



NEWSLETTER

2/24



**Puheenjohtajan
terveiset**

**Syyskokouksen
antia**

Posterinäyttely

Tulevia kursseja

**Video MDT
Management of
Radicular
Syndrome**

**SUOMEN MCKENZIE
INSTITUUTTI RY**

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PUHEENJOHTAJAN TERVEISET

Hei kaikki Suomen McKenzie Instituutti ry:n jäsenet!

Vuosi alkaa kääntyä loppuun ja marraskuun pimeitä on valaissut superkuu ja nyt katseet kääntyvätkin joulun aikaan. Me Petterin kanssa jatkamme terapeuttihauksen siivousta, joten jos löydät terapeuttihauksen, jonkun eläköityneen kollegan tai omat yhteystietosi ovat muuttuneet, niin ole rohkeasti yhteydessä anne.lahti@saunalahti.fi tai petteri.ruuskanen@kolumbus.fi. <https://fi.mckenzieinstitute.org/potilaat/etsi-mdt-terapeutti/>

Suomen McKenzie Instituutin syyskokouksessa ei hallituksen kokoonpanoon tullut muutoksia, toimintasuunnitelma vuodelle 2025 budjetteineen on nähtävillä tässä jäljempänä.

Muistakaa, että Katjaanalle voi lähettää some-päivityksiin soveltuvia kuvia ja videoita, ohjeet Newsletterin lopussa! Oikein iloista loppuvuotta ja työntäyteistä tulevaa!

cdme



TOIMINTASUUNNITELMA VUODELLE 2025

YHDISTYKSEN TARKOITUS

”Yhdistyksen tarkoitus on edistää tietoutta McKenzie-menetelmästä Suomessa, järjestää alan koulutusta fysioterapeuteille ja lääkäreille kansainvälisen McKenzie Instituutin hyväksymien opettajien johdolla, pitää yhteyttä muissa maissa toimiviin McKenzie Instituutteihin, edustaa Suomea kansainvälisissä McKenzie kokouksissa sekä tukea suomalaisten fysioterapeuttien alan koulutusta ulkomailla.”

STRATEGIA

McKenzie Institute International päivitti suunnitelman 2023 ja MII:n vahvuuksiksi vielä 2024 seuraavaa:

”Strengths:

Global, multicultural organization with a Standardised Educational Program

Dedicated team of professionals and highly qualified instructors

Teaching a system that aligns with guidelines, focusing on active involvement, education, and empowerment of patients

Due diligence to keep the validated system of assessment and management of musculoskeletal disorder in line with current research”

Visionamme on ”Varmistaa, että tuki- ja liikuntaelinvaivoista kärsivillä on mahdollisuus Mekaanisen Diagnostisointi ja Terapia® -menetelmän mukaiseen hoitoon.” Koulutusjatkumoa järjestetään ympäri maailmaa saman sisältöisenä, vain kunkin maan sote-järjestelmän ja fysioterapiakoulutusten tuomilla nyansseilla.

TALOUS

Vuonna 2025 koulutusjatkumoissa puhaltaa uudet tuulet, kun A-kurssi on saatu osaksi OAMKn xxx-kurssia, opettajana kurssilla on Marika Heiskanen. Carolina Nessimian Olyntho käynnistää koulutusjatkumoa 3 päiväisenä, kurssi sisältää itseopiskelumateriaalin online -komponenttina. Suomen McKenzie Instituutissa on tällä hetkellä kolme opettajaa, Sinikka Kilpikoski, Carolina Nessimian Olyntho ja Marika Heiskanen. Opettajat sopivat keskenään opetettavat kurssit mm. toteutumisasajankohtien ja paikkakuntien mukaan. Marika Heiskasen jatkaa A- ja B-kurssien opettajana, Carolinalle on myönnetty opettajastatus edellisten lisäksi myös C- ja E-kursseille, kun taas Sinikka Kilpikoski Senior Instructor jatkaa edelleen MDT-kouluttajana varsinkin E-kurssilla, tentaattorina sekä tietotaitojen päivityksissä. Jäsenmäärän pienenemiseen edelleen on varauduttu. Jäsenmäärän kasvattamiseen pyritään edelleen, uusilla kursseilla markkinoidaan yhdistyksen jäsenyyttä, ja sitä

tukemaan kursseilla esitetään puheenjohtajan etäterveiset. Koulutusjatkumon näkyvyyttä on lisätty myös some-viestinnän keinoin.

KOULUTUS

Suomen McKenzie Instituutti ry:n kurssien järjestämisessä yhteistyö Oulun Ammattikorkeakoulun kanssa on käynnistynyt. Jo edellämainitun A-kurssin lisäksi keväällä 2025 käynnistyy 5 op suoravastaanotokoulutus MDT cred.ex. tutkinnon suorittaneille. Tarvittaessa kaikkia kursseja järjestetään myös tilausmuotoisina, erityisesti tietotaitojen päivityspäiviä järjestetään tarpeen mukaan eri puolilla Suomea. Tällä hetkellä suunniteltuna on Tampereen ja Jyväskylän tietotaitojen päivityspäivät. 2025 suunnitelmissa on myös opintopäivät sääntömääräisten kevät- ja syyskokousten yhteydessä, keväällä koulutuksena uusi päivitetty Masterclass MDT Management of Radicular Syndrome.

Kurssimanuaalien päivitys etenee, vuorossa seuraavaksi C- ja D-kurssien manuaalit.

”Treat Your Own Ankle & Achilles tendon” -kirja on suomennettu muttei vielä julkaistu.

TIEDOTUS JA MARKKINOINTI

Tiedotus tapahtuu pääasiassa internetsivujen ja jäsenistölle sekä tutkinnon suorittaneille suunnatun joukkosähköpostituksien kautta. Internetsivut ovat osin MII:n alaiset ja toimivuuteen ja selkeyteen kiinnitetäänkin huomiota. Sivuja päivitetään havaitun tarpeen mukaan. Facebookin ryhmää pyritään kasvattamaan mahdollisimman kattavan tiedottamisen tueksi. Suomenkielistä McKenzie -Newsletteriä toimitetaan 2 numeroa. Kansainvälinen Instituutti on julkaissut ajankohtaisen tiedotuslehtisen ja tarkoituksena on näin jatkossakin tiedottaa jäsenmaille (Branch) ja tieto jaetaan myös jäsenille. Lisäksi MII järjestää lisäksi webinaareja, joista tiedotetaan myös jäsenistöä Suomessa. Katjaana Kanninen tekee some-julkaisuja jäsenistön toimittaman materiaalin pohjalta. MDT-menetelmän markkinointiapua kaivataan hallitukseen joko hallituksen ulkopuolelta tai hallituksen jäsenistöstä, kaikkia nykyaikaisia kanavia voidaan kokeilla.

KOKOUKSET

Hallituksen kokouksia pyritään järjestämään 5-8 kertaa vuoden aikana Zoom -kokouksina puheenjohtajan kokoon kutsumina, sekä perinteisenä kesäkokouksena. Kevätkokous pidetään maaliskuussa ja syyskokous marraskuun aikana. Perinteinen kesäkokous pidetään heinä-elokuussa. Euroopan instituutit pitävät tarvittaessa yhteyttä etäkokouksilla vuosittain. Euromeeting järjestetään Alicantessa Espanjassa 6-7.6.2025, johon osallistuvat puheenjohtaja, taloudenhoitaja, sekä kaikki kouluttajat.

Suomen McKenzie Instituutin hallitus

TALOUSARVIO VUODELLE 2025

TUOTOT

Kurssituotot	10 000 €
Jäsenmaksutuotot	7 000 €
	<hr/>
	17 000 €

KULUT

Kurssikulut

Opetuspalkkiot	5 000 €
majoitus ja ruokailu	1 000 €
Koulutusmateriaali	1 000 €
”Levy”-maksut	1 000 €
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	8 000 €

Kokouskulut

matkat ja asuminen	2 500 €
<u>muut kokouskulut</u>	1 000 €
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	3 500 €

Markkinointikulut

jäsentiedotteet	100 €
<u>muut kulut</u>	400 €
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	500 €

Hallinto

puhelin – ja postikulut	400 €
toimistokulut	1 000 €
kirjanpito	1 500 €
sekalaiset kulut	500 €
vuokratulot	600 €
vakuutusmaksut	500 €
pankin kulut	500 €
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	5 000 € yli/alijääm - €

Kulut yhteensä 17 000 €

Lumbar Radiculopathy with Abnormal MRI Findings: A Weightlifter's Rapid Recovery after 3-month History of Paresthesia

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THE OHIO STATE
UNIVERSITY
WEXNER MEDICAL CENTER

Background

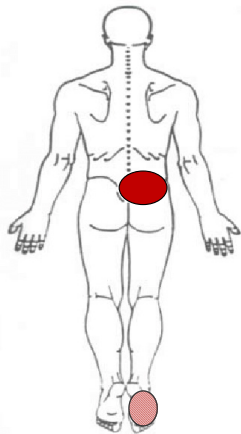
- Lumbar radiculopathy is a common condition which occurs in approximately 3% - 5% of the population.¹
- Magnetic Resonance Imaging (MRI) is often recommended; however, imaging does not necessarily correlate to clinical findings.²
- Centralization (CENT)** - the abolition of distal and spinal pain in response to repeated end range movements or postures.³
- Directional preference (DP)** - the repeated end range movement which induces CENT or abolition of symptoms, but also a decrease in symptom severity, and/or a positive mechanical response.³

Purpose

- The purpose of this case report is to describe Mechanical Diagnosis and Therapy (MDT) management in a weightlifter who had MRI findings consistent with lumbar radiculopathy.

Case Description

Figure 1: Patient's Body Diagram ➤ The patient was a 22-year-old male weightlifter and strength and conditioning coach who presented with a 3-month history of right sided low back pain and constant paresthesia throughout the right foot.

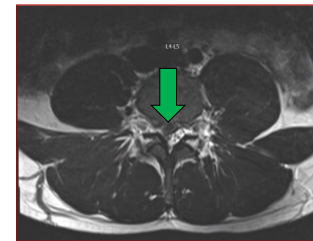
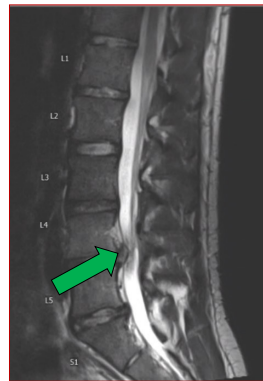


● = Pain
● (hatched) = Paresthesia

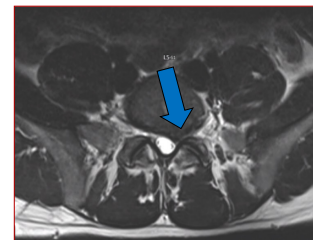
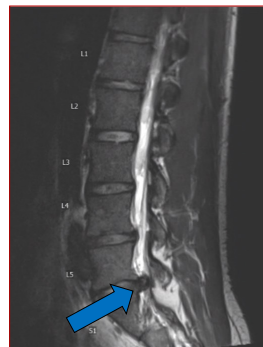
- The patient's symptoms started during a weightlifting session, but the patient modification for 12 weeks.
- Symptoms were worse with sitting, bending, and driving.
- Neurological screening was negative.
- The patient demonstrated a positive and concordant slump test and positive passive straight leg raise test at 50° of hip flexion.
- There was a 75% loss of active lumbar flexion and a 25% loss of extension with pain and paresthesia reproduced in all directions.
- End range extension in standing and lying was no lasting improvement.
- decreased his symptoms but there

Imaging

- **Figure 2:** Sagittal & Axial T1-weighted MRI showing prominent right central and subarticular zone disc extrusion at L4-5 demonstrating superior migration (**Green Arrow**).
- Extrusion severely narrows the right lateral recess, abuts the descending right L5 and S1 nerve roots, and contributes to moderate spinal stenosis.

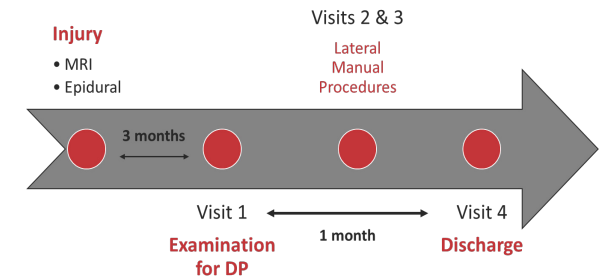


- **Figure 3:** Sagittal & Axial T1-weighted MRI showing prominent left subarticular zone disc protrusion at L5-S1 which abuts and likely impinges the descending left S1 nerve roots and contributes to severe narrowing of the left lateral recess (**Blue Arrow**).
- The stenosis was so severe at this point that only the spinal cord is visible. The normal space of 12 to 14 mm was constricted by the disc bulge.



Outcomes

Figure 4: Management



- Visit 1:** Repeated end range extension in lying with hips-off center (toward the left) → reduced pain and neural tension, improved mobility, and was determined to be the patient's **DP**.
- Visits 2 & 3:** Repeated end range extension in lying with hips-off-center (toward the left) with clinician lateral overpressure followed by flexion rotation mobilization → full **CENT** achieved. Patient able to progress to repeated extension in the sagittal plane and supine scioticneuromobilization.
- Visit 4:** Foot paresthesia abolished. The Modified Low Back Pain Disability Questionnaire score decreased from 28% to 3%.
- THE PATIENT ACHIEVED FULL RESOLUTION OF SYMPTOMS WITHOUT MODIFYING HIS WORK OR FITNESS ROUTINE.**

Conclusion

- Despite significant MRI findings and a radicular presentation, this patient responded to interventions based on the principles of **CENT** and **DP**.
- This case points toward the clinical utility of testing repeated end range movements as a component of the physical therapy examination.

References

- Zhang AS, Xu A, Ansari K, et al. Lumbar disc herniation: Diagnosis and management. *Am J Med.* 2023;136(7):645-651. 2)
- 2020;35(3):855-864. Clark R, Weber RP, Kahwati L. Surgical management of lumbar radiculopathy: A systematic review. *J Gen Intern*
- 3) *Meqptomomatic discs and annular competence. Spine.* 1997;22(10):1115-1122. Donelson R, Charles M, Robert PT, Dip M, Grant W. A
- 4) *Prospective study of conservative of lumbar and referred pain: A predictor of* Avelis J, Anil S. Impact of McKenzie extension exercise approach on patients with chronic low back pain with radiculopathy: A randomized controlled trial. *Int J Ther Rehabil Res.* 2017;6(2):29.
- 5) pain and a relevant lateral component: a case report. *J Man Manip Ther.* 2011;19(2):113-118 Williams B, Vaughn D, Holwerda T. A mechanical diagnosis and treatment (MDT) approach for a patient with discogenic low back 6) 50. Favaro L, Boggs RG, Geraci MC. Conservative management of a foraminal lumbar disc herniation. *JOSPT Cases.* 2021;1(1):49-



The Application of Mechanical Diagnosis and Therapy In A Structurally Compromised Knee: A Case Report

Lindsay Carlton ATC, DPT, Dip. MDT₁

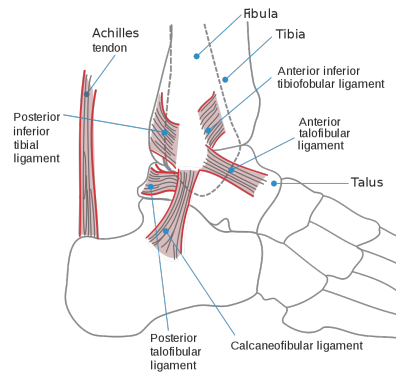
Maccio Physical Therapy, Troy, NY, USA



Comorbidities

Torn ATFL 20 years prior

- No surgical repair performed



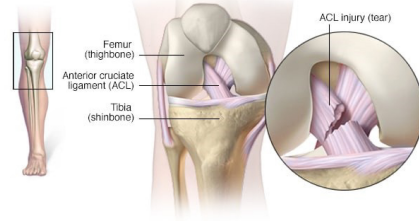
History of spondylolisthesis

- Has been asymptomatic for several years
- Currently no back pain or loss of motion
- No report of functional deficit related to the back



Torn ACL 10 years prior

- No surgical repair performed



Case Presentation

- A 32-year-old female presented to a Certified McKenzie Spine and Extremity Clinic with acute onset of variable posterolateral knee pain.
- Patient was an avid cyclist, riding both on the road with standard pedals and on a stationary bike with clips.
- Knee pain was intermittent and variable for the last year. There were times she could extend her knee without difficulty, while other times this would be painful; similar scenario was true of flexion as well.
- Range of motion of the knee was full with both flexion and extension; however, when the patient extended her knee with dorsiflexion she would lose her ability to flex the knee and when she would flex her knee with plantar flexion she would lose her ability to extend the knee.
- When the patient performed knee flexion with the ankle in maximum dorsiflexion an audible click was elicited from the knee and pain abolished and she was able to extend and flex her knee regardless of ankle position afterward.
- Maintenance of this reduction was limited due structural compromise and repetitive nature of cycling, the latter placing her in forceful extension with plantar flexion during the strong downstroke of her pedal stroke.

Directional Preference

Partially loaded knee flexion with ankle dorsiflexion.



Outcome

- Patient had full resolution of symptoms and returned to all previously limited activities and workouts without pain, limitation, or need for modification at discharge.
- Short and long-term improvement was noted as well, as patient remained pain-free for the last 2 years
- Pain did return intermittent after longer rides (more than 30 miles); however, symptoms always consistently improved after reductive maneuver of knee flexion with ankle dorsiflexion.

Clinical Significance

- This case reports show the efficacy and safety of MDT, when used in a systematic and methodical way, even in the presence of structural compromise.
- Had the ankle position not been considered when prescribing knee loading strategies, the patient likely would have remained classified as a structural compromised joint and therefore would not have found directional preference.
- Establishing proper classification was key to achieving resolution, as remaining solely in the structurally compromised category likely would have resulted in eventual suggestion of surgical repair
- In this instance, the structural compromise was not the cause of the pain but rather Derangement Syndrome was identified.
- Perhaps the structurally compromised tissue influences the 're-derangement' after longer bike rides.



The Co-Application of Mechanical Diagnosis and Therapy and Mobilization with Movement (MWM) in Acute Proximal Anterolateral Shin Pain: A Case Report

Lindsay Carlton ATC, DPT, Dip. MDT₁



Case Presentation

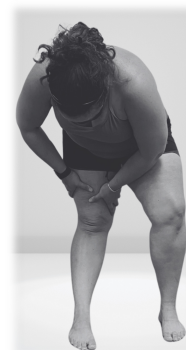
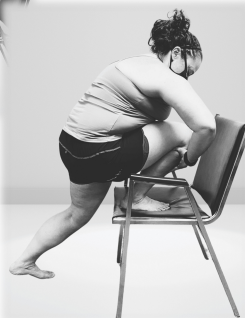
A 48-year-old female presented to a Certified McKenzie Spine and Extremity Clinic with acute onset of variable proximal anterolateral left shin pain occurring 1 month prior. She was an avid runner and noticed right hip pain 5 weeks prior and took a week off to rest. Her hip pain abolished but the first run back she developed left shin pain and had not been able to run since. Walking was pain-free but she did have pain rising from sitting to standing as well as with descending stairs and squatting. Patient had full knee extension but was lacking 12 degrees of flexion compared to her uninvolved side. Serious pathology and non-musculoskeletal conditions were ruled out and principles of MDT were employed.

Directional Preference

Patient did not respond to any repeated movements of the knee; however, upon applying tibial head with the other fibular head the MWM pain was reduced considerably. Tape was applied to the fibular head to mobilize anteriorly with tibial internal rotation; anchoring the tape to the posterior medial thigh. The patient was able to walk, descend stairs, rise from sitting, squat, and run without

pain when the tape was in place.

Attempted Loading Strategies



Partially Loaded Knee Flexion

Partially Loaded Knee Flexion with a Towel Roll

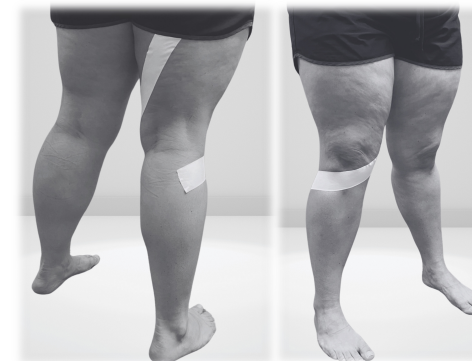
Partially Loaded Knee Flexion with Tibial Internal Rotation

Loaded Knee Extension

Outcome

the patient was able to run with-After 2 weeks of constant taping, out tape in place and without symptoms. Her range of motion was full and she reported no functional limitations. Patient had full resolution of symptoms and returned to all previously limited activities and workouts without pain, limitation, or need for modification at discharge. Long-term improvement was achieved, as patient remained pain-free for the last 12

Taping Technique



Clinical Significance

This case reports show the efficacy and safety of blending MDT with MWM, when used in a systematic and methodical way. When the patient first did not respond to repeated movements, rather than trying to reassess and reclassify her into a different subgroup, mobilization of the extra-articular joint was performed with rapid change in clinical presentation; thus, confirming Derangement Syndrome classification. Establishing proper classification was key to achieving full resolution in just 2 weeks, as other subgroups are estimated to have much longer time frames until resolution. This case also highlights that failure to respond to repeated movements should not exclude the Derangement Syndrome classification.



Directional Preference of the Extremity: A Preliminary Investigation

Joseph R. Maccio DPT, Dip. MDT₁, Lindsay Carlton ATC, DPT, Dip. MDT₁, Kimberly Levesque DPT₁, Joseph G. Maccio, MA, PT, Dip. MDT₁ Leanne Egan DPT₁
 1 Maccio Physical Therapy, Troy, NY, USA

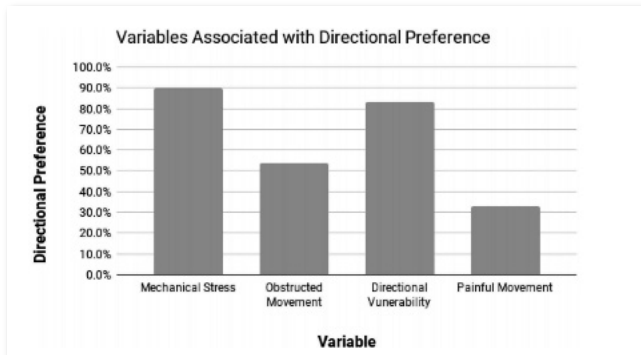


Abstract

Case Description: Thirty-seven consecutive patients with isolated peripheral pain were evaluated and classified using MDT assessment. Secondary analysis of predetermined variables was performed for association with directional preference and identification of spinal referral in Derangement syndrome.

Results: All 37 patients were classified using MDT assessment. Thirty-three (89.2%) were classified as Derangement syndrome: 17 as spinal Derangement (45.9%) and 16 as peripheral Derangement (43.2%). One peripheral derangement also had an underlying Articular Dysfunction. Additionally, there were four patients classified as Other (10.8%).

Discussion: Historical and physical examination findings were analyzed to determine if there were associated variables of directional preference or spinal referral. Mechanical stress was found to be the most associated factor in predicting directional preference. No peripheral movement loss, paresthesia, and constant pain were more associated with spinal referral. These findings may lead to a greater understanding of peripheral MDT assessment, which may lead to increased identification of directional preference and improved patient outcomes.



For further clinical description refer to:

Joseph R. Maccio, Lindsay Carlton, Kimberly Levesque, Joseph G. Maccio & Leanne Egan (2018) Directional preference of the extremity: a preliminary investigation, Journal of Manual & Manipulative Therapy, 26:5, 272-280, DOI: 10.1080/10669817.2018.1505022



Clinical Significance

87.9% had a patho-anatomic extremity diagnosis from a medical specialist.

45.9% of peripheral pain in condition resolved fully with spinal treatment.

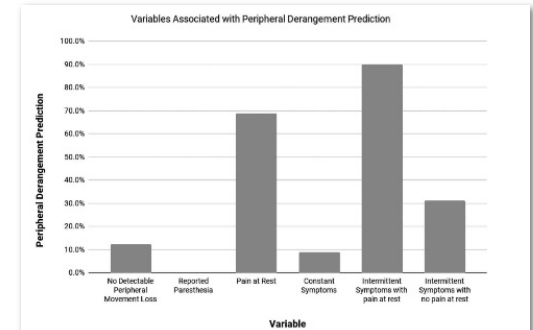
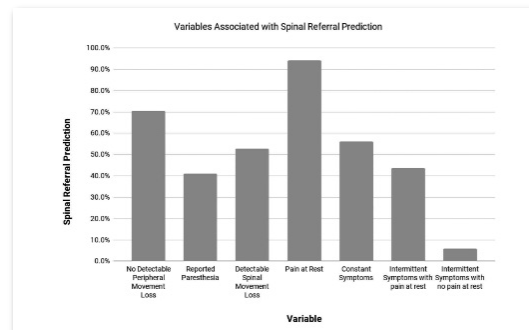
Orthopedic specialist were found to have the highest misdiagnosis rate of peripheral pain at **71%**

71.4% of upper extremity pain required thoracic procedures exclusively or conjointly with the cervical spine.

Spinal derangement was most often present with **constant pain (52.9%)**, **pain at rest (94.1%)**, **no detectable peripheral movement loss (70%)**, and **presence of paresthesia (0%** extremity derangement reported this symptom).

The most associated factor in finding directional preference of the extremity was the **inverse relationship of mechanical stress (90%)** and **directional vulnerability (83.3%)**.

SPINAL REFERRAL EXTREMITY REFERRAL



Linking The McKenzie Method of Mechanical Diagnosis and Therapy (MDT) Lumbar spine assessment form to The International Classification of Functioning, Disability and Health (ICF) Authors: Heiskanen Marika & Kilpikoski Sinikka

Introduction: The McKenzie Method of Mechanical Diagnosis and Therapy (MDT) is a biopsychosocial approach to treat patients with Low Back Pain (LBP). MDT educated clinician use standardized assessment form which includes clinical tests, screening tools, interviewing and observing for collecting health information. Low Back Pain (LBP) is a complex condition with multifactorial contributors including biopsychosocial, environmental, and personal factors. The International Classification of Functioning, Health and Disability (ICF) is The World Health Organization's (WHO) framework, biopsychosocial model. The ICF conceptualizes a person's level of functioning as a dynamic interaction between her or his health conditions, body structures and functions, activities, participation, environmental and personal factors. (Figure 1.) The ICF provides systematic and broad perspective for assessing a person's functioning. The ICF provides common definitions, standardizes the language and statistics in terms of concepts, categories and codes for functioning and disability as well as related environmental factors influencing them. Core Sets are tailored shortlists of ICF categories from the whole ICF classification for describing functioning and disability in specific health conditions. This is a pilot study to identify the scope of the MDT assessment for a patient with low back pain from a broad perspective of ability of functioning provided by ICF.

Method: MDT lumbar spine assessment form was linked to ICF by two researchers utilizing linking rules and linking decision tree provided Cieza et al. (2019) (Figure 2), and by comparing assessment form to LBP core set brief version. ICF core set was used like a checklist. This was a preliminary review using linking rules where appropriate. The MDT Lumbar Spine assessment form was reviewed for each question, and two researchers considered what the item was and whether it could be linked to the ICF model. Both researchers have a basic understanding of the ICF model and related training. The main concept was linked to the ICF model where possible. The qualifiers for defining severity or magnitude in different question options were not explored in this study. Questions that did not provide sufficient information on which ICF category the information belonged to were defined, e.g. general health was defined as (nd-gh) and if the concept concerned personal factors it was defined as pf.

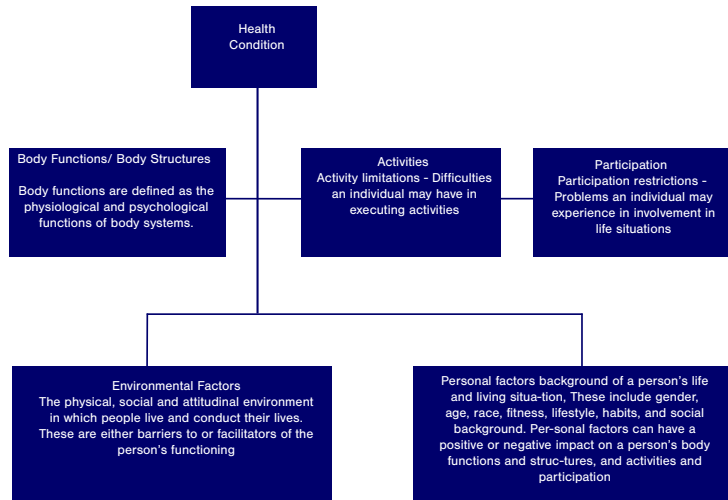


Figure 1. The Integrative Bio-psycho-social Model of Functioning, Disability and Health (ICF)

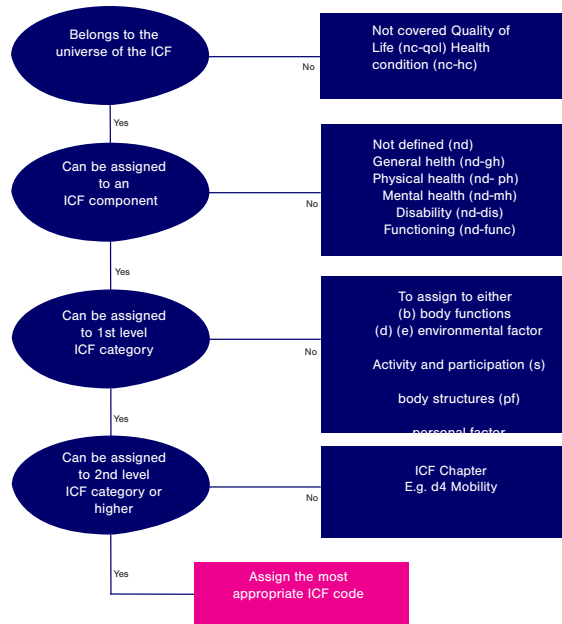


Figure 2. Linking tree. Adapted from Cieza et al 2019

Results: The MDT Lumbar spine assessment form includes all the components of the ICF. Body functions and Structures, Activity and Participation, Environmental and Personal factors. The MDT assessment form provides more information from the Body functions and activities chapters such as b2 Sensory functions and pain, b7 Neuromusculoskeletal and movement-related functions, b620 Urinary functions, d525 Defecation functions and Activity, d4 Mobility compared to the ICF Low Back Pain Core Set Brief version. However, motivation, mental function, participation, personal and environmental factors are all open to interpretation. The design and wording of the questions, the use of relevant screening tools and the clinician's own expertise may influence the inclusion or exclusion of factors related to the patient's ability of functioning. Table 1 shows the proposed mapping between the ICF Low Back Pain Core Set Brief version and the MDT Lumbar spine assessment form. Rectangular shapes represent factors that are directly covered by the Lumbar spine assessment form, and the oval shapes represent factors that the clinician needs to be able to address during the patient's assessment. Color coding is used to distinguish between different categories.

Conclusion: Although the MDT assessment form broadly covers the concept of the ICF, it still leaves much to the clinician's skill to address all the factors that affect the ability of functioning. What is the clinician's own perception of functioning? How well can the clinician listen actively, verbalise and ask clarifying questions, use appropriate screening tools to identify the patient's limitations, resources and barriers to functioning? Getting a good overview of the patient's current situation and all aspects of their functioning will help with decision making and may influence the outcome of rehabilitation.

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Table 1. Linking between ICF Low Back Pain Core Set Brief version and the MDT Lumbar assessment form.

Categories of the component 'body functions':	THE MCKENZIE INSTITUTE LUMBAR SPINE ASSESSMENT	
b130 Energy and drive functions	Date Name _____ Gender _____ pt Telo _____ Address _____	
b134 Sleep functions	AgeReferral: GP / Orth / Sell / Other e580 e3	
b152 Emotional functions	demands _____ d415 _____ d415 _____ d415 _____	
b280 Sensation of pain	Screening score _____	
b455 Exercise tolerance functions	worsening _____	
b710 Mobility of joint functions	Symptoms on onset: back / thigh / leg _____	
b715 Stability of joint functions	Intermittent symptoms: d41x b _____	
b730 Muscle power functions	Constant symptoms: d41x b _____	
b735 Muscle tone functions	General Health _____	
b740 Muscle endurance functions	Specific Questions Cough / _____	
Categories of the component 'body structures':	History _____	
s120 Spinal cord and related structures	Previous treatments _____	
s760 Structure of trunk	Medications: e110 Bladder / Bowel: normal / abnormal/ _____	
s770 Additional musculoskeletal structures related to movement	Comorbidities: _____	
Categories of the component 'activities and participation':	Expectations: _____	
d240 Handling stress and other psychological demands	Institute International 2020©	
d410 Changing basic body position	POSTURAL OBSERVATION	
d415 Maintaining a body position	EXAMINATION	
d430 Lifting and carrying objects	Sitting: lordotic / neutral / sphyotic _____	
d450 Walking	Standing: lordotic / neutral / sphyotic _____	
d530 Toileting	Other observations / functional baselines: _____	
d540 Dressing	NEUROLOGICAL	
d640 Doing housework	Reflexes _____	
d760 Family relationships	Sensory _____	
d845 Acquiring, keeping, and terminating a job	DYNAMIC MOVEMENT	
d850 Remunerative employment	TEST MOVEMENTS	
d859 Work and employment, other specified and unspecified	Describe effect on present pain: _____	
Categories of the component 'environmental factors':	Effect of ROM or key functional test	
e110 Products or substances for personal consumption	No effect	
e135 Products and technology for employment	Effect of ROM or key functional test	
e155 Design, construction and building products and technology of buildings for private use	No effect	
e310 Immediate family	Effect of ROM or key functional test	
e355 Health professionals	No effect	
e410 Individual attitudes of immediate family members	Effect of ROM or key functional test	
e450 Individual attitudes of health professionals	No effect	
e550 Legal services, systems and policies	Effect of ROM or key functional test	
e570 Social security services, systems and policies	No effect	
e580 Health services, systems and policies	Effect of ROM or key functional test	
<p>Legend:</p> <ul style="list-style-type: none"> Personal factors nd - gh not General health Factor directly covered by the MDT Lumbar spine assessment form Factor that clinician needs to be able to address See category color coding from the main ICF Low Back Pain Core Set Brief coding table above 		
<p>PRINCIPLES OF MANAGEMENT Education _____</p> <p>Exercise type _____</p> <p>Frequency _____</p> <p>Other exercises / interventions _____</p> <p>Management goals _____</p> <p>Signature _____</p>		

The McKenzie Method versus guideline-based advice in the treatment of sciatica: 24-months outcomes of a randomized clinical trial.

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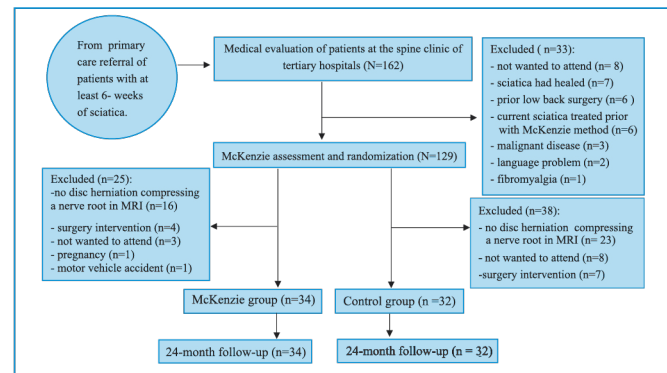
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1. INTRODUCTION

Lumbar disc herniation is the common cause of sciatica. Spontaneous regression of disc herniation occurs commonly as herniation loses its volume thus natural course is often favourable. Surgery is indicated in severe radicular pain with signs & symptoms when imaging demonstrates compression caused by lumbar disc herniation. Systematic reviews comparing surgery and usual conservative treatments of sciatica due to lumbar disc herniation favor surgery, because it results in faster pain relief, but no statistically significant differences in pain and disability after one year were found. The McKenzie Method of mechanical diagnosis and therapy (MDT) has shown to be a reliable and validated method for treating lumbar spinal pain. There were no studies available in patients with long lasting sciatic pain due to disc herniation compressing a nerve root with radicular pain, for which the MDT was the only therapy used to treat chronic sciatica patients aiming to avoid surgery and comparing outcomes with “natural course”.

2. METHODS

The aim was to evaluate effectiveness of the McKenzie Method intervention in comparison with a single session of guideline-based education alone (“natural course”). The study was a prospective multi-center, assessor-blinded, randomized, controlled trial performed from January 2018 to December 2021 at the spine clinics of the tertiary healthcare district hospitals of Central Finland and South Ostrobothnia. The primary outcome was measured by number of surgeries. Secondary outcomes were pain measured using Visual Analog Scale, disability using Oswestry Disability Index and health-related quality of life using RAND-36. Inclusion criteria were Finnish-speaking sciatica patients aged from 18 to 60 years with MRI -confirmed lumbar disc herniation with nerve root compression and radicular pain of a duration longer than six weeks. The trial flow and reasons for exclusion are shown in Figure 1.



3. RESULT

The groups were similar with respect to sociodemographic data (Table 1). Nine (27 %) patients of the McKenzie and ten (31%) of the Control groups had surgery (Figure 2). No revision surgeries were done during the 24-months follow-up. There were no significant between-group differences in pain and disability (Figure 3), and in quality of life. The additional treatments comparison that patients received independently during the intervention are seen in Figure 4.

4. DISCUSSION

Altogether 47 (71%) long lasting sciatic pain patients avoided surgery in the 24-month follow-up. The total surgery rate of 29% in this study is in the range from 5% to 54% of previous studies. Centralizers' surgery rate was 8% and non-centralizers' 21%, which results are in line with the earlier studies. Majority of the Control group received several types of additional therapies for their sciatica, not included in the study protocol, while only a minority in the McKenzie group used additional therapies during 24-months follow-up. Additional treatments may predispose outcomes to treatment bias. Majority of the patients in the McKenzie group learnt to self-manage their own sciatic disorder. Even patients who had surgery did the MDT exercises after surgery.

Table 1. Baseline comparison of sociodemographic and clinical characteristics of the sciatica patients assigned in the McKenzie and the Control groups (N=66).

	McKenzie N=34	Control N=32	P-value
Age, years mean, (SD)	43(10)	42(11)	0.93
Female n, (%)	16(47)	17(53)	0.62
Length, cm, mean (SD)	175(10)	172(12)	0.26
Weight, kg, mean (SD)	83(15.9)	81(19.2)	0.61
BMI, mean (SD)	27(4.6)	27(4.2)	0.95
Partnership, n (%)	23(68)	21(66)	0.86
Education years, mean (SD)	15(3.5)	14(3.0)	0.43
Smoking, yes n (%)	6(18)	10(31)	0.20
Working status:			0.50
Employed, n (%)	32(94)	28(88)	
Unemployed, n (%)	2(6)	3(9)	
Retired, n (%)	0(0)	1(3)	
Workability, VAS 0 fully able to work - 100mm: to fully unable to work, mean (SD)	63(34)	62(32)	0.91
Pain killers and muscle relaxants used in the last 3 months, n median (IQR)	18(3,30)	12(2,25)	0.39
Health care visits, in last 3 months before study entry, n median (IQR):			
Medical doctor visits n (SD)	4(3,5)	4(3,5)	0.43
Physiotherapists' visits n (SD)	3(2,5)	3(1,7)	0.59
Duration of low back disorder, years, median (IQR)	9 (1,18)	3 (0,10)	0.042
Duration of present symptoms, weeks, median (IQR)	12(2,24)	16(12,24)	0.96
Low back pain intensity, 0-100 mm, mean (SD)	44(32.0)	43(31.1)	0.95
Low leg pain intensity, 0-100 mm, mean (SD)	58(26.5)	58(24.3)	0.94
Oswestry disability index, ODI mean (SD)	(15.6) 35	(14.5) 0.93	29(85)
Motor weakness, n (%)	27(84)		0.92
Sensory disturbance, n (%)	24(71)	13(41)	0.114
Asymmetric decrease in reflexes, n (%)	17(50)	0.20	27(84)
Positive SLR (0-65 deg.), n (%)	28(82)	0.83	
McKenzie classifications:			0.34
Mechanically unresponsive radicular syndrome, n (%)	12(35)	15(47)	17(53)
Derangement syndrome, n (%)	22(65)	0.27	6(19)
Directional preferences, n (%)			
Extension in prone lying	3(9)		
Lateral side gliding in standing	4(12)	1(3)	
Rotation in flexion in supine	15(44)	10(31)	

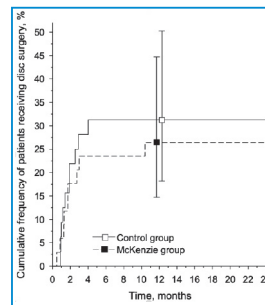


Figure 2. Cumulative surgery rates during 24-months follow-up (Kaplan-Meier estimate) of patients receiving disc surgery in the McKenzie and Control groups. Whiskers representing 95% CI.

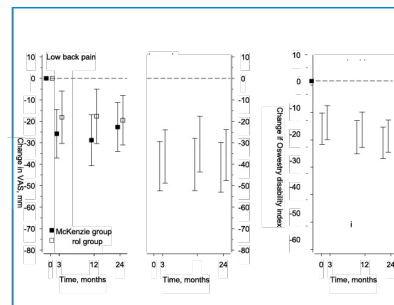


Figure 3. Changes in low back and leg pain intensities measured by using the visual analogue pain scale (VAS, 0-100mm) and in the Oswestry disability index (ODI), during the 24-months follow-up in patients with sciatica. Whiskers representing 95% CI.

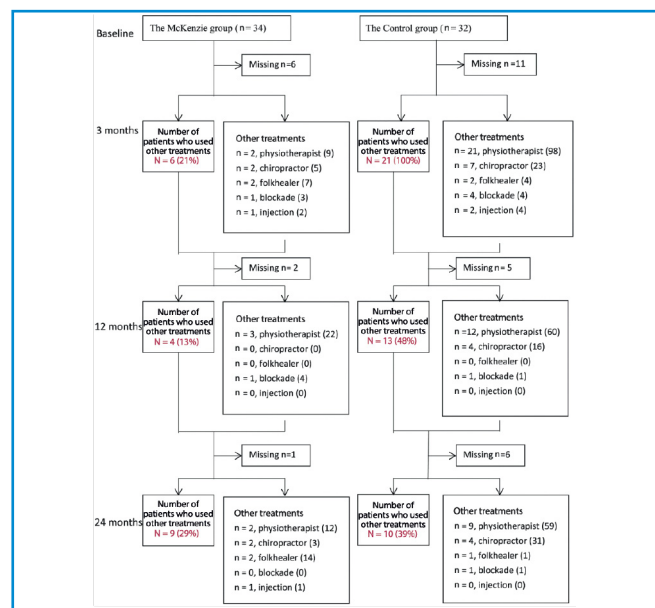


Figure 4. The numbers of additional treatments not included in the study protocol up to 24-month follow-up.

5. CONCLUSION

Most patients with prolonged sciatica sent to tertiary hospital for further investigations avoided surgery. The McKenzie therapy and the guideline-based advice groups showed similar surgery rates and clinically significant improvements in pain and disability at follow-up. The guideline-based advice group explored more additional therapies than the McKenzie group.

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Comparison of Magnetic Resonance Imaging Findings Among Sciatica Patients Classified as Centralizers or Non-Centralizers.

Kilpikoski Sinikka¹, Suominen Eetu N², Repo Jussi P³, Häkkinen Arja H⁴, Kyrölä Kati S, Kautiainen Hannu⁶, Ylinen Jari

INTRODUCTION

Magnetic resonance imaging (MRI) is considered the standard investigation method among sciatica patients who are candidates for disc surgery due to suspected lumbar disc herniation, with unresolved symptoms after six to eight weeks with conservative treatment.¹⁻⁴ Both imaging and clinical signs & symptoms define the final decision for surgery in sciatica patients with radiculopathy.¹⁻⁴ The McKenzie Method of mechanical diagnosis and therapy (MDT) classifies the spinal patients' signs & symptoms by pain behavior into validated syndromes.⁵⁻⁶ In the derangement syndrome, the leg pain centralizes with specific "directional preference" loading. The phenomenon has shown to predict good non-surgical treatment outcomes.^{5,7-11} Patients, who are unable to be classified into the McKenzie syndromes, are determined in a group OTHER. These patients' pain does not centralize. These non-centralizers have been shown to have significantly worse pain, disability and psychosocial outcomes compared to the centralizers in the short and long-terms.^{8,9,11}, and have been shown to have higher likelihood of undergoing disc surgery compared to the centralizers.¹¹

The aim of this study was to compare if discogenic and other degenerative findings on MRI differ between patients classified as centralizers (CEN) and non-centralizers (Non-CEN) according to the McKenzie Method of mechanical diagnosis and therapy.

METHODS

This cross-sectional study was performed at the spine clinic of the tertiary health-care district hospitals of Central Finland, Jyväskylä, Finland. Patients' demographics were obtained at the time of clinical assessment from January 2018 to December 2019. The data was collected at the study entry of a randomized controlled trial (ID: NCT03572452).

Inclusion criteria were patients, aged 18 to 60 years, whose symptoms radiated bi- or unilaterally to a lower limb with neurological signs & symptoms lasting at least six weeks.

Exclusion criteria were inability to understand the Finnish language used in questionnaires, previous low back surgery, fibromyalgia, pregnancy, and unwillingness to undergo surgery, and had already had treatment intervention for the current back disorder using the McKenzie Method. Furthermore, symptoms indicating cauda equina syndrome or other red flag signs & symptoms. While waiting for the imaging patients underwent a clinical McKenzie-based assessment performed by one of the two MDT physiotherapists.

Evaluation of magnetic resonance images

Magnetic resonance images were acquired using a Siemens Magneto Symphony Quantum 1.5 T scanner (Siemens AG, Medical Solutions, Erlangen, Germany). Images were acquired with patients lying supine with knees slightly bent, maintained with a cushion.

Images were analyzed first by radiologists as a normal standard practice. For the purpose of this study the location of stenosis due to herniated discs was systematically assessed by a physiatrist (JY) with extensive experience in clinical practice and reading MRIs, and secondly by an orthopedic surgeon (JR), who was specifically trained to classify degenerative changes on MRI, and was familiar with reading MR images of the spine.

Multiple MRI characteristics of the degenerated findings were scored from spinal levels L1 to S1, using both increased signal on T2-weighted/fluid-sensitive sequences and decreased signal on T1-weighted images.

RESULTS

Sociodemographic and clinical findings

One hundred (N=100) patients met the inclusion criteria, of which fifty-one were determined into the CEN, and forty-nine into the Non-CEN groups. None out of the sociodemographic characteristics differed between the groups. However, patients in the Non-CEN group were significantly more painful and were more disabled seen in Table 1.

Table 1. Comparison of sociodemographic and clinical findings of the sciatica patients classified by using the McKenzie Method (N=100).

	CEN (n=51)	Non-CEN (n=49)	P-value
Age, years, mean, (SD)	45(10)	43(12)	0.36
Gender, number of female, n (%)	28(55)	25(51)	0.70
Body-mass index, mean (SD)	28.0(5.1)	27.2(4.2)	0.37
Height, cm, mean (SD)	172(10)	172(12)	0.89
Weight, kg, mean (SD)	83(17)	81(18)	0.51
Smoking, n (%)	18(35)	12(25)	0.27
Duration of spinal disorder, years, median (IQR)	16 (12,24)	20(12,28)	0.32
Duration of present symptoms, weeks, median (IQR)	52(22)	62(27)	0.059
Current leg pain intensity, (0-100) mean (SD)	41(25)	56(30)	0.008
Current low back pain intensity, (0-100) mean (SD)	31(11)	44(15)	<0.001
Current Disability, (Dswestry-index) mean (SD)	45(88)	43(88)	0.94
Present motor weakness, n (%)	28(55)	31(63)	0.39
Present sensory disturbance, n (%)	18(35)	20(42)	0.51
Present asymmetric decrease in reflexes, n (%)	33(65)	36(73)	0.34

Abbreviations: CEN = centralizers, Non-CEN = non-centralizers

MRI findings

The prevalences and differences of the MRI findings of the CEN an Non-CEN groups are seen in Tables 2, 3 and 4.

Table 2. Comparison of disc degeneration and stenosis on MRI between patients classified using the McKenzie method.

	CEN (n=51)	Non-CEN (n=49)	p-value
Bulging discs, n (%)	4(8)	2(4)	0.68
Protrusions, n (%)	22(43)	28(57)	0.16
Extrusions, n (%)	38(75)	28(57)	0.067
Nerve root stenosis, n (%)	32(63)	25(51)	0.24
L2	1(2)	-	0.99
L5 (right or left or bilaterally)	19(37)	12(25)	0.17
S1 (right or left or bilaterally)	11(22)	11(23)	0.92
L3+L5 bilaterally	1(2)	1(2)	0.99
L5+S1 bilaterally	-	1(2)	0.49
Foraminal stenosis, n (%)	2(6)	24(49)	0.50
Lateral recess stenosis, n (%)	30(59)	1(2)	0.32
Central stenosis Disc degeneration degrees, mean (SD)*	4(8)	2(4)	0.68
	12.8(3.5)	10.6(3.8)	0.003

*Pfirrmann disc degeneration degree (1 = normal to 5 = extreme degeneration).

Table 3. Comparison of Modic changes, total end-plate damage scores in lumbar vertebrae on MRI between sciatica patients classified by using the McKenzie Method.

	CEN (n=51)	Non-CEN (n=49)	p-value
Modic changes, n (%)	32(63)	21(43)	0.046
Modic 1	10	10	
Modic 2-3	22	11	
Total end-plate damage scores (TEPS), mean, (SD)	12.0, (3.5)	10.1(3.8)	0.012
Spondylolysis, n (%)	50(98)	42(86)	0.029
Spondylolysis, n (%)	3(6)	0(0)	0.24
Spondylolisthesis, n (%)	5(10)	4(8)	0.97

Abbreviations: CEN = centralizers, Non-CEN = non-centralizers

Disc degeneration degree, n (%)	Total end-plate damage score, n (%)	
	CEN (n=51)	Non-CEN (n=49)
L1-2 1,25(49)	0(0)	38(78)
2-3	23(45)	10(20)
1(2) 2-3 1(1) 3(6)	0.005	1(2)
2(4) 2-3 4-5 23(47) 3(6)	0.052	1(2)
2-3	29(57)	38(78)
4(8)	17(35)	10(20)
	1(2)	1(2)
L3-L4		
13(25)	1-2	35(69)
35(69)	3-4	15(29)
3(6)	5-6	1(2)
L4-L5		
2(4) 2-3 22(43) 4-5 27(53) 30(60)	1-2	16(31)
8(16)	3-4	31(61)
	5-6	14(29)
		4(8)
		2(4)
		12(24)
		32(63)
		7(14)
		24(49)
		20(41)
		5(10)

Abbreviations: CEN = centralizers, Non-CEN = non-centralizers

DISCUSSION

Magnetic resonance imaging can identify many morphological identities, which have all been shown to be common in asymptomatic populations.^{12,13} However, some of these findings are more common in adults with low back pain than in asymptomatic controls.^{14,15} Although the Non-CEN had significantly more severe back pain, and were more disabled compared to the CEN in this present study, the CEN group patients' had significantly higher disc degeneration scores (Pfirrmann's), end-plate damage, and more spondyloses seen via MRI than those in the Non-CEN.

CONCLUSION

The present study is one of the first to use MRI to investigate extensively differences in spinal disc features and other degenerative changes between sciatica patients classified as centralizers and non-centralizers. The CEN had significantly more severe degenerative findings on MRI than the Non-CEN. Thus the result suggests that sciatica patients classified as non-centralizers by using the McKenzie method does not indicate higher incident of discogenic or other degenerative findings on MRI compared to centralizers.

CLINICAL MESSAGE: Clinical evaluation with the McKenzie Method correlates poorly with pathoanatomical degenerative changes. Thus, imaging with MRI is important to make a diagnosis of sciatica, and to define the final decision for surgery, if symptoms do not centralize or remain centralized only temporarily.

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Kaikkiin koulutuksiin ilmoittautumaan pääset

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Tietotaitojen päivityksiin voit osallistua, vaikka et olisi tehnytäkään cred.ex. tutkintoa!

Erikseen sovittavana päivitystapana ollut käännöstehtävä jää pois tekoälyn kääntäessä nykyään tekstejä sujuvasti, ja tilalla on kansainvälisestikin arvostettu case study -tyyppinen kuvaus toteutuneesta MDT-menetelmän käytöstä. Tarkemmat ohjeet Sinikka Kilpikoskelta ja myöhemmin vielä tarkentuen MII:ltä laajaan case study tutkimukseen liittyen.

LINKKI HANS VAN HELVOIRTIN VIDEOON TULEVASTA MDT MANAGEMENT OF RADICULAR SYNDROME -KOULUTUKSESTA

Video on tallenne Zoomissa pidetystä ”Cliffhangeristä” 😊

https://us06web.zoom.us/rec/share/entw_N57MtmXps_f3HkQ5lMwre6Sp1Pt_4POGSlf1HUxq4d45

[jwsEtYTwZGs6V_7.PHwyD0jR6PP9gYs_?startTime=1730551602000](https://us06web.zoom.us/rec/share/entw_N57MtmXps_f3HkQ5lMwre6Sp1Pt_4POGSlf1HUxq4d45_jwsEtYTwZGs6V_7.PHwyD0jR6PP9gYs_?startTime=1730551602000)

Passcode: %8mvJD9+

Some-ohjeet MDT-terapeuteille:

Mitä?

Aloitan päivittelemään Suomen McKenzie Instituutin sosiaaliseen mediaan (instagram, Tiktok) ajankohtaisia päivityksiä koulutuksista, tapahtumista, tutkimustiedosta ja ihan vaikka toimipisteiltänne kuvien tai videoiden muodossa.

Jotta sometili ja menetelmä saisi näkyvyyttä, olisi päivitysten hyvä olla säännöllisiä, esim. kerran viikossa. Tämän vuoksi materiaalia voi lähettää myös paljon etukäteen, jolloin päivitykset voin tehdä valmiiksi kerralla ja julkaista ne sopivalla ajankohdalla. Koulutusmainonnasta ja siihen liittyvien päivitysten ajankohdasta voitaisiin sopia myös erikseen, jotta mainostus tulisi mahdollisimman hyvään ajankohtaan tavoittaen siitä kiinnostuneet. Itse en pääse kaikkiin tapahtumiin aina paikalle, joten ohessa tulee muutamia ohjeita siitä, millaista kuva- tai videomateriaalin olisi hyvä olla sekä miten ne kannattaa minulle lähettää.

Ohjeet:

- 1. Kuvien/videoiden pituus ja määrä:** Ota mieluummin enemmän kuvia ja videoita, kuin liian vähän! Jos otat videoita, niin ota myös riittävän pitkiä, jotta niitä voi sitten leikata ja muokata. Mitä enemmän materiaalia esim. videoina, sitä helpompi on tehdä päivitys. Useampaa kuvaa ja videota voi siis käyttää yhteen päivitykseen.
- 2. Kuvakulmat:** Kun otat kuvia tai videoita, voit ottaa niitä myös eri kuvakulmista. Pyri siihen, että kuvat ovat mahdollisimman selkeitä ja videot kuvattu mahdollisimman vakaalla kädellä, ts. niin että kamera ei heiluisi liikaa. Nämä kaikki vaikuttavat somepäivitysten laatuun.
- 3. Kuva/videoteksti:** Kun lähetät materiaalia minulle, kirjoita viestillä mitä haluat päivityksessä lukevan. Teksti voi näkyä esimerkiksi päivityksen alla tekstinä, tai itse videossa/kuvassa tekstinä. Tutkimuksiin liittyvissä päivityksissä olisi hyvä avata tutkimusta hieman ja tuoda tärkeitä nostoja siitä esiin.
- 4. Materiaalin lähettäminen:** Kun lähetät materiaalia, muista lähettää se hyvällä kuvalaadulla. Alla on ohjeet, kuinka kuvat ja videot voi lähettää WhatsAppissa HD-laadulla. Jos Whatsappin käytössä tulee ongelmia, voidaan luoda myös erikseen Dropbox-kansio materiaaleille.

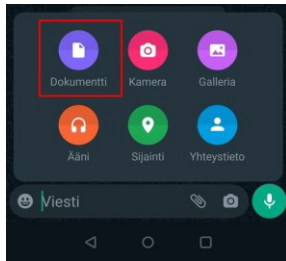
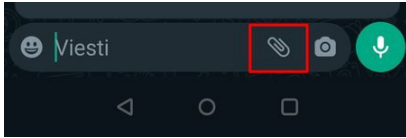
Minut löytää WhatsAppista numerolla 0404154500.

Jos teillä on ideoita tai kysymyksiä somepäivityksiin liittyen, soita/laita viestiä tai sähköpostia:

katjaana.kanninen@gmail.com □

Näin lähetät kuvan alkuperäisellä laadulla WhatsAppissa

1. Siirry keskusteluun
2. Valitse dokumentin lähetyks:



3. Valitse kuva tai video
4. Lähetä

Näin lähetät videoita HD-laadulla WhatsAppissa

1. Valitse **video**, jonka haluat lähettää kaverille.
2. Ennen lähettämistä, klikkaa yläreunassa näkyvää HD-kuvaketta.
3. Valitse HD-laatu.
4. Lähetä **video**

