoing blood loss due to TAR from patients with other bleeding lesions.

MATERIAL AND METHODS A total of 3699 trauma patients were admitted from 1999 to 2006 to the trauma unit of Aarhus University Hospital. Ten patients with TAR were identified. 19% had an ISS above 15.

RESULTS Medium age was 40 years (20-58). Every patient was examined according to ATLS records. Chest x-ray was performed in all patients, widening of the mediastinal space was present in nine. Helical multi-slice CT-scan using contrast was performed shortly after arrival in nine of the patients. TAR was confirmed in all nine. Three patients became circulatory unstable shortly after arrival. They died during surgery. Seven patients presented hemodynamically stable and survived surgery for TAR as a primary operation or secondary to operations for other lesions.

CONCLUSION In this study the stable patients with TAR survived. Ongoing blood loss from other lesions must be dealt with first. Survival depends on the possibility to establish extra corporal ciculation which includes heparinisation of the patient. Bleeding brain damage must therefor be excluded. Helical multi-slice CT-scan using contrast is prerequisite for operative treatment of patients with TAR

Stabilisation of periprosthetic femoral fractures with locking plates.

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INTRODUCTION The treatment of periprosthetic femoral fractures has always been associated with many complications and mixed results. There are many different treatment modalities including open reduction and internal fixation, intramedullary nailing, cerclage, use of allograft or revision of prosthesis. Locking plates has a theoretical advantage, because of improved fixation in osteoporotic bone, possibility of unicortical fixation and minimally invasive technique.

MATERIAL AND METHODS We made a retrospective study from January 2002 to October 2006 including all patients with periprosthetic femoral fractures and stable implants. 49 of 50 patients were treated with locking plates. For these 49 patients X-rays and journals were examined and for 34 patients a clinical examination was performed including a functionality score (UCLA score).

RESULTS 49 patients were included, 10 patients had died of causes not immediately related to their fracture. Median age was 79 (range 49-96) at the time of trauma. There were no failures due to loss of fixation. X-ray after 16 weeks showed radiographic healing in 36/39 patients (92,3 %). For 10 patients no X-ray was obtained after 16 weeks either because of death (7) or dropout (3). There was a mean follow up period of 32 weeks. Functionality score slightly decreased compared to before the fracture (UCLA 4,9-4,1 $p < 0,015$). One patient had a late deep infection, which resolved after soft tissue revision and plate removal. In one case the locking plate broke but the fracture healed without intervention.

CONCLUSION Locking plates provides a reliable stabilisation of periprosthetic fractures with stable implants, especially in the osteoporotic bone. There is a low complication rate, probably because of the minimally invasive technique. There was a slight decrease in functionality.

Accident and injury patterns in cyclists vs. heavy traffic accidents

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INTRODUCTION In recent years there has been an increased awareness of the dangers that heavy traffic poses to cyclists in Copenhagen. We present a retrospective study of patients, who as cyclists had been seriously injured following traffic accidents involving a heavy vehicle

MATERIAL AND METHODS Data was extracted from the TARN database in which Rigshospitalet TraumaCenter collects data on trauma patients who are admitted > 72 hours, dies, or are admitted to an ICU. The search criteria were “cyclists injured in a traffic accident who had surgery and/or died”. Type of vehicle involved was obtained from hospital records.

RESULTS Twenty-two patients were included, 3 dead and 19 alive, median age 43 years (15-76). Eighteen (82%) of the accidents happened between 8am-6pm. All took place in urban areas. Four patients were secondary referrals. Seventeen (77%) of the accidents involved a truck, (11 a right turning truck), 4 (18%) a bus and 1 (4,5%) a van. Male:female ratio was 1,2 . Among victims of right turning trucks 73% were female. The locations of injuries were: 14 (64%) lower extremity and/or pelvic, 9 (41%) abdominal and 6 (27%) head injuries. Among the victims of right turning trucks 10 (90%) had lower extremity/pelvic injuries, and only 1 (9%) had head injuries. The severest injuries (AIS=5) were pelvic (63%), head (25%) and abdominal (12%). Median ISS=12 (1-51). Ten patients (45%) had ISS>15, four of these from right turning truck accidents.

CONCLUSION Trucks, especially right turning, are the major cause of bicycle vs. heavy vehicle accidents. Females are more frequently victims of right turning trucks. Injuries to the lower body regions are the most common, head lesions and pelvic fractures are the most severe

Osteomyelitis treated with debridement and free muscle flaps; A review of 11 consecutive cases

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INTRODUCTION Treating osteomyelitis is a challenge. We have for more than 15 years treated patients with osteomyelitis in a joint venture setting, involving orthopaedic and plastic surgeons.

MATERIAL AND METHODS Retrospectively we have evaluated 11 consecutive patients admitted to our department from August 1998 to July 2006 for treatment of osteomyelitis in the lower leg or foot. The patients (7 males and 4 females) had a mean age of 57 years (range 28 – 73). The mean duration of osteomyelitis at the time of operation was 22 years (range 0.5 – 57) The diagnosis of osteomyelitis was verified by use of leukocyte and bone scintigraphy or a positive culture from the bone. Debridement was performed, removing all infected or necrotic bone and soft tissue. In case of tibial involvement intramedullary reaming was performed by use of a window in the bone. Concomitantly a free muscle flap was mobilised. Vessels for the microvascular anastomoses were prepared at the recipient site. The muscle flap was transferred, revascularized, and was wrapped in and around the debrided bone. Nine muscles were covered with meshed split skin, and 2 were covered with full thickness skin transplant. We used 1 latissimus dorsi muscle, 4 rectus abdominis muscles and 6 gracilis muscles. The patients were immobilized for a week and the operated extremity was elevated for another 2 weeks.

RESULTS All 11 muscle transplants were performed without microvascular complications. With a mean follow up time of 3 years and 4 months (range 6 months - 7 years) no recurrence of the osteomyelitis has been seen.

CONCLUSION Osteomyelitis can be treated successfully in an orthopaedic-plastic surgeon joint venture setting by thorough debridement and free muscle transfers.

Pelvic fractures treated with C-clamp or pelvic sling - A retrospective study of 42 patients

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INTRODUCTION: Pelvic fractures in need of emergency stabilization are treated using a C-clamp or a pelvic sling. This retrospective study compares data of patients treated with either or both of these methods.

MATERIAL AND METHODS: Patients admitted to Rigshospitalet TraumaCenter Jan.1st 2000 - Dec.31st 2005 were identified using free-text search in computerized hospital records and search for relevant ICDs. Data were extracted from Trauma Audit & Research Network, and from databases in the Blood Bank and laboratory.

RESULTS: Forty-two patients (25 male, 17 female) were identified, 14 primary admissions, 28 secondary referrals. Twenty-six were treated w/ pelvic sling, 16 w/ C-clamp. Twenty of the secondary referrals arrived w/ a pelvic sling, 3 w/ a C-clamp. The trauma mechanisms were traffic accidents (32 patients) and fall from heights >2 m (10 patients). The mortality rate was 63% for patients w/ C-clamp, 12% for patients w/ pelvic sling. Injuries to other organ systems were: Extremities (30), abdomen (26) and/or thorax (20). Fractures were classified according to the AO and Tile classifications. In 3/6 cases radiographs w/ C-clamp showed that the fractures were not reduced and/or the clamp was mal-positioned. Five of the survivors w/ C-clamp had surgery. 2 had ORIF, 3 EF. Twenty of the patients w/ pelvic sling had surgery; 12 ORIF, 6 EF, 2 had both.

	n	Age	ISS	AO classification			Hgb	Units blood	†/alive
		Mean	Median	61-A	61-B	61-C	Mean	Mean	
Pelvic sling	26	44	34 (8-50)	4	17	5	6,9	29,4	3/23
C-clamp	16	55	30 (17-59)	1	6	9	7,0	75,0	10/6

CONCLUSION: Patients treated w/ C-clamp had higher mortality, than patients treated w/ pelvic sling. This cannot be explained by ISS or fracture type alone. Applying the C-clamp does not necessarily reduce the fracture and mal-positioning does occur. Pelvic slings are usually not used in pre-hospital settings, but this could be considered.

Can lower extremity overuse injuries be prevented by an exercise program aiming at muscular strength, flexibility and coordination – a rct of 1020 army recruits

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INTRODUCTION Overuse injuries are a major concern for physically active individuals engaged in endurance type activities. The present study is a randomised placebo controlled trial that investigated the effect of a preventative training program (PRE) consisting of 5 exercises for strength, flexibility and coordination based on known risk factors, on the incidence of overuse knee injuries and shin pain in soldiers undergoing basic military training.

MATERIAL AND METHODS 1020 soldiers aged 20.9 years (19-26) undergoing 3 month of basic military training were consecutively enrolled from December 2004 to December 2005. The soldiers were randomised to either the preventative training program (PRE) or a placebo program with exercises for the upper body; randomisation was performed with platoons as the unit of randomisation. The exercise programs of 15 minutes duration was performed 3 times a week in a 12-week period.

RESULTS During the observation period 223 subjects sustained an injury, with 50 and 48 of these fulfilling the study criteria for overuse knee injuries or shin splints respectively. There were no significant differences in incidence of injury between the prevention group and the placebo group. The soldiers in the prevention group had a greater improvement in running distance in a 12-minute run tests, compared to the placebo group.

CONCLUSION An exercise programme with emphasis on muscular strengthening, coordination and flexibility based on known intrinsic risk factors did not influence the risk of developing overuse knee pain syndrome or shin splints. The program increased maximal running distance in a 12-minute test.

Professor Stefan Lohmander Lunds Universitet

Stefan Lohmander, M.D., Ph.D., is professor and senior consultant in Orthopaedic Surgery at the Department of Orthopaedics at Lund University, Sweden. He received his basic training and MD and PhD degrees at the Karolinska Institute in Stockholm. After serving as a visiting scientist at NIH in Bethesda, he moved to the Department of Orthopaedics at Lund University. He is the PI of the Lund University Osteoarthritis Research Group, focusing on basic and clinical aspects of osteoarthritis (OA). He has published more than 250 scientific papers and serves on the editorial board of several international journals.

Stefan Lohmander is a past president of the Osteoarthritis Research Society International, OARSI. In 1994 he received the OARSI Award for Clinical OA Research, in 2004 the Orthopaedic Research Society USA (ORS) Arthur Steindler Award for significant international contributions to the understanding of musculoskeletal disease and injury, and in 2006 the Bone and Joint Decade 2000-2010 Award for Research in Osteoarthritis. In 2006 he also received the Marshall Schiff Lecture Award from the American College of Rheumatology (ACR): "A special lectureship established to address the interface between rheumatology and orthopedics in the area of musculoskeletal medicine". In 2004 he served as Visiting Professor at the Department of Orthopedics, University of Iowa, and in 2005 as Visiting Professor at the Department of Orthopaedics and Sports Medicine, University of Washington, Seattle, USA.

Research projects being studied by the Lund University Osteoarthritis Research Group are divided into three major areas:

Risk factors and disease mechanisms of OA on gene, molecule and patient level (Inheritance and Genetics of OA, Identification of Mechanisms of Cartilage Destruction in OA, Epidemiology and Risk Factors for OA after Joint Injury)

Methods for Monitoring Outcome of OA (Biomarkers as Surrogate Outcome in OA, Patient-relevant Outcome Measures in OA)

Treatment of OA – Examining Old and New Interventions for OA in Clinical Trials (Reconstructive Knee Surgery, Disease-modifying OA Therapy, Symptomatic OA Therapy)

The Lund University Osteoarthritis Research Group consists of some 15 specialists in orthopaedic surgery, rheumatology, epidemiology, radiology, physical therapy, nursing, biochemistry and genetics.

Young patients – Old knees: The Longterm Consequence of Joint Injuries

L Stefan Lohmander

Department of Orthopaedics, Clinical Sciences Lund,
Lund University, Sweden

Tears of the ACL and menisci are common in both athletes and the general population, the combined lifetime risk is in the order of 10 to 20 %. At 10-20 years after the diagnosis, on average 50 % of those diagnosed with an ACL or meniscus tear have osteoarthritis (OA) with associated pain and functional impairment: the young patient with an old knee. These individuals make up a significant proportion of the overall OA population. There is a lack of evidence to support a protective role of repair or reconstructive surgery of the ACL or meniscus against OA development. A consistent finding in a review of the literature is the often poor reporting of critical study variables, precluding data pooling or a meta-analysis.

OA development in the injured joints is caused by intra-articular pathogenic processes initiated at the time of injury, combined with long-term changes in dynamic joint loading. Variation in outcome is reinforced by additional variables associated with the individual such as age, sex, genetics, obesity, muscle strength, activity and re-injury. A better understanding of these mechanisms may improve future prevention and treatment strategies. In evaluating medical treatment we now expect large RCTs complemented by post-marketing monitoring. We should strive towards a comparable level of quality of evidence in surgical treatment of knee injuries. In instances where an RCT is not feasible, natural history studies and other observational cohort studies need to and can be as carefully designed and reported as the classical RCT, in order to yield useful information.

MØDER I FORBINDELSE MED FORÅRSMØDET 2007

DOS forårsmøde 10. – 11. maj 2007 Scandinavian Center Aarhus

Møder i forbindelse med Forårsmødet.

Onsdag den 09. maj 2007

13:00-15:30 Forum for uddannelsesansvarlige overlæger
” **Uddannelse i en produktionsvirksomhed**”.

16:00-18:00 **Stryker symposium**
'Latest Generation Bearing Surfaces'
Current state of the art in Tribology

Se program og oplægsholdere senere i bladet.

Torsdag den 10. maj 2007

09:00-11:00 DSHK (Dansk Selskab for Hofte-
og Knæalloplastik Kirurgi)

09:00-12:00 Dansk Selskab for Håndkirurgi

10:00-12:00 DOTS (Dansk Ortopædisk Traumeselskab)

Se evt. program efterfølgende.

Forum for uddannelsesansvarlige overlæger holder møde 9/5 2007

**kl. 13-15.30 på Radisson SAS Scandinavia Hotel i Århus
med temaet:**

” UDDANNELSE I EN PRODUKTIONSVIRKSOMHED”

Program:

- 13.00-13.05: Velkomst ved formand for uddannelsesudvalget overlæge Marianne Breddam og overlæge Thomas Lind.
- 13.05-14.05: Oplæg à 10 minutters varighed hvor foredragsholdere causerer over mødets tema :
Uddannelsesansvarlig overlæge Allan Buhl, Horsens.
Ledende overlæge Steen A. Smith, Kolding.
Ledende overlæge Frank Farsø, Århus.
Ledende overlæge Benn Duus, Bispebjerg.
Cheflæge Peter Frandsen, OUH.
Vicedirektør i ” Region Midtjylland”,
Kjeld Martinussen
- 14.05-14.20: Kaffepause.
- 14.20-15.25: Paneldiskussion med spørgsmål fra salen.
Ordstyrer: Micael Haugegaard, Glostrup.
- 15.25-15.30: Afrunding ved overlæge Thomas Lind og overlæge Marianne Breddam.

Det er et åbent møde hvor alle interesserede er velkomne.

Symposium: Latest Generation Bearing Surfaces

I forbindelse med DOS' forårsmøde har Stryker Danmark fornøjelsen af at invitere til et minisymposium om bæringsmaterialer

Dato: 9. maj 2007

Tid: 16.00 – 18.00

Sted: Radisson SAS Scandinavia Hotel Århus

Tilmelding til symposiet er bindende og kan foretages ved at sende en e-mail til:

annemarie.nielsen@stryker.com

alternativt kan tilmelding ske gennem den lokale Stryker repræsentant.

Tilmelding senest den 30. april.

For deltagere fra Sjælland arrangeres der transport t/r med start kl. 9.00 i Københavns Lufthavn, derefter Københavns Hovedbanegård og Ringsted.

Venligst oplys ved tilmelding om transport ønskes.

Symposieprogram:

Latest Generation Bearing Surfaces

Current state of the art in Tribology

- 16:00 **Welcome and introduction**
Dr. P. Kjærsgaard-Andersen, Denmark
- 16.15 **Current state of the art in Metal on Metal**
PhD J. Nevelos / UK
- 16.40 **Current state of the art in Ceramic on Ceramic**
Dr. B. Walter Jr. / Australia
- 17.05 **Current state of the art in**
UHMWPE
Dr. J. Dumbleton / USA
- 17.30 **Panel discussion**
- 18.00 **Light dinner**

DSHK Symposium

**Torsdag den 10. maj 2007 kl. 09-11
Radisson SAS Scandinavia Hotel, Århus**

Knæartrose hos yngre (<60 år)

Moderator: Henrik M Schrøder

1. Epidemiologi og spontanforløb
Henrik M Schrøder
2. Idrætstraumatologiske indgreb og artroseudvikling samt status for atrosemulende kirurgi
Martin Lind
3. Osteotomi
Poul T Nielsen
4. Unikompartmental alloplastik (medial og lateral)
Per Wagner
5. Unikompartmental alloplastik (femoropatellar)
Snorre Stephensen
6. Total knæalloplastik
Christian Pedersen
7. Registerdata
Henrik M Schrøder
8. Diskussion og konsensus om tilbud
Panelet

***Jens-Erik Varmarken
DSHK***

DSHK

Dansk Selskab for Hofte- og Knæalloplastik Kirurgi

5. Ordinære Generalforsamling
Torsdag 10. maj 2007 kl. 11.15-12.00
Radisson SAS Scandinavia Hotel, Århus

Dagsorden

1. Valg af dirigent.
 2. Godkendelse af referat fra 4. ordinære generalforsamling 18. maj 2006.
Referatet er tidligere udsendt til medlemmerne og findes på hjemmesiden www.dshk.org
 3. Formandens beretning.
 4. Fremlæggelse af regnskab og budget til godkendelse.
 5. DSHK's forslag til specialplanlægning
 6. Kernediagnoser og kvalitesmarkører
 7. Behandling af indkomne forslag.
 8. Fastsættelse af kontingent.
 9. Valg til bestyrelsen.
i. Kjeld Søballe afdækker og kan ikke genvælges
 10. Valg af revisor
 11. Eventuelt
- På vegne af DSHK* *Jens-Erik Varmarken*

Dansk Selskab for Håndkirurgi

I forbindelse med DOS Forårsmødet holder Dansk Selskab for Håndkirurgi møde torsdag 10. maj 2007 09:00 - 12:00.

Mødet arrangeres af ergoterapeuterne.

Foreløbigt program:

Symposium vedrørende PIP-leds problematikker.

Symposiet vil bl.a. omhandle anatomi og biomekanik, patofysiologiske dysfunktioner og kliniske problemstillinger.

Evt. frie foredrag.

Abstracts til frie foredrag kan fremsendes til undertegnede på flg. E-mail adresse: pernille.leicht@rh.hosp.dk senest 27.04.07.

Pernille Leicht
Dansk Selskab for Håndkirurgi

Dansk Ortopædisk Traumeselskab (DOTS)

Dansk Ortopædisk Traumeselskab er en interesseorganisation under DOS. Selskabet er involveret i undervisning, workshops og kurser. Vi bliver indraget af DOS i spørgsmål vedrørende traumatologi. Vi repræsenterer DOS i udvalg vedrørende traumatologiske emner. Organisering af akutberedskab og traumecentre har stor politisk bevågenhed.

Indmeldelse kan ske til formand eller sekretær.

Kjeld Hougaard hou@dadlnet.dk

Charlotte Buch Gøthgen cbg@dadlnet.dk.

Oplys navn og adresse samt titel og E-mail adresse.

Det årlige kontingent på 200 kr. bliver herefter opkrævet automatisk sammen med dit kontingent til DOS.

Åben generalforsamling torsdag den 10.05.07 kl 10 –12

Mød op.

Sundhedsstyrelsens bemandingsanbefalinger for traumemodtagelser

I december sidste år udkom Sundhedsstyrelsens længe ventede anbefalinger vedr. bemanding af traumemodtagelser i fremtiden. Det fremgår at der, foruden en række andre specialer, skal være døgntilstedeværelse af en speciallæge i ortopædisk kirurgi. Jeg ser det som frugten af et ortopædkirurgisk lobbyarbejde igennem flere år, som har ønsket at placere en ortopædisk speciallæge på en ledende post i forbindelse med modtagelse og udredning af svært tilskadekomne patienter. Det er tilsyneladende også Dansk Ortopædisk Selskabs officielle holdning, hvis man læser et af bestyrelsesreferaterne fra sidste år. Jeg mener, at vi med denne beslutning har sat os imellem 2 stole, idet DOS samtidig har accepteret at forringe den ortopædkirurgiske speciallægeuddannelse på nogle meget vigtige punkter, når man taler om traumemodtagelse. Uddannelsesstillingerne i ortopædisk kirurgi er nu tilrettelagt uden de 6 måneders ophold på henholdsvis en Neurokirurgisk- og en Thoraxkirurgisk afdeling, som før i tiden var reglen, begge disse uddannelsesdele er nu erstattet af 14 dages fokuseret ophold. Når man samtidig betænker, at der heller ikke længere er krav om 12 måneders organkirurgi for at kunne søge kursusstilling i ortopædisk kirurgi, mener jeg de kommende ortopædkirurgiske speciallæger, med den meget smalle kirurgiske erfaring, bliver meget lidt egnede til at varetage den modtagefunktion, som DOS åbenbart anser for at være en ortopædkirurgisk kerneydelse. Jeg mener ikke den mangel i klinisk erfaring, som er resultatet af de nævnte ændringer i uddannelsen på nogen måde kan erstattes af de færdighedskurser, som alle kursister får, hvor man lægger pleuradræn på bedøvede grise eller for den sags skyld et ATLS kursus. Jeg forudser, at vore yngre kolleger vil vælge fra at videreudanne sig inden for traumatologien, når de ikke i løbet af uddannelsen får en tilstrækkelig bred kirurgisk erfaring til at kunne påtage sig ansvaret for at lede en traumemodtagelse. Jeg mener DOS hurtigst muligt skal tage stilling til denne problemstilling og til, hvordan den kan blive løst i fremtiden ellers forudser jeg mangel på kvalificerede ortopædkirurger. De nye regioner er i øjeblikket i gang med at tilrettelægge, hvor mange traumemodtagelser, der skal være, og man vil givet vis vælge at køre stordrift, så der kommer mange traumepatienter ind nogle få steder, som så til gengæld skal være bestykket med tilstrækkeligt personale.

Lars Borris

Grundet en redaktionel fejl i Bulletin nr. 02-07 (forrige nummer) blev referaterne fra to kurser uheldigvis blandet sammen således at forståelsen og sammenhæng blev lidt uklare.

Begge indlæg kommer hermed i deres uforstyrrede fulde længde:

The Ponseti Method For Clubfoot Treatment. Baltimore den 31. august 2006.

Kurset var et heldagskursus med John Herzenberg som kursusleder. Alle aspekter af klumpfodsbehandling blev gennemgået – naturligvis med specielt fokus på den primære konservative behandling, som den er ”opfundet” af Ponseti. Der blev fremvist flotte opfølgende undersøgelser, som fremhævede Posetimetoden frem for operation. Flere indlæg kom fra ”development countries”, hvor foredragsholderne fremlagde deres lands behandlingsstrategi. Stemningen var nærmest religiøs med glædesråb, når foredragsholderne kunne fremhæve endnu en region, hvor metoden havde fået fodfæste.

I den forbindelse ville Danmark knapt kunne rangere som et ”development country”, men jeg var vist ikke den eneste, der sank sammen i stolen, når de dårlige resultater efter kirurgi blev fremlagt. Snak i pauserne med flere udenlandske kolleger fjernede lidt af ensomhedsfølelsen.

Eftermiddagen var afsat til praktiske øvelser – først på plastikknøglere, hvor den specielle rækkefølge af redresserende øvelser blev trænet; herefter på plastikmodeller af en fod i forskellige stadier med anlæggelse af gips. Til sidst blev der båret 10 små babyer ind i auditoriet, som vil lagt nye gipse af underviserne. Flot og imponerende og med glade børn og mødre.

Metoden får efterhånden større og større udbredelse. I Dansk Børneortopædisk Selskab har vi diskuteret vores holdning til metoden – Dan-

mark er et lille land, og en ny metode bør kunne indføres i fællesskab, så vi kan bruge hinanden og hinandens erfaringer undervejs. Det er fristende at starte på Ponsetimetoden, for den virker umiddelbart så enkel. Men der er mange faldgrupper undervejs. I en netop offentliggjort undersøgelse, har metoden vist sig effektiv i hænderne på særligt trænedede fysioterapeuter. I Danmark har vi en god behandlingsstrategi, som indebærer fysioterapi, bandagering og en operation ved 3-månedersalderen. Vi tror at resultaterne er gode, men er ikke sikre. Hvis vi venter for længe vil indførelsen af Ponsetimetoden komme snigende som et krav fra forældre, der har læst om metoden på Internettet. Så gælder det om at være klar med svar eller klar til at give den ønskede behandling.

Klaus Hindsø

16th Annual Baltimore Limb Deformity Course, 2. – 6. september 2006

Kurset, som efterhånden er blevet en klassiker for nørder med rekonstruktiv ortopædi eller børneortopædi som hovedområde, havde lidt over 200 kursister fra 40 forskellige lande. Undervisningskaren var lige så bredt sammensat, dog med overvægt af undervisere fra Baltimore med Dror Payley og John Herzenberg i spidsen. Og sikken en spids. Man blev på grundig og instruktiv vis ført gennem alle aspekter af rekonstruktiv ortopædi – fra planlægningsfasen via forskellige operative indgreb til efterbehandling og håndtering af komplikationer. Forventninger til langsigtede resultater blev gennemgået med et imponerende datagrundlag. Det var også mange patientfremvisninger, og man fik derfor et indtryk af stemningen mellem patient og behandler. Det var et godt indtryk. Kurset bestod af store dele praktiske øvelser, hvor træning af operative procedurer på kadavere naturligvis gav det bedste udbytte. Kurset bygger på Dror Payleys bog: ”Principles of Deformity Correction”, som også med fordel kan læses, uden at man skal på kurset. Det modsatte må nok frarådes, hvis man skal have fuldt udbytte af kurset.

Kurset var hårdt med undervisning fra klokken 7:00 til 23:00 flere af dagene. Baltimore er sikkert en flot by, men det må den så vise ved en anden lejlighed. Den ene formiddag var dog afsat til et charity-projekt: Save-a-Limb ride, hvor jeg selv ydede 45 km gennem et flot, bakket landskab. Der var flere cyklister med benproteser, så trods de bedste muligheder for at redde ben i Baltimore lykkes det altså ikke hver gang.

Kurset har naturligvis først og fremmest adresse til ortopædkirurger, der beskæftiger sig med rekonstruktioner og korrektioner, men der er god lærdom at hente for alle ortopædkirurger.

Før og efter kurset blev der afholdt spændende symposier. Jeg deltog et tre symposier: et om Ponsetimetoden til korrektion af klumpfod (se andet sted i Bulletinen), et om nye modaliteter i behandling af Legg-Calve-Perthes sygdom samt et kursus om avanceret brug af Taylor Spatial Frame til korrektion af foddeformiteter.

Næste år vil der blive afholdt et specielt symposium om avanceret led-bevarende hoftekirurgi med deltagelse af dr. Ganz. Det vil blive kadaverøvelser med Ganz's specielle adgang til hofteleddet, hvor caput isoleres med sin karstilk, mens collum med resten af femur lukseres anterolateralt. Uhyggeligt at se på, men metoden åbner nye muligheder for intra-artiklære osteotomier og behandling af subcondrale lidelser.

Kurset og de tilhørende symposier præsenteres på hjemmesiden www.deformitycourse.com, hvor man også kan melde sig til kurset næste år 1.-5. september 2007. God fornøjelse! Det kan varmt anbefales. Ingenting er gratis, og jeg vil derfor takke for den økonomiske støtte, som jeg har fået af Guildal-fonden, DOS-fonden, Smith & Nephew og Ortofix.

Klaus Hindso

KURSUS

IDRÆT, AMPUTATIONER OG PROTESER

Tirsdag d. 8. maj 2007 Kl. 09:00-17:00.

Fagforum for Idrætsfysioterapi

Beskrivelse: Gennem de seneste år har materialer til ekstremitetsproteser været under hastig udvikling. Med effektive ekstremitetsproteser og samarbejde mellem bandagist kan den amputerede opnå et særdeles højt idrætsniveau. Motion vedligeholder sundhedstilstand og muskelmasse. Specielt yngre amputerede kan have et ønske om at påbegynde eller genoptage idræt. Ydermere er der stor mental og social gevinst for amputerede i alle aldre og på et niveau, der er tilpasset den enkelte individs talent og behov. I en tid, hvor motion tildeles på recept er der fortsat manglende lovhjælp og viden omkring området for amputeredes behov for at dyrke idræt på såvel elite som motionsplan med et godt proteseredskab og vejledning.

Målgruppe: DIMS medlemmer, ortopæder, læger, der arbejder med idrætsmedicin, børnelæger, almen praktiserende læger, træner og trænere og ledere med speciel interesse i børn og idræt samt idrætsudøvere. Fysioterapeuter, der er medlem af FFI og fysioterapeuter, der i øvrigt arbejder med idrætsfysioterapi.

Målsætning: At fremme viden og samarbejde for information, henvisning og redskabsmuligheder og lovhjælp for amputerede, der vil udøve idræt.

Kursusform: Et dags symposium

CME Points: 5 CME points.

IDRÆT, AMPUTATIONER OG PROTESER

Tid: Tirsdag d. 8. maj 2007 Kl. 09:00-17:00.

Sted: København

Kursusledere/underviserer: Marianne Nygaard/Ressource personer og idrætsudøvere med erfaring på området.

Pris: 400 Kr.

Tilmelding: Senest d. 23. april 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](http://www.sportsmedicin.dk) under kurser (det røde link i øverste højre hjørne). Betaling ved tilmelding på BG bank reg. 1551 kontonr. 16023337.

Vær opmærksom på, at tilmeldingen først gælder, når kursusafgiften er betalt. Husk ved betaling at anføre dit navn og navnet på symposiet.



DANSK SELSKAB FOR ARTROSKOPISK KIRURGI OG SPORTSTRAUMATOLOGI

Afholder: 9. Basiskursus i artroskopisk kirurgi

Tid: Tirsdag d. 22. maj – torsdag d. 24. maj 2007.

Sted: Panum Institutet, København.

Indhold: 3 dage med teori, undersøgelsesteknik og praktiske øvelser på kadavere med artroskopi og dissektion. Der er afsat 1 dag til teori, og 2 dage til praktiske øvelser.

Målgruppe: Yngre læger som sigter på en speciallægeanerkendelse i ortopædkirurgi. Der kan maksimalt optages 2 kursister pr. artroskopisk søjle. Tildeling af pladser foregår efter princippet ”først til mølle”.

Undervisere: Danske speciallæger med stor erfaring i artroskopisk kirurgi.

Deltagerafgift: For medlemmer af SAKS: 1.700 kr. For ikke medlemmer af SAKS: 2.100 kr.

Tilmelding: Foretages on-line på SAKS’ hjemmeside, www.saks.nu. Tilmelding gælder fra betalingsdato, og sidste frist er 1. maj.

Kursusledelse: Overlæge Peter Lavard og overlæge Lars Blønd.

For yderligere information kontakt: Peter Lavard, ortopædkirurgisk afd. M, Bispebjerg Hospital, e-mail: bjpl@webspeed.dk.

4. Tværfaglige Traumekursus

www.rh-traumekursus.dk

1. - 2. oktober 2007

arrangeret af Rigshospitalets TraumeCenter

Formål: Opnåelse af fortrolighed med den akutte undersøgelses- og behandlingsstrategi ved modtagelsen af den svært tilskadekomne patient.

Målgruppe: Læger, sygeplejersker og andre med interesse for modtagelse, diagnostik og behandling af traumepatienter.

Form: Foredrag grupperet i tematiske moduler, suppleret med skill-stations og udstilling.

Sted: Rigshospitalet.

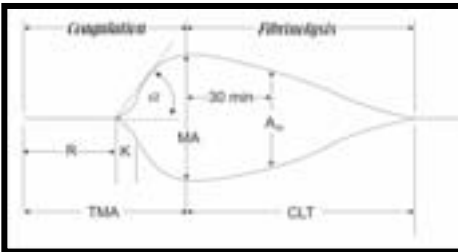
Tilmelding: rh.traumekursus@gmail.com

Program: www.rh-traumekursus.dk

Kursusgebyr: 2.350,- kr. incl. kaffe, 2 x fro.

Guest lecturer

Dr. Karim Brohi
Trauma & Critical Care Unit
Royal London Hospital



- Traumemekanismer
- Præhospital behandling
- Modtagelse & behandlingsprincipper
- "Surge capacity"
- Logistik, traumeteam, actioncards
- Monitorering af traumepatienten
- Retningslinier for hertestopbehandling
- Billeddiagnostisk udredning (rtg, UL, CT)
- Luftvejshåndtering
- Maxillofaciale traumer & nødtracheotomi
- Thorax traumer
- Abdominale traumer, ultralyd & FAST
- Særlige forhold v. tilskadekomst af børn
- Hovedtraumer og medullære skader
- Ortopædkirurgiske traumer
- "Orthopedic Damage Control"
- Fraktur af bækken & columna
- Traumebehandling, primært/sekundært?
- Transfusionsstrategi, TEG & Novo-seven
- Tynde væsker/kolloider
- Brandsårsbehandling
- Teamtræning, hvorfor og hvordan ?
- Debriefing af personale
- Pårørende til traumepatienter

Vejledende retningslinier for

Indlæg i DOS Bulletin

Det er Bestyrelsens målsætning, at Bulletinen fungerer som formidler af ortopædkirurgisk relevant information mellem DOS medlemmer og interessenter i bredt omfang. Det fremgår heraf, at indlæg i Bulletinen ikke nødvendigvis afspejler hverken Selskabets, Bestyrelsens eller Redaktionens holdninger. For at stimulere til indlæg i Bulletinen og samtidig begrænse de nødvendige ressourcer for at opfylde målsætningen, er der nedenfor skitseret nogle retningslinier med henblik på at sikre, at indlæg i Bulletinen, som redaktionen har accepteret, så vidt muligt bliver som forfatterne ønsker det:

- Sideformatet skal være **stående A5**, skrifttypen **Times New Roman, Times Roman** eller tilsvarende i størrelse **11 punkt**.
- Der skal anvendes følgende marginer: **top: 14 mm, bund: 20 mm, venstre: 18 mm og højre: 18 mm** og en **linieafstand på 1,0**. Såfremt der af nød anvendes andre eller mindre skrifttyper **skal** linieafstanden øges til 1,5. Afsnitsmellelrum bør være på én linieafstand.
- Indlæg arkiveres i Rich Text Format (e.g. Word *.rtf). Eventuel grafik i Bitmap eller TIFF-format (e.g. *.bmf / *.tif), sort/hvid, 600 dpi ved streg / 300 dpi ved billeder. Tabeller bør være så enkle som muligt. Tabeller importeret fra andre programmer **skal vedlægges** i originalversion.
Det hele vedhæftes en e-mail, som sendes til: Annette van Hauen: avh@rh.dk eller redaktøren: cykellaegenielsen@dadlnet.dk mærket med forfatterens navn og adresse, tlf. nr., titel på indlæg og tilhørende filnavne.
- Korte indlæg eller indlæg som ikke kan honorere ovenstående må acceptere redaktionelle ændringer, herunder afkortninger.
Redaktionen er i videst muligt omfang behjælpelig, idet der dog ikke kan påregnes hjælp til sproglige korrektioner.
- Annonceringer af møder bør begrænses til én side.
- Ved annonceringer skal markedsføringsloven samt Sundhedsministeriets bekendtgørelse nr. 848 af 18. november 1997 om reklame for medicinsk udstyr iagttages.

På Bestyrelsens vegne

OBS: Disse retningslinier gælder generelle indlæg i DOS Bulletin. Retningslinier gældende for abstracts og posters fremgår af bulletinen nr. 1 og nr. 4.

