Reumatologien og Langvarige Rygsmerter

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Disposition

- Definitioner
- Reumatologiens/reumatologens rolle
  - Primær/Sekundær sektoren
- Årsager til rygsmerter
  - Specifikke/Non-specifikke
- Non-specifikke rygsmerter og diagnostisk problematik
- European Guidelines for the management of low back pain (COST Action B13)

Definitioner

- Reumatologi
  - Læren om ”det der flyder”
- Langvarige
  - kroniske (>6 uger? 3 mdr ?)
- Rygsmerter
  - Smerter i lænderyggen (ribbenskurvaturen til rima infranates = ”Low back pain”)

Reumatologiens rolle

Specialeplanlægning og lands- landsdelsfunktioner i sygehusvæsenet.

Sundhedsstyrelsen 2001

Reumatologiens rolle

- Speciallæge Kommissionen's betænkning:
  - Intern medicin:reumatologi
    - Fagområder (godkendes af DRS):
      - Idrætsmedicin
      - Rehabilitering
      - Muskuloskeletal medicin

OBS!

Specialegennemgang for intern medicin:reumatologi: 01.11.07 – 01.05.08.

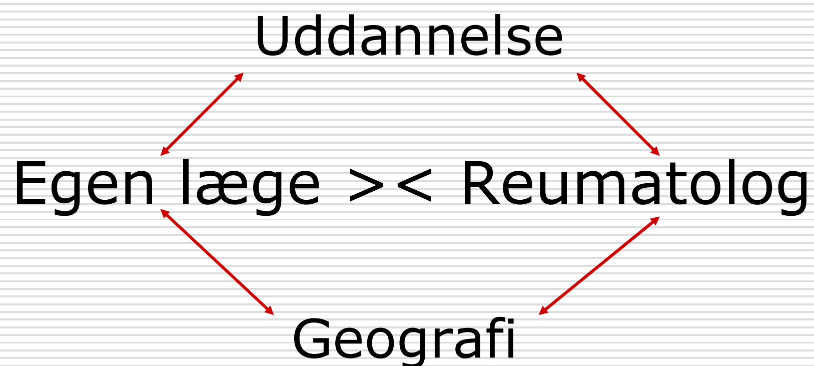
Reumatologens rolle

- Diagnostisk funktion
  - Uafklarede diagnoser
    - Suppl. serologi, diverse billede diagnostiske us.
    - "Filterfunktion" (specielle undersøgelses modaliteter)
    - "Second opinion"
  - "Forundersøgelse" for ortopæd-/neurokirurgen
- Behandlings funktion
  - Svært behandlelige tilstande

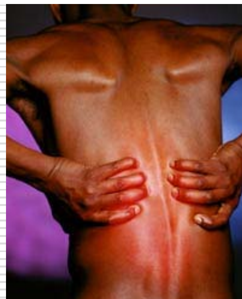
Reumatologens rolle

- Uddannelses funktion
  - Prægraduat
  - Postgraduat
- Rådgivende funktion
  - Sociale myndigheder
  - Sundhedstyrelsen, herunder MTV
- Forsknings funktion
  - Lokalt
  - Nationalt
  - Internationalt

Reumatologens rolle

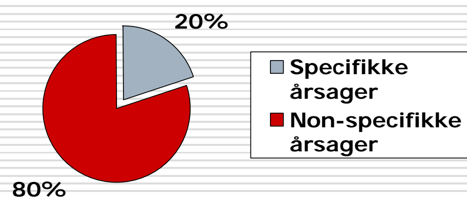


Rygsmerter



Årsager til lænderygsmerter

- Specifikke årsager
  - Degenerative
  - Inflammatoriske
  - Traumatiske
  - Metaboliske
  - Onkologiske
  - Arvelige bindevævslidelser
- Non-specifikke årsager
  - Dysfunktioner!
    - Somatiske
    - Psykiske



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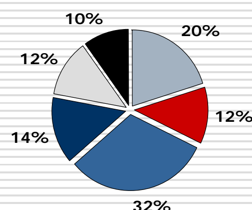

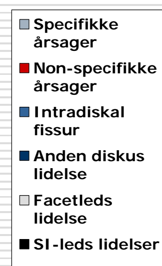

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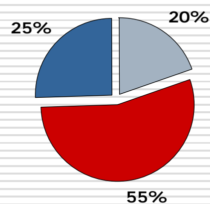

Non-specifikke rygsmerter

Non-specifikke rygsmerter

- Incipiente specifikke lidelser
- Muskulo-, tendino-, ligamento-, artro-, disco-, neuro-, skeletale lidelser
- Bio-psycho-social smerteproblematik

Diagnostik

- Symptom diagnoser
  - (ex. Dolores dorsi (”low back pain”))
- Pato-anatomisk diagnoser
  - (ex. Prolapsus disci i.v. lumbalis)
- Pato-fysiologisk diagnoser
  - (ex. Osteoporose)
- Kausal diagnoser
  - (ex. Spondylitis)
- Syndrom diagnoser
  - (ex. Segment dysfunktion)

Diagnostik

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- Pato-fysiologisk diagnoser
  - (ex. Spondylosis columnae)
- Kausal diagnoser
  - (ex. Spondylitis)
- Syndrom diagnoser
  - ex. Segment dysfunktion

Segment dysfunktion

- Syndrom diagnoser:
  - Diagnoser der stilles på grundlag af forekomst af
    - et eller flere karakteristiske symptomer og
    - et eller flere karakteristiske objektive fund

Segment dysfunktion

- Muskuloskeletal Medicinsk diagnostik af syndromet ”segment dysfunktion”?
  - Mobiliserings konceptet
  - MET konceptet
  - MFR konceptet
  - McKenzie konceptet
  - Maitland konceptet
  - Kinetic control konceptet
  - Osv. Osv.

Segment dysfunktion

- Muskuloskeletal Medicinsk diagnostik af syndromet ”segment dysfunktion”?
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  - Maitland konceptet
  - Kinetic control konceptet
  - Osv. Osv.

Segment dysfunktion

- Segment dysfunktion diagnosticering ved mobiliserings konceptet:
  - Subjektivt:
    - Lokale smerter
    - Forskudte smerter
    - Paræstesier
    - Bevægeindskrænkning
  - Objektivt:
    - Generel bevægelighed
    - Perkussions test
    - Fjedrings test
    - Specifik fjedrings test
    - Rokke test
    - Hudfolde test
    - Test for ligament ømhed
    - Test for muskel ømhed
    - Diverse bevægetest

Segment dysfunktion

Men !!!

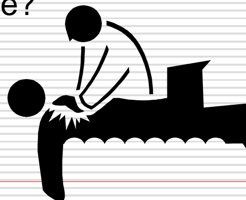
- Tænker vi over hvor mange subjektive og hvor mange objektive fund – og i hvilken kombination – der skal foreligge for at stille diagnosen segment dysfunktion?
- - og hvis vi gør - er diagnosen reproducerbar?

Eller manipulerer vi bare ?

Segment dysfunktion

- og !!!!

- Tænker vi over om de af personen meddelte subjektive klager og de af os fundne positive objektive test er:
  - Reproducerbare?
  - Valide?



Eller manipulerer vi bare ?

Segment dysfunktion

- Diagnostiske Problematikker
  - Er symptom angivelsen reproducerbar?
  - Er testene reproducerbare?
  - Er testene valide?
  - Hvilke og hvormange af de subjektive og objektive tegn kræves der for at stille syndrom diagnosen?

Fastlæggelse af kriterier for segment dysfunktion???

" We should make a few x-rays.
This is basically to cover my butt. "

Forskning

Reproducerbarheds undersøgelser

Intra-observer and inter-observer agreement of the manual examination of the lumbar spine i chronic low-back pain.

E. Qvistgaard et al. Eur Spine J 2007;16:277-82

Intra-observer and inter-observer agreement..........

- All subjects tested for the same signs of lumbar involvement:
  - Standing
    - Trunk sidebending, flexion, ”stork test”
  - Supine
    - Pelvic girdle (clock- and counter clock-wise rotation)
  - Positioned on the side
    - Extension
    - Flexion
    - Rotation

    } tested by palpation
- The tests included the segments
  - Th12/L1, L1/L2, L2/L3, L3/L4, L4/L5 and L5/S1

Intra-observer and inter-observer agreement..........

- The tests included the segments
  - Th12/L1, L1/L2, L2/L3, L3/L4, L4/L5 and L5/S1
- Results given as yes/no

Kappa beregning, 2 x 2 tabel

- Springing test
  - Intra-observer reproducibility

	Yes	No
Test 1	A	B
Test 2	C	D

P_o = observed agreement

P_c = expected agreement

$$K = \frac{P_o - P_c}{1 - P_c}$$

Kappa interpretation

	Kappa (-1 til 1)
Almost perfect	>0.80
Sustantial	>0.60
Moderate or good	>0.40
Fair	>0.20
Slight	<0.20

Intra-observer....manual examination of the lumbar spine....

N=43 (33 LBP ptt >1 m)	Kappa absolute match (agreement 70%)	Kappa acceptable match (agreement 82%)
”springing test”	0.54	0.64
Sideflexion	0.57	0.69
Ventralflexion	0.31	0.45
Multifidus test	0.51	0.60
Dysfunctional level	0.60	0.70

E. Qvistgaard et al. Eur Spine J 2007;16:277-82

Inter-observer....manual examination of the lumbar spine....

N=60 LBP patients	Kappa absolute match (agreement 42%)	Kappa acceptable match (agreement 75%)
”springing test”	0.23	0.52
Sideflexion	0.22	0.45
Ventralflexion	0.22	0.44
Multifidus test	0.12	0.48
Dysfunctional level	0.21	0.57

E. Qvistgaard et al. Eur Spine J 2007;16:277-82

Intra-observer and inter-observer agreement..........

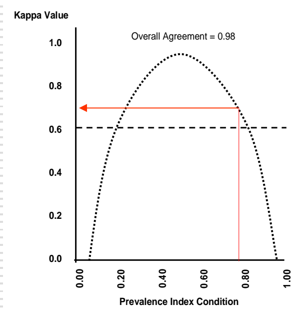
- Bemærk
  - Intra-observer
    - Prevalence 77%
    - Overall agreement 0.70
  - Inter-observer
    - Prevalence 100%
    - Overall agreement 0.42

Intra-observer and inter-observer agreement..........

- Kappa er afhængig af:
  - Prævalensen af ”index condition”
  - Overall agreement

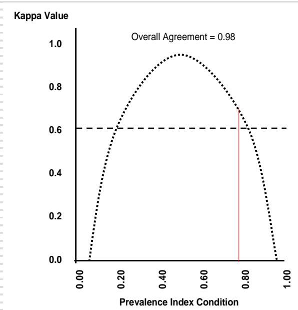
?

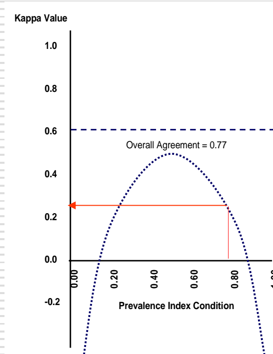
Kappa dependency
on prevalence



J. Patijn & L. Remvig, FIMM Reliability protocol, 2007, www.fimm-online.com

Kappa dependency
on overall agreement





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Intra-observer and inter-observer agreement..........

- Bemærk
  - Intra-observer
    - Prevalence 77%
    - Overall agreement 0.70
  - Inter-observer
    - Prevalence 100%
    - Overall agreement 0.42

Intra-observer and inter-observer agreement..........

- Konklusion:
  - Hvis studiet var udført med hensyntagen til prævalensen og overall agreement havde kappa værdierne med stor sandsynlighed været usædvanlig gode!!

Reproducerbarheds undersøgelser

- Træningsfase
  - Nøje testbeskrivelse (udførelse og tolkning)
  - Afprøvning af testen i et åbent studium
  - Evt korrektion af testbeskrivelsen
- Overall agreement fase
  - Undersøgelse af agreement i blindet studium med en 50% prævalens af ”index condition”.
  - Hvis Overall agreement >0.80 udføres det endelige kappa studium
- Kappa fase
  - Undersøgelsen udføres i blindet studium med 50% prævalens af ”index condition”

Reproducerbarheds undersøgelser

Reproducerbarheds undersøgelser

Reproducerbarheds undersøgelser

There are (too) many different schools in Manual/Musculoskeletal Medicine in many different countries in the world, with many different diagnostic procedures and many different therapeutic approaches.

Glenn Gorm Rasmussen, ovl.
Chairman FIMM Education Committee

Reproducerbarheds undersøgelser

If the present situation is allowed to continue, it will lead to a slowing down of the badly needed process of professionalisation of M/M Medicine in general and its education systems in particular.

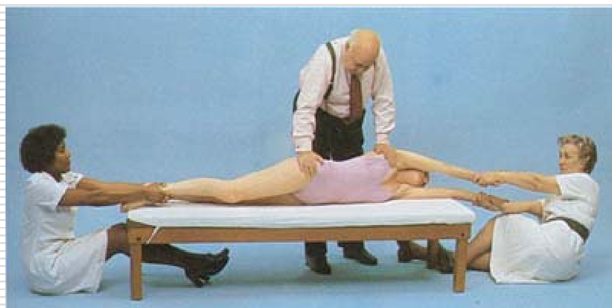
Jacob Patijn, prof. PhD, Scientific Director, FIMM Academy

Non-specifikke rygsmerter

- Konklusion
  - Reproducerbare og valide test giver større diagnostisk sikkerhed
  - Bedre diagnostisk sikkerhed giver bedre mulighed for specifik behandling
  - Bedre behandling giver færre tilfælde af kronicitet – af langvarig rygsmerter

Non-specifikke rygsmerter

- Hvad skal vi så gøre mens vi venter på forskningsresultaterne?



EC COST Action B13

"Low Back Pain: Guidelines for its management"

European Guidelines for the management of non-specific low back pain in primary care

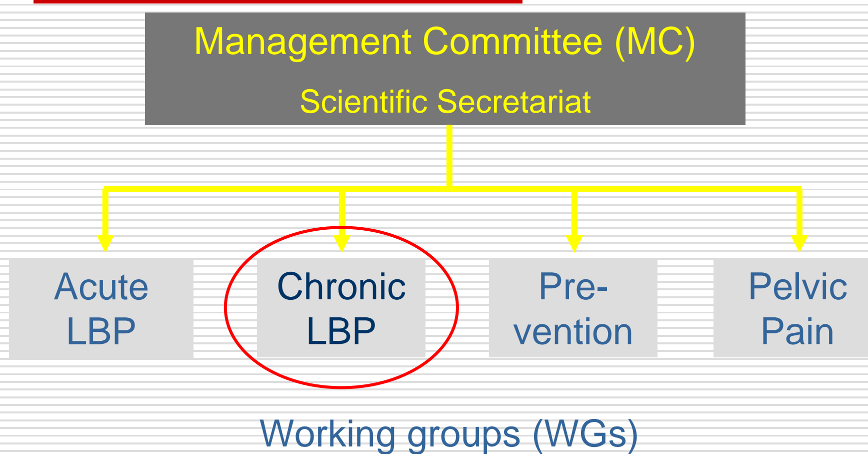
www.backpaineurope.org

European Spine Journal

Issue: Volume 15, Supplement 2

Date: March 2006
Pages: s192 - s300
Title: COST B13: European guidelines for the management of low back pain.

Structure of COST Action B13



Working groups (WGs)

Prevention: Manipulation

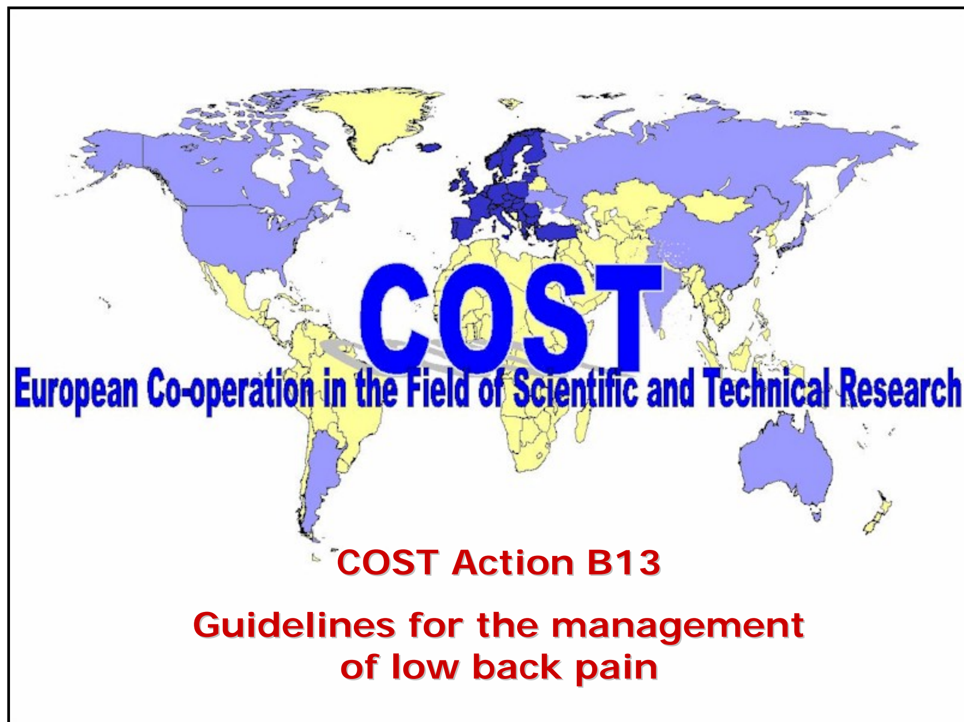
- The idea that regular manipulation can be helpful to prevent some consequence of low back pain is not supported by any acceptable scientific study.
- Conclusion:
  There is **no** evidence for preventive properties of manipulative treatment (Level D).
- Advice:
  More research is needed to prove the existence or absence of efficacy of preventive manipulative treatment

Spinal Manipulation/Mobilisation

- Based on already 22 systematic reviews, the effect of spinal manipulation in the chronic phase is proven.
- However, in which subgroup of low back pain spinal manipulation is most effective has yet to be investigated.
- Spinal manipulation should be provided by professionals with competent skills in M/M Medicine.

Manipulation/mobilisation

- Consider manipulation/mobilisation as a supplementary treatment for chronic low back pain.
- Spinal manipulative therapy is one of several options of modest effectiveness for patients with back pain (level B).



COST Action B13

Guidelines for the management of low back pain

COST B13 - Aims (1)

- Improve the management of non-specific LBP patients and increase consistency in primary care in Europe, by:
  - Providing recommendations on the clinical management of LBP for
    - prevention,
    - diagnosis and
    - treatment
  - Ensuring an evidence-based approach (using systematic reviews and existing clinical guidelines)

COST B13 - Aims (2)

- Providing recommendations that are generally acceptable by all health professions in all participating countries
- Enabling an interdisciplinary approach (stimulate collaboration and consistency across professions and countries)
- Promoting implementation of these guidelines across Europe

COST B13 Guidelines for low back pain

14 countries:
Austria, Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom, Israel

- Management committee
- Scientific secretariat

COST Action B13
Management Committee (MC)

Maurits van Tulder (chairman)	Epidemiologist	NL
Francisco Kovacs (vice-chairman)	Physician	ESP
Gerd Müller (vice-chairman)	Orthopaedic surgeon	GER
Mihail Pascu (scientific secretariat)	BEL	
Olavi Airaksinen	Rehabilitation physician	FIN
Federico Balague	Rheumatologist	SUI
Luc Broos	Physician	BEL
Kim Burton	Ergonomist	UK
Maria Teresa Gil del Real	Epidemiologist	ESP
Osmo Hänninen	Physiologist	FIN
Jan Hildebrandt	Anaesthesiologist	GER
Aage Indahl	Physical Medicine & Rehab.	NOR
Annette Leclerc	Epidemiologist	FRA
Marek Szpalski	Orthopaedic surgeon	BEL
Holger Ursin	Psychologist	NOR
Andry Vleeming	Anatomist	NL

Manipulation/mobilisation
Summary of the evidence

- There is moderate evidence that manipulation is superior to sham manipulation for improving short-term pain and function in cLBP (level B).
- There is strong evidence that manipulation and GP care/analgesics are similarly effective in the treatment of cLBP (level A)
- There is moderate evidence that spinal manipulation in addition to GP care is more effective than GP care alone in the treatment of cLBP (level B).
- There is moderate evidence that spinal manipulation is no less and no more effective than physiotherapy/exercise therapy in the treatment of cLBP (level B).
- There is moderate evidence that spinal manipulation is no less and no more effective than back-schools in the treatment of cLBP (level B).

Reumatologiens rolle

- Reumatologi (1)
  - ”varetager forebyggelse, diagnostik, behandling og rehabilitering, herunder optræning af patienter med medicinske sygdomme i bevægeapparatet.
    Det drejer sig om patienter med degenerative led- og muskellidelser, akutte og kroniske belastningssygdomme og smertetilstande i bevægeapparatet, inflammatoriske reumatiske sygdomme, metaboliske knoglesygdomme, herunder osteoporose samt funktionsforstyrrelser i bevægeapparatet.”

Sundhedsstyrelsen 2001

Reumatologiens rolle

- Reumatologi (2)
  - ”Reumatologiske sygdomme forekommer hyppigt og sygdommene har ofte et kronisk forløb.”
  - ”Patienter med reumatologiske lidelser behandles på alle niveauer i sundhedsvæsenet.”
  - ”Mange patienter kan behandles ambulant i almen praksis, speciallægepraksis eller i sygehusenes ambulatorier, mens patienter med behov for et mere omfattende undersøgelses- og behandlingstilbud behandles i sygehusvæsenet.”

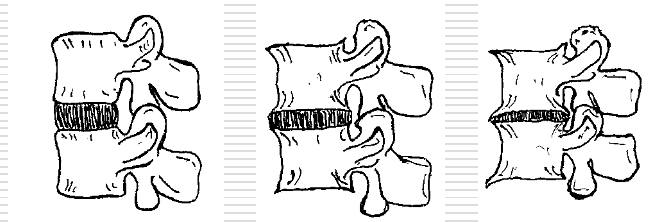
Sundhedsstyrelsen 2001

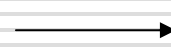
Specifikke rygsmerter

Degenerative Rygsmerter

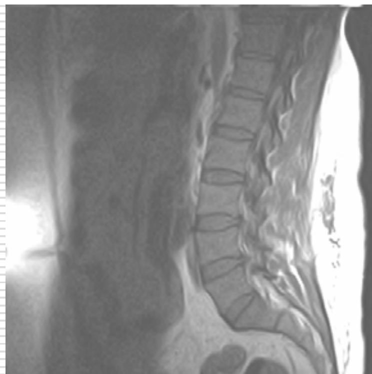
- Diskusdegeneration
  - Diskusfissur
  - Diskusprotrusion
  - Diskusprolaps
- Spondylosis/-artrosis
  - Stenosis spinalis
- Spondylolisthesis
- Modic forandringer (inflammatorisk ?)

Diskusdegeneration

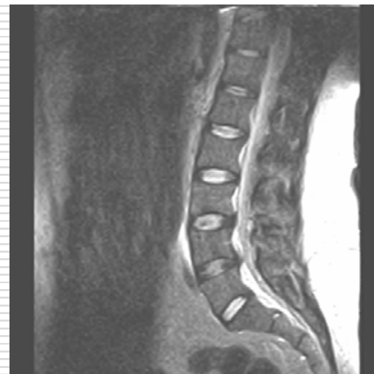


Non-specifik  Specifik

Diskusdegeneration



T1 vægtet

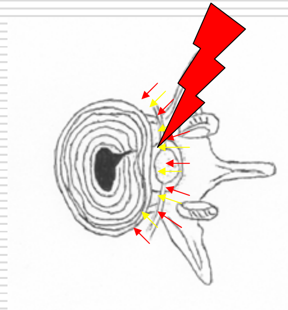


T2 vægtet

Diskusfissur

- Diskusfissur
  - evt. diskusprotrusion

Non-specifik ⟶ specifik

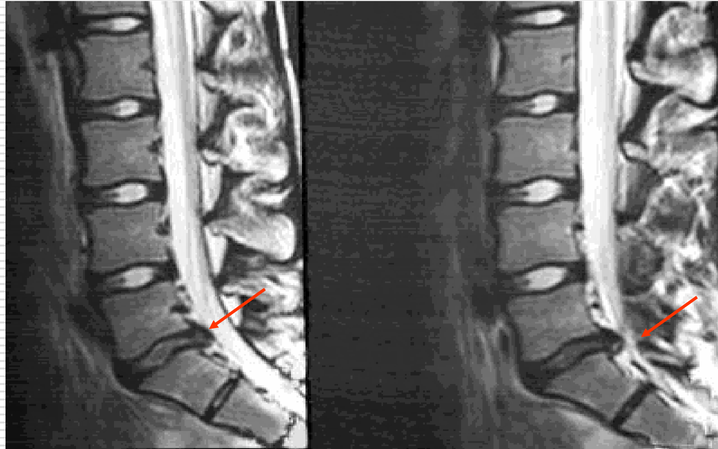


1. Lokale smerter
2. Forskudte smerter

Diskusfissur

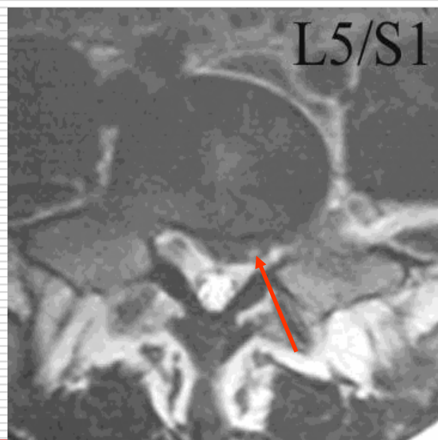
- Behandling
  - Medicinsk
    - McKenzie terapi, mm
    - ”Stay active”
    - Analgeticum
  - Kirurgisk
    - Spondylodese?
    - Diskusprotese?

Diskusprolaps



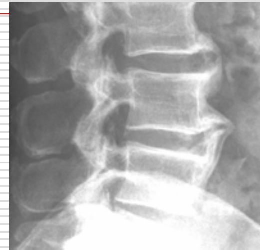
Diskusprolaps

- Ve.-sidig paramedian L5/S1-prolaps
- Behandling
  - Medicinsk
    - McK, etc.
  - Kirurgisk
    - Ablatio prolapsus
    - Diskusprotese?

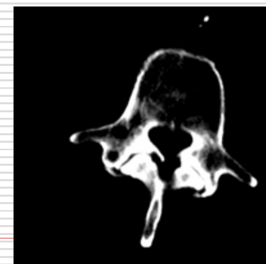


Spondylosis/-artrosis

- Spondylosis med næb- og brodannende osteofytter



- Spondylartrosis med næbdannende osteofytter (CT-scan)

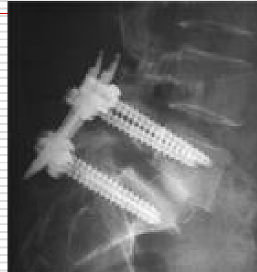


Spondylosis/-artrosis

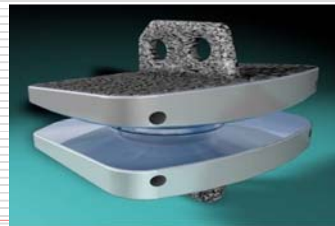
- Behandling
  - Medicinsk
    - Mobilisering
      - ”stay active”
    - Analgetica
      - Simple, NSAID, (ikke morfica!)
    - Arbejdsplads vurdering
  - Kirurgisk
    - Spondylodese!

Diskusdegeneration

- Kirurgisk behandling
  - Spondylodese?
    - Aldrig sammenlignet i et kontrolleret studium over for ingen operation!!!

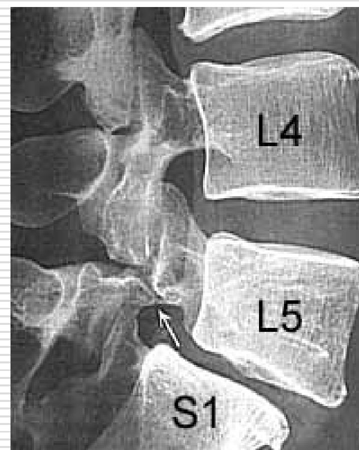


  - Diskusprotese?
    - Bedre bevægelighed
    - Ikke værre end dese-op



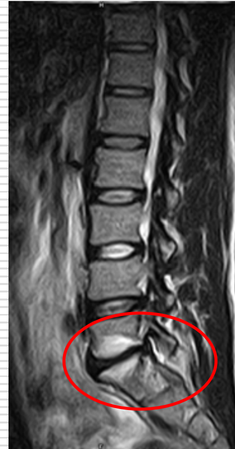
Spondylolisthesis

- Spondylolisthesis verae (arcolyse)
- Spondylolisthesis spuriae (degeneration)



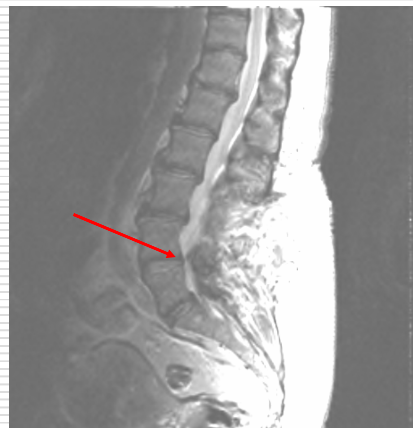
Modic forandringer

- Modic forandringer, type 1 (anaerob inflammation?)



Spinalstenose

- Definition
  - En langsom tiltagende forsnævring af canalis spinalis på overvejende ossøs basis.
    - Stenosis canalis spinalis:
      - Pseudo-claudicatio
    - Recesstenose
      - Rodirritation



Spinalstenose

- Medicinsk behandling:
  What is the long-term result of medical/interventional management of spinal stenosis?
  - Of patients with mild to moderate lumbar spinal stenosis initially receiving medical/interventional treatment and followed for two to 10 years,
    1. approximately 20-40% will ultimately require surgical intervention.
    2. of the patients who do not require surgical intervention, 50-70% will have improvement in their pain.
    - Grade of Recommendation: C

NASS Clinical Guidelines –
Degenerative Lumbar Stenosis, Jan. 2007.

Spinalstenose

- Kirurgisk behandling:
  Do surgical treatments improve outcomes in the treatment of lumbar spinal stenosis compared to the natural history of the disease?

2. In patients with moderate to severe symptoms of lumbar spinal stenosis, surgery is more effective than medical/interventional treatment.
3. In patients with severe symptoms of lumbar spinal stenosis, decompressive surgery alone is effective approximately 80% of the time.

   - Grade of Recommendation: C

Intra-observer and inter-observer agreement..........

- In the intra-observer part of the study, the segmental level was defined by the examiner separately at each test.
- In the inter-observer part of the study, the processus spinosi of L1 an L5 were marked with red ink by the first examiner to diminish the variation due to different interpretation of the spinous level.

Reproducerbarheds undersøgelser

1. *Most schools within M/M M have not validated reproducibility, validity, sensitivity and specificity of their own characteristic diagnostic procedures.*

Jacob Patijn, prof. PhD, Scientific Director, FIMM Academy

Reproducerbarheds undersøgelser

2. *Because of lack of good reproducibility, validity, sensitivity and specificity studies, mutual comparison of diagnostic procedures between schools is impossible.*

Jacob Patijn, prof. PhD, Scientific Director, FIMM Academy

Reproducerbarheds undersøgelser

3. *The absence of reliable diagnostic procedures in M/M Medicine leads to heterogeneously defined study populations in efficacy trials.*

Jacob Patijn, prof. PhD, Scientific Director, FIMM Academy

Reproducerbarheds undersøgelser

4. *Unreliable diagnostic procedures of different schools, ill-defined therapeutic approaches and low quality study designs are the reason for the weak evidences of therapeutic efficacies in M/M Medicine.*

Jacob Patijn, prof. PhD, Scientific Director, FIMM Academy

Fastlæggelse af Kriterie sæt

- Ud fra vores nuværende viden undersøge diverse symptomer og kliniske test for deres
  - Reliability (pålidelighed)
    - Reproducerbarhed
    - Validitet
- Undersøge langvarige non-specifikke rygpatienter med reliable test
- Sammensætte et kriteriesæt for segment dysfunktion udfra de hyppigst forekommende positive test
- Undersøge kriterie sættet for dets
  - Reliability
    - Reproducerbarhed
    - Validitet
  - Sensitivity og specificity