

Epaule et EBP

Syndrome douloureux sous acromial : *Des séries de cas aux... séries de cas*



L. Jean Luc Nephtali
Paris

Evidence-based practice (EBP): Pratique fondée sur les preuves

' ... utiliser de manière rigoureuse, explicite et judicieuse les preuves actuelles les plus pertinentes lors de la prise de décisions concernant les soins à prodiguer à chaque patient.'

Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS. Evidence based medicine : what it is and what it isn't. British Medical Journal, 1996 ;312:71-2

Evidence-based practice (EBP): Pratique fondée sur les preuves

L'EBP combine

- Les preuves (les données de la recherche clinique)
- Les connaissances et l'expertise pratique du thérapeute (l'expérience clinique)
- Les choix du patient (ses préférences, ses croyances, ses objectifs, ...)



Sackett, D. L., Straus, S. E., Richardson, W. S., Rosenberg, W., & Haynes, R. B. (2000). Evidence based medicine: How to practice and teach EBM (2nd ed.). London: Churchill Livingstone

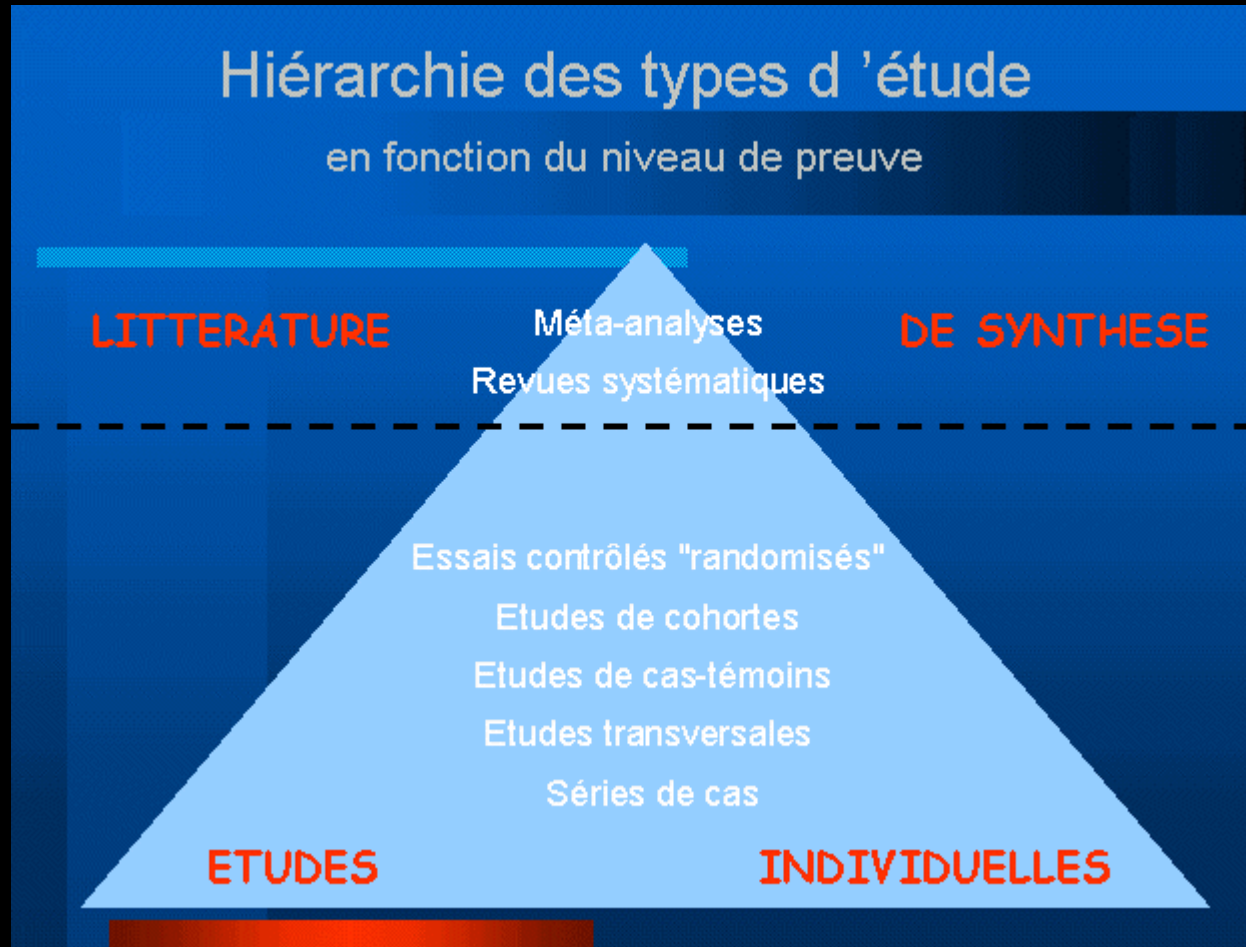
EBP - Niveaux de preuves

classification du CEBM, Oxford, UK

I	Evidence obtained from high-quality diagnostic studies, prospective studies, or randomized controlled trials
II	Evidence obtained from lesser-quality diagnostic studies, prospective studies, or randomized controlled trials (eg, weaker diagnostic criteria and reference standards, improper randomization, no blinding, less than 80% follow-up)
III	Case-controlled studies or retrospective studies
IV	Case series
V	Expert opinion

<http://www.cebm.net>

EBP - Niveaux de preuves

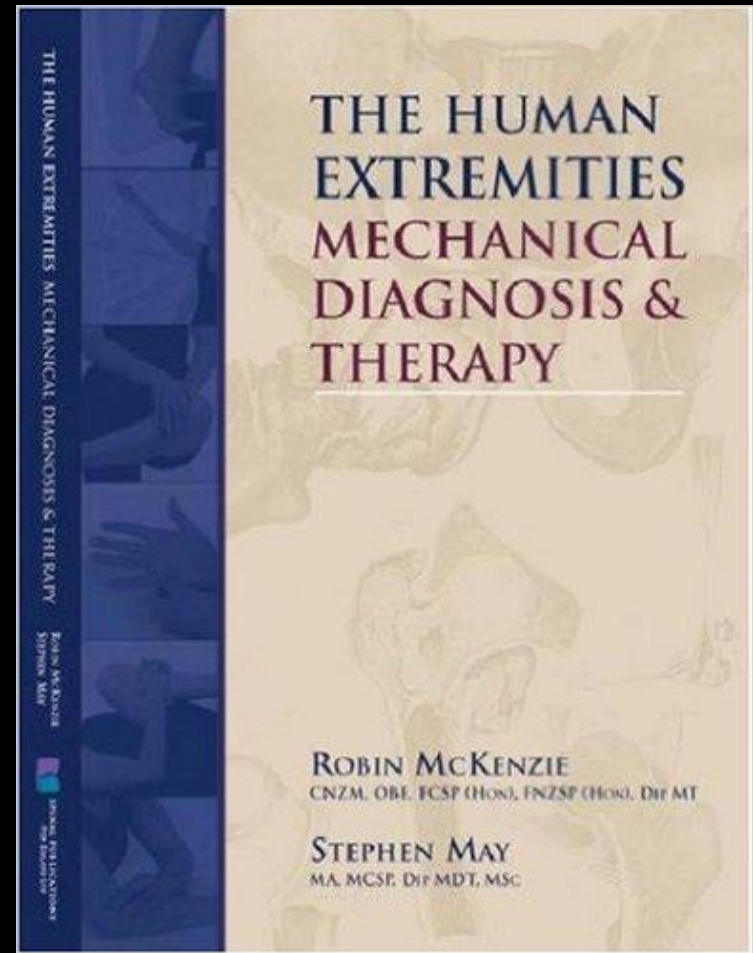


MDT : Séries de cas

- Kidd J. Treatment of shoulder pain utilizing mechanical diagnosis and therapy principles. *Journal of Manual & Manipulative Therapy*. 2013 Aug;21(3):168–73.
- Aytona MC, Dudley K. Rapid resolution of chronic shoulder pain classified as derangement using the McKenzie method: a case series. *Journal of Manual & Manipulative Therapy*. 2013 Nov;21(4):207–12.
- Aina A, May S. Aina et May - 2005 - A shoulder derangement. *Manual Therapy*. 2005 May;10(2):159–63
- Menon A, May S. Shoulder pain: Differential diagnosis with mechanical diagnosis and therapy extremity assessment – A case report. *Manual Therapy*. 2013 Aug;18(4):354–7.
- Littlewood C. Contractile dysfunction of the shoulder (rotator cuff tendinopathy): an overview. *Journal of Manual & Manipulative Therapy*. 2012 Nov;20(4):209–13.
- Littlewood C, May S. A contractile dysfunction of the shoulder. *Manual Therapy*. 2007 Feb;12(1):80–3.

MDT : Epaule

- Syndrome de dérangement
 - Augmentation des symptômes dans une direction du mouvement
 - diminution dans une autre
- Dysfonction contractile
 - Douleur reproduite à la contraction résistée
 - Peu ou pas de perte de mouvement



MDT : Séries de cas syndrome de dérangement



Available online at www.sciencedirect.com



Manual Therapy 10 (2005) 159–163

**MANUAL
THERAPY**

www.elsevier.com/locate/math

Case report

A shoulder derangement

Alessandro Aina^a, Stephen May^{b,*}

Aina A, May S. A shoulder derangement. Manual Therapy. 2005 May;10(2):159–63.

Kidd J. Treatment of shoulder pain utilizing mechanical diagnosis and therapy principles. Journal of Manual & Manipulative Therapy. 2013 Aug;21(3):168–73.

Aytona MC, Dudley K. Rapid resolution of chronic shoulder pain classified as derangement using the McKenzie method: a case series. Journal of Manual & Manipulative Therapy. 2013 Nov;21(4):207–12

MDT : Séries de cas

syndrome de dérangement

Case Report

Treatment of shoulder pain utilizing mechanical diagnosis and therapy principles

Joshua Kidd

Kidd J. Treatment of shoulder pain utilizing mechanical diagnosis and therapy principles. Journal of Manual & Manipulative Therapy. 2013 Aug;21(3):168–73.

Aina A, May S. A shoulder derangement. Manual Therapy. 2005 May;10(2):159–63.

Aytona MC, Dudley K. Rapid resolution of chronic shoulder pain classified as derangement using the McKenzie method: a case series. Journal of Manual & Manipulative Therapy. 2013 Nov;21(4):207–12

MDT : Séries de cas

syndrome de dérangement

Case Report

Rapid resolution of chronic shoulder pain
classified as derangement using the McKenzie
method: a case series

Maria Corazon Aytona¹, Karlene Dudley²

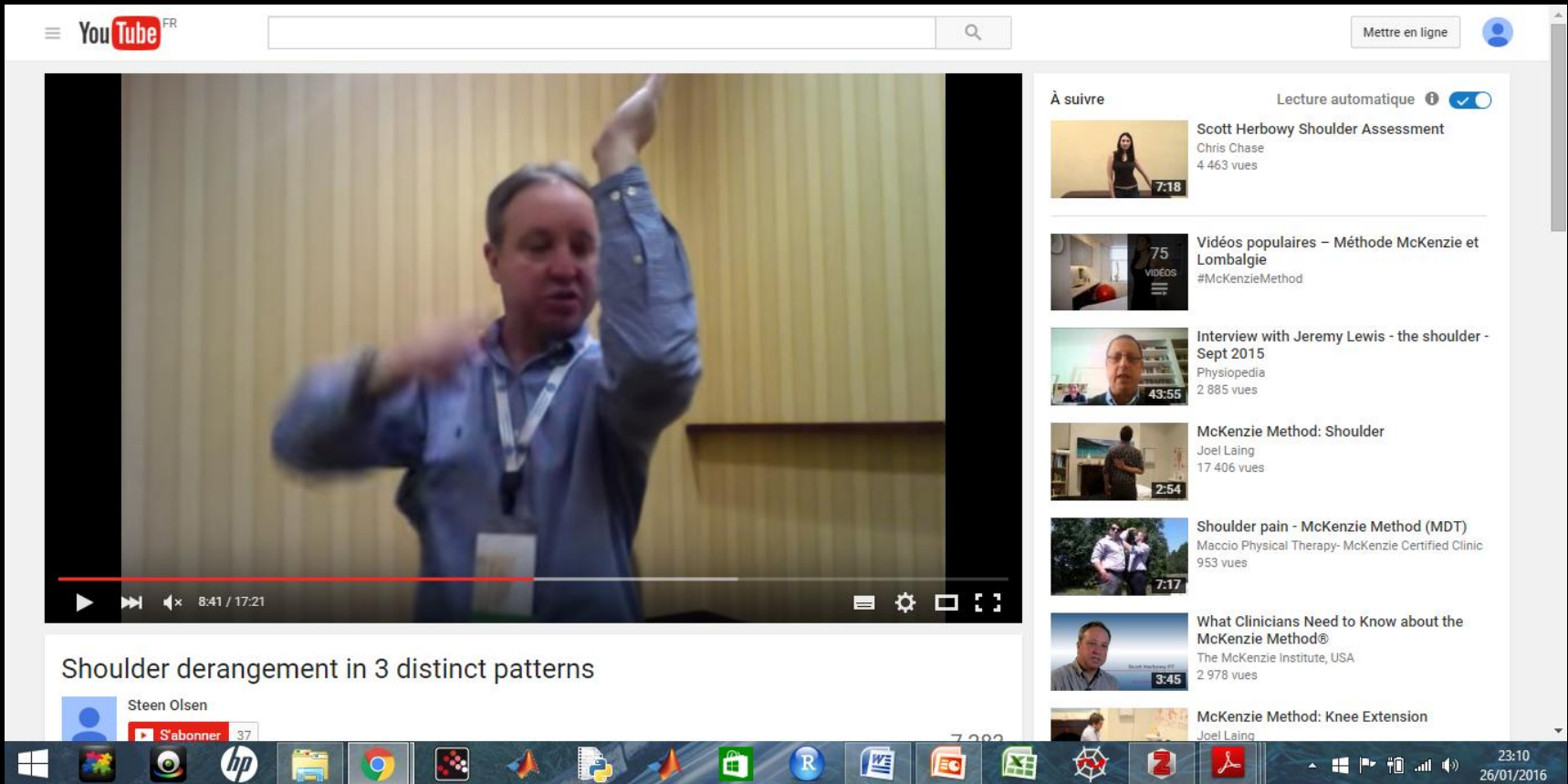
4 cas cliniques

Kidd J. Treatment of shoulder pain utilizing mechanical diagnosis and therapy principles. Journal of Manual & Manipulative Therapy. 2013 Aug;21(3):168–73.

Aina A, May S. A shoulder derangement. Manual Therapy. 2005 May;10(2):159–63.

Aytona MC, Dudley K. Rapid resolution of chronic shoulder pain classified as derangement using the McKenzie method: a case series. Journal of Manual & Manipulative Therapy. 2013 Nov;21(4):207–12

Vidéo : trois schémas de dérangement de l'épaule



The screenshot shows a YouTube video player with the video titled "Shoulder derangement in 3 distinct patterns" by Steen Olsen. The video is currently at 8:41 / 17:21. The man in the video is wearing a blue shirt and a lanyard, and is demonstrating shoulder movements with his right arm raised and his left hand pointing towards the camera. The video player interface includes a search bar, a "Mettre en ligne" button, and a "Lecture automatique" toggle. The right sidebar shows a list of recommended videos, including "Scott Herbowy Shoulder Assessment", "Vidéos populaires - Méthode McKenzie et Lomalgie", "Interview with Jeremy Lewis - the shoulder - Sept 2015", "McKenzie Method: Shoulder", "Shoulder pain - McKenzie Method (MDT)", "What Clinicians Need to Know about the McKenzie Method®", and "McKenzie Method: Knee Extension". The Windows taskbar at the bottom shows various application icons and the system clock indicating 23:10 on 26/01/2016.

YouTube FR

Mettre en ligne

À suivre

Lecture automatique

Scott Herbowy Shoulder Assessment
Chris Chase
4 463 vues

75 Vidéos
#McKenzieMethod

Interview with Jeremy Lewis - the shoulder - Sept 2015
Physiopedia
2 885 vues

McKenzie Method: Shoulder
Joel Laing
17 406 vues

Shoulder pain - McKenzie Method (MDT)
Maccio Physical Therapy- McKenzie Certified Clinic
953 vues

What Clinicians Need to Know about the McKenzie Method®
The McKenzie Institute, USA
2 978 vues

McKenzie Method: Knee Extension
Joel Laing

Shoulder derangement in 3 distinct patterns

Steen Olsen

S'abonner 37

Windows taskbar icons: File Explorer, Google Chrome, HP, etc.

System clock: 23:10 26/01/2016

https://www.youtube.com/watch?v=Ecga_FHd754

MDT : Séries de cas

diagnostic différentiel – origine cervicale

Manual Therapy 18 (2013) 354–357



ELSEVIER

Contents lists available at SciVerse ScienceDirect

Manual Therapy

journal homepage: www.elsevier.com/math



Case report

Shoulder pain: Differential diagnosis with mechanical diagnosis and therapy extremity assessment – A case report

A. Menon^a, S. May^{b,*}



Menon A, May S. Shoulder pain: Differential diagnosis with mechanical diagnosis and therapy extremity assessment – A case report. *Manual Therapy*. 2013 Aug;18(4):354–7.

MDT : Séries de cas dysfonction contractile



Available online at www.sciencedirect.com



Manual Therapy 12 (2007) 80–83



www.elsevier.com/locate/math

Case report

A contractile dysfunction of the shoulder

Chris Littlewood^{a,*}, Stephen May^b

Narrative Review

Contractile dysfunction of the shoulder
(rotator cuff tendinopathy): an overview

Chris Littlewood

School of Health and Related Research, University of Sheffield, UK

Littlewood C, May S. A contractile dysfunction of the shoulder. *Manual Therapy*. 2007 Feb;12(1):80–3

Littlewood C. Contractile dysfunction of the shoulder (rotator cuff tendinopathy): an overview. *Journal of Manual & Manipulative Therapy*. 2012 Nov;20(4):209–13

Epaule et EBP : quelles sont les
« preuves » ?

Conflit sous acromial et tendinopathies de la coiffe des rotateurs

- Ensemble de symptômes (douleurs, faiblesse musculaire, fonction, ...) associés à une dysfonction de la coiffe plutôt qu'abrasion mécanique (*impingement*) sous la voute acromiale (Lewis, 2011)
- Pathologie structurelle possible sans symptôme
- Suggestion : **syndrome douloureux sous acromial** (cf Michener , JFK 2015)
- Causes (Seitz, 2011) :
 - Mécanismes extrinsèques (anatomie, biomécanique , posture, musculaire...)
 - Mécanismes intrinsèques (âge, vascularisation, propriétés mécaniques, biologie, morphologie...)
 - ... ou les deux

Fonction de la coiffe

- Production de couples de rotation
 - Sub scapulaire
 - Infra, supra, petit rond
- Stabilité articulaire par égale contribution (Sharkey, 1994)
à la compression TH/glène (Lippitt, 1993)
- Recrutement « direction spécifique » (Boettcher, 2010; Wattanaprakornkul, 2011)
- Rôle de la musculature axio scapulaire (Kibler, 1998)
- Diminution excitabilité cortico spinale en présence de symptômes (chronicité) (Ngomo, 2015)

Diagnostic – examen clinique

- Hermans J, Luime JJ, Meuffels DE, Reijman M, Simel DL, Bierma-Zeinstra SMA. Does This Patient With Shoulder Pain Have Rotator Cuff Disease?: The Rational Clinical Examination Systematic Review. JAMA. 2013 Aug 28;310(8):837.
- Hegedus EJ, Goode AP, Cook CE, Michener L, Myer CA, Myer DM, et al. Which physical examination tests provide clinicians with the most value when examining the shoulder? Update of a systematic review with meta-analysis of individual tests. Br J Sports Med. 2012 Nov 1;46(14):964–78.
- Hegedus EJ, Cook C, Lewis J, Wright A, Park J-Y. Combining orthopedic special tests to improve diagnosis of shoulder pathology. Phys Ther Sport. 2015 May;16(2):87–92.
- Hegedus EJ, Goode A, Campbell S, Morin A, Tamaddoni M, Moorman CT, et al. Physical examination tests of the shoulder: a systematic review with meta-analysis of individual tests. Br J Sports Med. 2008 Feb 1;42(2):80–92.

Diagnostic – examen clinique

- Exclure autres pathologies : radiculaires, arthrose, instabilité, capsulite...
- Un seul test précis d'atteinte de la coiffe : l'arc douloureux entre 60 et 120° d'ABD (Hermans, 2013)
- Faiblesse et douleur en rotation externe résistée (Hermans, 2013)

Diagnostic – examen clinique

Clinical Review & Education

The Rational Clinical Examination

Does This Patient With Shoulder Pain
Have Rotator Cuff Disease?

The Rational Clinical Examination Systematic Review

Job Hermans, MD, MSc; Jolanda J. Luime, PhD; Duncan E. Meuffels, MD, PhD; Max Reijman, PhD;
David L. Simel, MD, MHS; Sita M. A. Bierma-Zeinstra, PhD

Hermans J, Luime JJ, Meuffels DE, Reijman M, Simel DL, Bierma-Zeinstra SMA. Does This Patient With Shoulder Pain Have Rotator Cuff Disease?: The Rational Clinical Examination Systematic Review. JAMA. 2013 Aug 28;310(8):837

Diagnostic – examen clinique

Finding	Rotator Cuff Condition	Studies, No.	% (95% CI)		LR (95% CI)	
			Sensitivity	Specificity	Positive	Negative
Pain provocation tests						
Painful arc ⁴⁵	Disease	1	71 (60-83)	81 (68-93)	3.7 (1.9-7.0)	0.36 (0.23-0.54)
Cross-body adduction ⁴⁵	Disease	1	75 (64-85)	61 (46-76)	1.9 (1.3-2.9)	0.42 (0.26-0.68)
Hawkins ^{44,45,48}	Disease	3 ^b	76 (56-89)	48 (23-74)	1.5 (1.1-2.0) ^c	0.51 (0.39-0.66) ^d
Neer ^{45,48}	Disease	2 ^a	64-68	30-61	0.98-1.6	0.60-1.1
Yocum ⁴⁸	Disease	1	79 (61-97)	40 (10-70)	1.3 (0.75-2.3)	0.53 (0.17-1.7)
Passive abduction ⁴⁸	Disease	1	74 (54-93)	10 (0-29)	0.82 (0.58-1.1)	2.6 (0.35-20)

$$RV(+)=\frac{p(\text{positif} / \text{malade})}{p(\text{positif} / \text{non-malade})} = \frac{Se}{1-Sp}$$

$$RV(-)=\frac{p(\text{négatif} / \text{malade})}{p(\text{négatif} / \text{non-malade})} = \frac{1-Se}{Sp}$$

Hermans J, Luime JJ, Meuffels DE, Reijman M, Simel DL, Bierma-Zeinstra SMA. Does This Patient With Shoulder Pain Have Rotator Cuff Disease?: The Rational Clinical Examination Systematic Review. JAMA. 2013 Aug 28;310(8):837

Diagnostic – examen clinique

Finding	Rotator Cuff Condition	Studies, No.	% (95% CI)		LR (95% CI)	
			Sensitivity	Specificity	Positive	Negative
Pain provocation tests						
Painful arc ⁴⁵	Disease	1	77 (60-83)	81 (68-93)	3.7 (1.9-7.0)	0.36 (0.23-0.54)
Cross-body adduction ⁴⁵	Disease	1	75 (64-85)	61 (46-76)	1.9 (1.3-2.9)	0.42 (0.26-0.68)
Hawkins ^{44,45,48}	Disease	3 ^b	76 (56-89)	48 (23-74)	1.5 (1.1-2.0) ^c	0.51 (0.39-0.66) ^d
Neer ^{45,48}	Disease	2 ^e	64-68	30-61	0.98-1.6	0.60-1.1
Yocum ⁴⁸	Disease	1	79 (61-97)	40 (10-70)	1.3 (0.75-2.3)	0.53 (0.17-1.7)
Passive abduction ⁴⁸	Disease	1	74 (54-93)	10 (0-29)	0.82 (0.58-1.1)	2.6 (0.35-20)
Strength tests						
External rotation lag ⁴⁷	Full tear	1	47 (21-71)	94 (85-100)	7.2 (1.7-31)	0.57 (0.35-0.92)
Internal rotation lag ⁴⁷	Full tear	1	97 (88-100)	83 (70-96)	5.6 (2.6-12)	0.04 (0.0-0.58)
Drop arm ⁴⁵	Disease	1	24 (13-34)	93 (85-100)	3.3 (1.0-11)	0.82 (0.70-0.97)
Dropping sign ⁴⁷	Full tear	1	73 (51-95)	77 (62-92)	3.2 (1.6-6.5)	0.35 (0.15-0.83)
Gerber (lift-off test) ^{44,48}	Disease	2 ^e	34-68	50-77	1.4-1.5	0.63-0.85
Composite test for pain or weakness						
External rotation resistance ^{44f}	Disease	1	63 (49-77)	75 (69-82)	2.6 (1.8-3.6)	0.49 (0.33-0.72)
Full can ⁴⁵	Disease	1	75 (64-85)	68 (54-83)	2.4 (1.5-3.8)	0.37 (0.23-0.60)
Patte ⁴⁸	Disease	1	58 (36-80)	60 (30-90)	1.4 (0.62-3.4)	0.70 (0.34-1.5)
Empty can (Jobe) ^{44,45,48}	Disease	3 ^b	71 (49-86)	49 (42-56)	1.3 (0.97-1.6) ^c	0.64 (0.33-1.3) ^g
Resisted abduction ⁴⁸	Disease	1	58 (36-80)	20 (0-45)	0.72 (0.55-8.1)	2.1 (0.55-8.1)
Combinations of findings						
Hawkins and Neer (both positive) ⁴⁶	Disease	1	78 (66-90)	50 (22-78)	1.6 (0.87-2.8)	0.43 (0.20-0.96)

Hermans J, Luime JJ, Meuffels DE, Reijman M, Simel DL, Bierma-Zeinstra SMA. Does This Patient With Shoulder Pain Have Rotator Cuff Disease?: The Rational Clinical Examination Systematic Review. JAMA. 2013 Aug 28;310(8):837

Diagnostic – examen clinique

Physical Therapy in Sport 16 (2015) 87–92



Contents lists available at ScienceDirect

Physical Therapy in Sport

journal homepage: www.elsevier.com/ptsp



Masterclass

Combining orthopedic special tests to improve diagnosis of shoulder pathology



Eric J. Hegedus ^{a,*}, Chad Cook ^b, Jeremy Lewis ^c, Alexis Wright ^a, Jin-Young Park ^d

^a High Point University, Department of Physical Therapy, High Point, NC 27262, USA

^b Physical Therapy Program, Duke University, Durham, NC, USA

^c Physiotherapy, University of Hertfordshire, Department of Allied Health Professions and Midwifery, School of Health and Social Work, United Kingdom

^d Shoulder, Elbow & Sports Center, Konkuk University, Seoul, South Korea

Hegedus EJ, Cook C, Lewis J, Wright A, Park J-Y. Combining orthopedic special tests to improve diagnosis of shoulder pathology. Phys Ther Sport. 2015 May;16(2):87–92

Diagnostic – examen clinique

Table 1

Sensitivity, specificity, and likelihood ratios.

↙Clinical test reference test ↘	Positive test (often surgical confirmation)	Negative test (negative surgical findings)
Positive test (often pain or weakness)	True positive (A)	False positive (B)
Negative test (no pain or weakness)	False negative (C)	True negative (D)

Formulas:

Sensitivity = $A/(A + C)$.

Specificity = $D/(B + D)$.

Positive Likelihood Ratio (LR+) = Sensitivity/(1 – Specificity).

Negative Likelihood ratio (LR–) = (1 – Sensitivity)/Specificity.

Hegedus EJ, Cook C, Lewis J, Wright A, Park J-Y. Combining orthopedic special tests to improve diagnosis of shoulder pathology. Phys Ther Sport. 2015 May;16(2):87–92

Diagnostic – examen clinique

Author(s)	Pathology	Test cluster	LR+	LR–
(Litaker et al., 2000)	Rotator cuff tear	1 Age > 65 and 2 Weakness in external rotation and 3 Night pain	9.84	0.54
(Park et al., 2005)	Rotator cuff tear (full thickness)	1 Age \geq 60 and 2 + painful arc test and 3 + drop arm test and 4 + infraspinatus test	28.0	0.09
(Park et al., 2005)	Impingement	1 + Hawkins–Kennedy and 2 + painful arc test and 3 + infraspinatus test	10.56	0.17

Hegedus EJ, Cook C, Lewis J, Wright A, Park J-Y. Combining orthopedic special tests to improve diagnosis of shoulder pathology. Phys Ther Sport. 2015 May;16(2):87–92

Mesures – évaluations

- Douleur
- Amplitudes passives et actives
- Force
- \pm postures scapulaire et thoracique
- Fonction
 - *Disabilities of the Arm Shoulder and Hand (DASH)*
 - *Quick-DASH*
 - *Shoulder Pain and Disability Index (SPADI)*

Traitement



Traitement

- Exercices thérapeutiques vs décompression sous acromiale
- Exercices thérapeutiques vs chirurgie (petites ruptures atraumatiques)

Traitement

- Exercices thérapeutiques vs décompression sous acromiale
 - Brox JJ, Gjengedal E, Uppheim G, Bohmer AS, Brevik JJ, Ljungren AE, et al. Arthroscopic surgery versus supervised exercises in patients with rotator cuff disease (stage II impingement syndrome): a prospective, randomized, controlled study in 125 patients with a 2 1/2-year follow-up. J Shoulder Elbow Surg 1999;8:102-11.
 - Haahr JP, Ostergaard S, Dalsgaard J, Norup K, Frost P, Lausen S, et al. Exercises versus arthroscopic decompression in patients with subacromial impingement: a randomised, controlled study in 90 cases with a one year follow up. Ann Rheum Dis 2005;64:760-4
 - Haahr JP, Andersen JH. Exercises may be as efficient as subacromial decompression in patients with subacromial stage II impingement: 4-8-years' follow-up in a prospective, randomized study. Scand J Rheumatol. 2006 May-Jun;35(3):224-8
 - Holmgren T, Björnsson Hallgren H, Öberg B, Adolfsson L, Johansson K. Effect of specific exercise strategy on need for surgery in patients with subacromial impingement syndrome: randomised controlled study. BMJ. 2012 Feb 20;344:e787

Exercices thérapeutiques ou décompression sous acromiale

BMJ

BMJ 2012;344:e787 doi: 10.1136/bmj.e787 (Published 20 February 2012)

Page 1 of 9

RESEARCH

Effect of specific exercise strategy on need for surgery in patients with subacromial impingement syndrome: randomised controlled study



OPEN ACCESS

Theresa Holmgren *PhD student*¹, Hanna Björnsson Hallgren *PhD student*², Birgitta Öberg *professor*¹, Lars Adolfsson *professor*², Kajsa Johansson *senior lecturer*¹

¹Department of Medical and Health Sciences, Division of Physiotherapy, Linköping University, SE- 581 83, Linköping, Sweden; ²Department of Orthopaedics, University Hospital, SE-581 85, Linköping

Holmgren T, Björnsson Hallgren H, Öberg B, Adolfsson L, Johansson K. Effect of specific exercise strategy on need for surgery in patients with subacromial impingement syndrome: randomised controlled study. BMJ. 2012 Feb 20;344:e787




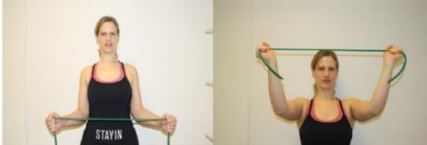
Exercices thérapeutiques ou décompression sous acromiale

- 102 patients (30 à 65 ans), 2 groupes
- Le groupe "exercices spécifiques" (n=51) : renforcement musculaire
- Le groupe "non spécifique" (n=46) : mobilisations, étirements, ...
- Evaluations à 3 mois :
 - Constant-Murley
 - douleur (EVA)
 - fonction (score DASH)
 - qualité de vie
- Résultats à 3 mois
- "exercices spécifiques" : score de Constant +24 , 69% impression d'amélioration, **20% recours à la chirurgie**
- "non spécifique" : Constant +9, 24% impression d'amélioration , **63% recours à la chirurgie**

Holmgren T, Björnsson Hallgren H, Öberg B, Adolfsson L, Johansson K. Effect of specific exercise strategy on need for surgery in patients with subacromial impingement syndrome: randomised controlled study. BMJ. 2012 Feb 20;344:e787

Exercices thérapeutiques vs décompression sous acromiale

Specific exercise program [posted as supplied by author]
 - To perform twice a day for the first 8 weeks then once a day for the last 4 weeks

	<p>Exercise 1 Week 1-12 Shoulder retraction, exercise for the scapula stabilisers 15 repetitions *3</p>
	<p>Exercise 2 Week 1-8 Full can eccentric exercise for m. supraspinatus 15 repetitions *3 Week 9-12 Full can concentric/eccentric exercise for m. supraspinatus 10 repetitions *3 ⇌ 15 repetitions *3</p>
	<p>Exercise 3 Week 1-8 Eccentric exercise for m. infraspinatus and m. teres minor 15 repetitions *3 Week 9-12 Concentric/eccentric exercise 10 repetitions *3 ⇌ 15 repetitions *3</p>
	<p>Exercise 4 Week 1-8 Concentric/eccentric exercise for m. serratus anterior 15 repetitions *3 Week 9-12 Push up plus exercise 10 repetitions *3 ⇌ 15 repetitions *3</p>
	<p>Exercise 5 Week 5-8 Bilateral external rotation; a combined exercise for the rotator cuff and the scapula stabilisers 10 repetitions *3 ⇌ 15 repetitions *3 Week 9-12 Elevation with bilateral external rotation 10 repetitions *3</p>

Holmgren T, Björnsson Hallgren H, Öberg B, Adolfsson L, Johansson K. Effect of specific exercise strategy on need for surgery in patients with subacromial impingement syndrome: randomised controlled study. BMJ. 2012 Feb 20;344:e787

Traitement

- Exercices thérapeutiques vs chirurgie (petites ruptures atraumatiques)
 - Kukkonen J, Joukainen A, Lehtinen J, Mattila KT, Tuominen EK, Kauko T, Äärimaa V. Treatment of non-traumatic rotator cuff tears: A randomised controlled trial with one-year clinical results. Bone Joint J. 2014 Jan;96-B(1):75-81
 - Kukkonen J, Joukainen A, Lehtinen J, Mattila KT, Tuominen EK, Kauko T, Äärimaa V. Treatment of Nontraumatic Rotator Cuff Tears: A Randomized Controlled Trial with Two Years of Clinical and Imaging Follow-up. J Bone Joint Surg Am. 2015 Nov 4;97(21):1729-37

Exercices thérapeutiques vs chirurgie (petites ruptures partielles non traumatiques)



■ SHOULDER AND ELBOW

Treatment of non-traumatic rotator cuff tears

A RANDOMISED CONTROLLED TRIAL WITH ONE-YEAR CLINICAL RESULTS

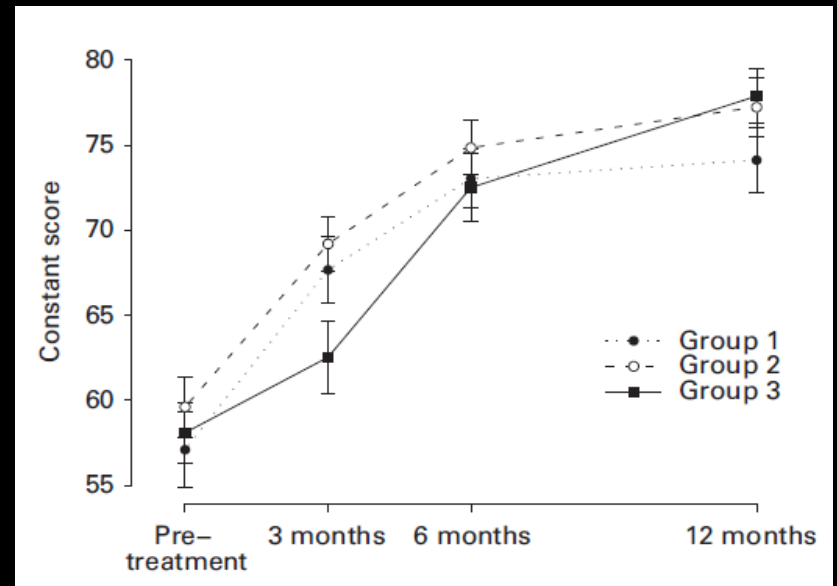
J. Kukkonen,
A. Joukainen,
J. Lehtinen,
K. T. Mattila,
E. K. J. Tuominen,
T. Kauko,
V. Äärimaa

We have compared three different methods of treating symptomatic non-traumatic tears of the supraspinatus tendon in patients above 55 years of age. A total of 180 shoulders (173 patients) with supraspinatus tendon tears were randomly allocated into one of three groups (each of 60 shoulders); physiotherapy (group 1), acromioplasty and physiotherapy (group 2) and rotator cuff repair, acromioplasty and physiotherapy (group 3). The Constant score was assessed and followed up by an independent observer pre-operatively and at three, six and twelve months after the intervention.

Kukkonen J, Joukainen A, Lehtinen J, Mattila KT, Tuominen EK, Kauko T, Äärimaa V.
Treatment of non-traumatic rotator cuff tears: A randomised controlled trial
with one-year clinical results. Bone Joint J. 2014 Jan;96-B(1):75-81

Exercices thérapeutiques vs chirurgie (petites ruptures partielles non traumatiques)

- Rééducation (groupe 1),
n = 55,
- Acromioplastie et
rééducation (groupe 2),
n = 57
- Réparation tendineuse,
acromioplastie, et
rééducation (groupe 3)
n = 55



Kukkonen J, Joukainen A, Lehtinen J, Mattila KT, Tuominen EK, Kauko T, Äärimaa V.
Treatment of non-traumatic rotator cuff tears: A randomised controlled trial
with one-year clinical results. Bone Joint J. 2014 Jan;96-B(1):75-81

Traitement

- Desjardins-Charbonneau A, Roy J-S, Dionne CE, Frémont P, MacDermid JC, Desmeules F. The Efficacy of Manual Therapy for Rotator Cuff Tendinopathy: A Systematic Review and Meta-analysis. *Journal of Orthopaedic & Sports Physical Therapy*. 2015 May;45(5):330–50.
- Granviken F, Vasseljen O. Home exercises and supervised exercises are similarly effective for people with subacromial impingement: a randomised trial. *Journal of Physiotherapy*. 2015 Jul;61(3):135–41.
- Hanratty CE, McVeigh JG, Kerr DP, Basford JR, Finch MB, Pendleton A, et al. The Effectiveness of Physiotherapy Exercises in Subacromial Impingement Syndrome: A Systematic Review and Meta-Analysis. *Seminars in Arthritis and Rheumatism*. 2012 Dec;42(3):297–316.
- Kuhn JE. Exercise in the treatment of rotator cuff impingement: A systematic review and a synthesized evidence-based rehabilitation protocol. *Journal of Shoulder and Elbow Surgery*. 2009 Jan;18(1):138–60.
- Littlewood C, Ashton J, Chance-Larsen K, May S, Sturrock B. Exercise for rotator cuff tendinopathy: a systematic review. *Physiotherapy*. 2012 Jun;98(2):101–9.
- Marinko LN, Chacko JM, Dalton D, Chacko CC. The effectiveness of therapeutic exercise for painful shoulder conditions: a meta-analysis. *Journal of Shoulder and Elbow Surgery*. 2011 Dec;20(8):1351–9.

Traitement

- Exercices thérapeutiques (Hanratty et al, 2012)
- Auto programme (Granviken et al, 2015)
- Thérapie manuelle (Desjardins-Charbonneau et al, 2015)

Exercices thérapeutiques (Hanratty et al, 2012)

MISCELLANEOUS

The Effectiveness of Physiotherapy Exercises in Subacromial Impingement Syndrome: A Systematic Review and Meta-Analysis

Catherine E. Hanratty, MSc,* Joseph G. McVeigh, PhD,*
Daniel P. Kerr, PhD,* Jeffrey R. Basford, PhD, MD,† Michael B. Finch,‡
Adrian Pendleton, MD,‡ and Julius Sim, PhD§

Hanratty CE, McVeigh JG, Kerr DP, Basford JR, Finch MB, Pendleton A, et al. The Effectiveness of Physiotherapy Exercises in Subacromial Impingement Syndrome: A Systematic Review and Meta-Analysis. *Seminars in Arthritis and Rheumatism*. 2012 Dec;42(3):297–316.

Exercices thérapeutiques (Hanratty et al, 2012)

- 16 essais (n = 1162)
- 6 études pour la méta analyse
- Exercices :
 - Etirements,
 - renforcement musculaire
Theraband scapula + coiffe,
isométriques et isotoniques sans
charge, et avec charges, chaîne
fermée
 - Mobilisations actives, passives,
auto mob,
- Comparateurs
 - Auto rééducation
 - Acupuncture
 - US
 - Laser
 - Chaleur
 - Conseils
- Evaluation
 - Douleur EVA
 - Fonction: SPADI, Constant
 - Force
 - Qualité de vie : SF-36

Hanratty CE, McVeigh JG, Kerr DP, Basford JR, Finch MB, Pendleton A, et al. The Effectiveness of Physiotherapy Exercises in Subacromial Impingement Syndrome: A Systematic Review and Meta-Analysis. *Seminars in Arthritis and Rheumatism*. 2012 Dec;42(3):297–316.

Exercices thérapeutiques (Hanratty et al, 2012)

Fonction à long terme

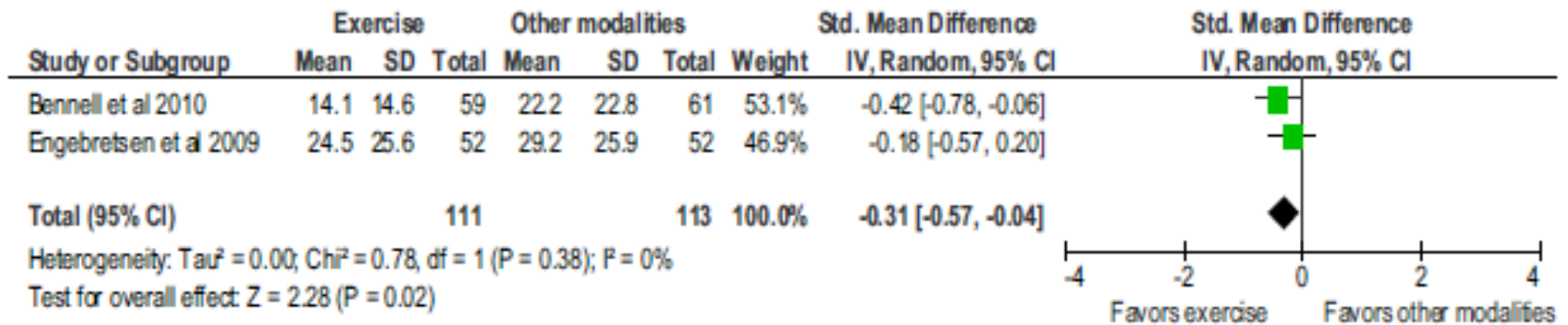


Figure 7 Forest plot showing results of exercise versus other modalities for long-term PRF. (Color version of figure is available online.)

Hanratty CE, McVeigh JG, Kerr DP, Basford JR, Finch MB, Pendleton A, et al. The Effectiveness of Physiotherapy Exercises in Subacromial Impingement Syndrome: A Systematic Review and Meta-Analysis. *Seminars in Arthritis and Rheumatism*. 2012 Dec;42(3):297–316.

Exercices thérapeutiques (Hanratty et al, 2012)

Force

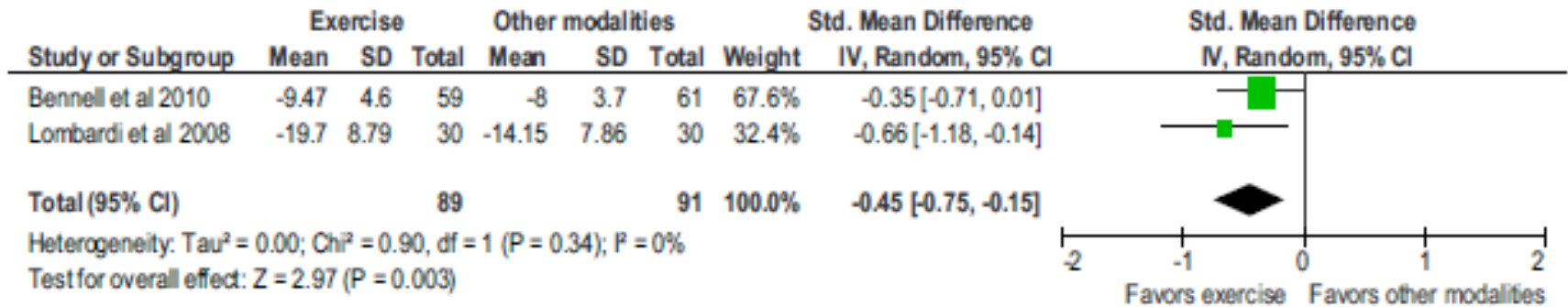


Figure 8 Forest plot showing combined index of strength. (Color version of figure is available online.)

Hanratty CE, McVeigh JG, Kerr DP, Basford JR, Finch MB, Pendleton A, et al. The Effectiveness of Physiotherapy Exercises in Subacromial Impingement Syndrome: A Systematic Review and Meta-Analysis. *Seminars in Arthritis and Rheumatism*. 2012 Dec;42(3):297–316.

Auto programme (Granviken et al, 2015)

Journal of Physiotherapy 61 (2015) 135–141



Journal of
PHYSIOTHERAPY

journal homepage: www.elsevier.com/locate/jphys

Research

Home exercises and supervised exercises are similarly effective for people with subacromial impingement: a randomised trial

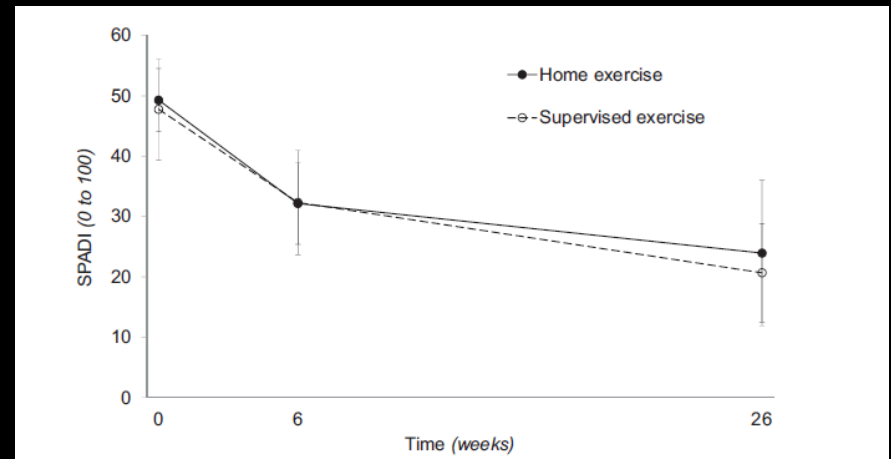
Fredrik Granviken^a, Ottar Vasseljen^b

^aDepartment of Physical Medicine and Rehabilitation, St. Olav's University Hospital; ^bDepartment of Public Health and General Practice, Faculty of Medicine, Norwegian University of Science and Technology, Trondheim, Norway

Granviken F, Vasseljen O. Home exercises and supervised exercises are similarly effective for people with subacromial impingement: a randomised trial. Journal of Physiotherapy. 2015 Jul;61(3):135–41.

Auto programme (Granviken et al, 2015)

- Essai contrôlé randomisé
- 46 patients (18 – 65 ans; arc douloureux, RE résistée +, H-K +)
- 2 groupes (n=23)
 - Autoprogramme : 1 séance + auto-rééduc, 6 semaines
 - Supervisés : 10 séances + auto- rééduc, 6 semaines;
- 4 à 6 exercices, 2 fois/jour, 7/7
- 3 séries x 30 reps par exercice
- Évaluation : douleur, SPADI
- 0, 6 et 26 semaines
- Résultats :



Granviken F, Vasseljen O. Home exercises and supervised exercises are similarly effective for people with subacromial impingement: a randomised trial. Journal of Physiotherapy. 2015 Jul;61(3):135–41.

Thérapie manuelle

(Desjardins-Charbonneau et al, 2015)

[RESEARCH REPORT]

ARIEL DESJARDINS-CHARBONNEAU, PT, MSc¹ • JEAN-SÉBASTIEN ROY, PT, PhD^{2,3} • CLERMONT E. DIONNE, OT, PhD^{2,4}
PIERRE FRÉMONT, MD, PhD^{2,5} • JOY C. MACDERMID, PT, PhD⁶ • FRANÇOIS DESMEULES, PT, PhD^{1,7}

The Efficacy of Manual Therapy for Rotator Cuff Tendinopathy: A Systematic Review and Meta-analysis

Desjardins-Charbonneau A, Roy J-S, Dionne CE, Frémont P, MacDermid JC, Desmeules F. The Efficacy of Manual Therapy for Rotator Cuff Tendinopathy: A Systematic Review and Meta-analysis. Journal of Orthopaedic & Sports Physical Therapy. 2015 May;45(5):330–50.

Thérapie manuelle

(Desjardins-Charbonneau et al, 2015)

TM vs Autres : douleur

Manual Therapy Alone Versus Manual Therapy With Other Intervention: Pain*



Abbreviation: IV, independent variable.

*Heterogeneity: $\tau^2 = 0.14$, $\chi^2 = 14.49$, $df = 9$ ($P = .11$), $I^2 = 38\%$. Test for overall effect: $Z = 5.73$ ($P < .00001$).

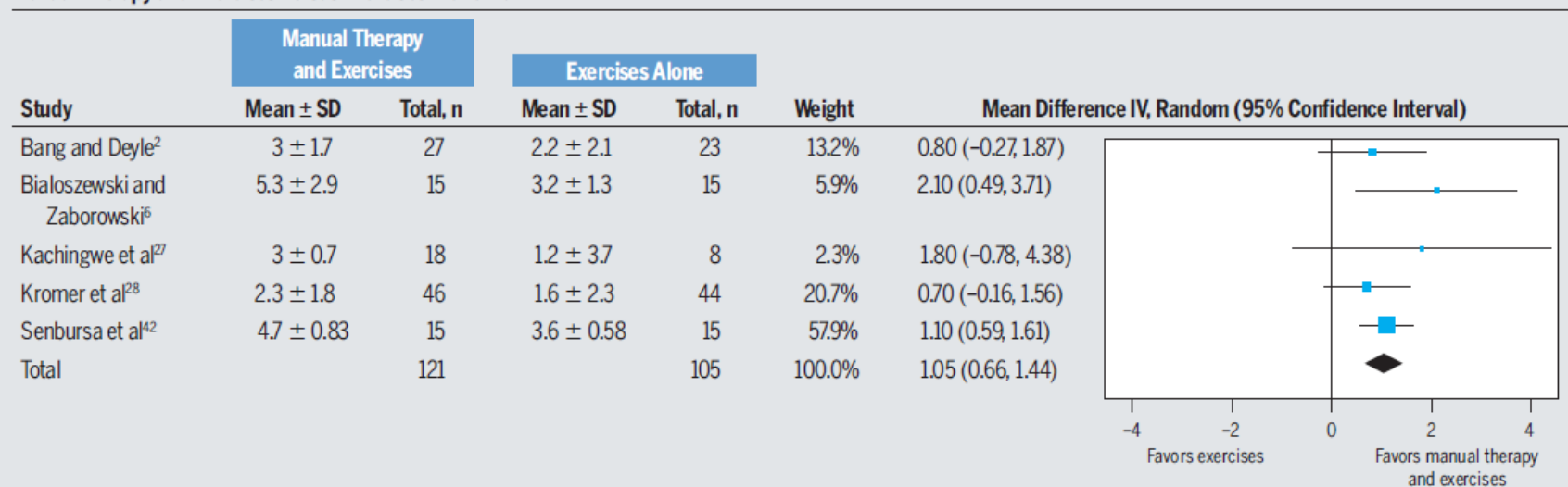
Desjardins-Charbonneau A, Roy J-S, Dionne CE, Frémont P, MacDermid JC, Desmeules F. The Efficacy of Manual Therapy for Rotator Cuff Tendinopathy: A Systematic Review and Meta-analysis. Journal of Orthopaedic & Sports Physical Therapy. 2015 May;45(5):330–50.

Thérapie manuelle

(Desjardins-Charbonneau et al, 2015)

TM + exos vs exos seuls : douleur

Manual Therapy and Exercises Versus Exercises Alone: Pain*



Abbreviation: IV, independent variable.

*Heterogeneity: $\tau^2 = 0.00$, $\chi^2 = 2.85$, $df = 4$ ($P = .58$), $I^2 = 0\%$. Test for overall effect: $Z = 5.29$ ($P < .00001$).

Desjardins-Charbonneau A, Roy J-S, Dionne CE, Frémont P, MacDermid JC, Desmeules F. The Efficacy of Manual Therapy for Rotator Cuff Tendinopathy: A Systematic Review and Meta-analysis. Journal of Orthopaedic & Sports Physical Therapy. 2015 May;45(5):330–50.

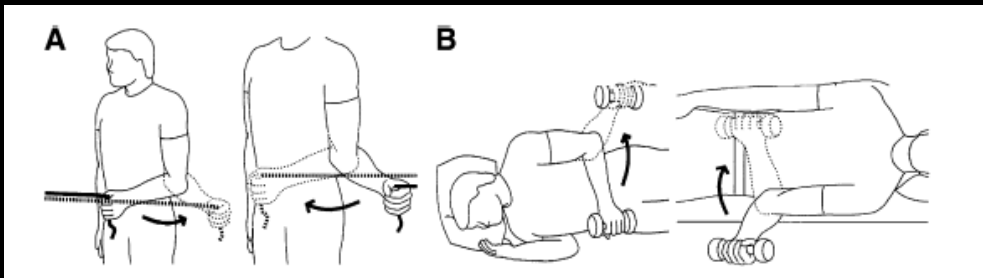
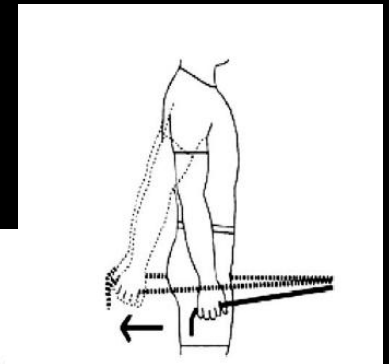
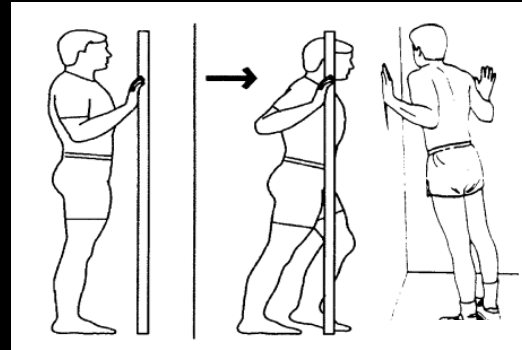
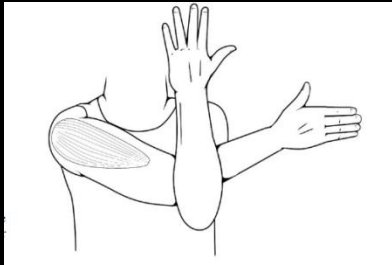
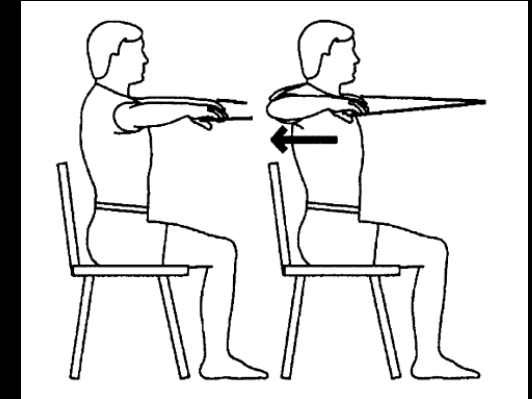
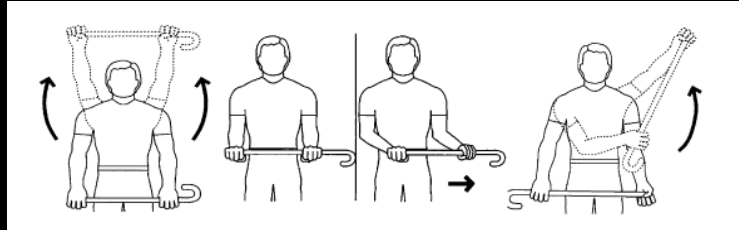
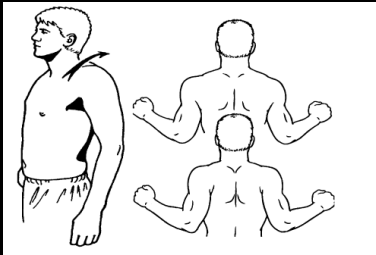
Thérapie manuelle - Mulligan MWM

- Satpute KH, Bhandari P, Hall T. Efficacy of Hand Behind Back Mobilization With Movement for Acute Shoulder Pain and Movement Impairment: A Randomized Controlled Trial. *Journal of Manipulative and Physiological Therapeutics*. 2015 Jun;38(5):324–34
- Delgado-Gil JA, Prado-Robles E, Rodrigues-de-Souza DP, Cleland JA, Fernández-de-las-Peñas C, Alburquerque-Sendín F. Effects of Mobilization With Movement on Pain and Range of Motion in Patients With Unilateral Shoulder Impingement Syndrome: A Randomized Controlled Trial. *Journal of Manipulative and Physiological Therapeutics*. 2015 May;38(4):245–52

Quels exercices ?

- Assouplissements - étirements
 - Antérieur - petit pectoral (Wong, 2010)
 - Postérieur - capsule post, coiffe post (Cools 2012)
- « Contrôle moteur »
 - Scapula (Roy 2009, Mottram, 2009)
 - Posture
- Force - rotateurs externes :
 - Corrélation avec ↑distance acromio-humérale (Leong, 2012)
 - Ratio ER/IR
- Force – scapula
 - Trapèze moyen, inférieur (Cools 2007, de Mey, 2009)
 - Dentelé antérieur (Maenhout 2009)
- Mobilités articulaires
 - Épaule
 - Rachis cervical et dorsal
 - « Chaînes cinétiques » (Kibler, 2010)
- Exercices isométriques dans la direction des symptômes : ↓douleur (Lewis, 2015)
- Exercices excentriques :
 - 1 essai (Maenhout 2013)
 - Maintien de la longueur des fibres musculaire du SE , réparation tendineuse ? (Kim, 2015)
- Séries longues 4 x 30 reps (Østerås 2010)
- Séries courtes progressives 2 x 8 reps (Lombardi 2008)

Quels exercices ?



Kuhn JE. Exercise in the treatment of rotator cuff impingement: A systematic review and a synthesized evidence-based rehabilitation protocol. Journal of Shoulder and Elbow Surgery. 2009 Jan;18(1):138–60

Quels exercices ?

Specific exercise program [posted as supplied by author]

- To perform twice a day for the first 8 weeks then once a day for the last 4 weeks



Exercise 1

Week 1-12 Shoulder retraction,
exercise for the scapula stabilisers
15 repetitions *3



Exercise 2

Week 1-8 Full can eccentric exercise
for m. supraspinatus
15 repetitions *3

Week 9-12 Full can
concentric/eccentric exercise for
m. supraspinatus
10 repetitions *3 ⇌
15 repetitions *3



Exercise 3

Week 1-8 Eccentric exercise for
m. infraspinatus and m. teres minor
15 repetitions *3

Week 9-12
Concentric/eccentric exercise
10 repetitions *3 ⇌
15 repetitions *3



Exercise 4

Week 1-8 Concentric/eccentric
exercise for m. serratus anterior
15 repetitions *3

Week 9-12
Push up plus exercise
10 repetitions *3 ⇌
15 repetitions *3



Exercise 5

Week 5-8 Bilateral external rotation;
a combined exercise for the rotator
cuff and the scapula stabilisers
10 repetitions *3 ⇌
15 repetitions *3

Week 9-12
Elevation with bilateral external
rotation
10 repetitions *3

Holmgren T, Björnsson Hallgren H, Öberg B, Adolfsson L, Johansson K. Effect of specific exercise strategy on need for surgery in patients with subacromial impingement syndrome: randomised controlled study.

BMJ. 2012 Feb 20;344:e787

Bilan

- Education
- Repos relatif
- Exercices musculaires
 - Coiffe
 - Scapula
- Mobilisations
- Auto-rééducation

Mais...

... on est toujours à la recherche d'un consensus

- Klintberg IH, Cools AMJ, Holmgren TM, Holzhausen A-CG, Johansson K, Maenhout AG, et al. Consensus for physiotherapy for shoulder pain. *International Orthopaedics*. 2015 Apr;39(4):715–20
- Lewis J, McCreesh K, Roy JS, Ginn K. Rotator Cuff Tendinopathy: Navigating the Diagnosis-Management Conundrum. *J Orthop Sports Phys Ther*. 2015 Sep 21;45(11):923–37
- Diercks R, Bron C, Dorrestijn O, Meskers C, Naber R, de Ruitter T, et al. Guideline for diagnosis and treatment of subacromial pain syndrome: A multidisciplinary review by the Dutch Orthopaedic Association. *Acta Orthopaedica*. 2014 Jun;85(3):314–22.

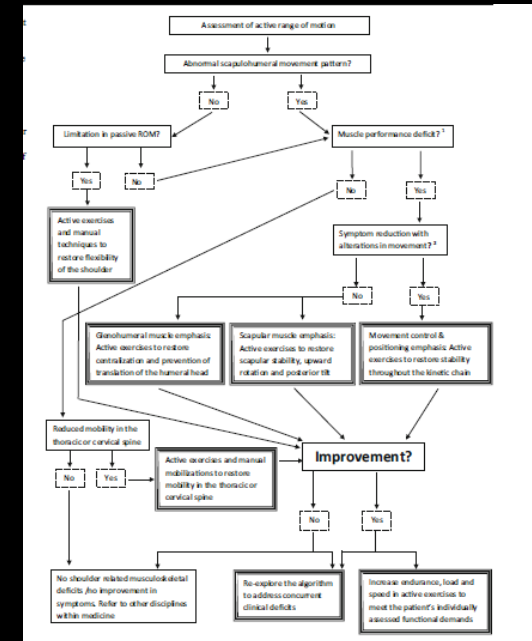
Recherche d'un consensus

International Orthopaedics (SICOT) (2015) 39:715–720
DOI 10.1007/s00264-014-2639-9

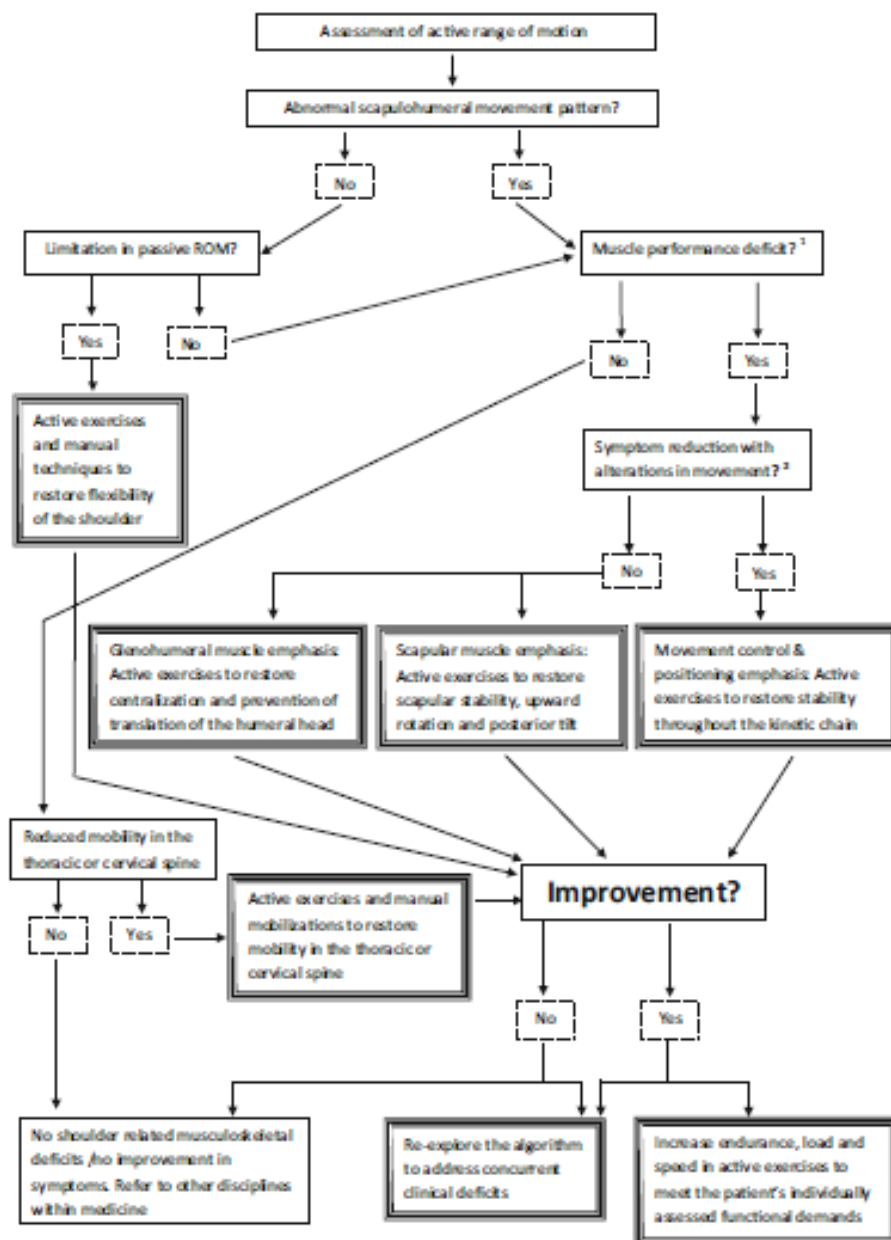
ORIGINAL PAPER

Consensus for physiotherapy for shoulder pain

Ingrid Hultenheim Klintberg • Ann M. J. Cools • Theresa M. Holmgren •
Ann-Christine Gunnarsson Holzhausen • Kajsa Johansson • Annelies G. Maenhout •
Jane S. Moser • Valentina Spunton • Karen Ginn



Klintberg IH, Cools AMJ, Holmgren TM, Holzhausen A-CG, Johansson K, Maenhout AG, et al. Consensus for physiotherapy for shoulder pain. International Orthopaedics. 2015 Apr;39(4):715–20.



Commentaire clinique

[CLINICAL COMMENTARY]

JEREMY LEWIS, PT, PhD^{1,4} • KAREN MCCREESH, PT, PhD⁵
JEAN-SÉBASTIEN ROY, PT, PhD^{6,7} • KAREN GINN, PT, PhD⁸

Rotator Cuff Tendinopathy: Navigating the Diagnosis- Management Conundrum

Procédure de Modification des Symptômes de l'Épaule [SSMP] v5
www.LondonShoulderClinic.com

Nom: _____ DDN: _____ Date: _____

Posture, mouvement ou activité symptomatique:
#1: _____
#2: _____

	Effet:	Aucun	Pire	Partiel	Complet	Commentaires
[1] Position Dorsale						
Extension dorsale						
Flexion dorsale						
Taping						
Thérapie manuelle						
[5A] Position Scapula						
Élévation						
Dépression						
Protraction						
Rétraction						
Bascule antérieure						
Bascule postérieure						
Combinaisons						
[2B] Décollement scapula Non observé <input type="checkbox"/>						
Stabilisation manuelle						
Taping 1:						
Taping 2:						
Taping 3:						
[3] Procédures de la tête humérale (TH)						
Élévation excentrique						
Flex avec dépression TH (assis/debout)						
Abd avec dépression TH (assis/debout)						
Flex avec dépression TH (decubitus dorsal)						
Abd avec dépression TH (decubitus dorsal)						
Flex-élévation assistée						
Abd-élévation assistée						
Élévation avec RE						
Élévation avec RI						
AP avec inclinaison						
PA avec inclinaison						
Autre:						
[4] Neuromodulation des Symptômes						
Résumé - Plan de Traitement:						
www.LondonShoulderClinic.com SSMP v5 (2016) Jeremy Lewis PhD FCSPT Traduit par: Marjorie Gingras & Gabor Sagi						

SSMP v5

Lewis J, McCreesh K, Roy JS, Ginn K. Rotator Cuff Tendinopathy: Navigating the Diagnosis-Management Conundrum. J Orthop Sports Phys Ther. 2015 Sep 21;45(11):923–37

Procédure de Modification des Symptômes de l'Épaule [SSMP] v5

www.LondonShoulderClinic.com

Nom: _____ DDN: _____ Date: _____

Posture, mouvement ou activité symptomatique:

#1: _____

#2: _____

Effet: Aucun Pire Partiel Complet Commentaires

[1] Position Dorsale

Extension dorsale					
Flexion dorsale					
Taping					
Thérapie manuelle					

[2A] Position Scapula

Élévation					
Dépression					
Protraction					
Rétraction					
Bascule antérieure					
Bascule postérieure					
Combinaisons					

[2B] Décollement scapula Non observé ☐

Stabilisation manuelle					
Taping 1:					
Taping 2:					
Taping 3:					

[3] Procédures de la tête humérale (TH)

Élévation excentrique					
Flex avec dépression TH (assis/debout)					
Abd avec dépression TH (assis/debout)					
Flex avec dépression TH (décubitus dorsal)					
Abd avec dépression TH (décubitus dorsal)					
Flex-élévation assistée					
Abd-élévation assistée					
Élévation avec RE					
Élévation avec RI					
AP avec inclinaison:					
PA avec inclinaison:					
Autre:					

[4] Neuromodulation des Symptômes

Résumé - Plan de Traitement:

SSMP v5 - 2016

Retour sur les séries de cas

De l'étude de cas à l'essai contrôlé...

- Littlewood C, May S. A contractile dysfunction of the shoulder. *Manual Therapy*. 2007 Feb;12(1):80–3.
- Littlewood C. Contractile dysfunction of the shoulder (rotator cuff tendinopathy): an overview. *Journal of Manual & Manipulative Therapy*. 2012 Nov;20(4):209–13
- Littlewood C, Ashton J, Chance-Larsen K, May S, Sturrock B. Exercise for rotator cuff tendinopathy: a systematic review. *Physiotherapy*. 2012 Jun;98(2):101–9
- Littlewood C, Bateman M, Brown K, Bury J, Mawson S, May S, et al. A self-managed single exercise programme versus usual physiotherapy treatment for rotator cuff tendinopathy: A randomised controlled trial (the SELF study). *Clinical rehabilitation*. 2015;0269215515593784.

The SELF study

Article



**CLINICAL
REHABILITATION**

A self-managed single exercise programme versus usual physiotherapy treatment for rotator cuff tendinopathy: A randomised controlled trial (the SELF study)

Chris Littlewood¹, Marcus Bateman², Kim Brown³, Julie Bury⁴, Sue Mawson⁵, Stephen May⁶ and Stephen J Walters¹

Clinical Rehabilitation

1-11

© The Author(s) 2015

Reprints and permissions:

sagepub.co.uk/journalsPermissions.nav

DOI: 10.1177/0269215515593784

cre.sagepub.com



Littlewood C, Bateman M, Brown K, Bury J, Mawson S, May S, et al. A self-managed single exercise programme versus usual physiotherapy treatment for rotator cuff tendinopathy: A randomised controlled trial (the SELF study). *Clinical rehabilitation*. 2015;0269215515593784

The SELF study

- Essai randomisé contrôlé multicentrique, 3 sites, 31 physios 60 patients, 2 groupes
- Autoprogramme (n=27) : ABD (ou FLE ou RE) résistée 3 x 10-15, 2/jour, 7/7
- Physiothérapie (n=33) : conseils, étirements, exercices, thérapie manuelle, contentions souples, acupuncture, électrothérapie, injections de cortisone, ...
- Evaluation :
 - CJP : SPADI à 3 mois
 - CJS : SPADI à 6 et 12 mois
- Résultats :
 - amélioration pour les deux groupes à 3 mois, 6 et 12 mois
 - Pas de différence entre les groupes à 3, 6 et 12 mois

Littlewood C, Bateman M, Brown K, Bury J, Mawson S, May S, et al. A self-managed single exercise programme versus usual physiotherapy treatment for rotator cuff tendinopathy: A randomised controlled trial (the SELF study). *Clinical rehabilitation*. 2015;0269215515593784

Message pour lundi

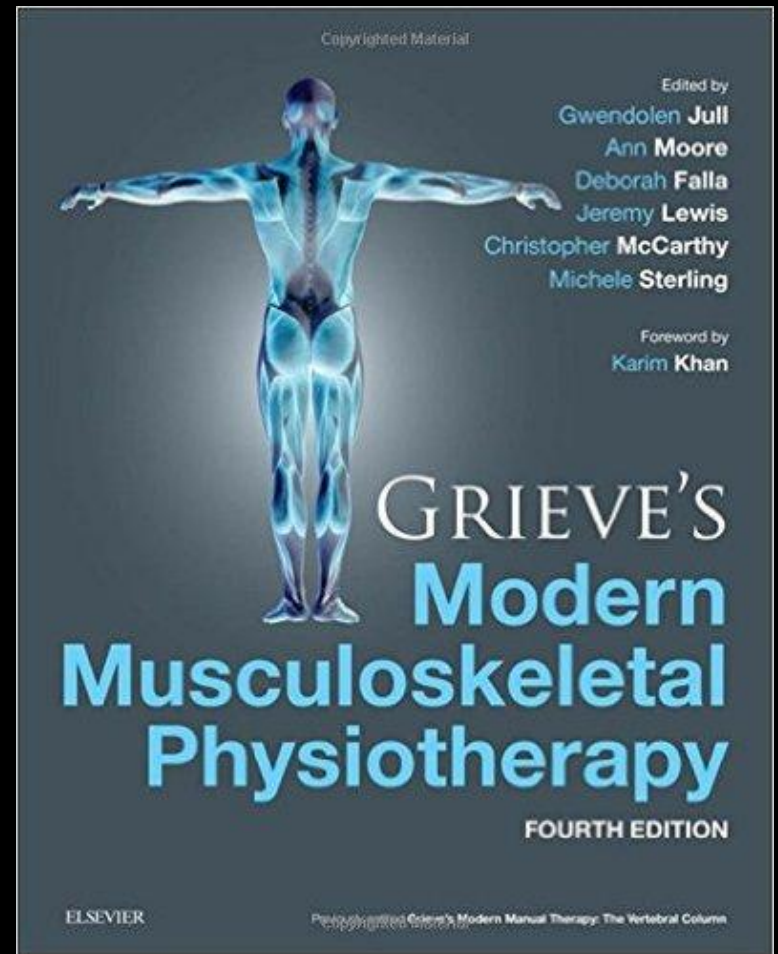
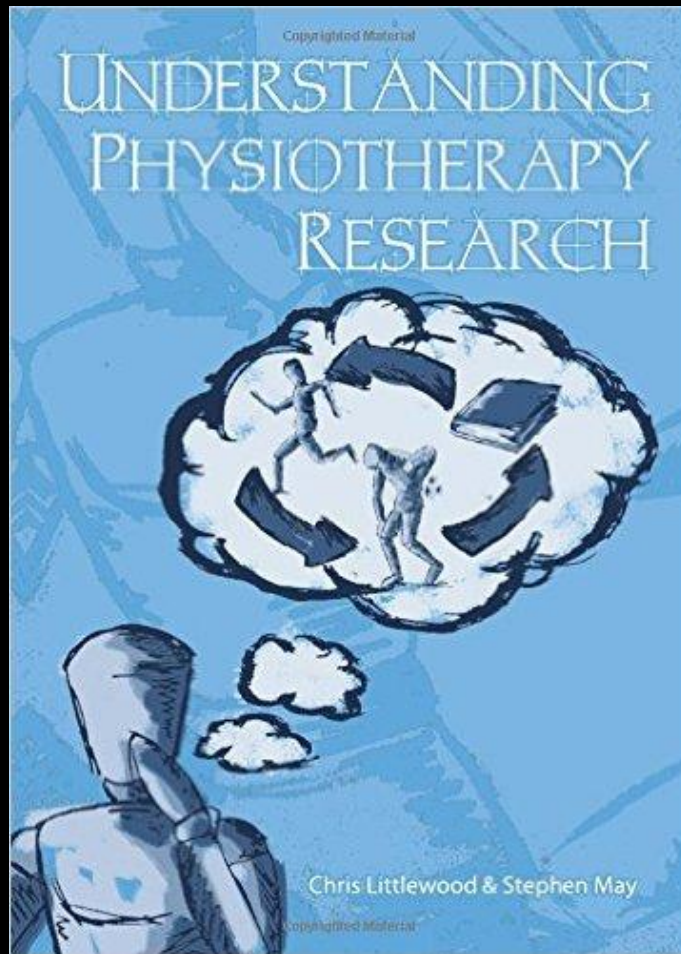
« Le savant doit ordonner ; on fait la science avec des faits comme on fait une maison avec des pierres ; mais une accumulation de faits n'est pas plus une science qu'un tas de pierres n'est une maison »

La science et l'hypothèse, 1902




Henri Poincaré (1854 – 1912)

Biblio



The MOON Shoulder Group



For information regarding the MOON Shoulder Group speak to the referring physician or contact:
Rosemary Sanders
1215 21st Avenue South
6100 Medical Center East
Vanderbilt University Medical Center
Nashville, TN 37232-8300
615.936.5191

Vanderbilt Sports Medicine

ORTHOPEDIC INSTITUTE

Washington University in St. Louis


HOSPITAL FOR SPECIAL SURGERY

UCSF Medical Center

U.S. Sports Medicine

University of Iowa Hospitals and Clinics

Version 3 (Revised Date 8.12.2008)



**MOON
SHOULDER
GROUP**

**ROTATOR CUFF
REHABILITATION
THERAPIST DIRECTED
PROGRAM**

<http://www.moonshoulder.com/>

European Society For Shoulder and Elbow Rehabilitation



Society Events News National Delegates Your EUSSE

EUSSE
European Society of Shoulder and Elbow Rehabilitation
Connecting People - Creating Bridges

JOIN US - NOW!

European Society for Shoulder and Elbow Rehabilitation

EUSSE: Connecting People - Creating Bridges

<http://www.eusser.org/>

Merci de votre attention !



www.actukine.com

