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DANSK SPORTSMEDICIN

NR. 1, 14. årgang, JANUAR 2010

IDRÆTSMEDICINSK UDDANNELSE

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ABSTRACTS SCANDINAVIAN CONGRESS 2010

DANSK IDRÆTSMEDICINSK SELSKAB

fagforum for idrætsfysioterapi

Redaktionelt

Redaktør
Kristian Thorborg

Et 10-årigt tilbageblik

Nogle gange kan det være interessant at kigge lidt tilbage i tiden for at vurdere egen fremgang, eller mangel på samme. For 10 år siden blev der i Dansk Sportsmedicin, i August nummeret, bl.a. fokuseret på uddannelse og fremtidsvisioner indenfor det idrætsmedicinske "speciale". Nogle af de ting som blev nævnt som vigtige for fremtiden var etablering af idrætsmedicinske diplomuddannelser, styrkelse af forskningsindsatsen samt fokus på forebyggelse af idrætsskader.

Dette er tre områder hvor jeg synes visionerne er blevet indfriet indenfor de seneste 10 år. I dag findes der diplomuddannelser i både idrætsmedicin og i idrætsfysioterapi. Forskningsindsatsen indenfor det idrætsmedicinske område vil jeg også mene er styrket indenfor de seneste 10 år, i hvert fald hvis man måler det i danske "idrætsmedicinske" publikationer. Forebyggelse af idrætsskader har været det helt store emne det seneste årti og både forskning og kampagner har været med til at øge fokus på dette.

Hvilke visioner blev så ikke indfriet?

Jo, idrætsmedicin på specialistniveau, som også var et vigtig erklæret mål for 10 år siden er ikke nået. Hos lægerne findes der ikke nogen formel idrætsmedicinsk specialiseringsuddannelse og hos fysioterapeuterne findes der en specialisttitel i idrætsfysioterapi, men kun godkendt af Danske Fysioterapeuter. Den har derfor reelt ikke nogen betydning i forhold til væsentlige punkter som kompetenceområder og honorering.

Det betyder, at vi som fagområde - idrætsmedicin og idrætsfysioterapi - endnu ikke er lykkedes med at få løftet os op på det specialistniveau, som vi selv føler os kvalificeret til. Skal vi nogensinde lykkes med dette projekt er der for mig at se kun en vej, nemlig:

- Endnu mere fokus på idrætsmedicinsk forskning.
- Endnu mere fokus på idrætsmedicinsk uddannelse.

Og sidst men ikke mindst:

- Fokus på synlighed i offentlighed og medier!

Dette nummer indeholder emner relateret til idrætsmedicinsk relaterede uddannelser anno 2010.

God fornøjelse.

Dansk Sportsmedicin nummer 1,
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FORMÅL
DANSK SPORTSMEDICIN er et tidsskrift for Dansk Idrætsmedicinsk selskab og Fagforum for Idrætsfysioterapi. Indholdet er tværfagligt klinisk domineret. Tidsskriftet skal kunne stimulere debat og diskussion af faglige og organisationsmæssige forhold. Dermed kan tidsskriftet være med til at påvirke udviklingen af idrætsmedicinen i Danmark.
ABONNEMENT
Tidsskriftet udsendes 4 gange årligt i månederne januar, maj, august og november til medlemmer af Dansk Idrætsmedicinsk Selskab og Fagforum for Idrætsfysioterapi. Andre kan tegne årsabonnement for 250 kr. incl. moms.

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Fysioterapeut Kristian Thorborg
INDLÆG
Redaktionen modtager indlæg og artikler. Redaktionen forbeholder sig ret til at redigere i manuskripter efter aftale med forfatteren. Stof modtages på diskette/CD-ROM vedlagt udskrift eller (efter aftale) på skrift eller e-mail.
Manuskriptvejledning kan rekvireres hos redaktionssekretæren eller findes på www.dansksportsmedicin.dk.
Dansk Sportsmedicin forholder sig retten til at arkivere og udgive al stof i tidsskriftet i elektronisk form.
Artikler i tidsskriftet repræsenterer ikke nødvendigvis redaktionens holdninger.
PRISER FOR ANNONCERING
Oplyses ved henvendelse til redaktionssekretæren.
TRYK OG LAYOUT
Tryk: EJ Grafisk AS, Beder
DTP og produktion: Gorm H. Rasmussen
FORSIDEFOTO
Dansk Sportsmedicin står på spring til noget nyt ...
Arkivfoto: Colourbox

Indhold:

DANSK IDRÆTSMEDICINSK SELSKAB

fagforum for idrætsfysioterapi

Deadlines for kommende numre:

Nummer	Artikelstof	Annoncer	Udkommer
2/2010	1. april	15. april	i maj
3/2010	1. juli	15. juli	i august
4/2010	1. oktober	15. oktober	i november
1/2011	1. december	15. december	sidst i januar

Dansk
Idrætsmedicinsk
Selskab

v/ Tommy F. Øhlenschlæger, formand

Nyt årti, nye tider og forhåbentlig på gensyn

Lidt vemodigt sidder jeg her og skriver min sidste leder, før jeg går af som formand for DIMS.

Det har været nogle fantastiske år i bestyrelsen, og jeg kan kun glædes over hvor mange ildsjæle der er over hele landet, og som i den grad brænder for idrætsmedicinen.

Jeg håber at alle de, der har interesse for idrætsmedicinen, i det nye årti vil byde ind med idéer og arbejdskraft. Lige nu står hele den danske idrætsmedicinske organisering foran en omstrukturering. Det være sig Dansk Sportsmedicin, DIMS, uddannelsesudvalget og vores faste samarbejdspartner FFI.

Det er samtidig en oplagt mulighed for at du, ny som gammel inden for idrætsmedicinen, kan byde ind og gøre dine idéer og forslag gældende. Der vil blive rig mulighed for at være med til at forme og styre idrætsmedicinen mod nye og spændende veje.

Et af mine håb for DIMS´ fremtid er derfor, at samarbejdet mellem bestyrelse og medlemmer kan blive endnu tættere, så det ikke er bestyrelsen alene, der fører alle idéerne ud i livet. Mit håb er, at medlemmer kan komme med store og små planer, og så være med til at realisere dem i samarbejde med bestyrelsen.

Årskongressen står for døren og det er længe siden jeg har glædet mig så meget til en kongres som denne.

Jeg synes det videnskabelige program er løftet højt op i dette specielle år, hvor vi er vært for den fælles Skandinaviske Sportskongres. Så jeg håber du får muligheden for at deltage i dette specielle arrangement, som det vil vare mange år før vi igen får til Danmark.

Jeg vil takke af for denne gang, og sende en stor tak til alle jeg har mødt på min vej i DIMS, og samarbejdspartnere.

Jeg håber, jeg en anden gang får mulighed for at vende tilbage, da jeg på ingen måde føler jeg er færdig med DIMS.

Tommy (2μ) Frisgaard Øhlenschlæger

Idrætsmedicinsk Årskongres 2010

Idrætsmedicinsk Årskongres er i 2010 lagt sammen med Scandinavian Congres on Medicine and Science in Sports 2010, der afholdes i København torsdag, fredag og lørdag, den 4. til 6. februar.

Det faglige program ser rigtigt godt ud, og det sociale program bliver sikkert lige så fremragende, som det plejer at være.

Abstracts til de frie foredrag og posterpræsentationerne er med i dette nummer af bladet, ligeså kongressens faglige program i oversigtsform. Detailprogram, tidsplan m.m. er at finde på kongressens hjemmeside www.scmss2010.com, hvor man også kan tilmelde sig on-line.

Husk, at DIMS og FFI afholder deres respektive generalforsamlinger torsdag den. 4 februar kl. 16.

Fagforum for Idrætsfysioterapi

v/ Karen Kotila, formand

fagforum for idrætsfysioterapi

2010

2010 er sparket i gang og den årlige idrætsmedicinske kongres står for døren. Kongresprogrammet er kompakt og fyldt med spændende oplæg og workshops fra både nationale og internationale forskere og klinikere. Faktisk har kongressen aldrig været større og i skrivende stund håber vi selvfølgelig, at det giver sig udslag i ny rekord af antal deltagere, både "nye" og "gamle i gårde", nationale og internationale.

På årskongressen kan medlemmer også deltage i FFIs generalforsamling, som afholdes torsdag, og dette års generalforsamling bliver muligvis lidt atypisk. Sidste leder omhandlede FFIs overgang til et fagligt selskab og du vil i denne udgave af bladet kunne finde et kort debatoplæg, som startskud til den diskussion, som vil komme til at præge generalforsamlingen.

Dette nummer af Dansk Sportsmedicin er det sidste for en af hovedaktørerne bag bladet. Kristian Thorborg har valgt at stoppe som redaktør, hvilket både DIMS og FFI bestyrelser synes er meget ærgerligt, da Kristian med sin faglige kompetence og kritiske tilgang til videnskaben er en ener i faget. Kristian ønskes alt mulig held og lykke fremover og god vind til Australien.

Gorm H. Rasmussen har ligeledes valgt at stoppe sit arbejde for Dansk Sportsmedicin efter mange år, dels som administrator, dels som redaktionssekretær og DTP'er. Dette sker efter næste nummer. Gorm er indbegrebet af ildsjæl og har med sin store faglige indsigt om nogen tegnet Dansk Sportsmedicin. Gorm ønskes også alt mulig held og lykke fremover.

Når to så karakterrige personer vælger at stoppe, kan det ikke undgås, at der sker et stilskifte i Dansk Sportsmedicin. Målsætningen er dog den samme: Dansk Sportsmedicin skal være fagligt i top og indgyde inspiration til medlemmerne.

Bestået FFI A-eksamen i 2009

Søren-Peder Aarvig, Charlotte Anker-Petersen, Lars Bastrup, Rune Böttcher, Solvejg Moselund Graff, Lasse L. Holmstrøm, Thomas Theis Jensen, Bo Larsen, Dorthe Buris Larsen, Merete Nørgaard Madsen, Peter Marxen, Lene Miller, Birgitte Berg Nielsen, Jens Trærup Nielsen, Lars Dyrvig Nielsen, Majbritt V. Pedersen, Jeppe Thorsager.

Bestået FFI B-eksamen i 2009

Mogens Dam	"Glenohumeral indadrotation hos kvindelige håndboldspillere"
Flemming Enoch	"Vurdering af bevægekvalitet i ryggen - reproducerbarhed af diagnostiske tests"
Niels Erichsen	"Skadesforebyggende træning til ungdomsfodboldspillere i klub"
Morten Høgh	"Screening af elitegymnaster"
Henning Langberg	"Evidensbaseret fysioterapeutisk behandling af den skadede sene med fokus på idræt"
Christian Olsen	"Pronationskontrol af foden under løb"

Dansk Sportsmedicin ønsker tillykke!

Idrætsmedicinsk uddannelse i FFI-regi

Af fysioterapeut Vibeke Bechtold, formand for FFI's Uddannelses- og Kursusudvalg

Fagforum for Idrætsfysioterapi er i kontinuerlig udvikling i forhold til såvel uddannelsesmuligheder som kursusvirksomhed. Der kommer konstant nye krav om opkvalificering, nye kompetencer og specialisering samt forskningsresultater i relation til idrætsfysioterapi og idrætsmedicin, som vi må forholde os til og bruge i vores praksis. Det stiller krav til de fysioterapeuter, der arbejder med idrætsfolk og motionister og dermed til uddannelses- og kursusudviklingen i forhold til både udbud og justering af kursusaktiviteterne.

Idrætsfysioterapi

Det idrætsfysioterapeutiske speciale rammer bredt indenfor arbejdet med sundhedsfremme, forebyggelse, screening, diagnosticering, behandling, træning og rehabilitering. Desuden indgår biomekaniske analyser, træningsfysiologiske aspekter, uddybende kundskaber i forhold til betydningen af styrke- og kredsløbstræning samt grundlæggende kendskab til doping/antidoping, idrætspsykologi og kostens betydning.

Centralt i det idrætsfysioterapeutiske virke er behovet for genoptræning, der ikke kun efterlader idrætsudøveren på et niveau, hvor denne kan udføre dagligdags aktiviteter, men hvor led, knogler, muskler, nervevæv og sener/ligamenter har opnået en vævsstyrke, der tillader genoptagelse af idræt selv på et højt niveau. Det er vigtigt, ud fra kendskab til den givne idræt, at kunne behandle og rådgive om øvelser og aktiviteter, der kan bringe den skadede vævsstruktur op på en styrke og et funktionsniveau, der ikke blot tillader almindelig aktivitet, men yderligere sætter idrætsudøveren i stand til igen at dyrke idræt på ønsket niveau.

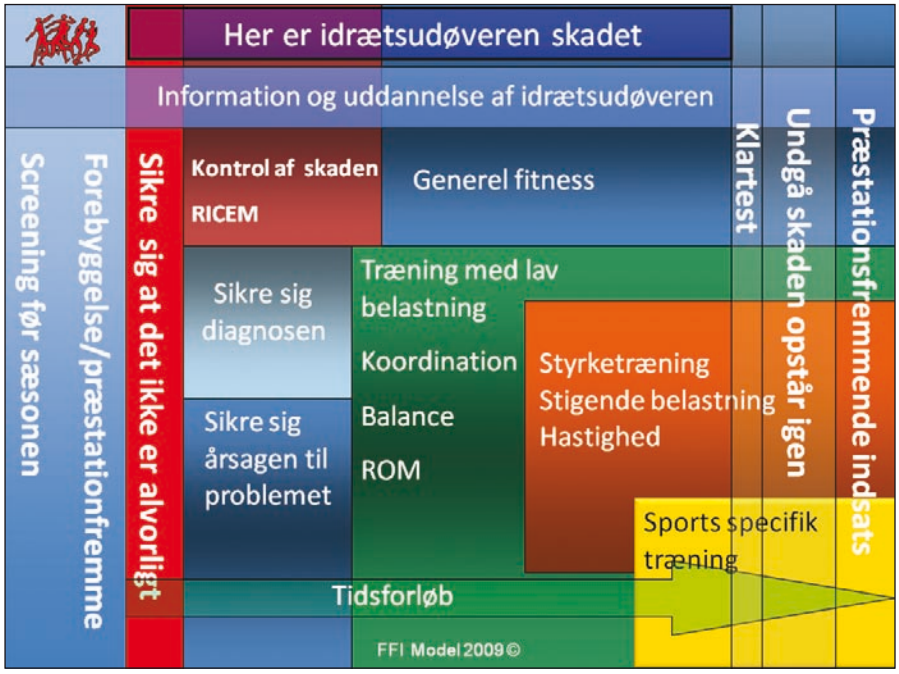
FFI's kursusrække

Der er i samfundet en øget fokusering på fysisk aktivitet som forebyggelses- og behandlingsfaktor for livsstilssygdomme og dette medfører for idrætsfysioterapien et øget krav til rådgivning og behandling af en stor gruppe fysisk aktive, både med hensyn til træningen og de skader, der pådrages. Selv for motionister kan mindre skader og fravær fra fysisk aktivitet medføre en psykisk og fysisk belastning, eftersom fysisk aktivitet i fritiden er en del af den oplevede livskvalitet.

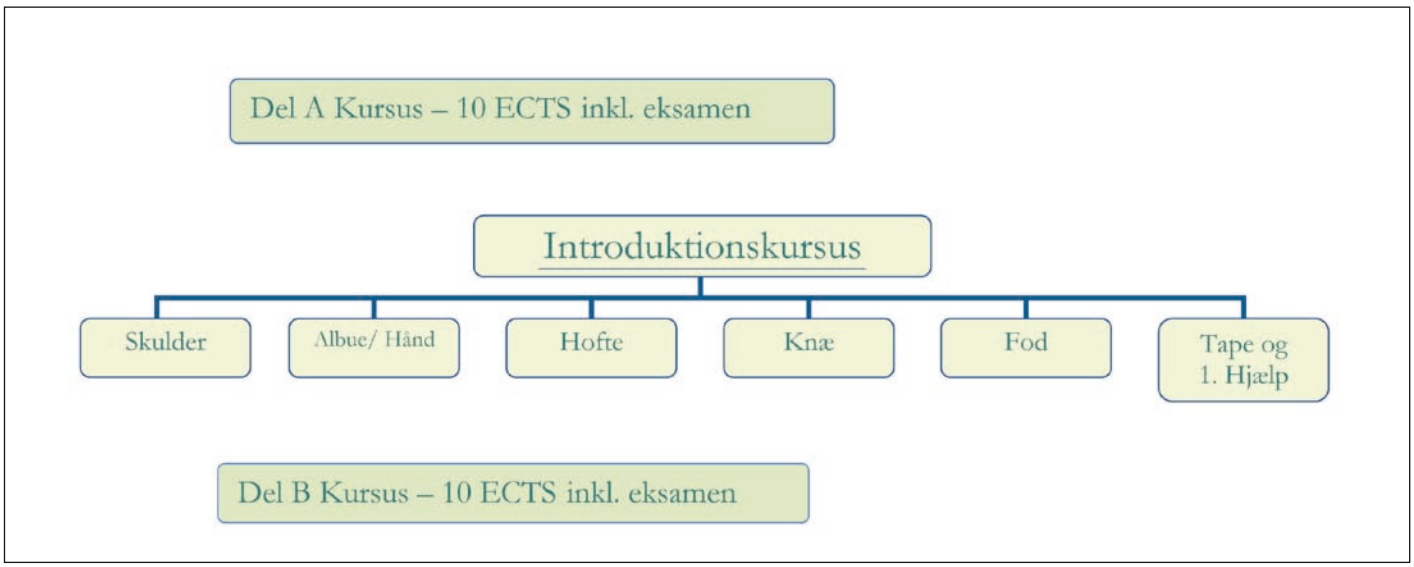
Alle ovenstående fokuspunkter illustreres i figur 1 og forsøges tilgodeset i den kursusrække som FFI udbyder i forhold til henholdsvis del A og del B kurser, hvor der afsluttes med eksamen efter begge. Efter endt del B eksamen kan man kalde sig Idrætsfysioterapeut indenfor FFI. Kursusstrukturen illustreres i figur 2 og 3.

Andre kurser

For at give de idrætsfysioterapeuter, som arbejder og har arbejdet indenfor sporten gennem en årrække med



Figur 1. *Idrætsfysioterapeutens arbejdsproces*



Figur 2. *Kursusstrukturen i FFI*

hold på alle niveauer og med megen weekendarbejde, har vi netop udbudt et specielt "Brush Up" kursus, som forløber over en uge med fokus på den teoretiske baggrund samt på opkvalificering af nyere undersøgelses- og behandlingsmetoder. Ugen afsluttes med del A eksamen. Vi håber meget dette kan tiltrække idrætsfysioterapeuter, som har megen praktisk erfaring og måske nogle af FFI´s gamle kurser fra før 2002.

FFI´s Kursusrække uddybes med temadage afholdt med såvel nationale som internationale undervisere indenfor forskellige områder, hvor nye forskningsresultater, evidens og erfaringsbaseret praksis præsenteres.

FFI er medlem af International Federation of Sports Physiotherapy (IFSP), som ofte sammen med deres årlige generalforsamling afholder kongresser med opdaterede emner indenfor forskellige områder af idræt. Desuden afholder en årlig idrætskongres i begyndelsen af hvert år i samarbejde med Dansk Idrætsmedicinsk selskab (DIMS). Idrætsgren-specifikke kurser afholdes ligeledes sammen med DIMS, og vi håber således at kunne tilgodese vores mange medlemmer på forskellig vis.

Del B

Obligatoriske kurser:

- Træningsfysiologiske aspekter, biomekaniske analyser og målemetoder, styrketræning, anaerob og aerob træning, forebyggelse, screening, tests og lignende i relation til idrætsfysioterapi (4,5 ECTS).
- Idrætspsykologi, coaching og kost/ernæring (0,75 ECTS).
- Antidoping/doping(0,75 ECTS).

Emner, hvoraf minimum 1 - 2 skal gennemføres:

- Træning og idræt til børn/unge (1,5 ECTS).
- Træning og idræt til ældre (1,5 ECTS).
- Handicapidræt (1,5 ECTS).
- Motion, træning og coaching (1,5 ECTS).
- Relevante emner i relation til idrætsfysioterapi fx. Muskuloskeletal Fysioterapi kurser, Dynamisk Stabilitet, Fysisk aktivitet/motion (ECTS efter indhold og varighed, typisk 1,5 ECTS).
- Grenspecifikke idrætskurser, f. eks. fodbold, løb, atletik (ECTS efter indhold og varighed, typisk 1,5 ECTS).

Figur 3. *Kursusstrukturens del B-kurser*

Speciale i idrætsfysioterapi

Resultatet af arbejdet i Uddannelses- og Kursusudvalget (UKU) kan yderligere ses i forhold til specialistordningen i Danske fysioterapeuter, hvor eksamen i del A og B indgår i bedømmelseskriterierne for opnåelse af specialistanerkendelsen i idrætsfysioterapi. UKU er derudover medinddraget i arbejdet med at udbyde et tværfagligt masterstudie på det muskuloskeletale område i samarbejde med Syddansk Universitet, Fagforum for Muskuloskeletal Fysioterapi, Institut for Mekanisk Diagnostik og Terapi, Dansk Idrætsmedicinsk Selskab, Dansk Selskab for Muskuloskeletal Medicin og Nordisk Institut for Kiropraktik og Klinisk Biomekanik.

Kliniske retningslinier

Kravene i forhold til dokumentation, efteruddannelse og kritisk vurdering af egen praksis bliver ikke mindre, så det er vigtigt at være proaktiv i forhold til dette. I forhold til udarbejdelse af kliniske retningslinjer er FFI i gang med dette indenfor idrætsområdet og vi håber vi kan fremlægge en eller to i løbet af 2010.

Kontakt:

Uddannelses- og kursusudvalget (UKU) under FFI
Formand Vibeke Bechtold
Mail: vbe@idraetsfysioterapi.dk

Idrætsmedicinsk uddannelse i DIMS-regi

Af læge Thøger Krogh, formand for DIMS's Uddannelsesudvalg

Uddannelses Udvalget under Dansk Idrætsmedicinsk Selskab har til formål at planlægge og afholde kurser inden for det idrætsmedicinske område.

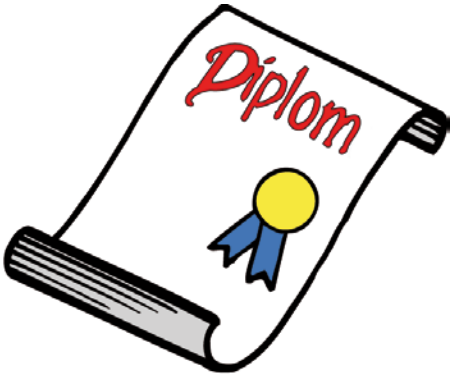
I DIMS regi afholdes 2 faste kurser, og derudover tilbydes løbende fælleskurser i samarbejdet med FFI.

Mål og målgruppe

Målsætningen med DIMS kursusrækken er at give en både teoretisk og praktisk viden inden for idrætsmedicinen, mhp. at forberede deltagerne til arbejdet med sportsfolk både i klubberne og i klinikken.

Blandt de læger og forskere der arbejder indenfor idrætsmedicinen, har der gennem årene været stor opbakning til afholdelsen af DIMS kurser. Dette betyder, at undervisningen til kurserne varetages af personer med stor idrætsmedicinsk kompetence, og dermed sikres et højt fagligt niveau. Vurderet på deltagerevalueringer får Trin 1 og 2 sædvanligvis en meget god kritik med hensyn til indhold og udbytte.

Kurserne har udover det formelle program også indlagt en række sociale aktiviteter, fx fælles tur til en kamp i superligaen, tur i svømmehal, fælles spisning på restaurant. Eftersom antallet af idrætsmedicinsk interesserede i Danmark er ret lille, giver DIMS kurserne mulighed for netværksdannelse med andre med interesse indenfor idrætsmedicin, samt viden om kompetancepersonerne inden for området.



Målgruppen er alle læger med interesse for idrætsmedicin, både yngre læger under uddannelse og speciallæger (oftest praktiserende læger, reumatologer og ortopædkirurger).

Kurser

De faste DIMS-kurser består af DIMS trin 1 og 2, hver på 40 timer, fordelt på 4-5 dage. Trin 1 afholdes 2 gange årligt, i hhv. øst og vest Danmark. Trin 2 afholdes hvert 2. år.

Diplom og eksamen

I DIMS kan man få anerkendelsen af Diplom læge, ved opnåelse af 100 CME point. Dette kræver Trin 1 + 2 (80 point) og så 20 point frit fordelt på årsmøder, artikler, arbejde i idrætsklinik og deltagelse i fælles kurser.

Som noget nyt har man siden 2008 haft mulighed for at gå til eksamen i idrætsmedicin - Diplomlæge-eksamen. For at gå til eksamen skal Trin 1 og Trin 2 suppleres med 10 timers praktikophold på en idrætsklinik.

Trin 1 - kursus

Trin 1 er overvejende et praktisk kursus med fokus på diagnostik og klinisk undersøgelse, og mindre grad teori. Hjørnestenene i kurset omhandler skader relateret til skulder, knæ og ankel. Hvert område gennemgås mht. anatomi, skadetyper og undersøgelsesteknik. Her efter er der "hands on" praktiske øvelser, hvor et stort antal figuranter med reelle skader møder op og indgår i undervisningen. Dette giver mulighed for at kombinere teori og praksis, og alle deltagerne får rig mulighed for at udføre klinisk undersøgelse og stille diagnoser. Efterfølgende gennemgås alle figuranterne i plenum af erfarne klinikere og idrætsfysioterapeuter, hvor kursisterne kan sammenligne deres egne fund og diagnoser.

Ud over de nævnte hovedområder indeholder kurset også gennemgang af rygsygdomme, ernæring, træningsfysiologi, doping, brug af smertestillende medicin samt ultralydskanning som diagnostisk hjælpemiddel inden for idrætsmedicin.

Trin 2 - kursus

Trin 2 er et videregående, overvejende teoretisk kursus, som skal bibringe kursisterne den nyeste, evidensbaserede viden inden for en række emner om idræt og træning. Hovedemnerne er sundhed og sygdom, herunder lungesygdomme, hjertesygdomme, reumatologi (osteoporose, arthritis, arthrose), endokrinologi (diabetes, fed-

me), træning af børn og ældre. Man får introduktion til værdien af artroskopi ved idrætstraumatologi samt idrætslægens arbejde i klinikken vs. i klub/landshold. Kursisterne bliver også præsenteret for seneste viden indenfor idrætsmedicinsk frontlinieforskning, eksempelvis fra områderne sene/muskelskader og træningsfysiologi.

Kurset inkluderer besøg på idrætsmedicinske forskningsenheder, hvor man introduceres til testfaciliteter og testmetoder til undersøgelse af sportsfolk, for eksempel til måling af iltoptagelse og muskelstyrke.

Fælleskurser

Med jævne mellemrum afholdes DIMS fælleskurser, det vil sige kurser i samarbejde med FFI, hvor indholdet planlægges ud fra et både lægeligt og fysioterapeutisk perspektiv.

Kursernes varighed er 1-2 dage, og er ofte specifikke inden for et afgrænset emne, for eksempel børn og træning, løbestilskursus, svømmemedicinsk kursus, fodboldmedicinsk kursus, antidoping, m.fl.

Ud over at give viden omkring specifikke problemstillinger relateret til idrætsmedicin, giver fælleskurser også indblik i andre faggruppers tilgang til de forskellige emner. Det er en lærerig og brugbar viden, som giver bedre udbytte af samarbejdsrelationer. Især er det tværfagligt samarbejde med fysioterapeuterne, der fokuseres på, men ofte har kurserne også deltagelse af for eksempel trænerteams, fysiske trænere m.fl., så man opnår forståelse for de forskellige parter, der arbejder inden for idrætten.

Kontakt:

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Idrætsmedicinsk forskning

Min vej dertil – eller historien om tilfældigvis at være på det rigtige sted på det rigtige tidspunkt ...

Af forskningsfysioterapeut, MSc, ph.d. Anders Vinther, Herlev Hospital

Interesse for idrætsmedicin

Som så mange andre, der arbejder med idrætsmedicin, blev også min interesse for området vakt i forbindelse med en idrætsskade. Jeg kvalificerede mig til genoptræning på det lokale hospitals knæhold efter et mindre vridtraume, og blev på den måde introduceret til en lille del af det, hospitalsansatte fysioterapeuter arbejdede med i 90'erne. Det var helt klart et job, jeg godt kunne identificere mig med, og jeg var ikke sen til at blive tilknyttet fysioterapiafdelingen som ulønnet medhjælper. Senere lykkedes det mig endda at komme på lønningslisten samt at blive sikker på, at jeg ville være fysioterapeut. Jeg tog første halvdel af uddannelsen på Skodsborg Fysioterapiskole og anden halvdel på Fysioterapeutskolen i København. Undervejs var jeg tilknyttet det lokale håndboldhold og holdt på den måde min interesse for idrætsmedicinen ved lige.

Fysioterapeut for det danske rolandshold

I sommerferien inden mit sidste semester på fysioterapeutskolen blev jeg kontaktet af min tidligere træner, der nu var ansat i Dansk Forening for Rosport. Rolandsholdet manglede en fysioterapeut, der med relativt kort varsel kunne tage med til VM i Canada: "Havde jeg mon lyst til at mødes med sportschefen og landstræneren med henblik på en mulig ansættelse til dette job?" Det var vel nærmest at få drømmejobbet serveret på et sølvfad! Jeg takkede pænt ja og tog til Canada med en bog om roning i hånden og en ikke færdiggjort uddannelse samt absolut nul erfaring i bagagen. Heldigvis vandt "Guldfireren" guld, så alt gik efter planen, og jeg fik lov at beholde jobbet som fysioterapeut på rocenteret i Bagsværd, mens jeg færdiggjorde min uddannelse.

Forskningsprojekt: Stressfrakturer i ribbenene hos eliteroere

Allerede ved min første samtale med sportschefen og landstræneren var jeg blevet introduceret til de dengang relativt hyppigt forekommende træthedsbrud i ribbenene, som ingen vidste hvorfor opstod eller havde nogen anelse om, hvordan man kunne undgå, og som derfor var frygtede blandt roerne. Jeg valgte at skrive hovedopgave om denne rorelaterede overbelastningsskade. Jeg insisterede på at skrive opgaven alene og skolen, der ikke rigtig vidste, hvad den skulle stille op med mig, fandt en ekstern vejleder, der skulle vise sig at blive min vej til idrætsmedicinsk forskning. Min vejleder hed Lis Bentzen og var overfysioterapeut på Herlev Hospital. Hun syntes, at emnet var interessant og bad mig ringe til Finn Bojsen-Møller for at høre, hvem der kunne hjælpe mig med de undersøgelser, jeg ville lave. Jeg endte hos Per Aagaard på Team Danmarks Testcenter på Bispebjerg Hospital. Han hjalp mig med at lave mine undersøgelser og introducerede mig til et idrætsmedicinsk forskningsmiljø, som vist stadig er ret unikt i Danmark.

Svensk masteruddannelse

Da opgaven var færdig og uddannelsen i hus, foreslog Lis Bentzen, at jeg tog en master i Lund med en fortsættelse af mit opgaveprojekt. Hun havde nogle penge fra en idrætsmedicinsk forskningsfond, der var øremærkede til fysioterapeuter. Dem kunne jeg blive ansat for. Endnu et uforudset tilbud af den slags, man ikke kan sige nej til!

En master i fysioterapi i Sverige består af en projektdel og en kursusdel. Kursusdelen består af obligatoriske kurser i statistik og videnskabsteori samt selvvalgte kurser af relevans for forskningsprojektet. Optagelsen på Lunds Universitet åbnede dørene til de øvrige universiteter i Øresundsregionen, og jeg valgte derfor at følge et par relevante kurser ved Institut for Idræt på Københavns Universitet. På den måde kunne jeg sikre mig, at min master i fysioterapi blev så idrætsmedicinsk orienteret som overhovedet muligt, hvilket var et stort plus ved denne ret selvstændige uddannelsesform. Jeg var på dette tidspunkt så heldig at have fået et fantastisk netværk af såvel officielle som uofficielle vejledere, der dækkede de specialer mit forskningsprojekt berørte. På den måde kunne jeg "kompensere" for, at min uddannelse foregik lidt på distancen i Lund, hvor jeg som regel kun havde fremmøde ca. en gang om måneden.

Doktorand (ph.d.-studerende) i Sverige

Ph.d.-uddannelsen i Lund fungerer i vidt omfang på samme måde som ma-

steruddannelsen og kan i princippet opfattes som en forlængelse af denne, hvis man har et forskningsprojekt af en passende størrelse – det skal helst kunne munde ud i en 4-5 publikationer. Ph.d.-uddannelsen i Sverige er 4-årig, og det er meget udbredt at kombinere den med klinisk arbejde i en 50-50 opbygning, der medfører, at man kan være 8 år om at lave en ph.d.. Jeg brugte 2 år på fuld tid og 4 år på halv tid, hvor jeg samtidig arbejdede som udviklingsfysioterapeut på Herlev Hospital – fortsat delvis finansieret af den samme idrætsmedicinske forskningsfond. Nogle vil måske mene, at det er lang tid at bruge på en ph.d.. Jeg holdt af livet som deltidsstuderende og havde brug for tiden til at få lavet måleudstyr klar til de undersøgelser, der skulle indgå i projektet. Derfor var denne løsning ideel for mit vedkommende. Da jeg samtidig havde fået lov af Herlev Hospital til at "skrue op og ned" for mine to halve stillinger efter mine og deres behov, kunne jeg ganske enkelt lave mere udviklingsfysioterapeutarbejde, mens jeg ventede på at måleudstyret blev klargjort. Dette gjorde det muligt at arbejde mere intensivt med forskningsprojektet, når det var påkrævet.

Denne ansættelsesform, kombineret med mit netværk af vejledere og medforfattere i Danmark og de ret frie rammer for uddannelsen i Sverige, var en optimal situation for at lave et selvstændigt stykke forskningsarbejde, som jeg havde maksimal indflydelse på. Foretrækker man derimod et mere planlagt og struktureret forløb med en kortere tidshorisont, er denne løsning selvsagt ikke optimal.

Går man med idrætsmedicinske forskningstanker, bør man derfor nøje overveje sit valg af uddannelsessted og forskningsmiljø, og så vidt muligt afstemme det med den arbejdsform og grad af selvstændighed, man foretrækker.

Fra grunduddannelse til forskeruddannelse

Det ovenfor beskrevne uddannelsesforløb kan måske virke en anelse kringlet og måske endda styret af tilfældigheder. Det er det også i høj grad, men derved adskiller det sig ikke fra rigtig mange andre uddannelsesforløb for danske fysioterapeuter med forskningsinteresse. Idet den danske fysioterapiuddannelse ikke er universitetsbaseret, findes der ikke nogen "lige vej" fra grunduddannelsen til en kandidatgrad og dermed muligheden for at blive indskrevet som ph.d.-studerende ved et dansk universitet. I stedet er danske fysioterapeuter henvist til en ret uigennemskuelig jungle af masteruddannelser mm., hvis de vil forsøge at samle kvalifikationer til at komme i gang med en egentlig forskeruddannelse. I de fleste af de lande Danmark ellers sammenligner sig med, er fysioterapiuddannelsen universitetsbaseret. Det er min opfattelse, at vejen fra grunduddannelsen til en forskeruddannelse på den måde bliver kortere og frem for alt langt mere gennemskuelig. Sverige er vel et meget godt eksempel på et land med en universitetsbaseret grunduddannelse og en lang forskningstradition indenfor fysioterapi (ca. 20-25 år længere end Danmark). Mon ikke der er en sammenhæng?

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Illustration fra Anders Vinthers ph.d.-afhandling - med tilladelse

Idrætsmedicinsk uddannelse – lægens vej

Af læge, ph.d.-studerende Jesper Petersen, Ortopædkirurgisk afdeling, Amager Hospital

Muligheder/begrænsninger

I modsætning til de fleste kandidatuddannelser er der som lægestuderende ingen muligheder for at vælge fag afhængigt af interesse, og der er kun ringe mulighed for at påvirke, hvilke afdelinger men bliver tildelt i løbet af studiets klinikophold. Alle fag på studiet er obligatoriske, og når de første tre års fag er bestået, kan man kalde sig bachelor i medicin, mens det kræver yderligere tre år på skolebænken at blive kandidat. Bachelor- og kandidatopgaverne (tidligere hhv. OSVAL I og II) kan naturligvis skrives indenfor det idrætsmedicinske fagområde, men den afsatte tid tillader ikke særligt store opgaver og slet ikke egentlige (kliniske) forsøg. Enhver sammenligning med andre uddannelsers bacheloropgaver eller specialer vil være helt urimelig.

Efter endt uddannelse på universitetet følger et års 'tvungen' klinisk basisuddannelse (tidligere 1½ års turnusuddannelse). De fleste læger vil i løbet af universitetstiden og den kliniske basisuddannelse få et teoretisk og praktisk kendskab til sygdomme og problemstillinger indenfor ortopædi og reumatologi, men kun de færreste vil få kendskab til egentlig idrætsmedicin.

Fritidsinteresse

Såfremt man som medicinstuderende er interesseret i idrætsmedicin, må man derfor dyrke denne interesse i sin fritid. En mulighed kunne være at forlænge sit studium et halvt eller helt år, hvis man kan få et scholar-stipendium på en afdeling, hvor der foregår idrætsmedicinsk forskning. Dette ville være en glimrende mulighed for at 'snuse' til den akademiske verden, fordybe sig i en helt konkret idrætsmedicinsk problemstilling og måske få en publikation og en videnskabelig præsentation på CV'et.

Som studerende har man mulighed for at være medlem af Studerendes Idrætsmedicinske Selskab (SIMS) hvor ens interesser kan deles med ligesindede.

Som færdiguddannet læge har man mulighed for at søge medlemskab af selskaber som for eksempel Dansk Idrætsmedicinsk Selskab (DIMS), Dansk Ortopædisk Selskab (DOS), Dansk Selskab for Artroskopisk Kirurgi og Sportstramatologi (SAKS), Yngre Reumatologer (Y-L) med flere. Herudover kan man deltage i relevante kurser – for eksempel kan man som nyuddannet læge påbegynde DIMS' diplomuddannelse i idrætsmedicin (trin I kurset).

Min egen vej

Med mindre man forlænger sit studium med et scholarstipendium – eller involverer sig i forskning sideløbende med sit studie – giver medicinstudiet således ikke de bedste forudsætninger for at lave idrætsmedicinsk forskning. Min egen vej til den idrætsmedicinske forskningsverden har ikke været helt lige. Lidt tilfældigt blev jeg som medicinstuderende ansat som studiemedhjælper for en ph.d.-studerende på en lungemedicinsk afdeling. Her fik jeg selv lov til at stå for et mindre studie og deltog blandt andet på to udenlandske kongresser, hvor jeg præsenterede mine data. Denne forskningsverden var bestemt et spændende område, men da min primære interesse lå indenfor idrætsmedicinen, overvejede jeg muligheden for et ph.d.-forløb inden for et idrætsmedicinsk relevant område. Disse tanker blev mere konkrete, da jeg som færdiguddannet læge fik min første turnusansættelse på ortopædkirurgisk afdeling på Amager Hospital. Her drøftede jeg denne mulighed med min nuværende ph.d.-hovedvejleder, overlæge Per Hölmich, og efter endt turnus, flere korterevarende ansættelser, protokolskrivning og fondsansøgninger, blev jeg i 2007 ansat ved ortopædkirurgisk forskningsenhed, Amager Hospital og indskrevet som ph.d.-studerende ved Københavns Universitet. I løbet af ph.d.-studiet er jeg blevet oplært i forskningens forskellige aspekter – lige fra idé-fase, studiedesign, protokolskrivning, gennemførelse af studiet og publicering af resultaterne. Som en del af denne oplæring har jeg deltaget i metodekurser for ph.d.-studerende og endvidere haft mulighed for at deltage i forskellige idrætsmedicinske relevante kurser – for eksempel flere muskoloskeletale ultralydkurser og DIMS' diplom kursus.

Sammenfattende har ph.d.-uddannelsen åbnet døren for mig til den idrætsmedicinske akademiske verden. Jeg har udover en større viden og en skarpere kritisk sans fået et stort og vigtigt netværk indenfor denne verden.

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Idrætsfysioterapi i den nye fysioterapeutuddannelse

Af lektor, studiekoordinator, cand.scient.san., fysioterapeut Peder Berg, University College Lillebælt, Fysioterapeutuddannelsen i Odense
Medlem af redaktionen for Dansk Sportsmedicin og suppleant til bestyrelsen for Fagforum for Idrætsfysioterapi

Indledning

De fleste ved nok at fysioterapeutuddannelsen er blevet ændret, men hvilken betydning har det for idrætsfysioterapien - er der blevet mere eller mindre? Vil de fysioterapeuter, der bliver færdiguddannede efter den nye uddannelse, og som er færdige om halvandet år, have nogle andre kompetencer indenfor det idrætsfysioterapeutiske område?

Jeg vil det det følgende kort beskrive den nye uddannelse samt forsøge at svare på spørgsmålene.

Den nye fysioterapeutuddannelse

Uddannelsen er nu modulopbygget af 14 moduler, som hver har en titel og ét fokusområde. For at nævne et par stykker så hedder modul 3: "Identifikation og analyse af bevægelse og aktivitet" og modul 6: "Undersøgelse, diagnostik og differentialdiagnostik" (Se fakta boks 1). For uddannelsen er beskrevet den viden, de færdigheder og de kompetencer, som den færdiguddannede fysioterapeut skal have opnået gennem uddannelsen. Bekendtgørelsen med bilag og studieordning kan findes på internettet på adressen: http://www.sundhedsuddannelse.dk/studieordninger/index.html. Fordelingen af studietid på de enkelte fagområder fremgår af faktaboks 2.

Man kan dele den viden, som den færdiguddannede fysioterapeut skal besidde, op i 4 hovedpunkter. Jeg vil i det følgende gennemgå disse og sige noget om, hvor jeg ser en øget fokusering i uddannelsen som er af idrætsfysioterapeutisk interesse.

Hovedpunkter

1. Hovedpunkt: Viden om menneskets neuro-muskelo-skeletale og kardiovaskulære / respiratoriske system, herunder strukturel og funktionel anatomi, fysiologiske funktioner, patologi og sygdomme. Der er endvidere viden om menneskets udvikling med vægt lagt på motorisk udvikling, kontrol og læring gennem livet samt viden om psykosociale og miljæmæssige faktorers påvirkning.
2. Hovedpunkt: Færdigheder i at identificere, undersøge, diagnosticere og differentialdiagnosticere sygdomsmæssige problemstillinger.
3. Hovedpunkt: Færdigheder rettet mod forebyggelse og behandling.
4. Hovedpunkt: Færdigheder i at kunne anvende forskellige paradigmatiske eller videnskabsteoretiske perspektiver ud fra det aktuelle behov.

Moduler i fysioterapeutuddannelsen

1: Fysioterapi; fag, profession og studie
2: Berøring, kommunikation og manuel vævspåvirkning
3: Identifikation og analyse af bevægelse og aktivitet
4: Fysisk aktivitet i sundhed og genoptræning
5: Tværfaglig fællesmodul – Tværprofessionel virksomhed
6: Undersøgelse, diagnostik og differentialdiagnostik
7: Udredning og behandling
8: Undersøgelse og behandling af belastningsskader og degenerative lidelser
9: Klinisk ræsonnering og beslutningstagning (et klinisk undervisningsmodul)
10: Samfund, sundhed og forebyggelse
11: Kvalitetssikring i professionen gennem klinisk ræsonnering og behandling
12: Selvstændig professionsudøvelse (et klinisk undervisningsmodul)
13: Valgmodul
14: Dokumentation og udvikling (bachelorprojekt)

Faktaboks 1

Faglig integration

Der er i den nye uddannelsesopbygning og beskrivelse lagt stor vægt på en større integration af sygdomslærefagene i de øvrige fag i uddannelsen gennem diagnostik, differentialdiagnostik og klinisk ræsonnering. Der bør ikke i uddannelsen være fag som får lov til lidt at leve deres eget liv gennem uddannelsen. Det er samtidigt en af de helt væsentlige ændringer, at hvert modul skal afsluttes med en eksamen, hvor man i princippet skal sammenfatte hele modulets pensum. Dette stiller selvfølgeligt større krav til integration af fagene, end det vi har været vant til tidligere. Når jeg skriver, at det er i princippet, så er det fordi en eksamen også kan bestå af delprøver, og det benytter man sag af i forskellig grad på de forskellige fysioterapeutuddannelser. De nye studerende bør derfor have fagene bedre integreret og være bedre til at anvende fx fysiologien i et fysioterapeutisk perspektiv. Faget idræt er forsvundet og erstattet af faget "Træning og bevægelse" hvor der er mere vægt på det direkte anvendelsesaspekt.

Der er i studieordningen lagt større vægt på bevægelsesanalyse og diagnostik, dette sammen med at den opbygning af test-/træningslaboratorier, som også sker på fysioterapeutuddannelserne, vil være en idrætsfysioterapeutisk styrke.

Der er indført et nyt fag, der hedder målemetoder, test og validitet, hvilket vil betyde mere fokus på disse begreber og forhåbentligt også, at de studerende i praksis ved mere om, hvor meget de kan stole på de test, de lærer om.

Praktik og valgfag

Der er ikke sket nogen ændring i mængden af klinisk undervisning/praktik i uddannelsen. Der er sket en ændring således, at de studerende møder praksis tidligere i uddannelsen i et noget større omfang end i dag. De har således i løbet af det første år 4 1/2 uge, hvor de er ude i klinikken enten for at se, hvad en fysioterapeut laver (modul 1), eller for at arbejde med fysisk aktivitet og træning som forebyggelse.

Der er indført et helt modul, godt nok et lidt kortere modul på kun 10 ECTS eller 6-7 uger, til valgfag. Dette giver en større mulighed for de studerende selv at vægte deres uddannelse. Eftersom vi har mange studerende med idrætsfysioterapeutisk interesse er der ingen tvivl om, at der vil blive mange valgfag med idrætsfysioterapeutiske emner og derfor også studerende, som har dele af det, som der undervises i på grundkurserne, med fra deres grunduddannelse. Man kunne overveje, om ikke man kunne give merit for nogle af kurserne, og om man (Fagforum for Idrætsfysioterapi) kunne gå sammen med uddannelserne om at validere indholdet, så det lever op til de krav, der stilles.

Studietid på de enkelte fagområder

Fysioterapeutiske fag	100 ECTS
Sundhedsvidenskabelige fag	18 ECTS
Klinisk undervisning	42 ECTS
Naturvidenskabelige fag	25 ECTS
Samfundsvidenskabelige fag	10 ECTS
Humanistiske fag	15 ECTS

(1 1/2 ECTS svarer til 1 uges arbejde for en studerende)

Faktaboks 2

Status

Der er stor fokus på, at uddannelsen skal være "funderet i den nyeste viden" (bekendtgørelsens 1. side), og der er et helt modul, der handler om kvalitetssikring gennem klinisk ræsonnering og behandling med udgangspunkt i patientcaces eller konkrete patientsituationer. Der er sket en markant udvikling på dette område gennem de senere år uafhængig af den nye bekendtgørelse for professionsbachelorer i fysioterapi. Den udvikling hænger sammen med den generelle samfundsudvikling, professionsuddannelsesbegrebet og et videreuddannelsesløft for underviserne på fysioterapeutuddannelserne. Det vigtige er at begreberne også indlejret i grunduddannelsen, og på den baggrund kom det meget belejligt at få hele uddannelsen omskrevet.

Hvis jeg allerede nu skal komme med en enkelt statuskommentar, så ville jeg ønske mig at modulerne havde været klarere fokuserede, efter australsk forbillede. Det ville have gjort det lettere for de studerende klart at se, hvad det egentlig er, de skal lære på det enkelte modul. Det ville også have gjort det lettere at undervise på modulerne, hvad der jo heller ikke er uvæsentligt.

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Debat

Hvad mener du?

Af Karen Kotila, formand for Fagforum for Idrætsfysioterapi

Dette oplæg skal ses som startskuddet til en debat om FFI's fremtidige arbejdsopgaver og struktur. Denne debat får du først og fremmest mulighed for at tage del i på generalforsamlingen 2010, hvor du med din deltagelse blandt andet kan være med til at stemme om FFI's fremtidige aktiviteter, brug af økonomiske ressourcer og arbejdskræfter.

Faglige selskaber

Et af de nye tiltag, der er på bedding, er ændring af fagfora/faggrupper til faglige selskaber.

Sammen med vores moderorganisation Danske fysioterapeuter er vi så småt ved at køre FFI i stilling til at overgå til et "fagligt selskab". Baggrunden for at skulle overgå til et fagligt selskab skal ses i både faglig og politisk sammenhæng. Fagligt er det både i Danske Fysioterapeuter og FFI et erklæret mål at sikre evidensbaseret fysioterapi. En sikring af evidensbaseret fysioterapi kan ske gennem de opgaver beskrevet nedenfor. Politisk vil en mere synlig opdeling mellem Danske Fysioterapeuter som fagforbund og fagfora/fraktioner gøre det nemmere for os at blive inviteret med til bords, når sundhedsfaglige spørgsmål skal diskuteres nationalt.

Som skrevet i sidste FFI-leder i Dansk Sportsmedicin er vi allerede godt på vej til at kunne løfte de opgaver, der vil være for et fagligt selskab, blandt andet med en velfungerende kursusvirksomhed, som sætter evidensen i højsædet og med en idrætsmedicinsk kongres af international format. Som også skrevet er der stadig plads til forbedringer.

Masteruddannelse og/eller kandidatuddannelse

En længe ventet forbedring af idrætsfysioterapien i Danmark må være adgang til en masteruddannelse i idrætsfysioterapi og/eller en kandidatuddannelse.

Der er på nuværende tidspunkt et igangværende samarbejde om en tværfaglig masteruddannelse på det muskuloskeletale område med Syddansk Universitet, Faggruppen Institut for Mekanisk Diagnostik og Terapi, Fagforum for Muskuloskeletal Fysioterapi, Dansk Selskab for Muskuloskeletal Medicin, Nordisk Institut for Kiropraktik og Klinisk Biomekanik, og Dansk Selskab for Idrætsmedicin. Udgangspunktet er, at masteruddannelsen bliver en forskningsuddannelse forankret i det kliniske element, og kandidatuddannelsen i fysioterapi bliver en forskningsuddannelse forankret i det akademiske element. På nuværende tidspunkt er de førstespæde skridt taget. Uddannelsens indhold såvel som behovet for uddannelsen på arbejdsmarkedet er under udarbejdelse i udvalget.

Et spørgsmål kan være, hvordan vi i FFI kan være med til at skabe aftageområder for idrætsfysioterapeuter med masteruddannelse.

Kliniske vejledninger

Yderligere er udarbejdelse af "kliniske vejledninger" på tegnebrættet. Det

Forslag til opgaver for et fagligt selskab:

- Evidensbasere efter- og videreuddannelse indenfor et angivet specialområde (fx. idrætsfysioterapi)
- Samarbejde med professionshøjskoler, ledere og undervisere, om uddannelse på alle niveauer
- Samarbejde med universiteter om videreuddannelse på master-/kandidatniveau
- Samarbejde med forsknings- og udviklingsinstitutioner
- Medvirke til formidling af nyeste viden
- Udarbejde beskrivelser af best practice og standarder
- Udvikle kliniske retningslinjer og måleredskaber
- Indgå i videnskabelige kongresser
- Indgå i internationale forskningsnetværk og subgroups
- Dyrke hjemmeside for offentlig synlighed via udtalelser fra specialister på området
- Søge fondsmidler til udvikling og samling af viden

Kliniske vejledninger

• En klinisk vejledning starter med et veldefineret klinisk spørgsmål, som ønskes undersøgt.
• En klinisk vejledning kan bruges af idrætsfysioterapeuter, når de skal træffe beslutning om sundhedsfaglige interventioner i specifikke kliniske situationer baseret på evidens og best practice.
• Den kliniske vejledning skal være anvendelig i forhold til FFIs kurser og den praksis, kursisterne fungerer i.

overordnede formål er at udarbejde "kliniske vejledninger", som vil være klinisk relevante for FFI-medlemmer for at fremme og sikre 'best practice' blandt idrætsfysioterapeuter i deres daglige virke.

En klinisk vejledning defineres af FFI som en systematisk udarbejdet vejledning, der tager udgangspunkt i den bedste tilgængelige viden på et givent område. De kliniske vejledninger kan rette sig både mod forebyggelse, screening, kliniske undersøgelser og behandling indenfor det idrætsfysioterapeutiske felt.

Spørgsmålene i denne sammenhæng må være: Er det medlemmernes interesse at der bruges ressourcer på "kliniske vejledninger"? Kan udarbejdelsen af "kliniske vejledninger" betales af medlemmerne? Hvordan kan det ske i samarbejde med Danske Fysioterapeuter?

Kom til generalforsamling!

Der er nok at tage fat på og vi håber, at se dig til generalforsamlingen, hvor der forhåbentligt vil blive pustet yderligere liv i debatten. Ønsker du have indflydelse på, hvorledes dit medlemskontingent vil blive forvaltet, bør du møde op og give din mening tilkende.

Kontakt:

Karen Kotila
Formand for Fagforum for Idrætsfysioterapi
Mail: kk@idraetsfysioterapi.dk

... hvor skal vi hen ?

Scandinavian Congre

Radisson SAS Scandinavia

HEADLINES:

Bone, cartilage and training

When sports is a risk taking activity for cartilage. *Professor Harald Roos, Sweden*
Exercise and dose for knee OA. *PT Carsten Juul, Denmark*
How good is exercise for your bone? *Professor Magnus Karlsson, Sweden*
When exercise is unhealthy to bone. *Professor Pekka Kannus, Finland*

Exercise, lung function and disease

Airway problems in athletes - how big is the problem? *Post doc Lars Petersen, Denmark*
Mechanisms behind exercise associated asthma - can exercise make us sick? *Professor Kai Håkan Carlsen, Norway*
Medical treatment of asthma in relation to sports. *Professor Leif Bjermer, Sweden*
It is not all asthma - other causes to airway problems in sports. *Chief physician Vibeke Backer, Denmark*

The kinetic chain in function and dysfunction – What makes the ball go?

Professor Ben Kibler, USA

Glenoid labral injuries - evaluation and treatment

SLAP lesions- pathophysiology, evaluation, and treatment. *Professor Ben Kibler, USA*
Physiotherapeutic evaluation and correction of dysfunctions in the overhead athlete with shoulder pain. *John Verner, PT, Denmark*
MR-evaluation of overhead athletes' shoulder pain. *Chief physician John Gelineck, Denmark*

Current knowledge in surgical treatment of chronic patella instability (SAKS-symposium)

Introduction. *Chief physician Bent Lund, Denmark*
Indications and preoperative planning. *Chief physician Svend Erik Christiansen, Denmark*
MPFL - reconstruction, children and technique. *Chief physician Svend Erik Christiansen, Denmark*
Trochleaplasty, preoperative planning and technique. *Chief physician Lars Blønd, Denmark*
Tuberositas tibia - distalisation/medialisation. The Future? *Chief physician Martin Lind, Denmark*

Treatment modalities in tendinopathy - what to use?

Pathogenesis in tendinopathy. *Ass. Professor Henning Langberg, Denmark*
Growth factors in tendon healing. *Ass. Professor Henning Langberg, Denmark*
Glucocorticoids. *Chief physician Ulrik Fredberg, Denmark*
Surgery. *Chief physician Per Hölmich, Denmark*
Ultrasonography and laser. *Professor Jan Bjordal, Norway*
Strength training. *MSc, PhD Mads Kongsgaard, Denmark*
Schock wave therapy. *PT, MSc Christian Couppé, Denmark*
Sclerosing therapy and el-coagulation. *Morten Boesen, Denmark*
(round table, intro followed by clinical cases, 1-2 from each chair)

Clinical imaging methods in Sports Medicine

Ultrasonography and X-ray. *MD, PhD Morten Boesen, Denmark*
Magnetic resonance imaging. *Professor Leif Dahlberg, Sweden*
DEXA, Scintigraphy and Positron Emission Tomography. *Chief physician Ingelis Kanstrup, Denmark*
(round-table, intro followed by clinical cases)

Anti Doping Symposium

Principles for the haematologicalpassport and blood testing. *Pierre-Edouard Sottas, Neil Robinson, Switzerland*
The UCI programme. *Anne Griper, UCI*
UGT2B17 - the new doping gene. Influ-

DANSK IDRÆTSMEDICINSK SELSKAB

THE SCANDINAVIAN FOUNDATION OF MEDICINE AND SCIENCE IN SPORTS

fagforum for idrætsfysioterapi

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ence on circulating testosterone levels after intramuscular testosterone injections. *Professor Anders Juul, Denmark*
Compliance and the level playing field in antidoping. *Rune Andersen, WADA*
Attitudes to doping in sports and ind society in general. *Professor Bjarne Ibsen, Denmark*

Sports Medicine Research in Scandinavia - how good and where to go?

Bibliometric analysis of sports medicine science. *Professor Michael Kjær, Denmark*
Sports Medicine in Norway. *Professor Lars Engebretsen, Norway*
Sports Medicine in Finland. *Professor Urhu Kujala, Finland*
Sports Medicine in Sweden. *Professor Jon Karlsson, Sweden*
Sports Medicine in Denmark. *Professor Michael Kjær, Denmark*
Sports Medicine in physiotherapy. *Professor Ewa Roos, Denmark*

Muscle activity - too little, adequate, too much?

How to build muscle in an optimal way. *Cand.Scient, PhD Lars L. Andersen, Denmark*
Unaccustomed exercise - why do we get sore? *Ass. Professor Mal McHugh, NY, USA*
Muscle injury healing - satellite cells and anti-inflammatory medication. *Post doc. Abigail Mackey, Denmark*
Diagnosis of cronic compartment syndrome. *Professor Jorma Styf, Sweden*
What treatment modalities do work after acute muscle injury? *Professor Lars Engebretsen, Norway*

Football - injury and health

How demanding is elite football? *Professor Jens Bangsbo, Ass. Professor Peter Krustrup, Denmark*
Injuries associated with football, how frequent and how bad? *Professor Jan Ekstrand, Sweden*
Assessment and management of elite soccerplayers with groin injuries. *PT Kristian Thorborg, Denmark*
Risk factors for ACL injuries among female soccer players. *PT Agnethe Nilstad, Norway*
Can football be used as health promoting and disease preventing activity. *Ass. Professor Peter Krustrup, Denmark*

Healthy ageing - role of physical activity

Why do we loose muscle as we age? *Professor Steve Harridge, England*
Metabolic ageing. *ProfessorFlemming Dela, Denmark*
Bone ageing-impact of physical activity. *Professor Peter Schwarz, Denmark*
Physical activity and daily function in elderly. *Ass. Professor Nina Beyer, Denmark*
Physical training in elderly hospital patients. *Ass. Professor Nina Beyer, Denmark*

Ligaments and tendon injuries

Tendon structure and function. *Professor Peter Magnusson, Denmark*
Clinical joint testing and ligaments - how valid is it? *Chief Surgeon Michael Krogsgaard, Denmark*
Ligament injuries and sports – a clinical perspective. *Professor Per Renström, Sweden*
Rehabilitation of patients with ligament injuries. *Ass. Professor Mal McHugh, NY, USA*

Exercise promotes health - how to make it work in society?

Is it realistic to improve exercise activity in the population. *Professor Willem van Mechelen, Holland*
What measures should we take to improve physical activity in the public. *Professor Bente Klarlund Pedersen, Denmark*
Studies of improving physical activity in children. *Professor Lars Bo Andersen, Denmark*
Multiple factor intervention: The Danish KRAM investigation. *Ass. Professor Jørn Wullf Helge, Denmark*
Why don't people just do it? - psychological barriers towards exercise. *Professor Peter Hasmen, Sweden*

Rehabilitation after sports injury - when are you ready for exercise again?

Ass. Professor Mal McHugh, NY, USA

Taking it to the extremes! Freediving

Extreme breath holding and diving. *Stig Severinsen, Denmark*

How do we best prevent sports injuries - the short story?

Prevention of sports injuries - where are we now? *Chief physician Per Hölmich, Denmark*
Sensorimotor function of the knee. *Ass. Professor Eva Ageberg, Sweden*
An acceptable balance between health benefits and injury risk in sports. *Professor Willem van Mechelen, Holland*
Can sports injuries be prevented in football? *Professor Jan Ekstrand, Sweden*

WORKSHOPS

1. Scapula – abnormal and normal motion. *Professor Ben Kibler, USA*
2. Back to sport after knee injury – when are you ready and how do you test it? *Chief Physician Martin Lind and PT Mogens Dam, Denmark*
3. Diagnostics of the painfull knee – focus on overuse problems. *PT Peter Rheinlænder and chief surgeon Per Hölmich, Denmark*
4. Scapula – abnormal and normal motion. *PT John Verner, Denmark*

FREE PAPERS and COMPETITION

The programme is subject to alterations.

For details, time scedule and online registration: www.scmss2010.com
Abstracts, oral & poster presentations: See following pages

Abstracts – 10th SCMSS 2010

Oral presentations (1)

Thursday, February 4, 2010, 11.30-13.00

O101. THE GRADE IN PHYSICAL EDUCATION OF ADOLESCENTS AS PREDICTOR FOR SICK LEAVE 30 YEARS LATER

Timpka S, Petersson IF, Englund M
The MORSE Project, Musculoskeletal Research Center, Department of Orthopedics, Lund University, Lund University Hospital, Lund, Sweden
Presenter: Simon Timpka, e-mail: st@morse.nu

Introduction: The purpose of this study was to investigate the value of the physical education (PE) grade from adolescence as a predictor for sick leave in the middle age. We hypothesized that a low grade is associated with an increased risk of later sick leave.
Material and methods: For a historical cohort study, we identified all 2298 subjects (48.6% women), born in 1957–1962, who in 1974–1976 graduated from secondary school in a municipality in Southern Sweden. The PE grade was retrieved from municipal records. We ensured via the Population Register that subjects were still resident in the county 2003–2007, and linked our data to registers of the Swedish Social Insurance Agency and Statistics Sweden, which includes information on sick leave 2004-2007 and level of education. For the analysis, we used a logistic regression model adjusted for level of education and calculated the odds ratio (OR) of having had one or more episodes of sick leave. Subjects with an average PE grade were used as reference.
Results: 1712 (74.5%) subjects (mean age 48 [SD 0.9], 48.8% women) were eligible for the study (530 were drop-outs, due to relocation out of the county or having not received a PE grade). Women with a low grade had an OR of sick leave of 1.37 (95% confidence interval; 0.94-2.00), and those with a high grade had 0.85 (0.61-1.20). In men, the corresponding ORs were 1.22 (0.81-1.82) and 1.10 (0.75-1.63), respectively.
Conclusion: This study does not show a significant association between the PE grade and sick leave 30 years later. However, due to small sample size, the elevated OR of sick leave for women with a low grade warrants further attention.

O102. COMPARISON OF A SUBJECTIVE AND AN OBJECTIVE METHOD FOR ESTIMATING PHYSICAL ACTIVITY IN AN ADULT KENYAN POPULATION

Schick M[1,2], Hansen ALS[2], Christensen DL[2,3], Kiens B[4], Brage S[5]
[1]Orthopaedic Research Unit, Department of Orthopaedic Surgery, Amager Hospital, Denmark, [2]Steno Diabetes Center, Gentofte, Denmark; [3]Department of International Health, Copenhagen University, Denmark; [4]Department of Exercise and Sports Sciences, Copenhagen University; [5]MRC Epidemiology Unit, Cambridge, United Kingdom
Presenter: Maja Schick e-mail: maja.schick@amh.regionh.dk

Introduction: The International Physical Activity Questionnaire (IPAQ) is a subjective method for estimating physical activity and is widely used in epidemiological research in many parts of the world. It has been validated in several populations against accelerometry which has limitations of its own. Further, it is unknown if IPAQ is a valid instrument for estimating intensity of physical activity in African populations. Therefore, our aim was to evaluate differences in physical activity obtained from IPAQ and from combined accelerometry and heart rate monitoring (Actiheart).
Material and methods: This study is based on cross-sectional

data from an investigation in Kenya, 2005-2006 (n=1147, 59% females). Actiheart time-series data were pre-processed (cleaned and summarized to individual estimates) using the manufacturer's software. Outcome from IPAQ and Actiheart is presented in minutes/week spent in different intensity categories; moderate (3-6 METs) and vigorous (>6 METs) (MVPA) and is compared using Bland-Altman plots.
Results: Compared to Actiheart estimates, IPAQ estimates of physical activity were twice as high among women and three times as high among men (p<0 .001). IPAQ over-estimate d time spent in physical activity with a mean difference of 1421 [95% CI 1313-1528] minutes/week, and this over-estimation was more pronounced at higher physical activity levels.
Conclusions: The poor agreement between IPAQ and Actiheart indicates limited validity of self-report in the Kenyan population and suggests a need for culturally adjusted questionnaires. Validated objective methods should be considered for measuring time and intensity of physical activity in adult African populations.

O103. A TEST BATTERY FOR ATHLETE SCREENING BY PHYSIOTHERAPISTS - A RELIABILITY STUDY
Frohm A, Heijne A, Svensson P, Myklebust G
Karolinska Institutet, Department of Neurobiology, Care Science and Society (NVS) Division of Physiotherapy
Presenter: Anna Frohm, e-mail: anna.frohm@telia.com

Introduction: Several studies have shown that reduced neuromuscular control or strength increases the risk of acute injuries. It is hypothesized that a non-functional movement pattern can predispose for injuries. Physiotherapists often meet patients with an established dysfunction. The purpose of examination and testing is to identify where the pain or dysfunction originates, in order to guide specific treatment to re-establish normal patterns. In this case, a non-functional movement pattern is treated because the patient is symptomatic. An alternative would be to screen a person for dysfunctional movement patterns before pain or functional limitations occur, for example to prevent injuries among athletes.
Material and methods: 26 healthy elite soccer players (17-28 years) were screened with the test battery consisting of nine functional tests at two occasions with seven days between. 18 soccer players fulfilled the test-retest.
Results: No significant difference of the inter-rater reliability was found between the eight physiotherapists at the two test occasions. The ICC was 0.80 and 0.81, respectively. The mean ICC for intra-rater reliability within the physiotherapists was 0.75. The inter-rater reliability for each exercise ranged between 0.30 to 0.85.
Conclusion: A test battery for screening athletes, was used on male elite soccer players, showed good inter- and intra-rater reliability. The screening battery was easy to use for familiarized professionals, required minimal equipment and was not time consuming. However, further studies are needed to confirm these results, as well as to examine the validity of the test battery in injury prevention, rehabilitation and performance enhancement.

O104. HAMATE HOOK FRACTURES IN UNDERWATER RUGBY
Kamusella P, Scheufler O, Tadda L, Radmer S, Russo S, Andresen R
Department of Diagnostic and Interventional Radiology/ Neuroradiology Westkuestenklinikum Heide Academic Teaching Hospital, University of Kiel, Luececk and Hamburg
Presenter: Peter Kamusella, e-mail: paipman@web.de

Introduction: Fractures of the hook of the hamate are rare osseus injuries of the distal carpal row. A complaint symptomatology expressed by underwater rugby player (with palmoulnar pressure pain as well as sensitivity disturbances in the supply area of the ulnar nerve) and the diagnostics and therapy accomplished then were retrospectively evaluated.
Material and methods: The collective consists of 7 male, athletic patients, with those a fracture of the hook of the hamate was proven using a computer tomography (CT). The right hand was always affected, which was used in the play also as guidance hand. Despite recurring and lingering complaints the time to diagnostic position was from 1 week up to 4 years. Before the CT accomplished, conventional x-ray in 2 levels was realized, without verification of fracture. All patients were immobilized to diagnostic position for at least 6 weeks in a gypsum rail. With continuing complaints an operation in the further process with 6/7 patients took place, 1/7 patient rejected the operation.
Results: At the entire patient collective (7/7) conventional x-ray did not provide a verification of fracture (0%). Due to the continuous complaints a CT took place with proof of the hamate-fracture by each patient (100%). Fractures were located in 3/7 distal (~42.9%), in 2/7 middle (~28.6%) or in 2/7 proximal (~ 28.6%) part of the hook of the hamate, in each case without displacement. The conservative therapy did not provide a free of complaints, 4/7 (57.2%) of the patients developed a pseudarthrosis. In the process an extirpation of the fragment took place in 4/7 patients, 2/7 patient were treated with an osteosynthesis (ORIF). All operated patients were free of complaints in the further process.
Conclusion: In underwater rugby the impression occured for a disproportionate frequent incindence of the hook of hamate-fractures. Also with appropriate symptoms, in particular with this kind of sport, the possibility of a fracture of the hook of hamate considers insufficient. An adequate diagnostic imaging is essential for opportune differentiated therapy planning. Key words: Hook of the hamate, hamate hook fracture, underwater rugby.

O105. A SCHOOL BASED EXERCISE INTERVENTION FOR 3-YEARS IN PREPUBERTAL CHILDREN DO NOT ALTER FRACTURE INCIDENCE BUT INCREASE BONE MASS
Detter F, Löfgren B, Lindén C, Stenevi-Lundgren S, Nilsson JÅ, Karlsson MK
Centre for Clinical and Molecular Osteoporosis Research, Department of Clinical Sciences and Department of Orthopaedic Surgery, UMAS, Malmö, Lund University Sweden
Presenter: Fredrik Detter, e-mail: fredrikde@m6.stud.ku.dk

Introduction: The purpose of this population based prospective controlled exercise intervention study was to evaluate effects of physical activity as regards skeletal development and fracture risk.
Material and methods: The skeletal development was followed in 7-9 year old children, 76 boys and 48 girls in the intervention group and 55 matched boys and 44 girls in the control group for 3 years. Physical educational classes were in the intervention group increased to 40 minutes/day. The controls continued with 60 minutes/week. Bone mineral density (BMD) was measured annually with dual X-ray absorbtiometry at lumbar spine (LS) and femoral neck (FN). Fractures were registered during the same period in all 643 children in the intervention school (1611 person-years) and all 1362 children in the control schools (3604 person-years).
Results: The annual BMD gain (g/cm2) in LS was greater in both boys and girls in the intervention group than in the controls (mean ± SD) (boys 0.028 ± 0.011 vs. 0.023 ± 0.009 and girls 0.038 ± 0.023 vs. 0.023 ± 0.012, both $p<0.05$). There occurred 30 fractures in the intervention group (18.6 events/1000 person-years) and 58 in the control group (16.1 events/1000 person-years). The rate ratio (RR) for fractures was 1.16 (95% CI 0.72, 1.81) with no gender differences.
Conclusion: A school based exercise intervention program during the three first school years increases the accrual of BMD in both genders but do not influence the fracture incidence. The fear that increased exercise may lead to more trauma-related fractures was opposed.

O106. EVIDENCE OF ACCUMULATED STRESS IN ACHILLES AND ANTERIOR KNEE TENDONS IN ELITE BADMINTON PLAYERS – POSSIBLE ROLE IN TENDON OVERUSE PATHOLOGI.
Boesen A, Boesen MI , Koenig MJ, Bliddal H, Torp-Pedersen S, Langberg H
Institute of Sports Medicine, Bispebjerg Hospital and Center for Healthy Aging, Faculty of Health Sciences, University of Copenhagen
Presenter: Anders Ploug Boesen, e-mail: boesenanders@hotmail.com

Introduction: Tendon related injuries are a major problem but the aetiology of tendinopathies is unknown. In tendinopathies as well as during unaccustomed loading intratendinous flow can be detected indicating that extensive loading can provoke intra-tendinous flow. Thus intra-tendinous flow may be the first sign of overuse pathology. Hypothesis: Repeated loading of the lower extremity as during a Badminton tournament leads to a stepwise increase in intra-tendinous flow and may be the first sign of overuse in loaded tendons.
Material and methods: Intra-tendinous flow in the Achilles and anterior knee tendons was examined in badminton players before tournament and after 1st and 2nd match respectively on both the dominant and non-dominant side. The Achilles tendon was subdivided into a mid-tendon, preinsertional, and insertional region and the anterior knee tendons into a quadriceps-, patella - and tuberositas region. Intra-tendinous flow was measured using both a semi-quantitative grading system (CD) and a quantitative scoring system on colour Doppler (CF).
Results: All players had abnormal intra-tendinous flow (CD>= grade 2) in at least one tendon in at least one scan during the tournament. At baseline, only two of the 14 players had normal flow in all the tendons examined. After 1st match, tendencies to higher intra-tendinous flow were observed in both the dominant patella tendon (P= 0,059) and non-dominant quadriceps tendon (P= 0,061). After 2nd match intra-tendinous flow was significant increased in the dominant patella tendon (P= 0,009). In all other locations there were a trend towards a stepwise increase in intra-tendinous flow.
Conclusion: Intra-tendinous flow was found in all elite badminton players at baseline or after repeated loading. In the patella tendon (dominant leg) intra-tendinous flow was significantly increased after two matches. The colour Doppler measurement may be used to determine the first signs of overloading after repetitive loading. Study design: Cohort study (prevalence); Level of evidence, 3.

O107. EFFECTS OF ESTROGEN REPLACEMENT THERAPY ON MYOFIBRILLAR AND MUSCLE COLLAGEN PROTEIN TURNOVER IN ELDERLY WOMEN
Hansen M, Langberg H, Skovgaard D, Reitelseder S, Holm L, Trappe T, Frystyk J, Flyvbjerg A, Kjaer M
Institute of Sports Medicine and Centre for Healthy Ageing, Faculty of Health Sciences, University of Copenhagen, Bispebjerg Hospital, DK-2400 Copenhagen NV, Denmark. Human Performance Laboratory, Ball State University, Muncie, Indiana 47306, USA The Medical Research Laboratories, Clinical Institute and Medical Department of Endocrinology and Internal Medicine, Aarhus University Hospital, DK-8000, Aarhus C, Denmark
Presenter: Mette Hansen, e-mail: kontakt@mettehansen.nu

Introduction: Estrogen receptor proteins are expressed in human skeletal muscle. However, the knowledge concerning the effect of estrogen on muscle protein turnover in women is sparse. Our aim was to determine the effect of estrogen replacement therapy (ERT) on myofibrillar and muscle collagen protein fractional synthesis rate (FSR) and muscle interstitial levels of 3-methyl-histidine (3-MH) as a marker for breakdown of myofibrillar proteins.
Material and methods: elderly women (60±1 yr) who were non-users (Controls (C)) or users ERT were recrutted. Protein FSR and 3-MH were determined by isotope technique and microdialysis technique, respectively. Measurements were performed at rest in one leg, and 24-h post resistance exercise in the contra-lateral leg.
Results: Myofibrillar protein FSR and interstitial concentrations of 3-MH were lower in ERT-users compared to C at rest ($P<0.05$). Similarly, muscle collagen FSR tended to be lower in ERT-users compared to C at rest ($P=0.10$). Exercise enhanced myofibrillar protein FSR ($P<0.05$) and muscle collagen FSR in ERT ($P<0.05$), but not in C. No difference in lean body mass was detected. In ERT-users, resting serum con-

centrations of estradiol, insulin-like growth factor-I, free testosterone, free androgen index and 4-androstenedione were lower, whereas estradiol and sex hormone binding globulin were significant higher compared to C (all P values <0.05).
Conclusion: ERT is associated with lower turnover of myofibrillar proteins at rest in elderly women. However, ERT seems to have a positive influence on the effect of exercise on myofibrillar protein synthesis and synthesis of muscle collagen proteins.

O108. EFFECT OF NSAIDs ON EXPRESSION OF INFLAMMATORY CYTOKINES AND GROWTH FACTORS IN HUMAN SKELETAL MUSCLE
Mikkelsen UR, Helmark IC, Heinemeier KM, Schjerling P, Mackey AL, Skovgaard D, Langberg HL, Kjaer M
Institute of Sports Medicine, Bispebjerg Hospital and Center for Healthy Aging, University of Copenhagen
Presenter: Ulla Ramer Mikkelsen, e-mail: ullaramer@hotmail.com

Introduction: Non-steroidal anti-inflammatory drugs (NSAIDs) are widely consumed by rheumatic patients and by athletes when faced with injuries. It is estimated that more than 30 mio people worldwide use NSAIDs daily. However, NSAIDs may have negative effects on skeletal muscle adaptation to exercise. The increases in protein synthesis and satellite cell activation seen following resistance exercise are blunted by NSAIDs. The present study investigated some signalling molecules possibly involved in mediating the negative effects of NSAID.
Material and methods: Eight healthy young males performed 200 maximal eccentric contractions with each leg. The NSAID indomethacin (unspecific COX-inhibitor) was infused before, during and for 5 hrs postexercise, while the contralateral leg served as working control leg. Muscle biopsies were obtained from m. vastus lateralis 5 hrs and 8 days postexercise and analysed for mRNA expression of selected genes by use of real time RT PCR.
Results: Satellite cell number 8 days postexercise was higher in the NSAID leg than in the control leg. Tumor necrosis faktor-alfa (TNFalfa), interleukin-1b (IL-1b), interleukin-6 (IL-6) and macrophage chemoattractant protein-1 (MCP1) were upregulated in the NSAID leg 5 hrs post exercise compared to the control leg (P<0.05). Hepatocyte growth factor-1 (HGF1) was unaffected by NSAID. 8 days postexercise the expression of TNFalfa was lower in the NSAID leg than in the control leg (P=0.015).
Conclusion: Infusion of NSAID before, during and for 5 hrs after maximal eccentric exercise increases mRNA expression of some inflammatory cytokines 5 hrs post exercise but reduces TNFalfa expression 8 days postexercise.

Oral presentation (2)

Thursday, February 4, 2010, 14.00-15.30

O201. TWO YEAR FOLLOW-UP OF REHABILITATION AFTER ACL RECONSTRUCTION USING PATELLAR TENDON OR HAMSTRING TENDON GRAFTS. A PROSPECTIVE RANDOMISED OUTCOME STUDY
Heijne A, Werner S
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Presenter: Annette Heijne, e-mail: annette.heijne@ki.se

Material and methods: Sixty-eight patients were clinically evaluated preoperatively, 3, 5, 7, 9 months, 1 and 2 years after ACL reconstruction, 34 with patellar tendon graft, 34 with hamstring graft.
Results: Outcome regarding graft choice and anterior knee laxity (P=0.04) was in favour of patellar tendon graft. Hamstring graft led to a larger laxity, 2.4 mm compared with patellar tendon graft, 1.3 mm at 1 year and 2.5 mm and 1.5 mm, respectively at 2 years (P=0.05). There was a significant difference in rotational knee stability in favour of the patellar tendon graft at all test occasions but 9 months. A general effect regarding graft choice and muscle torque was found at 90°/s for quadriceps (P=0.03) and hamstrings (P<0.0001) and at 230°/s for hamstrings (P<0.0001). No treatment effect regarding graft choice and one-leg hop test, postural sway or knee function was found. No group differences in anterior knee pain were found at any of the test occasions but 2 years in favour of hamstring graft compared to patellar tendon graft (P=0.04). Patellar tendon graft resulted in higher activity level than hamstring graft at all test occasions but 1 year (P=0.01).
Conclusion: patellar tendon ACL reconstruction led to more stable knees with less anterior knee laxity and less pivot shift than hamstring ACL reconstruction. Hamstring graft patients had not reached preoperative level in hamstring torque even 2 years after ACL reconstruction. Athletes with patellar tendon graft returned to sports earlier and at a higher level than those with hamstring graft.

O204. A SINGLE STAGE PROCEDURE FOR CELL-BASED CARTILAGE REPAIR: 24 MONTH RESULTS FROM A PILOT STUDY
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Introduction: Cartilage autologous implantation system (CAIS) is a surgical method in which hyaline cartilage fragments from a non-weight bearing area in the knee joint are collected and then precipitated onto an absorbable filter that is subsequently placed in the focal chondral defect.
Material and methods: The clinical outcome of CAIS was compared with microfracture (MFX) in a pilot study. In an IRB approved protocol patients (n=29) were screened with the intention to treat, randomized (2:1, CAIS: MFX) and followed over a 24 month period. There were no differences in the demographics between the two treatment groups. We report 24 month patient-reported outcome (PRO) data using the KOOS-scale.
Results: The values (mean±SD) for the Sport&Recreation (S&R) and Quality of Life scales are shown in the figures. We noted that at 12 months after the intervention CAIS differentiated itself from MFX in that the changes in S&R were different ($p<0.05$, t-test) at 12, 18, and 24 months. QoL data were different at 18 and 24 months. The other KOOS-subscales in CAIS and MFX were not significantly different at any time point.
Conclusion: The data suggest that CAIS led to an improvement in clinical outcomes in the second year post-intervention. It is possible that the improvement of symptoms that we measured may be associated with the formation of hyaline cartilage. Study funded by ATRM and DePuyMITEK.

O205. LOAD SHARING BETWEEN THE POSTERIOR OBLIQUE LIGAMENT AND SUPERFICIAL MEDIAL COLLATERAL LIGAMENT FOLLOWING MEDIAL KNEE INJURY: A BIOMECHANICAL STUDY
Wijdicks CA, Griffith CJ, LaPrade RF, Spiridonov SI, Johansen S, Engebretsen L
Investigation performed at the Orthopaedic Biomechanics Laboratory, Department of Orthopaedic Surgery, University of Minnesota, Minneapolis, Minnesota, and the Orthopaedic Center, Ulleval University Hospital and Faculty of Medicine, University of Oslo, Oslo, Norway
Presenter: Coen A. Wijdicks, e-mail: wijdi002@umn.edu

Introduction: There is limited information regarding directly measured load responses of the posterior oblique and superficial medial collateral ligaments in isolated and multiple medial knee ligament injury states. The purpose of this study was to comprehensively examine the abnormal motion and load redistribution associated with injury to medial knee structures.
Materials and methods: Twenty-four nonpaired, fresh-frozen adult cadaveric knees were distributed into 3 sequential sectioning sequences. Buckle transducers were applied to the posterior oblique ligament and the proximal and distal divisions of the superficial medial collateral ligament; 10 N•m valgus moments and 5 N•m internal and external rotation torques were applied at 0°, 20°, 30°, 60°, and 90° of knee flexion.
Results: With an applied valgus and external rotation moment, there was a significant load increase on the posterior oblique ligament compared with the intact state after sectioning all other medial knee structures. With an applied external rotation torque, there was a significant load decrease on the proximal division of the superficial medial collateral ligament from the intact state after sectioning all other medial knee structures. With an applied external rotation torque, the distal division of the superficial medial collateral ligament experienced a significant load increase from the intact state after sectioning the posterior oblique ligament and the meniscofemoral division of the deep medial collateral ligament.
Conclusions: In cases in which surgical repair or reconstruction is indicated, consideration should be placed on repairing or reconstructing all injured medial knee structures to restore the native load-sharing relationships among these medial knee structures.

O206. AN IN VITRO ANALYSIS OF AN ANATOMIC MEDIAL KNEE RECONSTRUCTION
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Investigation performed at the Orthopaedic Biomechanics Laboratory, Department of Orthopaedic Surgery, University of Minnesota, Minneapolis, Minnesota, and the Orthopaedic Center, Ulleval University Hospital and Faculty of Medicine, University of Oslo, Oslo, Norway
Presenter: Coen A. Wijdicks, e-mail: wijdi002@umn.edu

Introduction: To our knowledge, no biomechanically validated anatomic reconstruction technique using quantitatively described anatomic attachment sites to reconstruct superficial medial collateral ligament and posterior oblique ligament injuries has been reported.
Materials and methods: Ten nonpaired cadaveric knees were tested in the intact, superficial medial collateral ligament and posterior oblique ligament–sectioned, and anatomically reconstructed states. Each knee was tested at 0°, 20°, 30°, 60°, and 90° of knee flexion with a 10-Nm valgus load, 5-Nm external and internal rotation torques, and 88-N anterior and posterior drawer loads. A 6 degrees of freedom electromagnetic motion tracking system measured angulation and displacement changes of the tibia with respect to the femur. Buckle transducers measured the loads on the intact and reconstructed proximal and distal divisions of the superficial medial collateral ligament and the posterior oblique ligament.
Results: A significant increase was found in valgus angulation and external rotation after sectioning the medial knee structures at all tested knee flexion angles. This was restored after an anatomic medial knee reconstruction. The authors also found a significant increase in internal rotation at 0°, 20°, 30°, and 60° of knee flexion after sectioning the medial knee structures, which was restored after the reconstruction. Overall, there were no clinically important differences in load on the ligament when comparing the intact with the reconstructed states.
Conclusions: An anatomic medial knee reconstruction restores near-normal stability to a knee with a complete superficial medial collateral ligament and posterior oblique liga-

ment injury, while avoiding overconstraint of the reconstructed ligament grafts.

O207. AN AGGRESSIVE FIVE-WEEK EXERCISE PROGRAM IS SUFFICIENT TO OPTIMIZE MUSCLE STRENGTH AND KNEE FUNCTION BEFORE ACL- RECONSTRUCTION

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Presenter: Ingrid Eitzen, e-mail: ingrid.eitzen@hjelp24.no

Introduction: Preoperative knee function after ACL-injury has been shown to predict postoperative outcome. Still, few studies concerning the effect of early phase rehabilitation programs exist. The purpose of the present study was to evaluate a five-week aggressive rehabilitation program for optimization of knee function before ACL-reconstruction. We hypothesized that there would be significant and clinically important improvements in knee function after completion of the program, and that the patients would have no adverse effects.
Material and methods: One-hundred subjects with mean age 26.1 (range 14-47) years were included in the aggressive rehabilitation program on average 59.3 (range 20-92) days after injury. Baseline and post-training knee function was evaluated from isokinetic quadriceps and hamstrings muscle strength tests (60°/sec, five repetitions), four single-leg hop tests and three different self-assessment questionnaires. Leg symmetry indexes, absolute values and standardized response means were calculated for each assessment. Observed adverse effects were noted in medical charts.
Results: Significant improvements ($p<0.05$) were established after training for quadriceps and hamstrings strength, single-leg hop performance and self-assessment questionnaires. The percentage improvement in absolute strength torques and hop lengths for the injured leg were between 8 and 13%. Moderate to strong effect sizes were established for the changes. Only 3.9% of the subjects experienced adverse effects that declined compliance.
Conclusion: Five weeks of aggressive rehabilitation in the early phase after ACL-injury led to significant improvements in knee function. Short-term intensive rehabilitation programs should thus be incorporated when scheduling ACL-reconstruction, in order to optimize the preoperative status.

O208. EFFECT OF INTENSIFIED HOME-BASED EXERCISE AFTER TOTAL HIP REPLACEMENT - A CLINICAL RANDOMISED CONTROLLED TRIAL

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Introduction: Total Hip Replacement (THR) is a common procedure with approximately 8000 operations per year in Denmark. Previous research has shown deficits in muscle strength and physical function after THR. The purpose of the present study was to investigate the effect of an intensified home-based training regime compared to standard rehabilitation.
Materials and methods: Forty-four THR patients operated between Sep 2008 and Jan 2009 completed the study (96% follow-up). Participants were randomly assigned to an intervention group (IG) receiving 12 weeks of intensified training (e.g. rubber band resistance) or a control group (CG) receiving standard rehabilitation. Both groups performed their exercises at home. Measurements were carried out preoperative plus 4 and 12 weeks postoperative and consisted of 10 m walk test, one legged stance, isometric hip abductor strength and questionnaires measuring health related quality of life (EQ-5D), as well as patient-evaluated function, stiffness and pain (WOMAC).
Results: The participants performed the prescribed exercises 12 times per week (mean) in the CG and 10 times in the IG ($p=0.37$). There was significant increases in both groups in all the measurements during the 12 weeks of exercises, but no significant differences between the groups ($p>0.05$). All participants in the IG were satisfied or very satisfied with the exercises compared to 85% in the CG ($p=0.095$).
Conclusion: This study did not document an additional effect of the intensified exercise program compared with standard rehabilitation. However it was proven that THR patients tolerated intensified exercises without additional pain and with high patient satisfaction.

O308. HAMSTRING MUSCLE ACTIVITY DURING DYNAMIC AND STATIC EXERCISES ON UNSTABLE REHABILITATION EQUIPMENT

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Presenter: Jesper Bencke, e-mail: jesper.bencke@hvh.regionh.dk

Introduction: Exercises for preventing ligamentous injuries in the knee joint are often performed on unstable rehabilitation surfaces like wobble-boards or balance-mats. The purpose of the present study was to examine the hamstring muscular activity elicited during landing and balance exercises on unstable compared to stable surfaces.
Material and methods: Eighteen young subjects (11 men, 7 women), mean age 25.8 yrs, volunteered to participate. Subjects performed 3 dynamic landings from a horizontal jump on each of the following surfaces: a)floor, b)Airex mattress, or c)BOSU ball. EMG activity of the lateral and medial hamstring muscles during 100 ms pre and post landing was obtained as a measure of pre-programmed muscle activity and neuromuscular reaction to landing, respectively. Hamstring activity during standing balance was evaluated on: a)floor, b)Airex mattress, c)BOSU, and d) wobble-board. One way

repeated measures ANOVA was used for investigation of differences between surfaces.
Results: No difference in pre-programmed activity in the hamstrings was evident during landing, but post-landing hamstring activity was significantly higher when landing on unstable surfaces compared to landing on the floor. During standing balance, the wobble-board showed significantly higher hamstring activity levels than the other, and no difference between Airex and the floor was found. Hamstring activity was significantly higher during landing than during standing balance exercises.
Conclusion: Exercises on unstable surfaces increase the level of hamstring activity. Dynamic exercises seems to increase the hamstring activation level more, and it may be speculated that landing on unstable surfaces may be more efficient as injury prevention exercises.

O309. MEDIAL HAMSTRING ACTIVATION DEFICIT IN FEMALE HANDBALL PLAYERS WITH ACL RECONSTRUCTION
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Introduction: The medial hamstring muscles have the potential to counteract excessive dynamic valgus and external rotation at the knee joint, and thereby reduce ACL stress. The aim of the present study was to investigate the neuromuscular activity in the medial vs. lateral hamstring muscles during maximal muscle contraction in healthy knees of former ACL injured and non-injured female handball players.
Material and methods: Nine female handball players with ACL reconstruction (ACL) and nine non-injured female handball players (CON) were tested for neuromuscular activation in their healthy knee during maximal isometric knee flexion (MVC) in an isokinetic dynamometer (KinCom). Surface electromyography (EMG) electrodes were placed on semitendinosus (ST) and biceps femoris caput longus (BFcl), and mean EMG amplitude in the 50 ms interval prior to max force were normalized to the maximal EMG obtained during MVC.
Results: In ACL subjects, EMG activity of the non-injured knee was lower for ST than BFcl (66±12% vs. 78 ± 5%, P=0.024). No difference between medial and lateral hamstring activity was observed in CON (80 ± 10% vs. 78 ± 8%, P=0.443). Further, ST EMG activity was lower in ACL than CON subjects (P=0.01).
Conclusion: Athletes with former ACL injury displayed a medial hamstring activation deficit in the non-injured knee. This activation deficit may represent a potential risk factor with respect to ACL injury. A prophylactic approach is to evaluate which exercises induce preferentially high levels of activation of the medial hamstring muscles to thereby strengthen this muscle group and provide protection against ACL injury.

Oral presentation (3)

Friday, February 5, 2010, 09.30-11.30

O301. INCREASING HIP ABDUCTION STRENGTH IN THE CLINICAL SETTING: A RANDOMISED CONTROLLED TRIAL INVESTIGATING THE EFFICACCY OF HEAVY VERSUS MODERATE STRENGTH TRAINING
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Presenter: Thorborg K, e-mail: kristianthorborg@hotmail.com

Introduction: The side-lying hip abduction exercise is commonly used in the rehabilitation of injuries to the lower extremity. The side-lying hip abduction exercise using only the weight of the leg as loading may be insufficient to induce relevant strength gains. The purpose of this study was therefore in a randomised controlled trial to compare six weeks of side-lying hip abduction training with and without external loading (heavy [HST] and moderate [MST] strength training, respectively) on hip abduction strength.
Material and Methods: Thirty-one healthy and physically active women and men were randomly assigned to HST or MST. The HST-group trained using external loading corresponding to a relative load of 10 repetitions maximum, and the MST group trained using only the leg as loading. Hip abduction strength was measured pre- and post-intervention.
Results: Isometric and eccentric hip abduction strength of the trained leg increased after HST by 12% and 17%, respectively, ($p<0.05$). Likewise, isometric and eccentric hip abduction strength of the trained leg increased after MST by 11% and 23%, respectively, ($p<0.001$). The strength increases were not different between groups ($p>0.05$).
Conclusion: Six weeks of side-lying hip abduction exercises, with and without external loading, increases isometric and eccentric hip abduction strength to the same extent.

O302. DESCRIPTIVE PROFILE OF SCAPULOTHORACIC POSITION- AND STRENGTH- VARIABLES IN ADOLESCENT ELITE SWEDISH TENNIS PLAYERS
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Introduction: The purpose of this study was to describe variables regarding scapular position, scapular muscle strength and flexibility, and spinal curve positions in Swedish adolescent elite tennis players, using field-measurement-tools.
Material and methods: Thirty-five adolescent Swedish elite tennis players (age 13 ± 1.4 years), selected based on their national ranking, participated to the study. They underwent a clinical screening protocol consisting of: (1) scapular inclination at several angles of arm elevation, using a digital inclinometer, (2) scapular muscle strength, using a hand-held dynamometer, (3) anthropometric measurement of Pectoralis Minor length and (4) thoracic spine curve measurement at several angles of arm elevation, using the Spinal Mouse.
Results: (1) With respect to scapular inclination, the players showed significant more upward rotation on their dominant side at 90° of elevation (p=0.003) compared to their non-dominant side. (2) Upper Trapezius (p=0.003) and Serratus Anterior (p=0.008) strength was significantly higher on the dominant side, whereas Middle (p=0.907) and Lower (p=0.517) Trapezius strength showed no side differences. (3) Pectoralis Minor was shorter on the dominant side (p<0.001), and (4) thoracic spine curve showed gender dependent differences in the standing position (p=0.007), however not in higher elevation positions.
Conclusion: These results indicate sports related adaptations of young tennis players on their dominant side at the scapulothoracic level to exposure to their sport. In general these adaptations do not tend to increase the risk on shoulder injury in this population. These data may assist the clinician in the prevention and rehabilitation of sport specific injuries in adolescent tennis players.

O303. NEUROMUSCULAR ACTIVITY DURING SLIDE-BASED AND STATIONARY ERGOMETER ROWING IN ELITE FEMALE AND MALE ROWERS

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Introduction: The aim was to investigate if slide-based ergometer rowing affects the magnitude or timing of neuromuscular activity in a manner that may predispose for the development of exercise-induced rib stress fractures (RSF).
Material and methods: Fourteen male (M) and 8 female (F) Danish National Team rowers performed two trials of ergometer rowing at standardized exercise intensity with and without slides in randomized order. Surface electromyographic (EMG) signals from Serratus (SA), Obliquus (OEA), Latissimus (LD), Trapezius (T), Deltoideus (D), Vastus Lateralis (VL) and Tibialis Anterior (TA) were obtained. Force production and handle displacement were measured by an in-series strain-gauge and potentiometer, respectively.
Results: During slide-based ergometer rowing reduced neuromuscular activity was observed in VL in the initial drive phase and during the late recovery phase along with increased neuromuscular activity in TA and SA (M) during the late recovery phase (p<0.05). F demonstrated elevated neuromuscular activity in SA during the mid-drive phase with (36.2 vs. 14.4 % EMGmax, p=0.012) and without (36.4 vs. 13.6 % EMGmax, p=0.013) slides compared to M. The time lag between peak force production and peak neuromuscular activity of T and LD was small (57-185 ms) and unaffected by gender or ergometer setup.
Conclusions: Slide-based ergometer rowing affected neuromuscular activity in the leg muscles. The observed gender difference in SA-activity is interesting since an increased RSF-incidence has been reported in female rowers. The temporal synchronicity between peak neuromuscular activity for the shoulder retractors and peak handle force supports the alleged injury mechanism for exercise-induced RSF.

O304. KNEE CONTROL DURING DROP JUMPING IN YOUNG WOMEN: DOES HIP ABDUCTION AND EXTERNAL ROTATION STRENGTH PLAY A ROLE?

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Introduction: Hip gluteal strength has been suggested to be related to knee control during dynamic movements in sports, such as jumping and cutting. Therefore, it was the purpose of the present study to examine the relationship of hip abduction and external rotation strength to knee control during drop jumping (DJ) in healthy women.
Material and methods: Thirty-three healthy young women having a mean (1 SD) age, height, and body mass of 22.4 ± 2.5 yrs, 166.2 ± 7.2 cm, and 63.0 ± 7.7 kg, respectively, were included. Maximal isometric hip abduction and external rotation torque were reliably measured using hand-held dynamometry, and knee control during DJ was assessed using 3-dimensional motion analysis. Knee control during DJ was reliably expressed as the change in the 3-dimensional distance between the lateral knee markers from foot-ground contact to the time of minimal marker distance during the contact phase (the degree of "kissing knees").
Results: Greater maximal external hip-rotation torque correlated significantly with greater change in knee marker distance during DJ (r = 0.422, p = 0.014, Pearson), but maximal

hip abduction torque did not (r = 0.164, p = 0.363, Pearson).
Conclusion: Contrary to what has been suggested, increased hip external-rotation torque was related to greater change in knee marker distance during DJ (increased degree of "kissing knees") during DJ in healthy young women. This may represent a hip external-rotation strength adaptation over time in women, who jump with excessive knee valgus and internal hip rotation ("kissing knees").

O305. THE EFFECTS OF SHORT-TERM IMMOBILIZATION ON PATELLAR TENDON MECHANICAL PROPERTIES IN OLD AND YOUNG MEN

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Introduction: It is well known that muscle function is more affected than muscle atrophy by short-term immobilization. These harmful effects seem more accelerated in older persons. It remains largely unknown if inactivity changes human tendon properties and influences muscle function in different ages. Purpose: To examine the effects of short-term immobilization on the human patellar tendon structural and mechanical properties in old (OM) and young men (YM), in vivo.
Material and methods: Eight OM (67±4 yrs, 87±10 kg) and 8 YM (24±1 yrs, 76±8 kg) with a similar physical activity level (OM 5±6 hrs/wk, YM 5±2 hrs/wk) were examined. Peak knee extensor moment was assessed during isometric MVC. MRI was used to assess whole tendon dimensions. Tendon mechanical properties were assessed using simultaneous force and ultrasonographic measurements during ramped isometric contractions.
Results: Peak knee extensor moment decreased 14-17% in the immobilized-leg for both OM ($p<0.05$) and YM ($p = 0.148$), and 8% in the control-leg for OM ($p<0.05$), but not for YM. Tendon stiffness and Young´s Modulus based on average tendon CSA decreased 16-25% in the immobilized-leg for both OM ($p<0.01$ and $p<0.05$) and YM ($p<0.05$ and $p<0.05$), and 33-36% in the control-leg for OM ($p<0.01$ and $p<0.05$), and 11-13% for YM ($p>0.05$). No other differences existed.
Conclusion: Quadriceps muscle strength and patellar tendon mechanical properties declined after unloading in both legs for OM, but only in the immobilized-leg forYM due to reduced tendon material properties. These findings suggest that short-term inactivity has a major influence on human tendon mechanical properties.

O306. LOWER STRENGTH OF THE HUMAN POSTERIOR PATELLAR TENDON SEEMS UNRELATED TO MATURE COLLAGEN CROSS-LINKING AND FIBRIL MORPHOLOGY

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Introduction: The human patellar tendon is frequently affected by tendinopathy but the etiology of the condition is not established, although differential loading of the anterior and posterior tendon may be associated with the condition. We hypothesized that changes in fibril morphology and collagen cross-linking would parallel differences in material strength between the anterior and posterior tendon.
Materials & methods: Tendon fascicles were obtained from elective ACL surgery patients and tested micromechanically. Transmission electron microscopy was used to assess fibril morphology, and collagen cross-linking was determined by HPLC and colorimetri.
Results: Anterior fascicles were markedly stronger (peak stress: 54.3 ± 21.2 vs. 39.7 ± 21.3 MPa, $p<0.05$) and stiffer (624 ± 232 vs. 362 ± 170 MPa, $p<0.01$) than posterior fascicles. Notably, mature pyridinium type cross-links were less abundant in anterior fascicles (hydroxylysylpyridinoline: 0.859±0.197 vs. 1.416±0.250 mol/mol $p=0.001$; lysylpyridinoline: 0.023 ± 0.006 vs. 0.035 ± 0.006 mol/mol, $p<0.01$) while pentosidine and pyrrole concentrations showed no regional differences. Fibril diameters tended to be larger in anterior fascicles (7819 ± 2168 nm² vs. 4897 ± 1434; $p=0.10$). Mechanical parameters were unrelated to all cross-links measured and to fibril morphology.
Conclusion: Material properties did not appear related to cross-linking or fibril morphology. These findings suggest region specific differences in mechanical, structural and biochemical properties of the human patellar tendon. Interestingly, the posterior patellar tendon bears some similarity to ligament.

O307. CAN PERFORMANCE IN THE STAR EXCURSION BALANCE TEST IDENTIFY ATHLETES WITH POOR KNEE AND HIP STABILITY?

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Introduction: Excessive knee valgus motions and moments assessed by 2D and 3D motion analyses may leave athletes prone to serious knee injuries. The Star Excursion Balance Test (StarReach) is a clinical test to identify athletes with chronic ankle instability. The potential value of identifying athletes with knee valgus motions by using the StarReach test has not yet been examined. Objective: To assess the correlation between subjective evaluation of knee valgus and hip stability during a single-leg squat and StarReach test performance among elite female team sport athletes.

Material and methods: This study is part of an ongoing cohort study aimed at investigating risk factors for non-contact ACL injuries among Norwegian elite female athletes. Since 2007, a total of 272 team handball and 192 football players have been included. Subjectively assessed dynamic knee valgus and hip stability in the frontal plane during a single-leg squat was graded as "good, reduced, or poor" for both knees and hips. Player balance, measured by the StarReach test in antero-, medio- and posterolateral directions on both feet, was ranked as "reaching far, average or short".
Results: Each of the three StarReach balance directions (absolute values, adjusted for leg length) contributed significantly to knee and hip stability. However, the intra-class coefficients between subjective assessment scores of single-leg squats and objective ranking of StarReach performance varied between 0.28 to 0.42 for right and left knee and hip stability.
Conclusions: Poor relationships between objective and subjective scores illustrate why the StarReach test can not identify athletes with poor knee and hip stability.
Acknowledgements:
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O310. REPLACING A SWISS BALL FOR AN EXERCISE BENCH CAUSES VARIABLE CHANGES IN TRUNK MUSCLE ACTIVITY DURING ENDURANCE EXERCISES
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Introduction: The addition of Swiss balls to conventional exercise programs has recently been adopted. Swiss balls are an unstable surface which may result in an increased need for force output from trunk muscles to provide adequate spinal stability or balance. The aim of the study was to determine whether the addition of a Swiss ball to upper body strength exercises results in consistent increases in trunk muscle activation levels.
Material and methods: The myoelectric activity of four trunk muscles was quantified during the performance of upper body resistance exercises while seated on both a stable (exercise bench) and labile (swiss ball) surface. Participants performed the supine chest press, shoulder press, lateral raise, biceps curl and overhead triceps extension. A repeated measures ANOVA with post-hoc Tukey test was used to determine the influence of seated surface type on muscle activity for each muscle.
Results and Conclusion: There was no statistically significant ($p < ...05$) difference in muscle activity between surface conditions. However, there was large degree of variability across subjects suggesting that some individuals respond differently to surface stability. These findings suggest that the inco ...
(abstract incomplete, sorry)

O202. BONE TUNNEL WIDENING AFTER USING ENDOBUTTON™ OR ENDOBUTTON CONTINUOUS LOOP™ IN THE FEMUR AND METALLIC OR HYDROXYAPATITE/POLYLACTATE INTERFERENCE SCREWS IN THE TIBIA FOR ACL RECONSTRUCTION
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Presenter: Martin Lind, e-mail: martinlind@dadlnet.dk

Introduction: Optimal biologic response to graft fixation implants is crucial for successful anterior cruciate ligament (ACL) reconstruction. The purpose of this study was to investigate the effect on femoral and tibial bone tunnel widening and clinical outcome after different graft fixation techniques. The femoral fixations were two different EndoButton implants and the tibial fixations were titanium or hydroxyapatite/polylactate (HA/PLLA) interference screws.
Material and methods: Two retrospective case-control series were used. 2x120 patients with EndoButton CL™ compared with EndoButton™ with a doubled 3mm polyester tape. 2x100 patients with HA/PLLA screw tibial fixation compared with titinium screw fixation. Tunnel widening was measured on anteroposterior (AP) and lateral radiographs at 12 months follow-up. Clinical outcome was assessed by IKDC scores and knee laxity measurements.
Results: EndoButton series: Femoral tunnel widening in the EndoButton™ and EndoButton CL™ groups were 38.5% and 28.2% on the lateral radiographs respectively ($p< 0.01$). HA/PLLA versus titanium screw series: Tibial tunnel widening at the level of the metallic screw group was 38 % and 32% on lateral radiographs respectively($p=0.018$). There were no differences between the groups for any of the clinical scores or KT-1000 knee laxity in both studies.
Conclusion: Femoral ACL graft fixation with an EndoButton CL™ compared to an Endobutton™ with polyester tape reduced the radiographic femoral and tibial tunnel widening at one year. Similarly did a HA/PLLA interference screw reduce tunnel widening in tibia compared to a metallic screw. The reductions in tunnel widening were not associated with differences in clinical outcome and knee laxity.

O203. INCIDENCE AND OUTCOME AFTER REVISION ACL RECONSTRUCTION. RESULTS FROM THE DANISH REGISTRY FOR KNEE LIGAMENT RECONSTRUCTIONS
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Presenter: Martin Lind e-mail: martinlind@dadlnet.dk

Introduction: Revision anterior cruciate ligament (ACL) re-

construction is poorly described due to rare incidence and only small case series presented in the literature. The Danish ACL Registry has since 2005 monitored development in revision ACL reconstruction. This study presents the epidemiology and outcome after revision ACL reconstruction in Denmark.
Materials and methods: All clinics performing ACL reconstructions in Denmark reports to the ACL Registry. Revision rate was calculated from revised cases of primary ACL registreted in the period 2005-2008 (n=7004). Outcome one year after revision was patient reported outcome instruments, KOOS knee score and Tegner function score and objective knee stability measurement.
Results: Revision rate was 2.5 % after 3 years. The main causes for revision was new trauma (37 %, mainly sports), unknown cause (25 %) and poor femur tunnel placement (21 %). The KOOS scores at 1 year follow-up was 78 for symptoms, 57 for pain, 83 for ADL, 51 for Sports and 51 quality of life. Tegner function score was 3.9 after 1 year. Side to side difference in knee laxity improved from 5.8. mm preoperatively to 2.1 mm after year postoperatively.
Conclusion: The early revision rate is low with a 3 year revision rate of 2.5 %. An important cause for revision surgery is reinjury during sport. The outcome is poorer that after primary ACL reconstruction based on KOOS and Tegner scores. Since revision ACL recontruction is performed in young patients there is strong need to monitor incidence and outcome inorder to be able to improve the future outcome of the procedure.

Oral presentation, Competition

Saturday, February 6, 2010, 11:00-13.00

C101. ACUTE HAMSTRING INJURIES IN FOOTBALL. WHAT IS THE DIAGNOSTIC AND PROGNOSTIC VALUE OF ULTRASONOGRAPHY?
Petersen J[1], Thorborg K[1], Nielsen MB[2], Skjødt T[3], Bolvig L[4], Bang N[4], Hölmich P[1]
[1]Department of Orthopaedic Surgery, Amager Hospital, University of Copenhagen; [2]Department of Radiology, Section of Ultrasound, Diagnostic Centre, Rigshospitalet, University of Copenhagen; [3]Department of Radiology, Vejle Hospital; [4]Department of Radiology, Aarhus Sygehus, Aarhus University Hospital, Denmark
Presenter: Jesper Petersen, e-mail: jesper.petersen@dadlnet.dk

Introduction: Hamstring injury is the most common injury in football (soccer). Ultrasound of acute hamstring injuries are often used as a clinical tool for diagnosis of hamstring injuries and to guide the clinician in the determination of when the individual player will be ready for return to play. The purpose of this study was to examine the characteristic sonographic findings and the value of these in predicting the time for return to play.
Materials and methods: Players from 50 teams participating in one of the top-five Danish football divisions were followed in the period from January to December 2008. A total of 51 players with acute hamstring injuries underwent ultrasound examination of the injured thigh and were included in this study.
Results: Ultrasound examinations were performed 1-10 days after the injury (mean 5.2 days, SD 3.0) and sonographic findings such as rupture, haematoma, and/or oedema were present in 31 of 51 cases (61%). None total ruptures were documented. The 51 acute hamstring injuries resulted in a mean absence from football per injury of 25.4 days (SD 15.7) with no significant difference between players with and without sonographical verified abnormalities (p=0.41). No correlation existed between the length of the injured area and injury severity (r=0.19, p=0.29).
Conclusion: This study questions the relevance of diagnosing suspected acute hamstring injuries in football players using only ultrasound in the clinical examination. Furthermore, sonographic findings are not correlated with return to play and therefore prognosis should not be guided by these findings.

C102. TEXT MESSAGING AS A NEW METHOD FOR INJURY REGISTRATION IN SPORTS – A METHODOLOGICAL STUDY IN ELITE FEMALE FOOTBALL
Nilstad A, Bahr R, Andersen TE
Oslo Sports Trauma Research Center, Norwegian School of Sports Sciences, Oslo, Norway
Presenter: Agnethe Nilstad, e-mail: agnethe.nilstad@nih.no

Introduction: Injury registration is a necessary first step of injury prevention in sports. Most previous studies have been based on injury reports from team medical staff. Objective: To evaluate a novel methodology employing text messaging (SMS) by players to record injuries, comparing it to routine injury registration by team medical staff.
Material and methods: All teams in the Norwegian elite female football league (N=12, 228 players) reported injuries and match and training exposure throughout the 2009 football season (April-November). For the individual registration, we used a new SMS tracking system; all players received three messages once weekly with questions on exposure and injuries. Players reporting time-loss injuries were contacted to complete an injury form through a telephone interview. A designated member of the team medical staff also recorded injuries and team exposure throughout the season.
Results: We compared data from teams with complete team registrations from April through September (n=6, 110 players). A total of 142 unique time-loss injuries were reported; 64% were recorded by individual registration only, 25% by both methods, and 11% by medical staff only. The most frequent injury type was ligament injuries (20%), of which 24% were recorded by the medical staff. The injury incidence based on individual reports was 20.2 [14.8-25.5] and 4.2 [3.2-5.2] per 1000 player hours in match and training, respectively, versus 5.7 [3.6-7.7] and 2.4 [1.4-3.4] when reported by team medical staff.

Conclusion: A new method employing text messaging by players to record injuries captures 53% more injuries than team medical staff reports.

C103. A HIGH-INTENSITY EXERCISE PROGRAM IMPROVES PEAK VO_2 AND REDUCES MARKERS OF SYSTEMIC INFLAMMATION IN CARDIAC TRANSPLANT RECIPIENTS: A RANDOMIZED STUDY

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Presenter: Christian Dall, e-mail: christianhavedall@gmail.com

Introduction: Previous studies have shown that moderate intensity aerobic exercise improve peak VO_2 in cardiac transplant recipients, but little is known about the safety and effect of high-intensity aerobic exercise initiated late after transplantation. The aim of this study was to examine the effect on peak VO_2 and inflammatory plasma markers of an eight-week high-intensity aerobic training program in stable heart transplant recipients (>1 year after transplantation).
Methods and materials: A total of 27 patients (5 women, mean age 50.5 +/- 14.9 years) with a mean post-transplant time of 6.9 ± 4.7 years were randomized to either an eight-week high-intensity aerobic training programme (N=14), or control (N=13). Patients with recent rejection or significant allograft vasculopathy were excluded. Immunosuppression included cyclosporine/tacrolimus, an antiproliferative agent and in 70 % prednisone. The training was individualised, hospital-based and carried out as ≥80% of peak VO_2 three times a week. Peak VO_2 was measured on a cycle ergometer.
Results: No adverse events were recorded in the exercise group. Peak VO_2 increased from 23,9 ± 6,7 to 28,3 ± 6,1 in the intervention group ($p<0,05$), but was unchanged in the controls 23.9 ± 4,9 to 23,4 ± 5,7(NS). Age, time from transplantation, baseline VO_2 or comorbidities did not significantly predict improvement in peak oxygen uptake. Plasma hsCRP was reduced by 43% in the exercise group (1,41 ± 0,83 mg/L to 0,81 ± 0,59 mg/L ($p=0,02$)) whereas no change was seen in the control group. No change was found in the inflammation markers TNFalfa, IL6 and adiponectin. There was no significant correlation between improvement in peakVO_2 and decrease in hsCRP.
Conclusion: Participation in high-intensity aerobic training long after cardiac transplantation is safe and significantly increases peak VO_2 while reducing the inflammatory burden as demonstrated by the change in plasma levels of hsCRP.

C104. HIP-ADDUCTION AND ABDUCTION STRENGTH PROFILES IN ELITE SOCCER PLAYERS: IMPLICATIONS FOR CLINICAL EVALUATION OF HIP ADDUCTOR MUSCLE RECOVERY FOLLOWING INJURY

Thorborg K[1], Serner A[2], Petersen J[3], Madsen TM[2], Magnusson SP[3], Hölmich P[1]
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Presenter: Kristian Thorborg, e-mail: kristianthorborg@hotmail.com

Introduction: Ipsilateral hip-adduction/abduction strength ratio and contralateral hip-adduction strength symmetry has been advocated clinically for quantifying recovery of hip-adduction strength in athletes with groin injury. However, whether side-to-side symmetry for isometric hip-adduction and abduction strength can be assumed in soccer players is uncertain. The purpose of the present study was therefore to compare isometric hip-adduction and abduction strength in the dominant and non-dominant leg in injury-free soccer players.
Material and methods: 86 injury-free, elite soccer players were included to examine maximal isometric hip- adduction and abduction strength in the dominant and non-dominant leg with a handheld-dynamometer, using a reliable test procedure.
Results: The dominant side was stronger than the non-dominant side for both isometric hip-adduction 2.45±0.54 vs. 2.37±0.48 Nm/kg ($p<0.05$) and hip-abduction 2.35±0.33 vs. 2.25±0.31 Nm/kg ($p<0.001$), corresponding to a 3 and 4% difference, respectively. Isometric hip-adduction was greater than isometric hip-abduction for both dominant 2.44±0.53 vs. 2.35±0.33Nm/kg ($p<0.05$) and non-dominant leg 2.37±0.48 vs. 2.26±0.33 Nm/kg ($p<0.05$). Isometric hip-adduction/abduction ratio was not different between the dominant (1.04±0.18) and non-dominant leg (1.06±0.17) ($p>0.05$).
Conclusion: The marginal difference between the dominant and non-dominant leg is within the measurement variation of the procedure, and contralateral isometric hip-adduction strength can therefore be used as a simple clinical reference-point of full recovery of hip-adduction muscle strength in soccer players. Furthermore, in soccer players with bilateral groin problems, it is suggested that the ipsilateral hip-adduction/abduction strength ratio is used as a guideline for evaluating hip–adduction strength recovery.

C105. EFFECT OF ECCENTRIC TRAINING ON HAMSTRING INJURIES IN FOOTBALL: A CLUSTER-RANDOMISED TRIAL INCLUDING 942 FOOTBALL PLAYERS

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Presenter: Jesper Petersen, e-mail: jesper.petersen@dadlnet.dk

Introduction: Hamstring injury is the most common injury in football players and results in a significant number of recurrent injuries. Eccentric strengthening of the hamstring

muscles has been proposed as a method to reduce the injury rate. The Nordic hamstring exercise increases eccentric hamstring muscle strength. We investigated the effect of the Nordic hamstring exercise compared with no additional hamstring exercise on the rate of hamstring injuries in male elite and sub-elite football players.
Material and methods: 50 Danish elite and sub-elite football teams were stratified according to playing level and geographical location before being cluster-randomised to intervention (n=461 players) or control group (n=481 players). The intervention group completed a 10-week training programme based on the Nordic hamstring exercise. All acute hamstring injuries were recorded during the subsequent football season. The trial is registered with ClinicalTrials.gov, number NCT00557050.
Results: 15 acute hamstring injuries in the intervention group compared with 52 injuries in the control group were registered. The injury and recurrent injury rates were respectively 3.26 (95% CI 1.52–7.00; p=0.002) and 7.28 (95% CI 1.96–27.0; p=0.003) times lower in the intervention group compared with the control group. Number needed to treat to prevent one injury is 13.2 players, and number needed to treat to prevent one recurrent injury is 3.2 players.
Conclusion: A 10-week training programme using the Nordic hamstring exercise significantly decreases the rate of total and recurrent acute hamstring injury in male elite and sub-elite football players. The Nordic hamstring exercise is recommended for hamstring injury prevention.

C106. FUNCTIONAL OUTCOME ONE YEAR AFTER ANTERIOR CRUCIATE LIGAMENT IN NON-OPERATED CHILDREN 12 YEARS OR YOUNGER
Moksnes H, Engebretsen L, Risberg MA
Norwegian School of Sport Sciences, Department of Sports Medicine Norwegian Sports Medicine Clinic (Hjelp24 NIMI) NAR Orthopaedic Centre Oslo University Hospital, Ullevaal
Presenter: Håvard Moksnes, e-mail: h.m@hjelp24.no

Introduction: The majority of research on the functional outcome after anterior cruciate ligament (ACL) injury has been performed on adults. Through the last ten years there has been an increased number of reports on ACL injuries among skeletally immature children, but there are no prospective studies describing the functional outcome. The purpose of this study was to describe the functional outcome in children 12 years or younger after ACL injury following a treatment algorithm of primary active rehabilitation.
Material and Methods: Thirty-three children who sustained an acute ACL injury at age twelve years or younger are included in this prospective cohort study. They were on average 11.1 years (range 8.2-12.9 years) at injury. Inclusion criteria were acute ACL injury verified by MRI and clinical examination. Exclusion criteria were ligament avulsion injuries and concomitant intraarticular fractures. Children were tested at baseline within 6 months after injury, and re-test was performed 1 year after baseline. Functional testing included 4 single-leg-hop-tests, functional questionnaires (IKDC2000, KOS-ADLS and KOOS), and registration of activity level.
Results: These preliminary results are from the first 19 children who have been through the re-test. Average leg symmetry index; Single hop 98.2%, triple crossover hop 94.3%, triple hop 94.2%, 6 meter timed hop 97,6%. Functional questionnaires IKDC 82, and KOS-ADLS 91. Subscales KOOS: Pain 94, Symptom 89, ADL 99, Sport/Rec 86, QoL 69. Seventy-nine percent had returned to their pre-injury activity level.
Conclusion: Children seem to regain good knee function after ACL injury, but also report reduced quality of life.

C107. STRUCTURAL AND PHYSIOLOGICAL CHANGES IN TENDINOPATHY
Pingel J, Fredberg U, Qvortrup K, Overgaard J, Schjerling P, Heinemeier K, Kjaer M, Langberg H
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Introduction: Tendinopathy is a very common, painful and resistant disorder among both elite- and recreational athletes. In spite of the extent of the problem not much is known about the etiology and pathogenesis of chronic tendon pain. It is also still unclear to what extent inflammatory factors are involved in chronic tendon pain and how/if tendon structure is affected by tendinopathy.
Materials and methods: In the present study analysis of different gene expressions (N=18) and Transmission Electron Microscopy (n=14) was performed in patients with chronic Achilles Tendinopathy (two tendon biopsies from the same tendon, one biopsy from the maximal tendinopathic and one biopsy from a normal area of the tendon).
Results: We showed that Col 1, Col 3, Fibronectin, Tenascin C, TGF-b and Fibromodulin was significantly increased in the tendinopathic area of the Achilles tendon compared with healthy tissue from the same tendon. While bFGF, cmet and ki67 was significantly decreased and Decorin showed a tendency of decrease in the tendinopathic tissue. Additionally MMP-2, MMP-9 and TIMP 2 was significantly increased in the tendinopathic tissue. Several genes were tested with no significant influence from pathologies including TIMP-1. CTGF, HGF, VEGF, IGF, COX-1, IL-1R, IL-1b, CCL and IL-6. In terms of structure density, volume fraction and mean area were significant different between the two conditions as a result of the pathology. The tendinopathic part of the tendon showed significant more fibrils per uM2 with a small diameter and mean area compared to the healthy tendon.
Conclusion: Based on the present data we conclude that several gene expressions are changed with tendinopathy with collagen turnover being increased in tendinopathy. No signs of inflammation could be detected supporting the notion that tendinopathy is an ongoing degenerative process rather than an inflammatory process.

C108. MICRODIALYSIS OF THE KNEE JOINT WITH OSTEOARTHRITIS - EFFECT OF MECHANICAL LOADING ON CARTILAGE BIOMARKERS
Helmark IC, Mikkelsen UR, Børglum J, Rothe A, Christensen

H, Krogsgaard MR, Kjaer M, Langberg H
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Presenter: Ida Carøe Helmark, e-mail: ic06@bbh.regionh.dk

Introduction: The pathogenesis of osteoarthritis (OA) remains to be elucidated which may be partly related to limitations in the investigative methods of early OA. We have examined intraarticular and perisynovial levels of 2 biomarkers of cartilage, Cartilage Oligomeric Matrix Protein (COMP) and Aggrecan, and the effect of an acute bout of exercise on these biomarkers, with the use of the microdialysis technique.
Material and methods: Twenty-nine subjects with confirmed OA (Kellgren-Lawrence grade 1-3) were randomized to a non-exercise (NEx) or exercise (Ex) group. Following exercise or none, regional anaesthesia was applied and 2 microdialysis catheters were positioned in 2 different compartments, intraarticularly and perisynovially. The microdialysis catheters were perfused at a slow rate (2 ul/min) with a solution of Ringer-acetate and radioactively labelled glucose allowing for determination of relative recovery (RR). Samples were collected over a period of 3 hours and catheters were hereafter removed.
Results: A significant decrease in the intraarticular concentration of COMP was found in the Ex group ($p<0.05$), compared to the NEx group. Perisynovial concentrations of COMP remained unchanged in both groups over time. Levels of Aggrecan decreased significantly over time independently of exercise in both compartments. Plasma levels of both biomarkers decreased over time in both groups.
Conclusion: Levels of Aggrecan and COMP are for the first time measured simultaneously and continuously in 2 different compartments of the human knee with an in vivo method. Exercise lead to a significant decrease of the intraarticular concentration of COMP.

Poster presentation. Posterwalk.

Friday, February 5, 2010, 11.30-12.30.

1-2 minutes brief presentation of each poster.
All posters will be in the Poster competition.

P401. ECCENTRIC HIP ADDUCTION AND ABDUCTION STRENGTH IN ELITE SOCCER PLAYERS AND MATCHED CONTROLS A CROSS-SECTIONAL STUDY

Thorborg K, Couppé C, Petersen J, Magnusson SP, Hölmich P
Department of Orthopaedic Surgery, Amager Hospital, Faculty of Health Sciences, University of Copenhagen, Denmark
Presenter: Kristian Thorborg, e-mail: kristianthorborg@hotmail.com

Introduction: Eccentric hip adduction and abduction strength plays an important role in the treatment and prevention of groin injuries in soccer players. Lower extremity strength deficits of less than 10% on the injured side, compared to the uninjured side has been suggested as the clinical milestone before returning to sport following injury. The objective was to examine whether a side-to-side eccentric hip adduction or abduction strength symmetry can be assumed in non-injured soccer players and matched controls.
Material and methods: Nine elite soccer players 19.4 (1.5) years and nine recreational athletes 19.5 (2.0) years matched for gender, height and weight were included. Eccentric hip adduction and abduction strength of the dominant and non-dominant leg was tested for all the participants using an eccentric break test with a hand-held dynamometer.
Results: The dominant leg was 14% stronger than the non-dominant leg for hip adduction in the soccer players ($p<0.05$). No other side-to-side strength differences existed in soccer players or controls. In soccer players, hip abduction strength was 17-30% greater than controls for the dominant ($p<0.05$) and non-dominant leg ($p<0.001$).
Conclusion: Eccentric hip adduction strength was greater in the dominant leg than in the non-dominant leg in soccer players, but not in matched controls. Eccentric hip abduction strength was greater in soccer players than matched controls, but soccer does not seem to induce a similar eccentric strength adaptation in the hip adductors.

P402. SHOULDER ROTIONAL PROFILES IN NATONAL TEAM BADMINTON PLAYERS

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Presenter: Christian Couppé, e-mail: ccouppe@gmail.com

Introduction: Shoulder pain is common in badminton players. Inappropriate muscle strength and ROM are suggested as contributing factors to shoulder pathology. The purpose of this study was to profile shoulder isometric (make test)

strength and shoulder passive range of motion (ROM) in external (ER) and internal (IR) rotation as part of a pre-season screening in adolescent Danish National team badminton players.
Material and methods: Thirty-one (12 women, 16.8±1.6 yrs, 61.1±7.0 kg and 19 men, 17.1±1.6 yrs, 74.2±7.4 kg) players had their ER and IR strength examined with a hand-held dynamometer and passive ER and IR ROM examined with a standard goniometer in both their dominant (DOM-side) and non-dominant-side (NDOM-side) (mean±SD).
Results: Men were stronger than women in all strength measurements, when weight adjusted, except in IR of the DOM-side. In women, the DOM-side (1.11±0.50Nm/kg) was weaker than the NDOM-side (1.19±0.19Nm/kg, P<0.05) for ER. DOM-side IR (1.31±0.31 Nm/kg) strength was greater compared to the NDOM-side (1.03±0.19 Nm/kg, p<0.05). Women also had a lower ER/IR-strength-ratio on the DOM-side (1.0±0.21) than on the NDOM-side (1.11±0.22, P<0.05). In both groups IRROM and Total Arc (ERROM+IRROM) were reduced in the DOM-side versus the NDOM-side. DOM-side IRROM was greater in women (47±8o) compared to men (42±9o, P<0.05). No other differences existed.
Conclusion: The lower ER/IR-ratio on the DOM-side compared to the NDOM-side combined with a higher IRROM may make female elite badminton players more prone to shoulder overuse injuries. The observations in female players, maybe due to insufficient shoulder ER strength training.

P403. MECHANICAL PROPERTIES OF THE MEDIAL STRUCTURES OF THE KNEE
Wijdicks CA, Ewart DT, Nuckley DJ, Johansen S, Engebretsen L, LaPrade RF
Investigation performed at the Orthopaedic Biomechanics Laboratory, Department of Orthopaedic Surgery, University of Minnesota, Minneapolis, Minnesota, and the Orthopaedic Center, Ulleval University Hospital and Faculty of Medicine, University of Oslo, Oslo, Norway

Introduction: The biomechanical properties of the individual components of the superficial medial collateral ligament (MCL), deep MCL, and posterior oblique ligament (POL) have not been studied in isolation.
Materials and methods: Twenty fresh-frozen non-paired cadaveric knee specimens with a mean age of 54 years (range; 27-68 years) were used in this study. Of these twenty knees, four groups of eight ligamentous structures were utilized. Each structure was individually isolated and loaded to failure at 20 mm/min. We specifically tested the superficial MCL with an intact femoral and a detached proximal tibial attachment, superficial MCL with an intact femoral and a detached distal tibial attachment, central arm of the POL, and the isolated deep MCL.
Results: The mean load at failure for the superficial MCL for the intact femoral and distal tibial attachments was 557 N. Mean load at failure was 88 N for the intact femoral and proximal tibial division of the superficial MCL, 256 N for the POL, and 101 N for the deep medial collateral ligament. Stiffness of the ligaments just prior to failure was 63, 17, 38, and 27 N/mm, in the same order as above.
Conclusions: The proximal and distal tibial divisions of the superficial MCL, POL, and deep MCL produced loads to be of clinical importance. Knowledge of the mechanical properties of these attachment sites will assist in reconstruction graft choices, fixation method choices, and overall operative treatment of medial knee injury.

P404. BIOMECHANICAL EVALUATION OF A MEDIAL KNEE RECONSTRUCTION WITH COMPARISON OF BIOABSORBABLE INTERFERENCE SCREW CONSTRUCTS AND OPTIMIZATION WITH A CORTICAL BUTTON
Wijdicks CA, Brand EJ, Nuckley DJ, Johansen S, LaPrade RF, Engebretsen L
Investigation performed at the Orthopaedic Biomechanics Laboratory, Department of Orthopaedic Surgery, University of Minnesota, Minneapolis, Minnesota, and the Orthopaedic Center, Ulleval University Hospital and Faculty of Medicine, University of Oslo, Oslo, Norway
Presenter: Coen A. Wijdicks, e-mail: wijdi002@umn.edu

Introduction: Our purpose was to biomechanically evaluate two distal tibial superficial medial collateral graft fixation techniques which consisted of an interference screw alone and in combination with a cortical button.
Materials and methods: Twenty-four porcine tibias (average bone mineral density of 1.30 g/cm^2; ± 0.18 g/cm^2; range, 1.02 – 1.59 g/cm^2, measured by DEXA scan), were divided into 4 groups of six specimens each. Group Ia consisted of a 7 x 23 mm poly-L-lactide (PLLA) interference screw. Group Ib utilized a PLLA interference screw in combination with a cortical button. Group IIa consisted of a 7 x 23 mm composite 70% poly (L-lactide-co-D, L-lactide) and 30% biphasic calcium phosphate (BCP) interference screw. Group IIb also utilized a composite interference screw in combination with a cortical button. The specimens were biomechanically tested with cyclic (500 cycles, 50-250 N, 1 Hz) and load-to-failure (20 mm/min) parameters.
Results: Twenty-four porcine tibias (average bone mineral density of 1.30 g/cm2; ± 0.18 g/cm^2; range, 1.02 – 1.59 g/cm^2, measured by DEXA scan), were divided into 4 groups of six specimens each. Group Ia consisted of a 7 x 23 mm poly-L-lactide (PLLA) interference screw. Group Ib utilized a PLLA interference screw in combination with a cortical button. Group IIa consisted of a 7 x 23 mm composite 70% poly (L-lactide-co-D, L-lactide) and 30% biphasic calcium phosphate (BCP) interference screw. Group IIb also utilized a composite interference screw in combination with a cortical button. The specimens were biomechanically tested with cyclic (500 cycles, 50-250 N, 1 Hz) and load-to-failure (20 mm/min) parameters.
Conclusions: The PLLA screw alone provided adequate fixation for a superficial medial collateral ligament reconstruction, and the use of a cortical suture button combined with the PLLA screw resulted in a stiffer fixation during cyclic loading. strength. In addition, a hybrid fixation with a cortical button which lends additional cyclic stiffness to its fixation would be advisable for use in suboptimal fixation cases.

P405. RADIOGRAPHIC IDENTIFICATION OF THE PRIMARY MEDIAL KNEE STRUCTURES

Wijdicks CA, Griffith CJ, Arendt EA, Sunderland AS, Johansen S, Engebretsen L, LaPrade RF
Investigation performed at the Orthopaedic Biomechanics Laboratory, Department of Orthopaedic Surgery, University of Minnesota, Minneapolis, Minnesota, and the Orthopaedic Center, Ulleval University Hospital and Faculty of Medicine, University of Oslo, Oslo, Norway
Presenter: Coen A. Wijdicks, e-mail: wijdi002@umn.edu

Introduction: Radiographic landmarks for medial knee attachment sites during anatomic repairs or reconstructions are unknown. If identified, they could assist in the preoperative evaluation of structure location and allow for postoperative assessment of reconstruction tunnel placement.
Materials and methods: Radiopaque markers were implanted into the femoral and tibial attachments of the superficial medial collateral ligament and the femoral attachments of the posterior oblique and medial patellofemoral ligaments of eleven fresh-frozen, nonpaired cadaveric knee specimens. Both anteroposterior and lateral radiographs were made. Structures were assessed within quadrants formed by the intersection of reference lines projected on the lateral radiographs. Quantitative measurements were performed by three independent examiners. Intraobserver reproducibility and interobserver reliability were determined with use of intraclass correlation coefficients.
Results: The overall intraclass correlation coefficients for intraobserver reproducibility and interobserver reliability were 0.996 and 0.994, respectively. On the lateral femoral radiographs, the attachment of the superficial medial collateral ligament was 6.0 ± 0.8 mm from the medial epicondyle. The attachment of the posterior oblique ligament was 7.7 ± 1.9 mm from the gastrocnemius tubercle. The attachment of the medial patellofemoral ligament was 8.9 ± 2.0 mm from the adductor tubercle. On the lateral tibial radiographs, the proximal and distal tibial attachments of the superficial medial collateral ligament were 15.9 ± 5.2 and 66.1 ± 3.6 mm distal to the tibial inclination, respectively.
Conclusions: The attachment locations of the main medial knee structures can be qualitatively and quantitatively correlated to osseous landmarks and projected radiographic lines, with close agreement among examiners.

P406. MECHANICAL STABILITY OF SINGLE AND DOUBLE BUNDLE ACL RECONSTRUCTION FEMORAL FIXATION METHODS IN AN EXPERIMENTAL PORCINE MODEL

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Presenter: Marie Bagger Bohn, e-mail: marie.bagger.bohn@ki.au.dk

Introduction: Anatomical double-bundle ACL reconstruction is gaining popularity. This technique uses two individual grafts/drill holes in femur and tibia of smaller diameters. The aim of this study is to compare biomechanical properties of femoral fixation devices used for ACL double-bundle reconstruction.
Materials and methods: ACL reconstructions were performed using two different fixation techniques in porcine femora: Endobutton CL (EB) and Hexalon interference screw (IS). Each technique was performed in diameters 6, 9 and 2x6 mm. The specimens were tested for 1000 cycles between 50 and 250N on an MTS material testing machine and subsequently tested to failure.
Results: All Single bundle groups displayed a statistically significant different load to failure: EB-9mm (947N), IS-9mm (708N), EB-6mm (569N), IS-6mm (433N). Comparing the two double-bundle techniques Endobutton fixation demonstrated a stronger load to failure; EB-2x6mm (1071N) vs IS-2x6mm (806N). The Elongation of the IS-2x6mm (2.08mm) was less than IS-9mm (3.27mm) and EB-2x6mm (3.23mm) groups. No statistically significant differences were found between the elongations of the various single bundle groups. The stiffness of the IS-9mm group (353N/mm) was higher than the EB-9mm (253N/mm) and IS-6mm (274N/mm) groups. For the double bundle groups IS-2x6mm (351N/mm) was stiffer than EB-2x6mm (285N/mm).
Conclusions: A single-bundle 6mm graft construct has 40 % less strength than a 9mm construct. This could be failure risk in knee flexion angles where only one bundle is loaded. Endobutton fixation is superior to interference screw fixation concerning maximum load to failure. Interference screw fixation results in the highest stiffness of the femur/graft complex. Having two bundles reduced the elongation during loading.

P407. THE INFLUENCE ANAEROBIC TEST ON PULMONARY FUNCTION CRITERIA IN THE ELITE BASKETBALL PLAYERS

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Presenter: Mohsen Ghanbarzadeh, e-mail: ghanbarzadeh213@gmail.com

Introduction: The purpose of the research is the cross comparison of criteria related to the pre and post anaerobic pulmonary function such as MVV, FEF25-75, PEF, FEV1/FVC, FVC, FEV1 based on the results obtained from the Running - Based anaerobic sprint test on the elite basketball players of the Khuzistan Province. The sample populations were 20 pro-basketball players from the eight professional basketball teams present in the Khuzistan Basketball league with an average age range of 26.55 and an average weight and height of 82.34 kg and 186.35 cm respectively. The average BMI was 23.69 kg/m² and each player on average had played professional basketball for approximately five years.
Method: Before and after the running -Based anaerobic sprint test, the criteria for the pulmonary function were measured. The sample population was given light basketball practices for 10 minutes prior to the running -Based anaero-

bic sprint test.
Results: in order to compare the results obtained from the measuring of pre and post pulmonary functions, a t-test was used. The obtained results showed that there was no significant difference between the following values of MVV FEV1/FVC ($p>0.05$); however there was a significant decrease in the values of FEF25-75, PEFR, FVC and FEV1 being respectively 12.60%, 10.28%, 7.82% and 5.41% ($p<0.05$). The fact that bronchial spasms as a result of athletic activity are responsible for a 10% decrease in FEV1, a 15% decrease or more in PEFR and a 25% or more decrease in FEF25-75.
Conclusion: In over 60% of the sample population, the existence of bronchial spasm due to athletic activity can be defined with one single value.

P408. COMPARISON OF THE RATE OF DEPRESSION AND ANXIETY WITH HIGH, INTERMEDIATE AND LOW LEVELS OF MAXIMUM OXYGEN CONSUMPTION (VO_2 MAX) OF THE FEMALE STUDENTS
Hojabrnia Z, Ghanbarzade M
Islamic Azad University-Shoshtar Branch, Iran
Presenter: Zahra Hojabrnia, e-mail: zahra7h7@yahoo.com

Introduction: There are known that depression and anxiety are the most prevalent of mental problem that have had more cost for treatment on societies. One of the main solution of societies for this disorders is increasing physical activity and level of VO_2 max among people. The aim of this research was to compare the rate of depression and anxiety with high and intermediate and low levels of maximum oxygen consumption (VO_2 max) of the female students University.
Material and methods: The samples of this study included 150 students who were selected based on the high and intermediate and low levels of maximum oxygen consumption (VO_2 max) and were put into three groups: high VO_2 max (well- trained samples, n=50), intermediate VO_2 max (active samples, n=50) and low VO_2 max (sedentary samples, n=50). In order to determine high and intermediate and low levels of maximum oxygen consumption Skubic and Hodkins step test (1963) was performed and for evaluation of depression and anxiety, Goldberg and Hiller general health questionnaire was used.
Results: The results of this research showed that: 1)There are the difference between the rate of depression and anxiety and three levels of VO_2 max. 2)depression and anxiety in intermediate level of VO_2 max are better than other levels.
Conclusion: Therefore this research showed that performance of the people in intermediate level of physical activity and VO_2 max will acquire higher levels of their mental health.

P409. PSYCHOLOGICAL PROFILING OF SHOULDER PATIENTS - A PILOT STUDY
Sørensen L, Elers J, Vobbe J, Børgesen B, Beckmann J
The Day Clinic, Department of Orthopaedic Surgery, Sygehus Lilebælt, Vejle, Department of Psychology, Odense University Hospital
Presenter: Lilli Sørensen, e-mail: lilsor@mail.dk

Introduction: An assessment of the psychological profile (PPQ) to shoulder patients.
Material and methods: The PPQ (www.psykisksund.dk/csb) was administered to 386 shoulder patients, September 2006 to February 2007. 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. The patients were investigated according our Shoulder Package.174 had impingement.72 patients underwent surgery.
Results: Severe stress, anxiety or depression was seen in 94 of 386 patients (59 women, 35men). They might benefit from some sort of psychiatrically intervention or the self help program. Most of the depressions were unrecognised. 4% had no hope for the future. Profile mean 10.0 (SD1.7). The profile is normally shown graphically from 0-15 [15 highest level]. 194 (51%) patients answered the Psychological Profile Questionnaire twice for monitoring. Comparison 1st vs. 2nd profile: The mean improvement of all dimensions for both sexes is significant $p=0.0001$ and in 20 of the dimensions $p<0,05$ (Wilcoxon).
Conclusion: Most of the cases of depression might have remained unrecognised if it was not for 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 strategy of treatment. Special attention regarding the timing of surgery must be taken towards patients with depression or other severe psychological symptoms.

P410. INTER AND INTRAOBSERVER-RELIABILITY OF QUANTITATIVE ULTRASOUND MEASUREMENT OF THE DIAMETER OF THE PLANTAR FASCIA
Rathleff MS, Mølgaard CM, Olesen JL
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Presenter: Michael Rathleff, e-mail: michaelrathleff@gmail.com

Introduction: Ultrasound imaging (UI) is a well-established non-invasive method for examining soft tissue structures of the foot, including the plantar fascia (PF). The problem with UI is that it is operator-dependent technique and factors such as transducer-handling and machine-settings can influence size and appearance of the PF. The purpose of this

study is to determine inter and intra-tester reliability of UI assessment of PF thickness and secondly to investigate improvements in reliability when using the mean value of three measurements compared to one.
Material and methods: Two experienced testers scanned 20 healthy subjects two times with 60 minutes between test and retest. A LOGIQ E ultrasound scanner from GE was used in the study. The inbuilt software in the scanner was used to measure the diameter of the PF. Statistical analysis was performed using SPSS version 15.0 and ICC + 95% CI are reported.
Results: Intratester reliability for tester 1 using 1 image was 0.50 (0.23-0.70), average of 2 images 0.73 (0.48-0.85), average of 3 images 0.77 (0.56-0.87). Intratester reliability for tester 2 using 1 image was 0.52 (0.09-0.75), average of 2 images 0.64 (0.32-0.81), average of 3 images 0.67 (0.39-0.82). Intertester reliability using 1 image was 0.77 (0.53-0.89), average of 2 images 0.80 (0.60-0.90), average of 3 images 0.82 (0.65-0.91).
Conclusion: The results show that an improvement in reliability is seen using the average of 3 images compared to 1. Secondly the study shows that the intertester reliability of measuring the diameter of FP is very good.

P411. ULTRASOUND IN SPORTS PHYSIOTHERAPY - A NEW TOOL

Honore, N; Langberg, H
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Presenter: Niels Honore, e-mail: henninglangberg@gmail.com

Background: One of the new effective, safe, and relatively inexpensive tools in physiotherapy is ultrasound. Over the past decade, ultrasound has proven its value in assessing muscle morphology, in guiding rehabilitation and in decision-making diagnosis all modalities with great importance for the physiotherapeutic practice. Over the last decade there has been rapid development of this technique, with reliable and valid non-invasive measurement procedures such as grey scale images and Doppler technology. The evidence for the use of ultrasound imaging as a strategy to assist in the rehabilitation in a clinical setting is growing. The use of ultrasound imaging has gained an important role in the rehabilitation to evaluate muscle and related soft tissue morphology and function during exercise and physical tasks and to assist in the application of therapeutic interventions aimed at improving neuromuscular function.
Methods and material: The Danish Physiotherapy Organization has developed a postgraduate educations program consisting of 3 times 18 hours of lectures combined with 100 supervised one-to-one scannings. As part of the educational program 15 casestudies with various pathologies are performed between the face-to-face lectures. A practical test and examination is preformed before specialization is provided. The educational program has been acriditated by the Danish Organization of Medical Doctors.
Results: This presentation will provide an overview of the evidence for the use of ultrasound in physiotherapy in both clinical and research settings as well as outlining the education leading to specialization of Danish physiotherapist with in the area of ultrasound diagnostics and rehab.
Conclusion: The Danish model hopefully serves as an inspiration for other countries to develop and establish educational programs identically to the Danish one.

Kongresser • Kurser • Møder

INTERNATIONALT

4. - 6. februar 2010, Danmark
Scandinavian Congress on Medicine and Science in sports, København.
Info: www.scmss2010.com

19. - 21. februar 2010, Sydafrika
3rd International Football medicine Conference, Sun City.
Info: www.fifa.com

20. - 22. maj 2010, Sverige
Svensk Idrottsmedicinsk Förenings Vårmøte, Båstad.
Info: www.simf.se

1. - 3. juni 2010, USA
World Congress on Exercise is Medicine, Baltimore.
Info: www.exerciseismedicine.org/worldcongress.htm

2. - 5. juni 2010, USA
57th ACSM Annual Meeting, Baltimore.
Info: www.acsm.org

9. - 12. juni 2010, Norge
14th ESSKA Congress,Oslo.
Info: www.esska2010.com

7. - 9. april 2011, Monaco
IOC World Conference on Prevention of Injury & Ilness in Sport.
Info: www.ioc-preventionconference.org

Hjælp os med at forbedre denne side!

Giv Dansk Sportsmedicin et tip om interessante internationale møder og kongresser – helst allerede ved første annoncering, så bladets læsere kan planlægge deltagelse i god tid.

DIMS kursuskalender 2010

DIMS trin 2
• Århus, 25.-28. maj

Se også *www.sportsmedicin.dk*

FFI kursuskalender 2010

Del A - kurser:

Introduktionskursus
• Odense, 12.-13. februar
• Lanzarote, 1.-8. oktober
• København, 5.-6. november

Idrætsfysioterapi og skulder
• København, 11.-12. marts
• København, 26.-27. april
• Ålborg, 10.-11. september
• Lanzarote, 1.-8. oktober

Idrætsfysioterapi og knæ
• Odense, 19.-20. marts
• Ålborg, 23.-24. april
• København, 6.-7. september

Idrætsfysioterapi og hofte/lyske
• Horsens, 19.-20. april
• København, 21.-22. september
• Horsens, 15.-16. november

Idrætsfysioterapi og fod/ankel
• København, 1.-2. marts
• Odense, 29.-30. oktober

Idrætsfysioterapi og albue/hånd
• Odense, 16. april
• København, 17. september
• Lanzarote, 1.-8. oktober

Førstehjælp
• Århus, 22. april
• København, 28. april
• København, 2. september
• Odense, 4. september

Taping
• Odense, 17. april
• København, 14. oktober

Del B - kurser:

Styrketræning og kredsløb
• København, 6.-9. maj
• Lanzarote, 1.-8. oktober

Træning for ældre
• København, 29.-30. oktober

Idræt og børn
• København, 1.-2. november

Doping/Antidoping
• København, dato ikke fastlagt

Idrætspsykologi/Coaching
• København, dato ikke fastlagt

Kost/Ernæring
• København, dato ikke fastlagt

Andre:

Idrætsfysioterapi og ryg
• København, 8.-9. april
• Odense, 19.-20. november

Supervision af praksis
• København, 8.-9. november

Eksamen Del A
• Odense, 27. november

Eksamen Del B
• København, 3. december

Se også: *www.sportsfysioterapi.dk*

DIMS kurser

Info: Idrætsmedicinsk Uddannelsesudvalg, c/o kursussekretær Sisse Kay Reinholdt.
E-mail: sisse.reinholdt@webspeed.dk

Generelt om DIMS kurser

DIMS afholder faste årlige trin 1 og trin 2 kurser for læger som ønsker at opnå kompetence som idrætslæge.

DIMS trin 1 kursus: er et basalkursus, der henvender sig til færdiguddannede læger, som ønsker at beskæftige sig med den lægelige rådgivning og behandling af idrætsudøvere.

Alle regioner vil blive gennemgået med gennemgang af de almindeligste akutte skader og overbelastningsskader.

Kurset afholdes i samarbejde med Forsvarets Sanitetsskole, og en væsentlig del af kurset beskæftiger sig med den praktiske kliniske udredning og behandlingsstrategi af nytilskadekomne militær-rekrutter. Man får således lejlighed til at undersøge 30-40 patienter under supervision og vejledning af landets eksperter indenfor de enkelte emner.

Kurset varer 40 timer over 4-5 hverdage.

Hvert år afholdes et eksternatkursus (med mulighed for overnatning) øst for Storebælt på Forsvarets Sanitetsskole i Jægersborg i uge 11, mandag - fredag, og et internatkursus vest for Storebælt, i reglen uge 40 på Fredericia Kaserne.

DIMS trin 2 kursus: er et videregående kursus, der henvender sig til læger med en vis klinisk erfaring (mindst ret til selvstændig virke) samt gennemført DIMS trin 1 kursus eller fået dispensation herfor ved skriftlig begrundet ansøgning til DIMS uddannelsesudvalg.

Kurset afholdes på en moderne dansk idrætsklinik, hvor man gennem patientdemonstrationer får et indblik i moderne undersøgelses- og behandlingsstrategier.

På dette kursus forklares principperne i den moderne idrætstræning og der bliver lagt mere vægt på de biomekaniske årsager til idrætsskader og en uddannelse af kursisterne i praktisk klinisk vurdering heraf. Derudover diskuteres træningens konsekvens og muligheder for udvalgte medicinske problemstillinger (overlevelse, fedme, endokrinologi, hjerte/kar sygdomme, lungesygdomme, osteoporose, arthritis, arthrose).

Kurset varer 40 timer over 4 dage (torsdag-søndag).

Hvert år afholdes et eksternat kursus i oktober måned (overnatning sørger kursisterne selv for). I lige år afholdes kurset øst for Storebælt (Bispebjerg Hospital), i ulige år vest for Storebælt (Århus Sygehus THG).

Krav til vedligeholdelse af Diplomklassifikation (CME)

1. Medlemsskab af DIMS. Medlemsskab af DIMS forudsætter at lægen følger de etiske regler for selskabet.
2. Indhentning af minimum 50 CME-point per 5 år.

Opdateret februar 2007.
Opdaterede **Krav til opnåelse af Diplomklassifikation** kan findes på www.sportsmedicin.dk

AKTIVITET	CERTIFICERINGSPOINT
Deltagelse i årsmøde	10 point per møde
Publicerede videnskabelige artikler inden for idrætsmedicin	10 point per artikel
Arrangør af eller undervisning på idrætsmedicinske kurser eller kongresser	10 point
Deltagelse i internationale idrætsmedicinske kongresser	10 point
Deltagelse i godkendte idrætsmedicinske kurser eller symposier	5 - 15 point per kursus
Anden idrætsmedicinsk relevant aktivitet	5 point
Praktisk erfaring som klublæge, Team Danmark læge eller tilknytning til idrætsklinik (minimum 1 time per uge) - 10 point	Klub/forbund/klinik: Periode:

Idrætsmedicinske arrangementer pointangives af Dansk Idrætsmedicinsk Selskabs Uddannelsesudvalg før kursusafholdelse.

NAVN: _____ **KANDIDAT FRA ÅR:** _____ **DIPLOMANERKENDELSE ÅR:** _____

Skemaet klippes ud og sendes til DIMS v/sekretær Louice Krandorf Meier, Løjtegårdsvej 157, 2770 Kastrup

FFI kurser

Info: Kursusadministrator Vibeke Bechtold, Kærlandsvænget 10, 5260 Odense S.
Tlf. 6591 6693 • E-mail: vibe@ucl.dk
Kursustilmelding foregår bedst og lettest via FFI's hjemmeside: www.sportsfysioterapi.dk

FAGFORUM FOR IDRÆTSFYSIOTERAPI

Kurser i idrætsfysioterapi

Kursusrækken for idrætsfysioterapi er opbygget i del A og B.
Del A kan afsluttes med en kombineret skriftlig og mundtlig prøve. Formålet med kursusrækken er at indføre kursisterne i „Best practice" indenfor undersøgelse, test, forebyggelse og behandling i relation til idrætsfysioterapi samt at sikre, at idrætsfysioterapi i Danmark lever op til internationale kvalitetskrav. Kursisterne skal opnå færdigheder i diagnostik og den kliniske beslutningsproces gennem vurdering og analyse af kliniske fund og symptomer = klinisk ræsonnering samt udvikle deres praktiske færdigheder i forhold til forebyggelse og rehabilitering indenfor idrætsskadeområdet.
Del B kan afsluttes med en prøve bestående af en skriftlig teoretisk del (synopsis) og en praktisk/mundtlig del. Formålet med kursusrækken er udvikling og målretning af idrætsfysioterapeutiske indsatser mod højere niveauer i forhold til de idrætsfysioterapeutiske kerneområder og med evidensbaseret baggrund.

Kursusrækken i **del A** består af:
• Introduktionskursus til idrætsfysioterapi.
Introduktionskursus skal gennemføres for at gå videre på de efterfølgende regionskurser, som kan tages i selvvalgt rækkefølge.
• Idrætsfysioterapi i relation til skulderregionen
• Idrætsfysioterapi i relation til albue-/håndregionen
• Idrætsfysioterapi i relation til hofte/lyskeregionen
• Idrætsfysioterapi i relation til knæregionen
• Idrætsfysioterapi i relation til fod-/ankelregionen
• Taping relateret til idrætsfysioterapi
• Førstehjælp

Førstehjælpskurset er først obligatorisk for del A - eksamen fra 2009.

Kursusrækken i **del B** består af:
• Idrætsfysioterapi og biomekanik inkl. analyse og målemetoder
• Idrætsfysioterapi og styrketræning/screening
• Idrætsfysioterapi og udholdenhed
• Idrætspsykologi, coaching, kost/ernæring og spisevaner
• Doping/antidoping
• Træning og ældre
• Børn, idræt og træning
• Handicapidræt
• Idrætsgrenspecifikke kurser
• Kurser med emner relateret til idrætsfysioterapi, fx. MT-kurser, kurser i fysisk aktivitet/motion o.l.

De første fem kurser er obligatoriske, og af de øvrige skal der gennemføres minimum to, før det er muligt at tilmelde sig del-B eksamen.

Efter bestået del A og del B eksamen betragtes man som *idrætsfysioterapeut,* godkendt i FFI-regi.

Der er hele tiden kursusaktiviteter under udvikling, så det er vigtigt regelmæssigt at holde øje med Fagforum for idrætsfysioterapi hjemmeside www.sportsfysioterapi.dk med henblik på opdateringer og nye kursustilbud.

Om beskrivelse af idrætsfysioterapi, kursusaktiviteter med mål og indhold, tilmelding, kontaktpersoner etc. kan du læse nærmere på:

www.sportsfysioterapi.dk

"Introduktionskursus til idrætsfysioterapi"
(Dette kursus er et krav som forudsætning for at kunne deltage på de øvrige kurser)

Målgruppe: Fysioterapeuter med interesse indenfor idræt.

Mål og indhold for Introduktionskursus:
At kursisterne:
• får udvidet forståelse for epidemiologiske og etiologiske forhold ved idrætsskader
• får forståelse for og indsigt i forskning anvendt i idrætsmedicin
• får forståelse for og kan forholde sig kritisk til etiske problemstillinger relateret til idræt
• kan anvende klinisk ræsonering i forbindelse med idrætsskader
• kan anvende biomekaniske analysemetoder
• får forståelse for vævsegenskaber og vævsreaktioner
• kan anvende primær skadesundersøgelse og skadesbehandling
• får forståelse for overordnede behandlingsstrategier til idrætsaktive
Indhold:
• klinisk ræsonnering
• epidemiologi, forskning og evidens
• etik
• biomekanik
• vævsegenskaber og vævsreaktioner
• forebyggelses- og behandlingsstrategier
• primær skadesundersøgelse og skadesbehandling

Undervisere: Fysioterapeuter fra Fagforum for Idrætsfysioterapi.
Pris: 2900 kr. for medlemmer og 3200 for ikke-medlemmer af FFI. Prisen dækker kursusafgift og fortæring under kursus.
Yderligere oplysninger og tilmelding: www.sportsfysioterapi.dk/kurser

Tid og sted: se kursuskalender

FFI TEMADAGE

"Idrætsfysioterapi relateret til forskellige kropsregioner" (skulder/albue-hånd/hofte-lyske/knæ/fod-ankel)

Målgruppe: Fysioterapeuter med interesse indenfor idræt. Deltagelse kan kun opnås, hvis introduktionskursus er gennemført.

Mål og indhold for alle kurserne relateret til regioner:
At kursisterne:
• får ajourført og uddybet viden om epidemiologiske og etiologiske forhold til idrætsskader og fysioterapi i de enkelte kropsområder
• kan analysere bevægelsesmønstre og belastningsforhold ved idræt
• kan anvende målrettede undersøgelses-, forebyggelses- og behandlingsstrategier
• får udvidet kendskab til parakliniske undersøgelses- og behandlingsmuligheder indenfor idrætsmedicin
• kan vurdere skadernes omfang og alvorlighed samt planlægge og vejlede i forhold til dette.

Teoretisk og praktisk indhold:
• funktionel anatomi og biomekaniske forhold
• epidemiologi, etiologi og traumatologi
• målrettede undersøgelser og tests både funktionelle og specifikke, samt klartest
• målrettede forebyggelses-, behandlings- og rehabiliteringsstrategier
• parakliniske undersøgelser og behandlingsstrategier

Undervisere: Fysioterapeuter fra Fagforum for Idrætsfysioterapi.
Pris: 2-dages kurserne: 2900 kr. for medlemmer og 3200 kr. for ikke-medlemmer; 1-dages kurserne: 1600 kr. for medlemmer og 1900 kr. for ikke-medlemmer. Prisen dækker kursusafgift og fortæring under kursus.
Yderligere oplysninger og tilmelding: www.sportsfysioterapi.dk/kurser

Emner, tid og sted: se kursuskalender

Temadag/Workshop om ULTRALYDSKANNING den 16.3.2010

Formål og indhold: Temadagen har til formål at formidle grundlæggende kendskab til ultralydsteknologien, samt give konkrete praktiske eksempler på brugen i en klinisk hverdag. Temadagen omfatter en generel introduktion til muskuloskeletal ultralydskanning. Der vil blive givet en teoretisk baggrund, samt praktiske demonstrationer af de fysioterapeutiske muligheder: Ultralydskanning brugt som diagnostisk redskab, som måleredskab samt ultralydskanning brugt til træning og biofeedback. Deltagerne får mulighed for selv at afprøve de forskellige ultralydskannings-teknikker.
Kursisterne skal efter kursus have:
• Indsigt i brugen af det tekniske udstyr
• Viden om at identificere normale anatomiske strukturer på en ultralydskanning
• Indsigt i at påvise, tolke og beskrive specifikke ultralydskanninger og differentel diagnostiske muligheder
• Forståelse for, hvordan ultralydskanning kan anvendes som pædagogisk redskab i forbindelse med træning og behandling.
Målgruppe: Temadagen henvender sig til fysioterapeuter som er medlemmer af FFI og ønsker at stifte bekendtskab med ultralydskanning. Der kræves ingen særlige forudsætning for deltagelse i temadagen. Temadagen erstatter ikke moduluddannelsen, som udbydes af DF og DFFMT.
Kursusramme: Kurset gennemføres som en kombination af teori og praksis.
Kursusform: Eksternat med kaffe/te og frokost
Kursusansvarlige: Fagforum for Idrætsfysioterapi og Niels Honoré, PT, exam. MT.
Tid og sted: 16. marts 2010 kl. 9.30 -17.00 i Fysiocenter Tårnby, Løjtegårdsvej 157, 2770 Kastrup.
Kursuspris: kr. 1700,- kr. for FFI medlemmer, 2000,- kr. for ikke-medlemmer.
Underviser: Fysioterapeut Niels Honoré.

Program: (forbehold for ændringer):

09.30 – 10.30	Introduktion til muskuloskeletal ultralyd
10.30 – 11.00	Demo og praktik - lænderyg
11.00 – 11.15	Kaffe
11.15 – 12.15	Demo og praktik – knæ
12.15 – 13.15	Demo og praktik – skulder
13.15 – 14.15	Frokost
14.15 – 15.15	Demo og praktik – ankel og fod
15.15 – 16.15	Demo og praktik – hofte
16.15 – 16.45	Afslutning og information om formel uddannelse

Tilmeldingsfrist og betalingsfrist: Tilmeldingsfrist 15. februar 2010. Benyt FFI´s hjemmeside www.sportsfysioterapi.dk. Betaling ved tilmelding til Danske Bank reg. 0928 kontonr. 928 0461 439. Først tilmeldte og medlemmer af FFI har fortrinsret og vær opmærksom på, at du ikke sikret en plads på kurset, før du har betalt det fulde kursusgebyr! Husk ved betaling at anføre dit navn og navnet på kurset. Spørgsmål kan rettes til FFI´s kursusadministration ved: Vibeke Bechtold, vbe@idraetsfysioterapi.dk.

Dansk SPORTSMEDICIN

Adresse:

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www.dansksportsmedicin.dk

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per.holmich@amh.regionh.dk

Overlæge Bent Wulff Jakobsen
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8330 Beder
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Overlæge Bent Lund
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8000 Århus C
bentlund@dadlnet.dk

Redaktionen skifter sammensætning fra og med næste nummer af Dansk Sportsmedicin. Tak til de afgående medlemmer for indsatsen for bladet.

Redaktionsmedlemmer for FFI:

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5250 Odense SV 5098 5838 (P)
pebe@ucl.dk

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fagforum for idrætsfysioterapi

Adresse (medlemsregister):

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www.dansksportsmedicin.dk

Find fakta og gamle guldkorn

På hjemmesiden kan du finde de forskellige faktuelle oplysninger af interesse i forbindelse med Dansk Sportsmedicin, potentielle annoncører kan finde betingelser og priser, og der kan tegnes abonnement online.

Du kan også finde eller genfinde guldkorn i artiklerne i de gamle blade. Alle blade ældre end to år kan læses og downloades fra "bladarkiv".
Du kan også søge i alle bladenes indholdsfortegnelser for at få hurtig adgang til det, du er interesseret i at finde.

Adresser. Referencelister. Oplysninger, aktuelle som historiske. Det er alt sammen noget, du kan "hitte" på hjemmesiden, og savner du noget, må du gerne sige til.

IDRÆTSKLINIKKER

Region Hovedstaden

Bispebjerg Hospital, tlf. 35 31 35 31
Overlæge Michael Kjær
Mandag til fredag 8.30 - 14

Vestkommunernes Idrætsklinik, Glostrup, tlf. 43 43 08 72. Tidsbestilling tirsdag 16.30 - 18.
Overlæge Claus Hellesen
Tirsdag 16 - 20

Idrætsklinik N, Gentofte, tlf. 39 68 15 41
Tidsbestilling tirsdag 15.30 - 17.30

Idrætsklinik NV, Herlev, tlf. 44 88 44 88
Tidsbestilling torsdag 16:30 - 19.00

Amager Kommunernes Idrætsklinik, tlf. 32 34 32 93. Telefontid tirsdag 16 - 17.
Overlæge Per Hölmich

Idrætsklinikken Frederiksberg Hospital, tlf. 38 16 34 79. Hver onsdag og hver anden tirsdag 15:30 - 17:30.

Frederikssund Sygehus, tlf. 48 29 55 80
Ovlerlæge Tom Nicolaisen/Henrik Chrintz
Mandag, tirsd.+torsd. 9 - 15, onsd. 9 - 19

Bornholms Centralsygehus, tlf. 56 95 11 65
Overlæge John Kofod
Tirsdag (hver anden uge) 16.30 - 18

Region Sjælland

Næstved Sygehus, tlf. 56 51 20 00
Overlæge Gunner Barfod
Tirsdag 16 - 18

Storstrømmens Sygehus i
Nykøbing Falster, info på tlf. 5488 5488

Region Syddanmark

Odense Universitetshospital, tlf. 66 11 33 33
Overlæge Søren Skydt Kristensen
Onsdag 10.45 - 13.30, fredag 8.30 - 14

Sygehus Fyn Faaborg, tlf. 63 61 15 64
Overlæge Jan Schultz Hansen
Onsdag 12 - 15

Haderslev Sygehus, tlf. 74 27 32 88
Overlæge Andreas Fricke, anfr@sbs.sja.dk

Esbjerg Stadionhal (lægeværelse), tlf. 75 45 94 99
Læge Nils Løvgren Frandsen
Mandag 18.30 - 20

Vejle Sygehus, Dagkir. Center, tlf. 79 40 67 83
Mandag til fredag 8 - 15.30

Region Midtjylland

Herning Sygehus, ort.kir. amb., tlf. 99 27 63 15,
Overlæge Steen Taudal/Jan Hede
Torsdag 9 - 15

Silkeborg Centralsygehus, tlf. 87 22 21 00
Overlæge Jacob Stouby Mortensen
Torsdag 9 - 14.30, Sekr. tlf. 87 22 27 66

Viborg Sygehus, tlf. 89 27 27 27
Overlæge Martin Steinke
Tirsdag og torsdag 13 - 16.30

Århus Sygehus THG, tlf. 89 49 75 75
Overlæge Martin Lind
Torsdag 8 - 15

Regionshospitalet Horsens, tlf. 79 27 44 44
Overlæge Jens Ole Storm
Torsdag 12.30 - 17

Region Nordjylland

Ålborg Sygehus Syd, tlf. 99 32 11 11
Mandag til fredag 8.50 - 14

POST
PP DANMARK

ID nr. 47840

DANSK IDRÆTSMEDICINSK SELSKAB

fagforum
for
idrætsfysioterapi

Afsender:
Dansk Sportsmedicin
Terp Skovvej 82
DK - 8270 Højbjerg

Adresseændringer:
Medlemmer af DIMS og FFI skal meddele ændringer til den respektive forenings medlemskartotek.
Abonnenter skal meddele ændringer til Dansk Sportsmedicins adresse.